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KNIGHTON,G.W. Licensing Branch 3

SUBJECT: Forwards Vol 1-4 of final rept of seismically induced sys interaction program,superseding Oct 1983 info rept & fulfilling License DPR-76 commitment contained in SSER 11, Section 8.2.Clarifying comments listed.

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J. O. SCHUYLER
VICE PRESIDENT
NUCLEAR POWER GENERATION

May 7, 1984

PGandE Letter No. DCL-84-172

Mr. George W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington D.C. 20555

Re: Docket No. 50-275, OL-DPR-76
Docket No. 50-323
Diablo Canyon Units 1 and 2
Seismically Induced Systems Interaction Program

Dear Mr. Knighton:

On October 13, 1983, PGandE submitted an Information Report on the Seismically Induced Systems Interaction Program (SISIP) to provide the NRC Staff with the results of the completed program within the containment structure.

Enclosed are Volumes I, II, III, and IV of PGandE's Final Report of the Seismically Induced Systems Interaction Program (SISIP). This report supersedes the October 1983 Information Report and fulfills Diablo Canyon's Unit 1 licensing commitment contained in SER Supplement 11, Section 8.2, which required a report on the final results of the SISIP. A few clarifying comments are listed below:

(1) In accordance with discussions with the Realiability and Risk Assessment Branch (RRAB) of the NRC, Attachment 13 (Computerized IDS Summaries) will be submitted within 60 days of issuance of this submittal. This time is needed to perform a verification of the accuracy of the computer data with the hard copy SISIP files. These interaction summary sheets will be contained in Volumes V, VI, and VII.

(2) Chapter 9, "Evaluation of Results," and Chapter 11, "Conclusions," have been prepared in response to the request of the NRC Staff to provide insight into a program of this type.

Kindly acknowledge receipt of this material on the enclosed copy of this letter and return it in the enclosed addressed envelope.

Sincerely,

J. O. Schuyler

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PG&E 77 BEALE STREET, SAN FRANCISCO, CALIFORNIA 94106 TELEPHONE (415) 781-4211

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Sincerely,
ORIGINAL SIGNED BY

J. O. Schuyler

Enclosure

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Docket Nos. 50-275 and 50-323

SUMMARY OF CHANGES— REVISION 1

DIABLO CANYON UNITS 1 AND 2
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
FINAL REPORT

Revision 1 to the Seismically Induced Systems Interaction Program (SISIP) Final Report for Diablo Canyon Units 1 and 2 consists of the following insert sections:

1) Revised Foreword to reflect present status of the Program

2) Revised Table of Contents, List of Figures, List of Tables, and List of Attachments to reflect changes in the report.

3) Revision to Chapter 1, "Introduction," consisting of minor changes to the Chapter and a complete rewrite of Section 1.5, "Perspective."

4) Revision to Chapter 8, "Results," text to incorporate Unit 2 results (including tables of Unit 2 data) and minor revisions to Unit 1 data.

5) Revision to Chapter 9, "Evaluation of Results," to incorporate Unit 2 results (including tables of Unit 2 data) and minor revisions to Unit 1 data.

6) Complete rewrite of Chapter 10, "Program Refinements and Ongoing Effort." This chapter was previously titled "Unit 2."

7) Minor revisions to Chapter 11, "Conclusions," to reflect the Unit 2 effort.

8) Revision to Attachments 5-A.1 through 5-E.1 "Data Management Reports" to reflect updated Unit 1 data.

9) Addition of Attachments 5-A.2 through 5-E.2 to include the Unit 2 Data Management Reports.

10) Addition of Attachments 14A & B to include samples of Unit 2 interactions resolved by the Walkdown Team and by Engineering analysis.

11) Addition of Attachments 15A & B to include samples of Unit 2 interactions resolved by expedient modifications and all nonexpedient modifications.

12) Addition of Attachment 16 to include samples of the Unit 2 Interaction Documentation Sheets (IDSs).

Each of the chapters that are revised have been revised in total. The previous revision of the Chapter should be discarded and the new revision inserted in its place.

Attachments 14 and 15 have been incorporated in a new binder entitled Volume VIII. Attachment 16 will be contained in new binders entitled Volumes IX and X.

Tabs for Attachment 13, to be inserted into previously submitted Volumes V-VII, are also attached.

FOREWORD

During hearings in 1979 on the adequacy of Diablo Canyon Nuclear Power Plant's seismic design, the Advisory Committee on Reactor Safeguards (ACRS) raised an issue regarding the potential effect that nonseismically-qualified structures, systems, and components may have on safety-related structures, systems, and components required to safely shut down the plant. The postulated seismicity of the Diablo Canyon site, together with events related to the accident at Three Mile Island, appeared to be the motivation for the ACRS concern.

Realizing that potential delays could result if PGandE did not formally address the issue of seismically induced systems interactions, Pacific Gas and Electric Company (PGandE) developed a program and presented it to the ACRS. The program was new and considered a "pilot" or developmental one, requiring adjustments as the program's learning curve was established.

During the same period, the Nuclear Regulatory Commission (NRC) had been considering the generic issue related to systems interaction (Unresolved Safety Issue, USI A-17) and had an additional interest in obtaining the results and lessons learned from Diablo Canyon's developed and implemented program.

A Final Report, reflecting the results and experience gained from implementing a Seismically Induced Systems Interaction Program (SISIP) on Unit 1, was submitted to the NRC by PGandE letter dated May 7, 1984. The Program emphasized field evaluation of nonseismically qualified sources and postulation of their potential effects on target systems required for safe shut down, by applying conservative identification criteria.

The Final Report dated April 1984 reflected the results of the SISIP for Unit 1. Revision 1 of the Final Report, dated April 1985, describes changes made to the original Program and presents the results of the Program for Unit 2.

The Diablo Canyon SISIP is considered unique because a wide range of interaction phenomena were involved; all targets had equal significance; and risk evaluations were not considered. The Program was implemented by an independent Diablo Canyon project group with review by outside consultants, and the methodologies applied were unique in the nuclear power field.

Given the methods and criteria employed by the SISIP, one cannot reasonably conclude program significance (i.e., reduction in overall risk) or cost effectiveness by a consideration of the number of documented interactions, or by the number of modifications performed. Interactions, for example, may have been documented more than once for the same source (due to more than one target being involved). Additionally, modifications were performed where it

was more cost-effective or expedient to do so; however, more extensive analyses could have shown some of these modifications to be not necessary. A systems interaction program of the type implemented at Diablo Canyon has added to the confidence in the overall safety of the plant; however, quantifying this increase in confidence with respect to plant safety is difficult. At the urging of the NRC Staff, Chapter 9 has been provided in this report to categorize modifications and their relation to the target systems postulated to be affected by the seismically induced interactions. The information contained in Chapter 9 is suitable for further study by the NRC for significance of such a program as the SISIP.

In reviewing this Final Report, the perspective discussed in Section 1.5 is pertinent to virtually all aspects of the Program.

The SISIP has been a detailed evaluation of postulated source-to-target interactions. Because of the conservative source acceptance criteria applied by the SISIP, many postulations were made that were later shown to not be credible. The analytical methods and their results are a gauge of the extremely conservative nature of this type of program.

Revision 1 of the Final Report describes the background, the Program contents, the changes made, the results, and conclusions based on the experience obtained by implementing the Program at Diablo Canyon Units 1 and 2.

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LIST OF ATTACHMENTS (Continued)

Chapter 1

INTRODUCTION

Diablo Canyon Power Plant (DCPP) is a two-unit nuclear power plant situated on the central coastline of California. The plant has been designed and constructed by the Pacific Gas and Electric Company (PGandE) augmented by project completion activities supplied by Bechtel Power Corporation. The plant is designed to generate more than 2,000 megawatts of electricity.

In 1979, following the accident at the Three Mile Island, the Advisory Committee on Reactor Safeguards (ACRS) became concerned about the adequacy of Diablo Canyon's design, particularly about the potential effect of nonseismically qualified entities (sources) on targets required to safely shut down Diablo Canyon during a seismic event.

In response to this ACRS concern, PGandE committed to completing a total plant evaluation to identify and resolve seismically induced physical interactions. These interactions involve nonseismically qualified sources postulated to affect target safety-related structures, systems, and components.

The completion of this program increases the assurance that the Diablo Canyon Power Plant's safe shutdown systems will perform their required functions in the event of a major seismic occurrence.

This Final Report has been prepared in accordance with requirements of the NRC's Safety Evaluation Report (SER), Supplement 11. The submittal of this report on Unit 2 has been accelerated in order to assist the NRC in evaluating the program in a timely manner. This report also provides information to the NRC regarding their interest in a generic safety issue related to the broader subject of systems interaction.

The SISIP Final Report fulfills PGandE's full power licensing commitments as described in NUREG-0675, Supplement 11 to the SER.

1.1 PREVIOUS REPORTS

1.1.1 Information Report

The SISIP's preliminary findings, prepared in October 1983, were sent to the NRC in an Information Report (Reference 1), which is superseded by this Final Report.

1.1.2 April 1984 Final Report

The SISIP's results from completion of the Unit 1 study are contained in a May 1984 submittal, transmitting the April 1984 Final Report.

Revision 1 augments the 1984 Report and reflects the results of the Unit 2 Program and minor revisions to the statistics reported in 1984.

1.2 THE SER AS A REFERENCE DOCUMENT

The SER presents a concise discussion of the SISIP through its early development and provides a convenient historical perspective.

Sections of this Final Report paraphrase or quote text from the SER (Attachment 1) and the August 29, 1980 Program description (Reference 2). Where this has been done, the intent is to provide historical information which is useful when discussing program changes.

For the full text of the SER Supplement 11, see Attachment 1. For the full text of the August 29, 1980 Program Description (Reference 2) refer to the early program submittals. Changes that may have been implemented were a result of developing the SISIP and obtaining the experience base necessary to apply the Program effectively. In no instance, however, has either the fundamental criterion stated in the SER (Section 4.1 of the Final Report) or the independent implementation of the Program been altered.

1.3 SYSTEMS INTERACTION PROGRAMS

Systems interaction is a broad issue that could conceivably encompass the identification of everything potentially damaging that could be postulated to occur in a power plant. The initiating events of a systems interaction include phenomena associated with human interactions, functional interactions between connected systems, and spatial systems interactions (between sources and targets).

The NRC has stated as their goal the resolution of the systems interaction issue, possibly in the time frame of 1985-1986 (NRC Task Action Plan - TASK A-17 dated January 1984).

A spatial systems interaction requires the following elements:

(1) An initiating event (e.g. a seismic event)

(2) A source (a component that potentially behaves adversely)

(3) A target (a component with safety significance)

(4) A postulated interaction (source postulated to impact target)

A spatial systems interaction could be:

A seismic (initiating) event induces loss of corrosive liquid from a tank (source) situated above safety-related instrumentation (target). Chemical degradation of the instruments (interaction) is postulated.

The unique feature of a spatial systems interaction evaluation is onsite review, commonly called a plant walkdown. Spatial review involves experienced engineers postulating interactions between sources and targets during walkdowns of the plant.

A spatial systems interaction program could be repeated several times and result in slight variations of the findings each time. The SISIP is such a program. Repeated inspection by the same or different walkdown teams would inevitably result in the postulating of phenomena or interactions that may not have been previously documented. However, no safety significance can be attached to these variations when the perspective of Section 1.5 is considered.

1.4 SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

The Diablo Canyon Program is a spatial systems interaction program that contains the following elements:

(1) Initiating Event – Postulated earthquake of 7.5M (Hosgri event)

(2) Source – Any structure, system, or component that can interact with a target as a result of seismic excitation

(3) Target – Any structure, system, or component required for safe shut down (a certain number of accident-mitigating systems are also included)

(4) Interaction – Direct physical contact, indirect (or chain) interaction, intercompartmental interaction between sources and targets, and adverse environmental conditions.

Figures 1-1 through 1-6 are diagrams of postulated seismically induced interactions of the type investigated by Diablo Canyon's SISIP. These figures are included for conceptualizing the above four elements of seismic spatial systems interactions.

The Diablo Canyon SISIP has a team of engineers evaluate the targets of the Program for potential interaction with sources. The team has the freedom to postulate a wide range of phenomena involving nonseismically qualified sources, that could potentially be induced by an earthquake. The documenting of these postulated interactions results from a detailed field evaluation of the sources in proximity to, or surrounding, several thousand target components.

When an interaction has been documented, the resolution phase of the Program is implemented which involves analysis or modification to ensure that the postulated interaction will not occur. If an engineering analysis leads to the conclusion that the potential interaction is credible, then a modification to the source, the target, or an operational procedure is initiated. A modification may also be made as a result of a documented interaction if analytical techniques prove extensive or costly (i.e., expedient modifications).

The Diablo Canyon SISIP carries all documented interactions to a satisfactory resolution. Each interaction is postulated, analyzed, and then resolved. No credit is taken for system or component redundancy in the resolution process. Furthermore, each target is assumed to have equal importance (i.e., no assessment of the interaction's relative safety significance was conducted in the resolution process).

The above criteria preclude the necessity for considering an interaction's safety significance and, therefore, no requirement was included for this evaluation in the licensing commitments. Chapter 9, Evaluation of Results, has been provided, however, to assist the NRC staff in differentiating modifications. We understand this effort is being directed toward resolution of the generic unresolved issue of systems interaction mentioned earlier.

1.5 PERSPECTIVE

In the recent past, society has grown increasingly aware of the risks that can accompany technological advancements. This awareness has led to new laws and regulations as well as new scientific methods for quantifying and controlling technological risks.

Technological risk is measured in terms of two elements: (1) probability, and (2) consequences. Probability refers to the likelihood of a certain damage or loss occurring; consequences describe the extent of the damage or loss. Hence, existence of potentially large consequences does not necessarily

indicate large societal risk, if these consequences are associated with a very unlikely, or a very low-probability, event. The issue addressed in this report— the potential failure of safety-related, safe shutdown functions of the Diablo Canyon Nuclear Power Plant resulting from interactions with nonseismically qualified systems during a large earthquake— is an extremely low-probability event. Though the potential consequences of postulated interactions have not been formally addressed, few of the interactions could be related to potentially serious consequences. Hence, this report describes the results of extensive efforts aimed at further reducing extremely low risks.

The following discussion of the various elements of the issue at hand is an attempt to qualitatively put the risk levels addressed by the SISIP in perspective.

1.5.1 The Seismic Event

Nuclear power plants are designed to safely withstand many internal and external loading conditions, or design basis events. An earthquake is a design basis event that affects all parts of a power plant simultaneously.

For the Diablo Canyon Nuclear Power Plant the largest postulated design earthquake is a Richter Magnitude 7.5 earthquake originating from the Hosgri Fault. The likelihood of this event is extremely low, as concluded by a seismic study of the plant site performed by PGandE:

> The Company and its consultants believe, on the basis of independent investigations, that the stipulated magnitude of the postulated event (Magnitude 7.5 on the Richter Scale) and the resulting acceleration of the ground at the site (0.75g) are excessive and that an earthquake of magnitude 6.25 to 6.5 is the largest that reasonably can be expected to occur on the Hosgri fault. Even if the Hosgri fault is postulated to be capable of magnitude 7.5 event, the Company and its consultants believe that an effective peak ground acceleration of 0.75g would have an average return period of 52,600 years. Nevertheless, the Company and its consultants have evaluated the effects of such an event on the nuclear power plant. (Reference 3)

1.5.2 The Plant

The Diablo Canyon Nuclear Power Plant has been designed and constructed according to the "defense-in-depth" safety philosophy, following strict design criteria and quality assurance procedures well above and beyond those required for any ordinary structure. This philosophy and the criteria are applied to all design conditions, including the seismic considerations.

The defense-in-depth design philosophy emphasizes multilevel defense systems against accidents or failures, with the ultimate objective of preventing any harmful release of radiation to the environment. The various levels of defense are as follows:

- All plant structures, systems and components essential to the safe operation and shut down of the plant are designed to maintain their integrity and perform their intended functions without failure under all postulated design conditions. Conservative design procedures and acceptable safety factors are used in design.

- Redundancy and functional diversity of safety-related components ensures that safety goals are met even with single failures of safety-related components.

- In addition to the redundant back-up safety systems, the radioactive material is enclosed, or contained, by several barriers, such as the containment structure. Even if all safety systems failed to prevent the release of the radioactive material into the plant, radiation would still be contained within the plant.

1.5.3 Safety-related and Nonsafety-related Systems

Plant structures, systems, and components required to safely shut down the plant, maintain a shut down condition, and provide other safety functions during a design basis event, such as an earthquake, fall within the safety-related category and are classified for design purposes as Class I. Other structures, systems, and components with no safety functions are designated at Diablo Canyon as Class II.

The reason for the distinction between Class I and Class II systems is that it would be counterproductive to design all systems to the same strict criteria

regardless of their safety significance. Providing differing design standards for various components depending on their importance (or safety significance) is an underlying philosophy utilized in virtually all industries and is reflected in the codes and standards for each industry.

The codes and standards are developed using cost-benefit analyses, and provide a balance between acceptable risk, constructibility, and economic considerations. Designing and constructing components to criteria above and beyond accepted industry standards is not practicable or cost-effective. If all nonessential systems in Diablo Canyon, such as the nonvital plumbing, lighting, and architectural features, were to be designed to the strict criteria of Class I systems, the additional costs associated with engineering, construction and equipment required for the plant would be enormous with no significant improvement in safety.

Class II systems, even though not designed to the same criteria as Class I, are designed and built according to established engineering standards, codes, and practices. Their layout and design do not require supporting documentation to the extent of Class I systems; e.g., Class II piping may be field-run, and their response to design loads may be analyzed by approximate methods or based on established codes, rather than analyzed using sophisticated computer programs. As a result, the main difference between Class I and Class II systems is that the response of Class II systems is less predictable; i.e., a Class II piping system may exhibit a range of possible responses in an earthquake. In contrast, the response of Class I systems, having been thoroughly analyzed, is more predictable.

1.5.4 Seismic Response of Power Plant Structures, Systems, and Components

Class I systems are normally designed to stay within elastic limits of their materials when subjected to the postulated design loads. This implies that no credit is taken for the reserve capacity of these systems beyond their elastic limits. For example, Class I piping systems are supported in all directions at extremely conservative support spans to assure elastic behavior of the

pipes during design load conditions. Where rigid supports interfere with thermal expansion considerations, seismic limiters (snubbers) are utilized. These devices lock-up during a seismic event and act as rigid pipe supports. Hence, for Class I piping, seismic deflections are kept within a controlled "rattle space." Because the ductile behavior of piping systems (i.e., the ability to undergo large deflections and deformations without failure) has been demonstrated by experimental and analytical means as well as by observed experience in actual seismic events, Class I seismic design criteria for piping systems are extremely conservative.

For Class II systems no attempt is made, in general, to limit their responses to the elastic range of materials, even though they may behave elastically in a large earthquake because of their configuration and inherent strength. Class II system responses in a large earthquake may include purely elastic response with no damage, inelastic response with local yielding without any damage, elastic or inelastic response with large deflections and deformations but no damage, and local failures. For example, Class II piping systems are usually gravity-hung; i.e., they are supported vertically with rod hangers for gravity loads, with virtually no lateral or longitudinal restraint. Hence, these piping systems may undergo large seismic deflections (many inches), or may have failure of supports (e.g., fixed-end rod hangers), piping connections (e.g., at threaded connections) and piping (e.g., cast iron piping).

During the SISIP review, walkdowns of the plant by experienced engineers resulted in the inspection of all Class II components in proximity to target systems in order to identify potential source failures or deflections that could be postulated to affect Class I systems. For these sources, potential interaction phenomena were postulated. The postulated interactions included the types of responses listed in the previous paragraph. Out of literally thousands of postulated interactions identified by the Program, only a small percentage could actually be likely to involve gross failure of sources as a result of the Hosgri event. Nevertheless, in many cases gross failures of sources were assumed by the Program for the sake of conservatism, even though such failures are unlikely or improbable.

1.5.5 Observed Response of Power Plants to Earthquakes

In the past, many power plants (mostly conventional) and similar industrial facilities have been subjected to earthquakes at various locations around the world. These plants and facilities contain structures, systems, and components similar to those in nuclear power plants. A brief review of the performance of these power plants and industrial facilities subjected to various levels of ground motion from earthquakes is covered in this section.

The most notable earthquakes that have affected power plants and other facilities with similar structures, systems and components are the 1971 San Fernando, California (6.5M), 1964 Alaska (8.4M), 1972 Managua, Nicaragua (6.2M), 1976 Friuli, Italy (6.5M), 1978 Miyagi-Ken-oki, Japan (7.4M), and the 1980 Campania-Basilicata, Italy (6.8M) earthquakes. Many power plants and other facilities have been surveyed following these earthquakes; survey reports and the results of related studies are widely published in the literature.

In all these earthquakes no catastrophic power plant failure has ever been reported. In many cases, power plants have continued to operate during and after the earthquake; in other cases plant controls and safety systems have shut down the facilities with little or no damage to the facility.

There have been damage reports, no doubt, from these earthquakes. However, reported damage has usually been limited to the following categories:

- Foundation failures or failures of buried piping and structures due to soil failures: In the U.S., nuclear power plants are located according to strict site selection criteria, extensive geological and foundation studies are conducted, and structures are designed with consideration for the foundations' effects on their seismic responses. Therefore, these types of failures are not expected to occur at U.S. nuclear power plants, specifically at Diablo Canyon where geological and foundation effects have been considered using the most advanced technologies.

- Failure of unanchored or inadequately anchored equipment, such as overturning and sliding: These types of failures would not be applicable to seismically designed nuclear power plants since most of the equipment in these plants is anchored in accordance with good construction practices. Well anchored equipment has suffered little or no damage in past earthquakes.

- Failures of thin-wall tanks and pipe nozzles at tanks due to large movements of tanks, and the lack of flexibility of piping attached to these tanks: Again, good engineering practice dictates avoiding these types of details in nuclear power plants designed for earthquakes. Such details missed in design, or occurring in field-run installations, are corrected by stress walkdowns or programs similar to SISIP.

- Failure of cast iron pipes and other components due to impact by other components: In U.S. nuclear power plants designed for earthquakes, cast iron is not normally used for safety-related systems. Impact by other components is avoided by proper anchorage of equipment and by programs similar in intent to SISIP.

- Failure of pipe supports, especially the semiflexible fixed-end rod hangers, due to lack of support flexibility to accomodate pipe deflections: However, in most cases the piping has maintained its integrity, i.e., it did not rupture owing to its inherent ductility.

In summary, structures, systems, and components designed and installed according to good engineering and construction practices have performed well. Well anchored pumps, cabinets, motors have suffered little or no damage. Flexible field-run piping has performed well in spite of support failures. The failures that have been reported are mostly due to conditions, such as unanchored equipment, that do not apply to the Diablo Canyon Power Plant.

1.5.6 The Event Tree

A commonly used tool to identify potential sequences of events that may lead to a postulated accident scenario is an event tree. Event trees are also used to quantify the probabilities of the event sequences.

A simple event tree, as applied to the SISIP, would start with the initiating event, the 7.5M Hosgri earthquake— an extremely low-probability event. The sequence of events leading to a postulated accident scenario, as considered by SISIP, would have to be something like this:

- The earthquake magnitude is 7.5 on the Richter Scale (a very conservative assumption; see Section 1.5.1)

- The site ground motion is 0.75g (see Section 1.5.1)

- Ground motion is amplified to much higher levels through the structures (very conservative assumptions were made in selecting the parameters used in seismic analyses of the DCPP structures; e.g., conservative damping values, broadened spectra, and conservative modal and directional combination methods were used)

- Class II systems go through large deformations or suffer catastrophic failures (as discussed before, Class II systems would not necessarily fail in an earthquake, even though some failures would be expected)

- Failed or deflecting Class II systems or components impact Class I safe shutdown systems in their vicinity (the probability of this happening is small)

- Class I systems fail from the impact (in most instances it is unlikely the interaction would be sufficient to cause damage to the Class I component)

- Back-up systems do not work, since they have also been impacted by failed Class II systems, and have also failed (this requires the previous unlikely events to occur simultaneously for the redundant components)

- Containment systems are not able to contain the radioactive release (containment isolation systems are within the SISIP target scope)

- Because of the adverse geologic, geographic, and meteorological conditions concurrent with the earthquake, the radioactive release threatens the safety of the public.

As noted before, no attempt was made to quantify the probabilities associated with all the events in this sequence. However, it can comfortably be stated that these probabilities, and the probability of the total sequence (which is roughly the multiplication of all the individual event probabilities), were extremely small before the SISIP efforts and, as a result of the SISIP efforts, they are made even smaller.

The SISIP gives additional assurance that if a Hosgri 7.5M seismic event were to occur, Class II systems, structures, and components will not endanger the functioning of the safety-related systems, structures, and components required for safe shut down and accident mitigation (including containment isolation capability) in the Diablo Canyon Power Plant.

1.6 THE FINAL REPORT

This Final Report on PGandE's Seismically Induced Systems Interaction Program contains the following:

(1) A description of the Program and a summary of changes made to the Program

(2) A description of the methods used to identify and resolve postulated interactions

(3) The final statistics of the postulated interactions and their resolutions - presented in tabular form for Unit 1 and Unit 2

(4) The criteria developed for identifying sources and targets by the onsite inspection (walkdown) team

(5) Representative samples of interactions and their resolutions

(6) A study of the significance of modifications made as a result of the SISIP in response to requests by the NRC staff

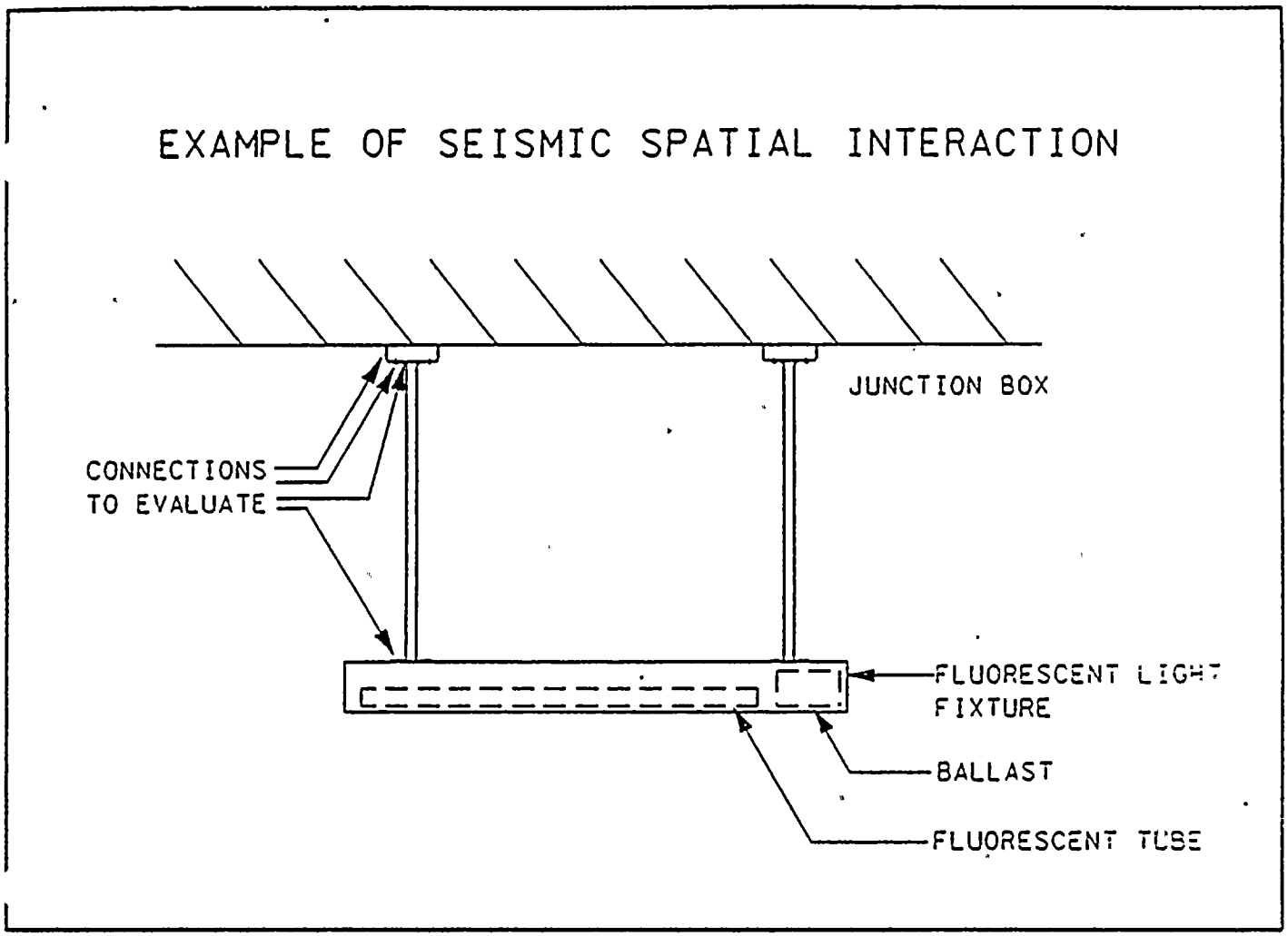
(7) Conclusions and lessons learned

(8) All interactions identified by the Program.

Contained in the attachments to this report are the relevant supporting data and/or references to information accumulated during the resolution of interactions.

The Final Report has been prepared in sufficient detail to allow a reader to fully ascertain the background, methods, and results of the SISIP. The report does not contain all the documents generated by the Program. The SISIP files or the information data base support the contents of this report. Computer summaries of the interaction data base have been included in the attachments along with examples from the hard copy files.

FIGURE 1-1



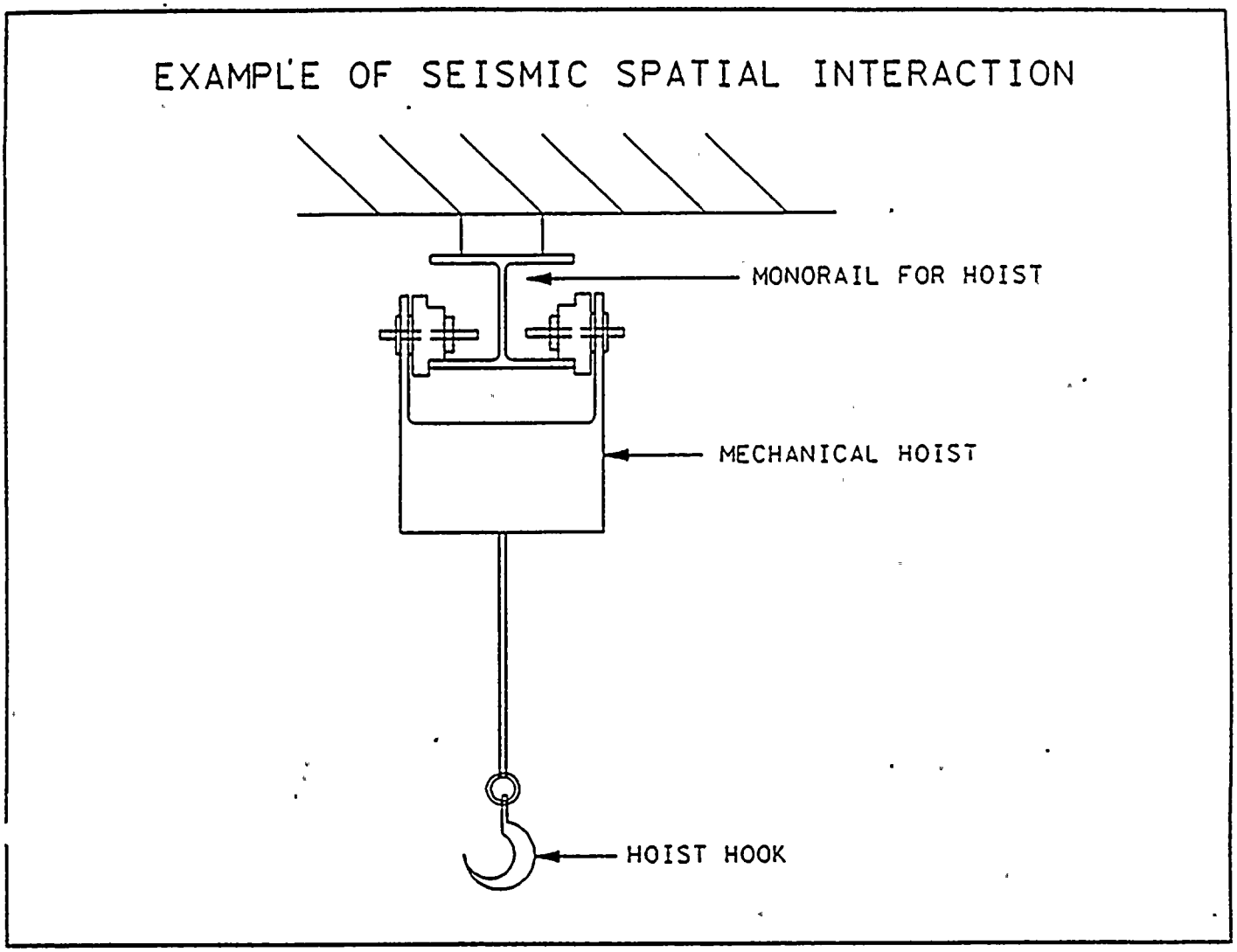
POSTULATED INTERACTION

SOURCE: CEILING-MOUNTED LIGHT FIXTURE

TARGETS: VARIOUS TARGETS UNDERNEATH OR IN VICINITY OF SOURCE

INTERACTION: SEISMIC EVENT CAUSES LIGHT FIXTURE TO FALL OR DEFLECT INTO TARGETS IN VICINITY. LIGHT FIXTURE MAY BE MODELED AS A PENDULUM. MAXIMUM GROUND DISPLACEMENT IN SEISMIC EVENT ASSUMED AS MAXIMUM SWING OF FIXTURE. CAPABILITY OF LIGHT FIXTURE CONNECTIONS IS QUESTIONED. A SINGLE FAILED CONNECTION ALSO ASSUMED TO CAUSE THE LIGHT FIXTURE TO SWING THROUGH A GREATER ARC. IF CONNECTIONS ON SECOND SUPPORT MEMBER FAIL, LIGHT FIXTURE CAN POTENTIALLY TRAVEL GREATER DISTANCE THAN EXPECTED (ESPECIALLY IF ATTACHED TO A HIGH CEILING). LOCATION OF HEAVY COMPONENTS IN FIXTURE (E.G., BALLAST) ALTERS SWINGING BEHAVIOR OF FAILED FIXTURE.

FIGURE 1-2



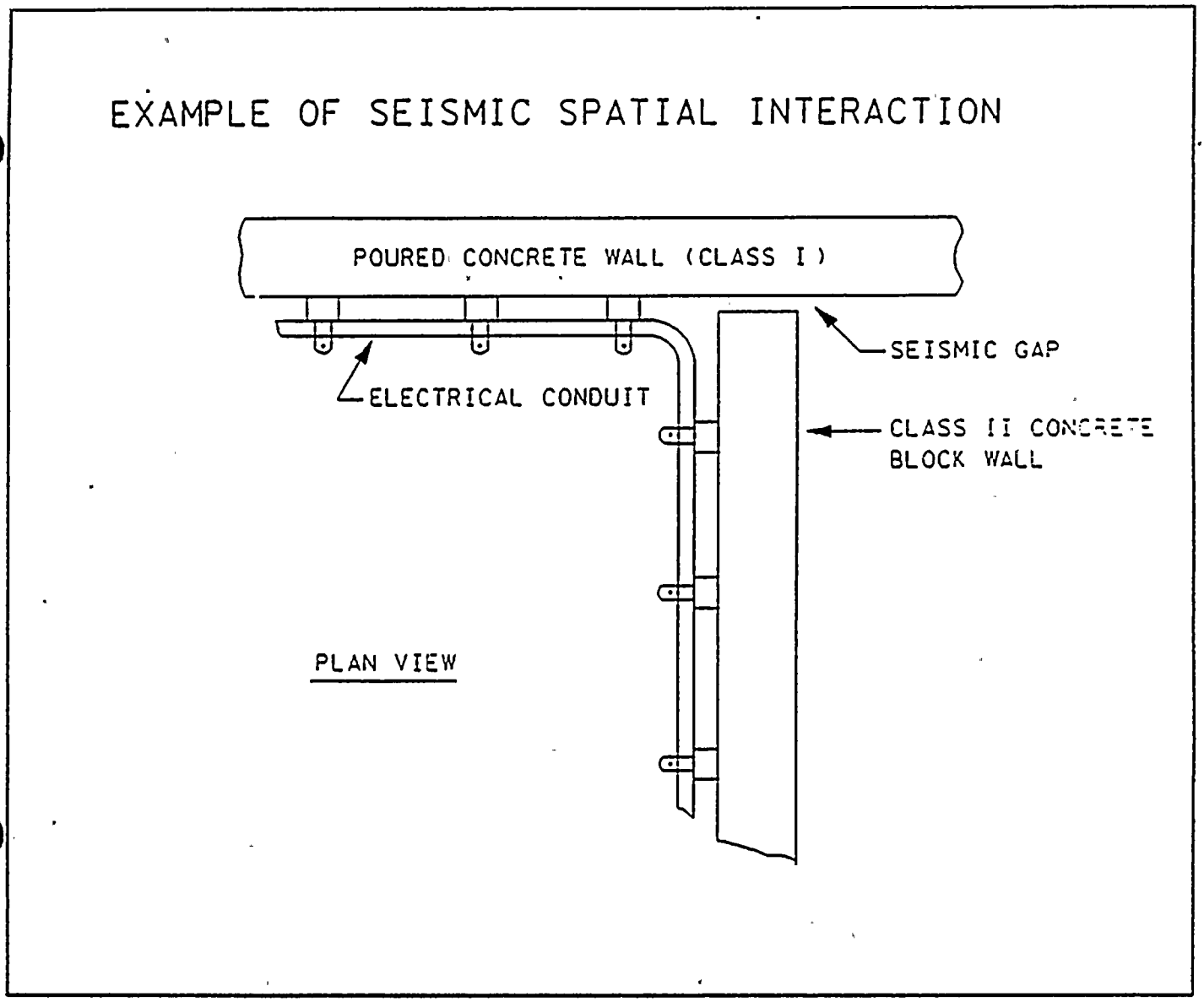
POSTULATED INTERACTION

SOURCE: MONORAIL, MECHANICAL HOIST, AND/OR HOOK

TARGETS: VARIOUS TARGETS UNDERNEATH OR IN VICINITY OF SOURCES

INTERACTION: SEISMIC EVENT POSTULATED TO CAUSE FAILURE AND/OR DEFLECTION OF SOURCE(S). CONSIDERATIONS INCLUDE: (1) MONORAIL SUPPORTS ASSUMED QUALIFIED FOR DEAD WEIGHT LOAD OF MONORAIL, HOIST, AND HOIST-RATED CAPACITY. CONNECTION DETAILS ASSUMED TO BE WEAK IN LATERAL AND LONGITUDINAL DIRECTIONS; HORIZONTAL SEISMIC LOADS MAY THEN CAUSE MONORAIL SUPPORT CONNECTIONS TO FAIL. (2) SWAYING OF HOIST DUE TO HORIZONTAL SEISMIC FORCES MAY CAUSE HOIST TO DISLODGE FROM MONORAIL. (3) SWAYING OF HOIST THROUGH ITS FULL HORIZONTAL TRAVEL MAY CAUSE BACK AND FORTH MOVEMENT INTO SWAY STOPS. RESULT POSTULATED IS HOIST GEOMETRY DEFORMED BY THE IMPACTS SUCH THAT HOIST IS THEN CAPABLE OF FALLING OFF MONORAIL. (4) IF HOIST HOOK IS NOT TWO-BLOCKED, IT MAY ALSO SWING INTO TARGETS IN THE VICINITY.

FIGURE 1-3



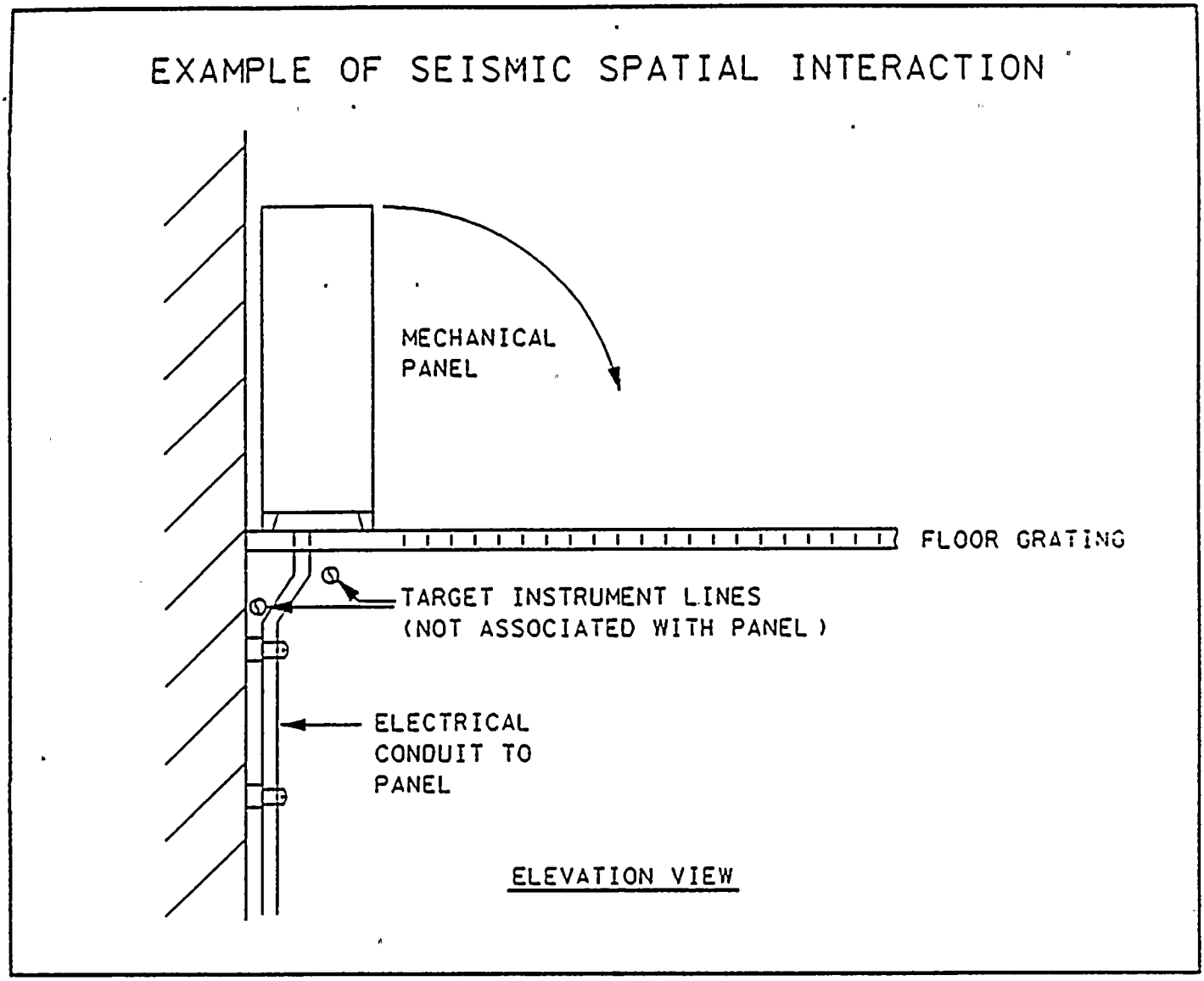
POSTULATED INTERACTION

SOURCE: RELATIVE STRUCTURAL MOTION BETWEEN DIFFERENT STRUCTURES IN SEISMIC EVENT

TARGET: ELECTRICAL CONDUIT

INTERACTION: RELATIVE STRUCTURAL MOTION IN SEISMIC EVENT BETWEEN POURED CONCRETE WALL AND CONCRETE BLOCK WALL POSTULATED TO DAMAGE CONDUIT SUPPORTED FROM BOTH WALLS. ADDITIONAL CONSIDERATIONS: ARE THROUGH-BOLTS USED FOR CONDUIT SUPPORT ANCHORS TO BLOCK WALL? IS BLOCK WALL SEISMICALLY QUALIFIED?

FIGURE 1-4



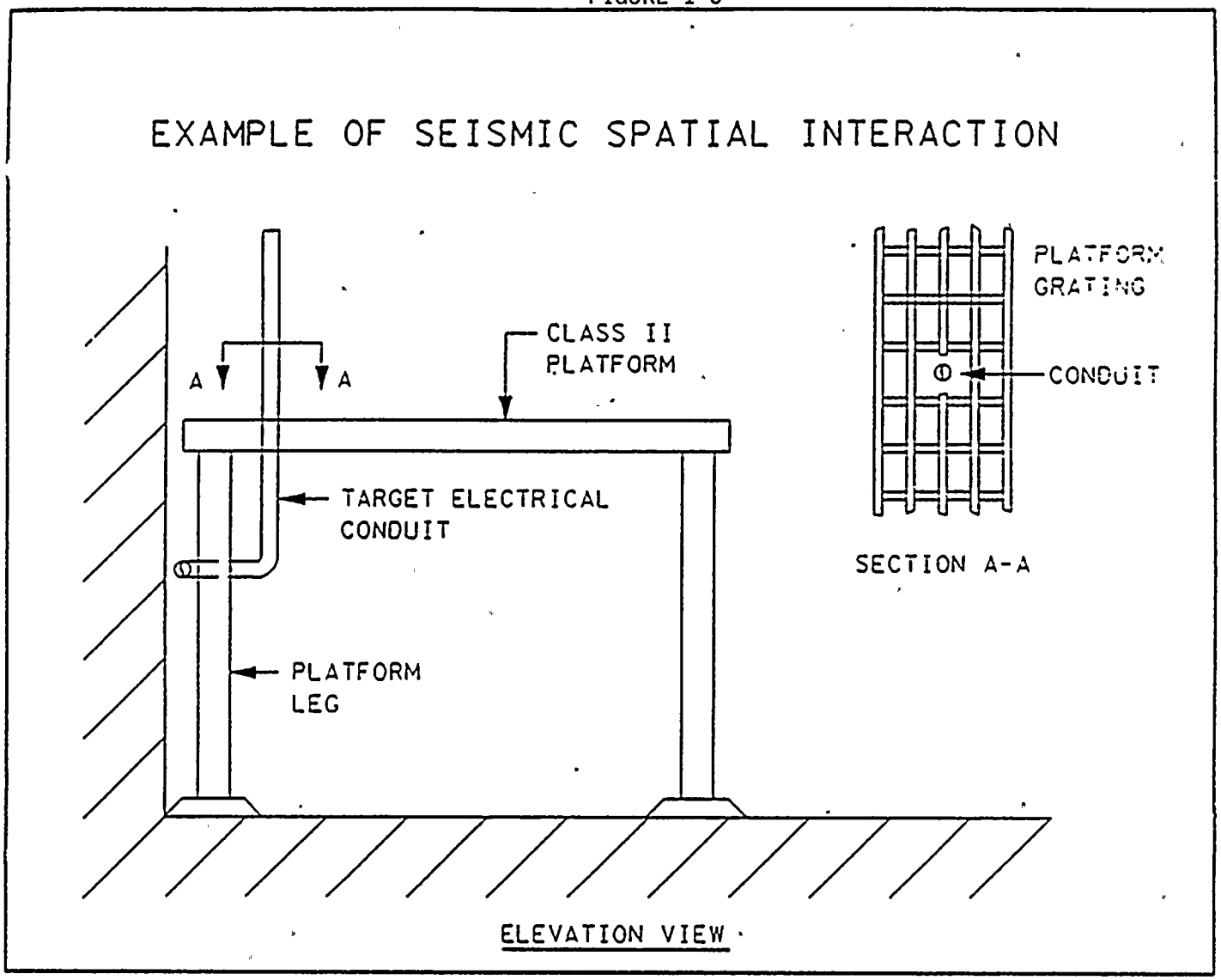
POSTULATED INTERACTION

SOURCE: ELECTRICAL CONDUIT INVOLVED IN A POSTULATED OVERTURNING MECHANICAL PANEL

TARGET: INSTRUMENT LINES UNDER FLOOR GRATING IN VICINITY OF ELECTRICAL CONDUIT

INTERACTION: MECHANICAL PANEL POSTULATED TO OVERTURN IN A SEISMIC EVENT. PANEL ITSELF IS NONSAFETY-RELATED AND ITS OVERTURNING DOES NOT HAVE POTENTIAL TO IMPACT SAFETY-RELATED TARGETS IN THE AREA. HOWEVER, CONDUIT RUNNING INTO BOTTOM OF PANEL COULD BE DISPLACED BY OVERTURNED PANEL, RESULTING IN IMPACT TO TARGET INSTRUMENT LINES IN THE VICINITY OF THE PANEL, POSTULATED TO RESULT IN LOSS OF FUNCTION OF INSTRUMENT AND BREACH OF PROCESS PRESSURE BOUNDARY.

FIGURE 1-5



POSTULATED INTERACTION

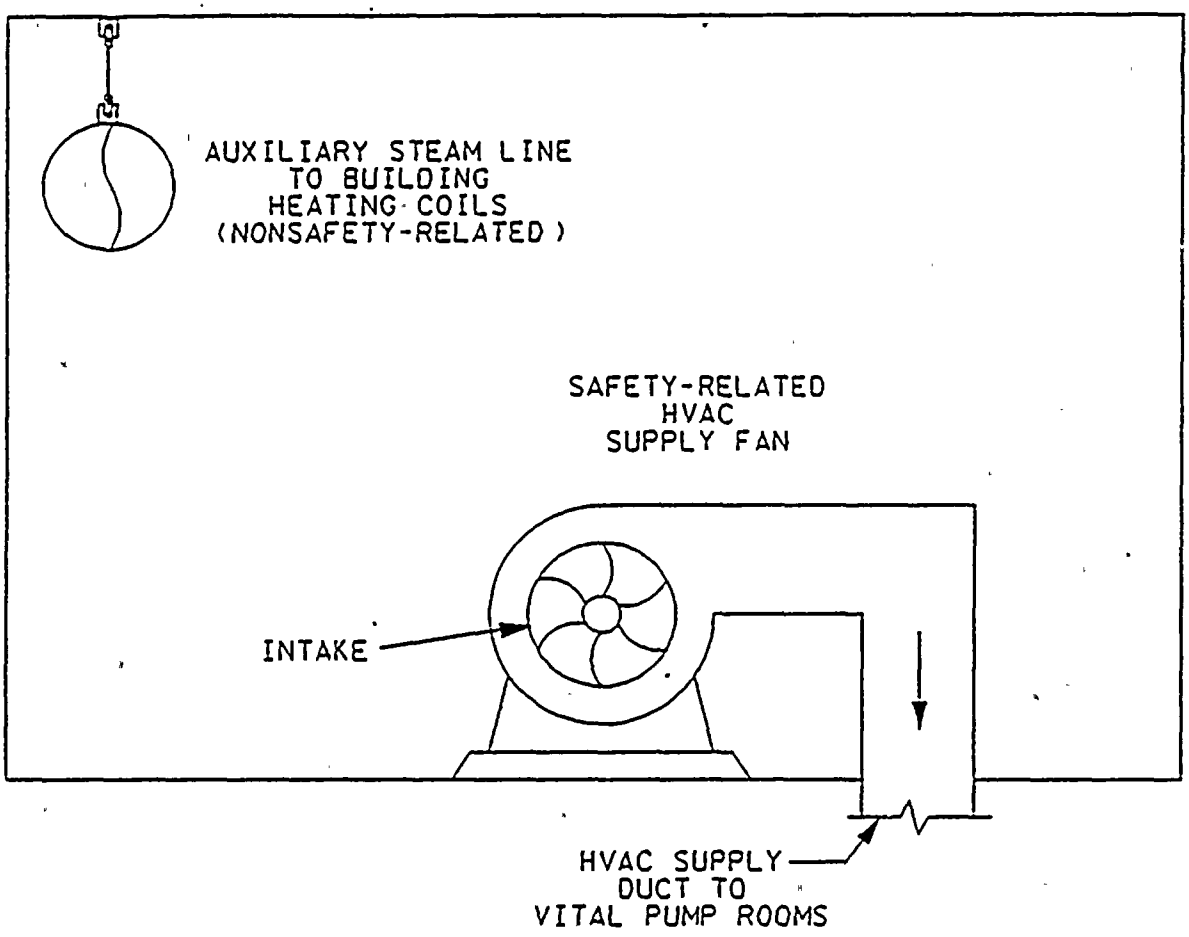
SOURCE: SEISMIC MOTION OF CLASS II PLATFORM

TARGET: ELECTRICAL CONDUIT

INTERACTION: SEISMIC EVENT POSTULATED TO CAUSE FAILURE AND/OR DEFLECTION OF CLASS II PLATFORM. POSSIBLE CONSIDERATIONS: (1) GROSS FAILURE OF PLATFORM DAMAGES CONDUIT UNDERNEATH, (2) DEFLECTION OF PLATFORM GRATING MAY CAUSE IMPACT WITH TARGET IF SUFFICIENT CLEARANCE HAS NOT BEEN PROVIDED, (3) PLATFORM LEG MAY DEFLECT INTO CONDUIT IF ADEQUATE CLEARANCE HAS NOT BEEN PROVIDED, (4) DIFFERENTIAL MOTION BETWEEN SUPPORTS, CAUSING IMPACT WITH CONDUIT.

FIGURE 1-6

EXAMPLE OF INTERCOMPARTMENTAL SPATIAL INTERACTION



POSTULATED INTERACTION

SOURCE: CLASS II AUXILIARY STEAM LINE PASSING THROUGH FAN ROOM

TARGET: SUCTION TO HVAC SUPPLY FANS DELIVERING COOLING AIR TO VITAL PUMP ROOMS

INTERACTION: LINE BREAK ANALYSIS WOULD CONSIDER ENVIRONMENTAL EFFECT OF NONSAFETY-RELATED AUXILIARY STEAM LINE BREAK IN SAFETY-RELATED HVAC SUPPLY FAN ROOM. ANALYSIS EVALUATES EFFECT ON SUPPLY FAN, MOTOR, AND RELATED COMPONENTS IN FAN ROOM. HOWEVER, LINE BREAK ANALYSIS MAY NOT CONSIDER THAT HOT, HUMID AIR IS CIRCULATED TO VITAL EQUIPMENT ROOMS, WHICH DEPEND ON SUPPLY FAN FOR COOLING OF VITAL PUMP MOTORS. POSTULATED RESULT IS THAT VITAL EQUIPMENT IN OTHER COMPARTMENTS MAY BE COMPROMISED.

Chapter 2

RELATED DIABLO CANYON PROGRAMS

The Diablo Canyon design considered the effects of a wide range of phenomena that are associated with spatial systems interaction, however, overlap with prior or ongoing programs was minimized. This section has been included at the suggestion of an Independent Review Board (whose functions are more fully described in Chapter 6). The following is a listing of other DCPP programs relating to systems interactions.

2.1 HIGH- AND MEDIUM-ENERGY PIPE RUPTURE

" Sources of interactions by pipe rupture of high-energy and medium-energy piping systems need not be considered in this program as a piping failure because previous safety programs consistent with the requirements of NRC Regulatory Guide 1.46 and the studies referenced in Subsection 3.6 of the Diablo Canyon Final Safety Analysis Report related documents have resulted in provisions being made to accommodate postulated pipe rupture" (Reference 2).

2.2 ENVIRONMENTAL EFFECTS

" Environmental effects related to any pipe break condition, including temperature, pressure, jet impingement and flooding have been included in previous studies and referenced in the Diablo Canyon FSAR" (Reference 2).

2.3 TORNADOES

The effects of high winds, tornadoes, and tornado-borne missiles on buildings, exposed systems, and equipment are addressed in the FSAR, Section 3.3.

2.4 FLOODING

Flooding due to storms, tsunami, and pipe rupture have been considered in the FSAR (Sections 2.4, 3.4, and 9.2, respectively).

2.5 MISSILES

Missiles from various sources within the plant are considered in the FSAR, Section 3.5. Tornado-borne missiles as mentioned above are addressed in the FSAR, Section 3.3.

2.6 HUMAN INTERACTIONS

> " Interactions which may be caused by other than seismic effects on nonsafety-related structures, systems, and components (such as human errors) have been and are being investigated in other studies and are not explicitly included in the Systems Interaction Program for Seismically-Induced Events" (Reference 2).

2.7 BLOCK WALLS

Covered in PGandE's response to the NRC's I&E Bulletin 80-11.

Note: Most block walls were identified by the SISIP; however, resolution was transferred to the program established to resolve this issue.

2.8 HEAVY LOADS

Covered in PGandE's response to NUREG-0612.

2.9 FIRE

Covered in the FSAR, Section 9.5, PGandE's Fire Protection Review, and PGandE's response to Appendix R.

Chapter 3

PROGRAM DESCRIPTION

This chapter contains a description of the SISIP as currently implemented by the Diablo Canyon Project. Attachment 2, the Program Manual, contains a more detailed discussion of each Program step.

3.1 THE PROGRAM SCOPE

PGandE's Program contains the following elements that indicate the breadth and thoroughness of its scope, development, and implementation.

3.1.1 Pre-walkdown Activities

(1) Development of target criteria

(2) Establishment of source acceptance criteria

(3) Identification and listing of targets to be evaluated by the walkdown team

(4) Documentation for writing interactions

3.1.2 Field Evaluations of Targets

(1) Site evaluation of targets

(2) Recommendations by the walkdown team for the resolution of interactions

(3) Documentation of postulated interactions and publication of reports

3.1.3 Analysis of Postulated Interactions

(1) Assignment of interactions for resolution

(2) Engineering analysis and resolution of the postulated interaction

(3) Independent technical review of the resolution

3.1.4 Resolution of Postulated Interactions

(1) Interactions shown as not credible are closed.

(2) Potentially credible interactions result in field modifications or procedural changes.

(3) Post-construction inspection of SISIP modifications by the walkdown team

(4) Final review by the SIP Project Coordinator

The elements listed above are supported by computerized data based that log, track, and permanently record the results of the entire Program (and includes references to microfilmed Program documentation).

The SISIP has also been the subject of multiple and independent reviews by the NRC, consultants, consultant review boards, and Project quality assurance (QA).

3.2 THE SISIP PROCESS

This section describes the process by which the SISIP systematically identifies and resolves seismically induced interactions between sources and targets postulated by the Site Evaluation (walkdown) Team.

Many other activities are required to support the SISIP process. These include entering information into computerized data bases, preparing procedures, issuing status reports, processing information related to each interaction, developing design

criteria, and coordinating engineering, operations, and construction activities. These supporting requirements are described in Chapters 4 through 7.

3.2.1 Pre-walkdown Activities—Description

After the target scope had been established with the NRC, consultants and Project disciplines prepared detailed criteria defining the scope of SISIP target structures, systems, and components.

Before the detailed target criteria were prepared, piping schematics (P&IDs) were modified to highlight system boundaries. Appendix A to the Program Manual contains the results of the activities associated with defining the scope of SISIP targets. These highlighted schematics became the basis for the development of a detailed list of targets.

The detailed list of the individual target components (along with operability requirements) resulted from the criteria and target schematics. The target list contains a system employed in numbering the target components as each interaction was documented.

In addition to establishing the target base, an equally important part of the Program was developing source acceptance criteria.

These criteria were the basic guidelines from which the walkdown team postulates interactions between sources and targets. An example is the mechanical criterion for postulating overturning tanks:

> " Overturning of tanks, pumps, filters or other unsupported equipment where distance of the center of gravity as measured from the base is longer than one-half the base width in all directions. Each direction in which the equipment may overturn is evaluated independently."*

The final prewalkdown activity is to develop the basic document that will be used for recording postulated interactions. PGandE's primary SISIP document is called the Interaction Documentation Sheet (IDS). It contains relevant information on the identification, resolution, and closeout of each interaction postulated by the walkdown team. The IDS is also the source of raw data for establishing a computerized data base.

3.2.2 Target Inspections

Site evaluations (walkdowns) involve a methodical approach to inspecting target components and surrounding sources. An experienced walkdown team leader, who is well-informed about Program criteria directs the walkdown activity.

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* Appendix B to the Program Manual.

Initially, source acceptance criteria are applied, and then Team members identify those sources not meeting the criteria. The Team will postulate the potential physical impact of those sources on nearby targets. After becoming familiar with applying the source acceptance criteria, the Team inspects the area for secondary interactions and for those sources that have the potential of affecting targets outside the compartment (intercompartmental).

In the SISIP, any member of the walkdown team could postulate an interaction. Sources not meeting the acceptance criteria and having, in the judgment of the Team, potential for physical interaction with a target were documented on an Interaction Documentation Sheet (IDS) and signed by the initiating Team member or Team leader.

Applying conservative source acceptance criteria resulted in the identification of numerous noncredible events. Therefore, a key part of the Program is the follow-up evaluation by the walkdown team to determine an interaction's credibility or potential for target contact.

For example, a handrail may be postulated to fall and strike a target located below; however, intervening structural members may shield the target from the postulated falling handrail. The walkdown team determines whether or not the potential interaction is credible.

During the site evaluations, ways of resolving the interaction may occur to the walkdown team. These recommendations are often useful to the resolving organizations (Engineering or Operations) and are noted on the IDS.

3.2.3 Engineering Resolution

When an interaction is documented, it must be resolved. All interactions postulated by the Team result in a series of reviews, analyses, or supportable engineering judgments in order to determine final resolution.

Interactions determined by the Team to warrant further investigation must be assigned to the appropriate engineering discipline (or operating personnel) for resolution. At this stage, engineering judgment plays a lesser role. Analytical techniques, test results, and/or other evidence or stated rationale that may be applied to the interaction are documented and transmitted for technical review to ensure that the interaction has been addressed in its entirety. Numerous iterations between discipline and technical reviewer can and do occur before a satisfactory method of resolution is found.

The SISIP is not a program to upgrade seismic Category II sources to seismic Category I standards. The fundamental criterion of the program is to show whether or not an interaction is credible.

Loss of function to the source item is irrelevant, which is not necessarily the case for seismic Category I items.

3.2.4 Final Resolution

Final resolution occurred when a postulated interaction had been indicated as potentially credible by the walkdown team, and further engineering analysis could not conclusively show that the target's safety function was not impaired. There are two other resolution methods: (1) modification, or (2) changes in operating procedure. The engineering discipline prepares the necessary documents to implement physical modifications, while the plant operating staff may initiate procedural changes or other modifying methods (e.g., tying down loose items) to finally resolve the interaction.

Additionally, the Program required a final inspection of SISIP modifications to ensure that no new interaction had been created (i.e., that another configuration has not created a potential for new interactions), and that the current interaction has been resolved.

The final step in the resolution process is closing out the interaction file by the SISIP Project Coordinator. The Coordinator determined that all Program steps had been applied to each interaction and that the supporting documents were present or correctly referenced.

Chapter 4

PROGRAM DEVELOPMENT AND CRITERIA

Systems interaction was initially investigated by PGandE in December 1979. In May 1980, a first draft of the Program Description was submitted to the NRC. In the period of January-May 1980, considerable program development took place involving target identification, refinement of field walkdown techniques, and completion of the Program Description.

Between June and September 1980, PGandE held discussions with the NRC and made numerous submittals on the description of the SISIP, which resulted in establishing the Program criteria. The following sections summarize the criteria, including changes and additions made in implementing the Program.

4.1 PROGRAM OBJECTIVE

The following paragraph reflects the fundamental criterion of the SISIP. The sections that follow aid in the understanding of this program objective.

Fundamental Criterion

This program will establish confidence that when subjected to seismic events of severity up to and

including the postulated 7.5M Hosgri event, all DCPP target structures, systems, and components shall not be prevented from carrying out their required safety function due to physical interactions with nonsafety-related structures, systems, or components. Nor shall the targets lose the required redundancy to compensate for single failures because of such physical interactions.

4.2 SCOPE OF TARGET EQUIPMENT

The following paragraph contains the Program definition for the scope of the SISIP targets.

> " PG&E's program as originally presented included as target equipment those safety-related structures, systems, and components required to safely shut down the plant from normal operating conditions. We (the NRC staff) believed that the scope of equipment designated as targets should also include (1) the safety-related equipment required to maintain the plant in a safe shutdown condition; (2) certain accident mitigating systems not already included, such as the containment isolation, main steam isolation, and containment spray systems; and (3) the manual equipment relied upon for the suppression of fires. In addition, we believed that the initial plant operating modes of shutdown and refueling should also be considered in the selection of target equipment. At our request, PG&E revised their report to expand the scope of equipment designated as targets to include those items discussed above...." (SER, p. 2-1)

The safety-related target structures, systems, and components are identified in the Program Manual's Appendix A, "Criteria for Identification of Target Components." These criteria resulted

directly from the above SER excerpt. The criteria also identify those systems or components that encompass the following elements:

(1) The Program includes the target electrical, mechanical, fluid, pneumatic, and control equipment which are physically or functionally related to target equipment.

(2) Most safety functions are performed by more than one system. This redundancy will be maintained, even though it was originally incorporated as protection against random events.

4.3 DEVELOPMENT OF TARGET LIST

After defining the scope, the targets were documented in a form suitable for use by a walkdown team detailing the required component interfaces. In order to reference each target and enter its description into a computerized data base required that the form of the target list allow discrete data entries.

4.3.1 Target Schematic Development

Developing the target schematics resulted from a review of piping design drawings to determine the systems and boundaries for all mechanical systems contained within the SISIP target scope.

A highlighted set of design drawings, called target schematics, was finally determined to be the best method of presenting target information for the walkdown team's reference. Appendix A to Attachment 2 contains a complete set of the target schematics developed for the SISIP.

Target schematics were also utilized to formulate a target numbering scheme. Thirty-two (32) target systems, 30 of which were directly related and referenced to the target schematics, were established. The remaining two systems were categorized as "electrical" targets and "miscellaneous" sources because they could not be readily referenced to a single set of design drawings (as were the target schematics).

The electrical system is a separate category because piping schematics do not contain information relating to electrical systems.

The "miscellaneous" category is reserved for those unique configurations not amenable to application of the source criteria. Interactions involving generic sources or multiple targets were also placed in this category.

In summary, detailed review of the piping design drawings was necessary to determine the systems and system boundaries to be

included in the target scope and to provide a numbering system traceable to the target schematics.

4.3.2 Target Criteria

The definition of the target scope (Section 4.2) and a thorough review of the SISIP schematics, consisting of identifying the various systems and components included in the target scope, served as the basis for developing detailed target criteria.

In the early stages of the SISIP, detailed criteria were not developed to the stage that defined how each target component was to be described based on a review of the piping schematics. As new target systems were added (e.g., the accident-mitigating systems) and others were modified, the original component listing became cumbersome.

In late 1982, the "Criteria for Identification of Targets" was developed for the SISIP. These criteria defined the boundaries of each listed target component: a definition of each target system, the system's boundaries, and the appurtenances that were to be contained in each target component. For example:

> " Target piping system boundaries are defined by vessels, 'F' valves, 'O' valves, normally closed manual valves, and instruments to ensure that the pressure boundary integrity of all required systems is maintained."*

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*Appendix A to the Program Manual.

The target criteria also resulted in a revised method of listing SISIP targets, to include a description of what each target component contains. The result was a significantly streamlined list of targets, which also encompassed related appurtenances. (See Attachment 2, the Program Manual, Appendix A for the target criteria.)

4.3.3 Target List (Matrix)

The term "matrix" was adopted early in the Program's development. Matrix and target list are interchangeable terms meaning the specific and unique assignment of a number to an SISIP target structure, system, or component.

The target list is a numerical counterpart to the target schematics. The list is more extensive than the schematics because it includes systems and components not shown on the target schematics. This numerical listing serves three purposes:

(1) It identifies interactions by numerically linking a source to a target.

(2) It enhances accessibility to the Program results by making a computerized data base possible.

(3) It provides a useful tracking mechanism.

Each target assigned a matrix number is traceable to the target schematics by referring to the first two digits of the matrix number. (See Attachment 2, the Program Manual, Chapter 5, for a description of the matrix numbering method.)

Boundaries of each target and the inclusion of intervening items (e.g., instrument taps, instrument lines, check valves, manual valves) were identified in the target list. (See Attachments 2 and 3 for a complete list of SISIP targets.)

4.4 SOURCE CRITERIA

During early Program implementation from January through October 1980, conservative source acceptance criteria were developed.

Submittal of the Program Description (Reference 2) to the NRC led to discussions with the NRC staff, revisions to the document, and eventual acceptance of the source criteria. The following sections summarize those results. The complete text of the NRC evaluation can be found in the SER, Supplement 11 (Attachment 1).

4.4.1 Source Acceptance Criteria

Sources of interactions are defined as any nonsafety-related structures, systems, or components which, by their proximity to

safety-related (target) structures, systems, or components and the absence of defensible seismic qualification, may physically interact through mechanical, electrical, or fluid means to degrade the plant's safety features. Sources are considered individually and in credible combination with other sources.

The source acceptance criteria are generally "failure" criteria. Other phenomena, such as lateral or vertical deflections, are identified on a case-by-case basis depending on the target's proximity to the source.

In each category of source criteria, there is a "special case" subcriterion that allows for a walkdown team to be more restrictive, even though the source may conform to acceptable criteria. These special case criteria would account for configurations not amenable to the direct application of the source criteria.

Certain categories are not explicitly addressed by the Program, but are considered elsewhere in the design of Diablo Canyon. These are summarized in the following paragraphs.

(1) Supports for safety-related electrical conduits or safety-related instruments

(2) Sources of interactions caused by the rupture of high-energy and medium-energy piping systems were included in other programs and, therefore, need not be explicitly addressed by the SISIP as seismically induced phenomena from the postulating of source pipe failure.

Seismic Category II piping was designed to meet the requirements of ANSI B31.1. Early Program developmental work indicated that such piping systems will not catastrophically fail and are not postulated as sources of interaction unless the as-built configurations identified by the walkdown team lead them to question the installed condition. However, the deflection of such piping is explicitly addressed by the Program.

Structures, systems, and components important to safety are not sources by virtue of their seismic qualification. Therefore, interaction between two safety-related items that are qualified to withstand the postulated 7.5M Hosgri event is not deemed credible and is not explicitly part of this Program. However, if some design or construction oversight is observed in the course of the Program, it will be documented and evaluated.

The following paragraphs summarize the structures, systems, or component failure modes contained in the source criteria. Refer to Appendix B of the Program Manual for a complete description of the applicable criteria.

4.4.1.1 Structural Source Criterion

This is a simple and conservative criterion which assumes that all nonseismically qualified structures are deemed to fail.

4.4.1.2 Mechanical Source Criteria

The six mechanical source criteria are: (1) overturning of unsupported equipment, (2) failure of valve and operator upper structures, (3) lateral deflection at tops of tanks and vessels, (4) support failure of vessels greater than 100 lb, (5) failure of pump anchorages, and (6) other conditions identified by the walkdown team.

4.4.1.3 Electrical Source Criteria

This category of source acceptance criteria includes electrical equipment and electrical raceways.

Electrical equipment criteria are: (1) the overturning of unsupported equipment, (2) support failure resulting in overturning for masses greater than 100 lb, (3) wall-mounted equipment extending more than 12 in. and exceeding 50 lb, and (4) other conditions identified by the walkdown team.

Electrical raceway criteria apply to: (1) failure of supports and collapse of cable trays, (2) longitudinal movement of cable trays, (3) lateral movement of cable trays, and (4) other conditions identified by the walkdown team.

4.4.1.4 HVAC Sources

These six criteria include (1) the failure of ducts supported vertically, (2) the failure of ducts supported laterally, (3) the failure of ducts supported longitudinally, (4) deflection of ducts, (5) failure of in-line HVAC equipment, and (6) other conditions identified by the walkdown team.

4.4.1.5 Piping Sources

There are eight piping source criteria: (1) circumferential breaks for mechanically or threaded connected pipes, (2) separation of bolted flange connections, (3) failure of fixed-end rod hangers, (4) failure of vertical supports, (5) lateral pipe movements based on support spans, (6) lateral pipe movement based on concentrated masses, (7) fluid leakage rates for threaded or mechanically coupled pipe, and (8) other conditions identified by the walkdown team.

4.4.1.6 Instrumentation and Control Sources

The two I&C criteria are: (1) instruments extending more than 10 in. and weighing more than 45 lb and (2) other conditions identified by the walkdown team.

All source acceptance criteria were reviewed by the NRC, modified according to the their recommendations, and finally accepted. The SER discusses NRC findings under each of the above six categories of sources. The actual criteria are listed in Appendix B to the Program Manual.

4.4.2 Changes to Source Criteria

The earlier established source criteria were initially based on both analytical activities and onsite inspections to determine if the criteria would also be amenable to a site inspection of targets.

The walkdown team's instructions were clarified as a result of the learning curve from the time of earliest Program development.

Appendix B to the Program Manual (Attachment 2) contains a detailed description of Program source criteria. Appendix C to

the Program Manual further clarifies and describes the quidelines given to the walkdown team with regard to the source acceptance criteria.

4.4.3 Source Criteria Development

During the development period it became apparent that criteria based solely on geometrical considerations (e.g., clearances, cones of influence, proximity dimensions), which are more typical of II/I* activities, were not the best approach. The following rationale was applied:

(1) If the only items the team was expected to consider were those that were X inches away from a target, judgment would no longer be involved in the identification of interactions. Walkdown team of less experienced technical members would be all that is necessary.

(2) Many interactions, including chain and intercompartmental, as well as seismically induced environmental effects, would not be explicitly addressed.

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* II/I: Class II (nonseismic) entities located above Class I components. II/I criteria generally exclude credit for interaction credibility and do not consider the type of Class I target involved.

(3) There would be the potential for a considerable increase in the number of documented interactions, most of them trivial and of no consequence.

(4) Walkdown teams comprised of less experienced technical members could document the items not meeting the geometrical requirements, thus reserving the capabilities of more experienced engineers for more difficult problems during the site evaluation.

(5) Documentation could become excessive due to the potentially large number of items written.

(6) Costs would increase greatly with no compensating benefit to plant safety.

(7) An evaluation of the results at the Program's conclusion would not have much meaning; it would merely provide a large data base.

With the conclusion of the Unit 1 Program, the results have reasonably established the efficacy of the current approach as opposed to one based on geometrical measurements. The more potentially significant sources and interaction phenomena were identified, while not overloading the Program with a large data base.

4.5 INTERACTION CRITERIA

An interdisciplinary team of experienced engineers, by applying the criteria outlined in Section 4.4 and the following paragraphs, postulated interactions between sources and targets.

4.5.1 Development of the Interaction Phenomenon

The first and preliminary walkdown of the SISIP was performed in December 1979 to determine the potential scope of a program that would satisfy the issues raised by the ACRS during earlier hearings on DCPP.

During early Program development, it was determined that an effective SISIP addressing the ACRS concerns should have wide latitude and the judgment of experienced walkdown team members. These team members would postulate seismically induced interactions concurrent with the application of conservative failure criteria for sources. This Program feature would prevent unnecessary documentation of interactions that, in engineers' reasonable judgment, would not be credible (e.g., postulating damage caused by a swaying fluorescent light fixture impacting a 2-in. electrical conduit and rendering the circuits it contains inoperable).

The following sections (4.5.1.1 through 4.5.3.1) are extracted from the 1980 Program Description (Reference 2) and present the results of discussions with the NRC:

4.5.1.1 Fundamental Interaction Criterion

(Section 4.1 of Reference 2):

" Seismically induced physical interactions include any and all credible failures or adverse behavior of non-safety related structures, systems, or components. The credibility will be based on conservative technical judgement of experienced engineers. In the identification stage of the program the instructions are to identify any doubtful or controversial cases for detailed evaluation."

4.5.1.2 Site Evaluation Criteria

(Section 4.5 of Reference 2)

" The evaluation of seismically induced systems interactions and their effects on plant safety rests heavily on experienced engineering judgment. It is judgment which permits such a program to be accomplished since without some limits based on credibility or probability, the program would expand to an impossible magnitude. The following criteria supplement and exemplify the judgment element of this program. They do not replace the need for experienced engineers with design and operational experience to perform the evaluation, nor were they so intended....reliance is placed on assigned engineers in various relevant disciplines applying their knowledge and experience in evaluating the problems. These engineers were given the following criteria as guidelines to benchmark their evaluation. They were instructed not to be narrow in interpretation." (emphasis added)

Since issuing the August 29, 1980, Revision 4 to the Program Description, adjustments have been made as a result of the developmental nature of this Program. This means that the walkdown team

had additional guidance to consider other potential interaction phenomena (e.g., postulating the seismically induced explosion of Class II switchgear).

4.5.2 Interacting Phenomena

This section describes the kinds of physical phenomena considered by the walkdown team when postulating SISIP interactions between sources and targets. The following illustrates the wide scope of interaction phenomena postulated.

(1) Mechanical:

- (a) Impact from vibrating bodies
- (b) Impact from falling bodies
- (c) Pipe whip
- (d) Pipe deflection
- (d) Missiles

(2) Electrical:

- (a) Inadvertent open circuit (loss of power control)
- (b) Inadvertent closed circuit
- (c) Inadvertent energizing
- (d) Cable tray movement

(3) Pneumatic:

(a) Loss of pressure (loss of control)

(b) Unwanted pressurization

(c) Jet impingement

(d) Hostile gas

(4) Hydraulic:

(a) Loss of pressure

1 Loss of control

2 Loss of lubrication

(b) Unwanted pressurization

(c) Jet impingement

(d) Flooding

(e) Hostile fluids

(5) Environmental:

(a) Elevated temperatures

(b) Steam

(c) Radiation

Postulated interactions may also be indirect, as in the case of a source falling and contacting another piece of nonsafety-related equipment, which in turn interacts with a safety-related target.

Seismic events considered include Hosgri magnitude ground motion, a tsunami, and the potential for full or partial loss of offsite power.

4.5.3 Walkdown Team Guidelines

The walkdown team postulated failures to nonessential systems (e.g., loss of electricity and pressure) that may have had an effect on the operations of target equipment. Additionally, the walkdown team evaluated adjacent compartments that may have contained sources of interactions. Phenomena relating to flooding, pressure, and dynamic and electrically induced effects were considered.

The walkdown team was instructed to identify doubtful cases for further evaluation. In general, interactions identified will be in one or more of the following categories:

(1) Contact between a source and a target that could affect the operability of the target

(2) Fluid leakage from one or more sources that could affect the environment of the target component

(3) Contact between a missile generated by a source and a target that relates to the pressure boundary of the target

(4) Contact between a missile generated by a source and a target that could affect operability of the target

(5) Secondary or chain interactions caused by any of the above interactions.

The criteria for evaluation of secondary interactions are the same as for the direct interactions and are successively applied to each member of the chain. Each step in chain scenarios has a low probability of occurrence. Judgment was applied to screen the unlikely sequences.

4.5.4 Interaction Criteria: SER 11 Conclusions

The following is the NRC staff's evaluation of the guidance, based upon the foregoing criteria, given to the walkdown team for postulating interactions.

4.5.4.1 Interaction Identification

> "...We questioned in our review the heavy dependence that is placed on the exercise of engineering judgement on the part of the members of the Interaction Team in the postulation and identification of interactions. PGandE modified their report to specifically instruct the Interaction Team that in case there was any uncertainty on the part of the team regarding the likelihood of occurrence or the potential effects on the target of a postulated interaction, it was to be referred for further study and analysis in the office. We believe that this guidance represents a reasonable and sufficient basis for identification of potential physical interactions due to seismic excitation and is, therefore, acceptable." (SER 11, page 5-5)

4.5.4.2 Indirect Interactions

" ...indirect interaction is that where failure of source equipment could cause interactions such as the non-operation or inadvertent operation of nonsafety-related equipment that has required or assumed failure modes. Similar interactions could occur where safety-related equipment items are supplied by nonvital power sources when these nonvital power sources are lost, degraded, or when unwanted energization violates the design assumption of loss of such nonvital power. At our request, PG&E revised their report to consider this type of potential indirect interaction...." (SER 11, page 5-7)

4.5.4.3 Scope of Interactions

" PG&E's program as originally presented considered only direct physical interactions, in which sources could physically interact directly with targets, and chain-type physical interactions, in which sources could physically interact with other nonsafety-related equipment which, in turn, could physically interact with target equipment. We believed that the scope of interactions considered in the program should also include those in which sources could physically interact with nonsafety-related electrical and pneumatic lines that power or control target equipment with required or assumed failure modes. At our request, PG&E revised their report to expand the scope of interactions considered in the program by including as targets all process tubing, instrumentation, and electrical cables up to the cable trays that are associated with target equipment with required or assumed failure modes....

" We conclude that the revised scope of seismically induced physical interactions considered in PG&E's program includes those that could reasonably be expected to occur and is, therefore, acceptable." (SER 11, page 2-1)

4.6 RESOLUTION CRITERIA

After interactions from the field walkdowns were documented, engineering technical evaluations were performed on those

postulated interactions recommended by the Team to require further review.

During the inspection or soon thereafter, the team determined which documented interactions were not credible. All such interactions are separately identified in the data base.

Analyses, testing, historical experience, and when applicable, engineering judgment, was used to determine validity of the postulated interactions. Unacceptable conditions confirmed through engineering resolution may have shown that modification to the plant was the recommended course of action and those modifications were made.

Each postulated interaction was formally resolved and documented in one of the following ways:

(1) Resolved as noncredible by the walkdown team's evaluation (categorized as No Action Necessary—NAN)

(2) Engineering resolution showed the interaction either would not occur or would not adversely affect the target's safety function.

(3) Engineering methods showed the interaction to be potentially credible; a physical modification or procedural change was the most effective method for mitigating or eliminating the interaction.

4.6.1 Technical Evaluation of Sources

Sources noted in documented interactions were evaluated to determine if seismic events can credibly lead to an unacceptable interaction with safety-related structures, systems, and components. The following were three possible outcomes of the evaluation:

(1) Seismic events will not lead to an interaction because of defensible seismic qualification of the sources by analysis, test, or experience with the same or similar items.

(2) Seismic events may lead to damage or failure of the sources, but the credible failure is no threat to the safety function of the target.

(3) Seismic events may lead to a credible failure of the source that has the potential to cause an adverse interaction.

4.6.2 Evaluation of Effect on Targets

Where evaluation indicated that the safety function of a target is not impaired by a direct interaction, the following guidelines were used:

(1) Postulated direct impact of missiles or falling objects on structures and components are evaluated, when necessary, using the criteria in Sections 3.3.2 and 3.5 of the Diablo Canyon FSAR and in ANSI Standard N660, Plant Design Against Missiles. Inspection may reveal that damage is either impossible or of no consequence, as in cases of small low-energy objects impacting large steel-encased equipment.

(2) Postulated direct impact of missiles or falling objects on HVAC ducts are evaluated using pre-established tabular values (see Appendix B to the Program Manual).

(3) Postulated dynamic effects of breaks in piping can be evaluated using the criteria in Section 3.6 of the Diablo Canyon FSAR.

(4) Postulated flooding effects of broken or leaking pipes are evaluated using the criteria in Appendix 3.6A of the Diablo Canyon FSAR.

(5) Postulated environmental effects of broken or leaking pipes or tanks are evaluated by a comparison of the postulated environment with the target's qualification profile. Helpful criteria and data are contained in Section 3.11 of the Diablo Canyon FSAR.

4.6.3 Resolution by Modification

Modifications to resolve interactions may include:

(1) Modifying the source by bracing, supporting, or reinforcing the source component to eliminate the adverse seismic behavior

(2) Shielding or relocating the target to prevent the physical interaction

(3) Modifying the target to permit retention of the required safety function in spite of the interaction

4.6.4 Resolution by Procedural Changes

Certain interactions were more easily resolved by adding to or changing the plant's procedures. For example, when mobile test gear is moved into a compartment during plant operations, consideration is given to the possible effect of leaving it unattended in the room. Procedures were implemented to guard against any adverse consequences.

4.6.5 Final Verification

When relocation or modification was required to resolve an interaction, the criterion for acceptability was: The modified configuration, when re-evaluated for interactions using the evaluation criteria previously stated, was found to have resolved the original interaction and not to have created any new interactions.

4.7 PROGRAM CRITERIA: SER CONCLUSION

With the considerations outlined in this chapter and considerable independent program oversight, including an onsite audit by the NRC, the SER, Supplement 11 (Attachment 1) concluded:

"Our review of the criteria and guidance used by PGandE to evaluate seismically induced systems interactions has provided us with reasonable assurance that PGandE's program can be implemented in an acceptable manner. Therefore, we conclude that the criteria and guidance used by PGandE to evaluate seismically induced systems interactions are acceptable."

Chapter 5

ORGANIZATION AND METHODOLOGY

The organization and methodology implemented by the SISIP are summarized in this chapter along with the postulating of interactions, the resolutions to interactions, and the final closeout of the interaction. At the end of the chapter, a section is included on an ongoing SISIP regarding review of changes made during Diablo Canyon's operational life. Previous chapters have addressed preliminary activities that involved Program development, Program criteria, and more procedurally oriented activities.

Attachment 1 (Safety Evaluation Report), Attachment 2 (Program Manual), and Attachment 11 (the Independent Review Board's Final Determination Letter), further describe those preliminary and developmental efforts of the SISIP.

Other Program requirements, such as computerized data bases and quality assurance (QA), are contained in Attachments 5-A through 5-E relating to the computer printouts, and Attachment 10 (Program Audits). Section 7.0 of the SER (Attachment 1) describes the NRC's independent audit.

5.1 ORGANIZATION

This Section describes the background and resulting organization established to implement the SISIP in relation to the major Project reorganization that occurred in early 1982.

5.1.1 Background

Discussions between PGandE and the NRC during the development of the original Program Description (Reference 2) indicated the mutual desire to emphasize program independence. Since that early period, changes have been made to the organizational structure; however, independence and outside reviews have remained an integral part of the SISIP.

In the 1980 SER, Supplement 11, the NRC reviewed the initial program organizational structure and commented as follows:

" ...The principal elements of the organization include (1) the Manager, Nuclear Projects, (2) the Systems Interaction Project Engineer, (3) the Interaction Team, (4) the Quality Assurance Department, (5) the consultants, and (6) the Independent Review Board. These elements of the organization, their responsibilities, and their reporting relationships are described below.

" ...Manager, Nuclear Projects

" The Manager, Nuclear Projects, is the head of the Nuclear Projects Department. He is responsible for the overall direction of the program....He coordinates the program between PG&E and the managing consultant for the

Independent Review Board in addition to coordinating with the Managers, Nuclear Plant Operations and Station Construction, and the engineering chiefs....

" ...Systems Interaction Project Engineer

" The Systems Interaction Project Engineer...has the direct responsibility for PGandE's program....He reports to the Manager, Nuclear Projects.

" ...Interaction Team

" The Interaction Team is made up of a group of engineers drawn from the following disciplines: (a) mechanical systems; (b) piping supports; (c) instrumentation and control; (d) electrical; (e) civil/structural; (f) heating, ventilating, and air conditioning; and (g) startup systems....This team is responsible for identifying the target systems, performing the walkdowns, postulating and evaluating potential interactions, and proposing solutions to resolve these interactions....The team members report through their respective engineering discipline chiefs to the Systems Interaction Project Engineer.

" ...Quality Assurance Department

" The Quality Assurance Department is...given the responsibility of providing a team of cognizant engineers that would perform independent audits of the program to verify the correctness and completness of its implementation. The Director of Quality Assurance also...maintains both a computerized index of microfilmed documentation and a computerized data base of all the identified interactions and their resolutions. The Director of Quality Assurance reports directly to the Vice-President, Nuclear Power Generation." (Attachment 10 is the result of this activity.)

" ...The normal functions and responsibilities of PG&E's Quality Assurance Department as required by Appendix B to 10 CFR Part 50 are not affected by the Quality Assurance Department's involvement with the program, as described above, or by the program itself." (Attachment 10 contains the results of a normal QA audit of the program.)

" ...Consultants

"PG&E employs several consulting organizations to provide supplementary and specialized services in the performance of their program....

" ...Independent Review Board

" The Independent Review Board consists of five well-established and respected members of the academic and professional nuclear community. The board's function is to review, without any restriction, any aspect of PGandE's program it deems necessary...." (Attachment 11)

Finally, the NRC staff indicated their approval of the program in SER 11 by stating:

5.1.2 SER Supplement 11 Conclusion

" During the course of our review, we requested additional clarifying information concerning the composition, independence, and scope of review of the independent review team associated with PG&E's Quality Assurance Department and the Independent Review Board. At our request, PGandE revised their report to provide the requested clarifying information.

" Our review of the organizational elements established by PG&E to implement their program, their responsibilities, and their reporting requirements has provided us with reasonable assurance that PGandE's program can be implemented in an acceptable manner. Therefore, we conclude that the organization established by PG&E to implement their program is acceptable." (Attachment 1-A)

5.1.3 1982 Reorganization

When SER Supplement 11 (Attachment 1) was issued in October 1980, PGandE already had an established organizational structure that reflected the company's total in-house effort in the design, construction, and operation of Diablo Canyon. The SISIP was also nearing completion at that time.

In September 1981 certain concerns were raised regarding the adequacy of the design of Diablo Canyon, which led to the establishment of an independent design verification program (IDVP). Major project organizational changes were made in April 1982, resulting in an integrated PGandE-Bechtel Power Corporation-Diablo Canyon Project (DCP). As a result of work done by the IDVP and the DCP, PGandE elected to include the SISIP evaluations for subsequent plant modifications within the scope of the program.

5.1.4 Current Organization

The SISIP was integrated into the DCP as shown on Figure 5-1. This figure is an expanded version of the organization chart shown as Figure 3.2.1 of the Program Manual (Attachment 2). The SISIP's independence from the organizations responsible for resolving postulated interactions (Engineering, Construction, and Operations) is evident in Figure 5-1. It should also be noted that the Independent Review Board, having completed their Program review activities in October 1981, was no longer involved in the Program. The following sections summarize the Program's final organization.

The principal elements of the organization are: (1) Project Manager, (2) Systems Interaction Program Project Coordinator, (3) Engineering, (4) walkdown team, (5) Quality Assurance, and (6) consultants.

5.1.4.1 Project Manager

The Project Manager is responsible for the overall direction of the Program, including planning, criteria preparation, and resolution of problem areas. He coordinates the activities of Nuclear Plant Operations, Station Construction, and Engineering and reports directly to the Project Completion Manager.

5.1.4.2 Systems Interaction Program Project Coordinator

The SIP Project Coordinator has direct responsibility for PGandE's Program, including writing the Program Description, coordinating the efforts of consultants, providing functional and technical direction to the walkdown team, reviewing and approving the resolutions proposed by the walkdown team, providing administrative direction, and preparing reports of the Program's activities and results. He reports to the Project Manager through the Special Projects Group.

5.1.4.3 Engineering Disciplines

The Engineering disciplines are responsible for providing resolutions to the documented interactions postulated by the Site Evaluation Team. The disciplines are responsible for the methods and criteria used to resolve interactions.

The disciplines also provide members to the SISIP Site Evaluation Team. When modifications are made to resolve interactions, the engineers provide the appropriate work package to the General Construction Department.

5.1.4.4 Walkdown Team

The walkdown team is comprised of discipline engineers headed by an individual who is administratively independent of the project engineering disciplines and reports directly to the SIP Project Coordinator.

The team represents several disciplines who are trained in the objectives and methods of the SISIP. (See Section 5.3.1.)

5.1.4.5 Quality Assurance

The DCP and PGandE quality assurance departments are organizationally independent of those departments directly involved in the SISIP. The Manager of Quality Assurance, PGandE, reports directly to the Executive Vice President, Facilities and Electric Resources Development. The DCP Quality Assurance Manager reports directly to the Bechtel Vice President of Corporate Quality Assurance.

The SISIP, including the organization established to implement the Program, is subject to PGandE's quality assurance program as described in Chapter 17 of the FSAR on Diablo Canyon.

The Records Management System (RMS) group, whose activities are under the direction of the Manager of Quality Assurance, maintains the records for the DCPP. This section microfilms essential data, records, documents, and drawings associated with the SISIP and maintains both a computerized index of these microfilmed documents and a computerized data base of all the identified interactions and their resolutions.

5.1.4.6 Consultants

Several consulting organizations were retained to provide supplementary and specialized services. These services included planning; technical review; interaction resolution; and administrative and technical assistance. Consultants employed in these capacities report directly to the SIP Project Coordinator.

5.2 PROGRAM PROCEDURES

As the Program was being implemented, procedure revisions were necessary. Since it was a developmental program, numerous

adjustments were anticipated and provided in the commitment to perform an SISIP. These adjustments have been consolidated into Revision 4 of the Program Manual and are summarized below:

(1) Appendices were added, consolidating separate Program applications such as (a) source criteria, (b) target criteria, (c) walkdown team guidelines, and (d) guidelines for technical review. The appendices were designed to be stand-alone documents applicable to certain parts of the SISIP.

(2) The changes in organization were reflected in the Program Manual.

(3) Sections which duplicated procedures already in force were eliminated and replaced with appropriate references.

(4) Major revisions to the computer data base description were made to allow greater flexibility in entering and sorting data and providing reports.

(5) Enhancements were made to the program guidelines.

The SISIP was subject to audit by Project and PGandE QA functions to ensure that the Program was conducted in accordance with the current revision of the Program Manual. The SISIP, while allowing

flexibility in the type of documentation utilized, adhered to a thorough and complete review of the as-built plant involving the site inspection and resolution phases of the Program.
Two documents that can be credited as playing a major role in the implementation of the program are (1) the Interaction Documentation Sheet (IDS) and (2) the Action Request Transmittal (ART).

The first document, the IDS, allows the Site Evaluation Team to document not only the interactions mandated by the Program, but also other concerns identified by any Team member. Once documented, the IDS had to be resolved and then reviewed by an independent technical reviewer.

The second document, the ART, allows the SISIP to track plant changes that did not require the formal design change process. These nondesign changes range from relocating temporary scaffolding to placing straps on fire extinguishers or bolting down personnel lockers. This tracking mechanism for nondesign changes proved effective for determining when such changes had been made and which discipline initiated them.

ARTs, however, received Plant Staff Safety Review Committee review in accordance with 10 CFR 50.59 safety evaluation requirements for a licensed plant.

5.3 PLANT WALKDOWNS

Utilizing the specially prepared SISIP target schematics and target listing (matrix), an interdisciplinary team of engineers performed a comprehensive and methodical inspection of Diablo Canyon Unit 1. The Site Evaluation (walkdown) Team's purpose was to identify potential movement of structures, systems, or components, and postulate failures that could result in physical impact (directly, secondarily, or through intercompartmental effects) with targets. These postulated interactions were documented by the walkdown team on the IDS.

Individual walkdown team members were instructed to document phenomena that could reasonably result from a seismic event and that could have potential effects on targets. A documented interaction was then again reviewed by the team to determine if the interaction was not credible or would not have the potential of affecting the target component's safety function. An interaction not resolved by the team was transmitted to the Project disciplines for more detailed evaluation.

Although not a specific Program objective, the instructions to the walkdown team included identification of potential nonseismically induced interactions as well as potential interactions between two target components. An example would be the proximity of one target to another or permanent nondesign items added to the plant

for operational purposes (e.g., personnel lockers, bookcases, radiation shielding).

5.3.1 Walkdown Team

The walkdown team was headed by a team leader who reported directly to the SISIP Project Coordinator. In addition to the team leader, the walkdown team was composed of engineers from selected disciplines comprising civil, piping, mechanical, electrical, and instrumentation and control.

Continuity of the walkdowns was maintained by the team leader while new members gained experience in performing the SISIP evaluations.

5.3.2 Target Walkdown Methods

Three methods were used by the Diablo Canyon Program, either alone or in combination, whichever was determined to be most effective.

(1) System Walkdown involved following a target system or subsystem until the boundaries of that system or subsystem were reached. Using this method, one may move from area to area while tracing a target system.

(2) Area Walkdown involved evaluating all the sources and targets in a given room to determine their potential for interacting.

(3) Area Sweep technique was used for walking down previously inspected areas for new configurations that may not have been completed or reviewed earlier. This method was most effective in addressing plant modifications made subsequent to earlier walkdowns.

5.4 DESCRIPTION OF DIABLO CANYON WALKDOWNS

5.4.1 Identifying Locations of Target Components

Target locations were determined from design drawings or ascertained during the walkdown process. Areas were subdivided into as many numbered compartments as practicable, relying on walls or shield barriers as natural compartment boundaries. Earlier established fire zones served as these convenient area references when interactions were documented.

Determining locations of major equipment and specific devices is typically a straightforward process; however, field inspection of piping runs and electrical raceways were supplemented by consulting area piping and electrical drawings.

Guides to compartment numbers and boundaries were marked on the target schematics to identify locations of piping runs. The target list also specifies the compartment location for each component.

5.4.2 Preliminary Review of Compartments Containing Targets

A preliminary review of each plant compartment was conducted before initiating formal inspections. The purpose of such a preliminary compartment review was:

(1) To determine relative concentration of sources and targets in each compartment for use in developing the most efficient inspection method; i.e., system or area walkdown.

If only a few targets are located in a compartment (or an equal proportion of sources and targets), a line-by-line, component-by-component inspection of the targets was performed.

(2) To discover obstacles that might affect a walkdown inspection. Those obstacles requiring special consideration include:

(a) Significant construction in progress, i.e., incomplete installation of targets and/or sources

(b) Inaccessibility, i.e., high ceiling areas without platforms for access by the inspection team

(c) Congestion, i.e., tight pipe chases

(d) Environmental nuisances, i.e., high noise, high temperature, high wind velocity (such as found in filter banks), poor lighting, hot piping, welding or grinding operations.

(3) To reveal commonly occurring interactions that can be addressed on a generic basis. Early identification of generic interactions or phenomena, such as light fixtures or platforms, eliminated the need for repetitive documentation.

5.4.3 Identifying Source Behavior Not Conforming to Program Acceptance Criteria

Appendices B and C of the Program Manual (Attachment 2) provides guidelines for the walkdown team to identify acceptable source behavior. It is intended as guidance to a walkdown team comprised of experienced engineers. Numerous situations were observed

during the plant walkdowns that required the walkdown team's engineering judgment in evaluating source behavior.

Evaluation of source behavior was approached from several vantage points:

- Those situations where source failure was clearly recognizable because of Appendix B criteria were directly applicable.

- Those situations where the source criteria guidance was inadequate. For example, evaluation of the dead weight support capability, lateral and longitudinal bracing, and connection details to determine if a failure mechanism was credible. If the walkdown team could not adequately determine the potential failure mechanism, the source was documented on the IDS with a recommendation for further analysis.

- Those situations where the walkdown team lacked sufficient information about source behavior. In these instances the sources were documented on the IDS with a recommendation for further Engineering resolution. Examples of such situations include:

1) Transitory components. Those components that appeared to be transient in nature. These items were identified with a recommendation that engineering and/or operation determine where these components would be located during plant operations.

2) Sources which were inaccessible for detailed evaluation because of location or physical access which precluded a detailed inspection.

5.4.4 System Versus Area Walkdown

Line-by-line, component-by-component evaluation of targets (i.e., system walkdowns) and area walkdowns were conducted for the SISIP depending upon the relative concentrations of sources and targets as well as the nature and congestion of the area being walked down. Most of the walkdowns were done on a system basis because it gave the greatest assurance that all targets would be evaluated. Disadvantages to the system walkdowns included:

- The need in some cases to traverse through large portions of the plant while following one system, for example, certain logistical factors must be overcome if plant security is in effect or piping run or electrical raceway.

- A continual need to return to certain locations as different targets are evaluated in that particular location. This results in repetitive work and the potential for duplicating a source which could be identified as interacting with targets of different systems (e.g., an overhead light fixture).

Area walkdowns proved to be an effective alternative where system walkdowns were cumbersome. For example, the cable spreading room contains numerous target electrical raceways that were seismically supported, therefore, interactions between raceways did not require evaluation. This allowed the walkdown team to concentrate on the few remaining potential sources that existed in this area without conducting a tedious conduit-by-conduit inspection of the area.

The area walkdown approach was employed during the final plant area walkdowns to identify any new interactions resulting from plant modifications made after the earlier or initial target walkdowns.

5.4.5 Documentary Postulated Interactions

Once an interaction was postulated and found to be credible, it was documented by a walkdown team member with the collective assistance of the other team members. For example, if the source

was a piping run, the piping engineer was called upon to determine the line number and other necessary parameters. If the target was an instrument tube, the I & C engineer would trace the process tubing back to the device to verify its description. Locations, dimensions, and other descriptive information was collectively obtained from team members and placed on the IDS.

If all members of the walkdown team concurred that the interaction was not detrimental to the target, the IDS was dispositioned as a "No Action Necessary" (NAN). The postulated interaction was thereby resolved by the walkdown team.

All other documented interactions were dispositioned for further engineering or NPO action. The team also provided a recommended resolution based on the knowledge of the as-built condition. This recommendation was not binding on the organization charged with final resolution of the IDS but served to indicate at least one method of acceptably resolving the postulated interaction.

5.4.6 Finalizing Documentation and Preparing the Walkdown Report

Interactions documented in the field by the walkdown team were reviewed for technical accuracy and clarity by the walkdown team leader. This final editing by the walkdown team leader resulted in clarifying comments being added to the IDSs, ensuring that the phenomenon was adequately described, and that the disposition of

the IDS was properly made and all procedures of the SISIP were followed.

At the conclusion of a walkdown, the walkdown team leader prepared a report which summarized the week's activities. This report indicated which systems were walked down, what areas of the plant were evaluated, and any unusual conditions that may have been encountered. The finalized IDSs were attached to the report and sent to the SISIP Project Coordinator.

5.5 REPORTING WALKDOWN RESULTS

The team's reporting process is straightforward and may be shown as follows: (See Attachment 4-B for a sample walkdown report.)

(1) Team member postulates an interaction

(2) Interaction is reviewed by the team

(3) Interaction is documented on the IDS

(4) Results of each week's walkdown are assembled and summarized

(5) Report is distributed for action to the disciplines responsible

(6) Non-SISIP interactions are identified for segregation in the data base

5.5.1 Classification of Postulated Interactions

For the purpose of statistical summarization in the Final Report, the walkdown team and the Systems Interaction group reviewed the documented interactions and developed broad classifications.

A program both developmental in nature and utilizing extensive plant-wide site evaluations in the identification of physical phenomena results in the documentation of items not contemplated in the original Program Description (or procedures manuals).

Such nonseismically induced postulated interactions, or those not conforming to the specific Program objectives, have been segregated in the data base. Resolution of these items may have resulted from transfer to other programs more specifically designed for that purpose (e.g., fire, flooding, block walls).

This section discusses those items documented by the walkdown team which were outside the specific Program objective. Numerous noninteractions were documented by the walkdown team (e.g., covers missing from Class I condulets, temporary construction items, postulated thermal interferences); however, classifying these noninteractions in the same way as the seismically induced interactions would result in an erroneous data base.

Drawing conclusions based on quantity, classes, or categories of interactions is misleading. This fact is exemplified by a recently submitted report to the NRC concerning another pilot systems interaction program. This program, implemented at Unit 3, Indian Point Nuclear Power Plant (Reference 4), documented 6,492 items. Comparing this number with Diablo Canyon's 2,204 documented items has little, if any, significance.

For example, one program may document interacting phenomenon separately even if the sources are identical. Diablo Canyon's Program sometimes combined various phenomena into a single document. Therefore, there may be no difference between the plants when comparing the number of documented interactions made by the separate programs.

Similarly, when comparing the number of interactions within certain categories of the Diablo Canyon Program, the same pitfall is present. For example, of Diablo Canyon's 2,204 documented items, a portion contained construction-related items, temporary items, interactions not explicitly within the scope of the Program, and numerous other examples resulting from the latitude given the Diablo Canyon walkdown team in documenting their concern. This latitude has been considered a strength of the Diablo Canyon Program; however, it may have resulted in sacrificing the ability to quantify

the SISIP meaningfully. Quantifying the results, based upon the number and classes of items documented, was not the Program's objective.

5.5.2 Interaction Classification

Chapter 8, Program Results, contains the statistics of the interaction data base, whereas this section describes the broad classification of interactions within the SISIP data base.

5.5.2.1 Direct and Secondary

This category of interaction results from the main Program objective of documenting nonseismic sources interacting with an SISIP target, either directly or by interaction with other sources.

5.5.2.2 Intercompartmental

The secondary Program objective was to document the potential of nonseismic sources interacting with an SISIP target located in another physically isolated compartment.

5.5.2.3 Out-of-Scope

Out-of-scope interactions were postulated as a result of seismically induced interactions between structures, systems, or components, at

least one of which is an SISIP target and the other a source or phenomenon not explicitly addressed in the Program criteria. An example of an out-of-scope item could be a potential interference between two Class I entities, for instance, a seismic

Class I support and a Class I pipe. Such interferences, however, are addressed during pipe stress walkdowns and pre-operational testing.

5.5.2.4 Non-SISIP

A non-SISIP interaction is postulated as a result of a phenomenon other than one seismically induced (e.g., thermal movement), involving at least one SISIP target.

5.5.2.5 Other

The "other" category of documented concerns is based on perhaps insufficient or erroneous information available to the team (e.g., a listed target that is not within the SISIP target scope). An example of an "other" item documented by the walkdown team could be construction scaffolding that a team member believed could remain after power ascension.

This classification of documented interactions was considered necessary to allow for their distinction within the SISIP data

base. Without such distinction, the results given in Chapter 8 would have significantly less meaning. It would also be more difficult to determine whether or not the Program was worthwhile, given the specific goal stated in Section 4.1, Program Objective.

5.6 RESOLUTION OF POSTULATED INTERACTIONS

Documented interactions were reviewed by the SISIP Project Coordinator who then assigned the interaction to one of the engineering disciplines or operational groups for resolution. The Project Coordinator also reviewed those interactions determined by the Team not to be credible (called NANs). Thus, once an interaction was documented and determined by the Team to be potentially credible, only Engineering (and/or Operations) could resolve the interaction.

The Program Manual (Attachment 2) lists the steps involved in assigning those interactions not resolved by the walkdown team.

5.6.1 Consideration of Plant Safety

All postulated interactions were assumed to have the potential of affecting the ability of the target to perform its intended safety function. Engineering resolution was required to determine the interaction's credibility. Redundant systems or components could

not be credited with mitigating an interaction. This is perhaps the most conservative of all the criteria applied by the Program.

It reflects the low probability that any interaction, had it not been analyzed, would interfere with the plant's safe shutdown.

5.6.2 Mandatory Engineering Resolution

All interactions assigned to a Project discipline (or plant operation) had to be resolved and a determination made. In short, the interaction could only be shown to be credible or not credible (i.e., not affecting target function); no other factors could influence its resolution.

5.6.3 Concurring Technical Review

All discipline resolutions received the concurrence of an independent reviewer—usually a consultant —who was not involved in the analysis or engineering resolution.

5.6.4 Engineering Judgment

Resolutions to interactions based on engineering judgment required a supporting written judgment that was also subject to the technical review process. (See "Guidelines for Technical Review," Appendix E to the Program Manual.)

5.6.5 Resolving Interactions

Applying the rules in Sections 5.6.1 through 5.6.4, the following resolutions were considered acceptable:

(1) The interaction does not occur.

(2) The interaction is not detrimental to the target; therefore, no further action is necessary.

(3) The interaction must be mitigated by modification or procedural change.

The Program allowed an engineering discipline the flexibility to employ the methods most suitable to analysis and resolution of an interaction. In some cases, this resulted in a site visit that revealed a new source or target configuration, possibly eliminating the interaction. In other cases, sophisticated computer piping analysis was performed. In still other cases, the engineer simply concurred with the walkdown team's recommendation (e.g., to modify), without performing detailed engineering analysis. All such methods of resolving postulated interactions were acceptable, subject to the independent technical review previously mentioned.

Figure 5-2 is a typical flow chart of what occurred within an engineering discipline from receipt of the IDS through to its

accepted resolution. Attachment 9 contains design criteria typically employed by the disciplines in their resolution to postulated interactions.

5.7 PLANT MODIFICATION TO RESOLVE POSTULATED INTERACTIONS

This section discusses interaction resolutions that result in physical changes to the plant or procedural changes.

5.7.1 Nondesign Changes

Items that do not result in changes to design documents (e.g., holddown straps for fire extinguishers or local rerouting of instrument tubing) are nondesign activities. For changes of this type, a special tracking form called the Action Request Transmittal (ART) was developed for the Program. The ART, initiated by an engineering discipline, is an instruction to the field to perform an SISIP modification. The ART is returned to the SIP Project Coordinator when the work is completed.

5.7.2 Design Changes

SISIP resolutions resulting in changes to the design of the plant were initiated using the project's standard design change procedures.

Whenever modifications were performed, standard engineering procedures, approved for the project, were followed and subject to QA or applicable Quality Control (QC) audits.

5.7.3 Procedural Changes

Changes to plant operational practices or procedures were sometimes made as the most effective resolution to an interaction. An example would be revising the practice of storing a spare circuit breaker in close proximity to other target switchgear.

5.8 FINAL VERIFICATION

After design or nondesign changes were completed, a walkdown team performed the final inspection of the modification to verify the appropriateness of the physical change in resolving the interaction. This final verification ensured that no new interactions were created as a result of the modification.

5.9 TECHNICAL REVIEW

Each resolution to an interaction by engineering methods, modification, or procedural change was sent to an independent technical reviewer to accept or reject the proposed resolution.

5.10 SUMMARY OF THE RESOLUTION PROCESS

The final resolution to a postulated interaction, performed by an Engineering discipline or Operations, results in one of the following:

5.10.1 Option 1

(1) The Engineering discipline or Operations concludes that the interaction is not credible or not detrimental to the target's required function.

(2) The technical reviewer concurs with this conclusion.

(3) The SIP Project Coordinator reviews the final resolution, taking into account any comments that might be made by the technical reviewer.

5.10.2 Option 2

(1) The Engineering discipline or Operations concludes that a modification shall be performed to prevent the postulated interaction's occurrence.

(2) The technical reviewer concurs with this decision.

(3) The SIP Project Coordinator concurs with the decision.

(4) The final modification is inspected by the walkdown team (or selected members).

Figure 5-3 is a task flow diagram of the entire SISIP process for identifying and resolving postulated interactions. Numerous iterations may occur between the disciplines, reviewer, and Project Coordinator reflecting the natural process in clarifying the interaction, its resolution, and the comments of the technical reviewer.

This final outcome of the resolution process is summarized below. For detailed procedures or applicable criteria, refer to the Program Manual (Attachment 2).

Method of Resolving Interactions*	Responsible Group(s)
Inspection (NAN)	Walkdown team
Engineering Resolution (A)	The engineering discipline assigned the interaction or operations

* Items in ( ) refer to codes used in the computer data base.

Method of Resolving Interactions*	Responsible Group(s)
Modification (M)	Engineering discipline, General Construction Department (GC)
Procedure Change (P)	Nuclear Plant Operations (NPO)
Combination of the above	

5.11 THE ONGOING SISIP

During testimony before the ACRS and follow-up discussions with the NRC, the subject of a post-Operating License (OL) SISIP review was raised. The outcome of these exchanges was PGandE's commitment to initiate an ongoing formal SISIP review of plant changes made after the conclusion of the program.

With the preparation of this Unit 1 Final Report, all pre-OL Program commitments have been met. There remains, however, consideration of the plant changes made subsequent to closure of the SISIP.

Currently, a transition program is under way that utilizes, to a large extent, the procedures contained in the pre-OL Program.

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* Items in ( ) refer to codes used in the computer data base.

This transition effort was addressed in the October 1983 Information Report (Reference 1) which stated:

" The methodology of this program is being finalized and there is assurance that each future plant modification will undergo a formalized review. The NPO staff will receive training from the Special Projects group which implemented the present SISIP program. Additionally, procedures have been implemented by the DCP to assure that each design change occurring after closure of the existing program will receive an SISIP review. Appendix I is a sample of the post-fuel-load design review form containing SISIP inspection requirements.

" Elements to be contained in the ongoing SISIP include the following:

- o Training of operating (NPO) personnel by the SISIP group.
- o A procedure for post-fuel-load review of modifications.
- o Inspections by personnel trained in SISIP.
- o Documentation, sufficient to track the SISIP review of future modifications."

The DCP is in the process of finalizing and transferring the necessary documents and data base to the control of NPO in a form suitable for use in an operating environment. This process involves:

(1) Completion of a computerized document data base that includes:

(a) Target list

(b) Interactions

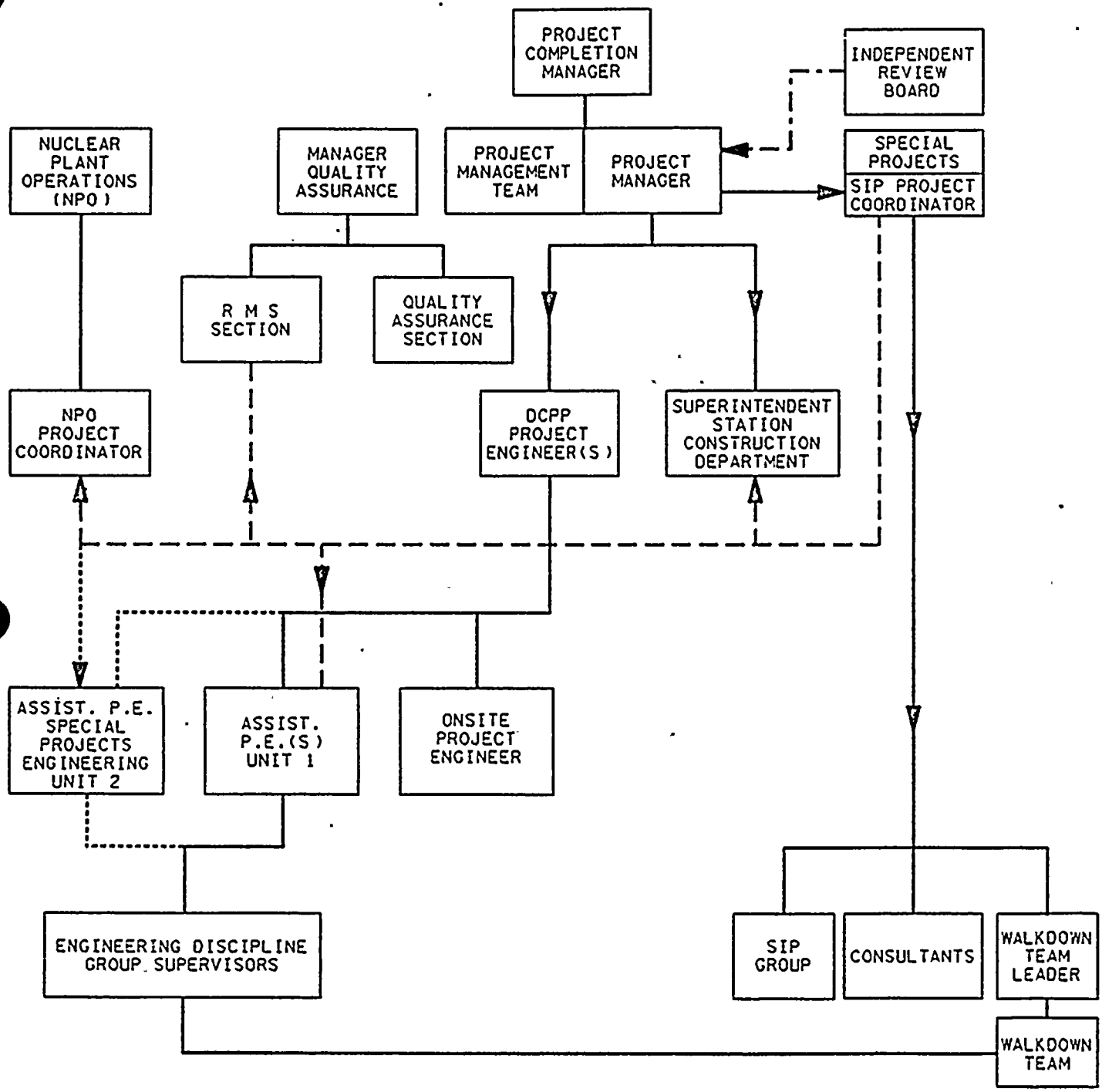
(c) Resolutions (on microfilm)

(2) Completion of target schematics in a form suitable for reference by operating personnel

The post-OL Program will not contain the extensive organizational and procedural requirements of the pre-OL Program. This is reasonable because the post-OL Program will be addressing modifications on a greatly reduced scale since the entire plant has already been constructed and reviewed for seismically induced interactions in the as-built configuration. Post-OL changes would not assume the magnitude of the pre-OL construction phase. Similarly, the necessity for walkdown teams, independent review boards, etc. clearly ends with the conclusion of the SISIP.

Attachment 8 contains design control documents that address modifications for SISIP effects. This procedure is reasonable assurance that modifications performed after the cessation of plant walkdowns are reviewed for potential systems interaction effects.

FIGURE 5-1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM ORGANIZATION CHART



LEGEND:

- - - - - PROJECT DIRECTION

——— FUNCTIONAL DIRECTION

..... UNIT 2 ONLY

-·-·-·- ASSIGNMENT CONCLUDED

FLOW CHART FOR ANALYSIS AND DISPOSITION OF CIVIL POSTULATED INTERACTIONS

FIGURE 5-2

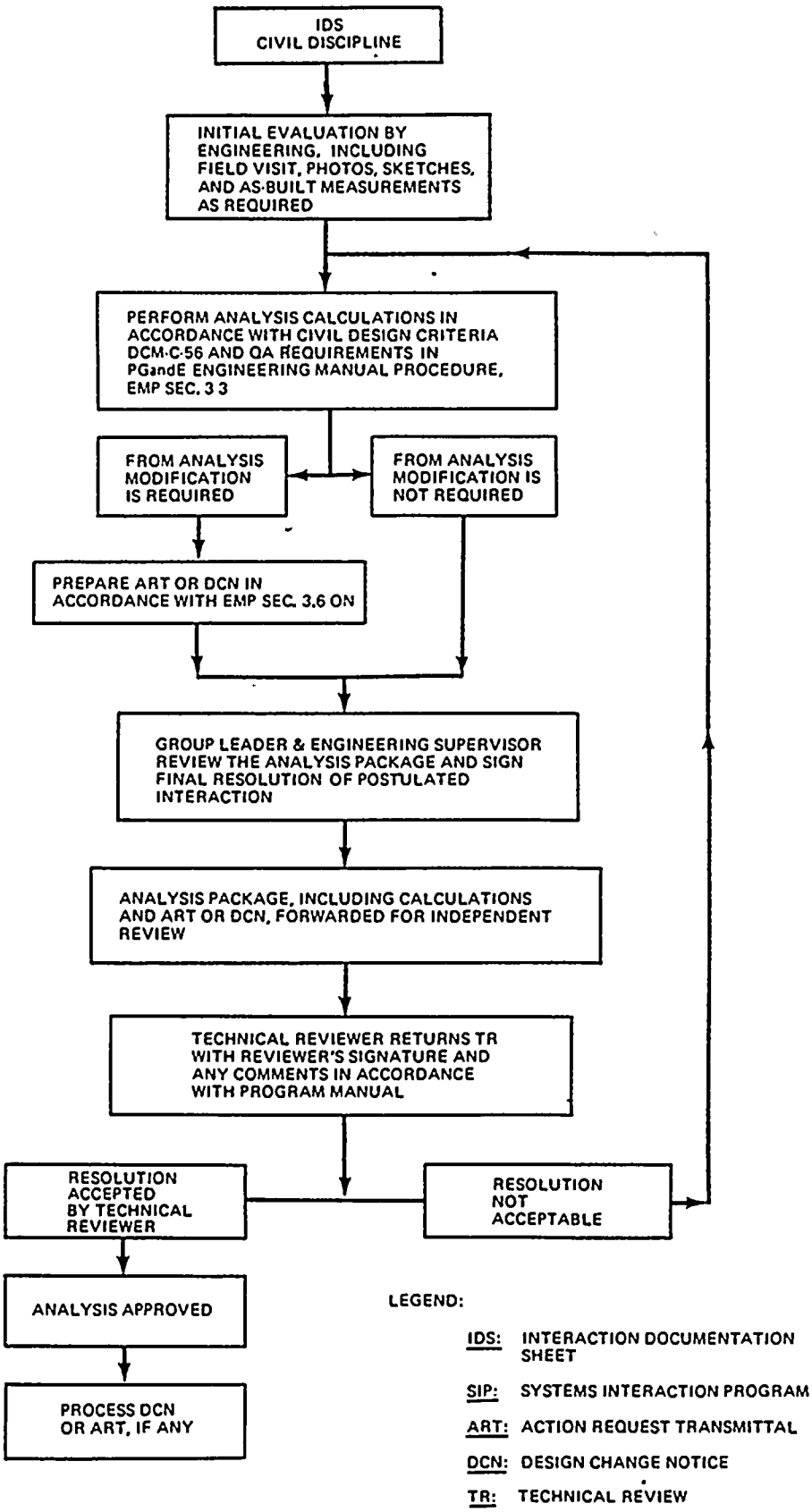
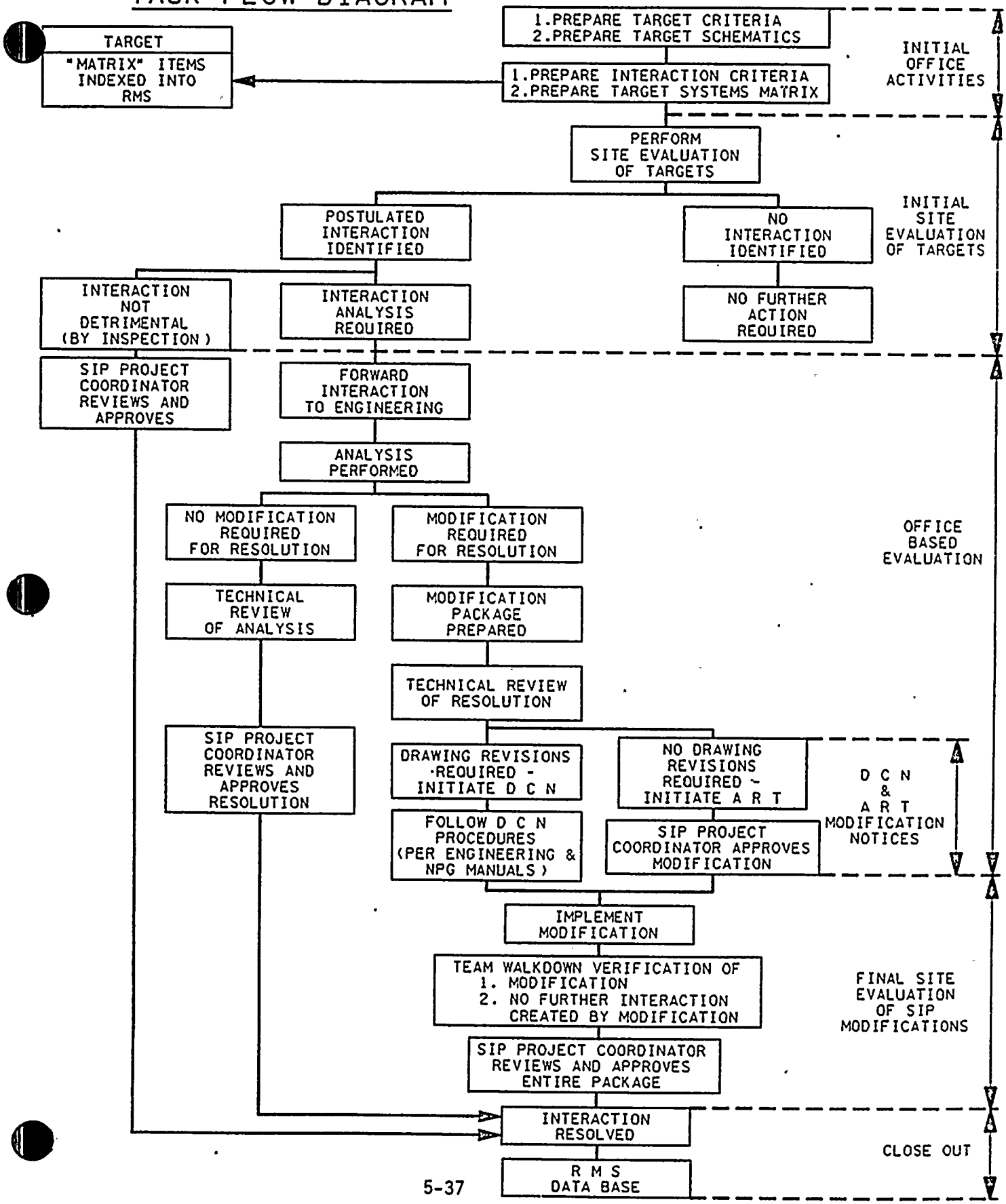


FIGURE 5-3
SYSTEMS INTERACTION PROGRAM
TASK FLOW DIAGRAM



Chapter 6

OTHER PROGRAM CONTRIBUTORS

6.1 INDEPENDENT REVIEW BOARD CONTRIBUTION TO PROGRAM DEVELOPMENT

PGandE recognized that there was little precedence or guidance for implementing a systems interaction study. In the interest of obtaining guidance from a broad base of expertise, PGandE elected to rely on an outside group of industry experts to review its Program and make recommendations. Keith, Feibusch Associates, Engineers, of San Francisco was contracted to manage this group, subsequently referred to as the Independent Review Board (IRB), and to propose members for it.

The five members of the IRB, all established and respected members of the academic and professional nuclear community, were: Richard J. Stuart, Ph.D., Chairman; Spencer Bush, Ph.D.; Edward Keith; Robert E. Nickell, Ph.D.; and Victor Weingarten, Ph.D. The Board made an unrestricted, independent review of any and all aspects of PGandE's Program it deemed necessary. (Sections 2.2.8 and 3.3.1.1 of Attachment 2 futher describe the IRB in relation to implementation of the SISIP.)

Extracts from the Board's final report on the Program and the steps taken by PGandE to incorporate the Board's comments are presented in the following:

"1. The Board was surprised to find that no intercompartmental interactions were discovered during the original walkdowns...."

ACTION TAKEN: The IRB was unaware that intercompartmental walkdowns were being scheduled. During the plant walkdowns conducted from January through August 1982, intercompartmental interactions were identified and documented. See Chapter 8 for statistical results of these interactions.

"2. The Board had some concerns initially about the quality assurance and quality control associated with system interactions requiring modifications to existing plant structures...."

ACTION TAKEN: PGandE provided an explanation of the Action Request Transmittal (ART) developed specifically to track non-design modifications. The Board then concluded:

" PGandE described the use of the action request transmittal (ART) document. Since the standard "design change notice" does not apply to many of the situations where modifications were required, PGandE personnel devised the ART....

" ...The Board compliments PGandE on the ART development which they consider a significant quality assurance device."

"3. ...The Board suggests that a description of all relevant studies be incorporated in the final report to permit a better assessment of the total scope of the various interaction programs."

ACTION TAKEN: See Chapter 2 for other relevant studies relating to systems interaction that have been performed at Diablo Canyon.

"4. ...The Review Board recommends that PGandE consider using the data base system for other related engineering requirements in normal design operations, outage management, etc."

ACTION TAKEN: No formal use of the target or interaction data bases has been implemented at this time. The application of this computer data will be determined during the course of transferring the Program to NPO for the ongoing (post-OL) effort.

"5. In the evaluation of the capability of various targets, the Board is aware that standard criteria were utilized. The Board suggests that the appropriate codes, standards, methods of analysis, stress allowables, allowable deflections, etc. be referenced in the final report."

ACTION TAKEN: Attachment 9 contains design criteria used in engineering analyses and design bases employed to resolve postulated interactions. Because of flexibility that was necessary to resolve many interactions (including modifications), not all resolutions were suitable for specific applications of design criteria, appropriate codes, etc. For example, rerouting of target instrument tubing or electrical conduits only required work requests to authorize the change. Such resolutions did not require the application of specialized criteria or standards, but were subject to the controls and requirements of the overall Project effort.

"6. ...The Review Board would like to commend PGandE on its effective use of a technical/discipline review by PGandE of all consultant analyses. This undoubtedly will be a useful method to control plant modification interactions and interferences in the future."

COMMENT: Modifications made to Diablo Canyon Unit 1 since September 1981 require specific review to incorporate potential for seismically-induced interactions. See the Plant Modification Follower, Attachment 8, for the forms used to verify the adequacy of design and installation.

The IRB concluded its final letter by stating:

" In summary, the Review Board believes that PGandE has effectively considered and implemented all recommendations made by us, including those listed above. Thus, there are no unresolved Board comments which require significant action by PGandE...the Board now believes that the walkdown concept developed by PGandE is a significant first step in any systems interaction program concerned with physical interactions..."

The IRB, in regard to the development of the SISIP, went on to commend PGandE with regard to the development of the SISIP as follows:

" ...the Review Board endorses the intent, objectives, methods of execution and the results of the PGandE Systems Interaction Program. We commend PGandE for their diligent effort..."

6.2 CONSULTANTS

Consulting organizations have provided supplementary and specialized services in the development and performance of the Program. These services included planning, technical analyses, reviewing resolutions, and administrative and technical assistance. Technical assistance was provided particularly in resolutions involving the nuclear steam supply system (NSSS) in relation to SISIP concerns. Another consultant service was to assemble and manage the Independent Review Board.

Other specific areas in which consultants have played a developmental role are:

(1) Identifying NSSS target systems (NSSS vendor)

(2) Developing and identifying source criteria

(3) Developing and identifying target criteria

(4) Developing plant walkdown methods

(5) Leading the walkdown team

(6) Contributing specialized testimony/presentations

6.3 QUALITY ASSURANCE AND NRC STAFF

The Project QA and NRC staff contributed to early Program development by reviewing the Program and conducting independent audits. These independent findings were compared and Program adjustments made where necessary.

These independent audit activities took place in 1980. Refer to Section 7.0 of the SER Supplement 11 (Attachment 1) and audit activities (Attachment 10) for further description of the results.

6.4 DATA BASE MANAGEMENT

The Engineering Computer Application Department of PGandE was instrumental in developing a SISIP computer data base which is capable of meeting Program demands for data manipulation and computer report generation. Refer to Data Entry Procedures (Appendix F to the Program Manual) for additional information regarding the revised data system.

The results of these data base development efforts are contained in Attachment 13, Computerized IDS Summaries.

Chapter 7

DOCUMENTATION AND DATA BASE

The SISIP documentation differed in development and application of methods and procedures from that used by engineering and construction disciplines. This chapter describes those SISIP documents and provides examples of each. Standard Project documents (that is, documents not specific to SISIP) and procedures normally used in the design/construction process are contained in the project procedures. See the Program Manual for the detailed steps involved in processing SISIP documents.

7.1 SIP INTERACTION FILES

All relevant documentation generated as a result of an interaction is collected in a file identified numerically with the IDS.

Prior to final closeout of the interaction file, documents not specifically related to a resolution are discarded, leaving only those relevant to an interaction's final disposition. The file is microfilmed and incorporated into Diablo Canyon's permanent records data base, which is in turn referenced in the SISIP computerized data base.

Attachment 4-A shows a sample of a closed interaction file.

7.2 SIP TRANSMITTAL

The procedures of the SISIP were unique. The SIP Transmittal form (Figure 7-1) was established to enhance written communications within groups specifically related to the SISIP and to ensure that all essential information was contained in each package.

7.3 ACTION REQUEST TRANSMITTAL

Many interactions were solved by modifying a source component that did not always require DCP design change procedures. Modifications to these types of sources (e.g., fire extinguishers, light fixtures, cabinets) were implemented by the Action Request Transmittal (ART).

The purpose of the ART is to track nondesign plant changes so that the walkdown team can readily locate them during their final verification inspection and determine what modifications were made. The ART is also included in the DCP's engineering signoff and review procedure. This procedure requires a safety review of all design issued after the plant has received an operating license.

Appendix D to the Program Manual contains the detailed procedures on use of the ART.

Figure 7-2 is a sample ART used to modify a nondesign source of a postulated interaction.

7.4 INTERACTION DOCUMENTATION SHEET

The Interaction Documentation Sheet (IDS) is the key document of the Program.

When the walkdown team postulates an interaction, an IDS is prepared. Figure 7-3 is a sample IDS prepared by the walkdown team.

The format of the IDS allows a team member considerable latitude in describing the phenomenon postulated. Notes, sketches, or other comments are usually made on the IDS during the process of resolving and closing out the postulated interaction.

Figure 7-4 is a sample computerized summary of the IDS shown in Figure 7-3. Attachment 13 contains all the summary IDS printouts documented by the SISIP (and will be transmitted separately as a subsequent submittal to the Final Report).

7.5 SIP TARGET SCHEMATICS

As previously mentioned, the SIP target schematics are a valuable tool used by the walkdown team. These schematics indicate the

mechanical systems and components contained in the SISIP target scope. The SISIP targets have been highlighted for easy reference by the Team. Figure 7-5 is a sample target schematic utilized by the walkdown team to identify a target component or system, and Figure 7-3 is an IDS written for a target contained in the target schematic sheet. This sample IDS is traceable to the sample schematic through the system number (i.e., the first two digits of the IDS number).

These target schematics define system boundaries; therefore, updating these drawings as design changes occur needs to be done only when such target system boundaries are affected. The addition of manual valves, instrument taps, etc., is not a major concern because such additions (or deletions) are discovered by the walkdown team during an inspection.

Appendix A1 to the Program Manual contains a complete set of SISIP piping schematics.

7.6 SISIP TARGET LIST OR MATRIX

When the walkdown team determined that an interaction was to be documented, a numerical reference to that interaction was necessary to track, resolve, and maintain relevant information in the SISIP data base. The target list, or matrix, provided this numerical reference. The method of numbering interactions based

on the target matrix is described in Chapter 5 of the Program Manual and is not repeated here. That numbering method contained specific references to the SISIP target schematics.

Figure 7-6 is a sample page from the target list. The "Location" column is an estimate of where a target may be found; the actual location (if different) is used in the interaction document. The "identification" column is a list of items that are included in the target component. Criteria for the identification of target components (Appendix A to the Program Manual) contains a description of component boundaries.

Appendix I of the Program Manual contains the entire SISIP list of target structures, systems, and components.

7.7 SUMMARY

Figures 7-1 through 7-10 represent typical documentation utilized by the Program in identifying, resolving, and finally closing an interaction postulated by the walkdown team to occur. In this case the interaction involved a System 20 component (fire water).

Figures	Description
7-1	Transmittal of Interaction for Resolution
7-2	Action Request Transmittal
7-3	The Interaction Document with Resolution
7-4	The Computerized Summary Sheet
7-5	System 28 Target Schematic Sheet
7-6	System 28 Target List (partial)
7-7	The Independent Review
7-8	The Modification Documentation
7-9	Notification of Completion
7-10	Final Walkdown Verification

FIGURE 7-1

69-026 (11/81) TRANSMITTAL OF INTERACTION FROM RESOLUTION

036451

SYSTEM INTERACTION PROGRAM TRANSMITTAL

Date 11/7/83

TO: MYRON LEPPKE, OPEG, D.C. SITE

FROM: LE'VON HARDIN, SIP PROJECT, 45/8/B22 EXT. 2-2319

Note: Always list applicable IDS matrix numbers in all transmittals.

- ☐ ART (SIP) Form No. _____
- ☐ Drawing(s) No. _____
- ☑ IDS Sheet No. 25-165-04-05, 28-07-18-02, 30-01-84-01, 32-01-27-02

MEMO Please provide resolution for the attached interaction(s). If modification is required, initiate a DCN, or for non-design plant changes an "Action Request Transmittal (ART). Please sign and date the original IDS on the SISIP Discipline Line and forward along with complete package to Le'Von Hardin, 45/8/B22.

FIGURE 7-2
ACTION REQUEST TRANSMITTAL

SPECIAL I.D. NO. _____ JAN 18 1984

044625

Form 69-003, Rev. 1

PACIFIC GAS AND ELECTRIC CO.
NUCLEAR PROJECTS DEPARTMENT

Date 12/29/83

ART No. 469

SAN No. 081

Sheet 1 of 1

SYSTEM INTERACTION PROGRAM
ACTION REQUEST TRANSMITTAL

Diablo Canyon Unit I

Procedure 3.6 ON
Attachment 'H'
Page 1 of 1

To: F. RUSSELL

From: E.A. MORSY / T. FARINELLI

Description of Action: LOCATION : TURBINE BLDG EL. 140'
COL. LINES (F) & (3).
ADD BARRIER TO PROTECT FIREWATER LINE
FROM IMPACT OF OFFICE BLDG.

Postulated Interaction No. 28-07-18-02

Completion of Work ☒ is ☐ is not required prior to receipt of Operating License. If not, when? _____

Estimated Field Costs: $1000.00

Work Status: ☒ Not Started ☐ Partially Complete ☐ Complete

Work Package Documentation Required ☐

Non-Design Documents Affected or Referenced: _____

Requested By:	Reviewed By:	Approved By:
T. Smith, 12/29/83	Kathy A. Morsy, 1-11-84	[illegible] 1/11/84
Date	Date	SI Project Engineer — Date

☐ Diablo Canyon Project Engineer

Signature _____

Work Completed [illegible]

Date 22 FEB 84

RETURN TO PROJECT COORDINATION SECTION

Ima 4/30/83

TR-19 8/15/83

FIGURE 7-3
THE INTERACTION DOCUMENTATION SHEET WITH RESOLUTION

SHEET 1 OF 1

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-07-18-02

FIRE ZONE 14D LOCATION Turbine Bldg. FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Turbine Building Operating Deck, Cols. 3 and F

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-Bldg.
Office Bldg just East of Firewater Hose Reel T-39
(7'-5" high, 12' wide, 30' long)

TARGET: TARGET CODE: D-3297-2
Firewater Line K-3297-2" to hosereel FW 145-T39-1.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Anchorage of building to Turbine deck fails, bldg. slides into hosereel piping approximately 4' away. Alternatively, main wall and ceiling connections fail, west wall of building falls onto target.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify adequacy of building anchorage and building connections by Engineering evaluation.

S.E. Traisman 10/27/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Protective barrier provided per ART 469.

DISCIPLINE ENGINEER/DATE

F.A. Morsy 1/11/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

FIGURE 7-4
THE COMPUTERIZED SUMMARY SHEET

UNIT 1 - IDS
IDS NUMBER: 28-04-40-02
REF IDS NUMBER: 28-07-18-02

SOLUTION ASSIGNED TO: ONSITE ENGINEERING

FIRE ZONE: 14A

ELEVATION: 124-0

TARGET CODE: P-3297-2
TARGET : PP

SOURCE CODE: P-SPR-14A
SOURCE : PP

INTERACTION :
RECOMMENDED RESOLUTION :
FINAL RESOLUTION :
RESOLVED BY MODIFICATION

DRAFT

SUPPLEMENTAL DOCUMENTATION: N/A

SIGNATURES :

INTERACTION CLOSED ON :
RLOC : 51000-0163

UNIT 1 - TARGET
28-07-18

SYSTEM: FIRE PROTECTION SYSTEMS

SUBSYSTEM: ACTUATOR UNIT 1 TURBINE BLDG. FW HOSE SUPPLY

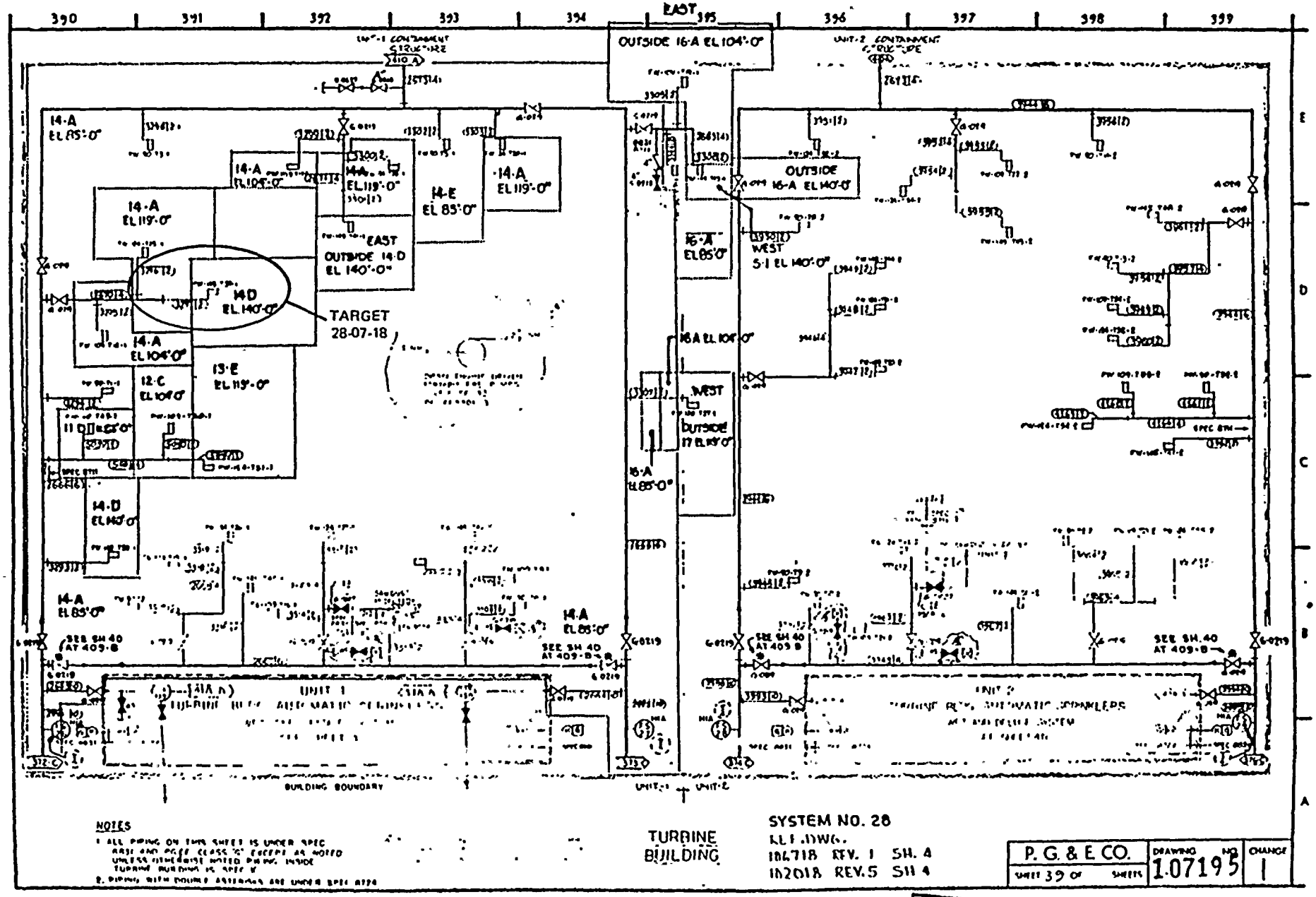
COMPONENT: PIPING TO FW-145-T39-1
LINE K-3297-2

OPERABILITY REQUIREMENT: NONE

COMMENT: NULL

FIRE ZONE: 14A
OT14D

ELEVATION: 85-0
140-0



NOTES

1. ALL PIPING ON THIS SHEET IS UNDER SPEC [illegible] AND PGEE CLASS "G" EXCEPT AS NOTED UNLESS OTHERWISE NOTED PIPING INSIDE TURBINE BUILDING IS SPEC "F"
2. PIPING WITH DOUBLE ASTERISKS ARE UNDER SPEC [illegible]

TURBINE BUILDING

SYSTEM NO. 28
ELE. DWGS.
106718 REV. 1 SH. 4
102018 REV. 5 SH. 4

P. G. & E. CO.	DRAWING NO.	CHANGE
SHEET 39 OF SHEETS	107195	1

35 M/M

FIGURE 7-5 SYSTEM 28 TARGET SCHEMATIC SHEET

DCPP UNITS 1 & 2
SYSTEMS INTERACTION PROGRAM - TARGET LIST

28 FIRE PROTECTION

SYS	SUB SYS	CMP	DESCRIPTION	COMPONENT IDENTIFICATION	ELEV	FIRE ZONE	OPER REQ	COMMENTS	UNIT APPL
28	07	12	Piping to FW-124-T28-1	Line K-3300-2	85	14-A			1
28	07	13	Piping to FW-145-T41-1	Line K-3301-2	85 140	14-A Outside 14-D			1
28	07	14	Piping to FW-90-T3-1	Line K-3298-2	85	14-A			1
28	07	15	Piping (FW Hose Supply Subheader)	Line K-2670-4	85	14-A			1
28	07	16	Piping to FW-109-T14-1	Line K-3295-2	85 104	14-A 14-A			1
28	07	17	Piping to FW-124-T25-1	Line K-3296-2	85 119	14-A 14-A			1
28	07	18	Piping to FW-145-T39-1	Line K-3297-2	85 140	14-A Outside 14-D			1
28	07	19	Piping to FW-90-T1-1	Line K-3294-2	85	14-A			1
28	07	20	Piping (FW Hose Supply Subheader)	Line K-5038-4	85	14-A			1
28	07	21	Piping to FW-90-T49-1	Line K-5039-2	85	14-A			1
28	07	22	Piping to FW-109-T50-1	Line K-5040-2	85 104	14-A 14-A			1
28	07	23	Piping to FW-124-T51-1	Line K-5041-2	119 85	14-A 14-A			1
28	07	24	Piping to FW-145-T38-1	Line K-3293-2	85 140	14-A 14-D			1
28	07	25	Piping From Yard Loop to Line K-2666-6 (including piping out to & including the nearest manual isolation valves for the Turb. Bldg. Auto. Sprinklers & West Wall Hose Supply Hdr.)	Line K-2991-10, K-2663-10, K-2667-6 FS-26	80	14-A			1

Page 11

FIGURE 7-6
SYSTEM 28 TARGET LIST (PARTIAL)

FIGURE 7-7
THE INDEPENDENT REVIEW

042888

Mark Technologies Corporation

P G & E SYSTEMS INTERACTION PROGRAM

INTERACTION RESOLUTION TECHNICAL REVIEW

DATE: 01/31/84 TECHNICAL REVIEW NO.: 8216-TR-0619

IDS NO(S): 28-07-18-02

REVIEWED DOCUMENT(S):

IDS and PMF-D1-17266-CRO, dated 12/29/83, ART 469, dated 12/29/83, Calculation No. 28-07-18-02, dated 12/29/83.

COMMENTS:

Acceptable.

ACTION REQUIRED:

1. Notify MTC when General Construction provides evidence that the work is complete so that the Field Verification Walkdown may commence.

2. Add the following to the IDS:

   a. Postulated interaction CF1,
   b. Recommended resolution R2,
   c. Final resolution R3.

MARK TECHNOLOGIES CORPORATION

BY: Nicholas M Jan

MJ APPROVED BY: Arthur R. Carrivean

Sheet 1 of 1

FIGURE 7-8
THE MODIFICATION DOCUMENTATION

041593

NO: 01-17266-C R 0

Procedure 3.6 ON
Attachment C
Page 1 of 2

PLANT MODIFICATION FOLLOWER

DESCRIPTION OF CHANGE:

ADD PROTECTIVE BARRIER BETWEEN FIREWATER LINE AND OFFICE BLDG. AS SHOWN ON ATTACHED SKETCHES.

REASON FOR CHANGE:

TO PREVENT POSTULATED INTERACTION No. 28-07-18-02.

COPY

4-13/82

CHANGE REQUESTED BY: T. Fouth DATE: 12/29/83

REQUEST AUTHORIZED BY: Judy A. Morsy DATE: 1-11-84

CADD 821081 06-08-82 JDP

LWH.

FIGURE 7-8
THE MODIFICATION DOCUMENTATION

(CONTINUED)

041593
041138

Procedure 3.6 DN
Attachment C
Page 2 of 2

NO: D 1-17266-C R 0

DESIGN ACTIVITIES

ITEM	DEPT	BY	DATE	ITEM	DEPT	BY	DATE
DCN ☐ ART ☑:	CIVIL			MAT'L REQ'S:	FIELD	PURCHASE	
DWG LIST:	SEE ATTACHED SKETCH			SAFETY EVAL:	CIVIL		
REQ'D DWGS:		N/A		SUPPORTING DOC:		N/A	

APPROVED (GP LDR) F. Morsy, 1-11-84 APPROVED (PE) [illegible], 1/20/84

APPROVAL FOR DESIGN IF OTHER THAN ENGINEERING

FORMAL DELEGATION OF AUTHORITY ☐ REF.

VERBAL AUTHORIZATION ☐ BY (GP LDR)

PROJECT COORD (CO) TRANSMITTED TO POWER PLANT ENGINEER. [illegible] 1/25/8

PLANT STAFF ACTIVITIES

	BY	DATE		BY	DATE
REC BY PPE:			ALARA EVAL:		
IMP TO SAFETY: YES/NO			TECH SPEC REVIEW:		
ENVIRONMENTAL QUALITY EVAL:			PSRC RECOMMENDS APPROVAL ☐YES ☐NO:		

REASON FOR REJECTION:

PLANT MANAGER APPROVAL DATE

INSTALLATION ASSIGNED TO ☐PLANT STAFF ☐ GC: BY DATE

PROJECT CONTROL (DC) TRANSMITTED TO INSTALLER: BY DATE

INSTALLING ORGANIZATION ACTIVITIES

	BY	DATE		BY	DATE
RECEIVED:			INSTALLATION COMPLETE:		
PRELIM SIP WALKDOWN:			START UP/POST INST TESTS COMP:		
AS-BUILTS ATTACHED:					

PLANT STAFF ACCEPTANCE ACTIVITIES

	BY	DATE		BY	DATE
RECEIVED:			PROJ ENG NOTIFIED:		
FINAL SIP WALKDOWN			ACCEPTED PLANT SUPERINTENDANT:		

PLANT MANAGER FINAL APPROVAL DATE

PROJECT CONTROL (DC) TRANSMITTAL TO PROJECT COORD (CO) DATE

ENGINEERING CLOSE-OUT ACTIVITIES

ALL DESIGN DOCUMENTS ISSUED FOR OPERATION: PROJ ENGINEER DATE

RMS PURGED BY: DATE RMS INDEXED BY: DATE

CADD 820495 06-08-82 JDP

FIGURE 7-9
NOTIFICATION OF COMPLETION

044625

SYSTEM INTERACTION PROGRAM TRANSMITTAL

Date 2/24/84

TO: L W Horn

FROM: Jon Pokopchak EXT. 3024

Note: Always list applicable IDS matrix numbers in all transmittals.

- ☐ ART (SIP). Form No. see below & attached
- ☐ Drawing(s) No.
- ☐ IDS Sheet No.
- ☐ Resolution Report No.
- ☐ DCN No.
- ☐ Other

MEMO The following modification is opt.

ART 469 IDS # 78-07-18-02

RAY JHR LWH DEH SPECIAL PROJECTS DLK KCM LH GO

FYI

FEB 28 1984

PLEASE HANDLE
COMMENT
KCMNOTE
CENTRAL FILES
DEPT. FILES

UNREPLY
PREPLY
DISCUSS

RECEIVED
FEB 27 1984
DIABLO CANYON 13320

FIGURE 7-10
FINAL WALKDOWN VERIFICATION

045084

045391

PG&E DIABLO CANYON UNIT 1
SYSTEMS INTERACTION PROGRAM
WALKDOWN NOTES 68
PAGE 4 OF 5

The number of interactions each engineering discipline is responsible for resolving is as follows:

Engineering Discipline	Number of Interactions to Resolve
Civil	2
Electrical	3
HVAC	1
I&C	6
Mechanical	3
Piping	11
NPO	2
TOTAL	28

Concurrent with the final SIP area walkdown, field verification of SIP modifications was conducted during this walkdown. The intent was to ensure the SIP modifications resolved the postulated interactions and did not create any new interactions. The following fifty-two (52) interactions which resulted in field modifications were inspected and found to be acceptable:

01-19-02-06	20-14-01-03	25-181-01-01
01-19-02-07	20-63-03-02	25-200-02-01
03-22-02-01	20-82-01-01	28-04-17-04
03-26-22-01	20-82-05-01	28-04-29-03
03-26-25-02	21-03-03-02	28-04-30-01
03-28-23-01	22-03-02-02	28-04-30-02
06-01-04-01	22-09-02-03	28-04-40-03
06-59-27-01	22-12-08-04	28-04-41-03
06-59-36-01	25-29-01-04	28-04-44-06
06-59-38-01	25-34-01-01	28-04-51-01
06-59-39-01	25-92-01-02	28-04-52-02
06-60-10-05	25-162-03-02	28-05-39-02
06-60-22-01	25-165-04-02	28-07-18-02
11-07-05-01	25-165-04-03	30-01-42-01
11-07-05-02	25-168-04-01	30-01-70-01
15-01-187-01	25-168-04-02	30-01-81-01
16-04-03-03	25-171-04-03	30-02-01-03
18-11-01-01		

Chapter 8

RESULTS

The results of interactions postulated and their resolutions for the Diablo Canyon Unit 1 SISIP were summarized in this chapter of the Final Report dated April 1984. Revision 1 of Chapter 8 updates the information in the original SISIP Final Report and presents the results for Unit 2. The information contained in the Unit 2 data base is sorted and presented in a format similar to that for Unit 1. Statistical data, such as the distribution of interactions and their resolutions within designated zones and within the SISIP target systems, are presented at the end of the chapter in tabular form for both Unit 1 and Unit 2.

8.1 SUMMARY OF DATA

This section contains the overall numerical statistics of the Unit 1 and Unit 2 SISIPs.

8.1.1 Overall Program Statistics

	Unit 1	Unit 2
Number of walkdown days (Approx.)	150	122
Number of SISIP interactions	2,198	1,575

Distribution of SISIP interaction resolutions (containment only):

Resolution Method		Number of IDSs	
		Unit 1	Unit 2
Site Evaluation Team	(NAN)	148	142
Resolution by analysis	(A)	153	98
Resolution by modification	(M)	166	248
Nonseismic phenomena (*)	(X, Y)	37	0
Procedure change	(P)	0	1
TOTAL		504	489

Total Plant (including containment):

Resolution Method		Number of IDSs	
		Unit 1	Unit 2
Site Evaluation Team	(NAN)	697	442
Resolution by analysis	(A)	646	385
Resolution by modification	(M)	643	718
Nonseismic phenomena(*)	(X, Y)	208	29
Procedure change	(P)	4	1
TOTAL		2,198	1,575

(*) Refer to Section 8.2

8.1.2 Site Evaluations

Site evaluations (walkdowns) of SISIP targets in Unit 1 began in April 1980. Walkdowns of SISIP targets for Unit 2 began in February 1983. The site evaluations consisted of initial plant walkdowns of target components, final area walkdowns to identify interactions resulting from plant modifications installed subsequent to the initial walkdowns, and the field verification walkdowns to evaluate SISIP modifications.

8.1.2.1 Initial Plant Walkdowns

The initial plant walkdowns for Unit 1 began in April 1980 and were completed in September 1982. A total of about 100 walkdown days was required for this phase of the Program.

The initial plant walkdowns for Unit 2 SISIP were initiated in February 1983 and were completed in January 1984. A total of 76 walkdown days was required for this phase of the Program for Unit 2.

8.1.2.2 Final Area Walkdowns

The SISIP conducted a second set of walkdowns to evaluate plant modifications installed subsequent to earlier target walkdowns. These final area walkdowns were performed when construction was sufficiently completed to provide assurance that virtually all of the potential interactions had been documented.

The final area walkdowns for Unit 1 began in July 1983 and were completed in February 1984. A total of about 20 walkdown days was required for this phase of the program. The final area walkdowns for Unit 2 began in August 1984 and were completed in November 1984. A total of about 16 walkdowns days was required for this phase of the program for Unit 2.

8.1.2.3. Field Verification Walkdowns

Plant modifications implemented as part of the SISIP were verified by the Site Evaluation Team during field verification walkdowns.

Field verification walkdowns for Unit 1 began in February 1982 and were completed in June 1984. Approximately 30 walkdown days were required for this phase of the Program. About 620 SISIP modifications were evaluated during these walkdowns.

For Unit 2, field verification walkdowns began in August 1984 and were completed in April 1985. Approximately 30 walkdown were expended in evaluating about 650 SISIP modifications in the field.

8.2 DISTRIBUTION OF POSTULATED INTERACTIONS

This section describes the Program's statistical results for both Unit 1 and Unit 2. The following information is presented:

(1) Distribution of interactions by area of the plant
(2) Distribution of interactions by target system
(3) Interaction data bases sorted by source category
(4) Interaction data bases sorted by target type (type of component)
(5) Interaction data bases sorted by phenomenon
(6) Interaction data bases sorted by resolution category

Tables 8-1.1 through 8-10.1 and 8-1.2 through 8-10.2, for Unit 1 and Unit 2 respectively, are numerical summaries of Attachments 5-A.1 through 5-E.1 for Unit 1 and 5-A.2 through 5-E.2 for Unit 2, the computer sorts of the SISIP data base.

Only the statistics involving interactions defined in the scope of the SISIP are discussed in Section 8.2.2. Categories designated as X and Y are not source-target seismically induced interactions as described by the Program's fundamental criterion. Nonseismic phenomena categorized as X or Y were identified during the early phases of the Program. These involve phenomena that are not within the SISIP scope, but were identified during the course of the walkdowns. Types of phenomena in these categories include:

(1) Interactions involving construction scaffolding or other temporary equipment. These sources would not have stayed within the plant as they are removed from the plant in the normal course of construction completion. However, because these interactions are included in the data bases, they are accounted for in this chapter.

(2) Interactions involving minor, incomplete construction (missing electrical box covers, bent instrument tubing, architectural features with missing holddown clips, etc.). These types of interactions are remedied during the later stages of construction and prior to the turnover of the plant to the Nuclear Plant Operations (NPO) Department.

(3) Postulated damage to components in proximity to high- temperature lines. These types of phenomena are independently reviewed and evaluated during hot functional testing and piping stress walkdowns.

(4) Interactions involving targets later found not to be valid targets.

None of these interactions were found to be of any significance in Unit 1. As a result, these types of phenomena were not documented to any great extent during the Unit 2 Program.

8.2.1 Data in Perspective

The data provided in this chapter and Attachments 5-A.1 through 5-E.1 for Unit 1, and 5-A.2 through 5-E.2 for Unit 2, are clarified in this section to avoid misinterpretation of the statistics. The number of interactions, regardless of the method of distribution, are placed in perspective as follows:

(1) All interactions are not of equal significance. In some cases insignificant phenomena may have been documented numerous times, while in other cases repetitive phenomena may have been generically postulated and documented as a single interaction.

(2) The complexity of engineering resolutions spans a great range. An interaction may have been resolved with only a one-paragraph statement, while another one may have required a complex seismic evaluation of the source components.

(3) Plant modifications also differ greatly in complexity and significance. For example, a modification may mean rerouting one target instrument tube or adding a restraint to a large tank. Rerouting a single target instrument tube could resolve numerous interactions; whereas, a large tank restraint may resolve only one interaction.

These factors about the data base contents should be considered in assessing the significance or extent of modifications solely on the basis of the numeric statistical data presented.

8.2.2 Plant-wide Distribution of Interactions

This section contains the numerical count of postulated interactions distributed by areas of the plant. The statistics include the final resolution of all the interactions, i.e., resolution by the Site Evaluation Team (NAN), resolution by engineering analysis (A), and resolution by modification or plant procedural change (M).

The reference in each of the following subsections to NAN, A, or M relates to the coding used in Attachments 5-A.1 through 5-E.1 for Unit 1, and Attachments 5-A.2 through 5-E.2 for Unit 2, the sorting by resolution method of the computerized data bases.

Attachment 12 contains the drawings relating the zone designations to specific plant areas.

8.2.2.1 Containment

The containment building in Unit 1 is divided into three zones, 1-A, 1-B, and 1-C. Corresponding zones in Unit 2 are 9-A, 9-B, and 9-C.

A total of 504 interactions was documented for the Unit 1 containment building. For Unit 2, 489 interactions were documented. The distributions of these interactions by resolution method are as follows:

		Unit 1	Unit 2
Site Evaluation Team	(NAN)	148	142
Resolution by analysis	(A)	153	98
Resolution by modification	(M)	166	249
Nonseismic phenomena	(X,Y)	37	0

8.2.2.2 Electrical Equipment Rooms and Control Room

In Unit 1 21 zones contain electrical equipment. The turbine building houses three safety-related 4.16kV switchgear rooms and associated cable spreading

rooms (zones 13-A, 13-B, and 13-C, and 12-A, 12-B, and 12-C) and the areas containing nonvital switchgear, isophase buses, and associated equipment (zones 10, 12-E, and 13-D). The auxiliary building houses safety-related 480V switchgear (zones 5-A-1, 5-A-2, and 5-A-3), 125Vdc batteries, inverters, and dc switchgear (zones 6-A-1, 6-A-2, and 6-A-3), the cable spreading room (zone 7-A), and nonvital electrical equipment rooms (5-A-4, 6-A-4, and 6-A-5). These areas typically contain only electrical equipment.

The Unit 1 control room complex contains zone 8-G, the solid- state protection system; and zone 8-C, the main portion of the control room.

In Unit 2, also 21 zones contain electrical equipment. The turbine building houses three safety-related 4.16kV switchgear rooms and associated cable spreading rooms (zones 24- A, 24-B, and 24-C, and 23-A, 23-B, and 23-C) and the areas containing nonvital switchgear, isophase buses, and associated equipment (zones 20, 23-E, and 24-D). The auxiliary building houses safety-related 480V switchgear (zones 5-B-1, 5-B-2, and 5- B-3), 125Vdc batteries, inverters, and dc switchgear (zones 6-B- 1, 6-B-2, and 6-B-3), the cable spreading room (zone 7-B), and nonvital electrical equipment rooms (zones 5-B-4, 6-B-4, and 6-B- 5). These areas typically contain only electrical equipment.

The Unit 2 control room complex contains zone 8-H, the solid- state protection system; zone 8-C, the main portion of the control room is common to Units 1 and 2.

For these areas, a total of 163 interactions was documented in Unit 1, and 112 interactions for Unit 2. These totals are distributed by resolution method as follows:

		Unit 1	Unit 2
Site Evaluation Team	(NAN)	51	19
Resolution by analysis	(A)	33	27
Resolution by modification	(M)	69	66
Nonseismic phenomena	(X,Y)	10	0

8.2.2.3 HVAC Fan Rooms

Eleven fire zones in Unit 1 contain exclusively HVAC fans, ducting, and associated HVAC equipment. These zones are 8-B-1 and 8-B-3 in the auxiliary building, zone 13-E in the turbine building, and zones 3-P-1 through 3-P-8 in the fuel handling building.

Unit 2 also has eleven fire zones containing exclusively HVAC fans, ducting, and associated HVAC equipment. These zones are 8- B-2 and 8-B-4 in the auxiliary building, zone 24-E in the turbine building, and zones 3-V-1 through 3-V-8 in the fuel handling building.

A total of 166 interactions in Unit 1 and 100 interactions in Unit 2 was documented for these fan room areas. These totals are distributed by resolution method as follows:

		Unit 1	Unit 2
Site Evaluation Team	(NAN)	67	21
Resolution by analysis	(A)	49	27
Resolution by modification	(M)	48	49
Nonseismic phenomena	(X,Y)	2	3

8.2.2.4 Safety-related Pump Rooms

Eleven fire zones in the Unit 1 auxiliary building and fuel handling building are safety-related pump rooms and rooms containing associated electrical and mechanical items. The zones are 3-B-1 and 3-B-2, 3-F, 3-H-1 and 3-H-2, 3-J-1 through 3-J-3, 3-M, and 3-Q-1 and 3-Q-2. Corresponding fire zones in Unit 2 containing similar equipment are 3-D-1 and 3-D-2, 3-G, 3-I-1 and 3-I-2, 3-K-1 through 3-K-3, and 3-T-1 and 3-T-2.

A total of 102 interactions was documented for the pump room areas in Unit 1. The corresponding number for Unit 2 is 167. These totals are distributed by resolution method as follows:

		Unit 1	Unit 2
Site Evaluation Team	(NAN)	21	49
Resolution by analysis	(A)	32	70
Resolution by modification	(M)	47	43
Nonseismic phenomena	(X,Y)	2	5

8.2.2.5 Penetration Area (Zone 3-BB in Unit 1 and Zone 3-CC in Unit 2)

A total of 380 interactions was documented for the Unit 1 penetration area. In Unit 2, 184 interactions were documented. These totals are distributed by resolution method as follows:

		Unit 1	Unit 2
Site Evaluation Team	(NAN)	131	50
Resolution by analysis	(A)	114	31
Resolution by modification	(M)	103	103
Nonseismic phenomena	(X,Y)	32	0

8.2.2.6 Auxiliary and Fuel Handling Buildings

The auxiliary and fuel handling buildings have been defined as those zones that constitute the auxiliary and fuel handling buildings except for the HVAC equipment rooms, safety-related pump rooms, and electrical equipment rooms.

In Unit 1, a total of 132 interactions was documented for the auxiliary and fuel handling rooms. In Unit 2, a total of 245 interactions for the corresponding areas were documented. These totals are distributed by resolution method as follows:

		Unit 1	Unit 2
Site Evaluation Team	(NAN)	42	101
Resolution by analysis	(A)	46	56
Resolution by modification	(M)	35	68
Nonseismic phenomena	(X,Y)	9	20

8.2.2.7 Diesel Generator Rooms

In Unit 1, zones 11-A-1, 11-A-2, 11-B-1, 11-B-2, 11-C-1, and 11-C- 2 house the three diesel generators. In Unit 2, the two diesel generators are located in zones 22-A-1, 22-A-2, 22-B-1, and 22-B- 2.

A total of 81 interactions in Unit 1 and 54 interactions in Unit 2 were documented for the diesel generator rooms. These totals are distributed by resolution method as follows:

		Unit 1	Unit 2
Site Evaluation Team	(NAN)	19	8
Resolution by analysis	(A)	17	21
Resolution by modification	(M)	32	24
Nonseismic phenomena	(X,Y)	13	1

8.2.2.8 Turbine Building

The turbine building is defined as those zones that constitute the turbine building exclusive of the diesel generator rooms, electrical equipment rooms, and switchgear fan room.

In the Unit 1 turbine building a total of 123 interactions was documented. The corresponding number for the Unit 2 was 147. These totals are distributed by resolution method as follows:

		Unit 1	Unit 2
Site Evaluation Team	(NAN)	32	40
Resolution by analysis	(A)	27	25
Resolution by modification	(M)	41	82
Nonseismic phenomena	(X,Y)	23	0

8.2.2.9 Intake Structure

The intake structure is located on the coastline, physically remote from the remainder of the plant.

Thirteen interactions were documented for the intake structure in Unit 1. In Unit 2, 15 interactions were documented. These totals are distributed by resolution method as follows:

		Unit 1	Unit 2
Site Evaluation Team	(NAN)	2	6
Resolution by analysis	(A)	6	5
Resolution by modification	(M)	4	4
Nonseismic phenomena	(X,Y)	1	0

8.2.2.10 Outdoor Areas

The outdoor areas are defined as all areas outside the plant buildings.

A total of 106 interactions was documented for the outdoor areas in Unit 1. In Unit 2 the total was 57. These totals are distributed by resolution method as follows:

		Unit 1	Unit 2
Site Evaluation Team	(NAN)	11	5
Resolution by analysis	(A)	43	26
Resolution by modification	(M)	41	26
Nonseismic phenomena	(X,Y)	11	0

8.2.2.11 Fire Water System

Portions of the fire water system (the fire pumps and fire water piping to manual hose reels) were considered as targets even though this system is not required for safe shut down. The fire water system runs throughout all plant areas, but is unrelated to the function of the other components in those areas. In the Unit 1 data, interactions associated with the target fire water system have been segregated from the previous tabulations because these interactions are not related to the function of the other targets in these areas. Due to a different method of sorting the Unit 2 interaction data,

Sections 8.2.2.1 through 8.2.2.10 contain the Unit 2 fire water system interaction data for each area. In addition, the Unit 2 fire water system interaction data has been tabulated separately for this section.

In Unit 1 a total of 428 interactions was documented for the target fire water system. In Unit 2 the total was 179. These totals are distributed by resolution method as follows:

		Unit 1	Unit 2
Site Evaluation Team	(NAN)	173	64
Resolution by analysis	(A)	126	32
Resolution by modification	(M)	61	78
Nonseismic phenomena	(X,Y)	68	5

In Unit 1, the fire water hose reels were treated as targets. The hose reels were subsequently deleted from the SIP target scope since they are not part of the fire water system pressure boundary. Treating the hose reels as targets resulted in substantially more interactions being postulated in Unit 1, which accounts for the larger quantity of no action necessary/ resolved by field inspection (NAN), engineering analyses (A), and nonseismic phenomena (X, Y) categories, compared to the Unit 2 statistics.

8.2.2.12 Tabulated Summary

Tables 8-1.1 and 8-1.2 list, for Unit 1 and Unit 2 respectively, interactions contained in the previous subsections and are summaries of the information given in Attachments 5-B.1 and 5-B.2.

8.2.3 Distribution of Interactions by Target System

Tables 8-2.1 and 8-2.2 list interactions, for Unit 1 and Unit 2 respectively, by resolution category and distributed among the SISIP target systems. They are also summaries of the information contained in Attachments 5-C.1 and 5-C.2. These target systems are further described in the SIP Manual (Attachment 2) and the Diablo Canyon FSAR.

8.2.3.1 Interactions Associated with Multiple or Miscellaneous Target Systems

During plant walkdowns, it was occasionally more efficient to document interactions in a miscellaneous category, Target System 30. Interactions written under System 30 fall into three principal categories: (1) multiple targets, (2) special situations noted during the walkdown that were not within the SISIP scope, and (3) miscellaneous target electrical systems. Each of these three interaction categories is discussed below.

(1) Multiple Targets: The most common use of System 30 is the documentation on a single IDS of interactions that involve multiple target components. For example, a source piping system routed throughout an area may be postulated to deflect into multiple targets associated with one or more systems.

(2) Interactions Outside the SISIP Scope: General interaction phenomena were occasionally documented that are considered outside the scope of the SISIP. An example would be documentation of temporarily installed source components, such as construction gas piping.

(3) Miscellaneous Target Electrical Systems: Several interactions postulated during initial Unit 1 containment walkdowns for target electrical conduits were documented at that time under System 30.

A characteristic of many System 30 interactions that differs from the more prevalent source-target single phenomenon postulated interactions is that numerous targets and/or sources may appear on a single IDS. The relatively few System 30 interactions that were written are not statistically equivalent to other interactions.

A total of 150 interactions was documented for the System 30 category in Unit 1. In Unit 2 there were 141 corresponding interactions. These totals are distributed by resolution method as follows:

		Unit 1	Unit 2
Site Evaluation Team	(NAN)	25	24
Resolution by analysis	(A)	46	42
Resolution by modification	(M)	70	75
Nonseismic phenomena	(X,Y)	9	0

8.2.3.2 Intercompartmental Phenomena

Thirty-two interactions were identified in Unit 1 as intercompartmental. Of these, 9 were in the containment, and 25 were in other plant areas.

In most cases, these interactions resulted from postulating a falling or unrestrained source to affect target components in an adjacent or nearby zone or compartment. Access of the source to other compartments was by physical openings between the compartments, such as stairways, doorways, or equipment accessways. A few interactions were postulated to spread to or affect other compartments via the HVAC system or the building drainage system.

In Unit 2, intercompartmental walkdowns occurred during the normal course of the target walkdowns and intercompartmental phenomena were not specifically identified as such in the interaction data base. The total quantity of intercompartmental phenomena in Unit 2 is judged to be equivalent to those found in Unit 1.

8.2.4 Distribution by Type of Sources

Table 8-3.1 lists the Unit 1 interactions by resolution category and source type and summarizes the information contained in Attachment 5-B.1. For example, this table indicates that 130 interactions involving source light fixtures were resolved by engineering analysis. Similar information for Unit 2 is given in Table 8-3.2 which summarizes the data presented in Attachment 5-B.2.

The distribution of resolution methods involving various sources, listed in Tables 8-3.1 and 8-3.2, may be characterized as follows:

(1) Civil, piping, and light fixtures comprise the bulk of the interaction sources. These source categories are found throughout the plant.

(2) The types of sources that were involved in modifications generally involved more massive components (e.g., piping and platforms).

8.2.5 Distribution of Interactions by Target Type

Table 8-4.1 lists Unit 1 interactions sorted by resolution category and target type (e.g., conduit, tubing, valves, piping, etc.). For example, this table indicates that 94 interactions involving target electrical raceways were resolved by engineering analysis. Similar information for Unit 2 is presented in Table 8-4.2.

8.2.6 Distribution of Interactions by Interaction Phenomena

Table 8-5.1 lists Unit 1 interactions sorted by resolution category and interaction phenomena (e.g., source deflection, support failure, component failure, etc.). For example, this table indicates that 43 interactions involving source deflection were resolved by engineering analysis. Similar information for Unit 2 is given in Table 8-5.2.

8.2.7 Distribution of Interactions by Target System and Source Type

Table 8-6.1 lists Unit 1 interactions sorted by source type and target system. For example, this table specifies that there were nine mechanical sources that were postulated to interact with the auxiliary feedwater system components. Equivalent information for Unit 2 is given in Table 8-6.2.

8.2.8 Distribution of Interactions by Target System and Target Type

Table 8-7.1 lists Unit 1 interactions sorted by target system and target type. For example, this table indicates that of the 114 interactions associated with the auxiliary feedwater system 79 involve auxiliary feedwater system electrical raceways. Similar information for Unit 2 is presented in Table 8-7.2.

8.2.9 Distribution of Interactions by Plant Location and Source Type

Table 8-8.1 lists Unit 1 interactions sorted by plant location and source type. For example, this table indicates that in containment, 72 of the 504 interactions involve source HVAC ducting and equipment. Similar information for Unit 2 is presented in Table 8-8.2.

8.2.10 Distribution of Interactions by Plant Location and Target Type

Table 8-9.1 lists Unit 1 interactions sorted by plant location and target type. For example, this table indicates that of the 504 interactions in containment, 151 involve target electrical raceways. Similar information for Unit 2 is presented in Table 8-9.2.

8.2.11 Distribution of Interactions by Plant Location and Interaction Phenomena

Table 8-10.1 lists interactions sorted by plant location and interaction phenomena. For example, this table indicates that of the 504 interactions in containment 107 involve deflection of source components. Similar information for Unit 2 is given in Table 8-10.2.

8.3 CONCLUDING REMARKS

The Diablo Canyon SISIP was implemented in accordance with the program criteria established in 1980. The Program, as it was initially conceived, did not emphasize the need for gathering and sorting statistical data. The development of the statistical data presented in this chapter was facilitated by the SISIP computer data bases developed later in the Program. Therefore,

this chapter should be viewed with the understanding that the compilation of statistical information presented here was possible because of the development of the computer data bases (the improvement of the interaction identification and resolution process and document control was given priority over the development of statistics).

Further evaluation of the results of the SIP data bases is presented in Chapter 9. Chapter 9 was specifically included in the Final Report in response to the NRC's request for information in a form that would allow for future evaluation of program results, possibly applicable to resolution of the more generic issue of systems interaction.

TABLE 8-1.1

DISTRIBUTION OF INTERACTIONS
BY LOCATION AND RESOLUTION METHOD

(Unit 1)

Location	Resolution Methods				
	NAN	A	M	XY	TOTAL
Containment	148	153	166	37	504
Electrical Equipment Rooms and Control Room	51	33	69	10	163
HVAC Fan Rooms	67	49	48	2	166
Safety-related Pump Rooms	21	32	47	2	102
Auxiliary/Fuel Handling Buildings	42	46	35	9	132
Penetration Area	131	114	103	32	380
Diesel Generator Rooms	19	17	32	13	81
Turbine Building	32	27	41	23	123
Intake Structure	2	6	4	1	13
Outdoor Areas	11	43	41	11	106
Various (Fire Water System)	173	126	61	68	428
TOTAL	697	646	647	208	2,198

Legend of Resolution Methods:

NAN: No action necessary; resolved in the field by inspection
A : Resolved by engineering analysis
M : Resolved by plant modification (includes procedure changes (4))
XY : Assigned to General Construction or Quality Control for disposition typically minor nonseismic deficiencies, or target erroneously identified

TABLE 8-1.2

DISTRIBUTION OF INTERACTIONS
BY LOCATION AND RESOLUTION METHOD

(Unit 2)

Location	Resolution Methods					
	NAN	A	M	P	X	TOTAL
Containment	142	98	248	1	0	489
Electrical Equipment Rooms and Control Room	19	27	66	0	0	112
HVAC Fan Rooms	21	27	49	0	3	100
Safety-related Pump Rooms	49	70	43	0	5	167
Auxiliary/Fuel Handling Buildings	101	54	70	0	20	245
Penetration Area	50	31	103	0	0	184
Diesel Generator Rooms	8	21	24	0	1	54
Turbine Building	40	25	82	0	0	147
Intake Structure	6	5	4	0	0	15
Outdoor Areas	5	26	26	0	0	57
Various (plantwide phenomena)	1	1	3	0	0	5
TOTAL	442	385	718	1	29	1,575

Legend of Resolution Methods

NAN: No action necesssary; resolved in the field by inspection.
A : Resolved by engineering analysis.
M : Resolved by plant modification.
P : Resolved by procedure changes.
X : Assigned to General Construction or Quality Control for disposition; typically minor nonseismic deficiencies or erroneously identified targets.

TABLE 8-2.1

DISTRIBUTION OF INTERACTIONS
BY SYSTEM AND RESOLUTION METHOD

(Unit 1)

Target System	Resolution Methods				
	NAN	A	M	XY	TOTAL
Auxiliary Feedwater	44	26	30	14	114
Main Steam	55	112	88	19	274
Reactor Coolant System	68	70	69	34	241
Charging and Boration	25	61	39	5	130
Safety Injection	30	15	25	3	73
Residual Heat Removal	4	12	16	1	33
Containment Spray	19	12	12	1	44
Auxiliary Saltwater	6	13	8	1	28
Diesel Generators	13	14	30	17	74
HVAC for Vital Equipment Cooling	123	66	90	19	298
Component Cooling Water	65	27	43	5	140
Fire Water	173	126	60	68	427
Containment Isolation of Nonessential Processes	26	31	31	12	100
Electrical Power	21	15	36	0	72
Multiple Targets	25	46	70	9	150
TOTAL	697	646	647	208	2,198

Legend of Resolution Methods:

NAN: No action necessary; resolved in the field by inspection
A : Resolved by engineering analysis
M : Resolved by plant modification (includes procedure change (4))
XY : Assigned to General Construction or Quality Control for disposition typically minor nonseismic deficiencies, or target erroneously identified

TABLE 8-2.2

DISTRIBUTION OF INTERACTIONS
BY SYSTEM AND RESOLUTION METHOD

(Unit 2)

Target System	Resolution Methods					
	NAN	A	M	P	X	TOTAL
Auxiliary Feedwater	15	34	34	0	2	85
Main Steam	40	34	75	0	1	150
Reactor Coolant System	70	32	61	1	1	165
Charging and Boration	50	55	52	0	7	164
Safety Injection	28	27	47	0	4	106
Residual Heat Removal	12	11	16	0	1	40
Containment Spray	5	9	20	0	0	34
Auxiliary Saltwater	13	7	12	0	0	32
Diesel Generators	6	13	26	0	1	46
HVAC for Vital Equipment Cooling	35	37	78	0	7	157
Component Cooling Water	56	38	74	0	0	168
Fire Water	64	32	78	0	5	179
Containment Isolation of Nonessential Processes	13	1	33	0	0	47
Electrical Power	11	13	37	0	0	61
Multiple Targets	24	42	75	0	0	141
TOTAL	442	385	718	1	29	1,575

Legend of Resolution Methods:

NAN: No action necesssary; resolved in the field by inspection.
A : Resolved by engineering analysis.
M : Resolved by plant modification.
P : Resolved by procedure changes.
X : Assigned to General Construction or Quality Control for disposition; typically minor nonseismic deficiencies or erroneously identified targets.

TABLE 8-3.1

DISTRIBUTION OF INTERACTION SOURCE TYPES
BY RESOLUTION METHOD

(Unit 1)

Source Type	Resolution Methods				
	NAN	A	M	XY	TOTAL
Platform and other Civil, Structural, Architectural	35	288	203	34	560
Light Fixtures	292	130	79	54	555
Electrical Equipment and Raceways	50	14	27	4	95
HVAC Ducts and Equipment	37	62	13	7	119
Instrumentation, Panels and Tubing	23	6	5	11	45
Mechanical Equipment	14	45	52	7	118
Piping and Pipe Supports	240	58	232	20	550
NPO Equipment	3	10	16	3	32
Minor Construction Deficiencies and Nonseismic Phenomena	3	33	20	68	124
TOTAL	697	646	647	208	2,198

Legend of Resolution Methods:

NAN: No action necessary; resolved by inspection in the field
A : Resolved by engineering analysis
M : Resolved by plant modification (includes procedure changes (4))
XY : Cancelled targets, miscellaneous or minor nonseismic phenomena

TABLE 8-3.2

DISTRIBUTION OF INTERACTION SOURCE TYPES
BY RESOLUTION METHOD

(Unit 2)

Source Type	Resolution Methods					
	NAN	A	M	P	X	TOTAL
Platform and other Civil, Structural, Architectural	118	190	209	0	1	518
Light Fixtures	103	34	48	0	2	187
Electrical Equipment and Raceways	51	51	42	1	2	147
HVAC Ducts and Equipment	15	11	37	0	0	63
Instrumentation, Panels and Tubing	12	10	9	0	0	31
Mechanical Equipment	31	43	68	0	0	142
Piping and Pipe Supports	112	40	287	0	0	439
NPO Equipment	0	0	13	0	0	13
Minor Construction Deficiencies and Nonseismic Phenomena	0	5	3	0	24	32
Seismic Qualification Concern	0	0	2	0	0	2
Generic	0	1	0	0	0	1
TOTAL	442	385	718	1	29	1,575

Legend of Resolution Methods:

NAN: No action necessary; resolved by inspection in the field
A : Resolved by engineering analysis
M : Resolved by plant modification
P : Resolved by procedure changes
X : Assigned to General Construction or Quality Control for disposition; typically minor nonseismic deficiencies or erroneously identified targets.

TABLE 8-4.1

DISTRIBUTION OF INTERACTION TARGET TYPES
BY RESOLUTION METHOD

(Unit 1)

	Resolution Methods				
Target Type	NAN	A	M	XY	TOTAL
Electrical Raceways(1)	204	94	150	72	520
I&C(2)	34	148	106	38	326
Valves, Dampers	52	82	46	10	190
Pumps, Motors, Fans	12	27	34	2	75
Piping	268	134	117	25	544
Ducts	56	18	21	2	97
Other Mechanical/Electrical Equipment(3)	67	122	130	54	373
Multiple Targets	4	21	43	5	73
TOTAL	697	646	647	208	2,198

Legend of Resolution Methods:

NAN: No action necessary; resolved by inspection in the field
A : Resolved by engineering analysis
M : Resolved by plant modification (includes procedure change (4))
XY : Cancelled targets, miscellaneous or minor nonseismic phenomena

Notes:

(1) Conduits and Cable trays
(2) Instruments, Solenoid Valves, Instrument Tubing, Air Supply Tubing
(3) Includes Tanks, Heat Exchangers, Filters, Electrical Switchgear, etc.

TABLE 8-4.2

DISTRIBUTION OF INTERACTION TARGET TYPES
BY RESOLUTION METHOD

(Unit 2)

	Resolution Methods					
Target Type	NAN	A	M	P	X	TOTAL
Electrical Raceways(1)	81	82	141	0	22	326
I&C(2)	97	60	160	0	1	318
Valves, Dampers	42	24	27	0	1	94
Pumps, Motors, Fans	4	27	36	0	0	67
Piping	162	130	218	0	5	515
Ducts	22	14	32	0	0	68
Other Mechanical/Electrical Equipment(3)	31	38	86	1	0	156
Multiple Targets	3	10	18	0	0	31
TOTAL	442	385	718	1	29	1,575

Legend of Resolution Methods:

NAN: No action necessary; resolved by inspection in the field
A : Resolved by engineering analysis
M : Resolved by plant modification
P : Resolved by procedure changes
X : Assigned to General Construction or Quality Control for disposition; typically minor nonseismic deficiencies or erroneously identified targets.

Notes:

(1) Conduits and Cable trays
(2) Instruments, Solenoid Valves, Instrument Tubing, Air Supply Tubing
(3) Includes Tanks, Heat Exchangers, Filters, Electrical Switchgear, etc.

TABLE 8-5.1

DISTRIBUTION OF POSTULATED INTERACTION PHENOMENA BY RESOLUTION METHOD

(Unit 1)

Postulated Interaction Phenomena	Resolution Methods NAN	A	M	XY	TOTAL
Source deflection (without source failure)	166	43	107	13	329
Interference between source and target due to close proximity	37	19	63	3	122
Loose source falls, slides, or overturns onto target	21	36	50	27	136
Source support failure resulting in source deflecting or falling onto target (includes pipe supports, equipment supports, duct supports, raceway supports)	134	126	164	36	460
Failure of source piping component (without support failure)	23	6	24	2	55
Structural failure of civil/architectural feature	12	190	100	1	303
Failure of source mechanical equipment (without support failure)	7	62	33	1	103
Failure of light fixtures	292	130	79	54	555
Relative structural motion between buildings or major structures causing damage to target	1	8	2	6	17
Environmental effects (e.g., thermal damage, fire, humidity, etc.)	1	20	8	1	30
Minor construction deficiencies or other nonseismic concerns	3	6	15	64	88
TOTAL	697	646	647	208	2,198

TABLE 8-5.2

DISTRIBUTION OF POSTULATED INTERACTION PHENOMENA BY RESOLUTION METHOD

(Unit 2)

Postulated Interaction Phenomena	Resolution Methods					
	NAN	A	M	P	X	TOTAL
Source deflection (without source failure)	128	47	178	0	0	353
Interference between source and target due to close proximity	11	15	13	0	0	39
Loose source falls, slides, or overturns onto target	14	12	49	0	1	76
Source support failure resulting in source deflecting or falling onto target (includes pipe supports, equipment supports, duct supports, raceway supports)	77	93	232	1	0	403
Failure of source piping component (without support failure)	5	9	28	0	0	42
Structural failure of civil/architectural feature	88	148	140	0	0	376
Failure of source mechanical equipment (without support failure)	12	9	4	0	0	25
Failure of light fixtures	103	35	48	0	2	188
Relative structural motion between buildings or major structures causing damage to target	3	12	21	0	0	36
Environmental effects (e.g., thermal damage, fire, humidity, etc.)	0	5	2	0	0	7
Minor construction deficiencies or other nonseismic concerns	1	0	3	0	26	30
TOTAL	442	385	718	1	29	1,575

TABLE 8-6.1

DISTRIBUTION OF INTERACTIONS
BY SYSTEM AND INTERACTION SOURCE TYPE

(Unit 1)

Target System	Interaction Source Type									
	Civil/Struct Architect	Elect	Light Fixtures	HVAC	Instrument	Mechanical	Piping	Nucl.Plant Operations	Nonseismic	TOTAL
Auxiliary Feedwater	10	8	23	0	10	9	42	1	11	114
Main Steam	77	5	33	44	11	5	73	0	26	274
Reactor Coolant System	71	13	40	22	5	19	50	2	19	241
Charging and Boration	26	4	33	2	3	18	34	0	10	130
Safety Injection	7	2	12	3	3	2	34	1	9	73
Residual Heat Removal	12	0	13	0	0	0	7	0	1	33
Containment Spray	9	1	18	2	0	0	12	0	2	44
Auxiliary Saltwater	9	0	7	0	0	2	8	0	2	28
Diesel Generators	28	4	17	3	0	0	20	0	2	74
Component Cooling Water	23	4	52	1	1	11	42	0	6	140
Fire Water	116	22	117	16	3	22	121	4	6	427
HVAC for Vital Equipment Cooling	85	7	116	17	3	7	52	3	8	298
Containment Isolation of Nonessential Processes	22	1	37	2	2	4	22	0	10	100
Electrical Power	26	12	17	3	0	2	2	10	0	72
Multiple Targets	39	12	20	4	4	17	31	11	12	150
TOTAL	560	95	555	119	45	118	550	32	124	2,198

Legend:

Civil/Struct/Architect: Civil/Structural/Architectural features. e.g. platforms and walls
Elect : Electrical equipment, raceways, or raceway supports
HVAC : HVAC equipment, ducts, and accessories
Instrument : Instrumentation tubing or instrument panels
Mechanical : Mechanical equipment, e.g. valves, tanks, heat exchangers, misc mechanical equipment
Piping : Piping, pipe supports, whip restraints
Nucl Plant Operations : Nuclear Plant Operations equipment
Nonseismic : Nonseismic phenomena or minor construction deficiencies

TABLE 8-6.2

DISTRIBUTION OF INTERACTIONS
BY SYSTEM AND INTERACTION SOURCE TYPE

(Unit 2)

System	Interaction Source Type									
	Civil/Struct Architect	Elect	Light Fixtures	HVAC	Instrument	Mechanical	Piping	Nucl.Plant Operations	Nonseismic	TOTAL
Auxiliary Feedwater	33	9	9	0	3	4	26	0	1	85
Main Steam	65	6	5	21	3	4	46	0	0	150
Reactor Coolant System	56	34	7	6	3	16	42	0	1	165
Charging and Boration	36	14	40	0	1	18	44	0	11	164
Safety Injection	26	18	7	1	4	6	40	0	4	106
Residual Heat Removal	13	0	7	0	0	5	12	0	3	40
Containment Spray	9	3	8	0	1	0	11	0	2	34
Auxiliary Saltwater	10	1	6	0	0	5	10	0	0	32
Diesel Generators	13	0	7	0	0	7	19	0	0	46
Component Cooling Water	52	6	31	7	7	17	47	1	0	168
Fire Water	46	14	19	9	1	21	64	0	5	179
HVAC for Vital Equipment Cooling	65	7	11	12	2	14	35	4	7	157
Containment Isolation of Nonessential Processes	13	5	10	1	4	0	14	0	0	47
Electrical Power	25	6	13	0	0	5	5	7	0	61
Multiple Targets	56	25	7	6	2	20	24	1	0	141
TOTAL	518	148	187	63	31	142	439	13	34	1,575

Legend:

Civil/Struct/Architect:	Civil/Structural/Architectural features. e.g. platforms and walls
Elect :	Electrical equipment, raceways, or raceway supports
HVAC :	HVAC equipment, ducts, and accessories
Instrument :	Instrumentation tubing or instrument panels
Mechanical :	Mechanical equipment, e.g. valves, tanks, heat exchangers, misc mechanical equipment
Piping :	Piping, pipe supports, whip restraints
Nucl Plant Operations :	Nuclear Plant Operations equipment
Nonseismic :	Nonseismic phenomena or minor construction deficiencies

TABLE 8-7.1

DISTRIBUTION OF INTERACTIONS
BY SYSTEM AND TARGET TYPE

(Unit 1)

System	Raceways(1)	I&C(2)	Valves,Dampers	Pumps, Fans, Motors	Piping	Ducts	Mech/Elect Equipment(3)	Multiple Targets	TOTAL
	Type of Target								
Auxiliary Feedwater	79	2	7	6	18	0	2	0	114
Main Steam	81	116	16	0	17	0	43	1	274
Reactor Coolant	91	77	26	0	21	0	25	1	241
Charging and Boration	24	25	18	10	44	0	9	0	130
Safety Injection	34	2	8	0	28	0	1	0	73
Residual Heat Removal	7	10	1	6	5	0	4	0	33
Containment Spray	9	15	4	7	7	0	2	0	44
Component Cooling Water	10	14	6	6	91	0	13	0	140
Auxiliary Saltwater	8	8	2	4	6	0	0	0	28
Diesel Generators	19	2	6	0	8	0	39	0	74
Fire Water	4	0	28	0	282	0	112	1	427
HVAC for Vital Equipment Cooling	69	14	43	32	0	92	48	0	298
Containment Isolation of Nonessential Processes	27	33	23	1	4	4	7	1	100
Electrical Power	15	0	0	0	0	0	56	1	72
Multiple Targets	43	8	5	1	13	1	11	68	150
TOTAL	520	326	193	73	544	97	372	73	2,198

Notes:

1) Conduits and Cable Trays
2) Instruments, Solenoid Valves, Instrument Tubing, Air Supply Tubing
3) Includes Tanks, Heat Exchangers, Filters, Electrical Switchgear, etc.

TABLE 8-7.2

DISTRIBUTION OF INTERACTIONS
BY SYSTEM AND TARGET TYPE

(Unit 2)

System	Raceways(1)	I&C(2)	Valves,Dampers	Pumps, Fans, Motors	Piping	Ducts	Mech/Elect Equipment(3)	Multiple Targets	TOTAL
	Type of Target								
Auxiliary Feedwater	28	10	7	5	29	0	6	0	85
Main Steam	14	77	20	0	24	0	15	0	150
Reactor Coolant	38	83	8	0	23	0	13	0	165
Charging and Boration	40	25	26	7	57	0	9	0	164
Safety Injection	29	18	3	2	53	0	1	0	106
Residual Heat Removal	8	6	5	12	9	0	0	0	40
Containment Spray	3	3	6	4	16	0	2	0	34
Component Cooling Water	17	19	1	7	113	0	11	0	168
Auxiliary Saltwater	18	6	0	2	6	0	0	0	32
Diesel Generators	8	4	3	5	2	0	24	0	46
Fire Water	0	2	0	0	177	0	0	0	179
HVAC for Vital Equipment Cooling	31	6	7	24	1	63	25	0	157
Containment Isolation of Nonessential Processes	15	22	6	0	4	0	0	0	47
Electrical Power	20	2	0	0	0	0	39	0	61
Multiple Targets	53	35	2	1	3	5	11	31	141
TOTAL	322	318	94	69	517	68	156	31	1,575

Notes:

1) Conduits and Cable Trays
2) Instruments, Solenoid Valves, Instrument Tubing, Air Supply Tubing
3) Includes Tanks, Heat Exchangers, Filters, Electrical Switchgear, etc.

TABLE 8-8.1

DISTRIBUTION OF INTERACTIONS
BY PLANT LOCATION AND INTERACTION SOURCE TYPE

(Unit 1)

Plant Location	Interaction Source Type									
	Civil/Struct Architect	Elect	Light Fixtures	HVAC	Instrument	Mechanical	Piping	Nucl Plant Operations	Nonseismic	TOTAL
Containment	106	23	51	72	20	33	160	3	36	504
Electrical Equipment Rooms and Control Room	38	25	48	8	3	10	7	17	7	163
HVAC Fan Rooms	46	1	79	6	0	5	24	1	4	166
Pump Rooms	33	0	36	3	0	3	20	0	7	102
Auxiliary/Fuel Handling Buildings	29	3	43	1	5	22	13	5	11	132
Penetration Area	73	12	137	2	2	9	115	0	30	380
Diesel Generator Rooms	36	1	20	6	0	0	18	0	0	81
Turbine Building	34	3	17	5	8	5	45	2	4	123
Intake Structure	2	0	4	0	0	2	5	0	0	13
Outdoor Areas	47	5	3	0	4	6	22	0	19	106
Various (Fire Water System)	116	22	117	16	3	23	121	4	6	428
TOTAL	560	95	555	119	45	118	550	32	124	2,198

Legend:

Civil/Struct/Architect: Civil/Structural/Architectural features. e.g. platforms and walls
Elect : Electrical equipment, raceways, or raceway supports
HVAC : HVAC equipment, ducts, and accessories
Instrument : Instrumentation tubing or instrument panels
Mechanical : Mechanical equipment, e.g. valves, tanks, heat exchangers, misc mechanical equipment
Piping : Piping, pipe supports, whip restraints
Nucl Plant Operations : Nuclear Plant Operations equipment
Nonseismic : Nonseismic phenomena or minor construction deficiencies

TABLE 8-8.2

DISTRIBUTION OF INTERACTIONS
BY PLANT LOCATION AND INTERACTION SOURCE TYPE

(Unit 2)

Plant Location	Interaction Source Type: Civil/Struct Architect	Elect	Light Fixtures	HVAC	Instrument	Mechanical	Piping	Nucl.Plant Operations	Nonseismic	TOTAL
Containment	178	90	13	26	8	37	136	0	1	489
Electrical Equipment Rooms and Control Room	43	17	16	3	4	14	7	8	0	112
HVAC Fan Rooms	50	1	12	12	0	5	13	4	3	100
Pump Rooms	57	13	46	1	0	11	30	0	9	167
Auxiliary/Fuel Handling Buildings	63	9	49	7	8	36	51	1	21	245
Penetration Area	26	6	25	8	9	6	104	0	0	184
Diesel Generator Rooms	18	1	10	1	0	8	16	0	0	54
Turbine Building	55	7	8	5	0	14	58	0	0	147
Intake Structure	2	0	5	0	0	2	6	0	0	15
Outdoor Areas	25	4	3	0	2	5	18	0	0	57
Various (Plantwide phenomena)	1	0	0	0	0	4	0	0	0	5
TOTAL	518	148	187	63	31	142	439	13	34	1,575

Legend:

Civil/Struct/Architect: Civil/Structural/Architectural features. e.g. platforms and walls
Elect : Electrical equipment, raceways, or raceway supports
HVAC : HVAC equipment, ducts, and accessories
Instrument : Instrumentation tubing or instrument panels
Mechanical : Mechanical equipment, e.g. valves, tanks, heat exchangers, misc mechanical equipment
Piping : Piping, pipe supports, whip restraints
Nucl Plant Operations : Nuclear Plant Operations equipment
Nonseismic : Nonseismic phenomena or minor construction deficiencies

TABLE 8-9.1

DISTRIBUTION OF INTERACTIONS
BY PLANT LOCATION AND TARGET TYPE

(Unit 1)

Plant Location	Type of Target								
	Raceways(1)	I&C(2)	Valves,Dampers	Pumps, Fans, Motors	Piping	Ducts	Mech/Elect Equipment(3)	Multiple Targets	TOTAL
Containment	151	159	35	0	73	0	51	35	504
Electrical Equipment Rooms and Control Room	56	5	0	1	0	13	69	19	163
HVAC Fan Rooms	15	14	39	21	4	24	48	1	166
Pump Rooms	15	10	9	30	22	9	6	1	102
Auxiliary/Fuel Handling Buildings	41	11	19	5	24	17	13	2	132
Penetration Area	124	90	47	1	111	0	6	1	380
Diesel Generator Rooms	9	2	6	0	7	15	42	0	81
Turbine Building	59	14	0	10	11	19	10	0	123
Intake Structure	0	0	2	4	6	0	0	1	13
Outdoor Areas	46	21	8	1	4	0	15	11	106
Various (Fire Water System)	4	0	28	0	282	0	112	2	428
TOTAL	520	326	193	73	544	97	372	73	2,198

Notes:

1) Conduits and Cable Trays
2) Instruments, Solenoid Valves, Instrument Tubing, Air Supply Tubing
3) Includes Tanks, Heat Exchangers, Filters, Electrical Switchgear, etc.

TABLE 8-9.2

DISTRIBUTION OF INTERACTIONS
BY PLANT LOCATION AND TARGET TYPE

(Unit 2)

Plant Location	Raceways(1)	I&C(2)	Valves,Dampers	Pumps, Fans, Motors	Piping	Ducts	Mech/Elect Equipment(3)	Multiple Targets	TOTAL
	Type of Target								
Containment	61	211	15	0	150	0	29	23	489
Electrical Equipment Rooms and Control Room	52	4	0	0	1	13	42	0	112
HVAC Fan Rooms	11	5	6	22	22	9	25	0	100
Pump Rooms	17	10	9	37	82	9	2	1	167
Auxiliary/Fuel Handling Buildings	82	16	26	1	85	18	16	1	245
Penetration Area	51	40	31	0	60	0	2	0	184
Diesel Generator Rooms	7	4	3	5	5	6	24	0	54
Turbine Building	19	17	0	0	92	11	8	0	147
Intake Structure	9	0	0	2	3	1	0	0	15
Outdoor Areas	17	11	3	0	15	0	7	4	57
Various (Plantwide phenomena)	0	0	1	0	2	0	0	2	5
TOTAL	326	318	94	67	517	67	155	31	1,575

Notes:

1) Conduits and Cable Trays
2) Instruments, Solenoid Valves, Instrument Tubing, Air Supply Tubing
3) Includes Tanks, Heat Exchangers, Filters, Electrical Switchgear, etc.

TABLE 8-10.1

DISTRIBUTION OF INTERACTIONS
BY PLANT LOCATION AND INTERACTION PHENOMENA

(Unit 1)

Plant Location	Interaction Phenomena											
	DEFLECT	INTERFERE	LOOSE	SPTFAIL	PIPEFAIL	CIVILFAIL	MECHFAIL	FIXTURE	RELSTRUCT	ENVIRON	HSEKEEP	TOTAL
Containment	107	73	22	141	17	11	45	51	2	9	26	504
Electrical Equipment Rooms and Control Room	5	1	38	32	1	26	5	48	0	0	7	163
HVAC Fan Rooms	4	4	3	24	3	43	2	79	0	1	3	166
Safety-related Pump Rooms	13	1	6	10	2	18	7	36	2	4	3	102
Auxiliary/Fuel Handling Buildings	9	1	13	22	5	9	14	43	5	4	7	132
Penetration Area	85	14	6	51	1	50	3	137	6	8	19	380
Diesel Generator Rooms	8	0	18	15	4	3	10	20	0	0	3	81
Turbine Building	17	2	12	35	10	23	4	17	0	0	3	123
Intake Structure	0	0	0	5	2	2	0	4	0	0	0	13
Outdoor Area	10	6	2	18	4	43	4	3	0	4	12	106
Various (Fire Water System)	71	20	16	107	6	75	9	117	2	0	5	428
TOTAL	329	122	136	460	55	303	103	555	17	30	88	2,198

TABLE 8-10.2

DISTRIBUTION OF INTERACTIONS
BY PLANT LOCATION AND INTERACTION PHENOMENA

(Unit 2)

Plant Location	Interaction Phenomena											
	DEFLECT	INTERFERE	LOOSE	SPTFAIL	PIPEFAIL	CIVILFAIL	MECHFAIL	FIXTURE	RELSTRUCT	ENVIRON	HSEKEEP	TOTAL
Containment	123	22	19	149	14	107	11	13	29	0	2	489
Electrical Equipment Rooms and Control Room	6	0	20	30	3	37	0	16	0	0	0	112
HVAC Fan Rooms	9	2	14	18	2	39	1	12	0	0	3	100
Safety-related Pump Rooms	45	3	1	10	1	50	1	46	1	4	5	167
Auxiliary/Fuel Handling Buildings	54	6	15	52	2	40	3	49	1	3	20	245
Penetration Area	64	3	1	60	7	22	1	25	1	0	0	184
Diesel Generator Rooms	5	0	4	16	5	12	2	10	0	0	0	54
Turbine Building	35	2	1	47	2	45	4	8	3	0	0	147
Intake Structure	2	0	0	3	3	2	0	5	0	0	0	15
Outdoor Area	7	1	0	18	3	21	2	4	1	0	0	57
Various (Plantwide phenomena)	3	0	1	0	0	1	0	0	0	0	0	5
TOTAL	353	39	76	403	42	376	25	188	36	7	30	1,575

Chapter 9

EVALUATION OF RESULTS

This chapter has been prepared and included in the Final Report at the request of the NRC Staff. The following are the considerations exchanged during discussions with the Staff regarding an evaluation of all DCPP modifications made as a result of the SISIP:

(1) This chapter is provided as information to assist the Staff in evaluating the significance of the findings of Diablo Canyon's SISIP in the context of the generic issue related to unresolved safety issue (USI) A-17.

(2) PGandE would make a concerted effort to develop and apply screening criteria to all SISIP modifications and present the results.

(3) The objective of this chapter would not be to assess safety significance but rather to categorize SISIP modifications from which further evaluation may be performed by Staff.

(4) The screening applied in this chapter would be based on the judgment of engineers familiar with the results of the Program.

(5) The information contained in this chapter is unrelated to Diablo Canyon Project's licensing commitments. Instead, it offers the following perspective of the Program: What if the SISIP had not been performed?

Attachments to the Final Report contain interaction documentation sheets (IDSs) from four categories of interactions: (1) resolved by the Site Evaluation Team (NAN), (2) resolved by engineering methods (A), (3) resolved by an expedient plant modification (E), and (4) resolved by a modification not meeting the screening criteria (N).

These samples of IDSs have been included to illustrate the screening methods applied in this chapter and to provide the Staff with sufficient information to evaluate the Diablo Canyon Program.

9.1 INTERACTION RESOLUTION METHODS

This section contains the results of a review of the entire SISIP data base categorized by resolution method. Representative samples of each resolution method are provided in the attachments referenced in each of the following subsections.

Distributions of Unit 1 and Unit 2 interactions by resolution method are as follows:

	UNIT 1		UNIT 2	
Resolution Method	No. of IDSs	%	No. of IDSs	%
NAN	697	32	442	28
A	646	30	399	25
M	643	28	704	45
P	4	0	1	0
Misc.	208	10	29	2
TOTAL	2198	100	1575	100

9.1.1 Interactions Resolved by Site Evaluation Team (NAN)

In this category were those postulated interactions that the walkdown team evaluated and determined were not credible or were not potentially detrimental. Resolution of this category of interaction – No Action Necessary (NAN) – resulted from one of the following conclusions by the walkdown team:

(1) The interaction clearly was not a detriment to the target, such as a lightweight object postulated to fall onto a heavy wall pipe.

(2) The interaction may have been precluded by intervening objects such as structural steel.

(3) The postulated failure of the source component was not credible.

The NANs documented by the walkdown team have no significance, especially considering the conservative nature of the walkdown teams' evaluations. Attachments 6-A and 15-A contain, for Units 1 and 2 respectively, 50 representative samples of the NAN category of postulated interactions, distributed among the SISIP target systems.

9.1.2 Miscellaneous Interactions

Interactions in this category involve nonseismic phenomena. Typical interactions involving nonseismic phenomena include:

(1) Minor construction-related items that would have been identified in the normal course of construction completion and turnover to plant operations, such as bent tubing, missing electrical box covers, loose or disconnected components.

(2) Interactions involving components in proximity to hot lines – situations generally discovered during hot functional system testing.

(3) Other nonseismic phenomena the walkdown team identified that were found to have no significance.

(4) Postulated interactions involving targets that were later found to be invalid.

Interactions in this category do not have significance as seismically-induced phenomena.

9.1.3 Interactions Resolved by Analysis

This category includes documented interactions that were resolved by engineering analysis. Types of analytical methods utilized include:

(1) Seismic evaluation of source components by detailed engineering calculation. These engineering methods range from hand calculations to extensive computer modeling of seismic source behavior. The majority of the postulated interactions resolved by engineering analysis involved a seismic evaluation of source components.

(2) Engineering methods to show that the interaction is not credible or that the source will not fall.

(3) Evaluation of consequences of the postulated interaction leading to the conclusion that the target component is not adversely affected.

(4) Evaluation of the target to determine if it conforms to the target criteria.

The category of interactions resolved by engineering methods does not have significance because the postulated interaction does not occur, or if it did occur, there would be no adverse consequences.

Attachments 6-B and 15-B contain, for Units 1 and 2 respectively, 50 representative samples of postulated interactions resolved by engineering methods. Additionally, the resolution method of each interaction has been briefly summarized in the introductory pages to these attachments.

9.1.4 Interactions Resolved by Modification

This category includes postulated interactions that were resolved by plant modification. However, the number of total plant modifications resulting from the SISIP is not equal to the number of interactions resolved by modification because a single modification may resolve more that one postulated interaction. For example, one postulated interaction might result in numerous pipe supports being installed to resolve the interaction. Also, one piping source component might have been postulated to interact with numerous targets, and therefore more than one interaction may have been documented. However the installation of one pipe support may have resolved all of the postulated interactions.

9.1.5 Interactions Resolved by Plant Procedure Change

In this category are the few interactions that were resolved by minor changes to the plant operating or maintenance procedures.

9.2 SCREENING OF INTERACTIONS RESOLVED BY PLANT MODIFICATION

This section describes the method used to screen all postulated interactions resolved by plant modification. This screening involves the categorizing of interactions according to whether they involve overlap with other programs or were made in the interest of expediency. The remaining interactions resulted

in "nonexpedient modifications" which may or may not have any safety significance. Further, the consequences of the interactions resulting in nonexpedient modifications have not been evaluated in detail to determine if they would have had any contribution to overall plant risk, had they not been identified and modifications initiated.

The basic premise of the SISIP was that once a postulated interaction was documented, it was resolved in a defensible manner. This resolution did not allow an assessment of risk. The interaction was assumed to occur and it was further assumed that the target was necessary for the safe shutdown of the unit (although this was not always the case).

9.2.1 Source Commonalities

It should be recognized that there is not always a one-to-one correspondence between postulated interactions and interaction sources. In some instances a source may have been documented numerous times in that it was postulated to interact with numerous targets. If that one source was modified, it could appear in the interaction data base as numerous interactions resolved by plant modifications. Alternatively, a category of sources may have been documented generically as that may have been the most efficient method to document and resolve the postulated interaction. In this case, numerous sources may have been modified as a result of that one documented interaction.

Therefore, any conclusions about the quantity of interactions resolved by modification must be drawn very carefully. This is especially true when the data bases for the two units are compared. Much of the apparent differences between the two data bases are due to differing documentation techniques used in documenting the postulated interactions for the two units.

9.2.2 Screening for Overlap with Other Programs

Interactions documented during the course of the walkdowns involving phenomena that would have been corrected during the normal course of engineering design review, construction completion, and testing are categorized as overlap interactions. Even if the SISIP had not documented these phenomena, they would have been identified and corrected anyway.

Examples of such postulated interactions include:

(1) Minor construction items that would have been corrected during the normal course of construction completion and turnover to the Operations Department. Examples include:

(a) Loose platform grating; the grating typically had been temporarily removed to provide access for construction work.

(b) Loose trench cover plates; the cover plates had been temporarily removed to provide access for maintenance.

(c) Missing or loose tubing or conduit supports.

(d) Abandoned conduits or piping; these components would ultimately have been removed.

(e) Bent or kinked instrument tubing as a result of being routed in a high traffic area.

(f) Loose light fixture mounts.

(g) Postulated thermal damage to wires within a conduit routed near an uninsulated pipe (at the time of the walkdown, the pipe insulation had been removed).

(2) Postulated failure of concrete block walls that are in the vicinity of SISIP targets or that had targets mounted off the walls. A separate program to evaluate and modify concrete block walls was covered by NRC I&E Bulletin 80-11.

(3) Reactor coolant pump lube oil collection system piping was postulated to interact with SISIP targets. This piping is covered under 10 CFR 50, Appendix R, Fire Protection Requirements, and was addressed by that program.

(4) Interactions involving seismic Category II HVAC ducts and duct supports were re-evaluated by a separate ductwork reverification program.

(5) Interactions involving diesel generator air intake piping and exhaust lines were seismically supported as a result of a design review independent of SISIP.

(6) Interactions involving certain sources that were subsequently removed or modified as a result of design changes independent of SISIP. For example, a boric acid batch tank fill line had been postulated to interact with boric acid tanks. The other program implemented a design change which reconfigured the fill system.

(7) Startup testing or hot functional testing would have identified certain postulated interactions, for example, an interaction involving field-routed electrical conduits and thermal growth of the pressurizer vessel. These items are identified during system heatup.

(8) Various postulated interactions involving phenomena normally within the design scope of Class I components, such as:

(a) Supports reconfigured to accommodate relative structural motion, i.e., raceways supported both from the containment lines and annulus steel.

(b) Support plates on two pump motors were reduced in size to provide larger air flow area through louvers.

(c) Supports for target instrument lines were modified to meet Class I requirements.

(d) Pipe whip restraints' dead weight supoprts were modified to meet Class I requirements.

(e) Class I mechanical panels were modified to meet Class I requirements.

(f) Various postulated interactions involving Class I piping that are normally identified in the normal course of construction completion and final stress walkdowns, such as spring hanger can settings, incomplete construction of pipe supports, and piping interferences.

This category of interaction overlapped with other programs, however, the resolution was tracked by the SISIP. Modifications in this category would have been identified and remedied in the normal course of Diablo Canyon Project completion.

9.2.2.1 Results of Screening for Overlap with Other Programs-Unit 1

Approximately 20% of the Unit 1 SISIP modifications overlapped with other Diablo Canyon programs.

9.2.2.2 Results of Screening for Overlap with Other Programs-Unit 2

Approximately 16% of the Unit 2 SISIP modifications overlapped with other Diablo Canyon programs.

9.2.3 Screening for Expedient Modifications

Tables 9-1.1 and 9-1.2 tabulate for each plant functional location, for Units 1 and 2 respectively, those plant modifications made in the interest of expediency. A discussion of the criteria used to categorize these modifications follows in this subsection.

For a plant under construction with extensive material and work force onsite, in many cases it is easier and more cost effective to initiate a design change than to spend extensive engineering manhours performing analyses to verify the adequacy of an existing configuration. Review of the SISIP modification data base reveals that a significant number of modifications were initiated that were done for the sake of expediency. Examples of modifications categorized as expedient include:

(1) Cutting of platform grating or kick plates to provide additional clearance between the platform and target. This modification is readily implemented at minor cost.

    Deflection analysis of the platform structure and the target component would likely have shown the existing clearance was adequate. In this instance the engineering cost to perform the analysis was considered greater than the cost to modify the platform. Therefore, the modification was justified as cost effective.

(2) In some instances it was uncertain if the target would have been damaged by the postulated interaction. However, to make such a determination might require detailed impact analyses or other time-consuming engineering techniques. In such cases, minor modifications to resolve the interaction were the easiest and most cost effective approach.

(3) In some instances, even the worst extreme of a postulated interaction would have only resulted in a minor physical effect on a target (e.g., dented pipe, bent conduit, or a locally overstressed support). Such results would not have been sufficient to degrade the functioning of the target. Because such assessments were difficult to quantify, modifications were implemented to ensure a conservative interaction resolution.

(4) In some instances, very detailed analytical modeling of source behavior may have been required to verify that an existing configuration was adequate. If a straightforward modification resolved the interaction, it was usually done.

(5) The postulated interaction may have had a very low probability of occurring (e.g., assuming that a source fell, the source-target spatial relationship might be such that probability of impact was very low). Such probabilistic assessments are difficult to quantify and, therefore, modifications were made resulting in a very conservative resolution to the interaction.

(6) In some instances, simplified analysis of source behavior indicated a modification was necessary to resolve the interaction. However, had more realistic analyses been conducted, the modification could have been shown to be unnecessary. Again, a trade-off between engineering analysis costs versus construction costs resulted in an expedient modification.

(7) In some instances, if a postulated interaction were to occur, it might have resulted in a minor, but otherwise acceptable, degradation of a target component (e.g., a minor breach of system pressure boundary well within the system's normal makeup capability). Such an occurrence might have no effect on safe shutdown or containment isolation capability. However, such evaluations were rarely undertaken when simple modifications could be readily initiated.

(8) Certain source components were not amenable to engineering analysis, but could have been tested to verify their seismic adequacy. However, simple modifications were typically initiated in lieu of testing, given the potential expense and effort involved in testing programs.

The screening of SISIP modifications in the following sections was made by personnel who had detailed knowledge of the interaction and the modification which resolved the interaction.

9.2.3.1 Results of Screening for Expedient Modifications- Unit 1

Approximately 60% of the Unit 1 SISIP modifications were felt to be expedient modifications.

9.2.3.2 Results of Screening for Expedient Modifications- Unit 2

Approximately 47% of the Unit 2 SISIP modifications were felt to be expedient modifications.

9.2.4 The Remaining Category - Nonexpedient Modifications

The remaining modifications are those that have been categorized as "nonexpedient." A determination of the significance of these modifications is difficult to assess and is not an objective of this section. This category of

SISIP modification consists of those modifications that cannot be conservatively shown to be expedient or covered by other programs. An evaluation of how much these modifications have improved plant safety has not been attempted. Determining whether or not any of these postulated interactions, left uncorrected, would have been a significant risk contributor was also not attempted. The intent of the SISIP was to identify and conservatively resolve postulated interactions, not to quantify safety significance.

Therefore, the collection of interactions categorized as nonexpedient only represent potential candidates that might have significance.

9.3 EVALUATION OF MODIFICATIONS BY PLANT FUNCTIONAL AREA- UNIT 1

This section describes the results of screening modifications and distributing them by plant area. The plant has been divided into eleven functional areas or zones. These areas are listed below. Refer to Attachment 13 for the drawings showing the SISIP zones throughout the plant.

- Containment
- Safety-related electrical equipment rooms and control room
- Safety-related HVAC equipment rooms
- Safety-related pump rooms
- Auxiliary and fuel handling buildings (excluding electrical equipment rooms, HVAC equipment rooms, and pump rooms)
- Penetration area
- Diesel generator rooms

- Turbine building (excluding electrical equipment rooms, HVAC equipment rooms, and pump rooms)

- Intake structure

- Outdoor areas (pipeway structure)

- Fire water system (because the fire water system is plant-wide and its function is unrelated to the other functional areas, IDSs related to the fire water system have been segregated.)

Refer to Table 9-1.1 for a summary of the numerical data contained in this section.

9.3.1 Unit 1 Containment

One hundred and sixty-five interactions in Unit 1 containment were resolved by plant modifications, of which 106 were found to be expedient, 34 resulted from program overlap, and 25 were found to be a direct result of the application of SISIP.

The containment has been subdivided into three zones: (1) the annulus area, (2) inside the crane wall (or missile barrier), and (3) the containment operating deck at elevation 140 feet. Sixty percent (60%) of the interactions resolved by modification were located in the containment annulus area (zone 1-A) and 20% each were located inside the crane wall (or missile barrier- zone 1-B) and containment operating deck (zone 1-C). Refer to Table 9-1-A.1 for a system-by-system distribution of the modifications performed in Unit 1 containment.

9.3.1.1 Expedient Modifications (Unit 1 Containment)

Expedient modifications include:

- Platform grating in close proximity to electrical conduits resulting in grating being cut away
- Electrical conduits and/or supports reworked to provide flexibility to accommodate postulated relative motion between structures
- Supports for the incore instrument drive motors strengthened
- Valve handwheel chains secured to prevent swinging
- Small grating access hatches secured to prevent them from falling through access opening
- Numerous small lines resupported to reduce pipe deflection and interferences, and/or prevent postulated support failure
- Class II raceway support system reconfigured
- Replacement of directional blades on an HVAC duct termination, which were postulated to fail
- Additional securing of a nitrogen bottle in the seal table room
- Rerouting of target process tubing resulting from a postulated interaction involving deflection or interferences from sources
- A cable was installed on a cable feeder mounted at the top of the polar crane

- Minor modifications to platforms to strengthen and/or reduce deflection

- Fire water hose reels secured to resolve an interaction postulating them to come loose from their supports

- Bracing of a remote equipment operator mounted off a steam generator shield wall

- Polar crane ladder with associated personnel cage strengthened

9.3.1.2 Overlapping Modifications (Unit 1 Containment)

SISIP interactions resulting in modifications that overlapped with other Diablo Canyon programs include:

- Minor construction-related items

- Additional supports to reactor coolant pump lube oil collection system piping (subsequently addressed by 10 CFR 50, Appendix R, Fire Protection Requirements)

- Deflection of Class I piping postulated to contact other Class I targets

- Postulated failure of Class II HVAC ducts and duct supports (subsequently addressed by ductwork reverification program)

- Postulated interactions resulting from thermal growth of pressurizer vessel. This phenomenon would have been identified during the RCS heatup inspections

9.3.1.3 Nonexpedient Modifications (Unit 1 Containment)

The remaining modifications, which are categorized as nonexpedient, include:

- Support modifications to the pressurizer relief tank.
- Quick release clamping mechanisms provided for unrestrained portable fire extinguishers
- Structural modifications to Class II platforms and associated grating, handrails, ladders, and stairways
- Platform braced to prevent deflection postulated to contact a nearby target
- Electrical load center braced to preclude postulated overturning
- Conduit supports off containment structure and annulus steel reconfigured to accommodate postulated relative structural motion between the structures
- Pipe supports installed on various small and large bore lines
- Small bore target line locally rerouted due to a postulated deflection of a large bore source line
- Air supply tubing to a containment isolation valve (target) associated with a nonessential process locally rerouted
- Reworking a duct support postulated to deflect into target processing tubing

- Strengthening of platform connections and the 5- and 10- path drive assembly mechanism above the seal table

- Cutting away grating kick plates on platforms as a result of postulated seismic/thermal motion between source and target

- Relocation of the reactor vessel loose parts sensor mounted on the flux monitoring tubes

- Additional clearance between platforms and small connections off of three steam generators due to postulated RCS thermal and seismic motion

- Additional supports to a small bore line running vertically up the containment

- Hydraulic fluid tank on the polar crane strengthened and resupported

9.3.2 Electrical Equipment Rooms and Control Room- Unit 1

The safety-related electrical areas consist of the following:

(1) 4.16kV vital switchgear and cable spreading rooms in the north end of the turbine building

(2) Electrical rooms in the auxiliary building (480V vital switchgear rooms, 125Vdc battery rooms, dc switchgear/ inverter rooms, the hot shutdown panel area, the cable spreading room)

(3) Control room and safeguards room

Sixty-nine (69) interactions in Unit 1 were resolved by modification, of which 21 were expedient, 24 resulted from program overlap, and 24 were a direct result of the application of the SISIP (nonexpedient).

Refer to Table 9-1-B.1 for a tabulation by area of the data contained in this section.

9.3.2.1 Expedient Modifications (Unit 1 Electrical Equipment Rooms and Control Room)

- Small, battery-operated digital clock removed from the top of the control room main control board

- Bracing of a bank of fluorescent light fixtures in each of the 4.16kV vital switchgear rooms

- Class II instrument panel adjacent to the hot shutdown (HSD) panel stiffened to resolve a postulated deflection and/or failure

- Small bore air header in the area outside the vital 480V switchgear rooms resupported and rerouted

- An overspanned small bore CO_2 line in the cable spreading room resupported

- Various Class II panels in the control room stiffened or braced

- Grating clips installed on floor grating covering the HVAC opening between the switchgear rooms and the cable spreading rooms to resolve an interaction postulating grating falling onto cable trays

- Wall-mounted cabinet in a battery room was resupported

- A stop and a restraining cable were installed on a monorail hoist in the cable spreading room to prevent postulated dislodging of the hoist wheel assembly from the monorail

9.3.2.2 Overlapping Modifications (Unit 1 Electrical Equipment Rooms and Control Room)

- Concrete blockwalls defining the 480V switchgear, dc switchgear/inverter, and battery rooms identified by the SISIP were resolved by PGandE's program in response to the NRC's I&E Bulletin 80-11

- Minor construction-related items which were normally resolved in the course of construction completion

- Postulated failure of supports to Class II HVAC ducting in the auxiliary building electrical areas (subsequently evaluated by the ductwork reverification program)

9.3.2.3 Nonexpedient Modifications (Unit 1 Electrical Equipment Rooms and Control Room)

Remaining modifications, which are categorized as nonexpedient, include:

- Lead shield for a radiation source calibration device in the control room restrained

- Class II bus ducts running above cable trays feeding two of the 4.16kV switchgear rooms were resupported

- Drain line in two of the 4.16kV switchgear rooms were resupported

- Quick release clamping mechanisms installed on the portable CO_2 fire extinguishers in the various electrical equipment rooms

- Chains installed on the fluorescent light fixtures in the battery rooms

- Barriers were installed to protect the solid state protection system panels from postulated failure of a plaster wall the on north side of the safeguards room

9.3.3 HVAC Equipment Rooms- Unit 1

The HVAC rooms are defined as:

- The auxiliary building supply and exhaust fan rooms and rooms and associated compartments dedicated to HVAC ducting (zones 8-B-1, 3-P-3; and 3-P-4)

- The fuel handling building supply and exhaust fan rooms and associated compartments dedicated to HVAC ducting (zones 3-P-1, 3-P-2, 3-P-5 through 3-P-8)

- The 4.16kV switchgear HVAC fan room (zone 13-E)

- The control room HVAC equipment room (zone B-B-3)

A total of forty-eight (48) interactions involving targets in the Unit 1 HVAC rooms were resolved by modifications. Of these modifications, 43 were categorized as expedient, 1 resulted from program overlap, and 4 have been classified as nonexpedient modifications.

Table 9-1-C.1 tabulates the data contained in this section.

9.3.3.1 Expedient Modifications (HVAC- Unit 1)

- Additional support to a copper drain line and instrument air header to resolve an interaction which postulated failure and/or deflection into auxiliary building HVAC dampers

- Secured hoist chain in the auxiliary building HEPA filter room to prevent postulated swinging into the filter banks

- Additional securing of emergency breathing apparatus air bottles outside the auxiliary building supply fan room

- Chains added to fluorescent light fixtures in the fuel handling building supply fan room

- Moved storage lockers from the 4.16kV switchgear fan room

- Relocated light fixture in the control room ventilation equipment room as a result of postulated deflection into air supply tubing

- Secured handrails and floor grating and other minor platform modifications in the auxiliary and fuel handling building exhaust fan rooms

9.3.3.2 Overlapping Modifications (HVAC- Unit 1)

- Repair of a small tear noted in fabric expansion joint material for an HVAC duct

9.3.3.3 Nonexpedient Modifications (HVAC-Unit 1)

Remaining modifications in the HVAC rooms, which have been categorized as nonexpedient, consist of:

- Relocated and/or resupported small piping in the control room ventilation equipment room and the auxiliary building supply fan room

9.3.4 Safety-related Pump Rooms- Unit 1

The safety-related pump rooms consist of 11 zones located in the auxiliary and fuel handling buildings.

The safety-related pump rooms are:

- Residual heat removal pumps (zones 3-B-1, 3-B-2)
- Component cooling water pumps (zones 3-J-1, 3-J-2, 3-J-3)
- Charging pumps (zones 3-H-1, 3-H-2)
- Containment spray pumps (zone 3-F)
- Safety injection pumps (zone 3-M)
- Auxiliary feedwater pumps (zones 3-Q-1, 3-Q-2)

A total of forty-six (46) interactions involving pump room targets were resolved by plant modifications. Of these modifications, 37 were categorized as expedient, 6 involved program overlap, and 3 modifications were classified as nonexpedient.

Table 9-1-D.1 tabulates the data contained in this section.

9.3.4.1 Expedient Modifications (Unit 1 Pump Rooms)

- Securing loose handrails and platform grating in the RHR pump rooms
- Additional supports to small and large bore piping as a result of postulated deflection and/or support failure

- Bracing of monorails and adding hoist stops

- Chains added to fluorescent light fixtures in the CCW and containment spray pump rooms

9.3.4.2 Overlapping Modifications (Unit 1 Pump Rooms)

- Postulated motion of piping systems, subsequently resupported independently of SISIP

- Postulated failure of Class II HVAC duct supports, subsequently addressed by the ductwork reverification program

- Postulated thermal and seismic motion of Class I components

9.3.4.3 Nonexpedient Modifications (Unit 1 Pump Rooms)

The remaining modifications, which were categorized as nonexpedient, include installation of additional supports to large bore and small bore piping to resolve the source piping deflection.

9.3.5 Auxiliary and Fuel Handling Buildings- Unit 1

For convenience, the auxiliary and fuel handling buildings have been defined to exclude safety-related pump rooms, electrical equipment rooms, and HVAC fan rooms located in these buildings. Refer to Sections 9.3.2, 9.3.3, and 9.3.4 for a discussion of those areas.

A total of thirty-five (35) interactions were resolved by modifications, of which 24 were expedient, 10 were program overlap, and 1 has been classified as nonexpedient.

Table 9-1-E.1 tabulates the data contained in this section.

9.3.5.1 Expedient Modifications (Unit 1 Auxiliary and Fuel Handling Buildings)

- Chains added to fluorescent light fixtures above miscellaneous targets
- Additional supports to a small collection tank in the auxiliary building
- Additional supports to small bore piping to resolve an interaction which postulated deflection into targets
- Unions replaced with flange connections on small lines off of hydrazine and ammonia tanks to prevent leakage
- A protective barrier installed around an electrical conduit as a result of postulated impact from miscellaneous rolling/sliding equipment in a fuel handling building corridor
- Securing of platform railings in the fuel handling building
- Securing of concrete hatch covers in the auxiliary building
- Stops installed on a mechanical hoist to ensure its storage location is fixed
- A quick release clamping mechanism installed on a CO_2 fire extinguisher
- Cabinets and lockers in the chemical laboratory area were anchored or secured
- Secured a shield cask in the counting room to prevent it from rolling or sliding

9.3.5.2 Overlapping Modifications (Unit 1 Auxiliary and Fuel Handling Buildings)

- Minor incomplete construction items
- Piping subsequently removed as a result of a design change independent of SISIP

9.3.5.3 Nonexpedient Modifications (Unit 1 Auxiliary and Fuel Handling Buildings)

Remaining modifications, which have been categorized as nonexpedient, are:

- Boric acid batch tank and an associated platform braced as a result of an interaction that postulated deflection or failure
- Additional supports to a small bore sprinkler line

9.3.6 Penetration Area- Unit 1

The penetration area (area GE-GW, zone 3-BB) is the area between the containment building and the auxiliary building. This area contains piping, valves, instruments, and electrical conduits associated with those systems that run between the containment, auxiliary, and turbine buildings.

In this area of Unit 1 a total of one hundred and three (103) interactions were resolved by modification, of which 73 were expedient, 13 resulted from program overlap, and 17 were classified as nonexpedient.

Refer to Table 9-1-F.1 for a tabulation of the data contained in this section.

9.3.6.1 Expedient Modifications (Unit 1 Penetration Area)

Expedient modifications in the penetration area include:

- Piping restrained (by adding supports or installing seismic stops) as a result of interactions that postulated deflection of piping systems and/or associated supports

- Additional supports to piping systems

- Numerous postulated interferences between sources and targets. (Additional clearance provided by cutting platform grating, rerouting small piping and tubing, etc.)

- Chains installed on light fixtures

- Additional supports to steam generator blowdown piping as a result of postulated flange separation

- Local rerouting of air supply tubing as a result of postulated deflection of whip restraint tension rods

- Modified a platform above the containment electrical penetrations

- Added securing of breathing apparatus air bottles above the penetration area (outdoors)

9.3.6.2 Overlapping Modifications (Unit 1 Penetration Area)

- Various minor incomplete construction items

- Postulated interactions involving support of Class I piping

9.3.6.3 Nonexpedient Modifications (Unit 1 Penetration Area)

Remaining modifications, which have been categorized as nonexpedient in the penetration area, include:

- A seismic stop installed on a large bore line to limit pipe deflection at a postulated contact point
- Additional piping supports as a result of interactions that postulated deflection and/or support failure
- Bracing of platforms that have targets underneath
- Securing rod-type whip restraints to prevent their deflection into appurtenances on high energy lines
- The steam generator blowdown tank anchorage was modified and adjacent platforms were braced and/or removed

9.3.7 Diesel Generator Rooms- Unit 1

The three diesel generator compartments are located in the north end of the turbine building (zones 11-A, 11-B, 11-C).

Thirty-two (32) interactions were resolved by plant modifications. Of these modifications, 12 were evaluated as expedient, 12 involved program overlap, and 8 were classified as nonexpedient.

Refer to Table 9-1-G.1 for a tabulation of the data contained in this section.

9.3.7.1 Expedient Modifications (Unit 1 Diesel Generators)

- Adding stops to the monorail hoists

- Additional supports to CO_2 piping and drain lines near the ceilings of the diesel generator rooms

- Signs posted on diesel generator room doors requiring that doors remain open during normal operation

9.3.7.2 Overlapping Modifications (Unit 1 Diesel Generators)

- Securing loose items that had been removed for maintenance

- Additional supports to diesel generator air intake lines and filters (subsequently evaluated by a separate program)

- Local reroute of diesel generator crankcase exhaust lines as a result of a postulated interference

9.3.7.3 Nonexpedient Modifications (Unit 1 Diesel Generators)

The remaining modifications, which have been categorized as nonexpedient, include:

- Minor modifications to the diesel generator rolling fire door linkage and mechanism

- Light fixture support connections modified; one light fixture in each room relocated

9.3.8 Turbine Building- Unit 1

For convenience, the turbine building has been defined to exclude the 4.16kV vital switchgear and cable spreading rooms, the 4.16kV switchgear HVAC room, and the diesel generator rooms. These excluded areas are discussed in Sections 9.3.2, 9.3.3, and 9.3.7, respectively.

Forty-one (41) interactions involving turbine building targets were resolved by modifications, of which 23 were evaluated as expedient, 6 resulted from program overlap, and 12 have been evaluated as nonexpedient.

Refer to Table 9-1-G.1 for a tabulation of the data contained in this section.

9.3.8.1 Expedient Modifications (Unit 1 Turbine Building)

The 21 expedient modifications consisted of (1) protection to control circuitry associated with the auxiliary feedwater system, auxiliary saltwater system, the diesel generators, and HVAC systems (after these modifications were completed it was determined that the electrical circuits were not required for the operation of SISIP targets.); (2) small bore piping postulated to interact with CCW piping, and (3) miscellaneous sources interacting with HVAC ducting.

9.3.8.2 Overlapping Modifications (Unit 1 Turbine Building)

The modifications that overlapped with other Diablo Canyon programs consisted of concrete block walls in the turbine building that were analyzed and modified by PGandE's program in response to the NRC's I&E Bulletin 80-11.

9.3.8.3 Nonexpedient Modifications (Unit 1 Turbine Building)

The remaining modifications in the turbine building, which have been categorized as nonexpedient, include:

- Additional support of sprinkler lines located in the component cooling water heat exchanger room

- Additional supports to a cast iron line postulated to interact with instrument taps associated with the CCW supply headers

- Bracing added to a catwalk located above the turbine building operating deck

- Additional supports to a sprinkler main located above an HVAC exhaust duct coming from a 4.16kV switchgear room

- Protective barriers constructed around HVAC exhaust ducts to resolve a postulated interaction involving a temporary building located on the turbine operating deck

- A platform and a large bore line were postulated to deflect and possibly contact an HVAC supply duct going to the 480V switchgear/dc inverter rooms. The platform was braced and supports were added to the line to reduce deflections

9.3.9 Intake Structure- Unit 1

The intake structure houses the main circulating water pumps and the auxiliary saltwater (ASW) pumps. The ASW pumps are enclosed within protective concrete vaults. Four interactions involving intake structure targets were resolved by plant modifications. These modifications consisted of:

- Additional supports to a service cooling water line which was postulated to interact with the ASW pump discharge piping located outside the ASW pump vaults

- One minor modification to the storage rack clamps for the Cardox system bottles

9.3.10 Outdoor Areas- Unit 1

The outdoor areas have been defined as zone 28 in Unit 1. SISIP targets in these areas include auxiliary feedwater and main steam system components

located on the pipe rack structure (associated with loops 1-1 and 1-2). A total of forty-one (41) interactions were resolved by modification, of which 16 were expedient, 9 resulted from program overlap, and 16 were categorized as nonexpedient modifications. Refer to Table 9-1-H.1 for a tabulation by system of the data contained in this section

9.3.10.1 Expedient Modifications (Unit 1 Outdoors)

- Cut platform grating and kick plates to provide additional clearance
- Barriers installed to shield instrument tubing
- Various minor modifications to platforms on the pipe rack structure (modifications typically consisted of securing handrails, securing grating with clips, or other minor detail changes to the platforms)
- Additional supports to a small bore line to reduce postulated deflection
- Secured compressed gas bottle in the vicinity of the pipe rack structure

9.3.10.2 Overlapping Modifications (Unit 1 Outdoors)

- Minor incomplete construction items
- Providing clearance to accommodate seismic and thermal motion of a target line postulated to interact with adjacent components

9.3.10.3 Nonexpedient Modifications (Unit 1 Outdoors)

The remaining modifications, which were categorized as nonexpedient, include:

- Relocation of a pipe support on a large bore line to resolve postulated deflection of the support with a target

- Additional supports to a small bore drain line to resolve a postulated interaction involving deflection into target instrument tubing

- Additional supports to various Class II lines to resolve interactions involving postulated support failure

- Additional clearance provided between a valve actuator and an electrical terminal box to accommodate postulated thermal and seismic motion

- Securing two service cranes and hoists above the pipe rack structure to resolve an interaction which postulated failure

- Stiffening a main transformer lightning arrestor base

9.3.11 Fire Water System- Unit 1

Interactions associated with the fire water system targets were segregated from the previous tabulations because the fire water system is functionally unrelated to the other target systems.

For example, target components in safety-related pump rooms are typically directly related to the operation of the pumps in that room; however, fire water system piping is unrelated to the pumps. Therefore, including interactions relating to fire water targets in safety-related pump rooms would not enhance the evaluations contained in this chapter.

Fire water piping to manual hose reels runs through all parts of the containment, auxiliary, fuel handling, and turbine buildings. Fifty-nine (59) interactions affecting fire water system targets were resolved by modifications. Of these modifications, 33 were expedient, 3 involved program overlap, and 23 modifications were evaluated as nonexpedient.

Refer to Table 9-1-I.1 for a tabulation by building of the data contained in this section.

9.3.11.1 Expedient Modifications (Unit 1 Fire Water)

The thirty-three (33) expedient modifications typically associated with postulated interactions were felt to have a very low probability of occurrence, or if they ever occurred, would not have compromised the integrity of the fire water system pressure boundary to any significant degree.

9.3.11.2 Overlapping Modifications (Unit 1 Fire Water)

Interactions that resulted in modifications that overlapped with other programs generally consisted of minor construction deficiencies or incomplete construction, both of which would have been resolved in the normal course of construction completion.

9.3.11.3 Nonexpedient Modifications (Unit 1 Fire Water)

Of the 23 modifications evaluated as nonexpedient, 17 were located in the turbine building.

The sources postulated to interact with the manual fire water piping included:

- Large bore fire water sprinkler mains in the turbine building with threaded connections, mechanical couplings, and nonqualified supports. The modifications typically consisted of adding supports and/or rerouting the sprinkler lines. (Note: sprinkler lines are sources; the fire water piping to hosereels is a target.)

- Bracing was added to several stairwells in the turbine building, and/or their connections were reinforced.

- Various large bore Class II lines in the turbine building and fuel handling building were postulated to deflect into the target fire water lines. The Class II lines were provided with additional supports or seismic stops were installed.

- A catwalk in the turbine building was reinforced

9.4 EVALUATION OF MODIFICATIONS BY PLANT FUNCTIONAL AREA- UNIT 2

In this section Unit 2 SIP modifications are evaluated and the results distributed by plant area. For this evaluation, Unit 2 has been divided into eleven functional areas or zones. These areas are the same as those used in the Unit 1 evaluation listed in Section 9.3. Please refer to Attachment 12 for the drawings showing the SISIP zones throughout the plant.

The numerical data contained in this section are summarized in Table 9-1.2.

9.4.1 Unit 2 Containment

Two hundred and thirty-seven (237) interactions in Unit 2 were resolved by plant modifications, of which 110 were found to be expedient, 56 resulted from program overlap, and 71 were found to be a direct result of the application of SISIP.

The containment has been subdivided into three zones: (1) the annulus area, (2) inside the crane wall (or missile barrier), and (3) the containment operating deck at elevation 140 feet. Forty-five percent (45%) of the interactions resolved by modification in containment were located in the annulus area (zone 9-A), 32% were located inside the crane wall or missile barrier (zone 9-B), and 23% were located on or above the containment operating deck (zone 9-C). Refer to Table 9-1-A.2 for a system-by-system distribution of the modifications performed in Unit 2 containment.

9.4.1.1 Expedient Modifications (Unit 2 Containment)

Expedient modifications in Unit 2 containment included the following:

- Platform grating in close proximity to electrical conduits was cut away
- Cable tray supports were added to overspanned trays
- Numerous lines/conduits were resupported to reduce deflections and interferences, and/or prevent postulated support failures
- Anchorages for cabinets and other equipment were strengthened to prevent postulated overturning
- A restraint was added to reactor coolant drain tank level indicator
- Target process tubing was relocated resulting from postulated interactions involving deflection or interference from sources

- Conduits/pipes were relocated to preclude interactions postulating impact with other pipes/conduits

- Additional restraints were installed to the polar crane power cable, cable guide, and rollers assembly for main bridge

- Minor modifications were made to platforms and stairs to strengthen and/or reduce deflection; platform handrails were secured to platforms

- Crane boom latch on reactor cavity service jib crane hoist was modified to provide positive restraint

- Support brackets were added to oil reservoirs for steam generator snubbers

- Supports were added to insulation support framework for RCS cold leg loops

- Supports were added to valves or valve operators to preclude postulated interactions

9.4.1.2 <u>Overlapping Modifications (Unit 2 Containment)</u>

Modifications that overlapped with other Diablo Canyon programs were as follows:

- Minor construction-related items were fixed

- Class II HVAC ducts and duct supports were modified (subsequently addressed by ductwork reverification program)

- A 2-inch line was rerouted and a valve was rotated as part of the IDI program

- Mechanical panels were resupported as part of the Class I panels qualification program

- Supports were modified or new supports were added to pipes as part of Class I piping analyses and modifications

- Pipe whip restraint supports were upgraded as a result of Class I design of the reactor coolant loops pipe whip restraints

- Electrical cable tray and conduit supports were upgraded as part of the RCS boration system upgrade

- Additional supports were installed on reactor coolant pump lube oil collection system piping (subsequently addressed by 10 CFR 50, Appendix R, Fire Protection Requirements)

- Electrical conduits and/or supports were reworked to provide flexibility to accommodate postulated relative motion between structures

- Numerous electrical penetration boxes and associated conduits werre decoupled from the containment liner and supported independently from th annulus structure to accommodate relative motion between structures.

- Extension stems and universal joints werre added to valve hand wheels which were attached to annulus structural steel while the associated pipes were attached to the containment wall

9.4.1.3 <u>Nonexpedient Modifications (Unit 2 Containment)</u>

The remaining modifications, which are categorized as nonexpedient, include:

- Supports of the dome service crane hydraulic fluid tank on top of the polar crane were strengthened

- Structural modifications were made to Class II platforms and associated grating, handrails, ladders, and stairways; Class I instrument lines connected to platforms or handrails were rerouted

- Process tubing runs were rerouted to provide adequate clearance to accommodate steam generator's thermal and seismic movements

- A cable tray with large spans was resupported and the target line was rerouted

- Supports for cabinets and panels were strengthened to prevent their postulated overturning

- Supports of the pressurizer relief tank were strengthened

- Supports of the 5- and 10-path selectors for incore flux monitors were strengthened

- Pipe supports were installed on various small and large bore lines

- Grating kick plates on platforms were cut away as a result of postulated seismic/thermal motion between source and target

- Miscellaneous appurtenances and accessories on the polar crane were strengthened

- A 12Vdc battery on the polar crane near dome service crane was removed

- Target process lines were relocated to avoid impact by a trapeze hanger on a 10-inch line

- The reactor vessel loose parts sensor mounted on the flux monitoring tubes was resupported independent of the flux monitoring tubes

- Quick-release clamping mechanisms were provided for unrestrained portable fire extinguishers

9.4.2 Electrical Equipment Rooms and Control Room- Unit 2

The safety-related electrical areas consist of the following:

(1) 4.16kV vital switchgear and cable spreading rooms in the south end of the turbine building

(2) Electrical rooms in the auxiliary building (480V vital switchgear rooms, 125Vdc battery rooms, dc switchgear/inverter rooms, the hot shutdown panel area, the cable spreading room)

(3) Control room and safeguards room

Sixty-six (66) interactions in Unit 2 were resolved by modification, of which 23 were expedient, 21 resulted from program overlap, and 22 were a direct result of the application of the SISIP (nonexpedient).

Refer to Table 9-1-B.2 for a tabulation by area of the data contained in this section.

9.4.2.1 Expedient Modifications (Unit 2 Electrical Equipment Rooms and Control Room)

- Grating clips were installed on floor grating covering the HVAC opening between the switchgear rooms and the cable spreading rooms to resolve an interaction postulating grating falling onto cable trays

- Fluorescent light fixtures were relocated, braced, or supported with additional backup chains

- Emergency eye wash basins in the battery rooms were restrained against postulated overturning and batteries were protected by new barriers

- One battery-operated light fixture in the 480V switchgear room was replaced with a Class I qualified fixture

- Supports on small bore piping in battery rooms were modified and/or new supports were added to preclude postulated failure of fixed end rod hangers leading to piping falling onto the batteries and shorting them out

- A stop and a restraining cable were installed on a monorail hoist in the cable spreading room to prevent postulated dislodging of the hoist wheel assembly from the monorail

- Class II cabinets were anchored to slab to preclude interactions which postulated these cabinets' failure and impact with Class I cabinets

9.4.2.2 Overlapping Modifications (Unit 2 Electrical Equipment Rooms and Control Room)

- Concrete blockwalls defining the 480V switchgear, dc switchgear/inverter, 4.16 kV cable spreading, and battery rooms identified by the SISIP were resolved by PGandE's program in response to the NRC's I&E Bulletin 80-11.

9.4.2.3 Nonexpedient Modifications (Unit 2 Electrical Equipment Rooms and Control Room)

Remaining modifications, which are categorized as nonexpedient, include:

- Quick-release clamping mechanisms were installed on the portable CO_2 fire extinguishers in the various electrical equipment rooms

- Backup chains were installed on the fluorescent light fixtures in battery rooms

- Class II bus ducts running above cable trays feeding two of the 4.16kV switchgear rooms were resupported

- New supports were installed and/or existing supports were modified on small bore piping

- Supports for CO_2 hose reels were modified

- Barriers were installed to protect the solid state protection system panels from postulated failure of a plaster wall on the north side of the safeguards room

- A metal lath and plaster wall, to which a target HVAC duct penetrated, was braced

- A steel stairway in the nonvital 12 kV switchgear room was strengthened

- Safety chains were installed on the fuel accountability board in the main control room

- A utility cabinet was anchored to the wall to prevent it from falling over onto the 125V batteries

9.4.3 <u>HVAC Equipment Rooms- Unit 2</u>

The HVAC rooms are defined as:

- The auxiliary building supply and exhaust fan rooms and rooms and associated compartments dedicated to HVAC ducting (zones 8-B-2, 3-V-3, and 3-V-4)

- The fuel handling building supply and exhaust fan rooms and associated compartments dedicated to HVAC ducting (zones 3-V-1, 3-V-2, and 3-V-5 through 3-V-8)

- The 4.16kV switchgear HVAC fan room (zone 24-E)

- The control room HVAC equipment room (zone 8-B-4)

A total of forty-nine (49) interactions involving targets in the Unit 2 HVAC rooms were resolved by modifications, of which 25 were categorized as expedient, 5 resulted from program overlap, and 19 have been classified as nonexpedient modifications.

Table 9-1-C.2 tabulates the data contained in this section.

9.4.3.1 Expedient Modifications (HVAC- Unit 2)

- A new support was installed on an overspanned conduit resting on top of a copper line associated with an HVAC unit

- Stops were installed on the Unit 2 communication room chiller unit to preclude postulated sliding

- The anchorage of an air handling unit was modified

- New supports were installed and/or existing supports were modified on small diameter lines

- A new support was installed on the 6-inch steam supply line to heating coils for the fuel handling building

- Grating clips were installed on platform gratings

- Loose platform handrails were secured by bolting

- Back-up chains were installed to fluorescent light fixtures

9.4.3.2 Overlapping Modifications (HVAC- Unit 2)

- Missing condulet covers were replaced

- Concrete block walls in the HVAC rooms were analyzed and modified by PGandE's program in response to the NRC's I&E Bulletin 80-11

- HVAC duct and equipment supports were reviewed and modified as part of PGandE's Seismic Qualification of HVAC Equipment Program

9.4.3.3 Nonexpedient Modifications (HVAC-Unit 2)

Remaining modifications in the HVAC rooms, which have been categorized as nonexpedient, include:

- Platforms in the HVAC duct chase area and in exhaust fan rooms were modified to preclude postulated failures

- New supports were added to supply ducts from air handling units in the 4.16 kV switchgear vent fans area

- Quick release clamping mechanisms were installed on portable CO_2 fire extinguishers in the various HVAC areas

- New supports were added to drain lines, sprinkler lines, and steam supply piping to the heating coils in the auxiliary building supply fan room

9.4.4 Safety-related Pump Rooms- Unit 2

The safety-related pump rooms consist of 11 zones located in the auxiliary and fuel handling buildings.

The safety-related pump rooms are:

- Residual heat removal pumps (zones 3-D-1, 3-D-2)

- Component cooling water pumps (zones 3-K-1, 3-K-2, 3-K-3)

- Charging pumps (zones 3-I-1, 3-I-2)
- Containment spray pumps (zone 3-G)
- Safety injection pumps (zone 3-N)
- Auxiliary feedwater pumps (zones 3-T-1, 3-T-2)

A total of forty-three (43) interactions involving pump room targets were resolved by plant modifications, of which 27 were categorized as expedient, 5 involved program overlap, and 11 modifications were classified as nonexpedient.

Table 9-1-D.2 tabulates the data contained in this section.

9.4.4.1 Expedient Modifications (Unit 2 Pump Rooms)

- Damper support rods were installed on the containment spray pump exhaust ducts to preclude an interaction which postulated deflection of the ducts into adjacent piping
- Supports were added to small and large bore piping and conduits as a result of postulated deflections and/or support failures
- Chains were added to fluorescent light fixtures in the component cooling water and containment spray pump rooms, and safety injection pump rooms
- An instrument tubing in the containment spray pump room was relocated to avoid postulated impact by upwardly deflecting monorail beam
- Sway bracing was installed on monorails and hoist stops were installed

9.4.4.2 Overlapping Modifications (Unit 2 Pump Rooms)

- Vent line supports associated with the RHR pumps were reconfigured as part of normal equipment qualification activities

- Minor construction oversights, which would otherwise be corrected during normal construction, were corrected

- Support plates on the RHR pump motors were reduced in size to provide larger air flow area through louvers

9.4.4.3 Nonexpedient Modifications (Unit 2 Pump Rooms)

The remaining modifications, which were categorized as nonexpedient, include the following:

- New supports were added and/or existing supports were modified on piping to resolve interactions postulating deflection of source piping causing impact with targets

- Supports of the monorails above the auxiliary feed water pumps were modified

- New supports were added to sealant coolant tank in the reciprocating charging pump room

9.4.5 Auxiliary and Fuel Handling Buildings- Unit 2

For convenience, the auxiliary and fuel handling buildings have been defined to exclude safety-related pump rooms, electrical equipment rooms, and HVAC fan rooms located in these buildings. Refer to Sections 9.4.2, 9.4.3, and 9.4.4 for a discussion of those areas.

A total of sixty-two (62) interactions were resolved by plant modifications, of which 31 were expedient, 15 were program overlap, and 16 have been classified as nonexpedient.

Table 9-1-E.2 tabulates the data contained in this section.

9.4.5.1 Expedient Modifications (Unit 2 Auxiliary and Fuel Handling Buildings)

- Plaster walls were modified in the chemical laboratory/access control area, due to postulated interactions involving Class I conduits penetrating the wall

- A 2-inch conduit in the auxiliary building was rerouted to avoid a postulated interaction caused by deflection of a steam generator mixed bed demineralizer tank

- Supports were added to various small bore piping to resolve interactions which postulated deflection and/or failure of these piping

- A handrail and exit sign were secured to platform

- Minor modifications to sources or targets were made to provide additional clearance and avoid postulated interactions

- Quick release clamping mechanisms were installed on CO_2 fire extinguishers

- Barriers were installed to protect conduits from impact by a domestic hot water tank postulated to fail at its supports and overturn

- Anchorage of a roll-up door was strengthened

- Safety chains were installed on light fixtures

9.4.5.2 Overlapping Modifications (Unit 2 Auxiliary and Fuel Handling Buildings)

- Minor modifications were made to resolve interactions involving minor construction deficiencies which would have been identified during normal construction completion

- A pipe support was modified as a result of Class I analysis

- Concrete block walls were analyzed and modified by PGandE's program in response to the NRC's I&E Bulletin 80- 11

- Monorails above seal water heat exchanger and the letdown heat exchanger were braced as a result of the heavy loads program activities (NUREG-0612)

- The drumming station and conveyor in the auxiliary building were removed as part of the revisions to the liquid radwaste system

- A monorail in the auxiliary building was locally rerouted, and another monorail was disassembled due to changes in the liquid radwaste system

- Two lines originally supported from Class I duct supports were resupported

- A support for instrument lines was modified to meet Class I requirements

9.4.5.3 Nonexpedient Modifications (Unit 2 Auxiliary and Fuel Handling Buildings)

Remaining modifications, which have been categorized as nonexpedient, are:

- A plaster wall was secured with clip angles to preclude postulated failure of the wall and potential damage to a conduit penetrating the wall

- Additional supports or lateral restraints were installed on source lines to prevent source failure and/or deflection

- Supports on two lines which were attached to a conduit support were removed

- A seismic stop was installed on a fire water hose reel to prevent postulated impact with, and kinking of, instrument lines

- Damper control on a manual damper for fuel handling building HVAC duct was modified to resist potential impact from postulated failure and falling of sprinkler lines

- Boric acid batch tank supports were strengthened

- A fluorescent light fixture was relocated to prevent it from swinging into air supply tubing

- A collection tank anchorage was modified to preclude its postulated overturning

9.4.6 Penetration Area- Unit 2

The penetration area (area GE-GW, zone 3-CC) is the area between the containment building and the auxiliary building. This area contains piping,

valves, instruments, and electrical conduits associated with those systems that run between the containment, auxiliary, and turbine buildings.

In this area of Unit 2 a total of ninety-nine (99) interactions were resolved by modification, of which 52 were expedient, 6 resulted from program overlap, and 41 were classified as nonexpedient.

Refer to Table 9-1-F.2 for a tabulation of the data contained in this section.

9.4.6.1 Expedient Modifications (Unit 2 Penetration Area)

Expedient modifications in the penetration area include:

- Piping restrained (by adding supports or installing seismic stops) as a result of interactions that postulated deflection of piping systems and/or associated supports

- Additional supports, snubbers, or seismic stops were installed on piping systems

- Numerous postulated interferences between sources and targets were resolved by providing additional clearance by cutting platform grating, rerouting small piping and tubing, etc.

- Chains were installed on light fixtures

- Additional supports were installed on steam generator blowdown piping as a result of postulated flange separation

- A bumper was installed to longitudinally restrain an incore chiller tank

- A barrier was installed to protect a target conduit from postulated impact by a supply duct

9.4.6.2 Overlapping Modifications (Unit 2 Penetration Area)

This category of modifications consisted of interactions involving temporary rod hanger supports, which would have been removed during the normal construction completion activities, an abandoned HVAC duct which was removed, and interactions which were resolved by the resupporting of Class I components.

9.4.6.3 Nonexpedient Modifications (Unit 2 Penetration Area)

Remaining modifications, which have been categorized as nonexpedient in the penetration area, include:

- Class I target lines supported from Class II structures were resupported from Class I structures
- Minor modifications were made to provide additional clearance between sources and targets to avoid postulated interactions
- A whip restraint was modified to prevent an interaction that postulated the restraint deflecting into a 3-inch line
- Additional pipe supports were installed on various lines as a result of interactions that postulated deflection of piping and/or support failure
- The steam generator blowdown tank anchorage was modified and adjacent platforms were braced and/or removed
- A platform above the containment electrical penetrations was modified

9.4.7 Diesel Generator Rooms- Unit 2

The two diesel generator compartments are located in the south end of the turbine building (zones 22-A, 22-B).

Twenty-three (23) interactions were resolved by plant modifications. Of these modifications, 6 were evaluated as expedient, 5 involved program overlap, and 12 were classified as nonexpedient.

Refer to Table 9-1-G.2 for a tabulation of the data contained in this section.

9.4.7.1 Expedient Modifications (Unit 2 Diesel Generators)

- Hold down clips were installed on the handrail posts around the cooling fan openings

- Additional pipe supports were installed on various lines as a result of interactions that postulated deflection of piping and/or support failure

9.4.7.2 Overlapping Modifications (Unit 2 Diesel Generators)

- Concrete block walls were analyzed and modified by PGandE's program in response to the NRC's I&E Bulletin 80-11

- A conduit was relocated to provide clearance from the diesel engine crankcase exhaust riser. The riser was subsequently upgraded to Class I as part of the IDVP

- Loose cover plates over pipe trenches were secured. These modifications would have been done in the normal course of construction completion

9.4.7.3 Nonexpedient Modifications (Unit 2 Diesel Generators)

The remaining modifications, which have been categorized as nonexpedient, include:

- Minor modifications were made to the diesel generator rolling fire door linkage and mechanism

- Support connections on overhead mercury light fixtures were modified; two light fixtures were relocated

- Some supports were modified, and some new supports were installed on source piping

9.4.8 Turbine Building- Unit 2

For convenience, the turbine building has been defined to exclude the 4.16kV vital switchgear and cable spreading rooms, the 4.16kV switchgear HVAC room, and the diesel generator rooms. These excluded areas are discussed in Sections 9.4.2, 9.4.3, and 9.4.7, respectively.

Thirty (30) interactions involving turbine building targets were resolved by modifications. Of these modifications, 11 were evaluated as expedient, 5 resulted from program overlap, and 14 have been evaluated as nonexpedient.

Refer to Table 9-1-G.2 for a tabulation of the data contained in this section.

9.4.8.1 Expedient Modifications (Unit 2 Turbine Building)

- New supports were added and/or existing supports were modified on piping to preclude postulated interactions involving pipe deflections, pipe failures, or support failures

- Two component cooling water vent lines were shortened to provide additional clearance from structural steel beams

- Minor modification was made to platform and associated stair

- Additional clearance was provided between a concrete block wall and a 2-inch conduit

9.4.8.2 Overlapping Modifications (Unit 2 Turbine Building)

The modifications that overlapped with other Diablo Canyon programs include:

- Concrete block walls in the turbine building that were analyzed and modified by PGandE's program in response to the NRC's I&E Bulletin 80-11

- A missing rod hanger on a small bore hydrogen line was replaced; this rod hanger would have been installed during the normal course of construction completion

- A component cooling water heat exchanger head tank was replaced as a result of a design change independent of SISIP

9.4.8.3 Nonexpedient Modifications (Unit 2 Turbine Building)

The remaining modifications in the turbine building, which have been categorized as nonexpedient, include:

- A number of platforms, catwalks, stairs, and associated railings were modified to preclude postulated interactions

- An instrument line was rerouted to avoid a postulated interaction with a platform railing

- The monorail structure at the north end and above the component cooling water heat exchangers was modified

- The operator platform on Unit 2 turbine building bridge crane was modified

- A 1-inch hydrogen line was rerouted out of the component cooling water heat exchanger room

- Extensive modifications were performed to resupport the Class II fire water sprinkler lines in the component cooling water heat exchanger room

- New supports were installed and/or existing supports were modified on a number of pipes

9.4.9 Intake Structure- Unit 2

The intake structure houses the main circulating water pumps and the auxiliary saltwater (ASW) pumps. The ASW pumps are enclosed within protective concrete vaults. Four (4) interactions involving intake structure targets were resolved by plant modifications. These modifications consisted of:

- Additional restraints were added to cast iron screen wash water lines and a service cooling water line (nonexpedient)

- New supports were added to two service air lines (expedient)

9.4.10 Outdoor Areas- Unit 2

The outdoor areas have been defined as zone 29 for Unit 2. SISIP targets in these areas include auxiliary feedwater and main steam system components located on the pipe rack structure (associated with loops 2-1 and 2-2).

A total of twenty-six (26) interactions were resolved by modification, of which 14 were expedient, 4 resulted from program overlap, and 8 were categorized as nonexpedient modifications.

Refer to Table 9-1-H.2 for a tabulation by system of the data contained in this section.

9.4.10.1 Expedient Modifications (Unit 2 Outdoors)

- New supports were added to and/or existing supports were modified on a number of small diameter lines

- A protective shield was installed around instrument tubing to shield them from postulated impact from falling platform grating

- A rod hanger supporting a large bore line was relocated to provide clearance from a target conduit

- Jib cranes mounted on pipeway structure were modified and a chain was added to secure an equipment hoist

9.4.10.2 Overlapping Modifications (Unit 2 Outdoors)

- Class I whip restraints on main steam lines were modified as part of Class I seismic qualification efforts

- A Class I support structure on containment wall was modified as a result of stress walkdowns

- Supports for compressed air bottles for breathing air system were upgraded

9.4.10.3 Nonexpedient Modifications (Unit 2 Outdoors)

The remaining modifications, which were categorized as nonexpedient, include:

- New supports were added to and/or existing supports were modified on a number of lines

- The root valve for a pressure transmitter was rotated to avoid impact with a deflecting whip restraint rod

- A main transformer lightning arrestor base was modified

- A platform was modified to preclude potential interaction with a control panel

- A platform supporting a Class I conduit was modified to meet Class I criteria

- On main steam lead drain headers, insulation was cut to provide clearance for instrument lines and new supports were installed on one line

9.4.11 Fire Water System- Unit 2

Interactions associated with the fire water system targets were segregated from the previous tabulations because the fire water system is functionally unrelated to the other target systems.

For example, target components in safety-related pump rooms are typically directly related to the operation of the pumps in that room; however, fire water system piping is unrelated to the pumps. Therefore, including interactions relating to fire water targets in safety-related pump rooms would not enhance the evaluations contained in this chapter.

Fire water piping to manual hose reels runs through all parts of the containment, auxiliary, fuel handling, and turbine buildings. Seventy-eight (78) interactions affecting fire water system targets were resolved by modifications. Of these modifications, 44 were expedient, 10 involved program overlap, and 24 modifications were evaluated as nonexpedient.

Refer to Table 9-1-I.2 for a tabulation by building of the data contained in this section.

9.4.11.1 Expedient Modifications (Unit 2 Fire Water)

The forty-four (44) expedient modifications typically associated with postulated interactions were felt to have a very low probability of

occurrence, or if they ever occurred, would not have compromised the integrity of the fire water system pressure boundary to any significant degree.

9.4.11.2 Overlapping Modifications (Unit 2 Fire Water)

Interactions that resulted in modifications that overlapped with other programs generally consisted of minor construction deficiencies or incomplete construction, both of which would have been resolved in the normal course of construction completion.

9.4.11.3 Nonexpedient Modifications (Unit 1 Fire Water)

Of the 24 modifications evaluated as nonexpedient, 18 were located in the turbine building.

The sources postulated to interact with the manual fire water piping included:

- A fire water line in the auxiliary building was resupported independently of a platform which was postulated to fail
- Platforms and stairs were braced or stiffened in various locations to preclude postulated failure of the platforms onto fire water lines
- Pipe supports were installed on various lines to prevent the source lines from deflecting into or falling onto the firewater lines
- An HVAC duct and various air handling units were resupported to preclude them from falling onto a fire water line
- A fire water line was rerouted in the turbine building to prevent interactions resulting from nonqualified sources

9.5 EVALUATION OF MODIFICATIONS BY FUNCTIONAL SYSTEM, MODIFICATION TYPE, INTERACTION PHENOMENA, AND TARGET TYPE

The data contained in Sections 9.3 and 9.4 and Tables 9-1.1 and 9-1.2 distributed the screened categories of SISIP modifications by plant locations. Tables 9-1-A.1 through 9-1-I.1 tabulate the data distributed among plant location and target system for Unit 1. Similarly, Tables 9-1-A.2 through 9-1-H.2 tabulate these data for Unit 2.

Tables 9-2.1 and 9-2.2 tabulate the data, for Units 1 and 2 respectively, by target system on a plant-wide basis. Tables 9-2.1 and 9-2.2 are similar to Tables 9-1.1 and 9-1.2, but utilize a different sorting routine.

Table 9-3.1 tabulates the data, for Unit 1, by the type of modification initiated to resolve the interaction. A similar tabulation for Unit 2 is presented in Table 9-3.2.

Tables 9-4.1 and 9-4.2 show, for Units 1 and 2 respectively, the type of interaction phenomena that resulted in modifications.

Tables 9-5.1 and 9-5.2 show, for Units 1 and 2 respectively, the number of modifications to the various target types for each system.

TABLE 9-1.1

EVALUATION OF PLANT MODIFICATIONS - PLANT-WIDE SUMMARY

(Unit 1)

Plant Location	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Containment	165	106	34	25
Electrical Equipment Rooms and Control Room	69	21	24	24
HVAC Fan Rooms	48	43	1	4
Pump Rooms	46	37	6	3
Auxiliary/Fuel Handling Buildings(4)	35	24	10	1
Penetration Area	103	73	13	17
Diesel Generator Rooms	32	12	12	8
Turbine Building	41	23	6	12
Intake Structure	4	2	0	2
Outdoor Areas	41	16	9	16
Fire Water System(6)	59	33	3	23
TOTAL	643	390	118	135

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.
4) See Section 9.3.5 for definition of Auxiliary/Fuel Handling Buildings
5) See Section 9.3.8 for definition of Turbine Building
6) Fire Water system has been categorized separately as it is unrelated to the function of other target components in the various locations

TABLE 9-1.2

EVALUATION OF PLANT MODIFICATIONS - PLANT-WIDE SUMMARY

(Unit 2)

Plant Location	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Containment	237	110	56	71
Electrical Equipment Rooms and Control Room	65	22	21	22
HVAC Fan Rooms	48	25	5	18
Pump Rooms	43	27	5	11
Auxiliary/Fuel Handling Buildings	62	31	15	16
Penetration Area	99	52	6	41
Diesel Generator Rooms	23	6	5	12
Turbine Building(5)	30	11	5	14
Intake Structure	4	1	0	3
Outdoor Areas	26	14	4	8
Fire Water System(6)	78	44	10	24
Various	3	2	0	1
TOTAL	718	345	132	241

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.
4) See Section 9.4.5 for definition of Auxiliary/Fuel Handling Buildings.
5) See Section 9.4.8 for definition of Turbine Building.
6) Fire Water system has been categorized separately as it is unrelated to the function of other target components in the various locations.

TABLE 9-1-A.1

EVALUATION OF PLANT MODIFICATIONS - CONTAINMENT

(Unit 1)

System or Function	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Main Steam System	44	32	7	5
Reactor Coolant System	55	33	14	8
Charging and Boration	10	6	1	3
Safety Injection	7	5	2	0
Residual Heat Removal	1	1	0	0
Containment Spray	2	0	1	1
Component cooling Water	4	1	2	1
Containment Isolation of Nonessential Processes	8	6	0	2
HVAC	8	8	0	0
Multiple Targets	26	14	7	5
TOTAL	165	106	34	25

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.
4) See Table 9-1-I.1 for data involving target firewater system (9 interactions)

TABLE 9-1-A.2

EVALUATION OF PLANT MODIFICATIONS - CONTAINMENT

(Unit 2)

System or Function	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Auxiliary Feedwater System	1	1	0	0
Main Steam System	54	17	14	23
Reactor Coolant System	51	31	8	12
Charging and Boration	22	14	4	4
Safety Injection	29	16	7	6
Residual Heat Removal	3	3	0	0
Containment Spray	7	4	3	0
Component Cooling Water	20	13	2	5
Containment Isolation of Nonessential Processes	16	4	7	5
Multiple Targets	34	7	11	16
TOTAL	237	110	56	71

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.
4) See Table 9-1-I.2 for data involving target fire water system in Containment (11 interactions).

TABLE 9-1-B.1

EVALUATION OF PLANT MODIFICATIONS - ELECTRICAL EQUIPMENT ROOMS AND CONTROL ROOM

(Unit 1)

Area	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Control Room	6	4	0	2
4.16 kV Switchgear and Cable Spreading Rooms	18	6	0	12
480 V Switchgear, DC Switchgear, and Battery Rooms	28	2	17	9
Cable Spreading Room and Other Vital Electrical Areas	17	9	7	1
	---	---	---	---
TOTAL	69	21	24	24

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.

TABLE 9-1-B.2

EVALUATION OF PLANT MODIFICATIONS - ELECTRICAL EQUIPMENT ROOMS AND CONTROL ROOM

(Unit 2)

Area	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Control Room	6	4	0	2
4.16 kV Switchgear and Cable Spreading Rooms	26	8	15	3
480 V Switchgear, DC Switchgear, and Battery Rooms	22	7	6	9
Cable Spreading Room and Other Vital Electrical Areas	12	4	0	8
	---	---	---	---
TOTAL	66	23	21	22

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.
4) See Table 9-1-I.2 for data involving target fire water system in Electrical Equipment Rooms (1 interaction).

TABLE 9-1-C.1

EVALUATION OF PLANT MODIFICATIONS -- HVAC FAN ROOMS

(Unit 1)

Plant Location	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Auxiliary Building HVAC	27	23	1	3
Fuel Handling Building HVAC	16	16	0	0
4.16 kV Switchgear HVAC (Turbine Bldg.)	3	3	0	0
Control Room HVAC	2	1	0	1
TOTAL	48	43	1	4

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.

TABLE 9-1-C.2

EVALUATION OF PLANT MODIFICATIONS - HVAC FAN ROOMS

(Unit 2)

System	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Auxiliary Building HVAC	8	4	0	4
Fuel Handling Building HVAC	20	11	0	9
4.16 kV Switchgear HVAC (Turbine Bldg.)	11	5	2	4
Control Room HVAC	10	5	3	2
TOTAL	49	25	5	19

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.
4) See Table 9-1-I.2 for data involving target fire water system in HVAC Rooms (1 interaction)

TABLE 9-1-D.1

EVALUATION OF PLANT MODIFICATIONS - SAFETY RELATED PUMP ROOMS

(Unit 1)

Area	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Auxiliary Feedwater Pump Room	10	7	1	2
Charging Pump Rooms	4	4	0	0
Safety Injection Pump Room	2	1	1	0
Residual Heat Removal Pump Rooms	11	9	2	0
Component Cooling Water Pump Rooms	12	12	0	0
Containment Spray Pump Room	7	4	2	1
TOTAL	46	37	6	3

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.
4) See Table 9-1-I.1 for data involving target firewater system in Safety-Related Pump Rooms (3 interactions)

TABLE 9-1-D.2

EVALUATION OF PLANT MODIFICATIONS - SAFETY RELATED PUMP ROOMS

(Unit 2)

Area	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Auxiliary Feedwater Pump Room	10	1	0	9
Charging Pump Rooms	9	8	0	1
Safety Injection Pump Room	2	2	0	0
Residual Heat Removal Pump Rooms	5	0	4	1
Component Cooling Water Pump Rooms	8	8	0	0
Containment Spray Pump Rooms	9	8	1	0
TOTAL	43	27	5	11

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.

TABLE 9-1-E.1

EVALUATION OF PLANT MODIFICATIONS - AUXILIARY/FUEL HANDLING BUILDINGS(4)

(Unit 1)

System or Function	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Auxiliary Feedwater	2	1	1	0
Charging and Boration	15	8	6	1
Safety Injection	5	5	0	0
Residual Heat Removal	1	0	1	0
Component Cooling Water	4	3	1	0
HVAC	1	1	0	0
Containment Isolation of Nonessential Processes	1	1	0	0
Multiple Targets	6	5	1	0
TOTAL	35	24	10	1

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.
4) See Section 9.3.5 for definition of Auxiliary/Fuel Handling Buildings.
5) See Table 9-1-I.1 for data involving target firewater system in Auxiliary/Fuel Handling Buildings (14 interactions).

TABLE 9-1-E.2

EVALUATION OF PLANT MODIFICATIONS - AUXILIARY/FUEL HANDLING BUILDINGS(4)

(Unit 2)

System or Function	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Auxiliary Feedwater	5	3	1	1
Auxiliary Saltwater	1	1	0	0
Charging and Boration	14	7	2	5
Reactor Coolant System	3	3	0	0
Safety Injection	6	0	5	1
Component Cooling Water	11	7	2	2
HVAC	17	8	5	4
Main Steam System	2	2	0	0
Multiple Targets	3	0	0	3
TOTAL	62	31	15	16

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.
4) See Section 9.4.5 for definition of Auxiliary/Fuel Handling Buildings.
5) See Table 9-1-I.2 for data involving target fire water system in Auxiliary/Fuel Handling Buildings (8 interactions).

TABLE 9-1-F.1

EVALUATION OF PLANT MODIFICATIONS - PENETRATION AREA

(Unit 1)

System or Function	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Auxiliary Feedwater	8	4	0	4
Main Steam System	15	4	6	5
Reactor Coolant System	12	11	0	1
Charging and Boration	9	7	2	0
Safety Injection	9	7	1	1
Residual Heat Removal	9	8	1	0
Component Cooling Water	14	11	1	2
Containment Spray	3	3	0	0
Containment Isolation of Nonessential Processes	20	17	1	2
HVAC	1	0	0	1
Multiple Targets	3	1	1	1
TOTAL	103	73	13	17

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.
4) See Table 9-1-I.1 for data involving target firewater system in penetration Area (2 interactions).

TABLE 9-1-F.2

EVALUATION OF PLANT MODIFICATIONS - PENETRATION AREA

(Unit 2)

System or Function	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Auxiliary Feedwater	9	4	1	4
Main Steam System	10	4	1	5
Reactor Coolant System	7	5	0	2
Charging and Boration	9	8	0	1
Safety Injection	7	4	0	3
Residual Heat Removal	9	5	1	3
Component Cooling Water	18	5	3	10
Containment Spray	6	2	0	4
Containment Isolation of Nonessential Processes	13	11	0	2
HVAC	2	1	0	1
Diesel Generators	4	1	0	3
Multiple Targets	5	2	0	3
	---	---	---	---
TOTAL	99	52	6	41

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.
4) See Table 9-1-I.2 for data involving target fire water system in Penetration Area (4 interactions).

TABLE 9-1-G.1

EVALUATION OF PLANT MODIFICATIONS - TURBINE BUILDING(4)

(Unit 1)

System or Function	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Auxiliary Feedwater	7	7	0	0
Component Cooling Water	7	3	0	4
Auxiliary Saltwater	4	2	2	0
Diesel Generators	2	2	0	0
HVAC	21	9	4	8
TOTAL	41	23	6	12

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.
4) See Section 9.3.8 for definition of Turbine Building.
5) See Table 9-1-I.1 for data involving target firewater system in Turbine Building (30 interactions).

TABLE 9-1-G.2

EVALUATION OF PLANT MODIFICATIONS - TURBINE BUILDING(4)

(Unit 2)

System or Function	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Component Cooling Water	14	6	1	7
Auxiliary Saltwater	7	3	2	2
Diesel Generators	1	1	0	0
HVAC	7	1	2	4
Multiple Targets	1	0	0	1
TOTAL	30	11	5	14

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.
4) See Section 9.4.8 for definition of Turbine Building.
5) See Table 9-1-I.2 for data involving target fire water system in Turbine Building (52 interactions).

TABLE 9-1-H.1

EVALUATION OF PLANT MODIFICATIONS - OUTDOOR AREAS

(Unit 1)

System or Function	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Auxiliary Feedwater	5	1	3	1
Main System	28	12	6	10
Multiple Targets	8	3	0	5
TOTAL	41	16	9	16

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.

TABLE 9-1-H.2

EVALUATION OF PLANT MODIFICATIONS - OUTDOOR AREAS

(Unit 2)

System or Function	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Auxiliary Feedwater	10	8	1	1
Main System	8	3	2	3
Multiple Targets	8	3	1	4
TOTAL	26	14	4	8

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.

TABLE 9-1-I.1

EVALUATION OF PLANT MODIFICATIONS - FIRE WATER SYSTEM

(Unit 1)

System or Function	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Containment Fire Water	9	8	0	1
Auxiliary/Fuel Handling Buildings Fire Water(4)	19	12	2	5
Turbine Building Fire Water	31	13	1	17
TOTAL	59	33	3	23

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.
4) Includes Penetration Area and Vital Pump Rooms.

TABLE 9-1-I.2

EVALUATION OF PLANT MODIFICATIONS - FIRE WATER SYSTEM

(Unit 2)

System or Function	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Containment Fire Water	11	6	2	3
Auxiliary/Fuel Handling Buildings Fire Water(4)	12	9	0	3
Turbine Building Fire Water(5)	55	29	8	18
TOTAL	78	44	10	24

Notes

1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.
4) Includes Penetration Area.
5) Includes Diesel Generator Rooms, Electrical Equipment Rooms, and HVAC Fan Rooms in Turbine Building.

TABLE 9-2.1

EVALUATION OF PLANT MODIFICATIONS - BY TARGET

(Unit 1)

System	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Auxiliary Feedwater	29	15	7	7
Main Steam System	88	48	20	20
Reactor Coolant System	69	45	15	9
Charging and Boration	39	23	9	7
Safety Injection	25	19	5	1
Residual Heat Removal	16	12	4	0
Containment Spray	12	7	3	2
Component Cooling Water	43	32	4	7
Auxiliary Saltwater	8	4	2	2
Diesel Generators	30	8	13	9
Fire Water System	58	33	3	22
HVAC for Vital Equipment Cooling	90	72	5	13
Containment Isolation of Nonessential Processes	31	25	1	5
Electrical Power Systems	36	9	12	15
Multiple Targets	69	38	15	16
TOTAL	643	390	118	135

Notes
1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.

TABLE 9-2.2

EVALUATION OF PLANT MODIFICATIONS - BY TARGET

(Unit 2)

System	No. of IDSs that Resulted In Mods.	Expedient Modifications(1)	SIP Overlap(2)	Nonexpedient Modifications(3)
Auxiliary Feedwater	34	16	3	15
Main Steam System	75	26	17	32
Reactor Coolant System	61	39	8	14
Charging and Boration	52	35	6	11
Safety Injection	47	23	12	12
Residual Heat Removal	16	8	5	3
Containment Spray	20	12	4	4
Component cooling Water	74	41	9	24
Auxiliary Saltwater	12	5	2	5
Diesel Generators	26	8	5	13
Fire Water System	78	44	10	24
HVAC for Vital Equipment Cooling	78	39	15	24
Containment Isolation of Nonessential Processes	33	15	7	11
Electrical Power Systems	37	13	13	11
Multiple Targets	75	21	16	38
TOTAL	718	345	132	241

Notes
1) See Section 9.2.3 for description of this term.
2) See Section 9.2.2 for description of this term.
3) See Section 9.2.4 for description of this term.

TABLE 9-3.1

NATURE OF MODIFICATIONS UNDERTAKEN TO RESOLVE INTERACTIONS

(Unit 1)

Type of Modification	Total Interactions Resolved by this Method	Expedient Modifications	SIP Overlap	Nonexpedient Modifications
Modify target (e.g., reroute)	28	13	8	7
Shield target	19	12	2	5
Add safety chain to source (light fixtures)	68	62	0	6
Secure loose source (e.g., loose grating, fire extinguishers)	109	76	19	14
Provide additional clearance between source and target (e.g., cutaway floor grating)	41	35	4	2
Add seismic stop to source	14	8	3	3
Brace or stiffen source	81	27	23	31
Add supports to source	200	109	40	51
Relocate source	59	35	9	15
Minor construction deficiency corrected	24	13	10	1
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TOTAL	643	390	118	135

TABLE 9-3.2

NATURE OF MODIFICATIONS UNDERTAKEN TO RESOLVE INTERACTIONS

(Unit 2)

Type of Modification	Total Interactions Resolved by this Method	Expedient Modifications	SIP Overlap	Nonexpedient Modifications
Modify target (e.g., reroute)	65	17	14	34
Shield target	8	7	0	1
Add safety chain to source (light fixtures)	41	34	0	7
Secure loose source (e.g., loose grating, fire extinguishers)	41	23	3	15
Provide additional clearance between source and target (e.g., cutaway floor grating)	19	9	3	7
Add seismic stop to source	9	7	0	2
Brace or stiffen source	127	21	42	64
Add supports to source	346	193	51	102
Relocate source	51	31	11	9
Minor construction deficiency corrected	11	3	8	0
	---	---	---	---
TOTAL	718	345	132	241

TABLE 9-4.1

NATURE OF POSTULATED INTERACTION PHENOMENA RESULTING IN MODIFICATIONS

(Unit 1)

Postulated Interaction Phenomena	Total Interaction Modifications with this Phenomenon	Expedient Modifications	SIP Overlap	Nonexpedient Modifications
Source deflection (without source failure)	107	67	16	24
Interferences between source and target due to close proximity	63	45	13	5
Loose source falls, slides, or overturns onto source	50	29	9	12
Source support failure resulting in source deflecting or falling onto target (includes pipe supports, equipment supports, duct supports, raceway supports)	164	91	27	46
Failure of source piping component (without support failure)	24	11	7	6
Structural Failure of civil/architectural feature	100	56	22	22
Failure of source mechanical equipment (without support failure)	33	21	1	11
Failure of light fixtures	79	66	4	9
Relative structural motion between buildings or major structures causing damage to target	2	0	2	0
Environmental effects (e.g., thermal damage, fire, humidity, etc.)	8	4	4	0
Minor construction deficiencies or other nonseismic concerns	13	0	13	0
	---	---	---	---
TOTAL	643	390	118	135

TABLE 9-4.2

NATURE OF POSTULATED INTERACTION PHENOMENA RESULTING IN MODIFICATIONS

(Unit 2)

Postulated Interaction Phenomena	Total Interaction Modifications with this Phenomenon	Expedient Modifications	SIP Overlap	Nonexpedient Modifications
Source deflection (without source failure)	177	96	18	63
Interferences between source and target due to close proximity	13	6	3	4
Loose source falls, slides, or overturns onto source	49	29	4	16
Source support failure resulting in source deflecting or falling onto target (includes pipe supports, equipment supports, duct supports, raceway supports)	233	120	50	63
Failure of source piping component (without support failure)	28	17	2	9
Structural Failure of civil/architectural feature	140	34	39	67
Failure of source mechanical equipment (without support failure)	4	3	0	1
Failure of light fixtures	48	37	0	11
Relative structural motion between buildings or major structures causing damage to target	21	3	11	7
Environmental effects (e.g., thermal damage, fire, humidity, etc.)	2	0	2	0
Minor construction deficiencies or other nonseismic concerns	3	0	3	0
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TOTAL	718	345	132	241

TABLE 9-5.1

EVALUATION OF PLANT MODIFICATIONS BY TARGET TYPE

(Unit 1)

	Type of Target								
Sytem	Raceways(1)	I&C(2)	Valves, Dampers	Pumps, Fans, Motors	Piping	Ducts	Other Mech/Elect Equipment(3)	Multiple Targets	Total
Auxiliary Feedwater	20	1	0	2	6	0	0	0	29
Main steam	24	31	3	0	3	0	27	0	88
Reactor Coolant	26	26	2	0	4	0	10	1	69
Charging and Boration	9	8	5	1	13	0	3	0	39
Safety Injection	12	2	1	0	10	0	0	0	25
Residual Heat Removal	1	9	0	4	2	0	0	0	16
Containment Spray	2	2	0	5	2	0	1	0	12
Component Cooling Water	3	7	1	6	22	0	4	0	43
Auxiliary Saltwater	4	0	0	0	4	0	0	0	8
Diesel Generators	9	0	1	0	0	0	20	0	30
Fire Water	2	0	1	0	46	0	8	1	58
HVAC for Vital Equipment Cooling	10	6	19	14	0	21	20	0	90
Containment Isolation of Nonessential Processes	5	11	11	0	1	0	3	0	31
Electrical Power	7	0	0	0	0	0	28	1	36
Multiple Targets	16	3	2	1	2	0	6	39	69
TOTAL	150	106	46	33	115	21	127	42	640

1) Conduits and Cable Trays
2) Instruments, Solenoid Valves, Instrument Tubing, Air Supply Tubing
3) Includes Tanks, Heat Exchangers, Filters, Electrical Switchgear, etc.

TABLE 9-5.2

EVALUATION OF PLANT MODIFICATIONS BY TARGET TYPE

(Unit 2)

	Type of Target								
Sytem	Raceways(1)	I&C(2)	Valves, Dampers	Pumps, Fans, Motors	Piping	Ducts	Other Mech/Elect Equipment(3)	Multiple Targets	Total
Auxiliary Feedwater	15	6	1	2	10	--	0	0	34
Main Steam	5	58	4	0	8	--	0	0	75
Reactor Coolant	14	27	1	0	15	--	4	0	61
Charging and Boration	13	13	3	3	17	--	3	0	52
Safety Injection	13	11	1	0	22	--	0	0	47
Residual Heat Removal	3	4	2	4	3	--	0	0	16
Containment Spray	2	2	4	2	10	--	0	0	20
Component Cooling Water	9	11	0	7	46	--	1	0	74
Auxiliary Saltwater	4	2	2	0	3	--	1	0	12
Diesel Generators	5	0	2	5	2	--	12	0	26
Fire Water	0	2	0	0	76	--	0	0	78
HVAC for Vital Equipment Cooling	15	4	4	11	0	28	15	1	78
Containment Isolation of Nonessential Processes	10	15	4	0	4	--	0	0	33
Electrical Power	6	2	--	--	--	--	29	0	37
Multiple Targets	26	24	1	0	2	3	1	18	75
TOTAL	140	181	29	34	218	31	66	19	718

1) Conduits and Cable Trays
2) Instruments, Solenoid Valves, Instrument Tubing, Air Supply Tubing
3) Includes Tanks, Heat Exchangers, Filters, Electrical Switchgear, etc.

Chapter 10

PROGRAM REFINEMENTS AND ONGOING EFFORT

This chapter describes the improvements and adjustments made to the Program as a result of the experiences gained from the Unit 1 Program and discusses the ongoing SISIP efforts.

Units 1 and 2 are very similar in design and construction. However, some differences relevant to the SISIP do exist between the two units, such as the differences in layout and relative locations of field-run sources. Because the units are of opposite-hand configuration, orientations of sources and targets differ. As a result, some of the interactions postulated for Unit 1 were not present in Unit 2, and vice versa.

The Unit 2 SISIP applied the same fundamental program criterion as Unit 1. This criterion required that all structures, systems, and components required to safely shut down DCPP (targets) during a severe seismic event would not be prevented from performing their intended safety functions as a result of physical interactions with nonseismically-qualified structures, systems, and components (sources).

10.1 PROGRAM ADJUSTMENTS

The Unit 1 Program was a pilot effort; as experience was gained during the implementation and development of the Unit 1 Program, adjustments were made, resulting in a more cost effective and efficient application to the Unit 2 effort. Adjustments made to the Unit 2 Program resulted from the Unit 1 learning curve; however, in no case have these adjustments altered the fundamental criterion stated above. The following subsections discuss some of those adjustments made to the Unit 2 Program.

10.1.1 Refinements of the Target Scope

During the course of the Unit 1 walkdowns it became apparent that an improvement to the documentation related to the SISIP target scope would enhance the overall program and reduce logistical efforts required for implementation. Examples of these include:

(1) Functional requirements for active target components (i.e., operability versus maintenance of pressure boundary only) were more clearly delineated.

(2) Target boundaries were more explicitly established to coincide with normally closed pressure boundaries.

(3) A more thorough review of the target scope was performed to ensure that components meeting SIP target functional requirements were included in the target scope and those not meeting the functional requirements were deleted from the target scope.

(4) Fire water hose reels were considered as targets in Unit 1. This was clarified so that only the fire water system pressure boundary to the hose reels was in the target scope (if a hose was damaged, e.g. ripped, it could be readily interchanged with a new hose, and therefore, it is not a target).

(5) A joint Unit 1 and Unit 2 project effort, together with program consultants, resulted in the establishment of a detailed SISIP target criteria that included schematics (see Appendix A to Attachment 2).

Part of the reason for differences in the quantity of IDSs documented in Units 1 and 2 is attributable to these refinements to the target scope.

10.1.2 Reorganization of the Target List (Matrix)

The SISIP target list (or matrix) is a system-by-system, component-by-component listing of targets (refer to Appendix I of Attachment 2). For the Unit 1 Program each identifiable target component was assigned a six-digit matrix number, which formed the basis for the IDS number. This proved to be an unwieldy target listing method.

The target matrix was, therefore, reorganized by grouping similar components with the same function and assigning them a single matrix number. This reduced the size of the target list and made it more readable and accessible to the walkdown team. For example, in the Unit 1 Program, a line with two vents and a drain might have had four matrix numbers. The revised target list assigned one number to that line, its associated appurtenances, and any connecting piping serving the same function. Similarly, an instrument might have had several matrix numbers in the Unit 1 Program to account for process tubing, the instrument, air supply tubing, and other related components. The revised target list considered all of these components as one matrix entry. The Unit 2 Program benefited significantly from this program improvement.

As a result of the reorganization of the target list, the Unit 1 and Unit 2 matrix numbers do not have a one-to-one correspondence. A cross-reference list of matrix numbers relating the Unit 1 targets to Unit 2 is contained in the SIP Program Manual (Attachment 2).

10.1.3 Organizational Changes

The Project organization involved in the SISIP is described in Chapter 5. That organization was in place for both the Unit 1 and Unit 2 Programs. In the Unit 2 Program, a SISIP Engineering Coordinator was added to the organization. All engineering activities relating to interaction resolutions were transmitted via the Engineering SISIP Coordinator. This resulted in more uniform and consistent resolutions to the interactions and improved communications between the SIP Group and the engineering disciplines.

10.1.4 Transfer of Unit 1 Resolution Efforts to Unit 2

Prior to commencement of Unit 2 target walkdowns, Unit 2 Project Engineering conducted a review of Unit 1 interaction resolutions for applicability to Unit 2. The Unit 1 resolutions screened as being potentially applicable to Unit 2 were then implemented in Unit 2. As a result, some of the interactions resolved by engineering analyses in Unit 1 could be documented as "NAN" by the Unit 2 walkdown team.

10.1.5 Revised Source Acceptance Criteria

The initial SISIP source acceptance criteria developed early in the Unit 1 Program were improved to better reflect those typical conditions encountered in the field by the walkdown team. These criteria revisions resulted in more realistic guidelines regarding the identification and reporting of potential sources and interactions. The revisions better reflected actual field conditions encountered by the walkdown team. For example, the Unit 1 walkdown team often had to document some conditions as potential interactions, because the charts and tabulated material used as guidelines were not fully applicable to the observed conditions. With the improved source acceptance criteria, identification of potential sources was more consistent and efficient. In addition, in Unit 2, the walkdown team was not burdened with documenting interaction phenomena that were of no consequence.

10.1.6 Modified Walkdown Team Composition

In the Unit 1 Program it was recognized that an eight-member walkdown team was cumbersome and not conducive to efficient identification and description of postulated interactions. In congested or noisy areas a large walkdown team was counterproductive. For the Unit 2 Program the team size was reduced to four plus a walkdown team leader. This adjustment proved to be worthwhile; better written interaction descriptions resulted, along with improvements in identifying more noteworthy concerns.

The walkdown team for Unit 2 was composed of five engineers representing the following disciplines:

- Walkdown Team Leader - multidisciplined
- Civil Engineer
- Piping Engineer
- Mechanical Engineer* (also responsible for HVAC)
- Instrumentation and Control Engineer*
- Electrical Engineer*

The Unit 2 Program had the same walkdown team leader as well as team members representing Mechanical, Civil, and I&C disciplines throughout the entire program. This resulted in a high level of continuity with regard to interaction descriptions and added to the depth of the site evaluation. The walkdown team leader responsible for the latter portion of the Unit 1 effort also conducted the Unit 2 walkdowns. This provided continuity to the Program and ensured that the Unit 1 experience was conveyed to the Unit 2 Program.

10.1.7 Documentation Changes

At the conclusion of the Unit 1 Program, all IDS file documentation concerning the identification and resolution of interactions was reviewed and certified. The results of this file review provided the necessary input for the improvements made in the Unit 2 documenting methods, which enhanced the overall effectiveness of the Program.

This Unit 1 file review process included producing a word-processed Interaction Documentation Sheet (IDS), which condensed the essential elements of an interaction and its resolution to a single sheet. This word processed IDS serves as the source document for entering data into the permanent SIP data base.

(*) Two of these three team members were present depending on the targets under evaluation. The team leader could substitute for other members during absences.

10.1.8 Differences in the Interaction Data Bases

To accommodate the need for improved reporting of the Program's progress, changes were made to the coding and formats of the SISIP computer data bases.

10.1.9 Reconciliation of Unit 1 and Unit 2 Interaction Data Bases

As with the Unit 1 Program, Unit 2 was subjected to an intensive field evaluation by a walkdown team composed of experienced engineers from different disciplines. As noted in the last paragraph of Section 1.3, walkdowns that are independently implemented can result in the postulation of different interactions for the two units. Because of such potential differences, PGandE has undertaken a review of Units 1 and 2 interaction data bases to identify and reconcile differences. Those credible interactions found in one unit, but not previously addressed in the other unit, will be resolved.

10.2 ONGOING SISIP

To ensure that the SISIP is effectively maintained during the operational life of DCPP, Nuclear Plant Operations (NPO) has established an ongoing SISIP. This ongoing program will ensure that future plant activities are reviewed for their potential to create seismically induced interactions.

A transition period exists between the completion of the walkdowns conducted during the pre-operating license (OL) Program and the commencement of the Ongoing Program. To ensure that plant modifications completed during this time interval receive systems interaction review, a representative from the SISIP group participates in the walkdowns for the Area Turnover Program.

The objective of the Area Turnover Program is to assure that each area of the plant meets construction completion requirements, and to specifically identify, in a "punch list," items that remain to be completed. This involves the final inspection of the plant areas by representatives from General

Construction (GC), Nuclear Plant Operations (NPO), and an onsite representative from the SISIP Group.

Plant modifications initiated after commencement of the ongoing SISIP are evaluated for SISIP impact in the course of design change notice (DCN) review, approval, and closeout. This SISIP review of DCNs involves field inspection of the modification when necessary to verify the modification does not create an SISIP concern.

In the course of conducting their periodic housekeeping inspections, NPO Quality Control inspectors consider the potential for seismically induced systems interactions resulting from transient equipment or maintenance activities.

Training has been initiated to ensure that key plant staff personnel are cognizant of how their work activities could potentially create seismically induced systems interactions.

The pre-OL Program established an extensive data base consisting of a detailed target list (by component) and an interaction data base. These data bases will be used by the ongoing program.

Target scope for the ongoing SISIP will be the same as the pre-OL Program with the exception that the firewater system has been deleted from the ongoing program (refer to Section 11.6).

These efforts by PGandE to continue the SISIP serves the purpose of preventing future physical changes from affecting the ability of DCPP to safely shut down after a serious seismic event.

Chapter 11

CONCLUSIONS

This chapter discusses the lessons learned and certain conclusions that PGandE has made as a result of formulating, developing, and implementing the SISIP on Diablo Canyon Units 1 and 2. This information is provided at the suggestion of the NRC Staff for their use in assessing a program of this type.

11.1 COST EFFECTIVENESS

At the time the SISIP was conceived for DCPP, construction of Unit 1 was nearing completion. Because of the comprehensive nature of the Program and the approaching construction completion, steps were taken to ensure Program completion in accordance with the established schedule at that time. Additionally, because this was a pilot program, it required considerable development before the Program was workable. These factors had a significant cost impact on the Unit 1 effort.

A detailed cost study of the SISIP has been performed and submitted to a State agency. It was estimated that the total cost of the Unit 1 Program, including construction work, was $14 million. Much of this cost is attributable to construction costs for the plant modifications.

Although final costs for the Unit 2 Program have not been tallied, based on similarity of program results, it is expected that the Unit 2 costs will be similar to the Unit 1 costs. Some cost savings were realized in the Unit 2 Program by implementing the lessons learned in the Unit 1 experience. However, these cost savings are counterbalanced to some extent by the efforts in finalizing the target data base, interaction data base document control for the Unit 2 Program, and follow-on programs, such as the Units 1 and 2 reconciliation efforts and DCN review process.

Is SISIP cost effective? Without considerable additional assessment, which would include evaluating the safety significance and cost/benefit of each and every modification (and possibly each and every resolution analysis), in conjunction with an assessment of the probability of each and every postulated phenomenon occurring, this question cannot be quantitatively answered. A qualitative answer, however, is that there is substantially less likelihood of nonseismically-qualified sources adversely interacting in a seismic event with components required to safely shut down and maintain safe shutdown conditions at Diablo Canyon Units 1 and 2.

If the Program were to be done again, knowing what is now known, substantial cost savings could be realized by focusing the Program in only those areas where there is potential safety significance. Such focusing could not be done in the Diablo Canyon SISIP since the Program was the first of its kind and no such guidance in this area was available when the Program was implemented.

11.2 SOURCE CRITERIA

A certain degree of over-conservatism existed in the early stages of the Unit 1 Program. As a result, a number of interactions were identified and maintained in the data base that, in retrospect, can be considered trivial, did not involve targets within the SISIP scope, and would not have been documented with more realistic criteria.

It is difficult to develop rigid source behavior criteria that would not result in the documenting of numerous noncredible interactions by an inspection team in the course of documenting bona fide interactions. Nonscredible interactions are those postulated interactions that are, upon subsequent review, shown to not occur or, if they occur, are of no consequence to the targets involved.

The plant contains a high degree of redundancy and resiliency to interactions, which counterbalances the potential effects of any oversights in postulating interactions. There is a key distinction between "postulated" interactions, "valid" interactions, and "potentially significant" interactions. Many of the postulated interactions are not credible. Further, many of the valid

interactions are of little or no consequence. The qualitative findings in Chapter 9 indicate that a very small number of all the postulated interactions could be classified as potentially significant. Therefore, a larger degree of engineering judgment could have been incorporated in the Program. The walkdowns, while not necessarily expensive in themselves, are the work generators. Judgment used at this stage can dramatically reduce the number of insignificant or noncredible interactions.

11.3 PROGRAM INDEPENDENCE

The Diablo Canyon SISIP was implemented within the Diablo Canyon Project, however, it was independent of the engineering, construction, and operational disciplines. Review of interaction resolutions by an independent technical reviewer familiar with the postulated interactions, along with independent team leadership under direct supervision of the SIP Project Coordinator, increases the confidence that the Program maintained its focus and objectivity.

11.4 SITE EVALUATIONS OR WALKDOWNS

The walkdown team's goal is to document any potential interaction which could be seismically induced between a source and a target. It is virtually impossible to conceive all the possible interactions by studying design documents. Many of the postulated interactions involve field-run sources; most design documents do not provide sufficient detail of these nonsafety-related, field-run commodities to make it possible to identify interactions solely from the drawings. While area drawings are typically generated by each engineering discipline, there is no single drawing of an area that would portray the spatial relations between all potential sources and targets. For example, attempting to determine if a Class II pipe could interact with a target instrument line (or some other targets) is virtually impossible by using area drawings. Site evaluations or walkdown inspections are the most cost effective, thorough, and expedient method for performing a SISIP. This is particularly true of plants nearly completed as opposed to those in the design and early construction phase, where design and construction criteria could be imposed that would preclude a number of significant interactions.

An interdisciplinary team of well-qualified engineers experienced in the plant design is necessary in performing a spatial systems interaction study utilizing an onsite inspection technique. Complementing the walkdown team should be a leader thoroughly familiar with the SISIP criteria and familiar with site evaluation methods.

11.5 DATA BASE

Adequately documenting interactions postulated by a walkdown team is obviously an important aspect of a seismic spatial interaction program. The interaction documentation need not contain a plethora of detailed information to adequately describe an interaction. The experience at Diablo Canyon indicated that such detail is not required, provided sufficient description is given to precisely locate the interaction and unambiguously define the source, target, and phenomena. Extensive as-built drawings, photographs, and other detailed descriptions are time-consuming and unnecessary for identifying most interactions. However, this level of detail may be necessary for many of the interactions requiring resolution.

A second consideration is the establishment of a computerized system to log and track an interaction through its progress towards resolution. A well-designed data management system is of great assistance to a walkdown team and helps preclude the redocumenting of previously observed interactions.

11.6 TARGET SCOPE

The target scope applied to the SISIP was broader than that required for a scenario involving a 7.5M earthquake as the sole initiating event. The assumption that other events occur concurrently with an earthquake resulted in a target scope above and beyond what is required for safe shutdown after a seismic event.

For example, the manual fire suppression system, consisting of firewater piping to hosereel stations, was included in the Diablo Canyon SISIP target scope in the pre-operating license (OL) program. This system has sectionalizing and isolation capability as well as an unlimited make up

capability. Therefore, it can tolerate significant degradation while still performing its safety function. Further, there is a very low probability that this system would be required in safety-related areas of the plant after a seismic event (i.e., a fire induced by a seismic event in safety-related areas of the plant is very unlikely). Therefore, it is felt that including the firewater system in the pre-OL target scope provided little, if any, additional benefit. The firewater system will not be included in the target scope for the ongoing SISIP.

This same logic could be extended to the other accident-mitigating systems for assessing the likelihood of these events occurring simultaneously with a large earthquake.

The inclusion of targets required to maintain safe shutdown during the refueling mode of operation is perhaps also overly conservative, given the lesser probability that a seismic event will occur simultaneously with refueling operations. The main SISIP differences between normal operations and refueling are (1) reduced target scope during the refueling (shutdown) modes, and (2) temporary sources inside containment that are not amenable to a one-time field inspection. Plant operational procedures and technical specifications ensure that the refueling operations are inherently safe.

11.7 CONSERVATISM

The SISIP has clearly been a conservative program. Failures observed in power plant equipment during previous large earthquakes were considered in formulating the SISIP interaction criteria. While some of the failures observed in previous earthquakes did not have direct applicability at Diablo Canyon, the criteria were nevertheless developed based on the previous experiences. Applying the criteria of the Diablo Canyon SISIP resulted in several other features that further contributed to its conservatism, e.g., the wide range of phenomena considered, the freedom to postulate interactions, and the fact that all targets were treated as being equally important.

A final important note about the conservative nature of the SISIP: Not only were the piping, equipment, electrical raceways, process tubing to target systems, and the supports associated with these components considered as targets, but the built-in redundancy of these target systems was also preserved (i.e., no credit for redundancy was allowed in resolving the postulated interactions).

11.8 PROGRAM REFINEMENTS IN PERSPECTIVE

A program involving an onsite evaluation of an entire nuclear power plant, with wide latitude given to the walkdown team members, can result in different findings due to the complexity of the plant and the subject matter, and the judgmental nature of the evaluation. An interaction may be postulated by one walkdown team and not by another team performing an evaluation of the same area.

As experience was gained, walkdown methods improved. It would have been counterproductive for the Site Evaluation Team to repeat an entire walkdown effort every time a program improvement was implemented. Walkdowns occurred in phases (initial target identification walkdowns, field verification walkdowns, and final area walkdowns); program improvements were incorporated into the latter walkdown efforts. Additionally, substantial overlap occurred between these walkdown efforts leading to a double inspection in many areas.

In light of these statements and the perspectives of Section 1.5, it is felt that the program refinements resulted in a better program.

11.9 PROGRAM CRITERIA IN PERSPECTIVE

The Program postulates sources to fail or deflect. The Program objective is to determine whether the postulated source behavior has the potential to detrimentally affect target function. The Program does not automatically upgrade nonsafety-related sources to Seismic Category I; rather, it provides assurance that target function is not impaired as a result of the source behavior. This allows flexibility to develop more innovative resolution techniques.

11.10 PERSPECTIVE OF THE PROGRAM

Most, if not all, systems interaction studies applied as post-design/construction review of a nuclear power plant include many scenarios which are "beyond reasonable belief." In particular, cases where such scenarios are justified by sophisticated analyses and detailed computations, engineering judgment may no longer be acceptable; in such cases judgment has to yield to the rigor of analysis. For example, it is relatively straightforward to apply a pre-established criterion where one could postulate a light fixture dislodging from its mounting, causing untold damage to components below. But it is certainly another matter to show by analytical techniques that the interaction will not occur or that the damage will not be significant. Those who initially postulated the interaction may have applied pre-established criteria that mandated documenting the source's failure. Engineering judgment on the other hand, may have shown that no credible failure mode existed, that no damage detrimental to the target or safe plant shutdown would occur, or that the scenario under consideration was a highly improbable one.

In a recent extensive study of Indian Point Units 2 and 3, a similar observation was made with respect to assessing interactions:

> Events which are beyond reasonable belief tend to assume a degree of reality when they are analyzed in minute detail. Detailed analyses make people aware of possible hazards which in all probability will never result in injury.

This leads to the conclusion that extreme care should be exercised when assessing a postulated system interaction's effect on safety.

11.11 UNIT 1 LESSONS LEARNED

This section summarizes those lessons learned from PGandE's experience in the development and implementation of the SISIP. These lessons learned have been applied to the Unit 2 SISIP effort only to the extent that they were not in conflict with the fundamental Program criterion.

11.11.1 Importance of Target Scope

As the target scope increases, a disproportionately greater number of interactions may then be postulated. These interactions tend to have less safety significance, i.e., the affected target has a lesser importance than the "key" targets. An effective program limits a target scope to a narrowly defined set of safety functions such as the functions required to safely shut down the plant after a given initiating event.

11.11.1.1 A Narrow Target Scope

In addition to systems required to attain and maintain cold shutdown, PGandE's Program included certain accident mitigating systems, manual equipment for fire suppression, and evaluation of interactions during initial fuel loading and refueling modes.

Consideration, perhaps based on risk evaluations, should have been given to excluding the accident mitigating systems, manual fire protection system, and the refueling mode of operation from the target scope.

11.11.2 Target Criteria

The development of comprehensive criteria for the identification of target components is important for a SISIP. These criteria should contain:

- Functional requirements that the target must be capable of maintaining
- Definition of target systems, structures, and components
- Boundaries of target systems
- Definition of component boundaries
- Description of the required operability for target systems and components, i.e., which components or which elements of a component of the target are required to function

Without such criteria, extraneous targets with no safety significance would be identified by the walkdown team, resulting in unnecessary effort and expense to resolve the identified interactions.

11.11.3 Target Schematics and List

The target criteria described in Section 11.11.2 are the bases for developing important tools required by the walkdown team and for documentation in the hard copy or computer data bases.

Detailed target schematics and a list of target components were useful tools for identification of target components by the walkdown team. The target schematics are used to establish a detailed list of components. A numerical list of components is an invaluable tool for tracking and documenting interactions postulated by the walkdown team.

11.11.4 Review for Safety Significance

Consideration should be given to resolving interactions by reviewing the interaction's safety significance. Such an approach can eliminate unnecessary and costly modifications.

11.11.5 Importance of Program Independence

PGandE's Program, as accepted by the NRC, required that the SISIP implementing organization report directly to the DCP Project Manager and that interaction resolutions be reviewed by an independent group. This organizational requirement assured an independent implementation of the Program.

11.11.6 Program Audits and Reviews

In addition to organizational independence, PGandE's Program was reviewed by numerous outside entities. This review is not warranted to the extent originally outlined in PGandE's program. The lessons learned are as follows:

- The normal QA function of auditing an important-to-safety program is sufficient. An independent sampling to test the Program's effectiveness is not necessary and is not cost effective. Because the implementing organization is independent of the project disciplines, a large measure of objectivity is automatically incorporated into the Program. (See Section 4.1.5 of SER, Supplement 11, for the additional audit requirement not considered necessary in the Program.)

- PGandE's SISIP was also reviewed by an outside Independent Review Board, which reported its findings through still another outside consultant. This extensive and redundant review is not necessary in light of the independence of the organization charged with Program implementation.

- Additionally, PGandE's Program required an outside consultant for review of the analytical and modification resolution activities to determine acceptability of proposed interaction resolutions. The Program Consultant also led the walkdown activities. This policy worked well and serves as an adequate check on the implementation of the program.

11.11.7 Practices During Initial Design and Construction

Measures can be taken by design and construction groups to reduce the potential for postulated interactions. These measures should include:

- Greater interdisciplinary coordination

- More concise guidelines to the installing groups with regard to preventing the creation of interactions

- Development of SISIP criteria during the early stages of design to include proximity requirements between safety grade components and nonsafety-grade components

- Increasing the awareness of design, construction, and operating personnel with regard to systems interaction

11.11.8 Purpose in Perspective

The SISIP is not a program to categorically upgrade nonseismically-qualified sources to Seismic Category I. The purpose of the SISIP is to provide assurance that, when subjected to a design basis seismic event, nonsafety-grade sources will not detrimentally interact with target structures, systems, or components.

11.11.9 Source Acceptance Criteria

PGandE identified numerous noncredible interactions as a result of applying a rigid set of source acceptance criteria.

A more realistic program has, as an integral part, the judgment of a knowledgeable walkdown team to distinguish between credible and noncredible interactions.

11.11.10 Generic Analysis

The Diablo Canyon Program identified certain generic categories of sources. Analysis of these generic source categories (e.g., light fixtures) prior to walkdowns would eliminate unnecessary, repetitive resolution work and the potential for unneeded field modifications.

11.11.11 Data Retrievability

The SISIP found it necessary to have an interactive data base sortable and retrievable by source, target, interaction phenomenon, location, resolution method, and resolving organization. Furthermore, computer sorts should contain sufficient information about the character of the interaction so that the desired interactions can be identified without resorting to the tedious task of reviewing the hard copy documentation base.

This computer sorting capability was utilized in the following manner:

- Determining which interactions have been previously documented for a source when the walkdown team encountered the same source

- Reviewing the data regarding interactions of similar type when an engineering discipline responsible for interaction resolution wanted to resolve all related interaction phenomena, e.g., interactions involving light fixtures of a specific type

- Coordinating interaction resolutions with all other interactions involving the same target, especially if relocation or shielding of a target is involved

- Retrieving data concerning all the interactions identified in a specific plant area

- Determining if a contemplated modification to a source will resolve other interactions that involve the same source.

REFERENCES

1. Diablo Canyon Nuclear Power Plant Units 1 and 2, Docket Nos. 50-275 and 50-323, Information Report on the Seismically Induced Systems Interaction Program (SISIP), Completion of Containment Activities, Pacific Gas & Electric Company/Bechtel Power Corporation, Submitted to Nuclear Regulatory Commission, Reliability & Risk Assessment Branch, October 1980.

2. Description of the Systems Interaction Program for Seismically Iduced Events, Revision 4, August 29, 1980, Pacific Gas and Electric Company, San Francisco, 1980.

3. Seismic Evaluation for Postulated 7.5M Hosgri Event, Pacific Gas and Electric Company, San Francisco, 1977.

4. NRC Docket 50-286, Indian Point (IP-3) Systems Interactions (SI) Study, Consolidated Edison Company, New York Power Authority, 1982.

5. "Overview and Highlights," Indian Point Probabilistic Safety Study, Consolidated Edison Company, New York Power Authority, 1982.

LIST OF ATTACHMENTS

ATTACHMENT 1

TO THE PGandE

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

SAFETY EVALUATION REPORT (SER), SUPPLEMENT 11

OCTOBER 1980

This attachment contains the SER, prepared by the NRC staff, reflecting an evaluation of PGandE's program submitted in October 1980.

NUREG-0675
Supplement No. 11

Safety Evaluation Report

related to the operation of Diablo Canyon Nuclear Power Plant, Units 1 and 2

Docket Nos. 50-275 and 50-323

Pacific Gas and Electric Company

Supplement No. 11

U.S. Nuclear Regulatory Commission

Office of Nuclear Reactor Regulation

October 1980

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EVALUATION OF PACIFIC GAS AND ELECTRIC COMPANY'S SYSTEMS INTERACTION PROGRAM FOR SEISMICALLY-INDUCED EVENTS FOR THE DIABLO CANYON NUCLEAR PLANT, UNITS 1 AND 2

1.0 INTRODUCTION

1.1 General

As stated in Supplement Number 9 to the Safety Evaluation Report, the Advisory Committee on Reactor Safeguards (ACRS) requested the applicant to evaluate the consequences of failure of nonseismic equipment and piping interacting with safety systems following an earthquake to determine if the Diablo Canyon plants can be safely shut down following such a postulated accident. The applicant by letters dated May 7, May 27, July 1, July 15, August 10, and September 16, 1980, submitted their response to this matter and the results of our evaluation is presented in this supplement.

1.2 Background

Criteria 2, 3, and 4 of Appendix A to 10 CFR Part 50 require that structures, systems, and components important to safety be able to accommodate natural phenomena such as earthquakes, the effects of fires, and environmental effects without loss of capability to perform their intended safety functions. Also, Appendix A to 10 CFR Part 50 requires that consideration be given to the ability of systems to accommodate single failures without loss of capability to perform their intended safety functions.

As discussed in previous supplements to our Safety Evaluation Report, the structures, systems, and components important to safety of Pacific Gas and Electric Company's (PG&E's) Diablo Canyon Nuclear Plant, Units 1 and 2, have been seismically qualified to withstand a postulated Richter Magnitude 7.5 (7.5M) Hosgri event without loss of capability to perform their intended safety functions. This equipment and its qualification are described in PG&E's document "Seismic Evaluation for Postulated 7.5M Hosgri Event," Amendment 50 to the Diablo Canyon Nuclear Plant Final Safety Analysis Report (referred to hereinafter as the Hosgri report). In addition, the manual equipment relied upon for the suppression of fires at the Diablo Canyon Nuclear Plant has been seismically qualified to withstand the 7.5M Hosgri event without loss of capability to perform its intended function. This equipment and its qualification are described in PG&E's letter to us dated November 13, 1978.

Although many of the nonsafety-related structures, systems, and components at the Diablo Canyon Nuclear Plant have also been seismically qualified to withstand the 7.5M Hosgri event without loss of capability to perform their intended functions, a significant number of them have not. Until recently, little if any explicit consideration has been given to possible seismically induced physical interactions between nonsafety-related structures, systems, and components and those structures, systems, and components required for safety.

It was recognized in NUREG-0585, "TMI-2 Lessons Learned Task Force Final Report," dated October 1979, that even though there is a general requirement that failure of nonsafety-grade equipment or structures should not initiate or aggravate an accident, there is no comprehensive and systematic demonstration that this has been accomplished. The Lessons Learned Task Force concluded in its Recommendation No. 9 that owners of operating plants and all plants under construction should be required to evaluate the interaction of nonsafety and safety-grade systems during normal operation, transients, and design basis accidents to assure that any interaction will not result in exceeding the acceptance criteria for any design basis event.

One aspect of this problem, related to the effects of seismically induced failures on system safety, was discussed with respect to the Diablo Canyon Nuclear Plant at the November 5, 1979 meeting of the Advisory Committee on Reactor Safeguards' Ad Hoc Subcommittee on TMI-2 Accident Implications. As a result of the recommendations made at this meeting, PG&E developed a systems interaction program for seismically induced events (referred to hereinafter as PG&E's program) for their Diablo Canyon Nuclear Plant. The requirement to conduct such a program has subsequently been documented in Task II.C.3, "Systems Interaction," of NUREG-0660, "NRC Action Plan Developed as a Result of the TMI-2 Accident."

Task II.C.3 of NUREG-0660 provides that the seismic effects study for the Diablo Canyon Nuclear Plant be completed prior to full-power operation. In their letter to us dated May 27, 1980, PG&E has committed to complete their program, including all necessary modifications, for Unit 1 prior to the issuance of any license authorizing full-power operation of that unit. We find this commitment an acceptable method of demonstrating compliance with the requirements of the above cited NUREG Report.

1.3 Overview of PG&E's Program

PG&E's program is described in their document "Description of the Systems Interaction Program for Seismically-Induced Events," Revision No. 4, dated August 29, 1980 (referred to hereinafter as PG&E's report). The stated objective of PG&E's program is to establish confidence that when subjected to seismic events of severity up to and including the postulated 7.5M Hosgri event, structures, systems, and components important to safety shall not be prevented from performing their intended safety functions as a result of physical interactions caused by seismically induced failures of nonsafety-related structures, systems, or components. In addition, safety-related structures, systems, and components shall not lose the redundancy required to compensate for single failures as a result of such interactions.

In order to accomplish their program, PG&E defined as targets all safety-related structures, systems, and components required to safely shut down the plant and maintain the plant in a safe shutdown condition, and certain accident mitigating systems. Initial plant operating modes of normal operation, shutdown, and refueling were considered in the selection of the target equipment. All nonsafety-related structures, systems, and components are defined as sources.

Interactions between source and target equipment are postulated by an interdiciplinary Interaction Team. The Interaction Team postulates interactions during walkdowns of the target equipment using previously established guidance and criteria. These guidance and criteria are discussed in Section 5.0 of this report. The Interaction Team also recommends resolutions to the postulated interactions. The findings of the Interaction Team are evaluated during a subsequent office-based technical evaluation. Any modifications deemed necessary are reviewed after completion by the Interaction Team to ensure that no new interactions are created by the modifications themselves.

PG&E's program is subjected to an independent audit by PG&E's Quality Assurance Department and an independent review by an Independent Review Board which reports its findings to a managing consultant which, in turn, reports its findings to PG&E managment. All documentation associated with PG&E's program is retained in an auditable and retrievable form.

1.4 NRC Staff Review of PG&E's Program

Our review of PG&E's program consisted of a review of their report and the revisions thereto, and an onsite audit of their program. During the course of our review, we participated in a number of meetings and discussions with PG&E representatives concerning their program, its implementation, and the results obtained from it. At our request, PG&E provided additional information as needed for our evaluation. This additional information was provided mainly in the form of revisions to PG&E's report.

Our review of PG&E's report concentrated on (1) the scope of the program, (2) the organization established to implement the program, (3) the methodology employed in the implementation of the program, (4) the criteria and guidance utilized to evaluate possible interactions, and (5) the results obtained from the program. The results of our evaluation of each of these aspects of PG&E's program are presented in Sections 2.0 through 6.0 respectively of this report. The results of our onsite audit of PG&E's program are presented in Section 7.0 of this report. Our conclusion resulting from our evaluation of PG&E's program is presented in Section 8.0 of this report.

Appendix A to this Supplement is a chronology of the principal events involved in the Commission staff's radiological safety review of this matter.

2.0 SCOPE OF PG&E'S PROGRAM

During the course of our review of PG&E's program, we reviewed the scope of equipment considered as targets and the scope of seismically induced physical interactions considered in their program. The results of our evaluations of these matters are presented below.

2.1 Scope of Target Equipment

PG&E's program as originally presented included as target equipment those safety-related structures, systems, and components required to safely shut down the plant from normal operating conditions. We believed that the scope of equipment designated as targets should also include (1) the safety-related equipment required to maintain the plant in a safe shutdown condition; (2) certain accident mitigating systems not already included, such as the containment isolation, main steam isolation, and containment spray systems; and (3) the manual equipment relied upon for the suppression of fires. In addition, we believed that the initial plant operating modes of shutdown and refueling should also be considered in the selection of target equipment. At our request, PG&E revised their report to expand the scope of equipment designated as targets to include those items discussed above. In addition, PG&E referenced the Hosgri report and their November 13, 1978 letter to us on their fire protection system to explicitly define the equipment designated as targets.

We conclude that the revised scope of equipment considered as targets in PG&E's program includes that required to safely shut down and maintain the plant in a safe shutdown condition from all reasonably expected modes of operation and is, therefore, acceptable.

2.2 Scope of Interactions

PG&E's program as originally presented considered only direct physical interactions, in which sources could physically interact directly with targets, and chain-type physical interactions, in which sources could physically interact with other nonsafety-related equipment which, in turn, could physically interact with target equipment. We believed that the scope of interactions considered in the program should also include those in which sources could physically interact with nonsafety-related electrical and pneumatic lines that power or control target equipment with required or assumed failure modes. At our request, PG&E revised their report to expand the scope of interactions considered in the program by including as targets all process tubing, instrumentation, and electrical cables up to the cable trays that are associated with target equipment with required or assumed failure modes. The electrical integrity of the cables in the trays has been demonstrated as indicated in Section 4.5.1.3 of PG&E's report and discussed in Sections 5.3.3 and 5.5.3 of this report.

We conclude that the revised scope of seismically induced physical interactions considered in PG&E's program includes those that could reasonably be expected to occur and is, therefore, acceptable.

3.0 PG&E'S IMPLEMENTING ORGANIZATION

During the course of our review of PG&E's program, we reviewed the organization established to implement their program. A brief description of that organization and the results of our evaluation of it are presented below.

3.1 Description of Organization

The organization established to implement PG&E's program is depicted in Figure 3-1. The principal elements of the organization include (1) the Manager, Nuclear Projects, (2) the Systems Interaction Project Engineer, (3) the Interaction Team, (4) the Quality Assurance Department, (5) the consultants, and (6) the Independent Review Board. These elements of the organization, their responsibilities, and their reporting relationships are described below.

3.1.1 Manager, Nuclear Projects

The Manager, Nuclear Projects is the head of the Nuclear Projects Department. He is responsible for the overall direction of the program including overview of planning, criteria preparation, resolution of problem areas, and participation in preparation of periodic evaluations of program progress. He coordinates the program between PG&E and the managing consultant for the Independent Review Board in addition to coordinating with the Managers, Nuclear Plant Operations and Station Construction, and the engineering chiefs. He reports directly to the Vice-President, Nuclear Power Generation.

3.1.2 Systems Interaction Project Engineer

The Systems Interaction Project Engineer is assigned from the Nuclear Projects Department. He has the direct responsibility for PG&E's program, including writing the program description, coordinating the efforts of consultants working on the program, providing functional and technical direction to the Interaction Team, reviewing and approving the resolutions proposed by the Interaction Team, providing administrative direction for the program, initiating plant modification design changes resulting from the program, preparing reports on the program, and communicating the activities and results of the program to the Manager, Nuclear Projects. He reports to the Manager, Nuclear Projects.

3.1.3 Interaction Team

The Interaction Team is made up of a group of supervisors and engineers drawn from the following disciplines: (a) mechanical systems; (b) piping supports; (c) instrumentation and control; (d) electrical; (e) civil/structural; (f) heating, ventilating, and air conditioning; and (g) startup systems. The Interaction Team members are required to have considerable experience in their field and to have worked on the Diablo Canyon Nuclear Plant. This team is responsible for identifying the target systems, performing the walkdowns, postulating and evaluating potential interactions, and proposing solutions to resolve these interactions in accordance with the guidance and criteria discussed in Section 5.0 of this report. The team members in each discipline are supervised by PG&E senior staff members or, in some cases, by outside

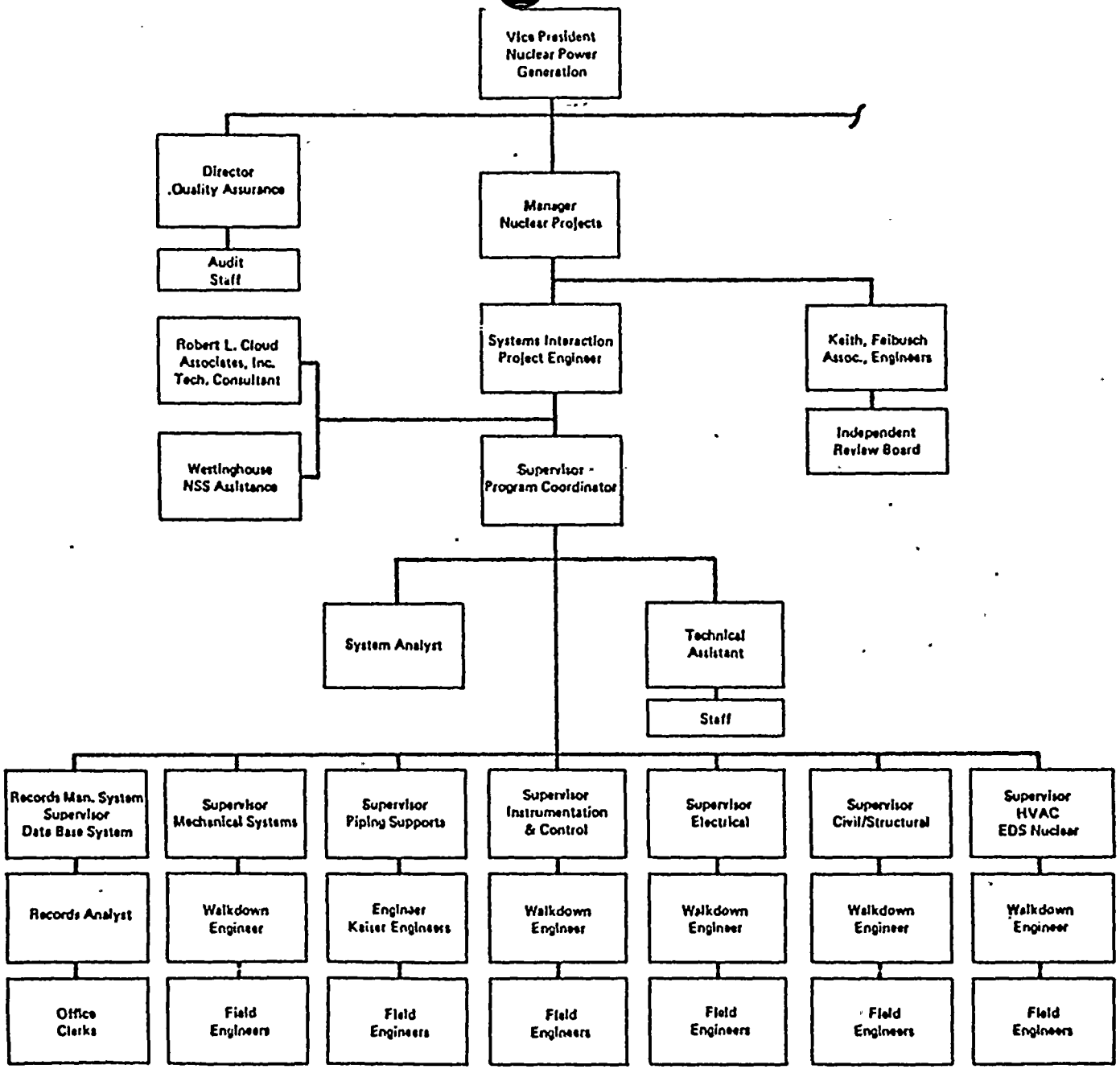

Figure 3-1 PG&E's Implementing Organization

consultants. The team members report through their respective engineering discipline chiefs to the Systems Interaction Project Engineer.

3.1.4 Quality Assurance Department

The Quality Assurance Department is organizationally independent of those departments directly involved in the system interaction program and was, therefore, given the responsibility of providing a team of cognizant engineers that would perform independent audits of the program to verify the correctness and completness of its implementation. The Director of Quality Assurance also directs the activities of the Records Management Section which maintains the relevant records for the Diablo Canyon Nuclear Plant. This section, accordingly, microfilms essential data, records, documents, and drawings associated with the system interaction program and maintains both a computerized index of this microfilmed documentation and a computerized data base of all the identified interactions and their resolutions. The Director of Quality Assurance reports directly to the Vice-President, Nuclear Power Generation.

PG&E's program, including the organization established to implement the program, is subject to PG&E's quality assurance program as described in Section 17 of the Diablo Canyon Nuclear Plant Final Safety Analysis Report. The normal functions and responsibilities of PG&E's Quality Assurance Department as required by Appendix B to 10 CFR Part 50 are not affected by the Quality Assurance Department's involvement with the program, as described above, or by the program itself.

3.1.5 Consultants

PG&E employs several consulting organizations to provide supplementary and specialized services in the performance of their program. These services include providing planning, technical analyses, administrative assistance, and technical assistance. The technical assistance was provided particularly in regard to the resolution of problems involving the nuclear steam supply system. Consulting organizations used in these capacities report directly to the System Interaction Project Engineer. The other use of a consultant was to assemble and manage the Independent Review Board which is described below. The latter consultant reports directly to the Manager, Nuclear Projects.

3.1.6 Independent Review Board

The Independent Review Board consists of five well-established and respected members of the academic and professional nuclear community. The board's function is to review, without any restriction, any aspect of PG&E's program it deems necessary. The board was established and is managed completely independently of PG&E to provide a critical overall review of the program that is as free of corporate (PG&E) restraints as is achievable. The board's conclusions and results are submitted to the managing consultant who, in turn, reports the board's findings to the Manager, Nuclear Projects.

3.2 Evaluation of PG&E's Organization

During the course of our review, we requested additional clarifying information concerning the composition, independence, and scope of review of the independent review team associated with PG&E's Quality Assurance Department and the Independent Review Board. At our request, PG&E revised their report to provide the requested clarifying information.

Our review of the organizational elements established by PG&E to implement their program, their responsibilities, and their reporting requirements has provided us with reasonable assurance that PG&E's program can be implemented in an acceptable manner. Therefore, we conclude that the organization established by PG&E to implement their program is acceptable.

4.0 PG&E'S PROGRAM METHODOLOGY

An important part of our review of PG&E's program, was the examination of the methodology used to implement the program. A brief description of that methodology and the results of our evaluation of it are presented below.

4.1 Description of Methodology

The methodology used by PG&E to implement their program is described below in terms of the initial office activities, field walkdown activities, technical evaluation, and modification phases of the program. Also described are the independent audit and independent review to which the program is subjected. Finally, the documentation associated with the program is described.

4.1.1 Initial Office Activities

The initial office activities phase of the program consisted of (1) the identification of all safety functions required to achieve and maintain the plant in a safe shutdown condition, to prevent or mitigate the consequences of certain postulated accidents, and to suppress fires following the postulated 7.5M Hosgri event; (2) the identification, according to location in the existing plant fire zones, of all structures, systems, and components required to perform these functions (target equipment); (3) the preparation of detailed criteria for the conduct of the program; and (4) the establishment of a documentation data base.

The identification of the safety functions and target equipment was accomplished by PG&E systems engineers with the assistance of systems engineers from Westinghouse Electric Corporation, the nuclear steam supply system vendor for the Diablo Canyon Nuclear Plant, and Robert L. Cloud Associates, technical consultant to PG&E for the program. This information, along with associated information such as equipment failure modes, code classification, PG&E safety classification, and equipment location in the existing plant fire zones, was tabulated in matrix form for use in conjunction with the documentation data base. The target systems were also highlighted on system drawings for use during the walkdowns by the Interaction Team and during the office-based technical evaluation. The existing plant fire zones provided convenient spatial subdivisions (compartments) for the conduct of the program.

The detailed criteria provide bases for (1) the postulation of source equipment failures, (2) the postulation of interaction effects on target equipment, (3) the technical evaluation of postulated interactions, and (4) the resolution of postulated interactions. These criteria are presented in Chapter 4.0 of PG&E's report and are discussed in more detail in Section 5.0 of this report.

The documentation data base is designed to ensure that all postulated interactions and their resolution are documented in a traceable and retrievable manner. This data base also provides a means of maintaining quality control of the program. The documentation data base makes use of and is incorporated into PG&E's existing computerized Records Management System. PG&E's program, including the documentation and record-keeping aspects of the program, is

subject to PG&E's quality assurance program as described in Section 17 of the Diablo Canyon Nuclear Plant Final Safety Analysis Report.

4.1.2 Field Walkdown Activities

The field walkdown activities phase of the program consisted of (1) confirming walkdowns, (2) interaction walkdowns, (3) intercompartmental walkdowns, and (4) modification walkdowns.

Confirming walkdowns, performed after the target equipment was identified and located during the initial office activities phase of the program, provided assurance that the list of target equipment and their locations is accurate and complete.

Interaction walkdowns are performed by the Interaction Team. The team postulates interactions, determines whether the postulated interactions are credible, and documents the following information on interaction documentation forms:

(1) The location and brief description of the postulated interaction,

(2) The equipment involved in the postulated interaction,

(3) The criteria utilized in the postulation of the interaction, and

(4) The recommended resolution of the postulated interaction.

The recommended resolution of the postulated interaction takes one of the following forms:

(1) An evaluation of whether a postulated interaction can or cannot occur,

(2) An evaluation of whether a safety function will be impaired even if a postulated interaction does occur,

(3) A recommendation that a physical modification be designed and installed, or

(4) A recommendation for further evaluation.

All findings and recommendations of the Interaction Team relative to the interaction walkdowns are entered into the documentation data base and are evaluated during the technical evaluation phase of the program.

Intercompartmental walkdowns, i.e., walkdowns in which possible interactions among the various fire zones or compartments are considered, are also performed by the Interaction Team. The team identifies all possible intercompartmental interactions, determines if they are credible, and documents all relevant information in a manner similar to that described above for the interaction walkdown. All findings and recommendations of the Interaction Team relative to the intercompartmental walkdowns are entered into the documentation data base and are evaluated during the technical evaluation phase of the program.

Modification walkdowns are discussed in Section 4.1.4 of this report. Any design deficiencies subject to the requirements of Section 50.55(e) of 10 CFR Part 50 discovered during the program will be reported as required.

4.1.3 Technical Evaluation

All findings and recommendations of the Interaction Team during the interaction and intercompartmental walkdowns were evaluated during the office-based technical evaluation phase of the program. Analyses, testing, and historical experience, when applicable, are used to evaluate the validity of the findings and recommendations of the Interaction Team. The final resolutions of the postulated interactions are documented on the interaction documentation forms and are entered into the documentation data base.

4.1.4 Modifications

Modifications may be deemed necessary as a result of the interaction walkdowns, intercompartmental walkdowns, and subsequent technical evaluation. All design, analysis, and construction work associated with any modifications are subject to PG&E's quality assurance program as described in Section 17 of the Diablo Canyon Nuclear Plant Final Safety Analysis Report. After any modifications have been made, a modification walkdown is performed by the Interaction Team to assure that the modifications themselves will not contribute to adverse interactions. All findings and recommendations of the Interaction Team are entered into the documentation data base.

4.1.5 PG&E Quality Assurance Department's Independent Audit

PG&E's Quality Assurance Department will conduct an independent audit of the program. The audit will be conducted by an interdisciplinary team of engineers who are not involved with the program. This team of engineers will:

(1) Perform, on a sampling basis, walkdowns of representative compartments and any related intercompartmental interactions;

(2) Perform audits of previous intercompartmental walkdowns;

(3) Perform, on a sampling basis, independent analyses to verify that the previous analyses were performed correctly;

(4) Review program documents; and

(5) Review completed modifications.

4.1.6 Independent Review

The Independent Review Board will monitor the program, conduct independent audits, and report its findings to Keith, Feibusch Associates, Engineers, the consultant managing the Independent Review Board. The managing consultant will, in turn, report these findings to PG&E's Manager, Nuclear Projects.

4.1.7 Information Management System

PG&E has provided as an important part of their program, a computerized information management and recording system. This system, when combined with their methods of recording field data and entering it into their computerized system, ensures that complete records of all postulated source failure modes which led to postulated interactions, the resulting interactions, the results of analyses and tests, and the resolutions are maintained in an auditable and retrievable form.

PG&E's method of recording field data is described in Sections 5.4.2, 5.4.3, 5.5, 5.6, and 6.2 of their report and includes the preparation of system and subsystem matrices for each safety-related system and subsystem prior to beginning the walkdowns. During the walkdowns, postulated interactions are documented completely on an Interaction Documentation Sheet. Data from these sheets, the matrices, and the resolution documentation are entered into the computerized documentation data base. All documentation, including the resolution documentation, is microfilmed. A complete index of this information is maintained by the computerized information management system which can retrieve and print out the location of any piece of documentation that has been entered into the system. This location then tells exactly where to look for the information in the microfilm file.

Following the completion of their program, PG&E will prepare a final report which will include an identification of all interactions postulated, all walkdown data, interaction resolutions, and technical reports. PG&E will provide for our information copies of their final report.

4.2 Evaluation of Methodology

During the course of our review, we requested additional clarifying information concerning the methodology used by PG&E to implement their program, especially in the area of the scope of the office-based technical evaluations of the findings of the Interaction Team. We were particularly interested in whether all the findings and recommendations of the Interaction Team, including findings that no interactions were postulated, are reviewed during the technical evaluation phase of the program. At our request, PG&E clarified their report to state that all the findings and recommendations of the Interaction Team are reviewed during the technical evaluation phase of the program.

Our review of the initial office activities, field walkdown activities, technical evaluation, and modification phases of PG&E's program, as well as the independent audit and independent review to which the program is subjected, have provided us with reasonable assurance that PG&E's program can be implemented in an acceptable manner. Therefore, we conclude that the methodology used by PG&E to implement their program is acceptable.

5.0 EVALUATION CRITERIA AND GUIDANCE

5.1 Fundamental Criterion

PG&E adopted as the fundamental basis of their program the criterion that when subjected to seismic events of severity up to and including the postulated 7.5M Hosgri event, the program will demonstrate that the structures, systems, and components important to safety at the Diablo Canyon Nuclear Plant shall not be prevented from carrying out their required safety functions because of physical interactions caused by seismically induced failures of nonsafety-related (source) structures, systems, or components. Nor shall safety-related structures, systems, or components lose the redundancy required to compensate for single failures because of such interactions. We find this fundamental criterion is a reasonable basis for the conduct of the program and is, therefore, acceptable.

5.2 Types of Guidance

In addition to the basic guidance provided by the fundamental criterion, PG&E provided in Section 4.5.1 of their report more specific guidance for the postulation of source failure, the postulation of interactions due to that source failure, the evaluation of the resulting interaction, and the resolution of the interaction. These various types of guidance are discussed in more detail in subsections 5.3, 5.4, 5.5, and 5.6 that follow.

5.3 Source Failure Criteria

5.3.1 Structural Sources

A single criterion for deciding whether significant failure of structures or structural elements can occur was provided. It states that such sources shall be deemed to fail unless it can be shown by test, analysis, or comparison to similar previously qualified structures or elements that they are qualified to withstand the 7.5M Hosgri seismic event. We find this criterion to be consistent with the provisions of Regulatory Guide 1.29 "Seismic Design Classification" and, therefore, acceptable.

5.3.2 Mechanical Sources

A set of six criteria for postulating failure of source mechanical equipment items is presented in Section 4.5.1.2 of PG&E's report. These criteria address overturning of unsupported equipment; failure of valve and operator upperstructures and vertical pump motors; lateral deflection at tops of tanks and vessels; failure of tank or vessel supports; failure of pump and motor anchorages; and other unusual situations that require special consideration through test or analysis. We generally found these criteria acceptable with the exception of the items discussed below where changes in the criteria resulted from our review.

PG&E's criterion for evaluating the overturning of unsupported equipment had been changed to state that if the center of gravity was located higher than a distance equal to the base width, the equipment would be assumed to overturn. This criterion has been revised at our request to now state that such equipment is assumed to overturn if its center of gravity is located higher than a distance equal to or greater than one-half the minimum width of its base with each direction independently evaluated. A horizontal acceleration of at least one g would be required to overturn such an unsupported component. PG&E has advised us that they know of no equipment subject to this criterion that would experience an acceleration greater than one g during the postulated Hosgri event. However, should any such equipment be discovered, it will be evaluated under another criterion which provides that situations not otherwise covered will be analyzed on a case-by-case basis. We believe that PG&E's criterion for evaluating the overturning of unsupported equipment is acceptable.

PG&E's criterion for lateral deflection at the top of tanks and vessels states that the deflection at the top will be postulated to be one inch per foot of tank or vessel height because of sloshing of tank or vessel contents. PG&E has clarified that this deflection is assumed to vary linearly with tank or vessel height. This criterion was developed because of the expressed need for an explicit criterion by the Interaction Team. It is based primarily on engineering judgment, the conservatism of which was demonstrated by example modeling calculations that showed margins of about 100 times between assumed and calculated deflections. We believe this criterion with respect to deflection and resultant potential interaction with other nearby structures and components to be acceptable.

PG&E's criterion for postulating the failure of power-actuated valve operators, vertical pump motors, and gear-operated valve upperstructures that exceed 12 inches in length assumes that these devices will fail unless they have been shown to be seismically qualified. We believe this criterion to be acceptable.

5.3.3 Electrical Sources

For electrical equipment items, identical criteria to those previously stated under mechanical source criteria apply for the cases of unsupported electrical equipment and for support failure of floor-mounted electrical equipment items. These criteria, as well as the criterion for the postulated failure of wall-mounted electrical equipment, we find to be acceptable.

The criterion for raceways originally stated that cable trays would not fail because they were conservatively supported. We had no basis for judging the adequacy of this statement. The criteria were revised to state that vertical supports were required at least every eight feet. All cable tray supports are not stressed beyond the yield point. A series of tests showed that cable trays and supports of the design used at the Diablo Canyon Nuclear Plant would not fail in an earthquake of the Hosgri magnitude. During these tests, it was also shown that no electrical faults developed in the cables. These tests and

their results also applied to both longitudinal and lateral supports. We believe these tests demonstrate that the criterion for postulating cable tray failure provides adequate margins of seismic capability for cable tray systems of this design. We conclude, therefore, that this criterion is acceptable.

Nonsafety-related conduit is supported and restrained by hardware of the same design as that used for Class I, seismically qualified conduit and is, therefore, assumed not to fail. We find this acceptable on the basis that the supports and restraints for nonsafety-related conduits are the same as those for seismically qualified Class I conduit.

5.3.4 Heating, Ventilating, and Air Conditioning (HVAC) Sources

We reviewed the six criteria for postulating failure of HVAC ducting and equipment. We generally found them acceptable with the exception of the concerns discussed below.

For the criteria that treat failure of vertical, lateral, and longitudinal supports, analyses were relied upon to show that if the specified support spacing was adhered to, the supports would not fail under the postulated Hosgri loading. This analysis was not identified nor was its basis given. At our request, PG&E revised their report to identify the analyses and show that the supports are not stressed beyond the elastic limit. The criteria for deflection of ducts appears to be reasonably conservative. The case of failure of inline equipment is stated to be subject to the same criteria as were presented for mechanical sources for failure due to sliding, tipping, falling, or overturning. We believe these criteria, as revised, give a reasonable basis for postulating failure or assessing the seismic margin of safety for these source items and are, therefore, acceptable.

5.3.5 Piping Sources

Eight criteria for postulating failure of piping were presented in PG&E's report. Of these, we found the criteria covering bolted flange separation, failure of fixed-end rod type pipe supports, lateral displacement (sway) of piping, and unusual situations to be reasonably conservative and, therefore, acceptable.

PG&E's report originally attempted to qualify nonsafety-related piping and pipe supports by comparison with historical data or by experience with the same or similar items. We required that the use of such historical or experiential data be carefully controlled so that the compared situations and usage are closely similar, present a complete and unbiased picture, and that the magnitudes of the seismic accelerations are comparable. PG&E has agreed to comply with these requirements and to document such data whenever it is used as a basis for qualification. They further state that such data are expected to be used only to support other bases for qualification. We require that prior approval be obtained for any use of historical data as the sole basis for qualification. On this basis, we find the use of historical data acceptable.

We found that circumferential breaks in threaded piping less than four inches in diameter, all welded piping, and flanged piping were not addressed in the piping failure criteria presented in PG&E's report. The piping failure criteria have been revised to address such failures by considering piping flexibility, heavy fittings, section properties, support spacing, and historical evidence to form a basis for their assumption that such small-diameter, nonsafety-related piping will not fail. We find these revised criteria acceptable.

The criterion for pipe hanger spacing for use where inline equipment or concentrated masses are located between supports was originally that specified in American National Standards Institute (ANSI) Standard B31.1, "Power Piping Code." PG&E responded to our concern about the adequacy of the support spacing by modifying the criterion to require reduced spacing proportionate to the increased mass of the span caused by the added mass of the equipment. We find this modified criterion acceptable.

The effects of high and medium energy line breaks including flooding, jet impingement, pipe whip, and detrimental environmental changes were not originally addressed in PG&E's report. PG&E revised their report to address these effects by including references to high and medium energy line break analyses and to specific flooding analyses that have been previously performed. We find these changes provide reasonable assurance that these effects have been considered and are acceptable.

During our review, we generated several concerns about the adequacy of the criterion for pipe supports and hangers. These included the concern that seismic loads may not have been considered in the evaluation of loading on nonseismically qualified source piping. Section 4.5.1.5 of PG&E's report has been modified to state that the loads selected will be the actual loading and will include seismic loads in addition to the deadweight load. Example calculations will be included in PG&E's final report, as discussed in Section 4.1.7 of this report, to demonstrate the adequacy of the selected load values.

We also questioned the seismic margin to failure for the pipe hangers and supports. PG&E revised their criterion to state that the pipe supports and hangers meet or exceed the ANSI B31.1 Code requirements and that a series of tests have shown that the failure loads were on the order of five times greater than the specified load values. PG&E has also committed to demonstrate the seismic margin in these supports by presenting in their final report several worst-case example analyses of piping and supports to show that the seismically induced strain in the piping and pipe supports will not exceed 25 percent of the minimum specified uniform strain at the point of maximum load. We find that these revisions considered together provide reasonable assurance that the piping and its hangers installed according to this criterion will survive the Hosgri event and are acceptable.

5.3.6 Instrumentation and Control Equipment Sources

In the orginal PG&E report, no criterion was presented for addressing the failure of nonsafety-related instrumentation and control equipment. PG&E modified their report to include a criterion to assume failure of instruments

having extended dimensions greater than 10 inches and masses greater than 45 pounds. Instruments of these dimensions and masses mounted on the least substantial mountings were seismically tested as limiting cases. No structural failures occurred as a result of these tests, which incuded response spectra exceeding the Hosgri spectrum. Therefore, it has been assumed that all instrumentation and control equipment having combinations of mass and extended dimensions less than those in the criterion would not fail. Plant instruments of mass and extended dimensions greater than those in the criterion will be documented as potential interactions. A second criterion covers unusual situations not otherwise covered by stating that such situations will be analyzed on a case-by-case basis. We believe these modifications provide reasonable assurance that instrumentation and control equipment either will not fail or, if failure is assumed, protection against its failure will be provided. We find this acceptable.

5.4 Interaction Identification

PG&E's criterion for identification of interactions states that an interaction shall be identified whenever the seismically induced behavior of a source could lead to detrimental physical effects on a target. Generally, interactions are identified for cases in which: (a) contact between source and target would compromise the operability of the target; (b) source fluid leakage could degrade the target's environment; (c) a source-generated missile contacts the target and compromises the target's pressure boundary; (d) a source-generated missile contacts the target and affects the operability of the target; or (e) secondary or chain-type interactions are caused by any of the above source behavior that affects another piece of nonsafety-related equipment causing it to become, in turn, a source. An interaction is not identified if it can be established through onsite inspection by the Interaction Team that the potential interaction is judged unlikely to occur for seismic events up to and including the 7.5M Hosgri event. We questioned in our review the heavy dependence that is placed on the exercise of engineering judgment on the part of the members of the Interaction Team in the postulation and identification of interactions. PG&E modified their report to specifically instruct the Interaction Team that in case there was any uncertainty on the part of the team regarding the likelihood of occurrence or the potential effects on the target of a postulated interaction, it was to be referred for further study and analysis in the office. We believe that this guidance represents a reasonable and sufficient basis for identification of potential physical interactions due to seismic excitation and is, therefore, acceptable.

5.5 Interaction Effects Evaluation

5.5.1 Evaluation of Interactions

Evaluation of the effects of seismically induced postulated interactions can have three possible outcomes: (1) a seismic event may not cause a source failure that leads to an interaction because the potential source can be shown by analysis, test, or experience with the same or similar items to be capable of withstanding seismic events of severity up to and including the 7.5M Hosgri event; (2) a seismic event may cause damage or failure of the source item, but

the credible failure modes do not pose threats to the integrity or operability of the target; or (3) a seismic event may cause damage or failure of the source item that can lead to an adverse interaction with a safety-related system.

Item (1) is evaluated using the source failure criteria listed in Section 4.5.1 of PG&E's report and discussed in Section 5.3 of this report. We believe this approach is straightforward and acceptable.

Item (2) relies heavily on the engineering judgment of the walkdown team as discussed in preceding Section 5.4 of this report. Further confidence in this regard is given by the provision that all field interaction evaluations and resolutions are subjected to an office-based technical evaluation. The integrity and quality of this approach is backed up by the independent audits performed by the auditing team from PG&E's Quality Assurance Department as described in Section 4.1.5 of this report and by the Independent Review Board as described in Section 4.1.6 of this report. We believe that this system of reviews provides reasonable assurance that all interactions will receive appropriate consideration and is acceptable.

Item (3) leads to consideration of two types of interactions, direct as discussed below in Section 5.5.2 and indirect as discussed in Section 5.5.3 of this report.

5.5.2 Evaluation of Direct Interactions

Criteria for evaluating direct physical interactions are presented in Section 4.5.2.1 of PG&E's report. This presentation refers to criteria for evaluating the direct impact of missiles or falling objects on safety-related structures and components that are contained in Sections 3.3.2 and 3.5 of the Diablo Canyon Final Safety Analysis Report and in ANSI Standard N660, "Plant Design Against Missiles." These criteria were previously found acceptable for evaluating the design of safety-related structures and components; therefore, we find their present use acceptable.

Direct impact of missiles and falling objects onto HVAC ducting is evaluated using the values of revised Table 4-5-3 contained in PG&E's report. The ducts have been evaluated to absorb these values of kinetic energy while suffering local deformation of no more than 20 percent of the duct diameter or smallest dimension. The ducting has been sized such that a loss of this magnitude will not cause loss of the required flow through the duct. Also the ducting support has been shown to remain stressed within the elastic limit. We believe these criteria are sufficiently conservative to provide reasonable assurance that this ducting will not fail to perform its function when struck by missiles having impact energies no greater than those tabulated in the table and are, therefore, acceptable.

Dynamic effects of breaks in piping are evaluated using the criteria given in Section 3.6 of the Diablo Canyon Final Safety Analysis Report. These criteria were previously found acceptable for evaluation of these effects for safety-related equipment and we find their use in this evaluation acceptable.

Criteria for evaluating the flooding effects of broken or leaking piping are presented in Appendix 3.6A of the Diablo Canyon Final Safety Analysis Report. These criteria were previously found acceptable for evaluating these effects on safety-related equipment; therefore, we find their present use acceptable.

Environmental effects of broken or leaking piping, tanks, or pressure vessels are evaluated by comparing the estimated environment with the qualification profile of the target component or structure. PG&E has stated that criteria and data contained in Section 3.11 of the Diablo Canyon Final Safety Analysis Report will be used to estimate the resulting environment and to guide comparison with the qualification profile. We find this acceptable since this use of these criteria and data has been previously found acceptable for qualifying safety-related equipment.

5.5.3 Evaluation of Indirect Interactions

Two types of indirect interactions are considered in PG&E's program. First is the chain or successive failure type interaction described in Section 5.4 of this report in which primary source failure is first postulated. Next, the direct interaction evaluation criteria are applied between the failed primary source and the nonsafety-related equipment that is postulated to be the target. The target now becomes the secondary source, is postulated to fail, and the direct interaction evaluation criteria are applied again between the secondary source and the target safety-related equipment. We find that this application of the direct interaction evaluation criteria to these successive chain-type interactions is reasonably conservative and is, therefore, acceptable.

The second type of indirect interaction is that where failure of source equipment could cause interactions such as the non-operation or inadvertent operation of nonsafety-related equipment that has required or assumed failure modes. Similar interactions could occur where safety-related equipment items are supplied by nonvital power sources when these nonvital power sources are lost, degraded, or when unwanted energization violates the design assumption of loss of such nonvital power. At our request, PG&E revised their report to consider this type of potential indirect interaction. The revision states that the walkdowns will assure that air and process tubing, and instrumentation, control, and electrical cables up to the cable trays will be protected from physical damage due to inadequate support or other postulated interactions. These walkdowns and subsequent evaluations will be based on consideration of these items as targets and on analyses which show no significant interaction effect; or on action taken to prevent such interactions from occurring. Once the cables enter the cable tray system, further consideration is not considered necessary since even the nonsafety-related cable trays have been shown to withstand the Hosgri event; tests have shown that the cables in trays subjected to seismic excitation equivalent to that of the Hosgri event have not sustained significant damage; and cable tray locations are such that significant damage to cabling in the trays from falling objects is minimal. We find these provisions provide reasonable assurance that localized failures of nonsafety-related equipment or structures will not cause interactions of the types considered above and are acceptable.

5.6 Resolution Guidance

5.6.1 Methods of Resolution

PG&E's report presents four methods of resolution of identified interactions. These are: (1) show that the source will not fail, (2) show that the operability of the target is not impaired, (3) modify the source or target to prevent the interaction from affecting the target, and (4) reorder the operating procedures or define alternate means of providing the required safety functions. In Section 5.6.2 below, we discuss the acceptability of the guidance or criteria that are available for use in evaluating resolutions achieved by each of these four methods.

5.6.2 Evaluation of Resolution Guidance

To resolve postulated interactions by showing that the source will not fail, use is made of the source failure criteria that are presented in Sections 4.5.1.1 through 4.5.1.6 of PG&E's report. These criteria were evaluated and found acceptable in Sections 5.3.1 through 5.3.6 of this report. If the source can be shown to meet or exceed the requirements of these criteria, no interaction can occur and the situation is resolved. We find this use of the source failure criteria acceptable.

To resolve postulated interactions by showing that the operability of the target is not impaired, use is similarly made of the interaction evaluation guidance presented in Sections 4.5.2.1 and 4.5.2.2 of PG&E's report and discussed in Sections 5.5.2 and 5.5.3 of this report. The interaction and its effects on the target are compared against these guidelines and if a determination can be made that the target will retain its required degree of operability regardless of the interaction, then the situation is deemed resolved on the basis that the target operability has not been impaired. We find this use of the interaction evaluation guidance acceptable.

Should analysis or test not provide a reasonable means of resolving the interaction, physical modifications to either source or target may be necessary. These modifications may first take the form of bracing, supporting, or reinforcing of the source to preclude its failure. Physical modification of the target to retain the required degree of operability regardless of the interaction is the second means of resolution. Providing physical shielding of the target or relocation of either source or target to preclude the physical interaction is the third means of resolution by modification.

For modification of either source or target, the criteria for evaluating the acceptability of the structural or mechanical modifications are the same as those documented in the Hosgri report for safety-related structures and equipment. Relocation of either source or target equipment must similarly meet the criteria for separation and maintenance of independence of redundant systems and structures for safety-related systems and structures. Erection, composition, and placement of physical shielding structures must also meet the requirements for structural and mechanical integrity as documented in the Hosgri report as well as the requirements of the fire protection program. Finally, the modified and/or

relocated equipment or structures must meet the requirements of the PG&E Quality Assurance program as well as the criterion that when reevaluated for interactions using the previously approved criteria and guidance, they must be found to have not only resolved the original interaction but also to have not created any new interactions. We find that use of this guidance and criteria in this manner is acceptable.

No specific guidance or criteria are provided for the last means of resolution, namely that of reordering the operating procedures or defining alternate means of providing the required safety functions. PG&E has stated that this means of resolution was included for completeness and that they are unaware of any situations in which it might be applied. We require that if this means of resolution is adopted, specific acceptance criteria for each situation shall be provided and evaluated for each such unique case. On this basis we find this last means acceptable.

5.7 Evaluation of Program Criteria and Guidance

Our review of the criteria and guidance used by PG&E to evaluate seismically induced systems interactions has provided us with reasonable assurance that PG&E's program can be implemented in an acceptable manner. Therefore, we conclude that the criteria and guidance used by PG&E to evaluate seismically induced systems interactions are acceptable.

6.0 RESULTS OBTAINED BY PG&E UP TO AUGUST 1, 1980

At our request, PG&E provided us with a summary of the results of their program obtained up to August 1, 1980. A brief description of those results and our evaluation of them are presented below.

6.1 Description of Results

As of August 1, 1980, PG&E had completed approximately 90 percent of their walkdown effort associated with Unit 1. Up to that time, a total of 677 interactions had been postulated. Most of the postulated interactions involved structural grates, platforms, and handrails; pipe; and electrical lighting fixtures. Other postulated interactions involved HVAC equipment, pipe supports, service hoists, pipe whip restraints, ladders, conduit and wire, pipe insulation, and tanks and vessels. A breakdown by category of these interactions is presented in Table 6-1.

Of the 677 postulated interactions, 207 were resolved in the field by the Interaction Team. The remaining 470 postulated interactions were deemed to require further resolution effort. Of the 470 postulated interactions deemed to require further resolution effort, 242 were resolved by analyses or tests, and 228 were resolved by plant modifications.

6.2 Evaluation of Results

Although not yet complete, PG&E's program has resulted in the postulation of a substantial number of interactions. Approximately one-third of the postulated interactions were resolved in the field by the Interaction Team; the remaining two-thirds required further resolution effort. Of those postulated interactions requiring further resolution effort, approximately one-half were resolved by analyses or tests, and one-half were resolved by plant modifications. Approximately one-third of the total number of interactions postulated were ultimately resolved by plant modifications.

We believe that (1) the substantial numbers of interactions postulated and (2) the significant fraction of those postulated interactions that were ultimately resolved by plant modifications provide reasonable assurance that the objectives of PG&E's program can be achieved.

TABLE 6-1

BREAKDOWN BY CATEGORY OF

INTERACTIONS POSTULATED UP TO AUGUST 1, 1980

Category of Postulated Interaction	Number of Postulated Interactions
Structural Grates, Platforms, and Handrails,	199
Pipe	178
Electrical Light Fixtures	164
HVAC Equipment	33
Pipe Supports	31
Miscellaneous	31
Service Hoists	16
Pipe Whip Restraints	9
Ladders	7
Conduit and Wire	3
Pipe Insulation	3
Tanks and Vessels	3
Total	677

7.0 ONSITE AUDIT OF PG&E'S PROGRAM

An important part of our review of PG&E's program was a three-day onsite audit. Assisting us in this effort were the NRC Resident Inspector for the Diablo Canyon Nuclear Plant and a representative of Lawrence Livermore Laboratory, our consultant for the review. The objectives of our audit were to (1) continue our discussions with PG&E related to our review of their program, (2) review the progress made to date by PG&E, (3) observe PG&E's walkdown technique and examples of postulated interactions identified during previous walkdowns, and (4) conduct independent walkdowns of selected portions of some of the safety-related systems.

Our audit began with a tour of the plant to familiarize ourselves with the location and layout of the major plant structures, systems, and components. Following this tour, PG&E representatives briefly described their program and summarized the progress made to date. Included in this presentation was a discussion of the responses of piping, cable trays, and other equipment located at certain fossil power plants and industrial facilities to some past and recent seismic events.

The PG&E representatives then demonstrated how interaction data from the program is documented in the field and subsequently entered into the data base of their computerized information management system. Resolution information developed subsequent to the walkdowns can also be readily entered into the system for each identified interaction. They also demonstrated the search and retrieval capabilities of the system. We found this system to be an important part of the program.

We observed a demonstration of PG&E's walkdown technique and were shown examples of postulated interactions that had been identified on previous walkdowns. The PG&E representatives also discussed with us the resolutions of these sample interactions.

We next conducted our own independent walkdowns of selected portions of some of the plant safety-related systems. In this effort, experienced PG&E engineering personnel assisted us in locating and tracing down the various elements of the selected portions of the safety-related systems as well as in identifying any nonsafety-related structures, systems, or components that appeared to constitute an interaction.

These portions of systems were walked down in an effort to identify potential sources of seismically induced physical interactions. The walkdowns consisted of physically investigating the routing and installation of all piping, conduit, and discrete equipment units that formed the portions of the systems under consideration. At each point during this process, the safety-related system was viewed as the target. All nonsafety-related systems that either joined the target, were located nearby, or were located such that their failure could affect the ability of the safety-related system to perform its intended function were assumed to be potential sources of interaction. Safety-related systems located nearby were assumed not to fail since they are seismically qualified. Although potential physical interactions involving only safety-related systems

are outside the scope of the program, PG&E has noted a few such interactions. These noted interactions either have been or will be eliminated.

The portions of systems we selected for our independent walkdowns included (1) the turbine steam supply piping, electrical power supply to the turbine motor-operated throttle valve, and the pump discharge piping associated with the turbine-driven auxiliary feedwater system; (2) the pressurizer relief tank rupture disks; (3) the containment ventilation and purge isolation valves; and (4) one 125-volt vital battery room. The results of our independent walkdowns are discussed below.

We found that our method of conducting a walkdown was nearly identical to PG&E's earlier efforts in that our philosophy of considering the safety-related systems as targets and the nonsafety-related systems as sources were the same. PG&E had subsequently refined their data gathering and recording system to the point where each postulated interaction is uniquely identified and described. This information, along with information about its resolution, is documented in retrievable form in a computer-based data management system.

After our walkdowns were completed, we compared our results to those of PG&E that contained the same elements. The comparison was limited in extent because PG&E had not completed their walkdowns of the containment ventilation and purge system isolation valves or the electrical power supply to the turbine motor-operated throttle valve. The results of our independent walkdowns were consistent with those of PG&E; that is, we identified all of the interactions postulated by PG&E during their walkdowns and no others.

The results of our walkdowns of each of the selected portions of the systems listed above are described below.

(1a) The turbine-driven auxiliary feedwater pump turbine steam supply piping was walked down from its connections to Main Steam Supply Lines 2 and 3 to the turbine itself. Six interactions with this piping were postulated. An example of a postulated interaction involved a stub drain line from that portion of the turbine steam supply line that came from Main Steam Supply Line 2. The stub drain line was found to extend over a nonseismically qualified steam drain line in such a manner that it could be either impacted by the steam drain line or be struck from above and be broken off. PG&E's recommended resolution was to cut off and cap the stub drain line since these lines are not needed for plant operation.

(1b) The electrical power supply to Turbine Motor-Operated Throttle Valve FCV-95, routed in safety-related Conduit K-6764, was walked down from the valve operator to its point of entrance into the motor control center in the 480-volt essential switchgear room. We postulated some 15 interactions, most of which involved nonsafety-related conduits crossing Conduit K6764 with minimal physical separation. In these cases, the nonsafety-related conduits either were or will be seismically supported. The most glaring postulated interaction involved a two-inch plant air supply line that loops around the Component Cooling Water Train "A" header surge line and runs vertically between Conduit K-6764 and the compartment walls with

about one-inch separation between the conduit and the nonsafety-related air supply line. The air supply line was not restrained over any of its length in the vicinity of the crossover and was observed to impact heavily on Conduit K-6764 when the air line was shaken by hand. PG&E's recommended resolution was to seismically support and restrain the air supply line to prevent this motion.

(1c) We walked down the turbine-driven auxiliary feedwater pump discharge piping from its connection at the pump to its connection to the main feedwater lines. Nine interactions with this line and its valving were postulated. An example of a postulated interaction was the seismically induced movement of the discharge leg (Line 570) that feeds Steam Generator 2 into a nonsafety-related angle bracket pipe support for a 3/4-inch test line. PG&E's recommended resolution was to cut out the angle bracket to increase the clearance for Line 570 from 3/16 to two inches, thus providing adequate allowance for motion of Line 570.

(2) We investigated the location and construction of the pressurizer relief tank rupture disks. The two disks, approximately 12 inches in diameter, are located on top of the pressurizer relief tank. We postulated that rupture of these disks could affect four Class IE conduits and associated pull or junction boxes that were located on the ceiling about eight feet above the top of the tank. Upon further investigation, we found that these disks were designed to rupture in a tearing mode into pie-shaped sections resembling the opening of flower petals at a maximum pressure of 112 psig. It is judged highly unlikely that missiles or shrapnel would be formed by this mode of failure. Further, the maximum temperature of 118 degrees Fahrenheit would not pose a thermal hazard to the cabling in the conduits and boxes. Three of the boxes were pull boxes with the cabling insulation left intact. The fourth box contained a splice which was made using environmentally qualified Raychem splicing materials. We concluded that this postulated interaction does not require further action.

(3) We investigated potential interactions involving the containment ventilation and purge system isolation valves. These are large (48-inch) butterfly valves that close upon deenergization of the nonsafety-grade control air supply. We were particularly interested in whether potential interactions could damage the solenoid air control valves preventing them from venting the air from the actuator thus preventing the valves from achieving their required closed failure modes. An inspection of the solenoid air control valves and the surrounding area did not reveal any postulated interactions.

(4) Our review of one of the 125-volt vital battery rooms revealed only one category of postulated interaction. The overhead lighting fixtures were not seismically supported. We postulated that these fixtures could fall onto the battery racks and short out the cells, ground the battery, or break the cell containers. PG&E's recommended resolution was to seismically support the fixtures.

8.0 CONCLUSION AND FOLLOWUP

8.1 Conclusion

Our review of PG&E's report, as described in Sections 2.0 through 5.0 of this report; our evaluation of the results of PG&E's program obtained up to August 1, 1980, as described in Section 6.0 of this report; and our onsite audit of PG&E's program, as described in Section 7.0 of this report, have provided us with reasonable assurance that when subjected to seismic events of severity up to and including the postulated 7.5M Hosgri event; structures, systems, and components important to safety will not be prevented from performing their intended safety functions as a result of physical interactions with nonsafety-related structures, systems, and components. In addition, safety-related structures, systems, and components will not lose the redundancy required to compensate for single failures as a result of such interactions. Further, our review has provided us with additional assurance that the requirements of Criteria 2, 3, and 4 of Appendix A to 10 CFR Part 50 and the single failure requirements of Appendix A to 10 CFR Part 50 have been met for the Diablo Canyon Nuclear Plant, Units 1 and 2. Therefore, we conclude that PG&E's program is acceptable.

8.2 Followup

As stated above, we, the Office of Nuclear Reactor Regulation, have concluded that PG&E's program is acceptable. PG&E will complete their program and any necessary plant modifications for each unit prior to the issuance of any license authorizing full-power operation of that unit. The completion of PG&E's program and the acceptability of any plant modifications will be verified by the Office of Inspection and Enforcement during the normal course of their inspection activities. Finally, PG&E will, following the completion of their program, provide for our information copies of their final report of their program which will include an identification of all interactions postulated, all walkdown data, interaction resolutions, and technical reports.

APPENDIX A

May 7, 1980	Submittal concerning the Systems Interaction Program
May 27, 1980	Submittal concerning the Systems Interaction Program
July 1, 1980	Submittal concerning the Systems Interaction Program
July 15, 1980	Submittal concerning the Systems Interaction Program
August 19, 1980	Submittal concerning the Systems Interaction Program
September 16, 1980	Submittal concerning the Systems Interaction Program

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16. ABSTRACT (200 words or less)

Supplement No. 11 to the Safety Evaluation Report for Pacific Gas and Electric Company's application for licenses to operate the Diablo Canyon Nuclear Power Station (Docket Nos. 50-275 and 50-323) located in San Luis Obispo County, California has been prepared by the Office of Nuclear Reactor Regulation of the Nuclear Regulatory Commission. The purpose of this Supplement is to discuss the systems interaction program for seismically-induced events for the Diablo Canyon facilities.

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ATTACHMENT 2

TO THE PGandE

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

SYSTEMS INTERACTION PROGRAM (SIP) MANUAL

This attachment contains Revision 4 to the SIP Manual. The Program Manual contains all the instructions and procedures for the implementation of the SISIP.

ATTACHMENT 5-B.1

TO THE PGandE

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

UNIT 1

DATA MANAGEMENT REPORTS:

INTERACTION DATA BASE

LISTING BY AREA

SUBSORTED BY RESOLUTION METHOD AND SOURCE

This attachment contains the results of sorting the SISIP data base by plant area and resolution method. Data within each area and resolution method category are subsorted by source code.

TABLE OF AREA BY RES

AREA FREQUENCY PERCENT	RES A	M	NAN	P	X	Y	TOTAL
AUX	46 2.09	35 1.59	42 1.91	0 0.00	4 0.18	5 0.23	132 6.01
CNT	153 6.96	165 7.51	148 6.73	1 0.05	30 1.36	7 0.32	504 22.93
DG	17 0.77	32 1.46	19 0.86	0 0.00	13 0.59	0 0.00	81 3.69
EL	33 1.50	69 3.14	51 2.32	0 0.00	7 0.32	3 0.14	163 7.42
HV	49 2.23	48 2.18	67 3.05	0 0.00	0 0.00	2 0.09	166 7.55
IS	6 0.27	4 0.18	2 0.09	0 0.00	0 0.00	1 0.05	13 0.59
OA	43 1.96	41 1.87	11 0.50	0 0.00	11 0.50	0 0.00	106 4.82
PEN	114 5.19	103 4.69	131 5.96	0 0.00	18 0.82	14 0.64	380 17.29
PPS	32 1.46	46 2.09	21 0.96	1 0.05	2 0.09	0 0.00	102 4.64
TB	27 1.23	41 1.87	32 1.46	0 0.00	4 0.18	19 0.86	123 5.60
VAR	126 5.73	59 2.68	173 7.87	2 0.09	5 0.23	63 2.87	428 19.47
TOTAL	646 29.39	643 29.25	697 31.71	4 0.18	94 4.28	114 5.19	2198 100.00

AREA AUXILIARY BUILDING

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
01-018-001-001	E-LF-BOL	I-PT433	S3	M	EE	AUXFW	FIXTURE		SECLOOSE	OVERLAP	
30-001-077-001	M-AUX-SUMPPP	GENERIC-	2	M	EE	MT	PIPEFAIL	ENVIRON.	RELOCATE	EXPEDIENT	I
16-002-003-003	NS-T	E-KT510-1.25	3A	A	ENG	ASI	ENVIRON				
20-059-005-001	P-1508-4	P-2127-4	3A	NAN	PSE	CCW	DEFLECT				
13-004-007-002	C-HANDRAIL	M-BATPP1-2	3AA	A	CE	CVCS	LOOSE				I
13-011-002-001	E-LF-3AA	I-HCV104	3AA	A	EE	CVCS	FIXTURE				
13-012-002-002	E-LF-3AA	I-HCV105	3AA	A	EE	CVCS	FIXTURE				
13-012-007-001	E-LF-3AA	I-LT104	3AA	A	EE	CVCS	FIXTURE				
25-041-008-001	E-LF-3AA	H-DAMPER	3AA	A	EE	HVAC	FIXTURE				
21-003-003-001	NS-T	E-ENGE	3AA	A	ENG	CCW	ENVIRON				
25-085-003-001	E-LF-BOL	H-DAMPER	3AA	M	EE	HVAC	FIXTURE		RELOCATE	EXPEDIENT	
13-010-001-004	M-HOIST-3AA	M-BAT1-2	3AA	M	CE	CVCS	MECHFAIL		STOP	EXPEDIENT	I
13-012-001-001	M-HOIST-3AA	M-HCV105	3AA	M	CE	CVCS	MECHFAIL		STOP	EXPEDIENT	
13-002-001-001	M-HOIST-3AA	P-1558-2	3AA	M	CE	CVCS	MECHFAIL		STOP	EXPEDIENT	I
13-010-001-005	M-TANK	M-BAT1-2	3AA	M	CE	CVCS	SPTFAIL		BRACE	NECESSARY	
13-011-006-001	NS-CD	I-LT102	3AA	M	ENG	CVCS	HOUSEKEEP		TSHIELD	OVERLAP	
13-011-002-002	P-ULB-3AA	I-HCV104	3AA	M	PSE	CVCS	PIPEFAIL		SUPPORT	OVERLAP	
13-012-002-001	P-ULB-3AA	I-HCV105	3AA	M	PSE	CVCS	PIPEFAIL		SUPPORT	OVERLAP	
13-010-001-003	P-ULB-3AA	M-BAT1-2	3AA	M	PSE	CVCS	SPTFAIL	PIPEFAIL	CONSTDEF	OVERLAP	
13-001-013-001	P-1596-2	P-2086-2	3AA	M	PSE	CVCS	DEFLECT		SUPPORT	EXPEDIENT	
13-009-001-001	E-LF-3AA	M-BAT1-1	3AA	NAN	EE	CVCS	FIXTURE				
13-010-001-001	E-LF-3AA	M-BAT1-2	3AA	NAN	EE	CVCS	FIXTURE				
13-001-001-001	E-LF-3AA	P-1557-2	3AA	NAN	EE	CVCS	FIXTURE				
25-041-010-001	E-LF-3AA	H-DUCT	3AA	NAN	EE	HVAC	FIXTURE				
25-088-004-001	E-LF-3AA	H-DUCT	3AA	NAN	EE	HVAC	FIXTURE				
17-010-003-001	E-LF-3AA	E-KT193-0.75	3AA	NAN	EE	ASI	FIXTURE				
13-004-007-001	M-TANK	M-BATPP1-2	3AA	NAN	EMS	CVCS	SPTFAIL	ENVIRON			I
13-010-001-002	P-USB-3AA	M-BAT1-2	3AA	NAN	PSE	CVCS	DEFLECT				I
13-010-002-001	NS-CD	E-K9738-1	3AA	X	GC	CVCS	HOUSEKEEP				
18-001-009-001	E-LF-3B3	I-P1632	3B3	NAN	EE	RHR	FIXTURE		SECLOOSE	OVERLAP	
17-001-005-001	P-0994-1	E-8803A	3B3	M	PSE	SI	DEFLECT		SUPPORT	EXPEDIENT	
17-001-006-001	P-0994-1	E-8803B	3B3	M	PSE	SI	DEFLECT		SUPPORT	EXPEDIENT	
11-005-005-001	E-LF-3B3	M-FCV128	3B3	NAN	EE	CVCS	FIXTURE				
30-001-024-001	NS-CD	I-FCV454+	3C	M	PSE	MT	HOUSEKEEP		CONSTDEF	OVERLAP	
20-062-004-001	E-LF-3C	P-2688-0.75	3C	NAN	EE	CCW	FIXTURE				
20-061-004-001	E-LF-3C	P-4689-0.75	3C	NAN	EE	CCW	FIXTURE				
25-041-018-003	E-LF-3C	H-DUCT	3C	NAN	EE	HVAC	FIXTURE				
20-062-004-002	M-HOIST-3C	P-2688-0.75	3C	NAN	CE	CCW	MECHFAIL				
20-061-004-002	M-HOIST-3C	P-2689-0.75	3C	NAN	CE	CCW	MECHFAIL				
25-041-016-001	P-DRAIN-3C	H-DUCT	3C	NAN	PSE	HVAC	PIPEFAIL				
30-001-025-001	NS-CD	E-K6628-1	3C	X	GC	MT	HOUSEKEEP				
30-001-026-001	NS-T	E-K5893-1.25	3C	X	QC	MT	HOUSEKEEP				
06-014-003-001	NS-CD	E-KX391-2	3C	Y	QC	RCS	HOUSEKEEP				
25-067-001-001	E-LF-3L	H-DAMPER	3L	A	EE	HVAC	FIXTURE				
25-039-005-001	I-PANEL	E-K9156-0.75	3L	A	ICE	HVAC	SPTFAIL				
25-013-002-002	I-PANEL	E-NSAC+	3L	A	ICE	HVAC	SPTFAIL				
01-019-002-017	M-BOTTLE	E-K6993-4	3L	A	NPO	AUXFW	LOOSE	MECHFAIL			
20-063-003-001	E-LF-3L	I-CSP	3L	M	EE	CCW	FIXTURE		CHAIN	EXPEDIENT	
20-063-003-002	M-TANK	I-CSP	3L	M	CE	CCW	SPTFAIL		BRACE	EXPEDIENT	
20-063-001-001	E-LF-3L	P-3249-2	3L	NAN	EE	CCW	FIXTURE				
20-063-004-001	E-LF-3L	P-3266-2	3L	NAN	EE	CCW	FIXTURE				
10-022-010-001	E-LF-3L	M-SEAL HX	3L	NAN	EE	CVCS	FIXTURE				
10-022-006-001	E-LF-3L	P-3236-4	3L	NAN	EE	CVCS	FIXTURE				
25-041-016-002	E-LF-3L	H-DUCT	3L	NAN	EE	HVAC	FIXTURE				

AREA=AUXILIARY BUILDING

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL.	INTRCOMP
25-068-009-001	E-LF-3L	H-DUCT	3L	NAN	EE	HVAC	FIXTURE				
01-019-002-016	E-PANEL	E-K6993-4	3L	NAN	ICE	AUXFW	SPTFAIL				
15-015-002-001	P-SPR-3L	E-K9170-2	3L	NAN	PSE	SI	DEFLECT				
29-003-006-002	I-PANEL	E-K9166-2	3L	Y	ICE	CI	SPTFAIL				
12-017-004-001	I-PANEL	E-K9175-2	3L	Y	ICE	CVCS	SPTFAIL				
25-013-002-001	I-PANEL	E-NSAC+	3L	Y	ICE	HVAC	SPTFAIL				
25-015-001-001	C-CRANE-3R	H-DUCT	3R	A	CE	HVAC	CIVILFAIL				
25-015-002-001	C-CRANE-3R	H-DUCT	3R	A	CE	HVAC	CIVILFAIL				
21-002-007-001	C-LADDER	I-TUBING	3R	A	CE	CCW	SPTFAIL				
25-015-001-002	C-LADDER	H-DUCT	3R	A	CE	HVAC	SPTFAIL				
17-001-058-001	C-LADDER	P-2641-40	3R	A	CE	SI	SPTFAIL				
25-197-008-004	M-TANK	E-KK213-1.50	3R	A	EMS	HVAC	INTERFERE	DEFLECT			
30-001-056-001	N-MISC-3R	GENERIC-	3R	A	NPO	MT	LOOSE				
21-004-010-003	C-CRANE-3R	P-2242-3	3R	M	CE	CCW	CIVILFAIL		TSHIELD	EXPEDIENT	
16-004-003-005	C-CRANE-3R	E-KT980-1	3R	M	CE	SI	MECHFAIL		TSHIELD	EXPEDIENT	
27-004-002-001	C-HANDRAIL	M-VALVE	3R	M	CE	CI	SPTFAIL		SECLOOSE	EXPEDIENT	
16-004-003-003	M-FEE	E-KT980-1	3R	M	EMS	SI	LOOSE		SECLOOSE	EXPEDIENT	
16-004-003-002	N-MISC-3R	E-KT980-1	3R	M	CE	SI	LOOSE		TSHIELD	EXPEDIENT	
21-004-010-004	C-CRANE-3R	P-2242-3	3R	NAN	CE	CCW	SPTFAIL				
21-004-010-002	C-HANDRAIL	P-2242-3	3R	NAN	CE	CCW	SPTFAIL				
16-005-001-001	E-LF-28	M-RNST1-1	3R	NAN	EE	SI	FIXTURE				I
21-001-001-002	E-LF-3R	M-CST	3R	NAN	EE	CCW	FIXTURE	CHAIRON			
21-004-010-001	E-LF-3R	P-2242-3	3R	NAN	EE	CCW	FIXTURE				
27-004-002-002	E-LF-3R	M-VALVE	3R	NAN	EE	CI	FIXTURE				
25-005-015-001	E-LF-3R	H-DUCT	3R	NAN	EE	HVAC	FIXTURE				
25-005-019-001	E-LF-3R	H-DUCT	3R	NAN	EE	HVAC	FIXTURE				
30-001-035-001	E-LF-3R	H-DUCT	3R	NAN	EE	MT	FIXTURE				
16-004-003-001	E-LF-3R	E-KT980-1	3R	NAN	EE	SI	FIXTURE				
16-004-003-004	E-LF-3R	E-KT980-1	3R	NAN	EE	SI	FIXTURE				
04-004-003-001	M-TANK	E-K8317-1.50	3R	Y	EMS	MNSTM	SPTFAIL	[illegible]	[illegible]	[illegible]	
13-009-001-002	C-COVER	M-BATT1-1	3S	A	CE	CVCS	LOOSE		[illegible]	[illegible]	I
13-010-001-006	C-COVER	M-BATT1-2	3S	A	CE	CVCS	LOOSE		[illegible]	[illegible]	I
25-068-032-001	C-PLAT-3S	H-DUCT	3S	A	CE	HVAC	CIVILFAIL		CHILD	[illegible]	
13-003-013-001	C-GRATING	E-K9440-2	3X	A	CE	CVCS	LOOSE		[illegible]	[illegible]	I
13-004-011-001	C-GRATING	E-K9441-2	3X	A	CE	CVCS	LOOSE		[illegible]	[illegible]	I
13-003-009-002	C-GRATING	M-BATPP1-1	3X	A	CE	CVCS	LOOSE		[illegible]	[illegible]	
13-003-010-001	C-GRATING	P-0071-2	3X	A	CE	CVCS	LOOSE		[illegible]	[illegible]	I
25-039-004-001	H-DUCT-3X	E-K9314-2	3X	A	HVA	HVAC	SPTFAIL		[illegible]	[illegible]	
10-022-008-001	M-HOIST-3X	M-8380	3X	A	CE	CVCS	MECHFAIL				
10-020-006-001	M-HOIST-3X	M-8382A	3X	A	CE	CVCS	MECHFAIL				
10-019-006-001	M-HOIST-3X	M-8382B	3X	A	CE	CVCS	MECHFAIL				
10-020-002-001	M-HOIST-3X	M-8384A	3X	A	CE	CVCS	MECHFAIL				
10-019-002-001	M-HOIST-3X	M-8384B	3X	A	CE	CVCS	MECHFAIL				
10-021-004-001	M-HOIST-3X	M-8387A	3X	A	CE	CVCS	MECHFAIL				
10-022-003-001	M-HOIST-3X	M-8396A	3X	A	CE	CVCS	MECHFAIL				
10-022-005-001	M-HOIST-3X	M-8396B	3X	A	CE	CVCS	MECHFAIL				
13-003-009-003	M-TANK	M-BATPP1-1	3X	A	CE	CVCS	SPTFAIL	CHAIRON	[illegible]	[illegible]	I
13-009-002-002	ENS-T	E-K9737-1	3X	A	ENG	CVCS	ENVIRON		[illegible]	[illegible]	
11-004-003-001	E-LF-3X	M-LCV112B	3X	M	EE	CVCS	FIXTURE		CHAIN	EXPEDIENT	
11-009-001-001	E-LF-3X	M-LCV112B	3X	M	EE	CVCS	FIXTURE	SECLOSE	CHAINDOL	EXPEDIENT	[illegible]
11-004-004-001	E-LF-3X	M-LCV112C	3X	M	EE	CVCS	FIXTURE		CHAIN	EXPEDIENT	
11-010-001-001	E-LF-3X	M-LCV112C	3X	M	EE	CVCS	FIXTURE		CHAIN	EXPEDIENT	
13-009-002-001	E-R-3X	E-K9736-1	3X	M	EE	CVCS	DEFLECT		CONSTDEF	OVERLAP	
13-003-009-001	E-R-3X	M-BATPPI-1	3X	M	EE	CVCS	DEFLECTABLE	VIB JUNCT	SUPPORTLOS	OVERLARGE	

AREA=AUXILIARY BUILDING

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
21-003-003-002	P-USB-3X	E-K9894-3	3X	M	PSE	CCW	SPTFAIL	HOUSEKEEP	CONSTDEF	OVERLAP	
11-004-007-001	E-LP-3X	P-1452-1	3X	NAN	EE	CVCS	FIXTURE				
25-068-006-001	E-LP-3X	H-DUCT	3X	NAN	EE	HVAC	FIXTURE			CALCIVB	
25-068-006-002	E-LP-3X	H-DUCT	3X	NAN	EE	HVAC	FIXTURE				
18-008-002-001	E-LP-3X	E-K9319+	3X	NAN	EE	RHR	FIXTURE				
29-003-006-001	NS-CD	E-MSAH	3X	X	QC	CI	HOUSEKEEP				
21-003-001-001	C-PLAT-31	I-LT40	31	A	CE	CCW	CIVILFAIL				
21-002-005-001	C-PLAT-31	P-0567-2	31	A	CE	CCW	CIVILFAIL				
21-002-001-001	C-RSM-31	P-0380-10	31	A	PSE	CCW	RELSTRUCT				
21-002-010-001	C-RSM-31	P-1917-4	31	A	PSE	CCW	RELSTRUCT				
21-002-003-001	C-RSM-31	P-4551-2	31	A	PSE	CCW	RELSTRUCT				
16-005-005-001	C-RSM-31	P-0221-18	31	A	PSE	SI	RELSTRUCT				
23-001-001-001	C-RSM-31	P-0261-12	31	A	PSE	SPRAY	RELSTRUCT				
25-005-017-003	E-LF-31	H-DUCT	31	NAN	EE	HVAC	FIXTURE				
25-005-017-002	P-2442-6	H-DUCT	31	NAN	PSE	HVAC	DEFLECT				
01-019-002-001	C-WALL	E-K6938+	4A	A	CE	AUXFW	CIVILFAIL				
20-017-004-001	C-WALL	E-K7248+	4A	A	CE	CCW	CIVILFAIL				
11-007-005-003	C-WALL	E-K7057+	4A	A	CE	CVCS	CIVILFAIL				
30-001-078-001	N-CABINET	E-R-4A	4A	M	CE	MT	SPTFAIL		SECLOOSE	EXPEDIENT	I
30-001-079-001	N-CABINET	E-R-4A	4A	M	CE	MT	SPTFAIL		SECLOOSE	EXPEDIENT	I
30-001-080-001	N-CASK	E-R-4A	4A	M	CE	MT	LOOSE		TSHIELD	EXPEDIENT	
01-017-002-001	NS-T	E-K7227-3	4A	M	ENG	AUXFW	ENVIRON		CONSTDEF	EXPEDIENT	
15-004-003-001	P-SPR-4A	E-K7234+	4A	NAN	PSE	SI	PIPEFAIL				
30-001-065-001	C-COVER	E-MISC	4B	M	CE	MT	LOOSE		SECLOOSE	EXPEDIENT	I

AREA=CONTAINMENT

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
03-037-003-002	C-PLAT-1A	E-KX246-2.50	1A	A	CE	MNSTM	INTERFERE	DEFLECT			
30-001-036-001	C-PLAT-1A	E-R-1A	1A	A	EE	MT	RELSTRUCT				
06-020-003-002	C-PLAT-1A	E-KX246-2.50	1A	A	CE	RCS	INTERFERE	DEFLECT			
07-009-003-003	C-PLAT-1A	E-KX246-2.50	1A	A	CE	RCS	INTERFERE	DEFLECT			
25-127-002-001	C-34F	I-FCV070	1A	A	CE	HVAC	CIVILFAIL				
25-128-002-001	C-34F	I-FCV071	1A	A	CE	HVAC	CIVILFAIL				
09-007-002-002	E-KX652	E-K1790-1.25	1A	A	EE	RCS	SPTFAIL				
29-013-004-002	E-LF-1A	I-FCV258	1A	A	EE	CI	FIXTURE				
12-010-004-001	E-LF-1A	I-8145	1A	A	EE	CVCS	FIXTURE				
12-011-002-001	E-LF-1A	I-8146	1A	A	EE	CVCS	FIXTURE				
12-012-004-001	E-LF-1A	I-8147	1A	A	EE	CVCS	FIXTURE				
12-014-002-001	E-LF-1A	I-8148	1A	A	EE	CVCS	FIXTURE				
12-015-002-001	E-LF-1A	I-8149A	1A	A	EE	CVCS	FIXTURE				
12-016-002-001	E-LF-1A	I-8149B	1A	A	EE	CVCS	FIXTURE				
12-017-002-001	E-LF-1A	I-8149C	1A	A	EE	CVCS	FIXTURE				
03-029-001-003	E-LF-1A	I-LT501	1A	A	EE	MNSTM	FIXTURE				
05-022-003-002	E-LF-1A	I-PM162	1A	A	EE	MNSTM	FIXTURE				
03-051-001-002	E-LF-1A	I-PM47	1A	A	EE	MNSTM	FIXTURE				
03-050-001-001	E-LF-1A	I-PM51	1A	A	EE	MNSTM	FIXTURE				
03-049-001-001	E-LF-1A	I-PM55	1A	A	EE	MNSTM	FIXTURE				
30-001-044-001	E-LF-1A	GENERIC	1A	A	EE	MT	FIXTURE				I
09-009-004-001	E-LF-1A	I-8034A	1A	A	EE	RCS	FIXTURE				
18-014-001-001	E-LF-1A	I-8703	1A	A	EE	RHR	FIXTURE				
17-024-004-001	E-R-1A	E-KX530-0.75	1A	A	EE	SI	SPTFAIL				
19-017-001-001	H-E15	M-9352A	1A	A	HVA	CI	SPTFAIL				
15-031-001-001	H-E15	M-8878D	1A	A	HVA	SI	SPTFAIL				
03-035-002-002	H-E16	I-PM84	1A	A	HVA	MNSTM	SPTFAIL				
07-006-002-002	H-E16	I-PM20	1A	A	HVA	RCS	SPTFAIL				
07-008-002-001	H-E16	I-PM22	1A	A	HVA	RCS	SPTFAIL				
07-009-002-002	H-E16	I-PM89	1A	A	HVA	RCS	SPTFAIL				
07-012-002-002	H-E16	I-PM95	1A	A	HVA	RCS	SPTFAIL				
10-013-004-001	P-DRAIN-1A	M-8142	1A	A	PSE	CVCS	SPTFAIL	PIPEFAIL			
29-010-001-001	P-SPR-1A	M-FCV255	1A	A	PSE	CI	DEFLECT				
05-017-001-001	P-1042-2.50	P-1162-0.75	1A	A	PSE	MNSTM	DEFLECT				
09-015-002-002	P-1043-2.50	P-2998-4	1A	A	PSE	RCS	DEFLECT				
10-013-003-005	P-3126-2	P-1500-0.75	1A	A	PSE	CVCS	SPTFAIL				
06-023-001-001	P-4275-0.75	I-FI415	1A	A	PSE	RCS	DEFLECT				
07-008-002-002	P-4397-2	I-PM22	1A	A	PSE	RCS	SPTFAIL	PIPEFAIL			
12-001-004-001	SQ	I-8148	1A	A	PSE	CVCS	MECHFAIL				
30-001-006-001	SQ	M-FCV1065	1A	A	PSE	MT	MECHFAIL				
30-001-007-001	SQ	M-FCV1066	1A	A	PSE	MT	MECHFAIL				
12-007-006-002	C-GRATING	E-KX551-1.50	1A	M	CE	CVCS	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
25-155-004-002	C-GRATING	E-K1733-1.25	1A	M	CE	HVAC	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
25-147-004-001	C-GRATING	E-K1789-1.25	1A	M	CE	HVAC	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
03-048-003-001	C-GRATING	E-KX103-1.50	1A	M	EE	MNSTM	INTERFERE	RELSTRUCT	RELOCATE	OVERLAP	
03-045-003-001	C-GRATING	E-KX110-2	1A	M	EE	MNSTM	INTERFERE	RELSTRUCT	RELOCATE	OVERLAP	
03-038-003-004	C-GRATING	E-KX195-1	1A	M	CE	MNSTM	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
03-040-003-002	C-GRATING	E-KX197-1.25	1A	M	CE	MNSTM	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
03-029-003-003	C-GRATING	E-KX390-1.50	1A	M	EE	MNSTM	INTERFERE	RELSTRUCT	RELOCATE	EXPEDIENT	
03-047-003-002	C-GRATING	E-KX390-1.50	1A	M	CE	MNSTM	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
05-016-005-003	C-GRATING	E-K1741-2	1A	M	CE	MNSTM	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
30-001-033-001	C-GRATING	E-MISC	1A	M	CE	MT	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
06-059-042-002	C-GRATING	E-KK068-0.75	1A	M	EE	RCS	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
06-009-003-002	C-GRATING	E-KX161-2	1A	M	EE	RCS	INTERFERE	RELSTRUCT	CLEARANCE	OVERLAP	

AREA=CONTAINMENT

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOMENON	SECPHEN	MODCODE	MODEVAL	INTRCOMP
07-007-003-003	C-GRATING	E-KX195-1.50	1A	M	CE	RCS	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
07-004-003-002	C-GRATING	E-KX197-1.25	1A	M	CE	RCS	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
06-015-002-002	C-GRATING	E-KX292-1.25	1A	M	CE	RCS	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
06-027-002-001	C-GRATING	E-KX411-1.50	1A	M	CE	RCS	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
06-006-002-001	C-GRATING	E-KX418-1.50	1A	M	CE	RCS	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
06-006-002-002	C-GRATING	E-KX418-1.50	1A	M	CE	RCS	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
09-003-004-001	C-GRATING	E-KX461-1.50	1A	M	CE	RCS	INTERFERE		CLEARANCE	EXPEDIENT	
09-004-002-003	C-GRATING	E-K1728-1.50	1A	M	CE	RCS	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
09-007-002-003	C-GRATING	E-K1790-1.25	1A	M	CE	RCS	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
09-002-002-001	C-GRATING	E-K1961-2.50	1A	M	CE	RCS	INTERFERE		CLEARANCE	EXPEDIENT	
18-003-008-002	C-GRATING	E-K1731-2.50	1A	M	CE	RHR	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
15-032-005-002	C-GRATING	E-K1741-2.50	1A	M	CE	SIC	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
30-001-001-001	C-PLAT-1A	GENERIC	1A	M	CE	MT	CIVILFAIL		SECLOOSE	NECESSARY	
30-001-047-001	C-PLAT-1A	GENERIC	1A	M	CE	MT	LOOSEBLOCK	DEFLECT	SECLOOSE	EXPEDIENT	I
07-008-001-002	C-PLAT-1A	I-LT459	1A	M	CE	RCS	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
07-009-001-002	C-PLAT-1A	I-LT460	1A	M	CE	RCS	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
23-050-001-002	C-PLAT-1A	P-0325-8	1A	M	CE	SPRAY	DEFLECT	[illegible]	BRACEFAIL	NECESSARY	
03-043-003-001	C-STAIR-1A	E-KX177-0.75	1A	M	CE	MNSTM	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
03-044-003-001	C-STAIR-1A	E-KX178-0.75	1A	M	CE	MNSTM	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
07-014-002-001	E-INCORE DR	E-KX498-0.75	1A	M	ICE	RCS	MECHFAIL	[illegible]	SUPPORTFAIL	EXPEDIENT	
05-001-001-001	E-K1534-5	P-1040-2.50	1A	M	EE	MNSTM	SPTFAIL	[illegible]	RELOCATE	EXPEDIENT	
03-036-001-001	E-LF-1A	I-FT522	1A	M	EE	MNSTM	FIXTURE	[illegible]	SECLOOSE	OVERLAP	
03-040-001-002	E-LF-1A	I-LT529	1A	M	EE	MNSTM	FIXTURE		SECLOOSE	OVERLAP	
03-038-001-003	E-TL17	I-LT527	1A	M	EE	MNSTM	SPTFAIL		BRACEFAIL	NECESSARY	
30-001-098-001	H-DUCT-1A	GENERIC	1A	M	CE	MT	SPTFAIL	[illegible]	SUPPORTFAIL	OVERLAP	
30-001-042-001	I-HUM DET	GENERIC	1A	M	ICE	MT	MECHFAIL	[illegible]	SECLOOSE	OVERLAP	I
30-001-043-001	M-FE	GENERIC	1A	M	NPO	MT	MECHFAIL	[illegible]	CONSIDEF	NECESSARY	I
30-001-057-001	M-TANK-1	GENERIC	1A	M	CE	MT	SPTFAIL		SUPPORTFAIL	NECESSARY	
30-001-003-001	M-8033A	GENERIC	1A	M	EMS	MT	DEFLECT	[illegible]	SECLOOSE	EXPEDIENT	
30-001-010-001	NS-T	E-R-1A	1A	M	ENG	MTAC	ENVIRONI		RELOCATE	OVERLAP	
29-021-005-004	P-DRAIN-1A	E-KX505-0.75	1A	M	PSE	CI	DEFLECT	[illegible]	SUPPORTFAIL	EXPEDIENT	
29-022-005-001	P-DRAIN-1A	E-KX525-0.75	1A	M	PSE	CIAC	DEFLECT		SUPPORTFAIL	EXPEDIENT	
10-002-001-001	P-SA-1A	P-1479-2	1A	M	PSE	CVCS	DEFLECT		SUPPORTFAIL	EXPEDIENT	
10-013-003-003	P-SA-1A	P-1500-0.75	1A	M	PSE	CVCS	DEFLECT		SUPPORTFAIL	NECESSARY	
15-001-116-001	P-USB-1A	P-0524-0.75	1A	M	PSE	SIAC	DEFLECT		SUPPORTFAIL	EXPEDIENT	
15-001-116-002	P-USB-1A	P-0524-0.75	1A	M	PSE	SI	DEFLECT		SUPPORTFAIL	EXPEDIENT	
17-001-022-001	P-USB-1A	P-1992-1.50	1A	M	PSE	SI	INTERFERE	DEFLECT	SUPPORTFAIL	EXPEDIENT	
10-015-001-001	P-1043-2.50	P-1490-0.75	1A	M	PSE	CVCS	DEFLECT	[illegible]	SUPPORTFAIL	NECESSARY	
09-015-002-001	P-1043-2.50	P-2998-4	1A	M	PSE	RCS	DEFLECT	[illegible]	TMODIFY	OVERLAP	
10-012-001-002	P-1134-0.75	P-0057-2	1A	M	PSE	CVCS	DEFLECT	[illegible]	SUPPORTFAIL	EXPEDIENT	
07-015-001-001	P-1135-3	I-PT458A	1A	M	PSE	RCS	SPTFAIL	[illegible]	SUPPORT	EXPEDIENT	
25-117-005-001	P-1167-4	I-FCV768	1A	M	ICE	CI	DEFLECT	[illegible]	TMODIFY	NECESSARY	
20-025-004-001	P-1246-10	P-3163-2	1A	M	PSE	CCW	DEFLECT	[illegible]	SUPPORT	NECESSARY	
23-015-002-001	P-1357-6	I-PT934	1A	M	ICE	SPRAY	INTERFERE	DEFLECT	TMODIFY	OVERLAP	
19-004-003-001	P-1870-1	I-PM127	1A	M	PSE	CI	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
19-014-005-001	P-1870-1	I-PM127	1A	M	PSE	CI	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-032-005-001	P-1870-1	I-LT516	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
05-022-003-001	P-1870-1	I-PM162	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
05-022-004-001	P-1870-1	I-PM162	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-033-001-001	P-1870-1	I-PM44	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-033-002-001	P-1870-1	I-PM44	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-051-001-001	P-1870-1	I-PM47	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-051-002-001	P-1870-1	I-PM47	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-032-001-001	P-1870-1	I-PM48	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	

AREA=CONTAINMENT

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
03-032-002-001	P-1870-1	I-PM48	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-050-001-002	P-1870-1	I-PM51	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-050-002-001	P-1870-1	I-PM51	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-031-001-001	P-1870-1	I-PM52	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-031-002-001	P-1870-1	I-PM52	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-049-001-002	P-1870-1	I-PM55	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-049-002-001	P-1870-1	I-PM55	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-030-001-001	P-1870-1	I-PM56	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-030-002-001	P-1870-1	I-PM56	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-048-001-001	P-1870-1	I-PM59	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-048-002-001	P-1870-1	I-PM59	1A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
30-001-005-001	P-2995-4	GENERIC	1A	M	PSE	MT	PIPEFAIL		SUPPORT	EXPEDIENT	
25-189-004-001	P-3126-2	P-4636-0.375	1A	M	PSE	CI	SPTFAIL		SUPPORT	NECESSARY	
10-013-003-007	P-3209-12	P-1499-0.75	1A	M	PSE	CVCS	DEFLECT		TMODIFY	NECESSARY	
10-013-003-006	P-3243-3	P-1500-0.75	1A	M	PSE	CVCS	DEFLECT		SUPPORT	EXPEDIENT	
30-001-019-001	P-3245-2	P-OLB-1A	1A	M	PSE	MT	DEFLECT		SUPPORT	OVERLAP	
10-013-003-004	P-3263-4	P-1500-0.75	1A	M	PSE	CVCS	DEFLECT		SUPPORT	EXPEDIENT	
30-001-009-001	P-3456-1	GENERIC	1A	M	PSE	MT	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
10-001-001-001	P-3900-1	P-1495-0.75	1A	M	PSE	CVCS	DEFLECT		SUPPORT	EXPEDIENT	
30-001-012-003	P-3900-1	GENERIC	1A	M	PSE	MT	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
30-001-015-001	P-3900-1	GENERIC	1A	M	PSE	MT	DEFLECT		SUPPORT	EXPEDIENT	
30-001-018-001	P-3900-1	GENERIC	1A	M	PSE	MT	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
30-001-011-002	P-4174-4	GENERIC	1A	M	PSE	MT	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
30-001-012-001	P-4174-4	GENERIC	1A	M	PSE	MT	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-035-001-001	P-4397-2	I-PM84	1A	M	PSE	MNSTM	SPTFAIL		SUPPORT	OVERLAP	
03-035-002-001	P-4397-2	I-PM84	1A	M	PSE	MNSTM	SPTFAIL		SUPPORT	OVERLAP	
07-006-001-001	P-4397-2	I-PM20	1A	M	PSE	RCS	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
07-006-002-001	P-4397-2	I-PM20	1A	M	PSE	RCS	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
07-009-001-001	P-4397-2	I-PM89	1A	M	PSE	RCS	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
07-009-002-001	P-4397-2	I-PM89	1A	M	PSE	RCS	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
07-012-001-001	P-4397-2	I-PM95	1A	M	PSE	RCS	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
07-012-002-001	P-4397-2	I-PM95	1A	M	PSE	RCS	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
03-045-003-002	C-GRATING	E-KX179-0.75	1A	NAN	CE	MNSTM	INTERFERE	RELSTRUCT	[illegible]	[illegible]	
03-042-005-002	C-GRATING	E-KX180-1.50	1A	NAN	CE	MNSTM	INTERFERE	DEFLECT	[illegible]	[illegible]	
05-022-005-002	C-GRATING	E-K1742-1.50	1A	NAN	CE	MNSTM	INTERFERE	DEFLECT	[illegible]	[illegible]	
23-050-008-001	C-HANDRAIL	I-9006A	1A	NAN	CE	SPRAY	LOOSE		[illegible]	[illegible]	
20-072-005-001	C-RSM-1A	P-1701-1.50	1A	NAN	PSE	CCW	RELSTRUCT	[illegible]	[illegible]	[illegible]	
25-155-004-003	C-RSM-1A	E-K1733-1.25	1A	NAN	CE	HVAC	INTERFERE	RELSTRUCT	[illegible]	[illegible]	
06-060-032-003	E-K1902-2.50	E-KK078-0.75	1A	NAN	EE	RCS	DEFLECT		[illegible]	[illegible]	
20-055-006-001	E-LF-1A	P-3291-4	1A	NAN	EE	CCW	FIXTURE	[illegible]	[illegible]	[illegible]	
20-055-009-001	E-LF-1A	P-3291-4	1A	NAN	EE	CCW	FIXTURE	[illegible]	[illegible]	[illegible]	
19-004-011-001	E-LF-1A	E-K1973-2.50	1A	NAN	EE	CI	FIXTURE		[illegible]	[illegible]	
12-015-004-001	E-LF-1A	E-K1758-2	1A	NAN	EE	CVCS	FIXTURE	[illegible]	[illegible]	[illegible]	
25-202-008-001	E-LF-1A	E-KX209-1	1A	NAN	EE	HVAC	FIXTURE	[illegible]	[illegible]	[illegible]	
03-037-003-005	E-LF-1A	E-KX109-2	1A	NAN	EE	MNSTM	FIXTURE	[illegible]	[illegible]	[illegible]	
06-020-003-005	E-LF-1A	E-KX109-2	1A	NAN	EE	RCS	FIXTURE	[illegible]	[illegible]	[illegible]	
07-009-003-002	E-LF-1A	E-KX109-2	1A	NAN	EE	RCS	FIXTURE	[illegible]	[illegible]	[illegible]	
06-025-002-002	E-LF-1A	E-KX162-2	1A	NAN	EE	RCS	FIXTURE	[illegible]	[illegible]	[illegible]	
07-013-002-002	E-LF-1A	E-KX162-2	1A	NAN	EE	RCS	FIXTURE				
18-003-003-001	E-LF-1A	E-K1732-1.50	1A	NAN	EE	RHRCW	FIXTURE	[illegible]	[illegible]	[illegible]	[illegible]
23-053-001-001	E-LF-1A	P-0326-8	1A	NAN	EE	SPRAY	FIXTURE				
06-047-009-001	E-PHONE	I-8091	1A	NAN	VS	EMSCOLL	RCSHEIL	LOOSE			
29-013-004-001	E-R-1A	I-FCV258	1A	NAN	EE	CI	INTERFERE				
25-201-008-005	E-R-1A	E-KX208-1	1A	NAN	EE	HVAC	DEFLECTE	[illegible]	[illegible]	[illegible]	[illegible]

UNIT 1-SORT BY AREA, FIRE ZONE, RESOLUTION TYPE AND SOURCE 14:11 TUESDAY, APRIL 2, 1985 190

AREA=CONTAINMENT

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
06-060-032-006	E-R-1A	E-KK069-0.75	1A	NAN	EE	RCS	DEFLECT				
20-052-002-001	E-RS-1A	P-0314-12	1A	NAN	EE	CCW	SPTFAIL				
20-039-020-001	H-DUCT-1A	P-2211-6	1A	NAN	HVA	CCW	SPTFAIL				
25-103-007-001	H-DUCT-1A	E-K1751-2	1A	NAN	HVA	CI	SPTFAIL				
03-030-003-001	H-DUCT-1A	E-KX152-1	1A	NAN	HVA	MNSTM	SPTFAIL				
03-038-003-003	H-DUCT-1A	E-KX152-1	1A	NAN	HVA	MNSTM	SPTFAIL				
03-038-003-001	H-DUCT-1A	E-KX193-1.50	1A	NAN	HVA	MNSTM	SPTFAIL				
03-032-003-001	H-DUCT-1A	E-KX296-2.50	1A	NAN	HVA	MNSTM	SPTFAIL				
03-037-003-006	H-DUCT-1A	E-KX296-2.50	1A	NAN	HVA	MNSTM	SPTFAIL				
03-029-003-002	H-DUCT-1A	E-KX394-1	1A	NAN	HVA	MNSTM	SPTFAIL				
03-035-003-005	H-DUCT-1A	E-KX394-1	1A	NAN	HVA	MNSTM	SPTFAIL				
03-041-003-001	H-DUCT-1A	E-KX397-1	1A	NAN	HVA	MNSTM	SPTFAIL				
03-035-003-002	H-DUCT-1A	E-KX399-1	1A	NAN	HVA	MNSTM	SPTFAIL				
05-016-005-002	H-DUCT-1A	E-K1880-1	1A	NAN	HVA	MNSTM	SPTFAIL				
06-025-002-001	H-DUCT-1A	E-KX141-2	1A	NAN	HVA	RCS	SPTFAIL				
07-013-002-001	H-DUCT-1A	E-KX141-2	1A	NAN	HVA	RCS	SPTFAIL				
06-010-003-001	H-DUCT-1A	E-KX145-1.50	1A	NAN	HVA	RCS	DEFLECT				
06-021-003-001	H-DUCT-1A	E-KX145-1.50	1A	NAN	HVA	RCS	DEFLECT				
07-006-003-001	H-DUCT-1A	E-KX145-1.50	1A	NAN	HVA	RCS	DEFLECT				
07-010-003-001	H-DUCT-1A	E-KX145-1.50	1A	NAN	HVA	RCS	SPTFAIL				
06-008-003-001	H-DUCT-1A	E-KX149-2.50	1A	NAN	HVA	RCS	DEFLECT				
06-015-002-001	H-DUCT-1A	E-KX149-2.50	1A	NAN	HVA	RCS	DEFLECT				
06-019-003-001	H-DUCT-1A	E-KX149-2.50	1A	NAN	HVA	RCS	DEFLECT				
07-007-003-002	H-DUCT-1A	E-KX193-1.50	1A	NAN	HVA	RCS	SPTFAIL				
06-020-003-003	H-DUCT-1A	E-KX296-1	1A	NAN	HVA	RCS	SPTFAIL				
06-009-003-001	H-DUCT-1A	E-KX296-2.50	1A	NAN	HVA	RCS	SPTFAIL				
07-009-003-005	H-DUCT-1A	E-KX296-2.50	1A	NAN	HVA	RCS	SPTFAIL				
15-021-004-001	H-DUCT-1A	E-KX155-2.50	1A	NAN	HVA	SI	SPTFAIL				
03-037-003-004	I-TUBING	E-KX109-2	1A	NAN	ICE	MNSTM	SPTFAIL				
03-036-003-001	I-TUBING	E-KX167-2	1A	NAN	ICE	MNSTM	DEFLECT				
03-040-003-001	I-TUBING	E-KX167-2	1A	NAN	ICE	MNSTM	DEFLECT				
03-038-003-002	I-TUBING	E-KX193-1.50	1A	NAN	ICE	MNSTM	SPTFAIL				
03-047-003-001	I-TUBING	E-KX395-1	1A	NAN	ICE	MNSTM	DEFLECT				
03-041-003-002	I-TUBING	E-KX397-1	1A	NAN	ICE	MNSTM	DEFLECT				
03-029-003-001	I-TUBING	E-KX398-1	1A	NAN	ICE	MNSTM	DEFLECT				
03-035-003-003	I-TUBING	E-KX399-1	1A	NAN	ICE	MNSTM	DEFLECT				
03-035-003-004	I-TUBING	E-KX399-1	1A	NAN	ICE	MNSTM	DEFLECT				
07-009-003-001	I-TUBING	E-KX109-2	1A	NAN	ICE	RCS	SPTFAIL				
07-013-002-003	I-TUBING	E-KX162-2	1A	NAN	ICE	RCS	SPTFAIL				
07-007-003-001	I-TUBING	E-KX193-1.50	1A	NAN	ICE	RCS	DEFLECT				
07-009-003-006	I-TUBING	E-KX563-1.25	1A	NAN	ICE	RCS	SPTFAIL				
15-040-004-001	I-TUBING	E-KX319-1	1A	NAN	ICE	SI	DEFLECT				
15-021-004-002	I-TUBING	E-KX633-2.50	1A	NAN	ICE	SI	SPTFAIL				
15-027-004-001	I-TUBING	E-KX713-1.50	1A	NAN	ICE	SI	SPTFAIL				
25-202-008-002	M-FE	E-KX209-1	1A	NAN	EMS	HVAC	SPTFAIL				
30-001-038-001	M-INCORE DR	GENERIC	1A	NAN	CE	MT	SPTFAIL				I
03-038-001-004	M-8033A	I-LT527	1A	NAN	EMS	MNSTM	DEFLECT				
15-001-020-001	P-DRAIN-1A	M-8878A	1A	NAN	PSE	SI	SPTFAIL				
05-010-005-001	P-IAH-1A	E-K1726-2	1A	NAN	ICE	MNSTM	DEFLECT				
05-016-005-004	P-IAH-1A	E-K1736-2	1A	NAN	ICE	MNSTM	DEFLECT				
05-010-005-002	P-IAH-1A	E-K1868-1.50	1A	NAN	ICE	MNSTM	DEFLECT				
06-019-003-002	P-IAH-1A	E-KX167-2	1A	NAN	ICE	RCS	DEFLECT				
07-004-003-001	P-IAH-1A	E-KX167-2	1A	NAN	ICE	RCS	DEFLECT				
09-004-002-001	P-IAH-1A	E-K1726-2	1A	NAN	ICE	RCS	SPTFAIL				

AREA=CONTAINMENT

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
09-007-002-001	P-IAH-1A	E-K1736-2	1A	NAN	ICE	RCS	SPTFAIL				
09-004-002-002	P-IAH-1A	E-K1868-0.75	1A	NAN	ICE	RCS	SPTFAIL				
15-020-005-001	P-IAH-1A	E-KX200-1.50	1A	NAN	ICE	SI	DEFLECT				
10-013-003-001	P-SA-1A	P-1500-0.75	1A	NAN	PSE	CVCS	SPTFAIL				
10-013-003-002	P-SA-1A	P-1500-0.75	1A	NAN	PSE	CVCS	SPTFAIL				
20-072-003-001	P-ULB-1A	P-2947-1.50	1A	NAN	PSE	CCW	DEFLECT				
03-042-003-001	P-ULB-1A	E-KX245-1	1A	NAN	PSE	MNSTM	DEFLECT				
15-001-124-001	P-ULB-1A	M-8878A	1A	NAN	PSE	SI	SPTFAIL				
06-020-003-004	P-USB-1A	E-KX109-2	1A	NAN	ICE	RCS	SPTFAIL				
06-025-002-003	P-USB-1A	E-KX162-2	1A	NAN	ICE	RCS	SPTFAIL				
06-019-003-003	P-USB-1A	E-KX168-1.25	1A	NAN	ICE	RCS	DEFLECT				
09-006-006-002	P-USB-1A	E-KX457-1	1A	NAN	PSE	RCS	DEFLECT				
06-020-003-001	P-USB-1A	E-KX563-1.25	1A	NAN	ICE	RCS	DEFLECT				
06-019-003-004	P-USB-1A	E-KX681-1	1A	NAN	ICE	RCS	DEFLECT				
17-001-022-003	P-USB-1A	P-1992-1.50	1A	NAN	PSE	SI	DEFLECT				
20-045-002-002	P-0180-10	P-0180-10	1A	NAN	PSE	CCW	DEFLECT				
09-013-001-001	P-1134-0.75	P-3000-3	1A	NAN	PSE	RCS	DEFLECT				
15-035-004-001	P-1631-4	E-KX630-0.75	1A	NAN	PSE	SI	DEFLECT				
07-015-001-002	P-1657-4	I-PT458A	1A	NAN	PSE	RCS	DEFLECT				
06-020-003-006	P-2576-8	E-KX246-2.50	1A	NAN	PSE	RCS	DEFLECT				
07-009-003-004	P-2576-8	E-KX246-2.50	1A	NAN	PSE	RCS	DEFLECT				
05-041-001-001	P-3210-10	P-1863-10	1A	NAN	PSE	MNSTM	DEFLECT				
20-040-021-001	P-3486-1	P-2340-6	1A	NAN	PSE	CCW	DEFLECT				
17-001-022-002	P-3834-1	P-1992-1.50	1A	NAN	PSE	SI	DEFLECT				
10-015-017-001	PS-1A	E-KX154-2	1A	NAN	HVA	CVCS	SPTFAIL				
10-014-007-001	PS-1A	I-IJEB	1A	NAN	PSE	CVCS	DEFLECT				
30-001-031-001	PS-1A	E-K1793-1.25	1A	NAN	PSE	MT	DEFLECT				
15-020-005-002	PS-1A	E-JJEA	1A	NAN	PSE	SI	DEFLECT				
03-037-003-003	PS-2576-8	E-KX246-2.50	1A	NAN	PSE	MNSTM	DEFLECT				
30-001-037-001	N-MISC-1A	GENERIC	1A		NPO	MT	HOUSEKEEP				
20-064-007-001	NS-CD	P-2307-10	1A	X	GC	CCW	HOUSEKEEP				
20-071-001-001	NS-CD	P-2320-1.50	1A	X	GC	CCW	HOUSEKEEP				
30-001-008-001	NS-CD	GENERIC	1A	X	GC	MT	HOUSEKEEP				
30-001-020-001	NS-CD	GENERIC	1A	X	GC	MT	HOUSEKEEP				
06-014-003-003	NS-CD	E-KT461-3	1A	X	QC	RCS	HOUSEKEEP				
09-006-006-001	NS-CD	E-KX457-1	1A	X	QC	RCS	HOUSEKEEP				
15-001-112-001	P-IAH-1A	P-0249-0.75	1A	X	GC	SI	DEFLECT				
12-007-006-001	P-SA-1A	E-KX551-1.50	1A	X	GC	CVCS	SPTFAIL	PIPEFAIL			
25-201-008-002	E-RS-1A	E-KX208-1	1A	Y	EE	HVAC	INTERFERE				
07-011-003-001	H-E15	E-TJJA	1A	Y	GE	RCS	SPTFAIL				
25-201-008-004	NS-CD	E-KX207-1	1A	Y	ENG	HVAC	HOUSEKEEP				
25-201-008-003	P-2787-1	E-KX207-1	1A	Y	EE	HVAC	DEFLECT				
06-059-036-002	C-GRATING	I-RVLIS	1B	A	NPO	RCS	LOOSE				
06-002-009-001	C-SHIELD	M-8059A	1B	A	PSE	RCS	DEFLECT				
06-003-007-001	C-SHIELD	M-8059B	1B	A	PSE	RCS	DEFLECT				
06-004-006-003	C-SHIELD	M-8059C	1B	A	PSE	RCS	DEFLECT				
06-005-010-001	C-SHIELD	M-8059D	1B	A	PSE	RCS	DEFLECT				
06-002-008-001	C-SHIELD	M-8060A	1B	A	PSE	RCS	DEFLECT				
06-003-006-001	C-SHIELD	M-8060B	1B	A	PSE	RCS	DEFLECT				
06-004-005-003	C-SHIELD	M-8060C	1B	A	PSE	RCS	DEFLECT				
06-005-009-001	C-SHIELD	M-8060D	1B	A	PSE	RCS	DEFLECT				
06-002-007-001	C-SHIELD	M-8061A	1B	A	PSE	RCS	DEFLECT				
06-003-005-002	C-SHIELD	M-8061B	1B	A	PSE	RCS	DEFLECT				
06-004-004-003	C-SHIELD	M-8061C	1B	A	PSE	RCS	DEFLECT				

AREA=CONTAINMENT

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
06-005-008-001	C-SHIELD	M-8061D	1B	A	PSE	RCS	DEFLECT				
08-001-003-001	C-128F	M-PCV455A	1B	A	CE	RCS	CIVILFAIL				
10-002-002-001	E-LF-1B	I-8141A	1B	A	EE	CVCS	FIXTURE				
10-011-002-001	E-LF-1B	I-8141D	1B	A	EE	CVCS	FIXTURE				
05-004-003-001	E-LF-1B	I-FCV760	1B	A	EE	MNSTM	FIXTURE				
03-035-001-004	E-LF-1B	I-LT502	1B	A	EE	MNSTM	FIXTURE				
03-047-001-003	E-LF-1B	I-LT504	1B	A	EE	MNSTM	FIXTURE				
03-047-001-004	E-LF-1B	I-LT504	1B	A	EE	MNSTM	FIXTURE				
06-059-006-001	E-LF-1B	I-RVLIS	1B	A	EE	RCS	FIXTURE				
06-060-006-001	E-LF-1B	I-RVLIS	1B	A	EE	RCS	FIXTURE				
06-059-004-001	E-LF-1B	I-TE1315	1B	A	EE	RCS	FIXTURE				
06-059-034-001	E-LF-1B	I-TE1317	1B	A	EE	RCS	FIXTURE				
12-001-003-001	H-DUCT-1B	P-0051-2	1B	A	HVA	CVCS	SPTFAIL				
10-007-001-001	H-DUCT-1B	P-1497-0.75	1B	A	HVA	CVCS	SPTFAIL				
05-010-003-001	H-DUCT-1B	I-FCV761	1B	A	HVA	MNSTM	MECHFAIL				
05-016-003-001	H-DUCT-1B	I-FCV762	1B	A	HVA	MNSTM	MECHFAIL				
05-022-003-003	H-DUCT-1B	I-FCV763	1B	A	HVA	MNSTM	MECHFAIL				
03-033-001-003	H-DUCT-1B	I-FT512	1B	A	HVA	MNSTM	MECHFAIL				
03-034-001-002	H-DUCT-1B	I-FT513	1B	A	HVA	MNSTM	MECHFAIL				
03-036-001-002	H-DUCT-1B	I-FT522	1B	A	HVA	MNSTM	MECHFAIL				
03-037-001-003	H-DUCT-1B	I-FT523	1B	A	HVA	MNSTM	MECHFAIL				
03-046-001-001	H-DUCT-1B	I-FT532	1B	A	HVA	MNSTM	MECHFAIL				
03-045-001-001	H-DUCT-1B	I-FT533	1B	A	HVA	MNSTM	MECHFAIL				
03-051-001-005	H-DUCT-1B	I-FT542	1B	A	HVA	MNSTM	MECHFAIL				
03-052-001-001	H-DUCT-1B	I-FT543	1B	A	HVA	MNSTM	MECHFAIL				
03-029-001-004	H-DUCT-1B	I-LT501	1B	A	HVA	MNSTM	MECHFAIL				
03-035-001-005	H-DUCT-1B	I-LT502	1B	A	HVA	MNSTM	MECHFAIL				
03-041-001-001	H-DUCT-1B	I-LT503	1B	A	HVA	MNSTM	MECHFAIL				
03-047-001-005	H-DUCT-1B	I-LT504	1B	A	HVA	MNSTM	MECHFAIL				
03-030-001-005	H-DUCT-1B	I-LT517	1B	A	HVA	MNSTM	MECHFAIL				
03-031-001-003	H-DUCT-1B	I-LT518	1B	A	HVA	MNSTM	MECHFAIL				
03-032-001-003	H-DUCT-1B	I-LT519	1B	A	HVA	MNSTM	MECHFAIL				
03-038-001-005	H-DUCT-1B	I-LT527	1B	A	HVA	MNSTM	MECHFAIL				
03-039-001-002	H-DUCT-1B	I-LT528	1B	A	HVA	MNSTM	MECHFAIL				
03-040-001-003	H-DUCT-1B	I-LT529	1B	A	HVA	MNSTM	MECHFAIL				
03-043-001-002	H-DUCT-1B	I-LT537	1B	A	HVA	MNSTM	MECHFAIL				
03-044-001-002	H-DUCT-1B	I-LT538	1B	A	HVA	MNSTM	MECHFAIL				
03-042-001-002	H-DUCT-1B	I-LT539	1B	A	HVA	MNSTM	MECHFAIL				
03-048-001-003	H-DUCT-1B	I-LT547	1B	A	HVA	MNSTM	MECHFAIL				
03-049-001-005	H-DUCT-1B	I-LT548	1B	A	HVA	MNSTM	MECHFAIL				
03-050-001-003	H-DUCT-1B	I-LT549	1B	A	HVA	MNSTM	MECHFAIL				
05-021-002-001	H-DUCT-1B	M-FCV763	1B	A	HVA	MNSTM	MECHFAIL				
08-001-007-001	H-DUCT-1B	P-0014-4	1B	A	HVA	RCS	SPTFAIL				
06-060-021-002	M-BOTTLE	I-4686-0.187	1B	A	EMS	RCS	LOOSE	MECHFAIL			
05-022-005-003	M-FCV763	E-K1788-1	1B	A	PSE	MNSTM	DEFLECT				
29-021-005-001	M-TANK	E-KX505-0.75	1B	A	EMS	CI	SPTFAIL				
29-022-005-002	M-TANK	E-KX525-0.75	1B	A	EMS	CI	SPTFAIL				
06-060-032-002	M-TANK	E-KK079-0.75	1B	A	EMS	RCS	SPTFAIL				
06-001-004-004	M-TANK	I-FLUX MON	1B	A	CE	RCS	SPTFAIL				
06-060-027-001	M-TANK	I-TE1327	1B	A	EMS	RCS	SPTFAIL				
06-060-028-003	M-TANK	I-TE1328	1B	A	EMS	RCS	SPTFAIL				
06-059-026-001	M-5-10PATH	I-4683-0.187	1B	A	EMS	RCS	MECHFAIL				
06-060-021-001	M-5-10PATH	I-4686-0.187	1B	A	EMS	RCS	MECHFAIL				
12-003-006-001	M-9351A	I-8143	1B	A	PSE	CVCS	SPTFAIL				

AREA=CONTAINMENT

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
06-001-004-002	NS-CD	I-FLUX MON	1B	A	NPO	RCS	HOUSEKEEP				
17-001-022-004	NS-CD	P-1992-1.50	1B	A	ENG	SI	HOUSEKEEP	ENVIRON			
07-016-002-002	NS-T	E-KX532-1.50	1B	A	ENG	RCS	ENVIRON				
12-002-005-001	P-0025-3	PS-0025-3	1B	A	ENG	CVCS	DEFLECT				
20-065-012-001	P-0135-4	PA-0139-1	1B	A	ENG	CCW	DEFLECT				
06-025-002-004	C-PLAT-1B	E-KX400-2	1B	M	CE	RCS	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
20-045-013-001	C-69G	P-2305-4	1B	M	CE	CCW	INTERFERE	DEFLECT	CLEARANCE	OVERLAP	
20-045-008-001	C-71G	P-0137-4	1B	M	CE	CCW	INTERFERE	DEFLECT	CLEARANCE	OVERLAP	
06-001-004-006	C-72FG	I-FLUX MON	1B	M	CE	RCS	CIVILFAIL		BRACE	NECESSARY	
03-005-002-003	H-DUCT-1B	I-LT501	1B	M	HVA	MNSTM	DEFLECT		CONSTDEF	EXPEDIENT	
30-003-001-001	H-DUCT-1B	GENERIC	1B	M	HVA	MT	SPTFAIL		SECLOOSE	NECESSARY	
06-001-004-007	I-ELPP06	I-FLUX MON	1B	M	ICE	RCS	SPTFAIL		RELOCATE	NECESSARY	
06-001-006-003	M-BOTTLE	I-FLUX MON	1B	M	EMS	RCS	SPTFAIL		SECLOOSE	EXPEDIENT	
06-001-004-001	M-5-10PATH	I-FLUX MON	1B	M	EMS	RCS	SPTFAIL		SUPPORT	NECESSARY	
06-059-027-001	M-5-10PATH	I-RVLIS	1B	M	EMS	RCS	MECHFAIL		SUPPORT	EXPEDIENT	
06-059-036-001	M-5-10PATH	I-RVLIS	1B	M	EMS	RCS	MECHFAIL		SUPPORT	NECESSARY	
06-060-022-001	M-5-10PATH	I-RVLIS	1B	M	EMS	RCS	MECHFAIL		SECLOOSE	EXPEDIENT	
06-059-038-001	M-5-10PATH	M-RVLIS	1B	M	EMS	RCS	MECHFAIL		SUPPORT	NECESSARY	
06-059-039-001	M-5-10PATH	P-RVLIS	1B	M	EMS	RCS	MECHFAIL		SUPPORT	NECESSARY	
30-001-045-001	NS-CD	E-R-1B	1B	M	ENG	MT	HOUSEKEEP		SUPPORT	OVERLAP	
15-001-101-003	NS-MISC	PS-2000-0.75	1B	M	ENG	SI	HOUSEKEEP		RELOCATE	OVERLAP	
07-013-002-004	NS-T	E-KX499-0.75	1B	M	ENG	RCS	ENVIRON		TMODIFY	OVERLAP	
20-040-001-001	P-DRAIN-1B	P-2314-4	1B	M	PSE	CCW	DEFLECT		SUPPORT	EXPEDIENT	
06-059-042-001	P-SA-1B	E-KK074-0.75	1B	M	PSE	RCS	DEFLECT		SUPPORT	EXPEDIENT	
03-035-001-003	P-USB-1B	I-LT502	1B	M	ICE	MNSTM	DEFLECT		TMODIFY	EXPEDIENT	
03-047-001-002	P-1038-2	I-LT504	1B	M	ICE	MNSTM	INTERFERE	DEFLECT	TMODIFY	EXPEDIENT	
03-030-001-004	P-1870-1	I-LT517	1B	M	PSE	MNSTM	SPTFAIL		SUPPORT	EXPEDIENT	
15-001-101-002	P-2000-0.75	P-2000-0.75	1B	M	PSE	SI	DEFLECT		RELOCATE	EXPEDIENT	
06-003-005-001	P-3816-0.75	GENERIC	1B	M	PSE	RCS	DEFLECT		SUPPORT	EXPEDIENT	
06-060-032-007	P-3819-0.75	E-KK082-0.75	1B	M	PSE	RCS	PIPEFAIL		TMODIFY	OVERLAP	
05-008-001-001	P-3847-6	M-FCV763	1B	M	PSE	MNSTM	INTERFERE	DEFLECT	CONSTDEF	EXPEDIENT	
12-003-001-002	P-4397-2	PA-0063-1	1B	M	PSE	CVCS	DEFLECT		SUPPORT	OVERLAP	
03-047-001-001	P-4397-2	I-LT504	1B	M	PSE	MNSTM	SPTFAIL		SUPPORT	OVERLAP	
30-001-017-001	P-4397-2	GENERIC	1B	M	PSE	MT	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
30-001-017-002	P-4397-2	GENERIC	1B	M	PSE	MT	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
06-060-032-004	P-4397-2	E-KK082-0.75	1B	M	PSE	RCS	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
06-005-014-001	P-4397-2	P-0246-3	1B	M	PSE	RCS	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
15-001-101-001	P-4397-2	P-2000-0.75	1B	M	PSE	SI	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
06-005-027-001	P-4398-2	P-1158-3	1B	M	PSE	RCS	INTERFERE		TMODIFY	NECESSARY	
29-021-005-002	E-LF-1B	E-KX505-0.75	1B	NAN	EE	CI	FIXTURE				
29-022-005-003	E-LF-1B	E-KX525-0.75	1B	NAN	EE	CI	FIXTURE				
06-060-032-001	E-LF-1B	E-KK080-0.75	1B	NAN	EE	RCS	FIXTURE				
06-060-006-001	E-LF-1B	I-4685-0.187	1B	NAN	EE	RCS	FIXTURE				
15-001-058-001	E-PANEL	P-0508-8	1B	NAN	CE	SI	SPTFAIL				
06-001-006-005	E-PHONE	I-FLUX MON	1B	NAN	EMS	RCS	LOOSE				
06-060-028-001	E-PHONE	I-TE1328	1B	NAN	EMS	RCS	LOOSE				
03-037-001-002	E-R-1B	I-FT523	1B	NAN	ICE	MNSTM	INTERFERE	DEFLECT			
03-038-001-002	E-R-1B	I-LT527	1B	NAN	ICE	MNSTM	INTERFERE	DEFLECT			
12-007-006-003	I-TUBING	E-KX590-1.50	1B	NAN	ICE	CVCS	SPTFAIL				
12-007-006-004	I-TUBING	E-KX590-1.50	1B	NAN	ICE	CVCS	SPTFAIL	DEFLECT	MODCODE	MODEVAL	INTRCOMP
20-065-003-001	M-TANK	P-2304-4	1B	NAN	PSE	CCW	DEFLECT				
02-001-003-001	P-DRAIN-1B	P-0556-16	1B	NAN	PSE	AUXFW	PIPEFAIL				
02-001-004-001	P-DRAIN-1B	P-0557-16	1B	NAN	PSE	AUXFW	PIPEFAIL				
12-003-001-001	P-DRAIN-1B	P-0063-1	1B	NAN	PSE	CVCS	SPTFAIL				

AREA=CONTAINMENT

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
03-056-001-001	P-DRAIN-1B	P-0225-28	1B	NAN	PSE	MNSTM	SPTFAIL				
08-001-001-001	P-SA-1B	P-0013-4	1B	NAN	PSE	RCS	DEFLECT				
02-001-001-001	P-USB-1B	P-0554-16	1B	NAN	PSE	AUXFW	PIPEFAIL				
02-001-002-001	P-USB-1B	P-0555-16	1B	NAN	PSE	AUXFW	PIPEFAIL				
05-003-002-001	P-USB-1B	I-FCV760	1B	NAN	PSE	MNSTM	SPTFAIL				
05-009-002-001	P-USB-1B	I-FCV761	1B	NAN	PSE	MNSTM	SPTFAIL				
05-016-001-001	P-USB-1B	I-FCV762	1B	NAN	PSE	MNSTM	DEFLECT				
03-035-001-002	P-USB-1B	I-LT502	1B	NAN	PSE	MNSTM	INTERFERE	DEFLECT			
03-054-001-001	P-USB-1B	P-0227-28	1B	NAN	PSE	MNSTM	PIPEFAIL				
03-053-001-001	P-USB-1B	P-0228-28	1B	NAN	PSE	MNSTM	PIPEFAIL				
06-001-004-008	P-0527-0.75	I-FLUX MON	1B	NAN	PSE	RCS	INTERFERE	DEFLECT			
05-001-001-002	P-1040-2.50	I-1051-0.375	1B	NAN	PSE	MNSTM	INTERFERE	DEFLECT			
03-055-001-001	P-3210-10	P-0226-28	1B	NAN	PSE	MNSTM	SPTFAIL				
15-003-011-001	P-3496-3	P-0256-10	1B	NAN	PSE	SI	DEFLECT	DEFLECT			
10-015-001-002	P-3755-0.75	P-3755-0.75	1B	NAN	PSE	CVCS	DEFLECT				
06-004-006-001	P-3816-0.75	M-8059C	1B	NAN	PSE	RCS	SPTFAIL				
06-004-005-001	P-3816-0.75	M-8060C	1B	NAN	PSE	RCS	SPTFAIL				
06-004-004-001	P-3816-0.75	M-8061C	1B	NAN	PSE	RCS	SPTFAIL				
30-001-030-001	P-3819-0.50	E-KX510-1	1B	NAN	PSE	MT	DEFLECT				
12-001-003-002	P-3819-0.75	P-0246-3	1B	NAN	PSE	CVCS	DEFLECT				
15-001-100-001	P-4379-2	P-1999-0.75	1B	NAN	PSE	SI	SPTFAIL				
06-004-006-002	P-4397-2	M-8059C	1B	NAN	PSE	RCS	SPTFAIL				
06-004-005-002	P-4397-2	M-8060C	1B	NAN	PSE	RCS	SPTFAIL				
06-004-004-002	P-4397-2	M-8061C	1B	NAN	PSE	RCS	SPTFAIL				
10-005-001-001	PS-1B	P-0059-2	1B	NAN	PSE	CVCS	DEFLECT				
06-059-027-002	C-GRATING	I-RVLIS	1B	X	GC	RCS	LOOSE				
06-060-022-002	C-GRATING	I-RVLIS	1B	X	GC	RCS	LOOSE				
06-060-021-003	C-GRATING	I-4686-0.187	1B	X	GC	RCS	LOOSE				
06-059-038-002	C-GRATING	M-RVLIS	1B	X	GC	RCS	LOOSE				
06-059-039-002	C-GRATING	M-RVLIS	1B	X	GC	RCS	LOOSE				
30-001-046-001	C-PLAT-1B	GENERIC	1B	X	QC	MT	LOOSE				
05-010-003-002	E-LF-1B	I-FCV761	1B	X	GC	MNSTM	FIXTURE				
29-021-005-003	NS-CD	E-KX505-0.75	1B	X	QC	CI	HOUSEKEEP				
12-001-001-001	NS-CD	PS-0048-3	1B	X	QC	CVCS	HOUSEKEEP				
03-029-001-002	NS-CD	I-LT501	1B	X	QC	MNSTM	HOUSEKEEP				
06-060-032-005	NS-CD	E-KK083-0.75	1B	X	QC	RCS	HOUSEKEEP				
06-027-001-001	NS-CD	I-TE433A	1B	X	QC	RCS	HOUSEKEEP				
06-059-026-002	NS-CD	I-4683-0.187	1B	X	GC	RCS	HOUSEKEEP				
06-059-028-001	E-LF-1B	I-TE1319	1B	Y	EE	RCS	FIXTURE				
06-060-028-002	E-LF-1B	I-TE1328	1B	Y	EE	RCS	FIXTURE				
06-060-004-002	P-3819-0.75	I-4685-0.187	1B	Y	OSE	RCS	PIPEFAIL				
06-001-002-003	C-CABLE	M-CRDM	1C	A	CE	RCS	DEFLECT				
06-001-002-001	C-HANDRAIL	M-CRDM	1C	A	CE	RCS	LOOSE				
03-040-001-001	C-RSM-1C	I-LT529	1C	A	EMS	MNSTM	INTERFERE	DEFLECT			
06-059-016-001	C-SHIELD	I-4681-0.187	1C	A	CE	RCS	CIVILFAIL				
06-060-011-001	C-SHIELD	I-4684-0.187	1C	A	CE	RCS	CIVILFAIL				
06-001-001-002	C-SHIELD	M-CRDM	1C	A	CE	RCS	CIVILFAIL				
07-006-001-002	C-STAIR-1C	I-LT457	1C	A	CE	RCS	DEFLECT				
07-010-001-002	C-STAIR-1C	I-LT461	1C	A	CE	RCS	DEFLECT				
07-011-001-001	C-STAIR-1C	I-LT462	1C	A	CE	RCS	DEFLECT				
30-001-094-001	C-113F	I-TUBING	1C	A	CE	MT	CIVILFAIL				
03-033-001-002	C-114F	I-FT512	1C	A	CE	MNSTM	INTERFERE				
03-029-001-001	C-114F	I-LT501	1C	A	CE	MNSTM	INTERFERE				
03-031-001-002	C-114F	I-LT518	1C	A	CE	MNSTM	INTERFERE				

AREA=CONTAINMENT

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
03-037-001-001	C-115F	I-FT523	1C	A	CE	MNSTM	INTERFERE				
03-038-001-001	C-115F	I-LT527	1C	A	CE	MNSTM	INTERFERE				
03-051-001-003	C-116G	I-FT542	1C	A	CE	MNSTM	INTERFERE	DEFLECT			
03-039-001-001	C-116G	I-LT528	1C	A	CE	MNSTM	INTERFERE	DEFLECT			
03-043-001-001	C-116G	I-LT537	1C	A	CE	MNSTM	INTERFERE	DEFLECT			
03-044-001-001	C-116G	I-LT538	1C	A	CE	MNSTM	INTERFERE	DEFLECT			
03-048-001-002	C-116G	I-LT547	1C	A	CE	MNSTM	INTERFERE	DEFLECT			
03-049-001-003	C-116G	I-LT548	1C	A	CE	MNSTM	INTERFERE	DEFLECT			
03-032-001-002	C-76F	I-LT519	1C	A	CE	MNSTM	INTERFERE				
20-027-007-001	E-ANTENNA	P-3168-2	1C	A	EE	CCW	SPTFAIL				
03-053-001-002	E-LF-1C	GENERIC	1C	A	EE	MNSTM	FIXTURE				
06-001-001-001	E-LF-1C	M-CRDM	1C	A	EE	RCS	FIXTURE				
06-001-001-005	E-R-1C	M-CRDM	1C	A	EE	RCS	SPTFAIL				
03-053-002-002	H-DUCT-1C	I-FE512+	1C	A	HVA	MNSTM	SPTFAIL				
03-054-002-001	H-DUCT-1C	I-FE512+	1C	A	HVA	MNSTM	SPTFAIL				
03-055-002-001	H-DUCT-1C	I-FE512+	1C	A	HVA	MNSTM	SPTFAIL				
07-009-001-004	M-FE	I-LT460+	1C	A	ICE	RCS	LOOSE				
06-001-001-004	M-HOIST-1C	M-CRDM	1C	A	CE	RCS	MECHFAIL				
06-001-002-002	M-HOIST-1C	M-CRDM	1C	A	CE	RCS	MECHFAIL				
30-001-039-001	M-STUD TENS	GENERIC	1C	A	NPO	MT	LOOSE				I
30-001-058-001	M-STUDS	GENERIC	1C	A	NPO	MT	LOOSE				
30-001-055-001	N-MISC-1C	GENERIC	1C	A	NPO	MT	LOOSE				
30-001-041-001	N-TOOLS	GENERIC	1C	A	NPO	MT	LOOSE				I
09-007-002-005	NS-CD	E-K1752-1.25	1C	A	ENG	RCS	ENVIRON				
07-008-001-001	NS-CD	I-LT459	1C	A	ENG	RCS	HOUSEKEEP				
06-001-001-007	NS-CD	M-CRDM	1C	A	NPO	RCS	HOUSEKEEP				
09-002-002-002	NS-T	E-K1768-1.25	1C	A	ENG	RCS	ENVIRON				
30-001-040-001	PS-1C	GENERIC	1C	A	EMS	MT	ENVIRON				I
06-059-002-001	C-COVER	M-VALVE	1C	M	EMS	RCS	LOOSE		SECLOOSE	OVERLAP	
30-001-022-002	C-HANDRAIL	GENERIC	1C	M	CE	MT	LOOSE		BRACE	EXPEDIENT	
30-001-059-001	C-LADDER	GENERIC	1C	M	CE	MT	SPTFAIL		SECLOOSE	EXPEDIENT	
06-001-001-003	C-MISC-1C	M-CRDM	1C	M	CE	RCS	MECHFAIL		SECLOOSE	EXPEDIENT	
03-030-001-002	C-PLAT-1C	I-LT517	1C	M	CE	MNSTM	INTERFERE		BRACE	NECESSARY	
03-049-001-004	C-PLAT-1C	I-PX11	1C	M	CE	MNSTM	INTERFERE	DEFLECT	SUPPORT	NECESSARY	
03-055-001-002	C-PLAT-1C	I-VALVE	1C	M	CE	MNSTM	INTERFERE	DEFLECT	CLEARANCE	NECESSARY	
30-001-022-001	C-PLAT-1C	GENERIC	1C	M	CE	MT	CIVILFAIL		BRACE	EXPEDIENT	
07-009-001-003	C-PLAT-1C	I-LT460	1C	M	CE	RCS	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
07-010-001-001	C-PLAT-1C	I-LT461	1C	M	CE	RCS	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
30-001-095-001	C-102F	GENERIC	1C	M	CE	MT	CIVILFAIL		BRACE	NECESSARY	
25-122-005-001	C-34F	H-CFC1-1	1C	M	CE	CI	DEFLECT		BRACE	EXPEDIENT	
07-009-001-005	E-R-1C	I-LT460	1C	M	ICE	RCS	DEFLECT		TMODIFY	EXPEDIENT	
07-016-001-001	E-R-1C	I-POT116	1C	M	EE	RCS	INTERFERE		RELOCATE	EXPEDIENT	
07-016-003-001	E-R-1C	I-POT117	1C	M	EE	RCS	INTERFERE		RELOCATE	EXPEDIENT	
07-016-005-001	E-R-1C	I-POT118	1C	M	EE	RCS	INTERFERE		RELOCATE	EXPEDIENT	
06-001-001-010	H-DUCT-1C	M-CRDM	1C	M	CE	RCS	SPTFAIL		SUPPORT	OVERLAP	
06-001-001-006	M-HOIST-1C	M-CRDM	1C	M	CE	RCS	MECHFAIL		STOP	EXPEDIENT	
30-001-023-001	M-HR	GENERIC	1C	M	EMS	MT	LOOSE	MECHFAIL	SECLOOSE	EXPEDIENT	
06-001-001-008	M-TANK	M-CRDM	1C	M	CE	RCS	SPTFAIL		BRACE	NECESSARY	
07-016-001-002	NS-CD	I-POT116	1C	M	ENG	RCS	ENVIRON		RELOCATE	EXPEDIENT	
07-016-003-002	NS-CD	I-POT117	1C	M	ENG	RCS	ENVIRON		RELOCATE	EXPEDIENT	
07-016-005-002	NS-CD	I-POT118	1C	M	ENG	RCS	ENVIRON		RELOCATE	EXPEDIENT	
07-008-001-003	P-0021-8	I-LT459	1C	M	PSE	RCS	DEFLECT		RELOCATE	EXPEDIENT	
25-122-007-001	P-3256-2	H-CFC1-1	1C	M	PSE	CI	PIPEFAIL		RELOCATE	EXPEDIENT	
25-123-002-001	P-3256-2	I-FCV066	1C	M	PSE	HVAC	PIPEFAIL		RELOCATE	EXPEDIENT	

AREA=CONTAINMENT

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-124-002-001	P-3256-2	I-FCV067	1C	M	PSE	HVAC	PIPEFAIL		RELOCATE	EXPEDIENT	
25-125-002-001	P-3256-2	I-FCV068	1C	M	PSE	HVAC	PIPEFAIL		RELOCATE	EXPEDIENT	
25-126-002-001	P-3256-2	I-FCV069	1C	M	PSE	HVAC	PIPEFAIL		RELOCATE	EXPEDIENT	
25-127-002-002	P-3256-2	I-FCV070	1C	M	PSE	HVAC	PIPEFAIL		RELOCATE	EXPEDIENT	
25-128-002-002	P-3256-2	I-FCV071	1C	M	PSE	HVAC	PIPEFAIL		RELOCATE	EXPEDIENT	
03-053-002-001	P-3256-2	I-FE512	1C	M	PSE	MNSTM	PIPEFAIL		RELOCATE	NECESSARY	
25-201-008-001	C-HANDRAIL	E-KX208-1	1C	NAN	CE	HVAC	SPTFAIL				
25-131-004-001	C-LADDER	E-K1941-1	1C	NAN	CE	HVAC	SPTFAIL				
25-155-004-001	C-LADDER	E-K1954-1	1C	NAN	CE	HVAC	SPTFAIL				
25-140-004-001	C-PLAT-1C	E-K1729-1.25	1C	X	QC	HVAC	INTERFERE	DEFLECT	[illegible]	[illegible]	
06-059-016-002	E-LF-1C	I-4681-0.187	1C	X	GC	RCS	FIXTURE		[illegible]	[illegible]	
06-060-011-003	E-LF-1C	I-4684-0.187	1C	X	GC	RCS	FIXTURE		[illegible]	[illegible]	
03-051-001-004	NS-CD	I-FT542	1C	X	QC	MNSTM	HOUSEKEEP	[illegible]	[illegible]	[illegible]	
03-030-001-003	NS-CD	I-LT517	1C	X	QC	MNSTM	HOUSEKEEP		[illegible]	[illegible]	
03-042-001-001	NS-CD	I-LT539	1C	X	QC	MNSTM	HOUSEKEEP		[illegible]	[illegible]	
30-001-004-001	NS-CD	I-TUBING	1C	X	QC	MT	HOUSEKEEP	[illegible]	[illegible]	[illegible]	
09-007-002-004	NS-CD	E-K1752-1.25	1C	X	QC	RCS	HOUSEKEEP	[illegible]	[illegible]	[illegible]	
06-001-001-009	NS-CD	M-CRDM	1C	X	QC	RCS	HOUSEKEEP				

AREA=EMERGENCY DIESEL GENERATOR SPACES

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
24-001-024-002	C-COVER	P-2589-2	11A1	A	EMS	EDG	LOOSE				
24-007-001-006	C-DOOR	M-DG1-1	11A1	A	CE	EDG	SPTFAIL				
24-008-004-001	E-LF-BOL	E-PMGQD11	11A1	A	EE	EDG	FIXTURE				
24-007-016-002	E-12KVSWGR	M-DG1-1	11A1	A	EE	EDG	MECHFAIL	CIVILFAIL			
24-007-005-003	H-DUCT-11A1	M-DG1-1	11A1	A	PSE	EDG	MECHFAIL				
24-001-026-001	C-COVER	M-LCV88	11A1	M	NPO	EDG	LOOSE		SECLOOSE	OVERLAP	
24-007-016-001	C-DOOR	M-DG1-1	11A1	M	CE	EDG	MECHFAIL	ENVIRON	BRACE	NECESSARY	
24-007-001-001	C-MR-11A1	M-DG1-1	11A1	M	CE	EDG	CIVILFAIL	MECHFAIL	SECLOOSE	EXPEDIENT	
24-011-003-001	E-LF-11A1	M-AR1-1	11A1	M	EE	EDG	FIXTURE		RELOCATE	NECESSARY	
24-007-001-002	E-LF-11A1	M-DG1-1	11A1	M	EE	EDG	FIXTURE		CHAIN	NECESSARY	
24-007-001-005	P-DRAIN-11A1	M-DG1-1	11A1	M	PSE	EDG	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
24-007-001-004	P-INSUL	M-DG1-1	11A1	M	PSE	EDG	HOUSEKEEP		SECLOOSE	OVERLAP	
24-007-005-001	P-2173-5	E-R-11A1	11A1	M	PSE	EDG	DEFLECT		RELOCATE	OVERLAP	
24-001-009-001	P-2182-22	E-K2496+	11A1	M	PSE	EDG	DEFLECT		SUPPORT	OVERLAP	
24-007-001-003	P-2182-22	M-DG1-1	11A1	M	PSE	EDG	PIPEFAIL		SUPPORT	OVERLAP	
24-008-003-001	E-LF-11A1	E-SED11	11A1	NAN	EE	EDG	FIXTURE				
24-009-003-001	E-LF-11A1	E-SED12	11A1	NAN	EE	EDG	FIXTURE				
24-001-133-001	C-COVER	P-2588-2	11A1	X	QC	EDG	LOOSE				
24-001-024-001	C-COVER	P-2589-2	11A1	X	QC	EDG	LOOSE				
24-006-001-001	C-DOOR	M-DG1-1	11A2	A	CE	EDG	SPTFAIL				
25-177-003-001	H-FILTER	H-DUCT	11A2	A	HVA	HVAC	MECHFAIL				
25-177-002-001	C-DOOR	H-DUCT	11A2	M	CE	HVAC	SPTFAIL		CONSTDEF	EXPEDIENT	
25-177-003-002	C-DOOR	H-DUCT	11A2	M	CE	HVAC	SPTFAIL		CONSTDEF	EXPEDIENT	
25-177-003-004	C-HANDRAIL	M-DG1-1	11A2	NAN	CE	HVAC	LOOSE				
24-006-001-002	E-LF-11A2	M-DG1-1	11A2	NAN	EE	EDG	FIXTURE				
25-177-002-002	E-LF-11A2	H-DUCT	11A2	NAN	EE	HVAC	FIXTURE				
25-177-003-003	E-LF-11A2	H-DUCT	11A2	NAN	EE	HVAC	FIXTURE				
24-001-135-001	C-COVER	M-LCV85	11A2	X	GC	EDG	LOOSE				
24-007-010-002	C-DOOR	M-DG1-2	11B1	A	CE	EDG	SPTFAIL				
24-009-004-001	E-LF-BOL	E-PMGQD12	11B1	A	EE	EDG	FIXTURE				
24-007-010-003	H-DUCT-11B1	M-DG1-2	11B1	A	PSE	EDG	MECHFAIL				
24-007-017-001	C-DOOR	M-DG1-2	11B1	M	CE	EDG	MECHFAIL	ENVIRON	BRACE	NECESSARY	
24-007-006-004	C-MR-11B1	M-DG1-2	11B1	M	CE	EDG	CIVILFAIL	MECHFAIL	SECLOOSE	EXPEDIENT	
24-012-003-001	E-LF-11B1	M-AR1-2	11B1	M	EE	EDG	FIXTURE		RELOCATE	NECESSARY	
24-007-006-003	E-LF-11B1	M-DG1-2	11B1	M	EE	EDG	FIXTURE		CHAIN	NECESSARY	
24-007-006-005	P-DRAIN-11B1	M-DG1-2	11B1	M	PSE	EDG	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
24-007-006-002	P-INSUL	M-DG1-2	11B1	M	PSE	EDG	HOUSEKEEP		SECLOOSE	OVERLAP	
24-007-006-001	P-2185-22	M-DG1-2	11B1	M	PSE	EDG	PIPEFAIL		SUPPORT	OVERLAP	
24-007-010-001	P-2586-5	E-R-11B1	11B1	M	PSE	EDG	DEFLECT		RELOCATE	OVERLAP	
24-001-153-001	C-COVER	I-LCV86	11B1	X	QC	EDG	LOOSE				
24-001-150-001	C-COVER	P-2590-2	11B1	X	QC	EDG	LOOSE				
24-006-021-002	C-DOOR	M-DG1-2	11B2	A	CE	EDG	SPTFAIL				
25-178-003-002	H-FILTER	H-DUCT	11B2	A	HVA	HVAC	MECHFAIL				
25-178-002-001	C-DOOR	H-DUCT	11B2	M	CE	HVAC	SPTFAIL		CONSTDEF	EXPEDIENT	
25-178-003-001	C-DOOR	H-DUCT	11B2	M	CE	HVAC	SPTFAIL		CONSTDEF	EXPEDIENT	
25-178-003-004	C-HANDRAIL	M-DG1-2	11B2	NAN	CE	HVAC	LOOSE				
24-006-021-001	E-LF-11B2	M-DG1-2	11B2	NAN	EE	EDG	FIXTURE				
25-178-002-002	E-LF-11B2	H-DUCT	11B2	NAN	EE	HVAC	FIXTURE				
25-178-003-003	E-LF-11B2	H-DUCT	11B2	NAN	EE	HVAC	FIXTURE				
24-001-044-001	C-COVER	I-LCV89	11B2	X	GC	EDG	LOOSE				
24-001-152-001	C-COVER	M-LCV86	11B2	X	QC	EDG	LOOSE				
24-001-043-001	C-COVER	M-LCV89	11B2	X	GC	EDG	LOOSE				
24-001-041-001	C-COVER	P-2591-2	11B2	X	QC	EDG	LOOSE				
24-007-015-002	C-DOOR	M-DG1-3	11C1	A	CE	EDG	SPTFAIL				

AREA=EMERGENCY DIESEL GENERATOR SPACES

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
24-010-004-001	E-LF-BOL	E-PMGQD13	11C1	A	EE	EDG	FIXTURE				
24-007-015-001	H-DUCT-11C1	M-DG1-3	11C1	A	PSE	EDG	MECHFAIL				
24-007-018-001	C-DOOR	M-DG1-3	11C1	M	CE	EDG	MECHFAIL	ENVIRON	BRACE	NECESSARY	
24-007-011-001	C-MR-11C1	M-DG1-3	11C1	M	CE	EDG	CIVILFAIL	MECHFAIL	SECLOOSE	EXPEDIENT	
24-013-003-001	E-LF-11C1	M-AR1-3	11C1	M	EE	EDG	FIXTURE		RELOCATE	NECESSARY	
24-007-011-005	P-DRAIN-11C1	M-DG1-3	11C1	M	PSE	EDG	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
24-007-011-004	P-INSUL	M-DG1-3	11C1	M	PSE	EDG	HOUSEKEEP		SECLOOSE	OVERLAP	
24-001-118-001	P-2188-22	E-K2522-1.25	11C1	M	PSE	EDG	PIPEFAIL		SUPPORT	OVERLAP	
24-007-011-003	P-2188-22	M-DG1-3	11C1	M	PSE	EDG	PIPEFAIL		SUPPORT	OVERLAP	
24-007-015-003	P-2587-5	E-R-11C1	11C1	M	PSE	EDG	DEFLECT		RELOCATE	OVERLAP	
24-010-003-001	E-LF-11C1	E-SED13	11C1	NAN	EE	EDG	FIXTURE				
24-010-003-002	P-DRAIN-11C1	E-K2323-4	11C1	NAN	PSE	EDG	DEFLECT				
24-010-004-002	P-DRAIN-11C1	E-K2585-1.50	11C1	NAN	PSE	EDG	DEFLECT				
30-001-032-002	P-DRAIN-11C1	E-K2323-4	11C1	NAN	PSE	MT	DEFLECT	[illegible]	[illegible]	[illegible]	
30-001-033-002	P-DRAIN-11C1	E-K2585-1.50	11C1	NAN	PSE	MT	DEFLECT		[illegible]	[illegible]	
24-001-167-001	C-COVER	P-2596-2	11C1	X	QC	EDG	LOOSE		[illegible]	[illegible]	
24-001-058-001	C-COVER	P-2597-2	11C1	X	QC	EDG	LOOSE		[illegible]	[illegible]	
24-006-041-002	C-DOOR	M-DG1-3	11C2	A	CE	EDG	SPTFAIL				
25-179-003-001	H-FILTER	H-DUCT	11C2	A	HVA	HVAC	MECHFAIL				
25-179-002-001	C-DOOR	H-DUCT	11C2	M	CE	HVAC	SPTFAIL		CONSTDEF	EXPEDIENT	
25-179-003-002	C-DOOR	H-DUCT	11C2	M	CE	HVAC	SPTFAIL		CONSTDEF	EXPEDIENT	
25-179-003-004	C-HANDRAIL	M-DG1-3	11C2	NAN	CE	HVAC	LOOSE		[illegible]	[illegible]	
24-006-041-001	E-LF-11C2	M-DG1-3	11C2	NAN	EE	EDG	FIXTURE				
25-179-002-002	E-LF-11C2	H-DUCT	11C2	NAN	EE	HVAC	FIXTURE				
25-179-003-003	E-LF-11C2	H-DUCT	11C2	NAN	EE	HVAC	FIXTURE				
24-001-169-001	C-COVER	M-LCV87	11C2	X	GC	EDG	LOOSE				
24-001-060-001	C-COVER	M-LCV90	11C2	X	GC	EDG	LOOSE		[illegible]	[illegible]	

AREA=ELECTRICAL EQUIPMENT SPACES

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
30-001-082-001	E-SWGR	E-R-10	10	A	EE	MT	SPTFAIL	MECHFAIL			
30-001-052-001	E-12KVSWGR	E-R-10	10	A	EE	MT	SPTFAIL				
30-001-051-001	H-DUCT-10	E-R-10	10	A	HVA	MT	SPTFAIL				
30-001-050-001	C-WALL	E-R-10	10	M	CE	MT	CIVILFAIL		BRACE	OVERLAP	
30-007-010-001	N-CABINET	GENERIC	10	M	NPO	MT	LOOSE		SECLOOSE	NECESSARY	
24-007-005-010	E-LF-10	E-K2014-1.50	10	NAN	EE	EDG	FIXTURE				
24-007-005-011	E-LF-10	E-K2018-1	10	NAN	EE	EDG	FIXTURE				
30-001-053-001	E-LF-10	E-R-10	10	NAN	EE	MT	FIXTURE				
24-007-015-004	NS-CD	E-K2624-6	10	X	QC	EDG	HOUSEKEEP				
32-001-025-003	C-GRATING	E-R-12A	12A	M	CE	ELPS	LOOSE		SECLOOSE	EXPEDIENT	
32-001-011-003	E-BUSDUCT	E-FDC	12A	M	EE	ELPS	SPTFAIL		SUPPORT	NECESSARY	
32-001-025-004	C-WALL	E-R-12A	12A	NAN	CE	ELPS	CIVILFAIL				
32-001-025-007	C-WALL	E-R-12A	12A	NAN	CE	ELPS	CIVILFAIL				
01-019-002-009	E-LF-12A	E-K2665-1	12A	NAN	EE	AUXFW	FIXTURE				
01-020-002-008	E-LF-12A	E-K2666-1	12A	NAN	EE	AUXFW	FIXTURE				
25-166-001-001	E-LF-12A	H-DUCT	12A	NAN	EE	HVAC	FIXTURE				
32-001-025-001	C-GRATING	E-GDB	12B	M	CE	ELPS	LOOSE		SECLOOSE	EXPEDIENT	I
11-007-005-005	E-BUSDUCT	E-GDA	12B	M	EE	CVCS	SPTFAIL		SUPPORT	NECESSARY	
24-009-005-001	E-BUSDUCT	E-K2674-3	12B	M	EE	EDG	SPTFAIL		SUPPORT	NECESSARY	
32-001-025-010	E-BUSDUCT	E-GBD	12B	M	EE	ELPS	SPTFAIL		SUPPORT	NECESSARY	
32-001-011-001	E-BUSDUCT	E-GDC	12B	M	EE	ELPS	SPTFAIL		SUPPORT	NECESSARY	
32-001-011-002	E-BUSDUCT	E-GDD	12B	M	EE	ELPS	SPTFAIL		SUPPORT	NECESSARY	
32-001-025-005	C-WALL	E-R-12B	12B	NAN	CE	ELPS	CIVILFAIL				
32-001-025-008	C-WALL	E-R-12B	12B	NAN	CE	ELPS	CIVILFAIL				
01-019-002-010	E-LF-12B	E-K2665-1	12B	NAN	EE	AUXFW	FIXTURE				
25-169-001-001	E-LF-12B	H-DUCT	12B	NAN	EE	HVAC	FIXTURE				
32-001-025-002	C-GRATING	E-HDBB	12C	M	CE	ELPS	LOOSE		SECLOOSE	EXPEDIENT	
32-001-025-006	C-WALL	E-R-12C	12C	NAN	CE	ELPS	CIVILFAIL		[illegible]	[illegible]	
32-001-025-009	C-WALL	E-R-12C	12C	NAN	CE	ELPS	CIVILFAIL		[illegible]	[illegible]	
25-172-001-001	E-LF-12C	H-DUCT	12C	NAN	EE	HVAC	FIXTURE				
32-001-008-005	E-LF-13A	E-4.16KVSWGR	13A	A	EE	ELPS	FIXTURE				
32-001-008-003	E-LF-13A	E-4.16KVSWGR	13A	M	EE	ELPS	FIXTURE		CHAIN	EXPEDIENT	
32-001-008-008	M-FE	E-4.16KVSWGR	13A	M	EMS	ELPS	LOOSE		SECLOOSE	NECESSARY	
32-001-008-006	N-BKR	E-4.16KVSWGR	13A	M	NPO	ELPS	LOOSE		RELOCATE	NECESSARY	
32-001-008-004	P-DRAIN-13A	E-4.16KVSWGR	13A	M	PSE	ELPS	SPTFAIL	PIPEFAIL	RELOCATE	NECESSARY	
32-001-008-001	C-WALL	E-4.16KVSWGR	13A	NAN	CE	ELPS	CIVILFAIL				
32-001-008-002	C-WALL	E-4.16KVSWGR	13A	NAN	CE	ELPS	CIVILFAIL				
32-001-008-007	E-PHONE	E-4.16KVSWGR	13A	NAN	EMS	ELPS	LOOSE				
32-001-009-005	E-LF-BOL	E-4.16KVSWGR	13B	A	EE	ELPS	FIXTURE		[illegible]	[illegible]	
32-001-009-008	E-MISC-13B	E-4.16KVSWGR	13B	A	EE	ELPS	DEFLECT		[illegible]	[illegible]	
32-001-009-003	E-LF-13B	E-4.16KVSWGR	13B	M	EE	ELPS	FIXTURE		CHAIN	EXPEDIENT	
32-001-009-006	N-BKR	E-4.16KVSWGR	13B	M	NPO	ELPS	LOOSE		RELOCATE	NECESSARY	
32-001-009-004	P-DRAIN-13B	E-4.16KVSWGR	13B	M	PSE	ELPS	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
32-001-009-001	C-WALL	E-4.16KVSWGR	13B	NAN	CE	ELPS	CIVILFAIL		[illegible]	[illegible]	
32-001-009-002	C-WALL	E-4.16KVSWGR	13B	NAN	CE	ELPS	CIVILFAIL	[illegible]	[illegible]	[illegible]	
32-001-009-007	E-PHONE	E-4.16KVSWGR	13B	NAN	EMS	ELPS	LOOSE	[illegible]	[illegible]	[illegible]	
32-001-010-004	E-LF-BOL	E-4.16KVSWGR	13C	A	EE	ELPS	FIXTURE				
32-001-010-003	E-LF-13C	E-4.16KVSWGR	13C	M	EE	ELPS	FIXTURE		CHAIN	EXPEDIENT	
32-001-010-005	N-BKR	E-4.16KVSWGR	13C	M	NPO	ELPS	LOOSE		RELOCATE	NECESSARY	
32-001-010-001	C-WALL	E-4.16KVSWGR	13C	NAN	CE	ELPS	CIVILFAIL	[illegible]	[illegible]	[illegible]	[illegible]
32-001-010-002	C-WALL	E-4.16KVSWGR	13C	NAN	CE	ELPS	CIVILFAIL				
32-001-010-006	E-PHONE	E-4.16KVSWGR	13C	NAN	EMS	ELPS	LOOSE				
25-166-002-001	E-LF-13D	H-DUCT	13D	NAN	EE	HVAC	FIXTURE				
25-172-002-001	E-LF-13D	H-DUCT	13D	NAN	EE	HVAC	FIXTURE				

AREA=ELECTRICAL EQUIPMENT SPACES

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
01-012-010-001	E-LF-BOL	E-TFW1	5A1	A	EE	AUXFW	FIXTURE				
32-001-022-002	E-LF-BOL	E-480VSWGR	5A1	A	EE	ELPS	FIXTURE				
32-001-022-001	E-LF-5A1	E-480VSWGR	5A1	A	EE	ELPS	FIXTURE				
07-012-003-001	C-HANDRAIL	E-TSAB	5A1	M	CE	RCS	LOOSE		SECLOOSE	OVERLAP	
32-001-022-004	C-WALL	E-480VSWGR	5A1	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP	
25-162-009-002	E-LF-5A1	H-DUCT	5A1	NAN	EE	HVAC	FIXTURE				
30-002-004-001	E-LF-5A1	GENERIC	5A1	NAN	EE	MT	FIXTURE				
32-001-022-003	E-PHONE	E-480VSWGR	5A1	NAN	EMS	ELPS	LOOSE				
25-164-003-001	H-S44	E-K7656+	5A1	NAN	HVA	HVAC	DEFLECT				
24-007-005-004	NS-CD	E-KT114-2	5A1	X	QC	EDG	HOUSEKEEP				
32-001-023-002	E-LF-BOL	E-480VSWGR	5A2	A	EE	ELPS	FIXTURE				
32-001-023-001	E-LF-5A2	E-480VSWGR	5A2	A	EE	ELPS	FIXTURE				
32-001-023-004	C-WALL	E-480VSWGR	5A2	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP	
30-002-003-001	E-LF-5A2	GENERIC	5A2	NAN	EE	MT	FIXTURE				
18-003-003-002	E-LF-5A2	E-K7317-3	5A2	NAN	EE	RHR	FIXTURE				
32-001-023-003	E-PHONE	E-480VSWGR	5A2	NAN	EMS	ELPS	LOOSE				
01-015-010-001	E-LF-BOL	E-TFW2	5A3	A	EE	AUXFW	FIXTURE				
32-001-024-002	E-LF-BOL	E-480VSWGR	5A3	A	EE	ELPS	FIXTURE				
32-001-024-001	E-LF-5A3	E-480VSWGR	5A3	A	EE	ELPS	FIXTURE				
32-001-024-004	C-WALL	E-480VSWGR	5A3	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP	
01-012-002-002	M-FE	E-HNJB	5A3	M	EMS	AUXFW	LOOSE	MECHFAIL	SECLOOSE	NECESSARY	
11-007-005-001	M-FE	E-GNJA	5A3	M	EMS	CVCS	LOOSE		SECLOOSE	NECESSARY	
11-007-005-002	M-FE	E-GNJA	5A3	M	EMS	CVCS	LOOSE		SECLOOSE	NECESSARY	
30-002-002-001	E-LF-5A3	GENERIC	5A3	NAN	EE	MT	FIXTURE				
32-001-024-003	E-PHONE	E-480VSWGR	5A3	NAN	EMS	ELPS	LOOSE				
25-164-003-002	H-DUCT-5A4	E-K5984+	5A4	A	HVA	HVAC	DEFLECT				
30-001-099-003	I-PM199	I-H01	5A4	A	ICE	MT	SPTFAIL				
30-001-099-001	I-PM30	I-H01	5A4	A	ICE	MT	SPTFAIL				
01-012-002-004	P-USB-5A4	E-K7143-2	5A4	A	EE	AUXFW	DEFLECT				
30-002-001-005	P-USB-5A4	GENERIC	5A4	A	PSE	MT	PIPEFAIL				
30-001-065-002	C-COVER	E-480VSWGR	5A4	M	CE	MT	LOOSE		SECLOOSE	EXPEDIENT	I
30-002-001-002	C-HANDRAIL	E-R-5A4	5A4	M	CE	MT	LOOSE		CONSTDEF	OVERLAP	
30-001-096-001	H-DUCT-5A4	E-480V SWGR	5A4	M	CE	MT	SPTFAIL		SUPPORT	OVERLAP	
30-001-099-002	I-XTR84	I-H01	5A4	M	ICE	MT	SPTFAIL		SECLOOSE	EXPEDIENT	
30-002-001-003	M-HR	GENERIC	5A4	M	EMS	MT	MECHFAIL		SECLOOSE	EXPEDIENT	
30-002-001-004	P-3684-2	GENERIC	5A4	M	PSE	MT	SPTFAIL		SUPPORT	EXPEDIENT	
11-012-008-001	E-LF-5A4	I-H01	5A4	NAN	EE	CVCS	FIXTURE				
25-164-003-003	E-LF-5A4	E-K5984-1	5A4	NAN	EE	HVAC	FIXTURE				
25-162-012-004	E-LF-5A4	H-DUCT	5A4	NAN	EE	HVAC	FIXTURE				
06-060-010-001	E-LF-5A4	E-KK368-3	5A4	NAN	EE	RCS	FIXTURE				
06-059-010-001	E-LF-5A4	E-KK377-3	5A4	NAN	EE	RCS	FIXTURE				
25-162-009-001	E-R-5A4	H-DUCT	5A4	NAN	EE	HVAC	DEFLECT				
01-020-002-002	NS-CD	E-K7231+	5A4	X	GC	AUXFW	HOUSEKEEP				
11-012-002-002	NS-CD	I-HCV142	5A4	X	QC	CVCS	HOUSEKEEP				
30-002-001-001	NS-CD	GENERIC	5A4	X	GC	MT	HOUSEKEEP				
06-060-010-002	N-BKR	E-KK368-3	5A4	Y	NPO	RCS	LOOSE				
06-059-010-002	N-BKR	E-KK377-3	5A4	Y	NPO	RCS	LOOSE				
30-001-063-001	E-LF-6A1	E-DC SWGR	6A1	A	EE	MT	FIXTURE				
32-001-032-002	C-WALL	E-125VBATTER	6A1	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP	
32-001-032-003	C-WALL	E-125VBATTER	6A1	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP	
30-001-061-001	C-WALL	E-DC SWGR	6A1	M	CE	MT	CIVILFAIL		BRACE	OVERLAP	
32-001-032-001	E-LF-6A1	E-125VBATTER	6A1	M	EE	ELPS	FIXTURE		CHAIN	NECESSARY	
32-001-032-005	H-DUCT-6A1	E-125VBATTER	6A1	M	CE	ELPS	SPTFAIL		SUPPORT	OVERLAP	
30-001-084-001	M-FE	E-DC SWGR	6A1	M	EMS	MT	MECHFAIL		SECLOOSE	NECESSARY	

AREA=ELECTRICAL EQUIPMENT SPACES

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
01-020-002-001	N-BATT CHG	E-FNJB	6A1	M	NPO	AUXFW	LOOSE		SECLOOSE	OVERLAP	
25-162-010-001	E-INVERTER	H-DUCT	6A1	NAN	CE	HVAC	SPTFAIL				
30-001-060-001	E-PHONE	E-DC SWGR	6A1	NAN	EMS	MT	LOOSE				
32-001-032-004	N-CAN	E-125VBATTER	6A1	NAN	CE	ELPS	LOOSE				
32-001-027-001	E-LF-BOL	E-BATT CHG	6A2	A	EE	ELPS	FIXTURE				
30-001-063-002	E-LF-6A2	E-DC SWGR	6A2	A	EE	MT	FIXTURE				
06-057-002-001	H-DUCT-6A2	E-K4976-0.75	6A2	A	HVA	RCS	INTERFERE	DEFLECT			
32-001-033-005	N-CABINET	E-125VBATTER	6A2	A	CE	ELPS	SPTFAIL				
32-001-033-002	C-WALL	E-125VBATTER	6A2	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP	
32-001-033-003	C-WALL	E-125VBATTER	6A2	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP	
30-001-061-002	C-WALL	E-DC SWGR	6A2	M	CE	MT	CIVILFAIL		BRACE	OVERLAP	
32-001-033-001	E-LF-6A2	E-125VBATTER	6A2	M	EE	ELPS	FIXTURE		CHAIN	NECESSARY	
32-001-027-002	M-BOTTLE	E-DC SWGR	6A2	M	EMS	ELPS	SPTFAIL		SECLOOSE	NECESSARY	
32-004-002-001	N-CABINET	E-DC SWGR	6A2	M	NPO	ELPS	LOOSE		SECLOOSE	EXPEDIENT	
32-001-033-004	N-CABINET	E-125VBATTER	6A2	M	CE	ELPS	SPTFAIL		SECLOOSE	EXPEDIENT	
30-001-060-002	E-PHONE	E-DC SWGR	6A2	NAN	EMS	MT	LOOSE		[illegible]	[illegible]	
32-001-033-006	N-CAN	E-125VBATTER	6A2	NAN	CE	ELPS	LOOSE		[illegible]	[illegible]	
32-001-029-001	E-LF-BOL	E-BATT CHG	6A3	A	EE	ELPS	FIXTURE		[illegible]	[illegible]	I
30-001-063-003	E-LF-6A3	E-DC SWGR	6A3	A	EE	MT	FIXTURE				
32-001-034-002	C-WALL	E-125VBATTER	6A3	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP	
32-001-034-003	C-WALL	E-125VBATTER	6A3	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP	
30-001-061-003	C-WALL	E-DC SWGR	6A3	M	CE	MT	CIVILFAIL		BRACE	OVERLAP	
32-001-034-001	E-LF-6A3	E-125VBATTER	6A3	M	EE	ELPS	FIXTURE		CHAIN	NECESSARY	
32-001-030-001	H-DUCT-6A3	E-BATT CHG	6A3	M	CE	ELPS	SPTFAIL		SUPPORT	OVERLAP	
32-001-037-001	H-DUCT-6A3	E-PANEL	6A3	M	CE	ELPS	SPTFAIL		SUPPORT	OVERLAP	
30-001-058-002	M-FE	E-MISC	6A3	M	EMS	MT	MECHFAIL		SECLOOSE	NECESSARY	
32-001-034-004	N-CAN	E-125VBATTER	6A3	NAN	CE	ELPS	LOOSE		[illegible]	[illegible]	
25-202-008-003	NS-CD	E-KT164-1.25	6A4	X	QC	HVAC	HOUSEKEEP	[illegible]	[illegible]	[illegible]	
25-201-008-006	E-PANEL	E-KK323-3	6A4	Y	OSE	HVAC	SPTFAIL	MECHFAIL	[illegible]	[illegible]	
25-162-011-002	M-HR	H-DUCT	6A5	A	EMS	HVAC	SPTFAIL				
30-001-065-003	C-COVER	E-MISC	6A5	M	CE	MT	LOOSE		SECLOOSE	EXPEDIENT	I
01-015-002-001	C-HANDRAIL	E-KT987-1.50	6A5	M	CE	AUXFW	LOOSE		SECLOOSE	OVERLAP	
01-020-002-003	C-HANDRAIL	E-K7237-2	6A5	M	CE	AUXFW	LOOSE		SECLOOSE	OVERLAP	
24-007-005-005	C-HANDRAIL	E-KT114-2	6A5	M	CE	EDG	LOOSE		SECLOOSE	OVERLAP	
25-162-009-003	E-LF-6A5	H-DUCT	6A5	NAN	EE	HVAC	FIXTURE		[illegible]	[illegible]	
25-162-011-001	E-LF-6A5	H-DUCT	6A5	NAN	EE	HVAC	FIXTURE		[illegible]	[illegible]	
25-164-001-001	E-LF-6A5	H-S44	6A5	NAN	EE	HVAC	FIXTURE				
03-026-025-001	C-PLAT-7A	E-K5794-1	7A	M	CE	MNSTM	LOOSE		SECLOOSE	OVERLAP	
25-108-002-001	M-HOIST-7A	E-K7518-3	7A	M	EMS	CI	MECHFAIL		STOP	EXPEDIENT	
30-001-049-001	N-MISC-7A	GENERIC	7A	M	NPO	MT	LOOSE		SECLOOSE	EXPEDIENT	
07-025-006-001	P-USB-7A	E-KT072+	7A	M	PSE	RCS	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
17-025-006-001	P-USB-7A	E-KT072+	7A	M	PSE	SI	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
25-185-002-001	NS-CD	E-K3888-1	7A	X	QC	CI	HOUSEKEEP		[illegible]	[illegible]	
30-001-074-001	C-BOARD	GENERIC	8C	A	NPO	MT	SPTFAIL		[illegible]	[illegible]	
30-001-064-001	E-DET	GENERIC	8C	A	EE	MT	SPTFAIL		[illegible]	[illegible]	
30-001-073-001	E-LF-8C	GENERIC	8C	A	EE	MT	FIXTURE				
30-001-068-001	E-PANEL	GENERIC	8C	A	EE	MT	SPTFAIL				
30-001-069-001	N-CABINET	GENERIC	8C	A	NPO	MT	LOOSE				
30-001-067-001	E-CLOCK	GENERIC	8C	M	EE	MT	SPTFAIL		RELOCATE	EXPEDIENT	
30-001-072-001	E-MISC-8C	GENERIC	8C	M	CE	MT	MECHFAIL	[illegible]	SECLOOSE	NECESSARY	[illegible]
30-001-071-001	E-PANEL	GENERIC	8C	M	EE	MT	SPTFAIL		SECLOOSE	EXPEDIENT	
32-009-001-001	N-MISC-8C	GENERIC	8C	M	NPO	ELPS	LOOSE		SECLOOSE	EXPEDIENT	
30-001-070-001	N-SHIELD	GENERIC	8C	M	CE	MT	LOOSE		BRACE	EXPEDIENT	
25-083-013-001	E-LF-8C	H-DUCT	8C	NAN	EE	HVAC	FIXTURE		[illegible]	[illegible]	

AREA=ELECTRICAL EQUIPMENT SPACES

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
32-001-038-001	C-WALL	E-SSPS	8G	M	ICE	ELPS	CIVILFAIL	ENVIRON	TSHIELD	NECESSARY	

AREA=HVAC EQUIPMENT SPACES

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-170-001-001	N-LOCKER	H-S68	13E	A	NPO	HVAC	LOOSE				
25-173-002-001	E-LF-13E	H-S67	13E	M	EE	HVAC	FIXTURE		CHAIN	EXPEDIENT	
25-170-002-001	E-LF-13E	H-S68	13E	M	EE	HVAC	FIXTURE		CHAIN	EXPEDIENT	
25-167-002-001	E-LF-13E	H-S69	13E	M	EE	HVAC	FIXTURE		CHAIN	EXPEDIENT	
24-003-003-001	E-LF-13E	P-2173-5	13E	NAN	EE	EDG	FIXTURE				
25-002-001-001	P-ULB-3P1	H-S1	3P1	A	EMS	HVAC	PIPEFAIL				
25-007-001-001	P-ULB-3P1	H-S2	3P1	A	EMS	HVAC	PIPEFAIL	ENVIRON			
25-004-001-001	E-LF-3P1	H-S1	3P1	M	EE	HVAC	FIXTURE		CHAIN	EXPEDIENT	
25-006-001-001	E-LF-3P1	H-S2	3P1	M	EE	HVAC	FIXTURE		CHAIN	EXPEDIENT	
25-005-007-001	E-LF-3P1	H-DUCT	3P1	NAN	EE	HVAC	FIXTURE				
25-005-014-001	E-LF-3P1	H-DUCT	3P1	NAN	EE	HVAC	FIXTURE				
25-001-002-001	E-LF-3P1	H-FILTER	3P1	NAN	EE	HVAC	FIXTURE				
25-001-003-001	E-LF-3P1	H-HEATER	3P1	NAN	EE	HVAC	FIXTURE				
25-005-005-001	M-VALVE	H-DUCT	3P1	NAN	EMS	HVAC	MECHFAIL				
25-105-001-001	C-PLAT-3P2	M-RCV12	3P2	A	CE	CI	CIVILFAIL				
25-197-001-001	C-PLAT-3P2	I-RE28B	3P2	A	CE	HVAC	CIVILFAIL				
04-003-001-003	C-PLAT-3P2	P-0593-4	3P2	A	CE	MNSTM	CIVILFAIL				
25-102-006-001	C-112L	H-DUCT	3P2	A	CE	CI	CIVILFAIL				
25-107-005-002	C-99L	I-FCV663	3P2	A	CE	CI	CIVILFAIL				
25-109-005-002	C-99L	I-FCV664	3P2	A	CE	CI	CIVILFAIL				
25-107-004-002	C-99L	I-SV296	3P2	A	CE	CI	CIVILFAIL				
25-109-004-002	C-99L	I-SV297	3P2	A	CE	CI	CIVILFAIL				
25-196-001-002	C-99L	I-RE28A	3P2	A	CE	HVAC	CIVILFAIL				
25-107-005-001	E-LF-3P2	I-FCV663	3P2	A	EE	CI	FIXTURE				
25-109-005-001	E-LF-3P2	I-FCV664	3P2	A	EE	CI	FIXTURE				
25-107-004-001	E-LF-3P2	I-SV296	3P2	A	EE	CI	FIXTURE				
25-109-004-001	E-LF-3P2	I-SV297	3P2	A	EE	CI	FIXTURE				
25-196-001-001	E-LF-3P2	I-RE28A	3P2	A	EE	HVAC	FIXTURE				
25-197-001-002	E-LF-3P2	I-RE28B	3P2	A	EE	HVAC	FIXTURE				
25-102-010-001	P-DRAIN-3P2	H-MISC	3P2	A	ENG	CI	PIPEFAIL				
25-069-004-001	P-1600-2	H-DAMPER	3P2	M	PSE	HVAC	DEFLECT		SUPPORT	EXPEDIENT	
25-105-007-001	C-99L	E-K8277-0.75	3P2	NAN	CE	CI	DEFLECT				
25-097-001-001	E-LF-3P2	H-DUCT	3P2	NAN	EE	CI	FIXTURE				
25-102-007-001	E-LF-3P2	H-E3	3P2	NAN	EE	CI	FIXTURE				
25-102-009-001	E-LF-3P2	I-FE5015	3P2	NAN	EE	CI	FIXTURE				
25-069-002-001	E-LF-3P2	H-DAMPER	3P2	NAN	EE	HVAC	FIXTURE				
25-005-017-001	E-LF-3P2	H-DUCT	3P2	NAN	EE	HVAC	FIXTURE				
04-003-001-001	E-LF-3P2	P-0593-4	3P2	NAN	EE	MNSTM	FIXTURE				
04-003-001-002	E-LF-3P2	P-0593-4	3P2	NAN	EE	MNSTM	FIXTURE				
25-055-005-001	H-DUCT-3P2	E-K8243-0.75	3P2	NAN	HVA	HVAC	SPTFAIL				
25-197-008-005	H-DUCT-3P2	E-K9946-1.50	3P2	NAN	HVA	HVAC	INTERFERE	DEFLECT			
25-197-008-007	P-DRAIN-3P2	E-KK213-1.50	3P2	NAN	PSE	HVAC	INTERFERE	DEFLECT			
25-197-008-006	P-0593-4	E-K9960-1.50	3P2	NAN	PSE	HVAC	INTERFERE	DEFLECT			
25-046-001-003	C-COVER	H-E2	3P3	A	CE	HVAC	LOOSE				
25-046-001-002	E-LF-3P3	H-E2	3P3	A	EE	HVAC	FIXTURE				
21-001-001-001	M-TANK	M-CST	3P3	A	CE	CCW	SPTFAIL				
25-032-013-002	C-PLAT-3P3	H-DAMPER	3P3	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-032-014-001	C-PLAT-3P3	H-DAMPER	3P3	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-017-001	C-PLAT-3P3	H-DAMPER	3P3	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-021-001	C-PLAT-3P3	H-DAMPER	3P3	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-024-001	C-PLAT-3P3	H-DAMPER	3P3	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-025-001	C-PLAT-3P3	H-DAMPER	3P3	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-053-003-001	C-PLAT-3P3	H-DAMPER	3P3	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-054-001-001	C-PLAT-3P3	H-DAMPER	3P3	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	

AREA-HVAC EQUIPMENT SPACES

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-055-001-001	C-PLAT-3P3	H-DAMPER	3P3	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-006-001	C-PLAT-3P3	H-FILTER	3P3	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-006-003	C-PLAT-3P3	H-FILTER	3P3	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-032-013-001	E-LF-3P3	H-DAMPER	3P3	NAN	EE	HVAC	FIXTURE				
25-042-012-001	E-LF-3P3	H-DAMPER	3P3	NAN	EE	HVAC	FIXTURE				
25-042-015-001	E-LF-3P3	H-DAMPER	3P3	NAN	EE	HVAC	FIXTURE				
25-042-017-002	E-LF-3P3	H-DAMPER	3P3	NAN	EE	HVAC	FIXTURE				
25-046-001-001	E-LF-3P3	H-E2	3P3	NAN	EE	HVAC	FIXTURE				
25-048-001-001	E-LF-3P3	H-E2	3P3	NAN	EE	HVAC	FIXTURE				
25-042-004-001	E-LF-3P3	H-FILTER	3P3	NAN	EE	HVAC	FIXTURE				
25-042-006-002	E-LF-3P3	H-FILTER	3P3	NAN	EE	HVAC	FIXTURE				
25-045-001-001	E-LF-3P4	H-E1	3P3	NAN	EE	HVAC	FIXTURE				
25-043-001-002	C-COVER	H-E1	3P4	A	CE	HVAC	LOOSE				
25-042-010-001	C-PLAT-3P4	H-DAMPER	3P4	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-010-003	C-PLAT-3P4	H-DAMPER	3P4	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-020-001	C-PLAT-3P4	H-DAMPER	3P4	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-002-002	C-PLAT-3P4	H-FILTER	3P4	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-003-001	C-PLAT-3P4	H-FILTER	3P4	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-003-002	C-PLAT-3P4	H-FILTER	3P4	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-002-001	M-HOIST-3P4	H-FILTER	3P4	M	CE	HVAC	MECHFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-010-002	E-LF-3P4	H-DAMPER	3P4	NAN	EE	HVAC	FIXTURE				
25-043-001-001	E-LF-3P4	H-E1	3P4	NAN	EE	HVAC	FIXTURE				
25-096-001-001	E-LF-3P5	GENERIC	3P5	A	EE	CI	FIXTURE				
25-097-001-002	E-LF-3P5	H-DUCT	3P5	NAN	EE	CI	FIXTURE				
25-094-002-001	E-LF-3P5	H-FILTER	3P5	NAN	EE	CI	FIXTURE				
25-095-001-001	P-USB-3P5	H-S3	3P5	Y	OSE	CI	SPTFAIL	ENVIRON			
25-011-001-002	C-PLAT-3P6	H-FILTER	3P6	A	CE	HVAC	CIVILFAIL				
25-011-002-001	C-PLAT-3P6	H-FILTER	3P6	A	CE	HVAC	CIVILFAIL				
25-017-001-001	E-LF-3P6	H-DAMPER	3P6	A	EE	HVAC	FIXTURE				
25-014-001-001	E-LF-3P6	H-E4	3P6	A	EE	HVAC	FIXTURE				
25-014-001-002	C-PLAT-3P6	H-E4	3P6	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-011-001-001	E-LF-3P6	H-FILTER	3P6	NAN	EE	HVAC	FIXTURE				
25-011-002-002	E-LF-3P6	H-FILTER	3P6	NAN	EE	HVAC	FIXTURE				
25-016-011-001	C-PLAT-3P7	H-DUCT	3P7	A	CE	HVAC	CIVILFAIL				
25-018-001-001	C-PLAT-3P3	H-FILTER	3P7	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-016-004-001	C-PLAT-3P7	H-DUCT	3P7	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-019-001-001	C-PLAT-3P7	H-E5	3P7	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-018-002-001	C-PLAT-3P7	H-FILTER	3P7	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-018-003-001	C-PLAT-3P7	H-FILTER	3P7	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-018-003-002	C-PLAT-3P7	H-FILTER	3P7	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-022-001-001	E-LF-3P7	H-DAMPER	3P7	NAN	EE	HVAC	FIXTURE				
25-016-010-001	E-LF-3P7	H-DUCT	3P7	NAN	EE	HVAC	FIXTURE				
25-018-001-002	E-LF-3P7	H-FILTER	3P7	NAN	EE	HVAC	FIXTURE				
25-016-007-001	C-PLAT-3P8	H-DUCT	3P8	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-021-001-001	C-PLAT-3P8	H-E6	3P8	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-024-001-001	C-PLAT-3P8	H-E6	3P8	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-023-001-001	C-PLAT-3P8	H-FILTER	3P8	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-023-002-001	C-PLAT-3P8	H-FILTER	3P8	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-023-003-001	C-PLAT-3P8	H-FILTER	3P8	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-023-003-002	C-PLAT-3P8	H-FILTER	3P8	M	CE	HVAC	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-027-001-001	E-LF-3P8	H-DAMPER	3P8	NAN	EE	HVAC	FIXTURE				
25-023-001-002	E-LF-3P8	H-FILTER	3P8	NAN	EE	HVAC	FIXTURE				
25-041-007-001	E-LF-8B1	H-DAMPER	8B1	A	EE	HVAC	FIXTURE				
25-070-002-001	E-LF-8B1	H-DAMPER	8B1	A	EE	HVAC	FIXTURE				

AREA=HVAC EQUIPMENT SPACES

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-070-009-002	E-LF-8B1	H-DAMPER	8B1	A	EE	HVAC	FIXTURE				
25-070-011-001	E-LF-8B1	H-DAMPER	8B1	A	EE	HVAC	FIXTURE				
25-077-001-001	E-LF-8B1	H-DAMPER	8B1	A	EE	HVAC	FIXTURE				
25-078-001-001	E-LF-8B1	H-DAMPER	8B1	A	EE	HVAC	FIXTURE				
25-079-001-001	E-LF-8B1	H-DAMPER	8B1	A	EE	HVAC	FIXTURE				
25-081-001-001	E-LF-8B1	H-DAMPER	8B1	A	EE	HVAC	FIXTURE				
25-090-001-001	E-LF-8B1	H-DAMPER	8B1	A	EE	HVAC	FIXTURE				
25-091-001-001	E-LF-8B1	H-DAMPER	8B1	A	EE	HVAC	FIXTURE				
25-029-001-003	P-USB-8B1	H-MISC	8B1	A	EMS	HVAC	SPTFAIL	ENVIRON			
25-032-001-001	P-USB-8B1	H-MISC	8B1	A	EMS	HVAC	SPTFAIL	ENVIRON			
25-083-002-002	SQ	H-DUCT	8B1	A	ENG	HVAC	SPTFAIL				
20-044-018-001	E-ANTENNA	M-CCWTANK	8B1	M	CE	CCW	SPTFAIL		BRACE	EXPEDIENT	
25-077-001-002	H-HTG COIL	H-S31	8B1	M	PSE	HVAC	SPTFAIL		SUPPORT	NECESSARY	
25-029-001-004	M-BOTTLE	H-S31	8B1	M	CE	HVAC	SPTFAIL		SUPPORT	EXPEDIENT	
25-029-001-002	NS-MISC	H-S31	8B1	M	HVA	HVAC	HOUSEKEEP		RELOCATE	OVERLAP	
25-070-009-001	P-DRAIN-8B1	H-DAMPER	8B1	M	PSE	HVAC	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
25-079-001-002	P-DRAIN-8B1	H-DAMPER	8B1	M	PSE	HVAC	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
25-034-001-001	P-DRAIN-8B1	H-MISC	8B1	M	PSE	HVAC	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
25-079-002-001	P-ULB-8B1	H-S32	8B1	M	PSE	HVAC	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
25-070-004-001	E-LF-8B1	E-KV113-1.25	8B1	NAN	EE	HVAC	FIXTURE				
25-092-004-001	E-LF-8B1	E-R-8B1	8B1	NAN	EE	HVAC	FIXTURE				
25-070-008-001	E-LF-8B1	H-DAMPER	8B1	NAN	EE	HVAC	FIXTURE				
25-070-010-001	E-LF-8B1	H-DAMPER	8B1	NAN	EE	HVAC	FIXTURE				
25-083-002-001	E-LF-8B1	H-DUCT	8B1	NAN	EE	HVAC	FIXTURE				
25-083-003-002	E-LF-8B1	H-DUCT	8B1	NAN	EE	HVAC	FIXTURE				
25-083-004-001	E-LF-8B1	H-DUCT	8B1	NAN	EE	HVAC	FIXTURE				
25-083-005-001	E-LF-8B1	H-DUCT	8B1	NAN	EE	HVAC	FIXTURE				
25-092-007-001	E-LF-8B1	H-DUCT	8B1	NAN	EE	HVAC	FIXTURE				
25-092-010-001	E-LF-8B1	H-DUCT	8B1	NAN	EE	HVAC	FIXTURE				
25-028-002-001	E-LF-8B1	H-FILTER	8B1	NAN	EE	HVAC	FIXTURE				
25-070-012-002	E-LF-8B1	H-FILTER	8B1	NAN	EE	HVAC	FIXTURE				
25-070-013-001	E-LF-8B1	H-FILTER	8B1	NAN	EE	HVAC	FIXTURE				
25-092-006-001	E-LF-8B1	H-FILTER	8B1	NAN	EE	HVAC	FIXTURE				
25-070-016-001	E-LF-8B1	H-HEATER	8B1	NAN	EE	HVAC	FIXTURE				
25-029-001-001	E-LF-8B1	H-S31	8B1	NAN	EE	HVAC	FIXTURE				
25-079-002-002	M-TANK	H-S32	8B1	NAN	CE	HVAC	SPTFAIL				
25-083-005-002	P-DRAIN-8B1	H-DUCT	8B1	NAN	PSE	HVAC	SPTFAIL				
25-070-012-001	P-DRAIN-8B1	H-FILTER	8B1	NAN	PSE	HVAC	SPTFAIL				
25-092-006-002	P-DRAIN-8B1	H-FILTER	8B1	NAN	PSE	HVAC	SPTFAIL				
25-083-003-001	P-ULB-8B1	H-DUCT	8B1	NAN	PSE	HVAC	SPTFAIL				
20-044-009-001	NS-MISC	I-LC59+	8B1	Y	ENG	CCW	HOUSEKEEP				
25-092-008-001	E-LF-8B3	H-S39	8B3	A	EE	HVAC	FIXTURE				
25-092-009-001	E-LF-8B3	H-S40	8B3	A	EE	HVAC	FIXTURE				
25-070-038-006	H-DUCT-8B3	E-K6730-1.50	8B3	A	CE	HVAC	SPTFAIL				
25-070-038-007	H-DUCT-8B3	E-K6731-1.50	8B3	A	CE	HVAC	SPTFAIL				
25-070-038-004	NS-CD	E-K6731-1.50	8B3	A	EE	HVAC	HOUSEKEEP				
25-145-001-001	P-STM DUMP	H-S43	8B3	A	HVA	HVAC	ENVIRON				
25-200-002-001	P-USB-8B3	H-DAMPER	8B3	A	PSE	HVAC	SPTFAIL				
25-198-002-001	E-LF-8B3	H-DAMPER	8B3	M	EE	HVAC	FIXTURE		RELOCATE	EXPEDIENT	
25-105-001-002	P-USB-8B3	H-CR35	8B3	M	PSE	CI	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
25-070-038-003	E-LF-8B3	E-K6733-1.50	8B3	NAN	EE	HVAC	FIXTURE				
25-070-014-002	E-LF-8B3	H-S35	8B3	NAN	EE	HVAC	FIXTURE				
25-070-015-001	E-LF-8B3	H-S36	8B3	NAN	EE	HVAC	FIXTURE				
25-070-038-002	H-DUCT-8B3	E-K6727-1.50	8B3	NAN	HVA	HVAC	DEFLECT				

AREA=HVAC EQUIPMENT SPACES

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-070-038-001	P-DRAIN-8B3	E-K6733-1.50	8B3	NAN	PSE	HVAC	INTERFERE	DEFLECT			
25-070-014-001	P-DRAIN-8B3	H-S35	8B3	NAN	PSE	HVAC	SPTFAIL				
25-073-005-001	P-ULB-8B3	E-KV129-2	8B3	NAN	PSE	HVAC	SPTFAIL				
25-070-038-005	P-USB-8B3	E-K6733-1.50	8B3	NAN	PSE	HVAC	DEFLECT				

AREA=INTAKE STRUCTURE

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
22-001-001-001	C-PLAT-30A1	M-ASWPP1-1	30A1	A	CE	ASW	CIVILFAIL				
22-001-001-002	E-LF-30A1	M-ASWPP1-1	30A1	A	EE	ASW	FIXTURE				
22-007-001-002	C-PLAT-30A2	M-ASWPP1-2	30A2	A	CE	ASW	CIVILFAIL				
22-007-001-001	E-LF-30A2	M-ASWPP1-2	30A2	A	EE	ASW	FIXTURE				
22-016-001-001	P-ULB-30A5	M-ASWG01-8	30A5	A	EMS	ASW	SPTFAIL	PIPEFAIL			
22-017-001-001	P-ULB-30A5	M-ASWG01-9	30A5	A	EMS	ASW	SPTFAIL	PIPEFAIL			
22-009-002-002	M-BOTTLE	P-0680-24	30A5	M	EMS	ASW	SPTFAIL		SECLOOSE	EXPEDIENT	
22-003-002-003	M-BOTTLE	P-0687-24	30A5	M	EMS	ASW	SPTFAIL		SECLOOSE	EXPEDIENT	
22-009-002-003	P-0677-16	P-0680-24	30A5	M	PSE	ASW	PIPEFAIL		SUPPORT	NECESSARY	
22-003-002-002	P-0677-16	P-0687-24	30A5	M	PSE	ASW	PIPEFAIL		SUPPORT	NECESSARY	
22-009-002-001	E-LF-30A5	P-0680-24	30A5	NAN	EE	ASW	FIXTURE				
22-003-002-001	E-LF-30A5	P-0687-24	30A5	NAN	EE	ASW	FIXTURE				
30-001-029-001	P-2975-4	GENERIC	30A5	Y	ENG	MT	SPTFAIL	PIPEFAIL			

AREA=OUTSIDE AREAS

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
30-001-076-001	M-BOTTLE	GENERIC	26	A	EMS	MT	SPTFAIL	MECHFAIL			I
30-001-091-001	C-CRANE-28	GENERIC	28	A	CE	MT	CIVILFAIL				
02-003-002-003	C-DOOR	E-K6067-1.25	28	A	CE	AUXFW	SPTFAIL				
03-003-003-002	C-PLAT-28	E-KT610-1	28	A	CE	MNSTM	CIVILFAIL				
03-004-002-002	C-PLAT-28	I-PM014	28	A	CE	MNSTM	CIVILFAIL				
03-022-013-002	C-PLAT-28	I-PM100	28	A	CE	MNSTM	CIVILFAIL				
03-001-002-002	C-PLAT-28	I-PM103	28	A	CE	MNSTM	CIVILFAIL				
03-002-002-002	C-PLAT-28	I-PM107	28	A	CE	MNSTM	CIVILFAIL				
03-005-002-002	C-PLAT-28	I-PM108	28	A	CE	MNSTM	CIVILFAIL				
03-003-002-002	C-PLAT-28	I-PM111	28	A	CE	MNSTM	CIVILFAIL				
03-006-002-001	C-PLAT-28	I-PM112	28	A	CE	MNSTM	CIVILFAIL				
03-001-001-001	C-PLAT-28	I-PT514	28	A	CE	MNSTM	CIVILFAIL				
03-002-001-002	C-PLAT-28	I-PT515	28	A	CE	MNSTM	CIVILFAIL				
03-003-001-002	C-PLAT-28	I-PT516	28	A	CE	MNSTM	CIVILFAIL				
03-004-001-001	C-PLAT-28	I-PT524	28	A	CE	MNSTM	CIVILFAIL				
03-005-001-001	C-PLAT-28	I-PT525	28	A	CE	MNSTM	CIVILFAIL				
03-006-001-001	C-PLAT-28	I-PT526	28	A	CE	MNSTM	CIVILFAIL				
03-060-001-001	C-PLAT-28	M-FCV24	28	A	CE	MNSTM	CIVILFAIL				
03-058-001-001	C-PLAT-28	M-FCV25	28	A	CE	MNSTM	CIVILFAIL				
03-017-001-001	C-PLAT-28	M-FCV41	28	A	CE	MNSTM	CIVILFAIL				
03-018-001-001	C-PLAT-28	M-FCV42	28	A	CE	MNSTM	CIVILFAIL				
30-001-054-013	C-PLAT-28	E-R-28	28	A	CE	MT	CIVILFAIL				
30-001-054-002	C-31FW	E-R-28	28	A	CE	MT	CIVILFAIL				
30-001-054-003	C-32FW	E-R-28	28	A	CE	MT	CIVILFAIL				
30-001-054-005	C-41FW	E-R-28	28	A	CE	MT	CIVILFAIL				
30-001-054-006	C-42FW	E-R-28	28	A	CE	MT	CIVILFAIL				
30-001-054-008	C-44FW	E-R-28	28	A	CE	MT	CIVILFAIL				
30-001-054-009	C-45FW	E-R-28	28	A	CE	MT	CIVILFAIL				
30-001-054-010	C-46FW	E-R-28	28	A	CE	MT	CIVILFAIL				
30-001-054-011	C-47FW	E-R-28	28	A	CE	MT	CIVILFAIL				
30-001-054-012	C-48FW	E-R-28	28	A	CE	MT	CIVILFAIL				
30-001-089-001	E-LF-28	GENERIC	28	A	EE	MT	FIXTURE				
30-001-088-001	E-R-28	GENERIC	28	A	EE	MT	SPTFAIL				
30-001-087-001	E-TRANS	GENERIC	28	A	EE	MT	SPTFAIL				
30-007-028-001	M-BOTTLE	GENERIC	28	A	NPO	MT	SPTFAIL	MECHFAIL			
03-017-007-001	M-FCV25	M-FCV41	28	A	PSE	MNSTM	MECHFAIL				
30-001-085-001	NS-CD	P-0227-28	28	A	PSE	MT	HOUSEKEEP	ENVIRON			
02-003-002-001	NS-T	E-K5865-1.25	28	A	ENG	AUXFW	ENVIRON				
02-003-002-002	NS-T	E-K5865-1.25	28	A	ENG	AUXFW	ENVIRON				
03-024-030-001	NS-T	E-K5786+	28	A	ENG	MNSTM	ENVIRON				
03-022-024-002	P-ULB-28	E-K5776+	28	A	PSE	MNSTM	DEFLECT				
01-012-001-001	SQ	M-LCV110	28	A	ENG	AUXFW	MECHFAIL				
01-013-001-001	SQ	M-LCV111	28	A	ENG	AUXFW	MECHFAIL				
04-001-001-001	C-HANDRAIL	P-0593-4	28	M	CE	MNSTM	LOOSE		SECLOOSE	EXPEDIENT	
01-003-011-001	C-PLAT-28	P-0576-3	28	M	CE	AUXFW	INTERFERE		CLEARANCE	EXPEDIENT	
03-058-005-002	C-PLAT-28	E-KT062+	28	M	CE	MNSTM	CIVILFAIL		BRACE	EXPEDIENT	
03-022-024-003	C-PLAT-28	E-K5774-0.75	28	M	CE	MNSTM	CIVILFAIL	LOOSE	SECLOOSE	OVERLAP	
03-018-007-002	C-PLAT-28	E-K5807-1	28	M	CE	MNSTM	CIVILFAIL		CLEARANCE	EXPEDIENT	
03-022-001-001	C-PLAT-28	I-PCV19	28	M	ICE	MNSTM	CIVILFAIL	LOOSE	TSHIELD	EXPEDIENT	
03-022-002-002	C-PLAT-28	I-PCV19	28	M	ICE	MNSTM	CIVILFAIL	LOOSE	TSHIELD	EXPEDIENT	
03-022-003-001	C-PLAT-28	I-PCV19	28	M	ICE	MNSTM	CIVILFAIL	LOOSE	TSHIELD	EXPEDIENT	
03-022-003-002	C-PLAT-28	I-PCV19	28	M	ICE	MNSTM	CIVILFAIL	LOOSE	TSHIELD	EXPEDIENT	
03-024-001-001	C-PLAT-28	I-PCV20	28	M	ICE	MNSTM	CIVILFAIL	LOOSE	TSHIELD	EXPEDIENT	
03-024-002-001	C-PLAT-28	I-PCV20	28	M	ICE	MNSTM	CIVILFAIL	LOOSE	TSHIELD	EXPEDIENT	

AREA=OUTSIDE AREAS

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
03-024-003-001	C-PLAT-28	I-PCV20	28	M	ICE	MNSTM	CIVILFAIL	LOOSE	TSHIELD	EXPEDIENT	
30-001-028-001	C-PLAT-28	GENERIC	28	M	CE	MT	CIVILFAIL		BRACE	EXPEDIENT	
30-001-054-001	C-30FW	E-R-28	28	M	CE	MT	CIVILFAIL		BRACE	NECESSARY	
30-001-054-004	C-40FW	E-R-28	28	M	CE	MT	CIVILFAIL		BRACE	NECESSARY	
30-001-054-007	C-43FW	E-R-28	28	M	CE	MT	CIVILFAIL		BRACE	NECESSARY	
30-001-092-001	E-LT ARR	GENERIC	28	M	EE	MT	SPTFAIL		BRACE	NECESSARY	
02-003-002-007	E-R-28	E-K5865-1.25	28	M	EE	AUXFW	INTERFERE		SUPPORT	OVERLAP	
03-024-030-003	E-R-28	E-K6505+	28	M	EE	MNSTM	DEFLECT		SUPPORT	OVERLAP	
03-026-022-001	I-PANEL	E-K6505-0.75	28	M	CE	MNSTM	SPTFAIL		BRACE	OVERLAP	
03-028-023-001	I-PANEL	E-K6557-1	28	M	CE	MNSTM	SPTFAIL		BRACE	OVERLAP	
30-001-081-001	M-BOTTLE	GENERIC	28	M	EMS	MT	SPTFAIL		SECLOOSE	EXPEDIENT	
03-018-007-001	M-FCV25	M-FCV42	28	M	EE	MNSTM	INTERFERE	DEFLECT	CLEARANCE	NECESSARY	
30-001-086-001	M-HOIST-28	GENERIC	28	M	CE	MT	MECHFAIL		SECLOOSE	NECESSARY	
01-013-002-001	NS-CD	E-K6145-0.75	28	M	ENG	AUXFW	HOUSEKEEP		SUPPORT	OVERLAP	
03-022-024-001	NS-T	E-K5776+	28	M	ENG	MNSTM	ENVIRON		CONSTDEF	OVERLAP	
03-022-008-001	P-USB-28	E-K5849-3	28	M	PSE	MNSTM	DEFLECT		SUPPORT	EXPEDIENT	
30-001-093-001	P-USB-28	GENERIC	28	M	PSE	MT	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-022-002-001	P-0476-4	I-PCV19	28	M	PSE	MNSTM	DEFLECT		STOP	OVERLAP	
02-003-002-004	P-1743-16	E-K5865-1.25	28	M	PSE	AUXFW	SPTFAIL		RELOCATE	NECESSARY	
01-005-005-001	P-2475-0.75	P-0570-3	28	M	PSE	AUXFW	INTERFERE		CLEARANCE	OVERLAP	
03-022-013-001	P-3103-2	I-PM100	28	M	PSE	MNSTM	PIPEFAIL		SUPPORT	EXPEDIENT	
03-001-002-001	P-3103-2	I-PM103	28	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
03-004-002-001	P-3103-2	I-PM104	28	M	PSE	MNSTM	PIPEFAIL		SUPPORT	NECESSARY	
03-002-002-001	P-3103-2	I-PM107	28	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
03-005-002-001	P-3103-2	I-PM108	28	M	PSE	MNSTM	PIPEFAIL		SUPPORT	NECESSARY	
03-003-002-001	P-3103-2	I-PM111	28	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
03-006-002-002	P-3103-2	I-PM112	28	M	PSE	MNSTM	PIPEFAIL		SUPPORT	NECESSARY	
03-001-001-002	P-3433-1.50	I-PT514	28	M	PSE	MNSTM	DEFLECT		SUPPORT	NECESSARY	
03-002-001-001	P-3433-1.50	I-PT515	28	M	PSE	MNSTM	DEFLECT		SUPPORT	NECESSARY	
03-003-001-001	P-3433-1.50	I-PT516	28	M	PSE	MNSTM	DEFLECT		SUPPORT	NECESSARY	
20-044-023-001	C-PLAT-28	E-K9966-2	28	NAN	CE	CCW	INTERFERE				
01-007-002-003	E-LF-28	E-K5985-2	28	NAN	EE	AUXFW	FIXTURE				
01-012-002-005	E-LF-28	E-K6143-1.25	28	NAN	EE	AUXFW	FIXTURE				
01-008-002-001	I-FX510	E-K5985-2	28	NAN	CE	AUXFW	SPTFAIL				
01-007-002-001	I-FX510+	E-K5985-2	28	NAN	ICE	AUXFW	SPTFAIL				
30-001-090-001	P-DRAIN-28	E-R-28	28	NAN	PSE	MT	INTERFERE	DEFLECT			
02-003-002-005	P-SA-28	E-K5865-1.25	28	NAN	PSE	AUXFW	DEFLECT				
01-013-002-002	P-USB-28	E-K5757-0.75	28	NAN	PSE	AUXFW	SPTFAIL				
02-003-002-006	P-USB-28	E-K5865-1.25	28	NAN	PSE	AUXFW	DEFLECT				
02-002-002-001	P-4587-2.50	E-K5849-3	28	NAN	PSE	AUXFW	DEFLECT				
25-030-001-001	P-5215-8	H-S1	28	NAN	PSE	HVAC	SPTFAIL	ENVIRON			
01-012-002-006	NS-CD	E-K5755-0.75	28	X	QC	AUXFW	HOUSEKEEP				
04-002-003-001	NS-CD	E-BJF6	28	X	QC	MNSTM	HOUSEKEEP				
03-003-003-001	NS-CD	E-KT610-1	28	X	QC	MNSTM	HOUSEKEEP				
03-024-030-004	NS-CD	E-K5781-0.75	28	X	QC	MNSTM	HOUSEKEEP				
03-024-030-002	NS-CD	E-K6505+	28	X	QC	MNSTM	HOUSEKEEP				
03-028-023-002	NS-CD	E-K6557+	28	X	QC	MNSTM	HOUSEKEEP				
03-001-001-003	NS-CD	I-PT514	28	X	QC	MNSTM	HOUSEKEEP				
03-002-001-003	NS-CD	I-PT515	28	X	QC	MNSTM	HOUSEKEEP				
03-004-001-002	NS-CD	I-PT524	28	X	QC	MNSTM	HOUSEKEEP				
03-005-001-002	NS-CD	I-PT525	28	X	QC	MNSTM	HOUSEKEEP				
03-024-023-001	NS-CD	M-BOTTLE	28	X	QC	MNSTM	LOOSE				

AREA=PENETRATION AREA

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
20-048-013-001	E-LF-3BB	PA-0318-12	3B	A	EE	CCW	FIXTURE				
09-015-006-001	C-HANDRAIL	P-2061-1	3BB	A	CE	RCS	LOOSE				
11-005-007-001	C-LADDER	P-0048-3	3BB	A	CE	CVCS	SPTFAIL				
11-001-007-001	C-LADDER	P-1474-3	3BB	A	CE	CVCS	SPTFAIL				
09-015-004-001	C-LADDER	M-8853B	3BB	A	CE	RCS	SPTFAIL				
32-001-025-011	C-MISC-3BB	E-R-3BB	3BB	A	EE	ELPS	SPTFAIL				
01-014-001-001	C-PLAT-3BB	M-AFWPP1-3	3BB	A	CE	AUXFW	CIVILFAIL				
02-004-001-002	C-PLAT-3BB	M-FCV440	3BB	A	CE	AUXFW	CIVILFAIL				
02-005-001-002	C-PLAT-3BB	M-FCV441	3BB	A	CE	AUXFW	CIVILFAIL				
19-004-006-001	C-PLAT-3BB	I-PM184	3BB	A	CE	CI	CIVILFAIL				
03-064-001-001	C-PLAT-3BB	M-FCV24'	3BB	A	CE	MNSTM	CIVILFAIL				
31-003-004-001	C-103GE	I-FCV584	3BB	A	CE	CI	CIVILFAIL				
25-118-005-003	C-103GE	I-FCV679	3BB	A	CE	CI	CIVILFAIL				
19-001-004-001	C-103GE	I-9354B	3BB	A	CE	CI	CIVILFAIL				
31-002-007-001	C-103GE	M-FCV584	3BB	A	CE	CI	CIVILFAIL				
31-001-005-001	C-103GE	M-VALVE	3BB	A	CE	CI	CIVILFAIL				
09-015-001-005	C-103GE	PA-2999-4	3BB	A	CE	RCS	CIVILFAIL				
31-005-004-001	C-104GE	I-FCV682	3BB	A	CE	CI	CIVILFAIL				
29-001-003-001	C-104GE	M-FCV501	3BB	A	CE	CI	CIVILFAIL				
06-060-010-011	C-104GE	E-K3477+	3BB	A	CE	RCS	CIVILFAIL				
09-015-008-001	C-105GE	P-1491-1	3BB	A	CE	RCS	CIVILFAIL				
09-015-007-002	C-105GE	P-2004-3	3BB	A	CE	RCS	CIVILFAIL				
09-015-001-001	C-105GE	P-2999-4	3BB	A	CE	RCS	CIVILFAIL				
09-015-009-001	C-105GE	P-3852-1	3BB	A	CE	RCS	CIVILFAIL				
17-001-008-002	C-106GW	P-2033-4	3BB	A	CE	SI	CIVILFAIL				
25-118-001-001	C-11GE	I-FCV679	3BB	A	CE	CI	CIVILFAIL				
29-007-002-001	C-11GE	M-FCV260	3BB	A	CE	CI	CIVILFAIL				
25-116-003-001	C-11GE	M-FCV679	3BB	A	CE	CI	CIVILFAIL				
29-004-001-001	C-11GE	P-3001-4	3BB	A	CE	CI	CIVILFAIL				
10-003-001-001	C-11GE	P-0054-2	3BB	A	CE	CVCS	CIVILFAIL				
10-006-001-001	C-11GE	P-0055-2	3BB	A	CE	CVCS	CIVILFAIL				
10-009-001-001	C-11GE	P-0056-2	3BB	A	CE	CVCS	CIVILFAIL				
10-012-001-001	C-11GE	P-0057-2	3BB	A	CE	CVCS	CIVILFAIL				
05-035-003-001	C-11GE	M-FCV246	3BB	A	CE	MNSTM	CIVILFAIL				
05-031-003-001	C-11GE	M-FCV248	3BB	A	CE	MNSTM	CIVILFAIL				
05-027-003-001	C-11GE	M-FCV250	3BB	A	CE	MNSTM	CIVILFAIL				
05-041-001-002	C-11GE	P-1863-1	3BB	A	CE	MNSTM	CIVILFAIL				
30-001-021-001	C-11GE	PS-2161-37	3BB	A	CE	MT	CIVILFAIL				
09-014-005-001	C-11GE	I-PM123	3BB	A	CE	RCS	CIVILFAIL				
09-014-004-001	C-11GE	I-8029	3BB	A	CE	RCS	CIVILFAIL				
09-012-004-001	C-11GE	I-8045	3BB	A	CE	RCS	CIVILFAIL				
09-013-002-001	C-11GE	M-8029	3BB	A	CE	RCS	CIVILFAIL				
09-011-002-001	C-11GE	M-8045	3BB	A	CE	RCS	CIVILFAIL				
23-047-001-001	C-11GE	I-PT932	3BB	A	CE	SPRAY	CIVILFAIL				
23-047-002-001	C-11GE	I-PT932	3BB	A	CE	SPRAY	CIVILFAIL				
23-046-001-001	C-11GE	I-PT937	3BB	A	CE	SPRAY	CIVILFAIL				
05-039-003-001	C-11GG	M-FCV244	3BB	A	CE	MNSTM	CIVILFAIL				
03-062-001-001	C-8GW	M-FCV23	3BB	A	CE	MNSTM	CIVILFAIL				
03-019-001-001	C-8GW	M-FCV43	3BB	A	CE	MNSTM	CIVILFAIL				
03-007-002-002	C-9GW	I-PM106	3BB	A	CE	MNSTM	CIVILFAIL				
03-009-002-001	C-9GW	I-PM113	3BB	A	CE	MNSTM	CIVILFAIL				
32-001-025-012	E-COVER	E-R-3BB	3BB	A	EE	ELPS	LOOSE				
02-004-001-001	E-LF-3BB	E-FCV440	3BB	A	EE	AUXFW	FIXTURE				
02-005-001-001	E-LF-3BB	E-FCV441	3BB	A	EE	AUXFW	FIXTURE				

AREA=PENETRATION AREA

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
01-010-002-001	E-LF-3BB	E-K6436-1.25	3BB	A	EE	AUXFW	FIXTURE				
01-015-001-001	E-LF-3BB	I-LCV113	3BB	A	EE	AUXFW	FIXTURE				
01-009-001-001	E-LF-3BB	M-LCV108	3BB	A	EE	AUXFW	FIXTURE				
01-010-001-001	E-LF-3BB	M-LCV109	3BB	A	EE	AUXFW	FIXTURE				
01-016-001-001	E-LF-3BB	M-LCV115	3BB	A	EE	AUXFW	FIXTURE				
20-052-013-001	E-LF-3BB	PA-0314-12	3BB	A	EE	CCW	FIXTURE				
20-051-018-001	E-LF-3BB	PA-0315-12	3BB	A	EE	CCW	FIXTURE				
20-052-014-001	E-LF-3BB	PA-0319-12	3BB	A	EE	CCW	FIXTURE				
20-051-017-001	E-LF-3BB	PA-0320-12	3BB	A	EE	CCW	FIXTURE				
20-050-017-001	E-LF-3BB	PA-0321-12	3BB	A	EE	CCW	FIXTURE				
20-049-013-001	E-LF-3BB	PA-0322-12	3BB	A	EE	CCW	FIXTURE				
20-048-014-001	E-LF-3BB	PA-0323-12	3BB	A	EE	CCW	FIXTURE				
25-196-008-001	E-LF-3BB	E-KK212-1.50	3BB	A	EE	HVAC	FIXTURE				
25-197-008-001	E-LF-3BB	E-KK213-1.50	3BB	A	EE	HVAC	FIXTURE				
25-201-008-007	E-LF-3BB	E-KT172-1	3BB	A	EE	HVAC	FIXTURE				
04-004-001-001	E-LF-3BB	E-FCV25	3BB	A	EE	MNSTM	FIXTURE				
03-007-002-001	E-LF-3BB	I-PM106	3BB	A	EE	MNSTM	FIXTURE				
03-008-001-002	E-LF-3BB	I-PT534	3BB	A	EE	MNSTM	FIXTURE				
03-008-001-001	E-LF-3BB	I-PT535	3BB	A	EE	MNSTM	FIXTURE				
03-009-001-001	E-LF-3BB	I-PT536	3BB	A	EE	MNSTM	FIXTURE				
03-026-013-001	E-LF-3BB	I-PT536A	3BB	A	EE	MNSTM	FIXTURE				
03-026-014-001	E-LF-3BB	I-PT536A	3BB	A	EE	MNSTM	FIXTURE				
03-010-001-001	E-LF-3BB	I-PT544	3BB	A	EE	MNSTM	FIXTURE				
03-011-001-001	E-LF-3BB	I-PT545	3BB	A	EE	MNSTM	FIXTURE				
03-012-001-001	E-LF-3BB	I-PT546	3BB	A	EE	MNSTM	FIXTURE				
03-028-013-001	E-LF-3BB	I-PT546A	3BB	A	EE	MNSTM	FIXTURE				
03-028-014-001	E-LF-3BB	I-PT546A	3BB	A	EE	MNSTM	FIXTURE				
23-003-004-003	E-LF-3BB	I-9001A	3BB	A	EE	SPRAY	FIXTURE				
23-009-002-002	E-LF-3BB	I-9003A	3BB	A	EE	SPRAY	FIXTURE				
23-020-002-002	E-LF-3BB	I-9003B	3BB	A	EE	SPRAY	FIXTURE				
23-056-002-001	E-LF-3BB	I-9007A	3BB	A	EE	SPRAY	FIXTURE				
25-193-002-001	I-PANEL	E-K8496+	3BB	A	CE	CI	SPTFAIL				
20-081-019-001	I-RE19	M-SC55	3BB	A	EMS	CCW	SPTFAIL				
20-040-066-001	M-GFFD HX	I-FIT1	3BB	A	EMS	CCW	SPTFAIL				
30-005-003-001	M-TANK	E-KK284+	3BB	A	CE	MT	SPTFAIL				
12-013-003-001	M-8152	E-K6266-1	3BB	A	EMS	CVCS	SPTFAIL				
03-020-007-009	NS-T	E-K6457-1.25	3BB	A	ENG	MNSTM	ENVIRON				
03-020-007-010	NS-T	E-K6464-1.25	3BB	A	ENG	MNSTM	ENVIRON				
03-020-007-007	NS-T	E-K6702-1	3BB	A	ENG	MNSTM	ENVIRON				
03-020-007-008	NS-T	E-K6703-1.25	3BB	A	ENG	MNSTM	ENVIRON				
03-020-003-001	NS-T	I-FCV44	3BB	A	ENG	MNSTM	ENVIRON				
25-191-002-002	P-IAH-3BB	E-K4992-1.25	3BB	A	PSE	CI	DEFLECT				
03-058-005-001	P-SPR-3BB	E-K5815-1	3BB	A	PSE	MNSTM	SPTFAIL	PIPEFAIL			
17-012-003-001	P-SPR-3BB	E-K6252-2.50	3BB	A	PSE	SI	SPTFAIL	PIPEFAIL			
15-001-022-001	P-ULB-3BB	P-0735-8	3BB	A	PSE	SI	SPTFAIL	PIPEFAIL			
18-023-002-001	P-0224-8	E-K6385-1.25	3BB	A	PSE	RHR	DEFLECT				
03-020-007-001	P-0225-28	E-K6457-1.25	3BB	A	ENG	MNSTM	INTERFERE				
15-048-002-001	P-0556-16	E-K6494+	3BB	A	PSE	SI	DEFLECT				
01-007-002-002	P-0721-12	E-K5971-2	3BB	A	EE	AUXFW	DEFLECT				
20-039-044-001	P-0927-14	P-2679-2	3BB	A	PSE	CCW	DEFLECT				
05-040-003-001	P-1040-2.50	I-FCV244	3BB	A	ICE	MNSTM	DEFLECT				
05-036-003-001	P-1040-2.50	I-FCV246	3BB	A	ICE	MNSTM	DEFLECT				
05-032-003-001	P-1040-2.50	I-FCV248	3BB	A	ICE	MNSTM	DEFLECT				
10-013-001-001	P-1041-2.50	P-0746-3	3BB	A	PSE	CVCS	DEFLECT				

AREA=PENETRATION AREA

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
18-001-046-001	P-1521-2	P-1662-2	3BB	A	ENG	RHR	SPTFAIL	PIPEFAIL			
30-001-011-001	P-4120-1	E-K2924-1.50	3BB	A	PSE	MT	DEFLECT				
18-010-003-002	PS-ULB-3BB	E-K6474-3	3BB	A	PSE	RHR	SPTFAIL				
12-013-001-001	SQ	M-8152	3BB	A	ENG	CVCS	MECHFAIL				
15-001-007-001	SQ	M-8923A+	3BB	A	PSE	SI	MECHFAIL				
23-003-004-002	SQ	M-9001A	3BB	A	ENG	SPRAY	MECHFAIL				
20-003-003-003	C-COVER	E-K6977-4	3BB	M	CE	CCW	LOOSE		SECLOOSE	EXPEDIENT	
02-001-004-003	C-PLAT-3BB	PA-0556-16	3BB	M	CE	AUXFW	INTERFERE		CLEARANCE	EXPEDIENT	
03-028-001-001	C-PLAT-3BB	I-PCV22	3BB	M	ICE	MNSTM	DEFLECT		TMODIFY	EXPEDIENT	
03-028-002-001	C-PLAT-3BB	I-PCV22	3BB	M	ICE	MNSTM	DEFLECT		TMODIFY	EXPEDIENT	
03-028-003-001	C-PLAT-3BB	I-PCV22	3BB	M	ICE	MNSTM	DEFLECT		TMODIFY	EXPEDIENT	
30-001-083-001	C-PLAT-3BB	E-KT377-2	3BB	M	EE	MT	INTERFERE		TMODIFY	OVERLAP	
18-011-001-001	C-SHIELD	I-TE639	3BB	M	ICE	RHR	DEFLECT		TSHIELD	OVERLAP	
25-181-001-001	C-103GE	M-FCV668	3BB	M	CE	CI	INTERFERE	DEFLECT	BRACE	OVERLAP	
15-001-187-001	C-103GE	P-1181-0.75	3BB	M	CE	SI	INTERFERE	DEFLECT	BRACE	OVERLAP	
20-038-006-002	C-26GE	P-4172-0.75	3BB	M	PSE	CCW	INTERFERE	DEFLECT	TMODIFY	EXPEDIENT	
03-019-003-001	C-3GW	I-FCV43	3BB	M	CE	MNSTM	CIVILFAIL		SECLOOSE	OVERLAP	
03-020-003-002	C-3GW	I-FCV44	3BB	M	CE	MNSTM	CIVILFAIL		SECLOOSE	OVERLAP	
03-040-003-003	C-74GW	E-KT351-3	3BB	M	CE	MNSTM	CIVILFAIL		BRACE	NECESSARY	
03-007-001-001	C-74GW	I-TUBING	3BB	M	CE	MNSTM	CIVILFAIL		BRACE	NECESSARY	
06-060-010-005	C-74GW	E-KK385-3	3BB	M	CE	RCS	CIVILFAIL		BRACE	EXPEDIENT	
23-049-003-001	E-K6318	E-KK379-0.75	3BB	M	EE	SPRAY	DEFLECT		SUPPORT	EXPEDIENT	
15-002-006-001	E-LF-BOL	I-FT922	3BB	M	EE	SI	FIXTURE		RELOCATE	EXPEDIENT	
20-045-032-001	E-LF-3BB	E-K6114-1.25	3BB	M	EE	CCW	FIXTURE		CHAIN	EXPEDIENT	
20-045-014-001	E-LF-3BB	I-FCV360	3BB	M	EE	CCW	FIXTURE		CHAIN	EXPEDIENT	
20-056-001-001	E-LF-3BB	M-FCV361	3BB	M	EE	CCW	FIXTURE		CHAIN	EXPEDIENT	
20-055-003-001	E-LF-3BB	PA-0144-4	3BB	M	EE	CCW	FIXTURE		CHAIN	EXPEDIENT	
25-189-002-001	E-LF-3BB	I-FCV239	3BB	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT	
25-189-004-002	E-LF-3BB	I-FCV240	3BB	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT	
25-184-002-001	E-LF-3BB	I-FCV669	3BB	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT	
25-186-001-001	E-LF-3BB	I-FCV669	3BB	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT	
25-119-005-001	E-LF-3BB	I-FCV681	3BB	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT	
31-005-004-002	E-LF-3BB	I-FCV682	3BB	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT	
25-187-001-001	E-LF-3BB	I-FCV700	3BB	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT	
25-114-004-001	E-LF-3BB	I-SV287	3BB	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT	
19-015-009-001	E-LF-3BB	I-9356B	3BB	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT	
25-194-001-001	E-LF-3BB	M-FCV239	3BB	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT	
25-195-001-001	E-LF-3BB	M-FCV240	3BB	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT	
29-001-002-002	E-LF-3BB	M-FCV501	3BB	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT	
29-001-003-002	E-LF-3BB	M-FCV501	3BB	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT	
25-183-001-001	E-LF-3BB	M-FCV669	3BB	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT	
31-004-002-001	E-LF-3BB	M-FCV682	3BB	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT	
25-112-004-001	E-LF-3BB	M-SV289	3BB	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT	
10-024-006-001	E-LF-3BB	E-JNK	3BB	M	EE	CVCS	FIXTURE		CHAIN	EXPEDIENT	
11-012-002-003	E-LF-3BB	I-HCV142	3BB	M	EE	CVCS	FIXTURE		CHAIN	EXPEDIENT	
06-059-007-001	E-LF-3BB	I-LIS1310	3BB	M	EE	RCS	FIXTURE		CHAIN	EXPEDIENT	
06-059-021-001	E-LF-3BB	I-LIS1311	3BB	M	EE	RCS	FIXTURE		CHAIN	EXPEDIENT	
06-059-030-001	E-LF-3BB	I-LIS1312	3BB	M	EE	RCS	FIXTURE		CHAIN	EXPEDIENT	
06-060-011-002	E-LF-3BB	I-4684-0.187	3BB	M	EE	RCS	FIXTURE		CHAIN	EXPEDIENT	
06-060-004-003	E-LF-3BB	I-4685-0.187	3BB	M	EE	RCS	FIXTURE		CHAIN	EXPEDIENT	
06-060-021-004	E-LF-3BB	I-4686-0.187	3BB	M	EE	RCS	FIXTURE		CHAIN	EXPEDIENT	
18-013-001-001	E-LF-3BB	I-FT640	3BB	M	EE	RHR	FIXTURE		CHAIN	EXPEDIENT	
18-001-021-001	E-LF-3BB	I-HCV638	3BB	M	EE	RHR	FIXTURE		CHAIN	EXPEDIENT	
18-011-001-002	E-LF-3BB	I-TE639	3BB	M	EE	RHR	FIXTURE		CHAIN	EXPEDIENT	

AREA=PENETRATION AREA

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
18-022-001-001	E-LF-3BB	I-TE649	3BB	M	EE	RHR	FIXTURE		CHAIN	EXPEDIENT	
18-001-023-001	E-LF-3BB	I-8716A	3BB	M	EE	RHR	FIXTURE		CHAIN	EXPEDIENT	
11-005-010-001	E-R-3BB	I-HCV142	3BB	M	EE	CVCS	SPTFAIL		SECLOOSE	EXPEDIENT	
01-015-002-003	E-RS-3BB	E-KT243-1.25	3BB	M	EE	AUXFW	INTERFERE		RELOCATE	EXPEDIENT	
20-082-001-001	M-BOTTLE	P-4172-0.75	3BB	M	CE	CCW	SPTFAIL		SUPPORT	EXPEDIENT	
20-082-005-001	M-BOTTLE	P-4173-0.75	3BB	M	CE	CCW	SPTFAIL		SUPPORT	EXPEDIENT	
15-001-029-001	M-FCV363	P-3849-4	3BB	M	PSE	SI	DEFLECT		RELOCATE	EXPEDIENT	
20-081-001-001	M-SGBDTANK	P-4172-0.75	3BB	M	CE	CCW	SPTFAIL	CIVILFAIL	BRACE	NECESSARY	
20-081-009-001	M-SGBDTANK	P-4173-0.75	3BB	M	CE	CCW	SPTFAIL	CIVILFAIL	BRACE	NECESSARY	
11-014-002-001	NS-CD	E-K6101-1.25	3BB	M	ENG	CVCS	SPTFAIL		SUPPORT	OVERLAP	
11-012-002-001	NS-CD	I-HCV142	3BB	M	ENG	CVCS	HOUSEKEEP		TMODIFY	OVERLAP	
05-038-001-001	NS-CD	M-FCV160	3BB	M	ENG	MNSTM	HOUSEKEEP		STOP	OVERLAP	
03-020-007-002	NS-T	E-K6457-1.25	3BB	M	ENG	MNSTM	ENVIRON		CONSTDEF	OVERLAP	
01-012-002-003	P-SPR-3BB	E-K5755+	3BB	M	PSE	AUXFW	SPTFAIL		SUPPORT	NECESSARY	
01-012-002-001	P-SPR-3BB	E-K5755-0.75	3BB	M	PSE	AUXFW	SPTFAIL		SUPPORT	NECESSARY	
25-185-002-002	P-SPR-3BB	E-K3888-1	3BB	M	PSE	CI	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
10-024-006-002	P-SPR-3BB	E-JNK	3BB	M	PSE	CVCS	SPTFAIL		SUPPORT	EXPEDIENT	
10-024-006-003	P-SPR-3BB	E-JNK	3BB	M	PSE	CVCS	SPTFAIL		SUPPORT	EXPEDIENT	
06-027-002-002	P-SPR-3BB	E-KT064+	3BB	M	PSE	RCS	SPTFAIL		SUPPORT	NECESSARY	
15-009-005-001	P-SPR-3BB	E-K6341-3	3BB	M	PSE	SI	SPTFAIL		SUPPORT	EXPEDIENT	
23-048-003-002	P-SPR-3BB	E-KK383-1	3BB	M	EE	SPRAY	DEFLECT		TMODIFY	EXPEDIENT	
18-001-023-002	P-ULB-3BB	I-8716A	3BB	M	PSE	RHR	DEFLECT		SUPPORT	EXPEDIENT	
03-026-025-002	P-0123-6	E-K5779-1	3BB	M	PSE	MNSTM	DEFLECT		SUPPORT	EXPEDIENT	
18-001-052-001	P-0224-8	P-0224-8	3BB	M	PSE	RHR	SPTFAIL	PIPEFAIL	CLEARANCE	EXPEDIENT	
03-020-007-005	P-0225-28	E-K6464-1.25	3BB	M	ENG	MNSTM	INTERFERE	ENVIRON	TMODIFY	OVERLAP	
02-001-004-002	P-0556-16	PA-0556-16	3BB	M	PSE	AUXFW	DEFLECT	SPTFAIL	SUPPORT	NECESSARY	
02-001-003-002	P-0557-16	PA-0557-16	3BB	M	PSE	AUXFW	DEFLECT	SPTFAIL	SUPPORT	NECESSARY	
01-003-005-002	P-0593-4	P-0573-4	3BB	M	CE	AUXFW	DEFLECT		BRACE	EXPEDIENT	
25-112-006-001	P-0721-12	E-K6243-1.25	3BB	M	PSE	CI	DEFLECT		STOP	NECESSARY	
23-001-009-001	P-0749-2	PS-0279-8	3BB	M	PSE	SPRAY	SPTFAIL		SECLOOSE	EXPEDIENT	
30-001-014-001	P-1040-2.5+	P-ULB-3BB	3BB	M	PSE	MT	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
05-028-003-001	P-1040-2.50	I-FCV250	3BB	M	ICE	MNSTM	DEFLECT		TMODIFY	NECESSARY	
10-013-001-003	P-1042-2.50	P-0746-3	3BB	M	CE	CVCS	DEFLECT		CLEARANCE	EXPEDIENT	
06-059-010-005	P-1046-6	E-KK200-1.50	3BB	M	PSE	RCS	DEFLECT		RELOCATE	EXPEDIENT	
15-014-002-001	P-1046-6	I-8883	3BB	M	ICE	SI	DEFLECT		TMODIFY	EXPEDIENT	
06-006-002-004	P-1114-4	E-KK308-1.25	3BB	M	PSE	RCS	DEFLECT		SUPPORT	EXPEDIENT	
25-118-005-001	P-1132-2	I-FCV679	3BB	M	PSE	CI	DEFLECT		SUPPORT	EXPEDIENT	
01-009-002-006	P-1445-4	E-K6254-3	3BB	M	PSE	AUXFW	DEFLECT		SUPPORT	EXPEDIENT	
20-046-001-001	P-1595-3	P-0121-6	3BB	M	PSE	CCW	DEFLECT		SUPPORT	EXPEDIENT	
20-044-001-001	P-1595-3	P-0123-6	3BB	M	PSE	CCW	DEFLECT		SUPPORT	EXPEDIENT	
06-060-010-004	P-1595-3	E-KK385-3	3BB	M	PSE	RCS	DEFLECT		SUPPORT	EXPEDIENT	
25-002-004-001	P-1750-8	E-K6011-1	3BB	M	PSE	HVAC	DEFLECT		SUPPORT	NECESSARY	
18-001-017-003	P-1750-8	P-0985-12	3BB	M	PSE	RHR	DEFLECT	DEFLECT	SUPPORT	EXPEDIENT	
15-015-002-003	P-1750-8	E-K6482-1.25	3BB	M	PSE	SI	DEFLECT		TMODIFY	NECESSARY	
30-001-016-001	P-2058-3	GENERIC	3BB	M	PSE	MT	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
04-003-001-005	P-2416-1	P-0593-4	3BB	M	PSE	MNSTM	DEFLECT		SUPPORT	OVERLAP	
15-001-009-001	P-2570-0.75	P-2570-0.75	3BB	M	PSE	SI	DEFLECT		TSHIELD	EXPEDIENT	
15-002-003-001	P-3108-2	E-K6497-3	3BB	M	PSE	SI	DEFLECT		SECLOOSE	EXPEDIENT	
21-004-003-004	P-3354-1.50	P-3006-4	3BB	M	PSE	CCW	SPTFAIL		SUPPORT	EXPEDIENT	
03-020-007-006	P-4072-3	E-K6702-1	3BB	M	PSE	MNSTM	DEFLECT		TMODIFY	NECESSARY	
15-001-023-001	P-4082-1	M-8804B	3BB	M	PSE	SI	SPTFAIL		SUPPORT	EXPEDIENT	
03-020-007-004	P-4347-3	E-K6702-1	3BB	M	PSE	MNSTM	DEFLECT		TMODIFY	NECESSARY	
06-006-002-005	P-4603-4	E-KK307-2	3BB	M	PSE	RCS	INTERFERE	DEFLECT	SUPPORT	EXPEDIENT	
20-053-017-001	PA-0310-2	P-0312-2	3BB	M	PSE	CCW	DEFLECT		RELOCATE	OVERLAP	

AREA=PENETRATION AREA

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
12-013-002-001	PS-3BB	I-8152	3BB	M	EMS	CVCS	DEFLECT		TMODIFY	EXPEDIENT	
20-003-003-004	C-COVER	E-K6977-4	3BB	NAN	EE	CCW	LOOSE				
09-015-001-004	C-HANDRAIL	P-2999-4	3BB	NAN	CE	RCS	LOOSE				
24-008-005-001	E-COVER	E-K7250-1.25	3BB	NAN	EE	EDG	LOOSE				
01-015-002-004	E-K3118-1.50	E-KT243-1.25	3BB	NAN	EE	AUXFW	DEFLECT				
01-015-002-002	E-LF-3BB	E-KK594-0.75	3BB	NAN	EE	AUXFW	FIXTURE				
01-015-002-008	E-LF-3BB	E-KT243-1.25	3BB	NAN	EE	AUXFW	FIXTURE				
01-002-020-001	E-LF-3BB	P-0563-4	3BB	NAN	EE	AUXFW	FIXTURE				
01-003-005-003	E-LF-3BB	P-0573-4	3BB	NAN	EE	AUXFW	FIXTURE				
01-004-005-001	E-LF-3BB	P-0574-4	3BB	NAN	EE	AUXFW	FIXTURE				
20-045-012-001	E-LF-3BB	M-FCV360	3BB	NAN	EE	CCW	FIXTURE				
20-043-012-001	E-LF-3BB	M-FCV366	3BB	NAN	EE	CCW	FIXTURE				
20-046-017-001	E-LF-3BB	M-LCV70	3BB	NAN	EE	CCW	FIXTURE				
20-045-001-001	E-LF-3BB	P-0106-18	3BB	NAN	EE	CCW	FIXTURE				
21-004-003-002	E-LF-3BB	P-3006-4	3BB	NAN	EE	CCW	FIXTURE				
21-004-003-005	E-LF-3BB	P-3006-4	3BB	NAN	EE	CCW	FIXTURE				
20-020-008-001	E-LF-3BB	P-3282-12	3BB	NAN	EE	CCW	FIXTURE				
20-050-016-001	E-LF-3BB	P-3286-12	3BB	NAN	EE	CCW	FIXTURE				
20-045-002-001	E-LF-3BB	PA-0106-18	3BB	NAN	EE	CCW	FIXTURE				
20-021-007-001	E-LF-3BB	PA-2279-12	3BB	NAN	EE	CCW	FIXTURE				
20-021-018-001	E-LF-3BB	PA-2279-12	3BB	NAN	EE	CCW	FIXTURE				
20-051-014-001	E-LF-3BB	PA-3280-12	3BB	NAN	EE	CCW	FIXTURE				
20-050-014-001	E-LF-3BB	PA-3281-12	3BB	NAN	EE	CCW	FIXTURE				
20-020-010-001	E-LF-3BB	PA-3283-12	3BB	NAN	EE	CCW	FIXTURE				
20-051-016-001	E-LF-3BB	PA-3285-12	3BB	NAN	EE	CCW	FIXTURE				
20-045-026-001	E-LF-3BB	PA-3287-12	3BB	NAN	EE	CCW	FIXTURE				
20-045-028-001	E-LF-3BB	PA-3288-12	3BB	NAN	EE	CCW	FIXTURE				
19-004-006-002	E-LF-3BB	I-PM184	3BB	NAN	EE	CI	FIXTURE				
19-015-010-001	E-LF-3BB	I-9356B	3BB	NAN	EE	CI	FIXTURE				
29-006-001-001	E-LF-3BB	P-2993-4	3BB	NAN	EE	CI	FIXTURE				
03-019-007-004	E-LF-3BB	E-K5878-1.50	3BB	NAN	EE	MNSTM	FIXTURE				
03-015-001-001	E-LF-3BB	P-0226-28	3BB	NAN	EE	MNSTM	FIXTURE				
04-003-001-004	E-LF-3BB	P-0593-4	3BB	NAN	EE	MNSTM	FIXTURE				
04-010-001-001	E-LF-3BB	P-0594-4	3BB	NAN	EE	MNSTM	FIXTURE				
04-006-001-001	E-LF-3BB	P-0760-4	3BB	NAN	EE	MNSTM	FIXTURE				
30-001-022-003	E-LF-3BB	M-VALVE	3BB	NAN	EE	MT	FIXTURE				
30-001-075-001	E-LF-3BB	P-ULB-3BB	3BB	NAN	EE	MT	FIXTURE				I
30-001-017-003	E-LF-3BB	P-3280-12	3BB	NAN	EE	MT	FIXTURE				
30-001-019-002	E-LF-3BB	P-3287-12	3BB	NAN	EE	MT	FIXTURE				
30-001-027-002	E-LF-3BB	PA-2279-12	3BB	NAN	EE	MT	FIXTURE				
30-001-017-004	E-LF-3BB	PA-3281-12	3BB	NAN	EE	MT	FIXTURE				
30-001-021-002	E-LF-3BB	PA-3282-12	3BB	NAN	EE	MT	FIXTURE				
30-001-018-002	E-LF-3BB	PA-3285-12	3BB	NAN	EE	MT	FIXTURE				
06-060-010-009	E-LF-3BB	E-KK384-2	3BB	NAN	EE	RCS	FIXTURE				
06-060-010-003	E-LF-3BB	E-KK385-3	3BB	NAN	EE	RCS	FIXTURE				
06-059-010-003	E-LF-3BB	E-K3467-1.25	3BB	NAN	EE	RCS	FIXTURE				
06-060-010-006	E-LF-3BB	E-K3477+	3BB	NAN	EE	RCS	FIXTURE				
06-060-010-008	E-LF-3BB	E-K3477+	3BB	NAN	EE	RCS	FIXTURE				
06-059-010-004	E-LF-3BB	E-K3478	3BB	NAN	EE	RCS	FIXTURE				
09-015-008-002	E-LF-3BB	P-1459-1	3BB	NAN	EE	RCS	FIXTURE				
09-015-007-001	E-LF-3BB	P-2004-3	3BB	NAN	EE	RCS	FIXTURE				
09-015-001-003	E-LF-3BB	P-2999-4	3BB	NAN	EE	RCS	FIXTURE				
09-015-011-001	E-LF-3BB	P-3851-1	3BB	NAN	EE	RCS	FIXTURE				
18-024-001-001	E-LF-3BB	M-HCV670	3BB	NAN	EE	RHR	FIXTURE				

AREA=PENETRATION AREA

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
15-001-027-001	E-LF-3BB	M-8802A	3BB	NAN	EE	SI	FIXTURE				
15-001-185-001	E-LF-3BB	M-8890A	3BB	NAN	EE	SI	FIXTURE				
15-001-184-001	E-LF-3BB	P-1181-0.75	3BB	NAN	EE	SI	FIXTURE				
15-001-010-001	E-LF-3BB	P-1981-4	3BB	NAN	EE	SI	FIXTURE				
17-001-036-001	E-LF-3BB	P-2075-1	3BB	NAN	EE	SI	FIXTURE				
15-001-189-001	E-LF-3BB	P-3851-1	3BB	NAN	EE	SI	FIXTURE				
23-048-003-001	E-LF-3BB	E-KK383-1	3BB	NAN	EE	SPRAY	FIXTURE				
23-014-002-001	E-LF-3BB	E-K6426-1.25	3BB	NAN	EE	SPRAY	FIXTURE				
23-009-002-003	E-LF-3BB	E-9003A	3BB	NAN	EE	SPRAY	FIXTURE				
23-014-004-004	E-LF-3BB	E-9003B	3BB	NAN	EE	SPRAY	FIXTURE				
23-013-004-002	E-LF-3BB	I-9001B	3BB	NAN	EE	SPRAY	FIXTURE				
23-020-002-004	E-LF-3BB	M-9003B	3BB	NAN	EE	SPRAY	FIXTURE				
23-050-001-001	E-LF-3BB	P-0246-8	3BB	NAN	EE	SPRAY	FIXTURE				
23-053-001-002	E-LF-3BB	P-0265-8	3BB	NAN	EE	SPRAY	FIXTURE				
01-015-002-007	E-R-3BB	E-KT243-1.25	3BB	NAN	EE	AUXFW	DEFLECT				
02-012-004-002	E-R-3BB	E-KT301-1	3BB	NAN	EE	AUXFW	DEFLECT				
21-004-003-003	E-R-3BB	P-3006-4	3BB	NAN	EE	CCW	SPTFAIL				
06-060-010-010	E-R-3BB	E-KK384-2	3BB	NAN	EE	RCS	INTERFERE	DEFLECT			
01-001-002-001	E-T15	P-0562-8	3BB	NAN	EE	AUXFW	SPTFAIL				
03-001-003-001	H-DUCT-3BB	E-KT157-1	3BB	NAN	HVA	MNSTM	DEFLECT				
06-060-010-007	H-DUCT-3BB	E-K3477+	3BB	NAN	HVA	RCS	DEFLECT				
25-118-005-002	M-VALVE	I-FCV679	3BB	NAN	PSE	CI	DEFLECT				
01-002-020-002	P-DRAIN-3BB	P-0563-4	3BB	NAN	PSE	AUXFW	DEFLECT				
25-196-008-002	P-DRAIN-3BB	E-K9898-0.75	3BB	NAN	PSE	HVAC	SPTFAIL	PIPEFAIL			
19-008-003-001	P-IAH-3BB	I-9355B	3BB	NAN	PSE	CI	DEFLECT				
19-015-013-001	P-IAH-3BB	I-9356B	3BB	NAN	PSE	CI	DEFLECT				
19-026-011-001	P-IAH-3BB	I-9357B	3BB	NAN	PSE	CI	DEFLECT				
20-020-005-001	P-SA-3BB	P-3279-12	3BB	NAN	PSE	CCW	SPTFAIL	PIPEFAIL			
20-045-027-001	P-SA-3BB	P-3288-12	3BB	NAN	PSE	CCW	DEFLECT				
09-015-001-002	P-SA-3BB	P-2999-4	3BB	NAN	PSE	RCS	DEFLECT				
01-015-002-005	P-SPR-3BB	E-KT243-1.25	3BB	NAN	PSE	AUXFW	DEFLECT				
01-015-002-006	P-SPR-3BB	E-KT243-1.25	3BB	NAN	PSE	AUXFW	DEFLECT				
25-201-008-008	P-SPR-3BB	E-KT168-2	3BB	NAN	PSE	HVAC	SPTFAIL				
25-197-008-002	P-SPR-3BB	E-K9946-1.50	3BB	NAN	PSE	HVAC	INTERFERE	DEFLECT			
05-036-005-001	P-SPR-3BB	E-K6287-3	3BB	NAN	PSE	MNSTM	SPTFAIL				
20-003-003-002	P-ULB-3BB	E-K6977-4	3BB	NAN	PSE	CCW	DEFLECT				
25-194-002-002	P-ULB-3BB	E-K4984-2	3BB	NAN	PSE	CI	DEFLECT				
03-019-007-002	P-ULB-3BB	E-K6133-2	3BB	NAN	PSE	MNSTM	DEFLECT				
01-012-005-001	P-USB-3BB	E-KK793-0.75	3BB	NAN	PSE	AUXFW	DEFLECT				
01-009-002-003	P-USB-3BB	E-K6254-3	3BB	NAN	PSE	AUXFW	SPTFAIL				
01-010-002-004	P-USB-3BB	E-K6254-3	3BB	NAN	PSE	AUXFW	SPTFAIL				
23-004-004-004	P-USB-3BB	E-9001A	3BB	NAN	PSE	SPRAY	DEFLECT				
23-013-004-003	P-USB-3BB	E-9003B	3BB	NAN	PSE	SPRAY	DEFLECT				
20-054-001-001	P-0106-18	P-0312-2	3BB	NAN	PSE	CCW	DEFLECT				
09-015-007-003	P-0119-8	P-2004-3	3BB	NAN	PSE	RCS	SPTFAIL				
03-019-007-001	P-0121-6	E-K6133-2	3BB	NAN	PSE	MNSTM	DEFLECT				
03-026-023-001	P-0121-6	E-K6556-2	3BB	NAN	PSE	MNSTM	DEFLECT				
10-013-001-002	P-0257-3	PA-0746-3	3BB	NAN	PSE	CVCS	DEFLECT				
01-002-025-001	P-0283-3	P-0572-4	3BB	NAN	PSE	AUXFW	DEFLECT				
02-004-002-001	P-0557-16	E-K6479-3	3BB	NAN	PSE	AUXFW	DEFLECT				
25-197-008-003	P-0594-4	E-KK213-1.50	3BB	NAN	PSE	HVAC	INTERFERE	DEFLECT			
20-051-010-001	P-1042-2.50	P-0320-12	3BB	NAN	PSE	CCW	DEFLECT				
01-009-002-004	P-1445-4	E-K6254-3	3BB	NAN	PSE	AUXFW	DEFLECT				
01-010-002-005	P-1445-4	E-K6254-3	3BB	NAN	PSE	AUXFW	DEFLECT				

AREA=PENETRATION AREA

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
01-009-002-001	P-1595-3	E-K6254-3	3BB	NAN	PSE	AUXFW	DEFLECT				
01-009-002-005	P-1595-3	E-K6254-3	3BB	NAN	PSE	AUXFW	DEFLECT				
01-010-002-002	P-1595-3	E-K6254-3	3BB	NAN	PSE	AUXFW	SPTFAIL				
21-004-003-001	P-1595-3	P-3006-4	3BB	NAN	PSE	CCW	SPTFAIL				
01-002-011-001	P-2416-1	P-0476-4	3BB	NAN	PSE	AUXFW	DEFLECT				
01-003-005-001	P-2416-1	P-0573-4	3BB	NAN	PSE	AUXFW	DEFLECT				
20-050-015-001	P-2416-1	P-3286-12	3BB	NAN	PSE	CCW	DEFLECT				
30-001-025-002	P-2416-1	P-3286-12	3BB	NAN	PSE	MT	DEFLECT				
01-009-002-002	P-2742-1	E-K6254-3	3BB	NAN	PSE	AUXFW	SPTFAIL				
01-010-002-003	P-2742-1	E-K6254-3	3BB	NAN	PSE	AUXFW	DEFLECT				
20-044-005-001	P-3108-2	M-LCV69	3BB	NAN	PSE	CCW	ENVIRON				
17-001-008-001	P-3252-1.50	P-2033-4	3BB	NAN	PSE	SI	DEFLECT				
25-185-002-005	P-3253-1.50	E-K3763-0.75	3BB	NAN	PSE	CI	INTERFERE	DEFLECT			
25-180-002-001	P-3253-1.50	E-K7545-1.50	3BB	NAN	PSE	CI	INTERFERE	DEFLECT			
03-020-007-003	P-4072-3	E-K6703-1.25	3BB	NAN	PSE	MNSTM	DEFLECT				
23-013-004-001	P-4347-3	I-9001B	3BB	NAN	PSE	SPRAY	SPTFAIL				
23-009-002-001	P-4347-3	I-9003A	3BB	NAN	PSE	SPRAY	SPTFAIL				
23-020-002-001	P-4347-3	I-9003B	3BB	NAN	PSE	SPRAY	SPTFAIL				
23-020-002-003	P-4347-3	I-9003B	3BB	NAN	PSE	SPRAY	SPTFAIL				
23-003-004-001	P-4347-3	M-9001A	3BB	NAN	PSE	SPRAY	SPTFAIL				
23-003-004-004	P-4347-3	M-9001A	3BB	NAN	PSE	SPRAY	SPTFAIL				
19-014-006-001	PS-3BB	E-K1985-1	3BB	NAN	PSE	CI	DEFLECT				
03-022-023-001	PS-3BB	E-K6002-2	3BB	NAN	PSE	MNSTM	DEFLECT				
17-001-034-001	PS-3BB	P-2075-1	3BB	NAN	PSE	SI	DEFLECT				
01-012-005-002	NS-CD	E-KK793-0.75	3BB	X	QC	AUXFW	HOUSEKEEP				
01-009-002-007	NS-CD	E-K5962-3	3BB	X	GC	AUXFW	HOUSEKEEP				
20-034-006-001	NS-CD	E-K6989-1	3BB	X	QC	CCW	HOUSEKEEP				
25-185-002-004	NS-CD	E-K3763-0.75	3BB	X	QC	CI	HOUSEKEEP				
25-185-002-003	NS-CD	E-K3880-1	3BB	X	QC	CI	HOUSEKEEP				
25-194-002-001	NS-CD	E-K4983-3	3BB	X	GC	CI	HOUSEKEEP				
31-003-006-001	NS-CD	E-K6294-1	3BB	X	GC	CI	HOUSEKEEP				
25-181-002-001	NS-CD	E-K7197-1.50	3BB	X	QC	CI	HOUSEKEEP				
31-005-004-003	NS-CD	I-FCV682	3BB	X	GC	CI	HOUSEKEEP				
25-191-002-001	NS-CD	M-FCV236	3BB	X	GC	CI	HOUSEKEEP				
25-202-008-004	NS-CD	E-KT174-1.25	3BB	X	QC	HVAC	HOUSEKEEP				
05-016-005-005	NS-CD	E-KT026-1	3BB	X	GC	MNSTM	HOUSEKEEP				
05-004-005-001	NS-CD	E-KT027-2	3BB	X	GC	MNSTM	HOUSEKEEP				
03-019-007-003	NS-CD	E-K6110-1.50	3BB	X	QC	MNSTM	HOUSEKEEP				
06-006-002-003	NS-CD	E-KK308-1.25	3BB	X	QC	RCS	HOUSEKEEP				
17-001-008-003	NS-CD	P-2033-4	3BB	X	GC	SI	HOUSEKEEP				
23-044-003-001	NS-CD	E-KT284-0.75	3BB	X	QC	SPRAY	HOUSEKEEP				
30-001-066-001	P-0971-2	P-ULB-3BB	3BB	X	QC	MT	PIPEFAIL				
06-059-016-003	C-RSM-3BB	I-4681-0.187	3BB	Y	EMS	RCS	RELSTRUCT				
06-059-004-002	C-RSM-3BB	I-4682-0.187	3BB	Y	EMS	RCS	RELSTRUCT				
06-059-026-003	C-RSM-3BB	I-4683-0.187	3BB	Y	EMS	RCS	RELSTRUCT				
06-060-011-004	C-RSM-3BB	I-4684-0.187	3BB	Y	EMS	RCS	RELSTRUCT				
06-060-004-004	C-RSM-3BB	I-4685-0.187	3BB	Y	EMS	RCS	RELSTRUCT				
06-060-021-005	C-RSM-3BB	I-4686-0.187	3BB	Y	EMS	RCS	RELSTRUCT				
06-059-009-001	E-LF-3BB	I-LT1310	3BB	Y	EE	RCS	FIXTURE				
06-059-003-001	E-LF-3BB	I-LT1311	3BB	Y	EE	RCS	FIXTURE				
06-059-031-001	E-LF-3BB	I-LT1312	3BB	Y	EE	RCS	FIXTURE				
06-060-009-001	E-LF-3BB	I-LT1320	3BB	Y	EE	RCS	FIXTURE				
06-060-019-001	E-LF-3BB	I-LT1321	3BB	Y	EE	RCS	FIXTURE				
06-060-026-001	E-LF-3BB	I-LT1322	3BB	Y	EE	RCS	FIXTURE				

AREA=PENETRATION AREA

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
02-012-004-001	E-R-3BB	E-KT301-1	3BB	Y	OSE	AUXFW	DEFLECT				
18-010-003-001	NS-T	E-K6318-0.75	3BB	Y	ENG	RHR	ENVIRON				

AREA=VITAL PUMP ROOMS

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
18-009-001-001	C-COVER	M-RHRHX1-1	3B1	A	CE	RHR	LOOSE				
11-001-001-001	C-PLAT-3B1	P-0042-6	3B1	A	CE	CVCS	CIVILFAIL				
11-001-007-002	C-PLAT-3B1	P-1474-3	3B1	A	CE	CVCS	CIVILFAIL				
11-002-007-001	C-PLAT-3B1	P-1475-3	3B1	A	CE	CVCS	CIVILFAIL				
18-001-088-001	C-PLAT-3B1	M-RHRHX1-1	3B1	A	CE	RHR	CIVILFAIL				
18-001-013-001	C-STAIR-3B1	P-1663-8	3B1	A	CE	RHR	SPTFAIL				
18-005-001-001	E-LF-3B1	M-RHRPP1-1	3B1	A	EE	RHR	FIXTURE				
15-018-002-001	NS-T	E-K6661+	3B1	A	ENG	SI	ENVIRON				
18-005-001-002	C-CRANE-3B1	M-RHRPP1-1	3B1	M	CE	RHR	MECHFAIL		BRACE	EXPEDIENT	
30-001-062-001	C-GRATING	M-8982A	3B1	M	CE	MT	LOOSE		SECLOOSE	EXPEDIENT	
25-068-029-001	C-HANDRAIL	H-DAMPER	3B1	M	CE	HVAC	LOOSE		SECLOOSE	EXPEDIENT	
25-068-030-001	C-HANDRAIL	H-DAMPER	3B1	M	CE	HVAC	LOOSE		SECLOOSE	EXPEDIENT	
18-005-001-003	C-RSM-3B1	M-RHRPP1-1	3B1	M	PSE	RHR	RELSTRUCT		CONSTDEF	OVERLAP	
18-020-001-001	C-COVER	M-RHRHX1-2	3B2	A	CE	RHR	LOOSE				
11-004-001-001	C-PLAT-3B2	P-0041-4	3B2	A	CE	CVCS	CIVILFAIL				
11-005-007-002	C-PLAT-3B2	P-0048-3	3B2	A	CE	CVCS	CIVILFAIL				
11-021-002-001	C-PLAT-3B2	P-0053-3	3B2	A	CE	CVCS	CIVILFAIL				
11-004-007-002	C-PLAT-3B2	P-1452-1	3B2	A	CE	CVCS	CIVILFAIL				
18-001-102-001	C-PLAT-3B2	M-RHRHX1-2	3B2	A	CE	RHR	CIVILFAIL				
18-001-024-001	C-PLAT-3B2	P-1661-8	3B2	A	CE	RHR	CIVILFAIL				
18-016-001-001	E-LF-3B2	M-RHRPP1-2	3B2	A	EE	RHR	FIXTURE				
11-003-003-002	E-LF-3H2	M-CHGPP1-3	3B2	A	EE	CVCS	FIXTURE				
15-015-002-002	NS-T	E-K8545+	3B2	A	ENG	SI	ENVIRON				
18-016-001-003	C-CRANE-3B2	M-RHRPP1-2	3B2	M	CE	RHR	MECHFAIL		BRACE	EXPEDIENT	
30-001-062-002	C-GRATING	M-8982B	3B2	M	CE	MT	LOOSE		SECLOOSE	EXPEDIENT	
18-016-001-002	C-RSM-3B2	M-RHRPP1-2	3B2	M	PSE	RHR	RELSTRUCT		CONSTDEF	OVERLAP	
11-005-008-001	E-LF-3B2	I-FT128	3B2	M	EE	CVCS	FIXTURE		CHAIN	EXPEDIENT	
30-001-012-002	E-LF-3B2	I-PT142	3B2	M	EE	MT	FIXTURE		CHAIN	EXPEDIENT	
18-001-009-002	P-1663-8	I-P1632	3B2	M	ICE	RHR	INTERFERE	DEFLECT	TMODIFY	EXPEDIENT	
25-107-001-001	E-LF-3B2	M-FCV663	3B2	NAN	EE	CI	FIXTURE				
25-109-001-001	E-LF-3B2	M-FCV664	3B2	NAN	EE	CI	FIXTURE				
17-007-001-001	H-DUCT-3B2	E-K8792-1	3B2	NAN	HVA	SI	SPTFAIL				
23-002-004-002	C-SB	M-CSPP1-1	3F	A	CE	SPRAY	CIVILFAIL				
23-012-004-002	C-SB	M-CSPP1-2	3F	A	CE	SPRAY	CIVILFAIL				
23-066-001-001	C-SB	M-SAT	3F	A	CE	SPRAY	CIVILFAIL				
23-024-009-001	E-LF-3F	I-FT930	3F	M	EE	SPRAY	FIXTURE		CHAIN	EXPEDIENT	
23-002-004-001	E-LF-3F	M-CSPP1-1	3F	M	EE	SPRAY	FIXTURE		CHAIN	EXPEDIENT	
23-012-004-001	E-LF-3F	M-CSPP1-2	3F	M	EE	SPRAY	FIXTURE		CHAIN	EXPEDIENT	
23-012-004-003	E-LF-3F	M-CSPP1-2	3F	M	EE	SPRAY	FIXTURE		CHAIN	NECESSARY	
23-067-002-001	H-DUCT-3F	M-CSPP1-1	3F	M	CE	SPRAY	SPTFAIL		SUPPORT	OVERLAP	
23-068-002-001	H-DUCT-3F	M-CSPP1-2	3F	M	CE	SPRAY	SPTFAIL		SUPPORT	OVERLAP	
23-024-006-001	P-USB-3F	M-SAT	3F	M	PSE	SPRAY	SPTFAIL		SUPPORT	EXPEDIENT	
23-029-001-001	E-LF-3F	P-3154-0.75	3F	NAN	EE	SPRAY	FIXTURE				
11-001-006-001	E-LF-3H1	M-CHGPP1-1	3H1	A	EE	CVCS	FIXTURE				
11-002-003-001	E-LF-3H1	M-CHGPP1-2	3H1	A	EE	CVCS	FIXTURE				
11-006-005-002	NS-T	E-K7054-0.75	3H1	A	ENG	CVCS	ENVIRON				
17-001-001-001	C-CRANE-3H1	P-1973-6	3H1	M	CE	SI	MECHFAIL		BRACE	EXPEDIENT	
25-041-021-001	C-MR-3H1	H-DUCT	3H1	M	CE	HVAC	CIVILFAIL		BRACE	EXPEDIENT	
25-041-022-001	C-MR-3H1	H-DUCT	3H1	M	CE	HVAC	CIVILFAIL		BRACE	EXPEDIENT	
19-027-001-001	E-LF-3H1	P-1684-2	3H1	NAN	EE	CI	FIXTURE				
14-003-002-001	E-LF-3H1	M-8105	3H1	NAN	EE	CVCS	FIXTURE				
14-004-001-001	E-LF-3H1	M-8105	3H1	NAN	EE	CVCS	FIXTURE				
16-009-001-001	E-LF-3H1	M-8804A	3H1	NAN	EE	SI	FIXTURE				
11-003-003-001	C-CRANE-3H2	M-CHGPP1-3	3H2	A	CE	CVCS	MECHFAIL				

AREA=VITAL PUMP ROOMS

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
11-003-004-001	C-CRANE-3H2	P-0047-3	3H2	A	CE	CVCS	MECHFAIL				
11-003-003-003	C-SB	M-CHGPP1-3	3H2	A	CE	CVCS	CIVILFAIL				
11-003-001-001	C-CRANE-3H2	P-0044-6	3H2	M	CE	CVCS	MECHFAIL		BRACE	EXPEDIENT	
20-004-001-002	C-CRANE-3J1	M-CCWPP1-1	3J1	M	CE	CCW	CIVILFAIL		BRACE	EXPEDIENT	
20-057-002-001	E-LF-3J1	I-FCV606	3J1	M	EE	CCW	FIXTURE		CHAIN	EXPEDIENT	
20-004-001-001	E-LF-3J1	M-CCWPP1-1	3J1	M	EE	CCW	FIXTURE		CHAIN	EXPEDIENT	
20-004-001-003	M-HOIST-3J1	M-CCWPP1-1	3J1	M	CE	CCW	MECHFAIL		BRACE	EXPEDIENT	
25-068-018-001	E-LF-3J1	H-DUCT	3J1	NAN	EE	HVAC	FIXTURE				
11-006-005-001	P-0095-30	E-K7507+	3J2	A	PSE	CVCS	DEFLECT				
20-058-002-001	E-LF-3J2	I-FCV607	3J2	M	EE	CCW	FIXTURE		CHAIN	EXPEDIENT	
20-002-001-001	E-LF-3J2	M-CCWPP1-2	3J2	M	EE	CCW	FIXTURE		CHAIN	EXPEDIENT	
25-068-017-001	E-LF-3J2	H-DUCT	3J2	NAN	EE	HVAC	FIXTURE				
11-007-005-004	P-0082-20	E-K7048+	3J2	NAN	PSE	CVCS	DEFLECT				
20-059-002-001	E-LF-3J3	I-FCV608	3J3	M	EE	CCW	FIXTURE		CHAIN	EXPEDIENT	
20-012-004-001	E-LF-3J3	I-RE17A	3J3	M	EE	CCW	FIXTURE		CHAIN	EXPEDIENT	
20-013-004-001	E-LF-3J3	I-RE17B	3J3	M	EE	CCW	FIXTURE		CHAIN	EXPEDIENT	
20-003-001-002	E-LF-3J3	M-CCWPP1-3	3J3	M	EE	CCW	FIXTURE		CHAIN	EXPEDIENT	
20-023-001-001	P-SA-3J3	P-2131-2	3J3	M	PSE	CCW	DEFLECT		SUPPORT	EXPEDIENT	
20-003-001-001	P-SPR-3J3	M-CCWPP1-3	3J3	M	PSE	CCW	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
25-068-015-002	E-LF-3J3	H-DUCT	3J3	NAN	EE	HVAC	FIXTURE				
25-068-020-001	E-LF-3P3	I-FI5016	3J3	NAN	EE	HVAC	FIXTURE				
25-068-015-001	P-ULB-3J3	H-DUCT	3J3	NAN	PSE	HVAC	DEFLECT	ENVIRON			
20-003-005-001	NS-CD	E-K7025-1	3J3	X	QC	CCW	HOUSEKEEP				
15-003-003-002	NS-T	E-K9396-1.25	3M	A	ENG	SI	ENVIRON				
25-041-020-001	C-MR-3M	H-DUCT	3M	M	CE	HVAC	CIVILFAIL		BRACE	EXPEDIENT	
15-003-003-001	P-ULB-3M	E-K9396-1.25	3M	M	PSE	SI	DEFLECT		STOP	OVERLAP	
20-053-016-001	E-LF-3M	P-0310-2	3M	NAN	EE	CCW	FIXTURE				
20-053-007-001	E-LF-3M	P-0311-2	3M	NAN	EE	CCW	FIXTURE				
20-054-001-002	E-LF-3M	P-0312-2	3M	NAN	EE	CCW	FIXTURE				
20-054-008-001	E-LF-3M	P-0313-2	3M	NAN	EE	CCW	FIXTURE				
25-041-020-002	E-LF-3M	H-DUCT	3M	NAN	EE	HVAC	FIXTURE				
15-008-003-001	NS-CD	E-K9240-1.25	3M	X	QC	SI	HOUSEKEEP				
21-004-010-005	E-LF-3Q	P-2242-3	3Q	NAN	EE	CCW	FIXTURE				
21-004-010-006	P-1932-1	P-2242-3	3Q	NAN	PSE	CCW	DEFLECT				
01-006-001-002	P-USB-3Q1	M-AFWPP1-1	3Q1	A	PSE	AUXFW	PIPEFAIL				
16-002-003-001	P-USB-3Q1	E-KT948-1	3Q1	A	PSE	SI	SPTFAIL				
30-001-048-001	P-SPR-3Q1	E-KK367-1	3Q1	M	PSE	MT	DEFLECT		RELOCATE	EXPEDIENT	
30-001-027-001	P-SPR-3Q1	GENERIC	3Q1	M	PSE	MT	SPTFAIL		SUPPORT	EXPEDIENT	
16-002-003-002	P-0220-4	E-KT948-1	3Q1	M	PSE	SI	DEFLECT		SUPPORT	OVERLAP	
21-004-003-006	P-0382-4	P-3006-4	3Q1	M	PSE	CCW	DEFLECT		SUPPORT	EXPEDIENT	
25-032-001-002	P-0721-12	E-K8021-3	3Q1	M	PSE	HVAC	DEFLECT		SUPPORT	NECESSARY	
01-006-001-001	P-2442-6	M-AFWPP1-1	3Q1	M	PSE	AUXFW	DEFLECT		RELOCATE	EXPEDIENT	
01-006-001-003	NS-CD	M-AFWPP1-1	3Q1	P	NPO	AUXFW	HOUSEKEEP				
01-020-001-001	M-TANK	M-AFWPP1-3	3Q2	A	CE	AUXFW	SPTFAIL	ENVIRON			I
01-020-001-002	M-TANK	M-AFWPP1-3	3Q2	M	PSE	AUXFW	PIPEFAIL	ENVIRON	RELOCATE	EXPEDIENT	I
30-001-013-001	P-SPR-3Q2	M-AFWPP1-3	3Q2	M	PSE	MT	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
01-012-005-003	P-ULB-3Q2	E-KK793-0.75	3Q2	M	PSE	AUXFW	DEFLECT		STOP	NECESSARY	
25-029-006-001	P-0721-12	H-DUCT	3Q2	M	PSE	HVAC	DEFLECT		SUPPORT	EXPEDIENT	

AREA=TURBINE BUILDING

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
20-010-001-001	C-PLAT-14A	P-0095-30	14A	A	CE	CCW	CIVILFAIL				
20-019-001-001	C-PLAT-14A	P-0103-20	14A	A	CE	CCW	CIVILFAIL				
01-019-002-011	E-LF-14A	E-K2665-1	14A	A	EE	AUXFW	FIXTURE				
01-020-002-009	E-LF-14A	E-K2666-1	14A	A	EE	AUXFW	FIXTURE				
01-019-002-003	M-TANK	E-K2665-1	14A	A	CE	AUXFW	SPTFAIL				
25-162-004-002	C-PLAT-14A	H-DUCT	14A	M	CE	HVAC	INTERFERE	DEFLECT	BRACE	EXPEDIENT	
01-019-002-002	C-STAIR-14A	E-K2665-1	14A	M	CE	AUXFW	CIVILFAIL		BRACE	EXPEDIENT	
22-012-008-005	C-WALL	E-KD350-1.50	14A	M	CE	ASW	CIVILFAIL		BRACE	OVERLAP	
22-006-008-002	C-WALL	E-KD351-1.50	14A	M	CE	ASW	CIVILFAIL		BRACE	OVERLAP	
25-162-004-004	C-WALL	H-DUCT	14A	M	CE	HVAC	CIVILFAIL		BRACE	OVERLAP	
25-162-012-005	C-WALL	H-DUCT	14A	M	CE	HVAC	CIVILFAIL		BRACE	OVERLAP	
01-020-002-007	M-FCV723	E-K2666-1	14A	M	EE	AUXFW	MECHFAIL		TMODIFY	EXPEDIENT	
01-019-002-007	M-FE	E-K2665-1	14A	M	EMS	AUXFW	LOOSE	MECHFAIL	SECLOOSE	EXPEDIENT	
01-019-002-005	M-HOIST-14A	E-K2665-1	14A	M	CE	AUXFW	MECHFAIL		STOP	EXPEDIENT	
01-019-002-006	M-HR	E-K2665-1	14A	M	EMS	AUXFW	MECHFAIL		SECLOOSE	EXPEDIENT	
01-019-002-004	P-SPR-14A	E-K2665-1	14A	M	PSE	AUXFW	SPTFAIL		SUPPORT	EXPEDIENT	
24-007-005-007	P-SPR-14A	E-KA303-1	14A	M	PSE	EDG	SPTFAIL		SUPPORT	EXPEDIENT	
25-146-009-003	P-SPR-14A	E-K2770-1	14A	M	PSE	HVAC	SPTFAIL		SUPPORT	EXPEDIENT	
25-146-009-004	P-SPR-14A	E-K2770-1	14A	M	PSE	HVAC	SPTFAIL		SUPPORT	EXPEDIENT	
25-146-009-005	P-SPR-14A	E-K2770-1	14A	M	PSE	HVAC	SPTFAIL		SUPPORT	EXPEDIENT	
25-146-009-006	P-SPR-14A	E-K2770-1	14A	M	PSE	HVAC	SPTFAIL		SUPPORT	EXPEDIENT	
20-019-001-002	P-ULB-14A	P-0103-20	14A	M	PSE	CCW	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
20-020-001-001	P-ULB-14A	P-0104-20	14A	M	PSE	CCW	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
20-021-001-001	P-ULB-14A	P-2277-20	14A	M	PSE	CCW	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
24-007-005-008	P-1185-4	E-KA303-1	14A	M	PSE	EDG	DEFLECT		SUPPORT	EXPEDIENT	
25-162-004-001	P-1742-8	H-DUCT	14A	M	PSE	HVAC	DEFLECT		SUPPORT	NECESSARY	
20-016-001-003	P-3103-2	I-FT68	14A	M	PSE	CCW	SPTFAIL	PIPEFAIL	TMODIFY	EXPEDIENT	
01-020-002-004	P-4434-1	E-K2666-1	14A	M	PSE	AUXFW	LOOSE	DEFLECT	SUPPORT	EXPEDIENT	
25-162-012-002	C-PLAT-14A	H-DUCT	14A	NAN	CE	HVAC	DEFLECT				
01-019-002-008	E-LF-14A	E-K2665-1	14A	NAN	EE	AUXFW	FIXTURE				
25-162-004-003	E-R-14A	H-DUCT	14A	NAN	EE	HVAC	DEFLECT				
25-162-012-001	E-R-14A	H-DUCT	14A	NAN	EE	HVAC	DEFLECT				
24-008-017-001	E-TEAJ	E-KD350-2	14A	NAN	EE	EDG	HOUSEKEEP				
22-006-008-001	NS-T	E-KD351-1.50	14A	NAN	PSE	ASW	DEFLECT				
25-146-009-002	P-SPR-14A	E-K2770-1	14A	NAN	PSE	HVAC	DEFLECT				
01-020-002-005	P-USB-14A	E-K2666-1	14A	NAN	PSE	AUXFW	INTERFERE	DEFLECT			
30-008-014-001	P-3117-8	E-K7519-3	14A	NAN	PSE	MT	DEFLECT				
01-020-002-006	P-SA-14A	E-K2666-1	14A	X	GC	AUXFW	DEFLECT				
01-019-002-013	I-PANEL	E-K4006-0.75	14A	Y	ICE	AUXFW	SPTFAIL				
01-019-002-015	I-PANEL	E-K4006-0.75	14A	Y	ICE	AUXFW	SPTFAIL				
01-019-002-012	I-PANEL	E-K4012-0.75	14A	Y	ICE	AUXFW	SPTFAIL				
01-019-002-014	I-PANEL	E-K4012-0.75	14A	Y	ICE	AUXFW	SPTFAIL				
01-020-020-011	I-PANEL	E-K4015-0.75	14A	Y	ICE	AUXFW	SPTFAIL				
01-020-020-013	I-PANEL	E-K4015-0.75	14A	Y	ICE	AUXFW	SPTFAIL				
01-020-020-010	I-PANEL	E-K4020-0.75	14A	Y	ICE	AUXFW	SPTFAIL				
01-020-020-012	I-PANEL	E-K4020-0.75	14A	Y	ICE	AUXFW	SPTFAIL				
24-007-005-009	P-ULB-14A	E-KA308-1	14A	Y	OSE	EDG	DEFLECT				
24-007-005-006	PS-14A	E-KA308-1	14A	Y	OSE	EDG	DEFLECT				
25-165-004-005	C-BLDG	H-DUCT	14D	A	CE	HVAC	LOOSE				
25-092-001-006	C-DOOR	H-DUCT	14D	A	CE	HVAC	SPTFAIL				
25-092-001-002	C-MISC-14D	H-DUCT	14D	A	NPO	HVAC	LOOSE				
25-204-004-005	C-PLAT-14D	E-KA109-1	14D	A	CE	HVAC	CIVILFAIL				
25-203-004-005	C-PLAT-14D	E-KA110-1	14D	A	CE	HVAC	CIVILFAIL				
25-092-001-007	C-PLAT-14D	H-DUCT	14D	A	CE	HVAC	CIVILFAIL				

AREA=TURBINE BUILDING

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-203-004-007	H-HVAC UNIT	E-KA110-1	14D	A	CE	HVAC	SPTFAIL				
25-204-004-001	H-S61	E-KA109-1	14D	A	CE	HVAC	SPTFAIL	CIVILFAIL			
25-203-004-008	N-LOCKER	E-KA110-1	14D	A	NPO	HVAC	LOOSE				
25-203-004-009	P-4404-24	E-KA110-1	14D	A	EMS	HVAC	DEFLECT				
25-092-001-009	C-BLDG	H-DUCT	14D	M	NPO	HVAC	LOOSE		RELOCATE	EXPEDIENT	
25-171-004-003	C-BLDG	H-S67	14D	M	CE	HVAC	LOOSE		TSHIELD	NECESSARY	
25-168-004-002	C-BLDG	H-S68	14D	M	CE	HVAC	LOOSE		TSHIELD	NECESSARY	
25-165-004-003	C-BLDG	H-S69	14D	M	CE	HVAC	LOOSE		TSHIELD	NECESSARY	
25-203-004-004	C-GRATING	E-KA110-1	14D	M	CE	HVAC	LOOSE		SECLOOSE	EXPEDIENT	
25-162-003-002	C-PLAT-14D	H-FILTER	14D	M	CE	HVAC	CIVILFAIL		BRACE	NECESSARY	
25-168-004-001	C-PLAT-14D	H-S68	14D	M	CE	HVAC	CIVILFAIL		BRACE	NECESSARY	
25-165-004-002	C-PLAT-14D	H-S69	14D	M	CE	HVAC	CIVILFAIL		BRACE	NECESSARY	
25-162-012-003	C-WALL	H-DUCT	14D	M	CE	HVAC	CIVILFAIL		BRACE	OVERLAP	
25-162-003-001	C-WALL	H-FILTER	14D	M	CE	HVAC	CIVILFAIL		BRACE	OVERLAP	
25-203-004-006	P-SPR-14D	E-KA110-1	14D	M	PSE	HVAC	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
25-092-001-004	P-SPR-14D	H-DUCT	14D	M	PSE	HVAC	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
25-165-004-001	P-SPR-14D	H-DUCT	14D	M	PSE	HVAC	SPTFAIL		SUPPORT	NECESSARY	
25-092-001-001	E-LF-14D	H-DUCT	14D	NAN	EE	HVAC	FIXTURE				
25-171-004-002	E-LF-14D	H-S67	14D	NAN	EE	HVAC	FIXTURE				
25-168-004-003	E-LF-14D	H-S68	14D	NAN	EE	HVAC	FIXTURE				
25-165-004-004	E-LF-14D	H-S69	14D	NAN	EE	HVAC	FIXTURE				
25-171-004-001	H-DUCT	H-S67	14D	NAN	HVA	HVAC	MECHFAIL				
25-204-004-004	P-DRAIN-14D	E-KD543-1	14D	NAN	PSE	HVAC	SPTFAIL	PIPEFAIL			
25-092-001-003	P-USB-14D	H-DUCT	14D	NAN	PSE	HVAC	PIPEFAIL				
25-203-004-010	NS-CD	E-KA110-1	14D	X	QC	HVAC	HOUSEKEEP				
25-092-001-005	NS-CD	H-DUCT	14D	X	GC	HVAC	LOOSE				
25-204-004-002	E-LF-14D	E-KA109-1	14D	Y	EE	HVAC	FIXTURE				
25-204-004-003	E-LF-14D	E-KA109-1	14D	Y	EE	HVAC	FIXTURE				
25-203-004-002	E-LF-14D	E-KA110-1	14D	Y	EE	HVAC	FIXTURE				
25-203-004-003	E-LF-14D	E-KA110-1	14D	Y	EE	HVAC	FIXTURE				
25-085-001-001	E-LF-14D	H-OS98	14D	Y	EE	HVAC	FIXTURE				
25-204-001-001	E-LF-14D	I-CEL102	14D	Y	EE	HVAC	FIXTURE				
25-203-004-001	H-S61	E-KA110-1	14D	Y	OSE	HVAC	SPTFAIL	CIVILFAIL			
25-092-001-008	H-S61	H-DUCT	14D	Y	CE	HVAC	SPTFAIL				
25-204-004-006	P-4403-24	E-KA109-1	14D	Y	EMS	HVAC	DEFLECT				
22-006-007-003	C-PLAT-14E	I-PT5	14E	A	CE	ASW	CIVILFAIL				
22-012-007-001	C-PLAT-14E	I-PT6	14E	A	CE	ASW	CIVILFAIL				
20-014-001-004	C-PLAT-14E	M-CCWHX1-1	14E	A	CE	CCW	CIVILFAIL				
20-015-001-001	C-PLAT-14E	M-CCWHX1-2	14E	A	CE	CCW	CIVILFAIL				
30-001-014-003	C-P10T-1	I-PT505	14E	A	ICE	MT	CIVILFAIL				
22-005-002-002	C-P11T-1	I-GENERIC	14E	A	ICE	ASW	CIVILFAIL				
20-007-001-003	C-P12T1	I-PI113	14E	A	ICE	CCW	DEFLECT				
22-009-004-001	C-P9T-1	E-K4866-0.75	14E	A	EE	ASW	CIVILFAIL				
22-005-002-003	C-P9T-1	I-PT5	14E	A	ICE	ASW	CIVILFAIL				
22-006-007-002	E-LF-14E	I-PT5	14E	A	EE	ASW	FIXTURE				
22-012-007-003	E-LF-14E	I-PT6	14E	A	EE	ASW	FIXTURE				
22-012-008-003	P-SPR-14E	E-KD353-1	14E	M	PSE	ASW	SPTFAIL		SUPPORT	EXPEDIENT	
20-014-001-003	P-SPR-14E	M-CCWHX	14E	M	PSE	CCW	SPTFAIL		SUPPORT	NECESSARY	
20-010-001-002	P-SPR-14E	PA-0095-30	14E	M	PSE	CCW	DEFLECT		SUPPORT	EXPEDIENT	
22-012-008-004	P-USB-14E	E-KD353-1	14E	M	EMS	ASW	SPTFAIL	HOUSEKEEP	CONSTDEF	EXPEDIENT	
20-018-001-001	P-4000-2	PA-0098-12	14E	M	PSE	CCW	DEFLECT		SUPPORT	EXPEDIENT	
22-012-008-002	E-LF-14E	E-KD353-1	14E	NAN	EE	ASW	FIXTURE				
20-010-001-004	E-LF-14E	I-TE4	14E	NAN	EE	CCW	FIXTURE				
20-015-001-004	P-DRAIN-14E	M-CCWHX1-2	14E	NAN	PSE	CCW	SPTFAIL	PIPEFAIL			

AREA=TURBINE BUILDING

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
20-016-001-001	P-SPR-14E	P-0101-30	14E	NAN	PSE	CCW	SPTFAIL	PIPEFAIL			
20-017-001-001	P-SPR-14E	P-0102-30	14E	NAN	PSE	CCW	SPTFAIL	PIPEFAIL			
30-001-032-001	P-SPR-14E	E-K2724-2	14E	NAN	PSE	MT	DEFLECT				
30-006-014-001	P-ULB-14E	E-KD360-1.25	14E	NAN	OSE	MT	SPTFAIL	PIPEFAIL			
22-006-007-001	P-USB-14E	I-PT5	14E	NAN	PSE	ASW	PIPEFAIL				
22-012-007-002	P-USB-14E	I-PT6	14E	NAN	PSE	ASW	PIPEFAIL				
20-010-001-003	P-USB-14E	I-PI113	14E	NAN	PSE	CCW	PIPEFAIL				
20-014-001-001	P-USB-14E	M-CCWHX1-1	14E	NAN	PSE	CCW	PIPEFAIL				
20-014-001-002	P-USB-14E	M-CCWHX1-1	14E	NAN	PSE	CCW	PIPEFAIL				
20-015-001-002	P-USB-14E	M-CCWHX1-2	14E	NAN	PSE	CCW	PIPEFAIL				
20-015-001-003	P-USB-14E	M-CCWHX1-2	14E	NAN	PSE	CCW	PIPEFAIL				
20-016-001-002	P-USB-14E	P-0101-30	14E	NAN	PSE	CCW	PIPEFAIL				
20-017-001-002	P-USB-14E	P-0102-30	14E	NAN	PSE	CCW	PIPEFAIL				
22-012-008-001	NS-CD	E-KD353-1	14E	X	QC	ASW	HOUSEKEEP				
25-146-009-001	N-MISC-17	E-K2770-1	17	A	NPO	HVAC	LOOSE				

AREA=VARIOUS(FIREWATER)

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-005-041-001	C-SB	M-VALVE	S2	A	CE	FW	SPTFAIL				
28-005-043-001	C-SB	M-VALVE	S2	A	CE	FW	SPTFAIL				
28-005-005-002	C-SB	P-2678-4	S2	A	CE	FW	SPTFAIL				
28-005-042-001	C-SB	P-2680-4	S2	A	CE	FW	SPTFAIL				
28-005-056-001	C-SB	P-3609-4	S2	A	CE	FW	SPTFAIL				
28-005-049-001	C-SB	P-3611-4	S2	A	CE	FW	SPTFAIL				
28-005-051-001	C-SB	P-3612-4	S2	A	CE	FW	SPTFAIL				
28-005-056-002	C-SB	P-3615-4	S2	A	CE	FW	SPTFAIL				
28-005-124-002	C-SB	P-3619-4	S2	A	CE	FW	SPTFAIL				
28-005-042-002	C-STAIR-1K	P-2680-4	S2	A	CE	FW	CIVILFAIL				
28-005-044-001	C-STAIR-1K	P-3610-4	S2	A	CE	FW	CIVILFAIL				
28-005-049-002	C-HANDRAIL	P-3611-4	S2	NAN	CE	FW	SPTFAIL				
28-005-056-008	C-HANDRAIL	P-3615-4	S2	NAN	CE	FW	SPTFAIL				
28-005-045-001	E-LF-S2	M-FS50	S2	NAN	EE	FW	FIXTURE				
28-005-043-002	E-LF-S2	M-VALVE	S2	NAN	EE	FW	FIXTURE				
28-005-050-001	E-LF-S2	M-VALVE	S2	NAN	EE	FW	FIXTURE				
28-005-057-001	E-LF-S2	M-VALVE	S2	NAN	EE	FW	FIXTURE				
28-005-042-003	E-LF-S2	P-2680-4	S2	NAN	EE	FW	FIXTURE				
28-005-124-001	E-LF-S2	P-3619-4	S2	NAN	EE	FW	FIXTURE				
28-005-048-001	E-LF-S2	M-HR	S2	Y	EE	FW	FIXTURE				
28-005-022-001	E-LF-S3	M-HR	S3	A	EE	FW	FIXTURE				
28-005-059-001	C-STAIR-S5	M-HR	S5	A	CE	FW	CIVILFAIL				
28-005-061-001	C-STAIR-S5	M-HR	S5	A	CE	FW	CIVILFAIL				
28-005-063-001	C-STAIR-S5	M-HR	S5	A	CE	FW	CIVILFAIL				
28-005-062-002	C-STAIR-S5	P-4253-2	S5	A	CE	FW	CIVILFAIL				
28-005-056-007	C-STAIR-S5	P-4256-4	S5	A	CE	FW	CIVILFAIL				
28-005-056-006	E-LF-S5	P-3615-4	S5	NAN	EE	FW	FIXTURE				
28-005-062-001	E-LF-S5	P-5046-2	S5	NAN	EE	FW	FIXTURE				
28-005-063-002	E-LF-S5	M-HR	S5	X	GC	FW	FIXTURE				
28-005-059-002	E-LF-S5	M-HR	S5	Y	EE	FW	FIXTURE				
28-005-061-002	E-LF-S5	M-HR	S5	Y	EE	FW	FIXTURE				
30-005-000-001	M-BOTTLE	GENERIC	VAR	M	EMS	MT	LOOSE		SECLOOSE	NECESSARY	
28-003-011-001	H-E15	P-3155-2	1A	A	HVA	FW	SPTFAIL				
28-003-045-002	C-PLAT-1A	P-3160-2	1A	M	CE	FW	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
28-003-052-003	C-STAIR-1GE	P-4366-2	1A	M	CE	FW	DEFLECT		BRACE	EXPEDIENT	
28-003-009-001	E-RS-1A	P-3156-2	1A	M	EE	FW	INTERFERE		CONSTDEF	EXPEDIENT	
28-003-015-001	P-USB-1A	P-4364-2	1A	M	PSE	FW	DEFLECT		SUPPORT	EXPEDIENT	
28-003-008-006	P-2385-4	P-2674-4	1A	M	PSE	FW	DEFLECT		STOP	EXPEDIENT	
28-003-008-007	P-2385-4	P-2674-4	1A	M	PSE	FW	DEFLECT		STOP	EXPEDIENT	
28-003-024-001	P-3457-1+	GENERIC	1A	M	ENG	FW	SPTFAIL		SUPPORT	EXPEDIENT	
28-003-008-003	E-LF-1A	P-2674-4	1A	NAN	EE	FW	FIXTURE				
28-003-008-004	E-LF-1A	P-2674-4	1A	NAN	EE	FW	FIXTURE				
28-005-010-001	M-8030	P-3159-2	1A	NAN	EMS	FW	MECHFAIL				
28-003-022-001	P-IAH-1A	P-3159-2	1A	NAN	PSE	FW	DEFLECT				
28-003-008-008	P-USB-1A	P-2674-4	1A	NAN	PSE	FW	DEFLECT				
28-003-008-002	P-1162-0.75	P-2674-4	1A	NAN	PSE	FW	DEFLECT				
28-003-008-005	P-2385-4	P-2674-4	1A	NAN	PSE	FW	DEFLECT				
28-003-008-009	P-3900-1	P-2674-4	1A	NAN	PSE	FW	DEFLECT				
28-003-008-001	P-4350-1	P-2674-4	1A	NAN	PSE	FW	DEFLECT				
28-003-006-001	PS-1A	P-2788-1	1A	NAN	PSE	FW	DEFLECT				
28-003-024-003	H-DUCT-1B	P-3457-1	1B	A	HVA	FW	SPTFAIL				
28-003-047-001	H-DUCT-1B	P-3458-1	1B	A	HVA	FW	SPTFAIL				
28-003-015-002	H-DUCT-1B	P-4356-1.50	1B	A	HVA	FW	SPTFAIL				
28-003-052-002	H-DUCT-1B	P-4358-1.50	1B	A	HVA	FW	SPTFAIL				

AREA=VARIOUS(FIREWATER)

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-003-027-001	C-PLAT-1B	P-4357-1.50	1B	M	CE	FW	INTERFERE		CLEARANCE	EXPEDIENT	
28-003-015-003	E-LF-1B	P-4356-1.50	1B	NAN	EE	FW	FIXTURE				
28-003-027-002	E-LF-1B	P-4357-1.50	1B	NAN	EE	FW	FIXTURE				
28-003-052-001	E-LF-1B	P-4358-1.50	1B	NAN	EE	FW	FIXTURE				
28-003-036-001	E-LF-1B	P-4359-1.50	1B	NAN	EE	FW	FIXTURE				
28-003-024-002	P-SA-1B	P-3457-1	1B	NAN	PSE	FW	DEFLECT				
28-003-047-002	P-SA-1B	P-3458-1	1B	NAN	PSE	FW	DEFLECT				
28-003-014-001	C-34F	M-VALVE	1C	A	CE	FW	CIVILFAIL				
28-003-045-001	E-RNRP	P-3160-2	1C	M	EE	FW	SPTFAIL		SECLOOSE	NECESSARY	
28-003-004-001	P-SA-1C	P-3457-1	1C	NAN	PSE	FW	INTERFERE	DEFLECT			
28-004-046-001	E-LF-11D	M-HR	11D	M	EE	FW	FIXTURE		CHAIN	EXPEDIENT	
28-004-045-002	H-DUCT-11D	P-5039-2	11D	NAN	HVA	FW	DEFLECT				
28-004-045-001	P-SPR-11D	P-5039-2	11D	NAN	PSE	FW	SPTFAIL	PIPEFAIL			
28-004-047-003	E-LF-12C	P-5040-2	12C	NAN	EE	FW	FIXTURE				
28-004-048-001	E-LF-12C	M-HR	12C	Y	EE	FW	FIXTURE				
28-004-050-001	E-LF-13E	M-HR	13E	Y	EE	FW	FIXTURE				
28-004-090-003	C-DOOR	M-VALVE	14A	A	CE	FW	SPTFAIL				
28-004-008-001	C-PLAT-14A	M-HR	14A	A	CE	FW	CIVILFAIL				
28-004-004-013	C-PLAT-14A	P-2666-6	14A	A	CE	FW	CIVILFAIL				
28-004-042-001	C-PLAT-14A	P-3294-2	14A	A	CE	FW	CIVILFAIL				
28-004-020-002	C-PLAT-14A	P-3307-2	14A	A	CE	FW	CIVILFAIL				
28-004-062-002	C-STAIR-1B	P-3319-2	14A	A	CE	FW	CIVILFAIL				
28-004-023-002	C-STAIR-1C	P-2671-4	14A	A	CE	FW	CIVILFAIL				
28-004-025-001	C-STAIR-1C	P-3299-2	14A	A	CE	FW	CIVILFAIL				
28-004-079-001	C-STAIR-1D	M-VALVE	14A	A	CE	FW	CIVILFAIL				
28-004-080-001	C-STAIR-1D	M-VALVE	14A	A	CE	FW	CIVILFAIL				
28-004-090-001	C-STAIR-1D	M-VALVE	14A	A	CE	FW	CIVILFAIL				
28-004-082-001	C-STAIR-1D	P-3308-2	14A	A	CE	FW	CIVILFAIL				
28-004-078-002	C-STAIR-1D	P-3309-4	14A	A	CE	FW	CIVILFAIL				
28-004-078-004	C-STAIR-1D	P-3309-4	14A	A	CE	FW	CIVILFAIL				
28-004-086-002	C-STAIR-1D	P-3310-2	14A	A	CE	FW	CIVILFAIL				
28-004-084-002	C-STAIR-1D	P-3311-2	14A	A	CE	FW	CIVILFAIL				
28-004-088-003	C-STAIR-1D	P-3312-2	14A	A	CE	FW	CIVILFAIL				
28-004-037-001	C-STAIR-14A	M-HR	14A	A	CE	FW	CIVILFAIL				
28-004-039-001	C-STAIR-14A	M-HR	14A	A	CE	FW	CIVILFAIL				
28-004-043-001	C-STAIR-14A	M-HR	14A	A	CE	FW	CIVILFAIL				
28-004-059-002	C-STAIR-14A	M-HR	14A	A	CE	FW	CIVILFAIL				
28-004-083-001	C-STAIR-14A	M-HR	14A	A	CE	FW	CIVILFAIL				
28-004-085-001	C-STAIR-14A	M-HR	14A	A	CE	FW	CIVILFAIL				
28-004-087-003	C-STAIR-14A	M-HR	14A	A	CE	FW	CIVILFAIL				
28-004-034-001	C-STAIR-2B	P-2670-4	14A	A	CE	FW	CIVILFAIL				
28-004-034-003	C-STAIR-2B	P-2670-4	14A	A	CE	FW	CIVILFAIL				
28-004-034-004	C-STAIR-2B	P-2670-4	14A	A	CE	FW	CIVILFAIL				
28-004-036-001	C-STAIR-2B	P-3295-2	14A	A	CE	FW	CIVILFAIL				
28-004-038-001	C-STAIR-2B	P-3296-2	14A	A	CE	FW	CIVILFAIL				
28-004-040-001	C-STAIR-2B	P-3297-2	14A	A	CE	FW	CIVILFAIL				
28-004-035-001	C-STAIR-2B	PA-2670-4	14A	A	CE	FW	CIVILFAIL				
28-004-051-004	C-STAIR-3B	P-3293-2	14A	A	CE	FW	CIVILFAIL				
28-004-031-002	C-WALL	P-3298-2	14A	A	CE	FW	CIVILFAIL				
28-004-032-002	E-LF-14A	M-HR	14A	A	EE	FW	FIXTURE				
28-004-043-002	E-LF-14A	M-HR	14A	A	EE	FW	FIXTURE				
28-004-004-016	H-DUCT-14A	P-2666-6	14A	A	EMS	FW	SPTFAIL				
28-004-098-001	M-HOIST-14A	P-5021-2	14A	A	CE	FW	MECHFAIL				
28-004-090-002	M-TANK	M-VALVE	14A	A	EMS	FW	SPTFAIL				

AREA=VARIOUS(FIREWATER)

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-004-039-004	P-SPR-14A	M-HR	14A	A	PSE	FW	SPTFAIL	PIPEFAIL			
28-004-061-001	P-SPR-14A	M-HR	14A	A	PSE	FW	SPTFAIL				
28-004-087-001	P-SPR-14A	M-HR	14A	A	PSE	FW	SPTFAIL	PIPEFAIL			
28-004-062-003	P-ULB-14A	P-3319-2	14A	A	PSE	FW	SPTFAIL	PIPEFAIL			
28-004-054-004	P-0543-30	P-2667-6	14A	A	PSE	FW	DEFLECT				
28-004-054-008	P-1377-8	P-2667-6	14A	A	PSE	FW	DEFLECT				
28-004-059-001	P-1892-2	M-HR	14A	A	PSE	FW	SPTFAIL	PIPEFAIL			
28-004-057-001	P-1897-6	M-VALVE	14A	A	PSE	FW	SPTFAIL	PIPEFAIL			
28-004-056-001	P-1897-6	P-2668-4	14A	A	PSE	FW	SPTFAIL	PIPEFAIL			
28-004-058-001	P-1897-6	P-3317-2	14A	A	PSE	FW	SPTFAIL	PIPEFAIL			
28-004-078-003	P-3034-4	P-3309-4	14A	A	PSE	FW	SPTFAIL				
28-004-084-001	C-PLAT-14A	P-3311-2	14A	M	CE	FW	CIVILFAIL		BRACE	EXPEDIENT	
28-004-040-003	C-PLAT-14D	P-3297-2	14A	M	CE	FW	CIVILFAIL		BRACE	NECESSARY	
28-004-004-015	C-STAIR-1D	P-2666-6	14A	M	CE	FW	CIVILFAIL		BRACE	NECESSARY	
28-004-058-002	C-STAIR-1D	P-3317-2	14A	M	CE	FW	CIVILFAIL		BRACE	EXPEDIENT	
28-004-004-009	C-STAIR-2B	P-2666-6	14A	M	CE	FW	CIVILFAIL		BRACE	EXPEDIENT	
28-004-044-006	C-STAIR-3B	P-5038-4	14A	M	CE	FW	CIVILFAIL		BRACE	NECESSARY	
28-004-004-011	M-DEMIN	P-2666-6	14A	M	EMS	FW	SPTFAIL		SUPPORT	EXPEDIENT	
28-004-051-003	N-MISC-14A	P-3293-2	14A	M	NPO	FW	LOOSE		RELOCATE	EXPEDIENT	
28-004-029-001	P-SA-14A	P-3301-2	14A	M	PSE	FW	DEFLECT		STOP	NECESSARY	
28-004-051-005	P-SPR-14A	P-3293-2	14A	M	PSE	FW	SPTFAIL	PIPEFAIL	RELOCATE	NECESSARY	
28-004-040-002	P-SPR-14A	P-3297-2	14A	M	PSE	FW	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
28-004-044-003	P-SPR-14A	P-5038-4	14A	M	PSE	FW	SPTFAIL	PIPEFAIL	RELOCATE	NECESSARY	
28-004-044-004	P-SPR-14A	P-5038-4	14A	M	PSE	FW	SPTFAIL	PIPEFAIL	RELOCATE	NECESSARY	
28-004-044-007	P-SPR-14A	P-5038-4	14A	M	PSE	FW	SPTFAIL	PIPEFAIL	RELOCATE	NECESSARY	
28-004-049-003	P-SPR-14A	P-5041-2	14A	M	PSE	FW	SPTFAIL	PIPEFAIL	RELOCATE	NECESSARY	
28-004-004-014	P-1956-4	P-2666-6	14A	M	PSE	FW	DEFLECT		SUPPORT	NECESSARY	
28-004-051-001	P-2972-3	P-3293-2	14A	M	PSE	FW	DEFLECT		SUPPORT	EXPEDIENT	
28-004-033-001	P-3103-2	P-2095-4	14A	M	PSE	FW	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
28-004-004-004	P-3593-12	P-2666-6	14A	M	PSE	FW	DEFLECT		RELOCATE	EXPEDIENT	
28-004-004-008	P-3593-12	P-2666-6	14A	M	PSE	FW	DEFLECT		RELOCATE	EXPEDIENT	
28-004-093-001	E-LF-14A	M-VALVE	14A	NAN	EE	FW	FIXTURE				
28-004-095-001	E-LF-14A	M-VALVE	14A	NAN	EE	FW	FIXTURE				
28-004-004-012	E-LF-14A	P-2666-6	14A	NAN	EE	FW	FIXTURE				
28-004-054-001	E-LF-14A	P-2667-6	14A	NAN	EE	FW	FIXTURE				
28-004-054-009	E-LF-14A	P-2667-6	14A	NAN	EE	FW	FIXTURE				
28-004-054-012	E-LF-14A	P-2667-7	14A	NAN	EE	FW	FIXTURE				
28-004-056-003	E-LF-14A	P-2668-4	14A	NAN	EE	FW	FIXTURE				
28-004-010-001	E-LF-14A	P-2683-4	14A	NAN	EE	FW	FIXTURE				
28-004-051-002	E-LF-14A	P-3293-2	14A	NAN	EE	FW	FIXTURE				
28-004-042-002	E-LF-14A	P-3294-2	14A	NAN	EE	FW	FIXTURE				
28-004-031-001	E-LF-14A	P-3298-2	14A	NAN	EE	FW	FIXTURE				
28-004-018-001	E-LF-14A	P-3305-2	14A	NAN	EE	FW	FIXTURE				
28-004-016-001	E-LF-14A	P-3306-2	14A	NAN	EE	FW	FIXTURE				
28-004-016-002	E-LF-14A	P-3306-2	14A	NAN	EE	FW	FIXTURE				
28-004-086-001	E-LF-14A	P-3310-2	14A	NAN	EE	FW	FIXTURE				
28-004-088-001	E-LF-14A	P-3312-2	14A	NAN	EE	FW	FIXTURE				
28-004-098-002	E-LF-14A	P-5021-2	14A	NAN	EE	FW	FIXTURE				
28-004-044-001	E-LF-14A	P-5038-4	14A	NAN	EE	FW	FIXTURE				
28-004-044-005	E-LF-14A	P-5038-4	14A	NAN	EE	FW	FIXTURE				
28-004-045-003	E-LF-14A	P-5039-2	14A	NAN	EE	FW	FIXTURE				
28-004-049-001	E-LF-14A	P-5041-2	14A	NAN	EE	FW	FIXTURE				
28-004-034-002	E-R-14A	P-2670-4	14A	NAN	EE	FW	INTERFERE				
28-004-020-001	E-R-14A	P-3307-2	14A	NAN	PSE	FW	DEFLECT				

AREA=VARIOUS(FIREWATER)

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-004-064-003	E-R-14A	P-3316-2	14A	NAN	EE	FW	DEFLECT				
28-004-047-002	E-R-14A	P-5040-2	14A	NAN	EE	FW	DEFLECT				
28-004-043-003	M-STATOR CL	M-HR	14A	NAN	EMS	FW	SPTFAIL				
28-004-023-003	P-SA-14A	P-2671-4	14A	NAN	PSE	FW	DEFLECT				
28-004-004-007	P-SPR-14A	P-2666-6	14A	NAN	PSE	FW	DEFLECT				
28-004-054-003	P-SPR-14A	P-2667-6	14A	NAN	PSE	FW	SPTFAIL	PIPEFAIL			
28-004-054-005	P-SPR-14A	P-2667-6	14A	NAN	PSE	FW	SPTFAIL	PIPEFAIL			
28-004-054-006	P-SPR-14A	P-2667-6	14A	NAN	PSE	FW	SPTFAIL	PIPEFAIL			
28-004-094-001	P-SPR-14A	P-2992-10	14A	NAN	PSE	FW	SPTFAIL				
28-004-064-005	P-SPR-14A	P-3316-2	14A	NAN	PSE	FW	SPTFAIL				
28-004-047-001	P-SPR-14A	P-5040-2	14A	NAN	PSE	FW	SPTFAIL				
28-004-049-002	P-SPR-14A	P-5041-2	14A	NAN	PSE	FW	SPTFAIL				
28-004-054-010	P-ULB-14A	P-2667-6	14A	NAN	PSE	FW	SPTFAIL	PIPEFAIL			
28-004-023-001	P-ULB-14A	P-2671-4	14A	NAN	PSE	FW	DEFLECT				
28-004-059-004	P-USB-14A	M-HR	14A	NAN	PSE	FW	PIPEFAIL				
28-004-057-002	P-USB-14A	M-VALVE	14A	NAN	PSE	FW	PIPEFAIL				
28-004-044-002	P-0507-4	P-5038-4	14A	NAN	PSE	FW	DEFLECT				
28-004-004-001	P-2139-2	P-2666-6	14A	NAN	PSE	FW	DEFLECT				
28-004-004-010	P-2896-3	P-2666-6	14A	NAN	PSE	FW	SPTFAIL				
28-004-054-002	P-2972-3	P-2667-6	14A	NAN	PSE	FW	DEFLECT				
28-004-076-002	P-3018-2	P-3313-2	14A	NAN	PSE	FW	SPTFAIL				
28-004-094-002	P-3034-4	P-2992-10	14A	NAN	PSE	FW	DEFLECT				
28-004-004-002	PS-14A	P-2666-6	14A	NAN	PSE	FW	DEFLECT				
28-004-004-006	PS-14A	P-2666-6	14A	NAN	PSE	FW	DEFLECT				
28-004-070-002	PS-14A	P-3314-2	14A	NAN	PSE	FW	DEFLECT				
28-004-064-001	C-PLAT-14A	P-3316-2	14A	P	NPO	FW	LOOSE				
28-004-064-002	C-PLAT-14A	P-3316-2	14A	P	NPO	FW	LOOSE				
28-004-032-001	N-FAN	M-HR	14A	X	GC	FW	LOOSE				
28-004-026-002	C-HANDRAIL	M-HR	14A	Y	CE	FW	SPTFAIL				
28-004-039-003	C-HANDRAIL	M-HR	14A	Y	CE	FW	SPTFAIL				
28-004-087-002	C-HANDRAIL	M-HR	14A	Y	CE	FW	SPTFAIL				
28-004-008-002	E-LF-14A	M-HR	14A	Y	EE	FW	FIXTURE				
28-004-019-001	E-LF-14A	M-HR	14A	Y	EE	FW	FIXTURE				
28-004-026-001	E-LF-14A	M-HR	14A	Y	EE	FW	FIXTURE				
28-004-028-001	E-LF-14A	M-HR	14A	Y	EE	FW	FIXTURE				
28-004-037-002	E-LF-14A	M-HR	14A	Y	EE	FW	FIXTURE				
28-004-039-002	E-LF-14A	M-HR	14A	Y	EE	FW	FIXTURE				
28-004-059-003	E-LF-14A	M-HR	14A	Y	EE	FW	FIXTURE				
28-004-061-002	E-LF-14A	M-HR	14A	Y	EE	FW	FIXTURE				
28-004-063-001	E-LF-14A	M-HR	14A	Y	EE	FW	FIXTURE				
28-004-071-001	E-LF-14A	M-HR	14A	Y	EE	FW	FIXTURE				
28-004-075-001	E-LF-14A	M-HR	14A	Y	EE	FW	FIXTURE				
28-004-077-001	E-LF-14A	M-HR	14A	Y	EE	FW	FIXTURE				
28-004-085-002	E-LF-14A	M-HR	14A	Y	EE	FW	FIXTURE				
28-004-079-002	H-DUCT-14A	M-VALVE	14A	Y	EMS	FW	SPTFAIL				
28-004-080-002	H-DUCT-14A	M-VALVE	14A	Y	EMS	FW	SPTFAIL				
28-004-078-001	H-DUCT-14A	P-3309-4	14A	Y	EMS	FW	SPTFAIL				
28-004-083-003	H-FILTER	M-HR	14A	Y	NPO	FW	LOOSE				
28-004-061-003	M-HX-14A	M-HR	14A	Y	PSE	FW	SPTFAIL				
28-004-056-002	M-HX-14A	P-2668-4	14A	Y	CE	FW	SPTFAIL				
28-004-062-001	M-HX-14A	P-3319-2	14A	Y	CE	FW	SPTFAIL				
28-004-083-002	M-TANK	M-HR	14A	Y	EMS	FW	SPTFAIL				
28-004-082-002	M-TANK	P-3308-2	14A	Y	EMS	FW	SPTFAIL				
28-004-064-006	P-SA-14A	P-3316-2	14A	Y	PSE	FW	DEFLECT				

AREA=VARIOUS(FIREWATER)

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-004-037-003	P-SPR-14A	M-HR	14A	Y	PSE	FW	SPTFAIL				
28-004-076-001	P-SPR-14A	P-3313-2	14A	Y	PSE	FW	SPTFAIL	PIPEFAIL			
28-004-064-004	P-ULB-14A	P-3316-2	14A	Y	PSE	FW	DEFLECT				
28-004-054-011	P-0579-8	P-2667-6	14A	Y	OSE	FW	DEFLECT				
28-004-070-001	P-1950-3	P-3314-2	14A	Y	OSE	FW	INTERFERE	DEFLECT			
28-004-054-007	P-2635-10	P-2667-6	14A	Y	OSE	FW	DEFLECT				
28-004-017-001	C-BLDG	M-HR	14D	A	CE	FW	CIVILFAIL				
28-004-017-003	H-HVAC U-1	M-HR	14D	A	CE	FW	SPTFAIL				
28-007-018-002	C-BLDG	P-3297-2	14D	M	CE	FW	CIVILFAIL		TSHIELD	NECESSARY	
28-004-017-004	C-PLAT-14D	M-HR	14D	M	CE	FW	CIVILFAIL		BRACE	NECESSARY	
28-004-030-002	C-PLAT-14D	M-HR	14D	M	CE	FW	CIVILFAIL		BRACE	NECESSARY	
28-004-041-003	C-PLAT-14D	M-HR	14D	M	CE	FW	CIVILFAIL		BRACE	NECESSARY	
28-004-029-003	C-PLAT-14D	P-3301-2	14D	M	CE	FW	CIVILFAIL		BRACE	NECESSARY	
28-004-017-002	E-LF-14D	M-HR	14D	M	EE	FW	FIXTURE		CHAIN	EXPEDIENT	
28-004-052-002	E-LF-14D	M-HR	14D	M	EE	FW	FIXTURE		CHAIN	EXPEDIENT	
28-004-030-001	H-S46	M-HR	14D	M	CE	FW	SPTFAIL		BRACE	NECESSARY	
28-007-018-001	M-BOTTLE	P-3297-2	14D	M	NPO	FW	LOOSE	MECHFAIL	RELOCATE	EXPEDIENT	
28-004-064-007	P-SA-14D	P-3316-2	14D	M	ENG	FW	INTERFERE		TMODIFY	OVERLAP	
28-004-066-001	E-LF-14D	P-2669-4	14D	NAN	EE	FW	FIXTURE				
28-004-029-002	E-R-14D	P-3301-2	14D	NAN	EE	FW	INTERFERE				
28-004-041-001	C-HANDRAIL	M-HR	14D	Y	CE	FW	SPTFAIL				
28-004-052-001	C-HANDRAIL	M-HR	14D	Y	CE	FW	SPTFAIL				
28-004-089-002	C-HANDRAIL	M-HR	14D	Y	CE	FW	SPTFAIL				
28-004-041-002	E-LF-14D	M-HR	14D	Y	EE	FW	FIXTURE				
28-004-065-001	E-LF-14D	M-HR	14D	Y	EE	FW	FIXTURE				
28-004-089-001	E-LF-14D	M-HR	14D	Y	EE	FW	FIXTURE				
28-004-088-002	E-LF-14D	P-3312-2	14D	Y	EE	FW	FIXTURE				
28-004-009-001	E-LF-14A	M-VALVE	14E	NAN	EE	FW	FIXTURE				
28-004-004-017	E-LF-14E	P-2666-6	14E	NAN	EE	FW	FIXTURE				
28-004-004-003	E-R-14E	P-2666-6	14E	NAN	EE	FW	DEFLECT				
28-004-005-001	I-PM40A	P-3302-2	14E	NAN	CE	FW	SPTFAIL				
28-004-004-005	P-SA-14E	P-2666-6	14E	NAN	PSE	FW	DEFLECT				
28-004-010-002	P-ULB-14E	P-2683-4	14E	NAN	PSE	FW	SPTFAIL	PIPEFAIL			
28-004-004-018	P-USB-14E	P-2666-6	14E	NAN	PSE	FW	SPTFAIL				
28-004-014-002	N-MISC-16A	P-3304-2	16A	A	NPO	FW	LOOSE				
28-004-015-001	P-SPR-16A	M-HR	16A	A	EMS	FW	SPTFAIL	PIPEFAIL			
28-004-014-001	P-SPR-16A	P-3304-2	16A	A	EMS	FW	SPTFAIL	PIPEFAIL			
28-004-013-001	E-LF-16A	M-VALVE	16A	NAN	EE	FW	FIXTURE				
28-004-020-005	E-LF-16A	P-3307-2	16A	NAN	EE	FW	FIXTURE				
28-004-020-003	P-IAH-16A	P-3307-2	16A	NAN	PSE	FW	DEFLECT				
28-004-020-004	P-SPR-16A	P-3307-2	16A	NAN	PSE	FW	SPTFAIL				
28-004-011-001	P-ULB-16A	M-VALVE	16A	NAN	PSE	FW	DEFLECT				
28-004-020-006	C-MR-17	P-3307-2	17	A	CE	FW	CIVILFAIL	MECHFAIL			
28-004-021-001	E-LF-17	M-HR	17	A	EE	FW	FIXTURE				
28-004-021-002	NS-MISC	M-HR	17	X	GC	FW	LOOSE				
28-006-065-001	M-BOTTLE	M-FW TANK	26	A	EMS	FW	LOOSE	MECHFAIL			I
28-005-001-003	C-WALL	P-2677-6	3AA	A	CE	FW	CIVILFAIL				I
28-005-092-001	E-LF-3AA	M-HR	3AA	A	EE	FW	FIXTURE				
28-005-040-002	M-HOIST-3AA	M-HR	3AA	A	CE	FW	MECHFAIL				
28-005-005-001	P-USB-3AA	P-2678-4	3AA	A	PSE	FW	DEFLECT				
28-005-001-005	C-PLAT-3AA	P-2677-6	3AA	M	CE	FW	LOOSE		SECLOOSE	EXPEDIENT	I
28-004-011-003	E-LF-BOL	P-3608-2	3AA	M	EE	FW	FIXTURE		RELOCATE	EXPEDIENT	
28-005-039-002	M-HOIST-3AA	P-3608-2	3AA	M	NPO	FW	MECHFAIL		RELOCATE	EXPEDIENT	
28-005-001-004	M-TANK	P-2677-6	3AA	M	CE	FW	SPTFAIL		SECLOOSE	EXPEDIENT	I

AREA=VARIOUS(FIREWATER)

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-006-121-001	C-LADDER	P-2659-6	3AA	NAN	CE	FW	SPTFAIL				
28-005-005-004	E-LF-3AA	P-2678-4	3AA	NAN	EE	FW	FIXTURE				
28-005-091-001	E-LF-3AA	P-3600-2	3AA	NAN	EE	FW	FIXTURE				
28-005-039-001	E-LF-3AA	P-3608-2	3AA	NAN	EE	FW	FIXTURE				
28-005-111-001	E-LF-3AA	P-3608-2	3AA	NAN	EE	FW	FIXTURE				
28-005-005-003	M-FCV282	P-2678-4	3AA	NAN	EMS	FW	MECHFAIL				
28-005-001-001	NS-CD	P-2677-6	3AA	NAN	PSE	FW	HOUSEKEEP				
28-005-110-001	P-USB-3AA	M-HR	3AA	NAN	PSE	FW	SPTFAIL	PIPEFAIL			
28-005-107-001	P-USB-3AA	P-3607-2	3AA	NAN	PSE	FW	SPTFAIL	PIPEFAIL			
28-005-001-002	P-4546-2.50	P-2677-6	3AA	NAN	PSE	FW	DEFLECT				
28-005-040-001	E-LF-3AA	M-HR	3AA	Y	EE	FW	FIXTURE				
28-005-029-001	E-LF-3BB	M-HR	3BB	A	EE	FW	FIXTURE				
28-005-036-001	E-LF-3BB	M-HR	3BB	A	EE	FW	FIXTURE				
28-005-030-001	P-1595-3	M-FS38	3BB	M	PSE	FW	DEFLECT		SUPPORT	EXPEDIENT	
28-005-056-003	P-3252-1.50	P-3609-4	3BB	M	PSE	FW	DEFLECT		SUPPORT	EXPEDIENT	
28-002-001-001	E-LF-3BB	M-FCV633	3BB	NAN	EE	FW	FIXTURE				
28-004-001-001	E-LF-3BB	M-FS25	3BB	NAN	EE	FW	FIXTURE				
28-004-001-002	E-LF-3BB	P-2673-4	3BB	NAN	EE	FW	FIXTURE				
28-005-035-001	E-LF-3BB	P-3607-2	3BB	NAN	EE	FW	FIXTURE				
28-005-056-004	E-LF-3BB	P-3609-4	3BB	NAN	EE	FW	FIXTURE				
28-004-001-003	H-DUCT-3BB	P-2673-4	3BB	NAN	HVA	FW	SPTFAIL				
28-005-023-001	P-IAH-3BB	P-3603-4	3BB	NAN	PSE	FW	DEFLECT				
28-005-034-001	E-LF-3BB	M-HR	3BB	Y	EE	FW	FIXTURE				
28-005-032-001	P-1445-4	M-HR	3BB	Y	EMS	FW	DEFLECT	ENVIRON			
28-005-015-002	C-GRATING	P-3690-2	3C	A	CE	FW	LOOSE				
28-005-016-002	C-HANDRAIL	M-HR	3C	A	CE	FW	LOOSE				
28-005-077-001	C-HANDRAIL	M-HR	3C	A	CE	FW	SPTFAIL				
28-005-129-001	C-HANDRAIL	M-HR	3C	A	CE	FW	SPTFAIL				
28-005-016-003	C-PLAT-3C	M-HR	3C	A	CE	FW	CIVILFAIL				
28-005-018-002	C-PLAT-3C	M-HR	3C	A	CE	FW	CIVILFAIL				
28-005-072-004	C-PLAT-3C	M-HR	3C	A	CE	FW	CIVILFAIL				
28-005-088-001	C-PLAT-3C	M-HR	3C	A	CE	FW	CIVILFAIL				
28-005-090-001	C-PLAT-3C	M-HR	3C	A	CE	FW	CIVILFAIL				
28-005-126-001	C-PLAT-3C	M-HR	3C	A	CE	FW	CIVILFAIL				
28-005-072-003	C-PLAT-3C	P-3619-4	3C	A	CE	FW	CIVILFAIL				
28-005-072-006	C-PLAT-3C	P-3619-4	3C	A	CE	FW	CIVILFAIL				
28-005-073-001	C-PLAT-3C	P-3620-2	3C	A	CE	FW	CIVILFAIL				
28-005-079-002	C-SB	M-HR	3C	A	CE	FW	SPTFAIL				
28-005-130-001	C-SB	P-3622-2	3C	A	CE	FW	SPTFAIL				
28-005-086-001	C-SB	P-3689-4	3C	A	CE	FW	SPTFAIL				
28-005-087-002	C-SB	P-3690-2	3C	A	CE	FW	SPTFAIL				
28-005-072-007	C-WALL	P-3619-4	3C	A	CE	FW	CIVILFAIL				
28-005-072-001	C-MR-3C	P-3619-4	3C	M	CE	FW	CIVILFAIL		BRACE	NECESSARY	
28-005-072-002	C-MR-3C	P-3619-4	3C	M	CE	FW	CIVILFAIL		BRACE	NECESSARY	
28-005-072-005	C-MR-3C	P-3619-4	3C	M	CE	FW	SPTFAIL		BRACE	EXPEDIENT	
28-005-073-003	NS-CD	P-3620-2	3C	M	NPO	FW	HOUSEKEEP		SUPPORT	OVERLAP	
28-005-125-003	NS-CD	P-3620-4	3C	M	NPO	FW	HOUSEKEEP		CONSTDEF	OVERLAP	
28-005-078-001	P-3622-2	M-HR	3C	M	EMS	FW	SPTFAIL		CONSTDEF	EXPEDIENT	
28-005-077-002	E-LF-3C	M-HR	3C	NAN	EE	FW	FIXTURE				
28-005-073-002	E-R-3C	P-3620-2	3C	NAN	EE	FW	INTERFERE				
28-005-015-001	E-R-3C	P-3690-2	3C	NAN	EE	FW	INTERFERE				
28-005-087-001	E-R-3C	P-3690-2	3C	NAN	EE	FW	INTERFERE				
28-005-089-001	E-R-3C	P-3691-2	3C	NAN	EE	FW	INTERFERE				
28-005-016-001	E-LF-3C	M-HR	3C	Y	EE	FW	FIXTURE				

AREA=VARIOUS(FIREWATER)

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-005-018-001	E-LF-3C	M-HR	3C	Y	EE	FW	FIXTURE				
28-005-079-001	E-LF-3C	M-HR	3C	Y	EE	FW	FIXTURE				
28-005-131-001	E-LF-3C	M-HR	3C	Y	EE	FW	FIXTURE				
28-005-126-002	NS-CD	M-HR	3C	Y	QC	FW	HOUSEKEEP				
28-005-084-006	C-SB	P-3688-2	3L	A	CE	FW	SPTFAIL				
28-005-084-003	H-DUCT-3L	P-3688-2	3L	M	CE	FW	DEFLECT		CONSTDEF	EXPEDIENT	
28-005-011-001	E-LF-3L	M-VALVE	3L	NAN	EE	FW	FIXTURE				
28-005-056-005	E-LF-3L	P-3609-4	3L	NAN	EE	FW	FIXTURE				
28-005-084-005	E-LF-3L	P-3688-2	3L	NAN	EE	FW	FIXTURE				
28-005-067-001	E-R-3L	P-3618-2	3L	NAN	EE	FW	INTERFERE	DEFLECT			
28-005-084-002	E-R-3L	P-3688-2	3L	NAN	EE	FW	DEFLECT				
28-005-084-004	NS-CD	P-3688-2	3L	NAN	PSE	FW	HOUSEKEEP				
28-005-056-009	P-3252-1.50	P-3609-4	3L	NAN	PSE	FW	DEFLECT				
28-005-119-001	PS-3L	P-3617-2	3L	NAN	PSE	FW	SPTFAIL	PIPEFAIL			
28-006-032-001	C-LADDER	M-HR	3P2	A	CE	FW	SPTFAIL				
28-006-031-004	C-LADDER	P-4552-2	3P2	A	CE	FW	SPTFAIL				
28-006-031-003	C-HANDRAIL	P-4552-2	3P2	X	GC	FW	LOOSE				
28-006-031-005	C-PLAT-3P3	P-4552-2	3P3	A	CE	FW	CIVILFAIL				
28-006-028-002	M-TANK	P-4550-8	3P3	A	CE	FW	MECHFAIL				
28-006-029-001	M-TANK	P-4551-2	3P3	A	CE	FW	MECHFAIL				
28-006-031-002	E-LF-3P3	P-4552-2	3P3	NAN	EE	FW	FIXTURE				
28-006-031-001	E-R-3P3	P-4552-2	3P3	NAN	EE	FW	DEFLECT				
28-006-030-001	M-TANK	M-HR	3P3	Y	CE	FW	MECHFAIL				
28-006-121-002	C-LADDER	P-2659-6	3Q1	A	CE	FW	SPTFAIL				
28-006-074-001	C-PLAT-3Q1	P-ULB-3Q1	3Q1	A	CE	FW	CIVILFAIL				
28-006-002-001	C-PLAT-3Q1	P-1470-3	3Q1	A	CE	FW	CIVILFAIL				
28-006-076-001	C-PLAT-3Q1	P-2682-12	3Q1	A	CE	FW	CIVILFAIL				
28-006-078-001	C-PLAT-3Q1	P-2826-3	3Q1	A	CE	FW	CIVILFAIL				
28-006-119-001	C-PLAT-3Q1	P-2827-3	3Q1	A	CE	FW	CIVILFAIL				
28-006-122-001	C-PLAT-3Q1	P-4531-1	3Q1	A	CE	FW	CIVILFAIL				
28-006-001-001	C-PLAT-3Q1	P-2660-10	3Q1	M	CE	FW	CIVILFAIL		BRACE	EXPEDIENT	
28-010-002-002	P-0721-12	E-K9415-4	3Q2	M	PSE	FW	DEFLECT		SUPPORT	NECESSARY	
28-010-002-001	P-1750-8	E-K9415-4	3Q2	M	PSE	FW	DEFLECT		SUPPORT	NECESSARY	
28-006-129-001	C-MISC-3Q2	E-K9415-4	3Q2	NAN	EE	FW	DEFLECT				
28-006-128-001	E-RS-3Q2	E-K9401-4	3Q2	X	QC	FW	SPTFAIL				
28-006-023-001	E-LF-3R	M-HR	3R	A	EE	FW	FIXTURE				
28-006-039-001	E-LF-3R	M-HR	3R	A	EE	FW	FIXTURE				
28-006-037-002	N-MISC-3R	M-HR	3R	A	NPO	FW	LOOSE				
28-006-022-001	E-LF-3R	P-3640-2	3R	NAN	EE	FW	FIXTURE				
28-006-038-001	E-LF-3R	P-3644-2	3R	NAN	EE	FW	FIXTURE				
28-007-004-001	E-LF-3R	P-3722-6	3R	NAN	EE	FW	FIXTURE				
28-006-022-002	E-R-3R	P-3640-2	3R	NAN	EE	FW	SPTFAIL				
28-007-004-002	M-PCV91	P-3722-6	3R	NAN	EMS	FW	MECHFAIL				
28-006-023-002	C-PLAT-3R	M-HR	3R	Y	CE	FW	CIVILFAIL				
28-006-021-001	E-LF-3R	M-HR	3R	Y	EE	FW	FIXTURE				
28-006-037-001	E-LF-3R	M-HR	3R	Y	EE	FW	FIXTURE				
28-005-005-010	C-SB	P-2678-4	3X	A	CE	FW	LOOSE				
28-005-009-003	E-TL14	M-HR	3X	A	EE	FW	SPTFAIL				
28-005-005-007	E-LF-3X	P-2678-4	3X	NAN	EE	FW	FIXTURE				
28-005-114-002	E-LF-3X	P-3612-4	3X	NAN	EE	FW	FIXTURE				
28-005-051-002	E-R-3X	P-3612-4	3X	NAN	EE	FW	INTERFERE				
28-005-051-003	E-R-3X	P-3612-4	3X	NAN	EE	FW	INTERFERE				
28-005-114-001	E-R-3X	P-3612-4	3X	NAN	EE	FW	INTERFERE				
28-005-005-005	H-DUCT-3X	P-2678-4	3X	NAN	HVA	FW	DEFLECT				

AREA=VARIOUS(FIREWATER)

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-005-009-001	I-PM129	M-HR	3X	NAN	CE	FW	SPTFAIL				
28-005-083-002	I-PM129	M-HR	3X	NAN	CE	FW	SPTFAIL				
28-005-082-002	P-SPR-3X	P-3601-2	3X	NAN	PSE	FW	INTERFERE				
28-005-082-001	P-USB-3X	P-3601-2	3X	NAN	PSE	FW	SPTFAIL	PIPEFAIL			
28-005-005-008	P-2110-1	P-2678-4	3X	NAN	PSE	FW	SPTFAIL	ENVIRON			
28-005-005-011	P-2119-4	P-2678-4	3X	NAN	PSE	FW	SPTFAIL	PIPEFAIL			
28-005-005-009	P-2757-1.50	P-2678-4	3X	NAN	PSE	FW	DEFLECT				
28-005-005-006	P-4298-1.50	P-2678-4	3X	NAN	PSE	FW	INTERFERE	DEFLECT			
28-005-009-002	E-LF-3X	M-HR	3X	Y	EE	FW	FIXTURE				
28-005-083-001	E-LF-3X	M-HR	3X	Y	EE	FW	FIXTURE				
28-008-018-001	P-0705-4	M-HR	30A5	A	PSE	FW	SPTFAIL	PIPEFAIL			
28-008-016-002	P-0706-4	M-HR	30A5	A	PSE	FW	PIPEFAIL				
28-008-013-001	E-LF-30A5	M-VALVE	30A5	NAN	EE	FW	FIXTURE				
28-008-024-001	E-LF-30A5	M-VALVE	30A5	NAN	EE	FW	FIXTURE				
28-008-011-001	E-LF-30A5	P-3736-2	30A5	NAN	EE	FW	FIXTURE				
28-008-021-002	E-LF-30A5	P-3736-2	30A5	NAN	EE	FW	FIXTURE				
28-008-014-002	E-LF-30A5	P-3737-2	30A5	NAN	EE	FW	FIXTURE				
28-008-017-004	E-LF-30A5	P-3737-2	30A5	NAN	EE	FW	FIXTURE				
28-008-001-001	P-IAH-30A5	P-2975-4	30A5	NAN	PSE	FW	SPTFAIL				
28-008-019-001	P-IAH-30A5	P-2975-4	30A5	NAN	PSE	FW	SPTFAIL	PIPEFAIL			
28-008-021-003	P-IAH-30A5	P-3736-2	30A5	NAN	PSE	FW	SPTFAIL				
28-008-014-001	P-IAH-30A5	P-3737-2	30A5	NAN	PSE	FW	SPTFAIL				
28-008-003-001	P-SA-30A5	M-STR	30A5	NAN	PSE	FW	DEFLECT				
28-008-020-001	P-SA-30A5	M-VALVE	30A5	NAN	PSE	FW	DEFLECT				
28-008-001-002	P-SA-30A5	P-2975-4	30A5	NAN	PSE	FW	SPTFAIL				
28-008-011-002	P-SA-30A5	P-3736-2	30A5	NAN	PSE	FW	DEFLECT				
28-008-021-001	P-SA-30A5	P-3736-2	30A5	NAN	PSE	FW	DEFLECT				
28-008-014-003	P-SA-30A5	P-3737-2	30A5	NAN	PSE	FW	DEFLECT				
28-008-001-003	P-ULB-30A5	P-2975-4	30A5	NAN	PSE	FW	SPTFAIL				
28-008-001-004	P-ULB-30A5	P-2975-4	30A5	NAN	PSE	FW	DEFLECT				
28-008-018-003	P-USB-30A5	M-HR	30A5	NAN	PSE	FW	PIPEFAIL				
28-008-017-005	P-USB-30A5	P-3737-2	30A5	NAN	PSE	FW	PIPEFAIL				
28-008-025-002	P-USB-30A5	P-3737-2	30A5	NAN	EE	FW	PIPEFAIL				
28-008-017-003	P-0705-4	P-3737-2	30A5	NAN	PSE	FW	DEFLECT				
28-008-017-002	P-0708-4	P-3737-2	30A5	NAN	PSE	FW	DEFLECT				
28-008-015-001	E-LF-30A5	M-HR	30A5	Y	EE	FW	FIXTURE				
28-008-016-001	E-LF-30A5	M-HR	30A5	Y	EE	FW	FIXTURE				
28-008-018-002	E-LF-30A5	M-HR	30A5	Y	EE	FW	FIXTURE				
28-008-022-001	E-LF-30A5	M-HR	30A5	Y	EE	FW	FIXTURE				
28-008-025-001	P-0705-4	P-3737-2	30A5	Y	EMS	FW	DEFLECT				
28-006-112-001	M-TANK	P-2659-6	31	A	PSE	FW	RELSTRUCT				
28-006-076-002	M-TANK	P-2682-12	31	A	PSE	FW	RELSTRUCT				
28-006-018-001	P-2442-6	P-3616-2	31	M	PSE	FW	DEFLECT		SUPPORT	EXPEDIENT	
28-006-024-002	P-2446-6	P-3641-2	31	M	PSE	FW	DEFLECT		SUPPORT	EXPEDIENT	
28-006-026-002	E-LF-31	P-1704-4	31	NAN	EE	FW	FIXTURE				
28-006-024-001	E-R-31	P-3641-2	31	NAN	EE	FW	DEFLECT				
28-006-018-002	P-0308-2	P-3616-2	31	NAN	PSE	FW	DEFLECT				
28-006-026-001	P-0399-4	P-1704-4	31	NAN	PSE	FW	INTERFERE	DEFLECT			
28-006-040-001	P-1862-8	P-3642-2	31	NAN	PSE	FW	INTERFERE	DEFLECT			
28-006-028-001	PS-31	P-4550-8	31	NAN	PSE	FW	DEFLECT				

ATTACHMENT 5-B.2

TO THE PGandE

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

UNIT 2

DATA MANAGEMENT REPORTS:

INTERACTION DATA BASE

LISTING BY AREA

SUBSORTED BY RESOLUTION METHOD AND SOURCE

This attachment contains the results of sorting the SISIP data base by plant area and resolution method. Data within each area and resolution method category are subsorted by source code.

ATTACHMENT 5-B.2
SUMMARY OF RESOLUTION TYPES PER AREA

TABLE OF AREA BY RES

AREA FREQUENCY	RES A	M	NAN	P	X	TOTAL
AUX	54	70	101	0	20	245
CNT	98	248	142	1	0	489
DG	21	24	8	0	1	54
EL	27	66	19	0	0	112
HV	27	49	21	0	3	100
IS	5	4	6	0	0	15
OA	26	26	5	0	0	57
PEN	31	103	50	0	0	184
PPS	70	43	49	0	5	167
TB	25	82	40	0	0	147
VAR	1	3	1	0	0	5
TOTAL	385	718	442	1	29	1575

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=AUXILIARY BUILDING

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B11-007-002-06	C-BLOCKWALL	E-K6950	4B	A	CE	CVCS	CIVILFAIL			
B18-014-002-01	C-BLOCKWALL	E-K7033-2	4B	A	CE	RHR	CIVILFAIL			
B28-003-005-03	C-CATWALK	P-3640-2	3W	A	CE	FW	CIVILFAIL			
B01-001-001-01	C-COVER	P-0380-10	32	A	CE	AUXFW	LOOSE			
B04-003-001-01	C-COVER	P-1045-10	32	A	CE	MNSTM	LOOSE			
B01-004-005-01	C-COVER	P-0567-2+	32	A	CE	AUXFW	LOOSE			
B20-037-003-01	C-DOOR	P-0153-12	3U	A	CE	CCW	SPTFAIL			
B13-007-001-02	C-HATCH	M-BAT 2-2	3AA	A	CE	CVCS	LOOSE			
B28-004-011-04	C-MR-3AA	PA-3608-2.50	3AA	A	CE	FW	CIVILFAIL			
B20-044-003-01	C-MR-3L	P-1763-4	3L	A	CE	CCW	CIVILFAIL			
B17-001-001-01	C-PLAT-3D3	P-2032-6	3D3	A	CE	SI	CIVILFAIL			
B17-002-001-01	C-PLAT-3D3	M-BIT	3D3	A	CE	SI	CIVILFAIL			
B13-007-001-01	C-SB	M-BAT 2-2	3AA	A	CE	CVCS	CIVILFAIL			
B28-003-001-02	C-SB	P-2990-4	32	A	CE	FW	DEFLECT	CIVILFAIL		
B28-004-003-01	C-SB	P-3602-2	S4	A	CE	FW	CIVILFAIL			
B28-004-003-02	C-SB	P-3602-2	S4	A	CE	FW	CIVILFAIL			
B25-025-002-01	C-STAIR	E-K9798-2+	S2	A	CE	HVAC	CIVILFAIL			
B17-001-004-01	C-WALL	I-PT947	3D3	A	PSE	SI	INTERFERE			
B32-003-007-04	C-WALL	E-K6962-4	4B	A	CE	ELPS	CIVILFAIL			
B32-003-007-05	C-WALL	E-K6944-4	4B	A	CE	ELPS	CIVILFAIL			
B28-004-038-01	C-16K-2	P-3620-2	3C	A	CE	FW	CIVILFAIL			
B28-004-038-02	C-16K-2	P-3620-2	3C	A	CE	FW	CIVILFAIL			
B25-040-040-07	C-7K-2	H-DUCT-3A	3A	A	CE	HVAC	CIVILFAIL			
B17-001-001-03	C-80GE-2	PS-2032-6	3D3	A	PSE	SI	SPTFAIL			
B30-001-003-07	C-80GE-2	E-K8790-1+	3D3	A	EE	MT	CIVILFAIL			
B13-021-004-01	E-LF-3AA	E-ENHA	3AA	A	EE	CVCS	FIXTURE			
B17-003-002-01	E-LF-3D3	E-R-3D3	3D3	A	EE	SI	FIXTURE			
B28-003-003-03	E-LF-3W	P-2989-4	3W	A	EE	FW	FIXTURE			
B28-003-007-01	E-LF-3W	P-1705-4	3W	A	EE	FW	FIXTURE			
B13-011-004-01	E-LF-9	E-TAB	3AA	A	EE	CVCS	FIXTURE			
B20-054-001-01	H-DUCT-3L	I-CSPNL	3L	A	CE	CCW	SPTFAIL			
B20-001-002-03	H-S22	E-K7208-2	4B	A	HVA	CCW	DEFLECT			
B20-054-001-03	I-CSP2-1	P-3249-2+	3L	A	EMS	CCW	SPTFAIL			
B17-008-004-01	I-PM74	E-K8852	3D3	A	ICE	SI	SPTFAIL			
B20-053-001-06	I-PNBC	P-2292-3	3L	A	ICE	CCW	SPTFAIL			
B20-044-002-01	M-BAEVAP	M-BAEVAPHX	3L	A	EMS	CCW	MECHFAIL			
B20-044-009-01	M-BATANK	P-1759-6+	3L	A	EMS	CCW	SPTFAIL			
B20-044-011-01	M-BATANK	P-1761-2+	3L	A	EMS	CCW	SPTFAIL			
B13-017-002-01	M-FCV110B	E-K8756-1	3X	A	PSE	CVCS	DEFLECT			
B10-001-001-01	M-HOIST-3X	M-8382B	3X	A	CE	CVCS	SPTFAIL			
B10-001-001-05	M-HOIST-3X	M-8384B	3X	A	CE	CVCS	SPTFAIL			
B10-002-001-02	M-HOIST-3X	M-8384A	3X	A	CE	CVCS	SPTFAIL			
B10-002-001-03	M-HOIST-3X	M-8382A	3X	A	CE	CVCS	SPTFAIL			
B10-002-001-04	M-HOIST-3X	M-8387A	3X	A	CE	CVCS	SPTFAIL			
B10-016-002-01	M-HOIST-3X	M-8396A	3X	A	CE	CVCS	SPTFAIL			
B10-016-002-02	M-HOIST-3X	M-8396B	3X	A	CE	CVCS	SPTFAIL			
B10-016-002-03	M-HOIST-3X	M-8380	3X	A	CE	CVCS	SPTFAIL			
B01-007-001-03	M-TANK	M-AFWPP 2-3	3W	A	EMS	AUXFW	SPTFAIL	ENVIRON		
B11-011-006-01	NS-T	E-KT595	3X	A	ENG	CVCS	ENVIRON			
B11-011-006-02	NS-T	E-KT594	3X	A	ENG	CVCS	ENVIRON			
B13-015-004-01	NS-T	E-K9490-1.25	3X	A	ENG	CVCS	ENVIRON			
B28-004-034-01	P-SPR-3C	P-3619-4	3C	A	PSE	FW	SPTFAIL			
B13-010-002-01	P-ULB-3X	E-K9441-2	3X	A	PSE	CVCS	SPTFAIL			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=AUXILIARY BUILDING

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B28-004-045-01	P-3688-2	PS-2642-3	3L	A	PSE	FW	INTERFERE			
B01-007-002-02	C-BLOCKWALL	E-K6993-4+	3L	M	CE	AUXFW	CIVILFAIL		BRACE	OVERLAP
B20-001-002-02	C-DOOR	E-K7208-2	4B	M	CE	CCW	SPTFAIL		SUPPORT	EXPEDIENT
B28-003-005-01	C-HANDRAIL	P-3640-2	3W	M	CE	FW	LOOSE		SUPPORT	EXPEDIENT
B25-040-040-01	C-MR-3AA	H-DUCT-3AA	3AA	M	CE	HVAC	DEFLECT		RELOCATE	OVERLAP
B25-040-040-04	C-MR-3AA	H-DUCT-3AA	3AA	M	CE	HVAC	DEFLECT	LOOSE	RELOCATE	OVERLAP
B10-020-001-01	C-MR-3L	M-SWHX	3L	M	CE	CVCS	CIVILFAIL		BRACE	OVERLAP
B20-039-003-03	C-MR-3L	P-0126-8	3L	M	CE	CCW	DEFLECT		BRACE	OVERLAP
B13-002-001-01	C-PLAT-3AA	P-1558-2	3AA	M	CE	CVCS	CIVILFAIL		RELOCATE	EXPEDIENT
B13-008-001-01	C-PLAT-3AA	M-BAT 2-1	3AA	M	CE	CVCS	CIVILFAIL		RELOCATE	EXPEDIENT
B13-014-001-01	C-PLAT-3AA	M-HCV105	3AA	M	CE	CVCS	CIVILFAIL		RELOCATE	EXPEDIENT
B01-012-002-11	C-WALL	E-KT333-1	4B	M	CE	AUXFW	CIVILFAIL		BRACE	EXPEDIENT
B01-012-002-12	C-WALL	E-KT333-1	4B	M	CE	AUXFW	CIVILFAIL		BRACE	EXPEDIENT
B04-006-002-01	C-WALL	E-K8620-1+	4B	M	CE	MNSTM	CIVILFAIL		BRACE	EXPEDIENT
B20-001-002-04	C-WALL	E-K7208-2	4B	M	CE	CCW	CIVILFAIL		BRACE	NECESSARY
B28-004-034-03	C-16K-2	P-3619-4	3C	M	CE	FW	CIVILFAIL		TMODIFY	NECESSARY
B30-001-003-06	C-16K-2	E-KK391-0.75	3C	M	EE	MT	CIVILFAIL		TMODIFY	NECESSARY
B16-008-002-01	E-KT899-2	E-KT510-1.25	3AA	M	EE	SI	DEFLECT		SUPPORT	OVERLAP
B11-009-002-01	E-LF-3X	E-LCV112B	3X	M	EE	CVCS	FIXTURE		CHAIN	EXPEDIENT
B11-010-002-01	E-LF-3X	E-LCV112C	3X	M	EE	CVCS	FIXTURE		CHAIN	EXPEDIENT
B13-018-002-01	E-LF-3X	E-8104	3X	M	EE	CVCS	FIXTURE		CHAIN	EXPEDIENT
B25-063-002-01	E-LF-8	H-DAMPER	3L	M	EE	HVAC	FIXTURE		RELOCATE	NECESSARY
B16-008-002-02	E-MISC-3AA	E-KT510-1.25	3AA	M	EMS	SI	LOOSE		RELOCATE	OVERLAP
B20-037-001-01	E-RS-3U	P-0152-12	3U	M	EE	CCW	INTERFERE		CLEARANCE	EXPEDIENT
B20-053-001-01	H-DUCT-3L	PA-2292-3	3L	M	CE	CCW	DEFLECT		TMODIFY	EXPEDIENT
B20-054-001-02	H-DUCT-3L	P-3249-2+	3L	M	ENG	CCW	DEFLECT		TMODIFY	OVERLAP
B20-054-003-01	I-CSP	P-3266-2	3L	M	EMS	CCW	DEFLECT		CLEARANCE	EXPEDIENT
B25-091-002-01	IS-SV103A+	I-SV103A+	3L	M	ENG	HVAC	SPTFAIL		SUPPORT	OVERLAP
B25-059-004-01	M-FE	E-K8838-1.50	3C	M	EMS	HVAC	LOOSE	MECHFAIL	SECLOOSE	EXPEDIENT
B25-040-040-05	M-HOIST-3AA	H-DUCT-3AA	3AA	M	EMS	HVAC	DEFLECT		RELOCATE	OVERLAP
B25-040-040-09	M-HOIST-3AA	H-DUCT-3AA	3AA	M	EMS	HVAC	DEFLECT		RELOCATE	OVERLAP
B25-076-010-01	M-HR	I-SV102B+	3L	M	EMS	HVAC	DEFLECT		STOP	NECESSARY
B28-002-005-03	M-HR	P-3640-2	3W	M	EMS	FW	SPTFAIL		SUPPORT	EXPEDIENT
B28-004-035-01	M-HR	P-3622-2	3C	M	EMS	FW	DEFLECT		SUPPORT	EXPEDIENT
B13-008-001-02	M-TANK	M-BAT 2-1	3AA	M	EMS	CVCS	SPTFAIL		SUPPORT	NECESSARY
B20-001-002-05	M-TANK	E-K7248-2+	4B	M	EMS	CCW	SPTFAIL		TSHIELD	EXPEDIENT
B25-024-004-01	M-TANK	E-K9798-2	3AA	M	EE	HVAC	DEFLECT	SPTFAIL	TMODIFY	EXPEDIENT
B20-054-002-01	M-TANK-3L	I-CSP 2-1	3L	M	CE	CCW	SPTFAIL		SUPPORT	NECESSARY
B22-008-004-06	M-VAVLE	E-K7242-3+	4B	M	PSE	ASW	PIPEFAIL		SUPPORT	EXPEDIENT
B20-055-001-03	N-MISC-3C	P-2286-3+	3C	M	NPO	CCW	LOOSE		TSHIELD	EXPEDIENT
B13-017-004-01	NS-CD	E-K9493-1	3X	M	EE	CVCS	HOUSEKEEP		CONSTDEF	OVERLAP
B09-010-004-04	P-SA-3L	E-K9100-1.25	3L	M	PSE	RCS	SPTFAIL		SUPPORT	EXPEDIENT
B25-024-004-02	P-SPR-3AA	E-9798-2+	3AA	M	PSE	HVAC	SPTFAIL		SUPPORT	EXPEDIENT
B25-040-000-00	P-SPR-3AA	H-DUCT-3AA	3AA	M	PSE	HVAC	SPTFAIL		SUPPORT	EXPEDIENT
B28-004-052-06	P-SPR-3AA	P-2677-6	3AA	M	PSE	FW	SPTFAIL		SUPPORT	EXPEDIENT
B28-004-052-07	P-SPR-3AA	P-3722-6	3AA	M	PSE	FW	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-003-04	P-SPR-3AA	GENERIC	3AA	M	PSE	MT	SPTFAIL		SUPPORT	NECESSARY
B25-029-007-02	P-SPR-3W	H-DAMPER	3W	M	PSE	HVAC	SPTFAIL		TMODIFY	NECESSARY
B28-003-003-04	P-SPR-3W	P-2989-4	3W	M	PSE	FW	DEFLECT		SUPPORT	EXPEDIENT
B28-003-008-02	P-SPR-3W	P-3643-2	3W	M	PSE	FW	SPTFAIL		SUPPORT	EXPEDIENT
B13-009-002-02	P-SPR-3X	E-K9440-2	3X	M	PSE	CVCS	SPTFAIL		SUPPORT	EXPEDIENT
B01-012-002-09	P-SPR-4B	E-KT333-1	4B	M	PSE	AUXFW	SPTFAIL		SUPPORT	EXPEDIENT
B25-040-040-10	P-SPR-4B	H-DUCT-4B	4B	M	PSE	HVAC	SPTFAIL		SUPPORT	EXPEDIENT

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=AUXILIARY BUILDING

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B30-006-004-01	P-SPR-4B	E-GENERIC	4B	M	PSE	MT	SPTFAIL		SUPPORT	NECESSARY
B25-034-004-01	P-ULB-3AA	E-K9800-2	3AA	M	PSE	HVAC	DEFLECT	ENVIRON	SUPPORT	EXPEDIENT
B13-019-002-01	P-USB-3AA	E-KT879-2.50	3AA	M	PSE	CVCS	SPTFAIL		RELOCATE	NECESSARY
B16-007-002-02	P-USB-3X	E-KT571-1.50	3X	M	PSE	SI	DEFLECT		CONSTDEF	OVERLAP
B20-059-006-02	P-0152-12	P-2242-3	3U	M	PSE	CCW	DEFLECT		SUPPORT	EXPEDIENT
B13-020-001-01	P-0195-2	I-LT106	3AA	M	PSE	CVCS	DEFLECT	SPTFAIL	SUPPORT	NECESSARY
B04-003-001-03	P-0208-3	PS-1045-10	32	M	PSE	MNSTM	DEFLECT		SUPPORT	EXPEDIENT
B25-041-002-01	P-0465-4	E-K8042-4+	32	M	PSE	HVAC	DEFLECT		SUPPORT	EXPEDIENT
B17-003-002-02	P-0994-1	E-R-3D3	3D3	M	PSE	SI	SPTFAIL		SUPPORT	OVERLAP
B17-004-002-01	P-0994-1	E-R-3D3	3D3	M	PSE	SI	DEFLECT	SPTFAIL	SUPPORT	OVERLAP
B16-007-002-01	P-1750-8	E-KT571-1.50	3X	M	PSE	SI	DEFLECT		SUPPORT	NECESSARY
B25-040-040-08	P-2119-4	H-DUCT-3A	3A	M	PSE	HVAC	PIPEFAIL		SUPPORT	EXPEDIENT
B09-010-004-06	P-2445-2	E-K9100-1.25	3L	M	PSE	RCS	DEFLECT		SUPPORT	EXPEDIENT
B09-010-004-05	P-2781-3	E-K9100-1.25	3L	M	PSE	RCS	DEFLECT		SUPPORT	EXPEDIENT
B25-081-004-01	P-3105-6	E-K9717-1.50	3AA	M	PSE	HVAC	DEFLECT		SUPPORT	NECESSARY
B13-013-002-01	P-3478-2	I-HCV104	3AA	M	PSE	CVCS	SPTFAIL		SUPPORT	NECESSARY
B01-016-002-03	P-3706-10	ES-K8013-4+	3X	M	PSE	AUXFW	DEFLECT		SUPPORT	NECESSARY
B13-009-002-01	P-3706-10	E-K9440-2	3X	M	PSE	CVCS	DEFLECT		SUPPORT	NECESSARY
B18-009-002-01	C-CATWALK	E-K8571	3C	NAN		RHR	INTERFERE			
B01-016-002-02	C-DOOR	E-K9477-2	3AA	NAN		AUXFW	SPTFAIL			
B09-010-004-02	C-HATCH	E-K9100-1.25	3L	NAN		RCS	LOOSE			
B13-009-002-03	C-HATCH	E-K9440-2	3X	NAN		CVCS	LOOSE			
B20-020-002-01	C-HATCH	M-RHRHX 2-1	3AA	NAN		CCW	LOOSE			
B20-030-002-01	C-HATCH	M-RHRHX 2-2	3AA	NAN		CCW	LOOSE			
B25-040-040-02	C-MR-3AA	H-DUCT-3AA	3AA	NAN		HVAC	DEFLECT			
B25-040-033-03	C-MR-3C	H-DUCT-3C	3C	NAN		HVAC	CIVILFAIL			
B28-004-034-02	C-MR-3C	P-3619-4	3C	NAN		FW	DEFLECT			
B25-018-015-02	C-RSM-32	H-DUCT-32	32	NAN		HVAC	RELSTRUCT			
B13-013-002-02	C-SB	I-HCV104	3AA	NAN		CVCS	CIVILFAIL			
B13-019-001-02	C-SB	I-LT102	3AA	NAN		CVCS	CIVILFAIL			
B25-018-012-01	C-SB	H-DUCT-3W	3W	NAN		HVAC	CIVILFAIL			
B25-018-017-01	C-SB	H-DUCT-3W	3W	NAN		HVAC	CIVILFAIL			
B28-004-049-01	C-SB	P-3690-2	3C	NAN		FW	CIVILFAIL			
B16-006-001-01	C-SHIELD-32	I-LT920	32	NAN		SI	CIVILFAIL			
B28-003-011-03	C-SHIELD-32	P-5051-4	32	NAN		FW	CIVILFAIL			
B22-008-004-02	C-WALL	E-K7200-2+	4B	NAN		ASW	CIVILFAIL			
B32-003-007-01	C-WALL	E-K6962-4+	4B	NAN		ELPS	INTERFERE			
B32-003-007-02	C-WALL	E-K6934-4	4B	NAN		ELPS	CIVILFAIL			
B32-003-007-03	C-WALL	E-K6944-4	4B	NAN		ELPS	CIVILFAIL			
B25-059-004-02	C-16K-2	E-K8838-1.25	3C	NAN		HVAC	CIVILFAIL			
B22-008-004-05	E-HTR	E-K7242-3	4B	NAN		ASW	SPTFAIL			
B28-004-037-01	E-KS228-2+	P-3620-2+	3C	NAN		FW	INTERFERE			
B28-003-001-06	E-KS863-1.50	P-2990-4	32	NAN		FW	DEFLECT			
B28-003-001-11	E-K3070+	PA-2990-4	32	NAN		FW	DEFLECT			
B13-001-001-01	E-LF-3AA	M-8456B	3AA	NAN		CVCS	FIXTURE			
B13-002-001-02	E-LF-3AA	M-8456B	3AA	NAN		CVCS	FIXTURE			
B13-002-001-03	E-LF-3AA	M-8456A	3AA	NAN		CVCS	FIXTURE			
B13-013-001-02	E-LF-3AA	M-HCV104	3AA	NAN		CVCS	FIXTURE			
B13-014-001-02	E-LF-3AA	M-HCV105	3AA	NAN		CVCS	FIXTURE			
B11-011-001-01	E-LF-3D3	M-FCV128	3D3	NAN		CVCS	FIXTURE			
B17-009-001-01	E-LF-3D3	M-8870B	3D3	NAN		SI	FIXTURE			
B18-008-001-01	E-LF-3D3	M-8700A	3D3	NAN		RHR	FIXTURE			
B18-014-001-01	E-LF-3D3	M-8700B	3D3	NAN		RHR	FIXTURE			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=AUXILIARY BUILDING

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B10-016-002-04	E-LF-3L	P-3636-4	3L	NAN		CVCS	FIXTURE			
B10-016-002-05	E-LF-3L	P-0065-4	3L	NAN		CVCS	FIXTURE			
B10-020-001-02	E-LF-3L	M-SWHX	3L	NAN		CVCS	FIXTURE			
B20-035-003-01	E-LF-3L	M-LDHX 2-1	3L	NAN		CCW	FIXTURE			
B20-039-003-01	E-LF-3L	P-0126-8	3L	NAN		CCW	FIXTURE			
B20-039-003-02	E-LF-3L	I-FE146	3L	NAN		CCW	FIXTURE			
B20-053-001-02	E-LF-3L	P-2292-3	3L	NAN		CCW	FIXTURE			
B28-003-003-01	E-LF-3W	P-2989-4	3W	NAN		FW	FIXTURE			
B28-003-004-01	E-LF-3W	P-3639-2	3W	NAN		FW	FIXTURE			
B28-003-005-04	E-LF-3W	P-3640-2	3W	NAN		FW	FIXTURE			
B28-003-005-05	E-LF-3W	P-3640-2	3W	NAN		FW	FIXTURE			
B28-003-007-02	E-LF-3W	P-1705-4	3W	NAN		FW	FIXTURE			
B28-003-008-01	E-LF-3W	P-3643-2	3W	NAN		FW	FIXTURE			
B28-003-009-01	E-LF-3W	P-3644-2	3W	NAN		FW	FIXTURE			
B10-016-002-06	E-LF-3X	M-8373	3X	NAN		CVCS	FIXTURE			
B11-001-001-06	E-LF-3X	P-1452-1	3X	NAN		CVCS	FIXTURE			
B11-005-003-01	E-LF-3X	I-PT128	3X	NAN		CVCS	FIXTURE			
B11-005-003-02	E-LF-3X	I-PT128	3X	NAN		CVCS	FIXTURE			
B13-004-002-01	E-LF-3X	P-0073-2	3X	NAN		CVCS	FIXTURE			
B13-005-001-01	E-LF-3X	P-0736-2	3X	NAN		CVCS	FIXTURE			
B13-005-001-02	E-LF-3X	M-HCV104	3X	NAN		CVCS	FIXTURE			
B13-013-001-01	E-LF-3X	M-FCV110A	3X	NAN		CVCS	FIXTURE			
B13-015-001-01	E-LF-3X	M-FCV111A	3X	NAN		CVCS	FIXTURE			
B13-016-001-01	E-LF-3X	M-FCV111B	3X	NAN		CVCS	FIXTURE			
B13-017-001-01	E-LF-3X	M-FCV110B	3X	NAN		CVCS	FIXTURE			
B14-003-001-04	E-LF-3X	P-1463-2	3X	NAN		CVCS	FIXTURE			
B20-030-001-01	E-LF-3X	PA-0094-12	3X	NAN		CCW	FIXTURE			
B28-003-001-09	E-LF-32	P-2990-4	32	NAN		FW	FIXTURE			
B13-019-001-01	E-LF-5	I-LT102	3AA	NAN		CVCS	FIXTURE			
B13-020-001-02	E-LF-5	I-LT106	3AA	NAN		CVCS	FIXTURE			
B09-010-004-03	H-DAMPER	E-K9127-3	3L	NAN		RCS	DEFLECT			
B20-053-001-05	H-DUCT-3L	PA-2292-3	3L	NAN		CCW	DEFLECT			
B20-041-007-01	H-DUCT-3X	P-3268-2	3X	NAN		CCW	DEFLECT			
B20-054-002-02	I-CSP1HX	I-CSP 2-1	3L	NAN		CCW	SPTFAIL			
B20-053-001-03	I-PM3	P-2292-3	3L	NAN		CCW	SPTFAIL			
B20-053-004-03	I-PM3	P-2293-3	3L	NAN		CCW	SPTFAIL			
B16-006-002-02	M-BATANK2-2	E-KT580-2	3AA	NAN		SI	DEFLECT			
B15-004-001-01	M-FE	P-3241-2	3D3	NAN		SI	LOOSE			
B15-004-002-01	M-FE	P-3182-2	3D3	NAN		SI	LOOSE			
B28-004-011-03	M-HOIST-3AA	PA-3608-2+	3AA	NAN		FW	MECHFAIL			
B20-059-006-01	M-HR	PA-2242-3	32	NAN		CCW	DEFLECT			
B28-004-003-03	M-HR	PA-3602-2	3S	NAN		FW	SPTFAIL			
B28-004-001-01	M-PCV91	P-2677-6	3W	NAN		FW	MECHFAIL			
B22-008-004-04	M-REFGR	E-K7242-3+	4B	NAN		ASW	LOOSE			
B20-041-002-01	M-TANK	M-NSSSHX	3X	NAN		CCW	SPTFAIL			
B22-008-004-03	M-TANK	E-K7242-3	4B	NAN		ASW	SPTFAIL			
B25-040-033-04	M-TANK	H-DUCT-3C	3C	NAN		HVAC	SPTFAIL	DEFLECT		
B25-040-040-06	M-TANK	H-DUCT-3A	3A	NAN		HVAC	DEFLECT			
B25-018-016-01	P-SA-3U	H-DUCT-3U	3U	NAN		HVAC	SPTFAIL			
B05-015-004-01	P-ULB-3L	E-K9315-2	3L	NAN		MNSTM	DEFLECT			
B13-008-001-03	P-USB-3AA	M-BAT 2-1	3AA	NAN		CVCS	DEFLECT			
B10-001-001-04	P-USB-3X	P-0052-3	3X	NAN		CVCS	DEFLECT			
B20-001-002-06	P-USB-4B	E-K7242-3	4B	NAN		CCW	SPTFAIL			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=AUXILIARY BUILDING

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B13-020-001-03	P-0066-2	I-LT106	3AA	NAN		CVCS	DEFLECT			
B17-001-002-01	P-0994-1	I-FT917	3D3	NAN		SI	DEFLECT	SPTFAIL		
B17-005-002-01	P-2032-6	I-8911	3D3	NAN		SI	DEFLECT			
B20-055-001-02	P-2058-3	P-2286-3	3C	NAN		CCW	DEFLECT			
B28-003-002-01	P-2124-4	P-0516-2	32	NAN		FW	DEFLECT			
B28-003-001-10	P-2337-2	PA-2990-4	33	NAN		FW	DEFLECT			
B29-003-004-02	P-2454-4	E-K8929-1.25	3L	NAN		CI	DEFLECT			
B28-003-001-04	P-2741-4	P-2990-4	32	NAN		FW	DEFLECT			
B28-003-001-16	P-2771-4	P-2990-4	32	NAN		FW	DEFLECT			
B25-029-007-01	P-2989-4	H-DUCT-32	32	NAN		HVAC	DEFLECT			
B28-003-001-14	P-2997-2	PA-2990-4	33	NAN		FW	DEFLECT			
B20-055-005-03	P-4000-3	P-2290-3	3C	NAN		CCW	SPTFAIL	DEFLECT		
B25-040-040-03	PS-SA-3AA	H-DUCT-3AA	3AA	NAN		HVAC	DEFLECT			
B09-010-004-01	E-BJK226	E-K9128	3L	X	QC	RCS	HOUSEKEEP			
B05-013-004-01	E-BJK51	E-K9114	3L	X	QC	MNSTM	HOUSEKEEP			
B13-013-004-01	E-LF-3X	E-TAB	3X	X	QC	CVCS	FIXTURE			
B01-016-002-01	NS-CD	E-BJK52	3L	X	QC	AUXFW	HOUSEKEEP			
B11-007-002-05	NS-CD	E-K6950+	4B	X	QC	CVCS	HOUSEKEEP			
B11-009-002-02	NS-CD	E-K9236	3L	X	QC	CVCS	HOUSEKEEP			
B11-011-006-04	NS-CD	E-KT595	3X	X	QC	CVCS	HOUSEKEEP			
B13-018-002-02	NS-CD	E-K9484	3X	X	QC	CVCS	HOUSEKEEP			
B15-011-002-01	NS-CD	E-K9110+	3X	X	QC	SI	HOUSEKEEP			
B15-013-002-01	NS-CD	E-K9172	3L	X	QC	SI	HOUSEKEEP			
B15-021-002-01	NS-CD	E-K8821-2	3D3	X	QC	SI	HOUSEKEEP			
B18-014-002-02	NS-CD	E-K7033-2	4B	X	QC	RHR	HOUSEKEEP			
B25-030-002-01	NS-CD	E-K8012-4	3X	X	QC	HVAC	HOUSEKEEP			
B25-065-004-01	NS-CD	E-K9339	3L	X	QC	HVAC	HOUSEKEEP			
B25-065-004-02	NS-CD	E-K9335	3L	X	QC	HVAC	HOUSEKEEP			
B28-003-001-05	NS-CD	P-2990-4	32	X	QC	FW	HOUSEKEEP			
B28-003-001-07	NS-CD	P-2990-4	32	X	QC	FW	HOUSEKEEP			
B28-003-003-02	NS-CD	P-2989-4	3W	X	GC	FW	HOUSEKEEP			
B28-003-004-02	NS-CD	P-3639-2	3W	X	GC	FW	HOUSEKEEP			
B28-003-005-02	NS-CD	P-3640-2	3W	X	GC	FW	HOUSEKEEP			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=CONTAINMENT

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B03-039-001-03	C-CRANE-9C	I-LT528	9C	A	CE	MNSTM	CIVILFAIL			
B30-001-009-11	C-CRANE-9C	GENERIC	9C	A	CE	MT	CIVILFAIL			
B30-001-009-12	C-CRANE-9C	GENERIC	9C	A	CE	MT	CIVILFAIL			
B30-001-009-13	C-CRANE-9C	GENERIC	9C	A	CE	MT	CIVILFAIL			
B30-001-009-14	C-CRANE-9C	GENERIC	9C	A	CE	MT	CIVILFAIL			
B30-001-009-15	C-CRANE-9C	GENERIC	9C	A	CE	MT	CIVILFAIL			
B06-005-001-05	C-LADDER	M-CRDM	9C	A	CE	RCS	CIVILFAIL			
B06-005-001-24	C-MR-9B	PA-RCS	9B	A	CE	RCS	CIVILFAIL			
B03-005-002-05	C-PLAT-9A	I-LT501	9A	A	CE	MNSTM	CIVILFAIL			
B05-001-001-02	C-PLAT-9B	P-1012-2	9B	A	CE	MNSTM	CIVILFAIL			
B06-004-001-01	C-PLAT-9B	M-8072D	9B	A	PSE	RCS	DEFLECT			
B08-001-001-01	C-PLAT-9B	P-0013-4	9B	A	CE	RCS	CIVILFAIL			
B30-001-009-25	C-PLAT-9C	GENERIC	9C	A	CE	MT	CIVILFAIL			
B05-003-001-01	C-RSM-9A	I-1053-0.375	9A	A	CE	MNSTM	RELSTRUCT			
B15-037-002-02	C-RSM-9A	E-KX526-0.75	9A	A	ENG	SI	RELSTRUCT			
B15-038-002-01	C-RSM-9A	E-KX529-0.75	9A	A	ENG	SI	RELSTRUCT			
B30-001-009-22	C-RSM-9A	E-GENERIC	9A	A	ENG	MT	RELSTRUCT			
B03-033-001-04	C-RSM-9C	I-LT517	9C	A	ICE	MNSTM	RELSTRUCT			
B03-034-001-02	C-RSM-9C	I-LT518	9C	A	ICE	MNSTM	RELSTRUCT			
B03-039-001-02	C-RSM-9C	I-LT528	9C	A	ICE	MNSTM	RELSTRUCT			
B03-046-001-02	C-RSM-9C	I-FT532	9C	A	ICE	MNSTM	RELSTRUCT			
B03-048-001-02	C-RSM-9C	I-LT547	9C	A	ICE	MNSTM	RELSTRUCT			
B03-049-001-02	C-RSM-9C	I-LT548	9C	A	ICE	MNSTM	RELSTRUCT			
B06-027-001-01	C-SB	I-FT426	9A	A	CE	RCS	CIVILFAIL			
B06-022-001-06	C-SHIELD-9B	I-FT414	9B	A	PSE	RCS	INTERFERE			
B06-026-001-03	C-SHIELD-9B	M-8061B	9B	A	PSE	RCS	INTERFERE			
B06-029-001-01	C-SHIELD-9B	I-FT435	9B	A	PSE	RCS	INTERFERE			
B06-032-001-03	C-SHIELD-9B	M-8061D	9B	A	PSE	RCS	INTERFERE			
B12-003-001-08	C-SHIELD-9B	P-0063-1	9B	A	CE	CVCS	CIVILFAIL			
B23-004-001-04	C-100G-2	P-0325-80	9A	A	CE	SPRAY	DEFLECT			
B03-040-001-01	C-110F-2	I-PM45	9A	A	CE	MNSTM	CIVILFAIL			
B03-041-001-01	C-110F-2	I-PM45	9A	A	CE	MNSTM	CIVILFAIL			
B07-006-001-01	C-110F-2	I-PT455	9A	A	CE	RCS	CIVILFAIL			
B15-003-006-01	C-110F-2	P-3845-6	9A	A	CE	SI	CIVILFAIL			
B06-031-001-02	C-29G-2	I-FT444	9B	A	CE	RCS	CIVILFAIL			
B06-032-001-01	C-29G-2	I-FT445	9B	A	CE	RCS	CIVILFAIL			
B06-033-001-01	C-29G-2	I-FT446	9B	A	CE	RCS	CIVILFAIL			
B12-003-001-04	C-29G-2	P-0063-1	9B	A	CE	CVCS	CIVILFAIL			
B12-003-001-05	C-576-2	P-0063-1	9B	A	CE	CVCS	CIVILFAIL			
B06-005-001-23	C-72FG-2	PA-RCS	9B	A	CE	RCS	LOOSE			
B15-024-004-01	C-73G-2	E-DJDA	9A	A	EE	SI	DEFLECT			
B15-003-009-03	E-BTX4	P-2000-0.75	9B	A	EE	SI	SPTFAIL			
B07-009-001-01	E-BTX6	I-PT474	9A	A	EE	RCS	SPTFAIL			
B07-011-001-02	E-BTX6	I-LT460	9A	A	EE	RCS	SPTFAIL			
B07-012-001-02	E-BTX6	I-LT461	9A	A	EE	RCS	SPTFAIL			
B30-002-009-08	E-CRANE-9C	I-SG-2-1	9C	A	CE	MT	SPTFAIL			
B30-002-009-10	E-CRANE-9C	I-SG-2-1	9C	A	CE	MT	SPTFAIL			
B30-002-009-11	E-CRANE-9C	I-SG-2-1	9C	A	CE	MT	SPTFAIL			
B12-008-004-03	E-DJA+	E-K1796-1.50	9A	A	EE	CVCS	INTERFERE			
B12-012-004-01	E-DJA+	E-KX650-1.50	9A	A	CE	CVCS	DEFLECT			
B05-002-001-04	E-K1534-5	P-1041-2.50	9A	A	EE	MNSTM	DEFLECT			
B28-005-005-03	E-K1534-5	P-2674-4	9A	A	EE	FW	DEFLECT			
B28-005-005-04	E-K1534-5	PA-2674-4	9A	A	EE	FW	SPTFAIL			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=CONTAINMENT

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B28-005-009-01	E-K1534-5	PA-4364-2	9A	A	EE	FW	SPTFAIL			
B06-043-001-01	E-K1672-1	P-USB-9C	9C	A	EE	RCS	DEFLECT	INTERFERE		
B07-010-001-02	E-K1910-4	I-LT459	9A	A	EE	RCS	SPTFAIL			
B30-002-009-01	E-LF-18	I-SG	9C	A	EE	MT	FIXTURE			
B30-002-009-02	E-LF-9C	I-SG	9C	A	EE	MT	FIXTURE			
B23-004-001-01	E-PJ	P-0270-10	9A	A	EE	SPRAY	DEFLECT			
B15-003-007-03	E-PJCA+	PS-3847-6	9B	A	CE	SI	SPTFAIL			
B06-046-002-03	E-R-9C	E-K1855-1.50	9C	A	CE	RCS	SPTFAIL			
B10-012-001-02	E-RCP 2-1	P-0058-2	9B	A	EMS	CVCS	SPTFAIL			
B15-003-008-04	E-RCP 2-1	P-0253-10	9B	A	EMS	SI	SPTFAIL			
B10-013-001-01	E-RCP 2-2	P-0059-2	9B	A	EMS	CVCS	SPTFAIL			
B06-003-004-03	E-RCP 2-3	I-FIC499C	9B	A	EMS	RCS	MECHFAIL			
B10-011-001-01	E-RCP 2-4	P-1498-0.75	9B	A	EMS	CVCS	SPTFAIL			
B15-003-010-03	E-RCP2-3	PA-0255-10	9B	A	EMS	SI	SPTFAIL			
B06-044-002-02	E-RS-9C	E-1915-1.50	9C	A	CE	RCS	SPTFAIL			
B30-002-009-15	E-RS-9C	I-GENERIC	9C	A	ICE	MT	SPTFAIL			
B15-003-006-04	E-SP3I	P-0508-8	9A	A	EE	SI	SPTFAIL			
B30-003-009-04	H-CRDM	I-CRDMRIC	9C	A	HVA	MT	MECHFAIL			
B05-001-001-03	H-DUCT-9A	P-1040-2.50	9A	A	CE	MNSTM	SPTFAIL			
B05-002-001-02	H-DUCT-9A	P-1041-2.50	9A	A	HVA	MNSTM	SPTFAIL			
B17-001-009-01	I-MISC-9B	P-1992-1.50	9B	A	CE	SI	SPTFAIL			
B30-005-009-08	M-CRANE-9C	GENERIC	9C	A	EMS	MT	SPTFAIL	MECHFAIL		
B06-005-001-01	M-HOIST-9C	M-CRDM	9C	A	EMS	RCS	MECHFAIL			
B06-004-004-01	M-HX-9B	I-FIC499D	9B	A	EMS	RCS	SPTFAIL			
B07-005-002-01	M-INS SPT	I-LT462	9C	A	EMS	RCS	LOOSE			
B06-005-001-15	M-INSSPT	I-FLUX MON	9B	A	EMS	RCS	SPTFAIL			
B10-012-001-03	M-RCP 2-1	PA-0058-2	9B	A	EMS	CVCS	DEFLECT			
B10-015-001-01	M-RCPHX2-4	PA-3755-0.75	9B	A	EMS	CVCS	SPTFAIL			
B06-005-001-02	M-REACT-MAN	M-CRDM	9C	A	EMS	RCS	SPTFAIL			
B06-005-001-08	M-TANK	I-FLUX MON	9B	A	CE	RCS	SPTFAIL			
B05-003-001-02	P-1167-4	I-1052-0.375	9A	A	ICE	MNSTM	DEFLECT			
B05-004-001-02	P-1167-4	I-1052-0.375	9A	A	ICE	MNSTM	DEFLECT			
B23-004-001-05	P-3090-2	P-0270-10	9A	A	PSE	SPRAY	DEFLECT			
B15-023-004-01	P-4272-0.75	E-KX653-2	9A	A	PSE	SI	DEFLECT			
B10-010-003-01	P-4398-2	I-PT186	9B	A	PSE	CVCS	PIPEFAIL			
B06-032-002-01	P-5150-0.75	E-KX111-0.75	9A	A	PSE	RCS	DEFLECT			
B18-001-001-01	PS-0238-6	PA-0109-14	9B	A	PSE	RHR	DEFLECT			
B20-045-008-02	PS-0238-6	P-2300-3	9B	A	PSE	CCW	DEFLECT			
B06-002-001-01	PS-1151-2	M-8063C	9B	A	PSE	RCS	DEFLECT			
B06-002-002-02	PS-1151-2	M-8063C	9B	A	PSE	RCS	DEFLECT			
B15-003-008-03	PS-1999-0.75	PS-1999-0.75	9B	A	PSE	SI	DEFLECT			
B20-045-012-01	PS-2308-1	P-2304-4	9B	A	PSE	CCW	INTERFERE			
B15-003-007-05	PS-3847-6	PS-3847-6	9B	A	ENG	SI	INTERFERE			
B15-003-005-01	PS-4278-0.75	I-FE977	9A	A	PSE	SI	SPTFAIL			
B10-009-002-01	PS-4624-1	I-FI170	9B	A	EMS	CVCS	DEFLECT			
B15-003-004-01	C-ANNULUS	PA-3857-2	9A	M	PSE	SI	INTERFERE		CLEARANCE	EXPEDIENT
B28-005-013-01	C-ANNULUS	P-3161-2	9A	M	CE	FW	INTERFERE		TMODIFY	OVERLAP
B30-001-009-16	C-CRANE-9C	GENERIC	9C	M	CE	MT	CIVILFAIL		SUPPORT	EXPEDIENT
B15-003-005-03	C-GRATING	P-3858-2	9A	M	CE	SI	INTERFERE		CLEARANCE	NECESSARY
B23-004-001-03	C-GRATING	P-0270-10	9C	M	PSE	SPRAY	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT
B30-001-009-23	C-GRATING	GENERIC	9A	M	CE	MT	LOOSE		SECLOOSE	OVERLAP
B06-044-002-01	C-HANDRAIL	E-K1915-1.25	9C	M	CE	RCS	CIVILFAIL		CONSTDEF	EXPEDIENT
B06-046-002-02	C-HANDRAIL	E-K1855-1.25	9C	M	CE	RCS	CIVILFAIL		CONSTDEF	EXPEDIENT

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=CONTAINMENT

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B30-001-009-03	C-MR-9C	GENERIC	9C	M	NPO	MT	CIVILFAIL		BRACE	NECESSARY
B05-005-002-04	C-PLAT-9B	I-FCV760	9B	M	CE	MNSTM	CIVILFAIL		BRACE	EXPEDIENT
B08-001-001-02	C-PLAT-9B	P-1169-0.75	9B	M	CE	RCS	CIVILFAIL		BRACE	NECESSARY
B30-001-009-01	C-PLAT-9C	GENERIC	9C	M	CE	MT	CIVILFAIL		BRACE	NECESSARY
B30-001-009-02	C-PLAT-9C	GENERIC	9C	M	CE	MT	CIVILFAIL		BRACE	NECESSARY
B30-001-009-10	C-PLAT-9C	GENERIC	9C	M	CE	MT	CIVILFAIL		BRACE	NECESSARY
B10-014-002-01	C-RSM-9A	E-K1885-0.75	9A	M	ENG	CVCS	RELSTRUCT		TMODIFY	NECESSARY
B15-024-004-02	C-RSM-9A	E-DJDA	9A	M	EE	SI	RELSTRUCT		TMODIFY	EXPEDIENT
B17-010-004-01	C-RSM-9A	E-K1450-1	9A	M	ENG	SI	RELSTRUCT		TMODIFY	OVERLAP
B19-013-004-01	C-RSM-9A	E-K1982-1	9A	M	ENG	CI	RELSTRUCT		TMODIFY	OVERLAP
B23-004-001-08	C-RSM-9A	PA-0270-10	9A	M	ENG	SPRAY	RELSTRUCT		TMODIFY	OVERLAP
B23-004-004-03	C-RSM-9A	M-9006B	9A	M	ENG	SPRAY	RELSTRUCT		TMODIFY	OVERLAP
B25-011-006-01	C-RSM-9A	E-K1761-1.50	9A	M	ENG	CI	RELSTRUCT		TMODIFY	OVERLAP
B25-013-006-01	C-RSM-9A	E-K1725-1.50	9A	M	ENG	CI	RELSTRUCT		TMODIFY	OVERLAP
B25-015-004-01	C-RSM-9A	E-K1786-1.25	9A	M	ENG	CI	RELSTRUCT		TMODIFY	OVERLAP
B25-128-004-02	C-RSM-9A	E-K1999-1	9A	M	ENG	CI	RELSTRUCT		TMODIFY	OVERLAP
B30-001-009-20	C-RSM-9A	E-BTX5E+	9A	M	ENG	MT	RELSTRUCT		TMODIFY	OVERLAP
B20-045-019-01	C-RSM-9B	PA-2313-3	9B	M	PSE	CCW	INTERFERE		CLEARANCE	OVERLAP
B03-035-001-01	C-RSM-9C	I-LT519	9C	M	CE	MNSTM	RELSTRUCT		TMODIFY	NECESSARY
B03-037-001-01	C-RSM-9C	I-FT513	9C	M	ICE	MNSTM	RELSTRUCT		TMODIFY	NECESSARY
B03-043-001-04	C-RSM-9C	I-LT537	9C	M	ICE	MNSTM	RELSTRUCT		TMODIFY	NECESSARY
B03-044-001-02	C-RSM-9C	I-LT538	9C	M	CE	MNSTM	RELSTRUCT		TMODIFY	NECESSARY
B03-045-001-04	C-RSM-9C	I-LT539	9C	M	CE	MNSTM	RELSTRUCT		TMODIFY	NECESSARY
B05-007-002-02	C-STAIR-9A	I-FCV762	9A	M	CE	MNSTM	CIVILFAIL		SUPPORT	EXPEDIENT
B06-028-001-02	C-STAIR-9A	I-PM25	9A	M	CE	RCS	CIVILFAIL		SUPPORT	EXPEDIENT
B06-029-001-03	C-STAIR-9A	I-PM24	9A	M	CE	RCS	CIVILFAIL		SUPPORT	EXPEDIENT
B06-030-001-01	C-STAIR-9A	I-PM23	9A	M	CE	RCS	CIVILFAIL		SUPPORT	EXPEDIENT
B09-009-002-01	C-STAIR-9A	I-8034A	9A	M	CE	RCS	DEFLECT		SUPPORT	NECESSARY
B09-009-002-02	C-STAIR-9A	I-8034A	9A	M	CE	RCS	CIVILFAIL		SUPPORT	EXPEDIENT
B12-008-004-01	C-STAIR-9A	E-K1560-1.50	9A	M	CE	CVCS	DEFLECT		CLEARANCE	EXPEDIENT
B19-007-001-01	C-STAIR-9A	I-PI475	9A	M	CE	CI	CIVILFAIL		SUPPORT	EXPEDIENT
B28-005-007-01	C-STAIR-9A	P-3155-2	9A	M	CE	FW	CIVILFAIL		BRACE	EXPEDIENT
B30-001-009-19	C-STAIR-9A	GENERIC	9A	M	CE	MT	CIVILFAIL		SUPPORT	EXPEDIENT
B03-006-002-03	C-114F-2	I-PX452	9C	M	PSE	MNSTM	INTERFERE		CLEARANCE	NECESSARY
B03-033-001-01	C-114F-2	I-LT517	9C	M	CE	MNSTM	CIVILFAIL		BRACE	NECESSARY
B03-034-001-01	C-114F-2	I-LT518	9C	M	CE	MNSTM	CIVILFAIL		BRACE	NECESSARY
B03-035-001-04	C-114F-2	I-LT519	9C	M	ICE	MNSTM	RELSTRUCT		TMODIFY	NECESSARY
B03-038-001-01	C-115F-2	I-LT527	9C	M	CE	MNSTM	CIVILFAIL		BRACE	NECESSARY
B03-039-001-01	C-115F-2	I-LT528	9C	M	CE	MNSTM	CIVILFAIL		BRACE	NECESSARY
B03-043-001-01	C-116G-2	I-LT537	9C	M	CE	MNSTM	CIVILFAIL		BRACE	NECESSARY
B03-044-001-01	C-116G-2	I-LT538	9C	M	CE	MNSTM	CIVILFAIL		BRACE	NECESSARY
B03-045-001-01	C-116G-2	I-LT539	9C	M	CE	MNSTM	CIVILFAIL		BRACE	NECESSARY
B03-047-001-01	C-116G-2	I-FT533	9C	M	CE	MNSTM	CIVILFAIL		BRACE	NECESSARY
B03-048-001-01	C-116G-2	I-LT547	9C	M	CE	MNSTM	CIVILFAIL		BRACE	NECESSARY
B03-049-001-01	C-116G-2	I-LT548	9C	M	CE	MNSTM	CIVILFAIL		BRACE	NECESSARY
B03-051-001-01	C-116G-2	I-FT542	9C	M	CE	MNSTM	CIVILFAIL		BRACE	NECESSARY
B15-003-007-04	C-120G-2	P-0509-8	9A	M	CE	SI	CIVILFAIL		BRACE	NECESSARY
B15-005-005-01	C-120G-2	P-1977-4	9A	M	CE	SI	CIVILFAIL		BRACE	NECESSARY
B17-001-009-03	C-120G-2	P-1992-1.50	9A	M	CE	SI	CIVILFAIL		BRACE	NECESSARY
B18-001-019-01	C-125G-2	M-8703	9A	M	CE	RHR	DEFLECT	CIVILFAIL	BRACE	EXPEDIENT
B18-001-019-02	C-125G-2	P-0120-12	9A	M	CE	RHR	CIVILFAIL		BRACE	EXPEDIENT
B15-003-003-02	C-27F-2	P-3856-2	9A	M	CE	SI	CIVILFAIL		BRACE	NECESSARY
B25-013-001-01	C-27F-2	M-RCV11	9A	M	CE	CI	CIVILFAIL		BRACE	NECESSARY

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

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IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B15-003-007-02	C-28G-2	P-3846-6	9A	M	CE	SI	CIVILFAIL		BRACE	EXPEDIENT
B28-005-008-01	C-34F-2	PA-3157-2	9C	M	CE	FW	CIVILFAIL		BRACE	NECESSARY
B20-018-002-01	C-35F-2	PA-0315-12	9C	M	CE	CCW	LOOSE		SECLOOSE	EXPEDIENT
B28-005-013-02	C-35F-2	PA-3161-2	9C	M	CE	FW	LOOSE		SECLOOSE	EXPEDIENT
B20-017-002-01	C-36F-2	PA-0316-12	9C	M	CE	CCW	LOOSE		SECLOOSE	EXPEDIENT
B20-026-002-01	C-37F-2	PA-0317-12	9C	M	CE	CCW	LOOSE		SECLOOSE	EXPEDIENT
B20-025-002-01	C-38F-2	PA-0318-12	9C	M	CE	CCW	LOOSE		SECLOOSE	EXPEDIENT
B20-027-002-01	C-39G-2	PA-0314-12	9C	M	CE	CCW	LOOSE		SECLOOSE	EXPEDIENT
B20-045-006-01	C-68G-2	P-3746-3	9B	M	CE	CCW	DEFLECT		CLEARANCE	NECESSARY
B20-045-006-02	C-69G-2	P-0136-4	9B	M	CE	CCW	INTERFERE		CLEARANCE	NECESSARY
B20-045-021-01	C-70G-2	P-2343-3	9B	M	CE	CCW	DEFLECT		CLEARANCE	NECESSARY
B06-005-001-25	C-72FG-2	PA-RCS	9B	M	CE	RCS	CIVILFAIL		SUPPORT	EXPEDIENT
B30-001-009-21	C-73G-2	E-GENERIC	9A	M	CE	MT	CIVILFAIL		BRACE	NECESSARY
B03-040-001-03	C-76F-2	I-LT529	9C	M	CE	MNSTM	DEFLECT		CLEARANCE	NECESSARY
B07-011-001-06	C-82F-2	I-LT460	9B	M	ICE	RCS	CIVILFAIL	DEFLECT	TMODIFY	NECESSARY
B19-004-001-02	C-82F-2	I-1674-0.375	9B	M	ICE	CI	DEFLECT		TMODIFY	NECESSARY
B07-011-001-03	C-85F-2	I-LT460	9B	M	ICE	RCS	DEFLECT		TMODIFY	NECESSARY
B07-012-001-06	C-85F-2	I-LT461	9B	M	ICE	RCS	DEFLECT		TMODIFY	NECESSARY
B30-002-009-06	E-BATTERY	I-SG	9C	M	EE	MT	LOOSE		RELOCATE	NECESSARY
B30-002-009-03	E-CRANE-9C	GENERIC	9C	M	CE	MT	SPTFAIL		SUPPORT	NECESSARY
B30-002-009-04	E-CRANE-9C	I-SG	9C	M	EE	MT	SPTFAIL		SUPPORT	NECESSARY
B30-002-009-05	E-CRANE-9C	I-SG	9C	M	EE	MT	SPTFAIL		SUPPORT	EXPEDIENT
B30-002-009-07	E-CRANE-9C	I-SG-2-1	9C	M	CE	MT	SPTFAIL		SUPPORT	NECESSARY
B30-002-009-09	E-CRANE-9C	I-SG-2-1	9C	M	CE	MT	SPTFAIL		SUPPORT	NECESSARY
B12-002-001-01	E-DJAC	I-LCV459	9B	M	EE	CVCS	SPTFAIL		SUPPORT	EXPEDIENT
B19-004-001-01	E-DJAC	I-1674-0.375	9B	M	ICE	CI	DEFLECT		TMODIFY	NECESSARY
B17-010-001-01	E-KX123-2	M-8843	9C	M	EE	SI	SPTFAIL		SUPPORT	EXPEDIENT
B07-001-003-01	E-KX479-1.50	P-0727-6	9C	M	EE	RCS	DEFLECT		RELOCATE	EXPEDIENT
B07-001-002-01	E-KX480-1.50	P-0728-6	9C	M	EE	RCS	DEFLECT		RELOCATE	EXPEDIENT
B07-001-001-01	E-KX481-1.50	P-0729-6	9C	M	EE	RCS	DEFLECT		RELOCATE	EXPEDIENT
B10-010-002-03	E-KX785-0.75	I-F1C171	9A	M	EE	CVCS	DEFLECT		RELOCATE	EXPEDIENT
B06-005-001-12	E-KX886-1	I-FLUX MON	9B	M	EE	RCS	DEFLECT		RELOCATE	EXPEDIENT
B30-002-009-14	E-KX940-0.75	I-GENERIC	9A	M	EE	MT	SPTFAIL		SUPPORT	EXPEDIENT
B28-005-005-01	E-K1531-5	P-2674-4	9A	M	EE	FW	SPTFAIL		SUPPORT	OVERLAP
B30-002-009-12	E-K1532-5+	I-GENERIC	9A	M	EE	MT	SPTFAIL	DEFLECT	SUPPORT	OVERLAP
B30-002-009-13	E-K1532-5+	E-GENERIC	9A	M	EE	MT	SPTFAIL		SUPPORT	OVERLAP
B17-001-011-01	E-K1533-5	I-FE927	9A	M	EE	SI	DEFLECT		SUPPORT	EXPEDIENT
B20-045-008-03	E-K1533-5	PS-3745-3	9B	M	EE	CCW	DEFLECT		SUPPORT	EXPEDIENT
B07-012-001-08	E-K1971-0.75	I-LT461+	9B	M	EE	RCS	SPTFAIL		SUPPORT	EXPEDIENT
B05-004-001-01	E-R-9A	P-1043-2.50	9A	M	EE	MNSTM	DEFLECT	INTERFERE	RELOCATE	EXPEDIENT
B19-007-001-02	E-R-9B	I-1675-0.375	9B	M	EE	CI	DEFLECT		RELOCATE	EXPEDIENT
B19-008-001-02	E-R-9B	I-1676-0.375	9B	M	EE	CI	DEFLECT		RELOCATE	EXPEDIENT
B28-005-016-01	E-RNRP-A,B	PA-1361-2	9C	M	CE	FW	SPTFAIL		SUPPORT	EXPEDIENT
B23-004-004-01	E-RNRPA	P-0271-10	9C	M	EE	SPRAY	SPTFAIL		SUPPORT	EXPEDIENT
B20-018-004-01	E-RS-9A	P-3171-2	9A	M	PSE	CCW	DEFLECT		CLEARANCE	EXPEDIENT
B15-003-006-06	E-TL26	P-0508-8	9A	M	EE	SI	SPTFAIL		SUPPORT	EXPEDIENT
B03-026-001-02	E-TL27	I-LT526	9A	M	EE	MNSTM	LOOSE		SUPPORT	NECESSARY
B03-033-001-05	H-DUCT-9A	I-PM56	9A	M	CE	MNSTM	SPTFAIL		SUPPORT	OVERLAP
B03-034-001-03	H-DUCT-9A	I-PM52	9A	M	CE	MNSTM	SPTFAIL		SUPPORT	OVERLAP
B03-035-001-02	H-DUCT-9A	I-PM48	9A	M	CE	MNSTM	SPTFAIL		SUPPORT	OVERLAP
B03-035-001-03	H-DUCT-9A	I-PM48	9A	M	CE	MNSTM	SPTFAIL		SUPPORT	OVERLAP
B03-036-001-02	H-DUCT-9A	I-PM44	9A	M	CE	MNSTM	SPTFAIL		SUPPORT	OVERLAP
B03-036-001-03	H-DUCT-9A	I-PM44	9A	M	CE	MNSTM	SPTFAIL		SUPPORT	OVERLAP

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

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IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B03-037-001-02	H-DUCT-9A	I-PM48	9A	M	CE	MNSTM	SPTFAIL		SUPPORT	OVERLAP
B03-037-001-03	H-DUCT-9A	I-PM48	9A	M	CE	MNSTM	SPTFAIL		SUPPORT	OVERLAP
B03-038-001-03	H-DUCT-9A	I-PM57	9A	M	CE	MNSTM	SPTFAIL		SUPPORT	OVERLAP
B03-039-001-04	H-DUCT-9A	I-PM53	9A	M	CE	MNSTM	SPTFAIL		SUPPORT	OVERLAP
B03-040-001-02	H-DUCT-9A	I-PM45	9A	M	CE	MNSTM	SPTFAIL		SUPPORT	OVERLAP
B03-041-001-02	H-DUCT-9A	I-PM45	9A	M	CE	MNSTM	SPTFAIL		SUPPORT	OVERLAP
B05-006-002-02	H-DUCT-9A	I-FCV761	9A	M	CE	MNSTM	SPTFAIL		SUPPORT	OVERLAP
B30-003-009-01	H-DUCT-9A	I-GENERIC	9A	M	CE	MT	SPTFAIL		SUPPORT	OVERLAP
B03-033-001-02	H-DUCT-9B	I-LT517	9B	M	CE	MNSTM	SPTFAIL		SUPPORT	OVERLAP
B06-005-001-21	H-DUCT-9B	PA-RCS	9B	M	HVA	RCS	SPTFAIL		CONSTDEF	EXPEDIENT
B30-003-009-02	H-DUCT-9B	I-GENERIC	9B	M	CE	MT	SPTFAIL		SUPPORT	OVERLAP
B30-003-009-05	H-DUCT-9B	I-GENERIC	9B	M	HVA	MT	SPTFAIL		SUPPORT	OVERLAP
B06-005-001-03	H-DUCT-9C	M-CRDM	9C	M	HVA	RCS	SPTFAIL		SUPPORT	OVERLAP
B30-003-009-03	H-DUCT-9C	I-GENERIC	9C	M	CE	MT	SPTFAIL		SUPPORT	OVERLAP
B06-005-001-09	I-ELPP06	I-FLUX MON	9B	M	ICE	RCS	SPTFAIL		RELOCATE	NECESSARY
B06-005-001-10	I-LI56	I-FLUX MON	9B	M	ICE	RCS	SPTFAIL		SUPPORT	EXPEDIENT
B30-004-009-01	I-PM58+	GENERIC	9A	M	ENG	MT	SPTFAIL		SUPPORT	OVERLAP
B15-031-002-01	IS-8824	IS-8824	9A	M	ENG	SI	SPTFAIL		SUPPORT	OVERLAP
B15-026-002-01	IS-8871	I-8871	9A	M	ENG	SI	SPTFAIL		SUPPORT	OVERLAP
B03-008-002-02	M-COVER	I-LT504	9B	M	ICE	MNSTM	LOOSE		TMODIFY	EXPEDIENT
B07-010-001-01	M-FE	I-LT459	9C	M	EMS	RCS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B30-005-009-01	M-FE	GENERIC	9C	M	EMS	MT	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B17-001-009-04	M-HCV943	P-1992-1.50	9A	M	EMS	SI	SPTFAIL		SUPPORT	EXPEDIENT
B03-043-001-03	M-HOIST-9C	I-GENERIC	9C	M	EMS	MNSTM	MECHFAIL		SECLOOSE	EXPEDIENT
B28-005-008-02	M-HR	PA-3157-2	9C	M	EMS	FW	SPTFAIL		BRACE	EXPEDIENT
B28-005-013-03	M-HR	PA-3161-2	9C	M	EMS	FW	SPTFAIL		BRACE	EXPEDIENT
B28-005-016-02	M-HR	PA-3160-2	9C	M	EMS	FW	SPTFAIL		BRACE	EXPEDIENT
B06-001-003-01	M-INS SPT	P-0005-31	9B	M	EMS	RCS	SPTFAIL		SUPPORT	EXPEDIENT
B06-002-003-01	M-INS SPT	P-0006-31	9B	M	CE	RCS	SPTFAIL		SUPPORT	EXPEDIENT
B06-003-003-01	M-INS SPT	P-0007-31	9B	M	CE	RCS	SPTFAIL		SUPPORT	EXPEDIENT
B06-004-003-01	M-INS SPT	P-0008-31	9B	M	CE	RCS	SPTFAIL		SUPPORT	EXPEDIENT
B15-003-008-02	M-INS SPT	PS-1999-0.75	9B	M	EMS	SI	SPTFAIL		SUPPORT	EXPEDIENT
B30-005-009-02	M-OILTANK	GENERIC	9C	M	EMS	MT	SPTFAIL		SUPPORT	NECESSARY
B30-005-009-03	M-OILTANK	I-SG	9C	M	EMS	MT	SPTFAIL		SUPPORT	EXPEDIENT
B15-022-003-01	M-PRT	I-8879A	9A	M	CE	SI	SPTFAIL		SUPPORT	NECESSARY
B10-012-001-01	M-RCP 2-1	P-0058-2	9B	M	PSE	CVCS	DEFLECT		CONSTDEF	OVERLAP
B06-005-001-19	M-5-10 PATH	PA-RCS	9B	M	EMS	RCS	MECHFAIL		SUPPORT	NECESSARY
B06-005-001-20	M-5-10 PATH	PA-RCS	9B	M	EMS	RCS	SPTFAIL		SUPPORT	NECESSARY
B06-005-001-28	M-5-10 PATH	PA-RCS	9B	M	ICE	RCS	SPTFAIL		SUPPORT	NECESSARY
B18-013-001-01	M-8035	M-8703	9B	M	ICE	RHR	MECHFAIL		SUPPORT	EXPEDIENT
B09-005-005-01	NS-CD	E-K1857-1	9C	M	EE	RCS	HOUSEKEEP		CONSTDEF	OVERLAP
B01-012-002-04	P-DRAIN-9A	E-KX140-2.50	9A	M	PSE	AUXFW	DEFLECT	INTERFERE	SUPPORT	EXPEDIENT
B03-006-002-04	P-DRAIN-9A	I-LT502	9A	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B03-005-002-02	P-DRAIN-9B	I-LT501	9B	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B03-005-002-03	P-DRAIN-9B	I-LT501	9B	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B05-005-002-01	P-SA-9B	I-FCV760	9B	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B15-025-004-01	P-SPR-9A	E-KX267-0.75	9A	M	PSE	SI	PIPEFAIL	DEFLECT	SUPPORT	EXPEDIENT
B05-005-002-02	P-USB-9B	I-FCV760	9B	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B05-006-002-01	P-USB-9B	I-FCV761	9B	M	PSE	MNSTM	SPTFAIL		SUPPORT	EXPEDIENT
B07-012-001-01	P-USB-9B	I-LT461	9B	M	PSE	RCS	PIPEFAIL		SUPPORT	EXPEDIENT
B10-015-001-02	P-USB-9B	P-0061-2	9B	M	PSE	CVCS	DEFLECT		SUPPORT	EXPEDIENT
B06-033-001-03	P-0008-31	I-FT446	9B	M	PSE	RCS	INTERFERE		TMODIFY	NECESSARY
B06-030-001-03	P-0233-1	I-FT436	9B	M	PSE	RCS	SPTFAIL		SUPPORT	EXPEDIENT

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=CONTAINMENT

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B10-005-001-02	P-0532-4	P-0055-2	9A	M	PSE	CVCS	DEFLECT		SUPPORT	EXPEDIENT
B09-001-002-01	P-0891-1	PS-2754-3	9C	M	PSE	RCS	DEFLECT		SUPPORT	EXPEDIENT
B19-001-001-03	P-0891-1	I-1673-0.375	9B	M	PSE	CI	DEFLECT		SUPPORT	EXPEDIENT
B12-001-002-02	P-1007-2	P-0050-3	9B	M	PSE	CVCS	SPTFAIL		SUPPORT	EXPEDIENT
B20-045-019-02	P-1015-1	PS-2313-3	9B	M	PSE	CCW	DEFLECT		RELOCATE	OVERLAP
B29-004-001-01	P-1135-3	PA-3002-4	9A	M	PSE	CI	DEFLECT		SUPPORT	OVERLAP
B29-005-001-01	P-1135-3	PA-2993-4	9A	M	PSE	CI	DEFLECT		SUPPORT	OVERLAP
B20-025-006-01	P-1246-10	PS-0323-12	9A	M	PSE	CCW	DEFLECT		SUPPORT	EXPEDIENT
B20-025-007-01	P-1246-10	P-3164-2	9A	M	PSE	CCW	DEFLECT		SUPPORT	NECESSARY
B03-003-001-03	P-1869-1	PA-0226-28	9C	M	PSE	MNSTM	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B03-043-001-05	P-1869-1	I-LT537	9B	M	PSE	MNSTM	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-009-01	P-1869-1	I-SG 2-3,4	9C	M	PSE	MT	SPTFAIL		SUPPORT	EXPEDIENT
B03-005-002-04	P-1870-1	I-LT501	9B	M	PSE	MNSTM	SPTFAIL		SUPPORT	EXPEDIENT
B03-033-001-03	P-1870-1	I-LT517	9A	M	PSE	MNSTM	PIPEFAIL		SUPPORT	EXPEDIENT
B30-006-009-02	P-1870-1	I-SG 2-1	9C	M	PSE	MT	SPTFAIL		SUPPORT	EXPEDIENT
B20-045-012-02	P-1901-1	I-FE96	9B	M	PSE	CCW	DEFLECT		SUPPORT	EXPEDIENT
B03-007-002-01	P-2886-0.75	I-LT503	9B	M	PSE	MNSTM	DEFLECT		SUPPORT	EXPEDIENT
B06-030-002-01	P-2886-0.75	E-KX747-1.25	9A	M	PSE	RCS	DEFLECT		SUPPORT	EXPEDIENT
B12-008-004-02	P-2886-0.75	E-KX152-1.25	9A	M	PSE	CVCS	DEFLECT		SUPPORT	EXPEDIENT
B12-003-001-03	P-3080-2	P-0063-1	9B	M	PSE	CVCS	SPTFAIL		SUPPORT	EXPEDIENT
B12-003-001-02	P-3081-2	P-0063-1	9B	M	PSE	CVCS	DEFLECT		SUPPORT	EXPEDIENT
B10-013-003-01	P-3122-2	P-1484-0.75	9A	M	PSE	CVCS	SPTFAIL		SUPPORT	EXPEDIENT
B10-016-001-01	P-3126-2	M-8142	9A	M	PSE	CVCS	SPTFAIL		SUPPORT	EXPEDIENT
B15-003-006-07	P-3184-8	P-3844-6	9A	M	PSE	SI	PIPEFAIL		SUPPORT	EXPEDIENT
B20-025-006-02	P-3192-8	PS-0323-12	9A	M	PSE	CCW	DEFLECT		SUPPORT	EXPEDIENT
B20-017-002-02	P-3196-8	PS-0316-12	9A	M	PSE	CCW	SPTFAIL		SUPPORT	NECESSARY
B30-006-009-03	P-3196-8	I-PM138	9A	M	PSE	MT	SPTFAIL		SUPPORT	NECESSARY
B28-005-005-02	P-3209-12	P-2674-4	9A	M	PSE	FW	DEFLECT		SUPPORT	NECESSARY
B25-139-001-01	P-3210-10	I-FCV237	9A	M	PSE	CI	DEFLECT		SUPPORT	NECESSARY
B30-006-009-08	P-3210-10	I-GENERIC	9A	M	PSE	MT	DEFLECT		TMODIFY	NECESSARY
B30-006-009-09	P-3210-10	P-GENERIC	9A	M	PSE	MT	SPTFAIL	DEFLECT	SUPPORT	NECESSARY
B10-012-001-04	P-3243-3	P-1479-2	9A	M	PSE	CVCS	DEFLECT	SPTFAIL	SUPPORT	EXPEDIENT
B10-016-001-03	P-3243-3	P-1499-0.75	9A	M	PSE	CVCS	DEFLECT		SUPPORT	NECESSARY
B15-003-003-03	P-3243-3	P-3856-2	9A	M	PSE	SI	DEFLECT	SPTFAIL	SUPPORT	EXPEDIENT
B03-042-001-01	P-3256-2	I-FT523	9C	M	PSE	MNSTM	PIPEFAIL		SUPPORT	NECESSARY
B20-025-004-01	P-3256-2	PA-3163-2	9C	M	PSE	CCW	DEFLECT		SUPPORT	EXPEDIENT
B20-025-004-02	P-3256-2	P-3163-2	9A	M	PSE	CCW	DEFLECT		SUPPORT	EXPEDIENT
B09-005-005-05	P-3454-1.5	E-K1857-1	9A	M	PSE	RCS	DEFLECT		SUPPORT	EXPEDIENT
B23-004-004-06	P-3455-1.50	PS-0326-8	9A	M	PSE	SPRAY	SPTFAIL		SUPPORT	EXPEDIENT
B23-004-004-07	P-3512-1	PS-0326-8	9A	M	PSE	SPRAY	SPTFAIL		SUPPORT	EXPEDIENT
B10-016-001-02	P-3811-1	M-8142	9A	M	PSE	CVCS	SPTFAIL		SUPPORT	EXPEDIENT
B06-030-001-02	P-3818-0.50	I-FT436	9B	M	PSE	RCS	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B06-031-001-01	P-3819-0.50	I-FT444	9B	M	PSE	RCS	DEFLECT		SUPPORT	EXPEDIENT
B03-005-002-01	P-3989-0.75	I-LT501	9B	M	PSE	MNSTM	DEFLECT		SUPPORT	NECESSARY
B19-002-002-01	P-4066-1	I-9354A	9A	M	ICE	CI	DEFLECT		TMODIFY	NECESSARY
B06-049-001-01	P-4249-0.75	I-L1S1320	9B	M	PSE	RCS	DEFLECT		SUPPORT	EXPEDIENT
B12-003-001-01	P-4260-0.75	P-0063-1	9B	M	PSE	CVCS	SPTFAIL		SUPPORT	OVERLAP
B03-036-001-01	P-4271-0.75	I-FT512	9A	M	PSE	MNSTM	SPTFAIL		SUPPORT	EXPEDIENT
B15-022-004-01	P-4271-0.75	E-KX184-1.50	9A	M	PSE	SI	DEFLECT		SUPPORT	EXPEDIENT
B06-025-002-01	P-4272-0.75	E-KX168-1.25	9A	M	EE	RCS	DEFLECT		TMODIFY	EXPEDIENT
B06-022-001-04	P-4275-0.75	I-FT414	9A	M	PSE	RCS	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B06-022-001-05	P-4368-1.25	I-FT414	9A	M	PSE	RCS	PIPEFAIL		SUPPORT	EXPEDIENT
B06-003-004-04	P-4369-1.25	I-FIC499C	9A	M	PSE	RCS	PIPEFAIL		SUPPORT	EXPEDIENT

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=CONTAINMENT

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B10-010-003-02	P-4370-1.25	I-PT186	9A	M	PSE	CVCS	SPTFAIL		SUPPORT	NECESSARY
B15-025-002-01	P-4371-1.25	I-8879D	9A	M	PSE	SI	SPTFAIL		SUPPORT	EXPEDIENT
B10-004-001-02	P-4397-2	P-0054-2	9B	M	PSE	CVCS	PIPEFAIL		SUPPORT	EXPEDIENT
B10-005-001-01	P-4397-2	P-0055-2	9B	M	PSE	CVCS	DEFLECT		SUPPORT	OVERLAP
B12-002-001-03	P-4397-2	P-0024-3	9B	M	PSE	CVCS	SPTFAIL		SUPPORT	OVERLAP
B15-003-009-04	P-4397-2	P-2000-0.75	9B	M	PSE	SI	SPTFAIL		SUPPORT	OVERLAP
B30-006-009-04	P-4397-2	I-GENERIC	9B	M	PSE	MT	PIPEFAIL		SUPPORT	NECESSARY
B30-006-009-06	P-4397-2	GENERIC	9B	M	PSE	MT	PIPEFAIL		SUPPORT	OVERLAP
B10-010-002-01	P-4398-2	I-FIC171	9A	M	PSE	CVCS	DEFLECT		TMODIFY	NECESSARY
B30-006-009-07	P-4398-2	GENERIC	9B	M	PSE	MT	PIPEFAIL		SUPPORT	OVERLAP
B15-003-009-01	P-4406-1	P-2000-0.75	9B	M	PSE	SI	DEFLECT		SUPPORT	EXPEDIENT
B15-003-009-02	P-4406-1	P-2000-0.75	9B	M	PSE	SI	SPTFAIL		SUPPORT	EXPEDIENT
B03-007-002-02	P-4625-1	I-LT503	9B	M	PSE	MNSTM	DEFLECT		SUPPORT	EXPEDIENT
B06-003-004-01	P-4625-1	I-FIC499C	9B	M	PSE	RCS	DEFLECT		SUPPORT	EXPEDIENT
B06-022-001-01	PS-0005-31	I-FT414	9B	M	ENG	RCS	SPTFAIL		SUPPORT	OVERLAP
B06-023-001-01	PS-0005-31	I-FT415	9B	M	ENG	RCS	SPTFAIL		SUPPORT	OVERLAP
B06-024-001-01	PS-0005-31	I-FT416	9B	M	ENG	RCS	SPTFAIL		SUPPORT	OVERLAP
B06-025-001-02	PS-0006-31	I-FT424	9B	M	ENG	RCS	SPTFAIL		SUPPORT	OVERLAP
B06-026-001-01	PS-0006-31	I-FT425	9B	M	ENG	RCS	SPTFAIL		SUPPORT	OVERLAP
B06-027-001-02	PS-0006-31	I-FT426	9B	M	ENG	RCS	SPTFAIL		SUPPORT	OVERLAP
B15-003-010-02	PS-0007-31	P-0255-10	9B	M	ENG	SI	SPTFAIL		SUPPORT	OVERLAP
B15-003-010-01	PS-0008-31	P-0255-10	9B	M	ENG	SI	SPTFAIL		SUPPORT	OVERLAP
B06-001-004-02	PS-0253-10	I-FIC499A	9A	M	ICE	RCS	DEFLECT		TMODIFY	NECESSARY
B20-045-010-01	PS-0253-10	P-2299-3	9B	M	PSE	CCW	INTERFERE		RELOCATE	EXPEDIENT
B23-004-001-02	PS-0270-10	PS-0270-10	9A	M	ENG	SPRAY	DEFLECT		TMODIFY	OVERLAP
B17-001-007-02	PS-1016-3	PA-1016-3	9A	M	PSE	SI	DEFLECT		TMODIFY	EXPEDIENT
B28-005-005-05	PS-3256-2	P-2674-4	9A	M	PSE	FW	DEFLECT		CLEARANCE	NECESSARY
B15-003-005-02	PS-4278-0.75	I-FE977	9A	M	PSE	SI	SPTFAIL		SUPPORT	OVERLAP
B15-022-004-02	C-ANNULUS	E-KX678-1.50	9A	NAN		SI	RELSTRUCT			
B06-005-001-26	C-CATWALK	M-CRDM	9C	NAN		RCS	CIVILFAIL			
B03-043-001-02	C-CRANE-9C	I-GENERIC	9C	NAN		MNSTM	CIVILFAIL			
B30-001-009-09	C-CRANE-9C	I-SG	9C	NAN		MT	LOOSE			
B06-034-002-01	C-GRATING	E-KX275-2.50	9A	NAN		RCS	INTERFERE			
B09-004-002-01	C-GRATING	E-K1790-1.25	9A	NAN		RCS	INTERFERE			
B10-008-001-01	C-GRATING	P-1495-0.75	9A	NAN		CVCS	INTERFERE			
B06-005-001-29	C-HANDRAIL	M-CRDM	9C	NAN		RCS	CIVILFAIL			
B09-007-004-02	C-LADDER	E-K1921-1	9C	NAN		RCS	CIVILFAIL			
B18-007-002-01	C-LADDER	E-KX674-0.75	9C	NAN		RHR	CIVILFAIL	DEFLECT		
B17-001-008-01	C-MR-9B	P-1991-1.50	9B	NAN		SI	CIVILFAIL			
B03-045-001-03	C-MR-9C	I-LT539	9C	NAN		MNSTM	CIVILFAIL			
B05-001-001-01	C-PLAT-9A	P-1040-2.50	9A	NAN		MNSTM	CIVILFAIL			
B06-022-001-07	C-PLAT-9A	I-PM19	9A	NAN		RCS	CIVILFAIL			
B06-023-001-03	C-PLAT-9A	I-FT415	9A	NAN		RCS	CIVILFAIL			
B06-024-001-02	C-PLAT-9A	I-FT416	9A	NAN		RCS	CIVILFAIL			
B06-038-002-01	C-PLAT-9B	E-KX572-1	9B	NAN		RCS	INTERFERE			
B09-002-002-01	C-PLAT-9C	E-K1752-1.25	9C	NAN		RCS	CIVILFAIL			
B15-037-002-01	C-RSM-9A	E-KX526-0.75	9A	NAN		SI	RELSTRUCT			
B06-025-001-01	C-SHIELD-9B	M-8061B	9B	NAN		RCS	INTERFERE			
B12-003-001-09	C-SHIELD-9B	PS-0063-1	9B	NAN		CVCS	CIVILFAIL			
B30-001-009-24	C-SHIELD-9C	I-GENERIC	9C	NAN		MT	CIVILFAIL			
B12-001-002-01	C-STAIR-9A	P-0051-2	9A	NAN		CVCS	CIVILFAIL			
B06-005-001-04	C-STAIR-9C	M-CRDM	9C	NAN		RCS	CIVILFAIL			
B23-004-004-02	C-101G-2	P-0271-10	9A	NAN		SPRAY	CIVILFAIL			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=CONTAINMENT

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B15-003-006-03	C-110F-2	P-3845-6	9A	NAN		SI	CIVILFAIL			
B03-046-001-01	C-123G-2	I-FT532	9C	NAN		MNSTM	CIVILFAIL			
B03-052-001-01	C-124G-2	I-FT543	9C	NAN		MNSTM	CIVILFAIL			
B15-003-011-01	C-29G-2	P-2002-0.75	9B	NAN		SI	CIVILFAIL			
B30-001-009-04	C-35F-2	I-SG	9C	NAN		MT	CIVILFAIL			
B30-001-009-05	C-36F-2	I-SG	9C	NAN		MT	CIVILFAIL			
B30-001-009-18	C-36F-2	I-PZR	9C	NAN		MT	LOOSE			
B30-001-009-06	C-37F-2	I-SG	9C	NAN		MT	CIVILFAIL			
B30-001-009-07	C-38F-2	I-SG	9C	NAN		MT	CIVILFAIL			
B30-001-009-17	C-38F-2	I-SG-2-2	9C	NAN		MT	LOOSE			
B30-001-009-08	C-39G-2	I-SG	9C	NAN		MT	CIVILFAIL			
B06-005-001-16	C-51FG-2	I-FLUX MON	9B	NAN		RCS	CIVILFAIL			
B06-005-001-17	C-51FG-2	I-FLUX MON	9B	NAN		RCS	CIVILFAIL			
B06-022-001-02	C-54F-2	I-FT414	9B	NAN		RCS	CIVILFAIL			
B06-023-001-02	C-54F-2	I-FT415	9B	NAN		RCS	CIVILFAIL			
B06-024-001-03	C-54F-2	I-FT416	9B	NAN		RCS	CIVILFAIL			
B06-025-001-03	C-55F-2	I-FT424	9B	NAN		RCS	CIVILFAIL			
B06-026-001-02	C-55F-2	I-FT425	9B	NAN		RCS	CIVILFAIL			
B06-027-001-03	C-55F-2	I-FT426	9B	NAN		RCS	CIVILFAIL			
B06-028-001-01	C-56F-2	I-FT434	9B	NAN		RCS	CIVILFAIL			
B06-029-001-02	C-56G-2	I-FT435	9B	NAN		RCS	CIVILFAIL			
B06-030-001-04	C-56G-2	I-FT436	9B	NAN		RCS	CIVILFAIL			
B06-031-001-03	C-57G-2	I-FT444	9B	NAN		RCS	CIVILFAIL			
B06-032-001-02	C-57G-2	I-FT445	9B	NAN		RCS	CIVILFAIL			
B06-033-001-02	C-57G-2	I-FT446	9B	NAN		RCS	CIVILFAIL			
B12-002-001-04	C-66F-2	M-8076	9B	NAN		CVCS	DEFLECT			
B06-005-001-27	C-72FG-2	PA-RCS	9B	NAN		RCS	LOOSE			
B06-005-001-18	C-79FG-2	I-FLUX MON	9B	NAN		RCS	CIVILFAIL			
B19-001-001-01	C-81F-2	I-1673-0.375	9C	NAN		CI	DEFLECT			
B03-008-002-01	C-95G-2	I-LT504	9A	NAN		MNSTM	CIVILFAIL			
B18-001-001-02	C-95G-2	PA-3095-0.75	9A	NAN		RHR	CIVILFAIL			
B18-001-001-03	C-95G-2	P-3095-0.75	9A	NAN		RHR	CIVILFAIL			
B18-001-002-01	C-95G-2	I-PT406	9A	NAN		RHR	CIVILFAIL			
B12-004-005-01	E-BJK269	E-K1864-0.75	9A	NAN		CVCS	DEFLECT			
B07-012-001-03	E-BTX4	I-LT461	9A	NAN		RCS	SPTFAIL			
B07-011-001-04	E-BTX5	I-LT460	9A	NAN		RCS	SPTFAIL			
B07-011-001-01	E-BTX6	I-LT460	9A	NAN		RCS	SPTFAIL			
B12-012-004-02	E-DJCD	E-KX544-1.50	9A	NAN		CVCS	INTERFERE	DEFLECT		
B05-008-002-01	E-FIRESTOP	I-FCV763	9B	NAN		MNSTM	HOUSEKEEP			
B19-001-001-02	E-KR273-0.75	I-1673-0.375	9C	NAN		CI	DEFLECT			
B07-012-001-07	E-KX-686	I-LT461	9A	NAN		RCS	DEFLECT			
B06-034-002-02	E-KX120-3	E-KX275-2.50	9A	NAN		RCS	DEFLECT	INTERFERE		
B07-011-001-05	E-KX165-1	I-LT460	9A	NAN		RCS	DEFLECT			
B09-006-005-01	E-KX219-1.50	E-K1917-1	9A	NAN		RCS	DEFLECT			
B09-007-004-01	E-KX219-1.50	E-K1921-1	9A	NAN		RCS	DEFLECT			
B06-046-002-01	E-KX459-0.75	E-K1855-1.50	9B	NAN		RCS	DEFLECT			
B06-022-001-03	E-KX699	I-FT414	9A	NAN		RCS	DEFLECT			
B06-044-001-01	E-KX798-1	M-8078A	9C	NAN		RCS	DEFLECT	INTERFERE		
B19-004-001-03	E-KX884-1	I-1674-0.375	9C	NAN		CI	DEFLECT			
B10-011-003-01	E-KX929-1	I-PT183	9A	NAN		CVCS	DEFLECT			
B12-005-005-01	E-KX937-0.75	E-KX537-0.75	9A	NAN		CVCS	DEFLECT			
B06-001-004-03	E-K1614-1.50	I-FIC499A	9A	NAN		RCS	DEFLECT	INTERFERE		
B06-005-001-22	E-K1837-1	PA-RCS	9B	NAN		RCS	SPTFAIL			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=CONTAINMENT

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B23-004-001-09	E-K1993-4	PS-0270-10	9A	NAN		SPRAY	DEFLECT			
B05-005-002-03	E-LF-SEA	I-FCV760	9B	NAN		MNSTM	FIXTURE			
B05-007-002-01	E-LF-SEA	I-FCV762	9B	NAN		MNSTM	FIXTURE			
B07-005-002-02	E-LF-SEA	I-LT462	9A	NAN		RCS	FIXTURE			
B09-005-002-01	E-LF-SEA	I-PCV456	9C	NAN		RCS	FIXTURE			
B25-128-004-01	E-LF-SEA	E-K1739-0.75	9A	NAN		CI	FIXTURE			
B10-008-003-01	E-LF-5	I-PT188	9A	NAN		CVCS	FIXTURE			
B12-003-001-06	E-LF-5	P-0063-1	9B	NAN		CVCS	FIXTURE			
B06-005-001-06	E-LF-50	I-FLUX MON	9B	NAN		RCS	FIXTURE			
B06-005-001-11	E-LF-50	I-FLUX MON	9B	NAN		RCS	FIXTURE			
B06-005-001-13	E-LF-50	I-FLUX MON	9B	NAN		RCS	FIXTURE			
B06-005-001-14	E-LF-50	I-FLUX MON	9B	NAN		RCS	FIXTURE			
B06-005-001-30	E-MANIPCRANE	M-CRDM	9C	NAN		RCS	SPTFAIL			
B07-005-002-04	E-PL27-1	I-PT458A	9A	NAN		RCS	DEFLECT			
B30-002-009-16	E-R-9A	GENERIC	9A	NAN		MT	SPTFAIL			
B07-012-001-04	E-R-9C	I-LT461	9C	NAN		RCS	DEFLECT			
B05-002-001-01	E-RS-9A	P-1041-2.50	9A	NAN		MNSTM	SPTFAIL			
B15-005-003-01	E-RS-9A	P-2575-8	9A	NAN		SI	DEFLECT			
B09-004-002-02	E-SP3J	E-K1790-1.50	9A	NAN		RCS	SPTFAIL			
B15-003-003-01	E-SP3J	P-3856-2	9A	NAN		SI	SPTFAIL			
B07-012-001-05	E-TELE	I-LT461	9C	NAN		RCS	LOOSE			
B06-034-002-03	E-TJJB	E-KX391-2	9B	NAN		RCS	SPTFAIL			
B15-003-007-01	E-TJVC+	P-3846-6	9B	NAN		SI	SPTFAIL			
B15-022-004-03	ES-KX231-1	E-KX231-1	9A	NAN		SI	DEFLECT			
B03-038-001-02	H-DUCT-9A	I-LT527	9B	NAN		MNSTM	SPTFAIL			
B15-003-006-05	H-DUCT-9A	P-0508-8	9A	NAN		SI	DEFLECT			
B03-006-002-01	H-IODINE	I-LT502	9A	NAN		MNSTM	SPTFAIL			
B19-007-001-03	I-F1C171	I-1675-0.375	9B	NAN		CI	DEFLECT			
B19-008-001-01	I-F1C171	I-1676-0.375	9B	NAN		CI	DEFLECT			
B30-005-009-06	M-CRANE-9C	GENERIC	9C	NAN		MT	MECHFAIL			
B03-045-001-02	M-HOIST-9C	I-LT539	9C	NAN		MNSTM	MECHFAIL			
B30-005-009-05	M-HOIST-9C	GENERIC	9C	NAN		MT	MECHFAIL			
B30-005-009-04	M-LCV130	E-GENERIC	9A	NAN		MT	MECHFAIL			
B06-005-001-07	M-TANK	I-FLUX MON	9B	NAN		RCS	SPTFAIL			
B30-005-009-07	M-8030	E-R-9A	9C	NAN		MT	MECHFAIL			
B12-009-004-01	M-8149A	E-K1976-1	9A	NAN		CVCS	DEFLECT			
B25-013-006-02	P-SA-9A	E-K1711-0.75	9A	NAN		CI	DEFLECT			
B08-001-001-03	P-SA-9B	P-0013-4	9B	NAN		RCS	DEFLECT			
B06-026-002-01	P-SPR-9A	E-KX165-1.25	9A	NAN		RCS	PIPEFAIL			
B08-001-002-01	P-USB-9B	I-TE451	9B	NAN		RCS	DEFLECT			
B17-001-009-02	P-0223-1	P-1992-1.50	9A	NAN		SI	DEFLECT			
B03-006-002-02	P-0532-4	I-LT502	9A	NAN		MNSTM	SPTFAIL			
B17-001-009-05	P-1009-2	P-1992-1.50	9B	NAN		SI	SPTFAIL			
B15-029-002-01	P-1631-4	I-8884C	9A	NAN		SI	SPTFAIL			
B07-005-002-03	P-1657-4	I-PT458A	9A	NAN		RCS	DEFLECT			
B09-005-005-02	P-1673-0.375	E-K1857-1	9C	NAN		RCS	SPTFAIL			
B10-010-002-02	P-1869-1	I-F1C171	9A	NAN		CVCS	SPTFAIL			
B17-001-007-01	P-2523-0.50	P-1995-3	9A	NAN		SI	SPTFAIL			
B06-003-004-02	P-2886-0.75	I-FIC499C	9B	NAN		RCS	DEFLECT			
B15-003-006-02	P-3184-8	P-3844-6	9A	NAN		SI	SPTFAIL			
B03-026-001-01	P-3512-1	I-LT526	9A	NAN		MNSTM	DEFLECT			
B12-003-001-07	P-4251-0.75	P-0063-1	9B	NAN		CVCS	SPTFAIL			
B06-025-002-02	P-4272-0.75	E-KX168-1.25	9A	NAN		RCS	DEFLECT			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=CONTAINMENT

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B15-023-004-02	P-4272-0.75	E-KX653-2	9A	NAN		SI	DEFLECT			
B15-023-004-03	P-4272-0.75	E-KX653-2	9A	NAN		SI	DEFLECT			
B15-003-008-01	P-4356-1.50	PA-0253-10	9B	NAN		SI	DEFLECT			
B07-010-001-03	P-4397-2	I-LT459	9B	NAN		RCS	SPTFAIL			
B12-002-001-02	P-4397-2	P-0024-3	9B	NAN		CVCS	PIPEFAIL			
B30-006-009-05	P-4398-2	I-PM23+	9A	NAN		MT	SPTFAIL			
B06-002-004-01	P-4624-1	I-FIC499B	9B	NAN		RCS	SPTFAIL			
B06-001-004-01	PS-1632-1	I-FIC499A	9B	NAN		RCS	DEFLECT			
B10-004-001-01	PS-2314-3	PA-0054-2	9B	NAN		CVCS	DEFLECT			
B01-014-002-01	PS-2343-3	E-KX505-2.50	9A	NAN		AUXFW	DEFLECT			
B07-001-004-01	PS-9B	P-3100-0.75	9B	NAN		RCS	DEFLECT			
B06-005-001-31	E-MANIPCRANE	M-CRDM	9C	P	NPO	RCS	SPTFAIL			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=EMERGENCY DIESEL GENERATOR SPACES

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B24-008-003-01	C-DOOR	M-DG 2-2	22B2	A	EMS	EDG	SPTFAIL			
B24-008-016-05	C-DOOR	M-DG 2-1	22A2	A	EMS	EDG	SPTFAIL			
B25-163-001-01	C-DOOR	H-DUCT-22A2	22A2	A	CE	HVAC	CIVILFAIL			
B25-163-002-01	C-DOOR	H-DUCT-22B2	22B2	A	CE	HVAC	CIVILFAIL			
B28-008-021-05	C-FB	P-5043-2	22C	A	CE	FW	CIVILFAIL			
B30-001-022-01	C-FB	E-GENERIC	22C	A	CE	MT	CIVILFAIL			
B30-001-022-02	C-FB	E-GENERIC	22C	A	CE	MT	CIVILFAIL			
B24-008-016-03	C-MR-22A1	M-DG 2-1	22A1	A	CE	EDG	CIVILFAIL			
B24-008-003-02	C-MR-22B1	M-DG 2-2	22B1	A	CE	EDG	CIVILFAIL			
B24-002-008-05	E-LF-CO2	E-K2242-0.75	22B1	A	EE	EDG	FIXTURE			
B24-002-032-01	E-LF-CO2	E-K2241-0.75	22A1	A	EE	EDG	FIXTURE			
B24-002-038-01	M-COMPR 2-1	I-PI622	22A1	A	EMS	EDG	SPTFAIL			
B24-002-002-01	M-COMPR 2-2	I-PI600	22B1	A	EMS	EDG	SPTFAIL			
B24-003-002-01	M-COMPR 2-2	I-PI840	22B1	A	EMS	EDG	SPTFAIL			
B24-003-012-01	M-COMPR 2-2	I-PI841	22A1	A	EMS	EDG	SPTFAIL			
B25-163-001-02	M-FILTER	H-DUCT-22A2	22A2	A	PSE	HVAC	PIPEFAIL	SPTFAIL		
B25-163-002-03	M-FILTER	H-DUCT-22B2	22B2	A	PSE	HVAC	PIPEFAIL			
B30-006-022-01	P-SPR-22C	E-GENERIC	22C	A	PSE	MT	DEFLECT	SPTFAIL		
B24-008-003-08	P-2173-5	M-DG 2-2	22B1	A	PSE	EDG	PIPEFAIL			
B24-008-017-01	P-2586-5	M-DG 2-1	22A1	A	PSE	EDG	PIPEFAIL			
B24-008-016-11	PS-2192-1.50	M-DG 2-1	22A1	A	EMS	EDG	DEFLECT			
B24-007-001-01	C-BLOCKWALL	M-DG 2-2 FAN	22B2	M	CE	EDG	CIVILFAIL		BRACE	OVERLAP
B24-007-018-01	C-BLOCKWALL	M-DG 2-1 FAN	22A2	M	CE	EDG	CIVILFAIL		BRACE	OVERLAP
B24-001-019-01	C-COVER	M-LCV86	22A2	M	CE	EDG	LOOSE		SECLOOSE	OVERLAP
B24-001-034-01	C-COVER	M-LCV89	22A2	M	CE	EDG	LOOSE		SECLOOSE	OVERLAP
B24-008-003-03	C-DOOR	M-DG 2-2	22B1	M	CE	EDG	CIVILFAIL		SUPPORT	NECESSARY
B24-008-016-04	C-DOOR	M-DG 2-1	22A1	M	CE	EDG	CIVILFAIL		SUPPORT	NECESSARY
B24-007-001-02	C-HANDRAIL	M-DG 2-2 FAN	22B2	M	CE	EDG	CIVILFAIL		SUPPORT	EXPEDIENT
B24-007-018-02	C-HANDRAIL	M-DG 2-1 FAN	22A2	M	CE	EDG	LOOSE		SUPPORT	EXPEDIENT
B24-008-003-09	E-LF-15	M-DG 2-2	22B2	M	EE	EDG	FIXTURE		RELOCATE	NECESSARY
B24-008-003-10	E-LF-15	M-DG 2-2	22B1	M	EE	EDG	FIXTURE		CHAIN	NECESSARY
B24-008-003-11	E-LF-15	M-DG 2-2	22B1	M	EE	EDG	FIXTURE		RELOCATE	NECESSARY
B24-008-016-01	E-LF-15	M-DG 2-1	22A1	M	EE	EDG	FIXTURE		CHAIN	NECESSARY
B24-008-016-02	E-LF-15	M-DG 2-1	22A2	M	EE	EDG	FIXTURE		RELOCATE	NECESSARY
B25-163-001-03	E-LF-15	H-DUCT-22A2	22A2	M	EE	HVAC	FIXTURE		CHAIN	NECESSARY
B25-163-002-02	E-LF-15	H-DUCT-22B2	22B2	M	EE	HVAC	FIXTURE		CHAIN	NECESSARY
B24-008-016-09	P-CARDOX-22A	M-DG 2-1	22A1	M	PSE	EDG	SPTFAIL		SUPPORT	NECESSARY
B24-008-003-05	P-CARDOX-22B	M-DG 2-2	22B1	M	PSE	EDG	SPTFAIL		SUPPORT	EXPEDIENT
B24-008-016-08	P-DRAIN-22A1	M-DG 2-1	22A1	M	PSE	EDG	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B24-004-002-01	P-DRAIN-22A2	PS-2187-22	22A2	M	PSE	EDG	PIPEFAIL	SPTFAIL	SUPPORT	NECESSARY
B24-008-003-07	P-DRAIN-22B1	M-DG 2-2	22B1	M	PSE	EDG	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B28-008-021-04	P-SPR-22C	P-5043-2	22C	M	PSE	FW	SPTFAIL		SUPPORT	EXPEDIENT
B24-007-001-03	P-USB-22B2	M-DG 2-2 FAN	22B2	M	PSE	EDG	SPTFAIL		SUPPORT	EXPEDIENT
B32-001-011-02	P-2149-3	E-K2469-2	22C	M	PSE	ELPS	DEFLECT		SUPPORT	EXPEDIENT
B24-008-016-06	P-2586-5	E-DG 2-1	22A1	M	PSE	EDG	DEFLECT		TMODIFY	OVERLAP
B32-001-011-01	E-CABINET	E-K2469-2	22C	NAN		ELPS	SPTFAIL			
B28-008-021-01	E-LF-9	P-5043-2	22C	NAN		FW	FIXTURE			
B28-008-021-03	H-DUCT-22C	P-5043-2	22C	NAN		FW	SPTFAIL			
B24-008-016-10	M-HOIST-22A1	M-DG 2-1	22A1	NAN		EDG	MECHFAIL			
B24-008-003-06	M-HOIST-22B1	M-DG 2-2	22B1	NAN		EDG	MECHFAIL			
B24-008-016-07	P-SA-22A1	M-DG 2-1	22A1	NAN		EDG	SPTFAIL			
B24-008-003-04	P-SA-22B1	M-DG 2-2	22B1	NAN		EDG	SPTFAIL			
B24-008-004-02	P-2173-5	E-DG 2-2	22B1	NAN		EDG	DEFLECT			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

---------- AREA=EMERGENCY DIESEL GENERATOR SPACES ----------

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B24-001-013-01	C-COVER	M-LCV85	22B2	X	QC	EDG	LOOSE			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=ELECTRICAL EQUIPMENT SPACES

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B30-001-020-01	C-FB	E-GENERIC	20	A	CE	MT	CIVILFAIL			
B20-005-002-01	C-STAIR	E-K2662-1.50	S7	A	CE	CCW	CIVILFAIL			
B25-157-002-04	C-STAIR	H-DUCT-S7	S7	A	CE	HVAC	CIVILFAIL			
B25-157-003-01	C-STAIR	H-DUCT-S7	S7	A	CE	HVAC	CIVILFAIL			
B32-011-001-03	C-STAIR	E-K2819-1.50	23E	A	CE	ELPS	CIVILFAIL			
B32-011-002-02	C-STAIR	E-K2820-1.50	23E	A	CE	ELPS	CIVILFAIL			
B32-011-003-03	C-STAIR	E-K2821-1.50	23E	A	CE	ELPS	CIVILFAIL			
B25-151-005-01	C-WALL	H-DUCT-23A	23A	A	CE	HVAC	CIVILFAIL			
B25-154-003-01	C-WALL	H-DUCT-23B	23B	A	CE	HVAC	CIVILFAIL			
B25-157-003-02	C-WALL	H-DUCT-23C	23C	A	CE	HVAC	CIVILFAIL			
B30-002-023-01	E-BUSDUCT	E-GENERIC	23A	A	EE	MT	DEFLECT			
B32-011-001-02	E-BUSDUCT	E-K2819-1.50	23E	A	EE	ELPS	SPTFAIL			
B32-011-002-03	E-BUSDUCT	E-K2820-1.50	23E	A	EE	ELPS	SPTFAIL			
B32-011-003-02	E-BUSDUCT	E-K2821-1.50	23E	A	EE	ELPS	SPTFAIL			
B25-146-002-02	E-IC211	E-S46	6B5	A	CE	HVAC	SPTFAIL			
B32-004-001-01	E-LF-9	E-DCSWGR	6B1	A	EE	ELPS	FIXTURE			
B32-004-002-01	E-LF-9	E-DCSWGR	6B2	A	EE	ELPS	FIXTURE			
B32-004-004-02	E-LF-9	E-DCSWGR	6B3	A	EE	ELPS	FIXTURE			
B32-010-001-02	E-PNAPC+	E-TRIP BKR	6B4	A	EE	ELPS	SPTFAIL			
B25-146-002-03	E-PNPRC-2	E-S46+	6B4	A	EE	HVAC	SPTFAIL			
B32-011-001-04	E-RC	E-K7835-2.50	7B	A	EE	ELPS	SPTFAIL			
B25-146-002-01	E-TYBU	E-S46	6B5	A	EE	HVAC	SPTFAIL			
B30-002-020-02	E-12KV SWGR	E-GENERIC	20	A	EE	MT	SPTFAIL			
B30-002-020-04	E-12KV SWGR	E-GENERIC	20	A	EE	MT	LOOSE	SPTFAIL		
B30-002-020-03	E-4.16KV SWG	E-GENERIC	20	A	EE	MT	SPTFAIL			
B01-012-002-07	E-480VSWGR	E-KT982-3	5B4	A	EE	AUXFW	SPTFAIL			
B01-012-002-02	I-PANEL	E-HNKA	6B2	A	EE	AUXFW	SPTFAIL			
B32-005-001-04	C-BASIN	E-BATTERY	6B1	M	CE	ELPS	SPTFAIL		TSHIELD	EXPEDIENT
B32-005-003-05	C-BASIN	E-BATTERY	6B3	M	CE	ELPS	SPTFAIL		TSHIELD	EXPEDIENT
B20-003-002-01	C-BLOCKWALL	E-K2690-1.50	23B	M	CE	CCW	CIVILFAIL		BRACE	OVERLAP
B25-151-004-01	C-BLOCKWALL	H-DUCT-24D	24D	M	CE	HVAC	CIVILFAIL		BRACE	OVERLAP
B25-154-002-01	C-BLOCKWALL	H-DUCT-24D	24D	M	CE	HVAC	CIVILFAIL		BRACE	OVERLAP
B25-155-002-02	C-BLOCKWALL	E-K2649-1.50	24D	M	CE	HVAC	CIVILFAIL		BRACE	OVERLAP
B25-157-002-03	C-BLOCKWALL	H-DUCT-24D	24D	M	CE	HVAC	CIVILFAIL		BRACE	OVERLAP
B30-001-023-04	C-BLOCKWALL	E-BJA300	23C	M	CE	MT	CIVILFAIL		BRACE	OVERLAP
B30-001-023-05	C-BLOCKWALL	E-BJA302,303	23B	M	CE	MT	CIVILFAIL		BRACE	OVERLAP
B30-001-023-06	C-BLOCKWALL	E-BJA304,305	23A	M	CE	MT	CIVILFAIL		BRACE	OVERLAP
B32-001-008-03	C-BLOCKWALL	E-4.16KVSWGR	24A	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP
B32-001-009-03	C-BLOCKWALL	E-4.16KVSWGR	24B	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP
B32-001-010-03	C-BLOCKWALL	E-4.16KVSWGR	24C	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP
B32-001-011-04	C-BLOCKWALL	E-K2619+	23F	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP
B32-003-004-02	C-BLOCKWALL	E-480VSWGR	5B1	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP
B32-003-005-02	C-BLOCKWALL	E-480VSWGR	5B2	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP
B32-003-006-02	C-BLOCKWALL	E-480VSWGR	5B3	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP
B32-005-001-03	C-BLOCKWALL	E-BATTERY	6B1	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP
B32-005-002-01	C-BLOCKWALL	E-BATTERY	6B2	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP
B32-005-003-01	C-BLOCKWALL	E-BATTERY	6B3	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP
B32-011-001-01	C-BLOCKWALL	E-K2654-2	24D	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP
B32-011-002-01	C-BLOCKWALL	E-K2653-2	24D	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP
B32-011-003-01	C-BLOCKWALL	E-K2652-2	24D	M	CE	ELPS	CIVILFAIL		BRACE	OVERLAP
B30-001-008-01	C-BOARD	I-GENERIC	8C	M	CE	MT	SPTFAIL		SUPPORT	NECESSARY
B30-001-023-01	C-GRATING	E-GENERIC	23A	M	CE	MT	LOOSE		SECLOOSE	EXPEDIENT
B30-001-023-02	C-GRATING	E-GENERIC	23B	M	CE	MT	LOOSE		SECLOOSE	EXPEDIENT

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=ELECTRICAL EQUIPMENT SPACES

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B30-001-023-03	C-HATCH	E-GENERIC	23B	M	CE	MT	LOOSE		SECLOOSE	EXPEDIENT
B32-001-011-03	C-STAIR	E-K2130-4	20	M	CE	ELPS	CIVILFAIL		BRACE	NECESSARY
B25-157-002-02	C-WALL	H-DUCT-24D	24D	M	CE	HVAC	CIVILFAIL		BRACE	NECESSARY
B32-010-001-01	C-WALL	E-SSPS	8H	M	CE	ELPS	CIVILFAIL	ENVIRON	TSHIELD	NECESSARY
B30-002-023-02	E-BUSDUCT	E-GENERIC	23B	M	EE	MT	SPTFAIL		SUPPORT	NECESSARY
B28-008-022-02	E-K2614-3	P-5044-2	23A	M	EE	FW	SPTFAIL		TMODIFY	EXPEDIENT
B32-003-005-04	E-LF-BOL	E-480VSWGR	5B2	M	EE	ELPS	FIXTURE		SUPPORT	EXPEDIENT
B16-008-002-03	E-LF-8	E-KT999-1	7B	M	EE	SI	FIXTURE		RELOCATE	EXPEDIENT
B30-002-007-01	E-LF-8	E-GENERIC	7B	M	EE	MT	FIXTURE		CHAIN	EXPEDIENT
B32-005-001-01	E-LF-8	E-BATTERY	6B1	M	EE	ELPS	FIXTURE		CHAIN	NECESSARY
B32-005-002-02	E-LF-8	E-BATTERY	6B2	M	EE	ELPS	FIXTURE		CHAIN	NECESSARY
B32-005-003-03	E-LF-8	E-BATTERY	6B3	M	EE	ELPS	FIXTURE		CHAIN	NECESSARY
B30-004-008-01	I-CABINET	E-GENERIC	8C	M	ICE	MT	SPTFAIL		SUPPORT	EXPEDIENT
B11-011-006-03	I-VRS-PANEL	E-KT075	5B1	M	ICE	CVCS	SPTFAIL		BRACE	EXPEDIENT
B01-012-002-01	M-FE	E-HNKA	6B2	M	EMS	AUXFW	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B25-144-005-02	M-FE	H-DUCT-6B5	6B5	M	EMS	HVAC	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B30-005-007-01	M-FE	E-K7366-3+	7B	M	EMS	MT	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B30-005-007-02	M-FE	E-GENERIC	7B	M	EMS	MT	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B32-001-008-04	M-FE	E-4.16KVSWGR	24A	M	EMS	ELPS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B32-003-005-03	M-FE	E-480VSWGR	5B2	M	EMS	ELPS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B32-004-001-02	M-FE	E-DCSWGR	6B1	M	EMS	ELPS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B32-004-002-02	M-FE	E-DCSWGR	6B2	M	EMS	ELPS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B32-004-004-01	M-FE	E-DCSWGR	6B3	M	EMS	ELPS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B25-108-002-01	M-HOIST-7B	E-K7518-3	7B	M	EMS	HVAC	DEFLECT		STOP	EXPEDIENT
B25-144-005-01	M-HR	H-DUCT-6B5	6B5	M	PSE	HVAC	SPTFAIL		SUPPORT	NECESSARY
B30-006-005-02	M-HR	E-K8377-1.50	5B4	M	EMS	MT	SPTFAIL		SUPPORT	NECESSARY
B30-007-008-01	N-CABINET	I-POV2+	8C	M	NPO	MT	LOOSE		RELOCATE	EXPEDIENT
B32-005-003-02	N-CABINET	E-BATTERY	6B3	M	EE	ELPS	SPTFAIL		SECLOOSE	NECESSARY
B32-009-001-01	N-CABINET	I-VB2	8C	M	NPO	ELPS	LOOSE		RELOCATE	EXPEDIENT
B32-009-001-02	N-CABINET	I-VB5	8C	M	NPO	ELPS	LOOSE		RELOCATE	EXPEDIENT
B32-001-008-01	N-EQUIP	E-4.16KVSWGR	24A	M	NPO	ELPS	LOOSE		RELOCATE	EXPEDIENT
B32-001-009-01	N-EQUIP	E-4.16KVSWGR	24B	M	NPO	ELPS	LOOSE		RELOCATE	EXPEDIENT
B32-001-010-01	N-EQUIP	E-4.16KVSWGR	24C	M	NPO	ELPS	LOOSE		RELOCATE	EXPEDIENT
B32-001-009-04	N-LOCKER	E-4.16KVSWGR	24B	M	NPO	ELPS	LOOSE		RELOCATE	EXPEDIENT
B25-082-004-02	P-CARDOX-7B	E-K7967-2	7B	M	PSE	HVAC	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B32-005-001-02	P-DRAIN-6B1	E-BATTERY	6B1	M	PSE	ELPS	PIPEFAIL		SUPPORT	EXPEDIENT
B32-005-002-03	P-DRAIN-6B2	E-BATTERY	6B2	M	PSE	ELPS	PIPEFAIL		SUPPORT	EXPEDIENT
B32-005-003-04	P-DRAIN-6B3	E-BATTERY	6B3	M	PSE	ELPS	PIPEFAIL		SUPPORT	EXPEDIENT
B24-008-004-01	P-SA-5B4	E-KT554-2	5B4	M	PSE	EDG	SPTFAIL		TMODIFY	EXPEDIENT
B30-006-005-01	P-SA-5B4	E-K6875-1+	5B4	M	PSE	MT	SPTFAIL		SUPPORT	NECESSARY
B22-003-002-03	C-DOOR	E-K2106-4	20	NAN		ASW	CIVILFAIL			
B30-001-007-01	C-MR-7B	E-GENERIC	7B	NAN		MT	CIVILFAIL			
B25-154-003-02	C-WALL	H-DUCT-23B	23B	NAN		HVAC	CIVILFAIL			
B11-007-002-07	E-BUSDUCT	E-K2667-3	23B	NAN		CVCS	DEFLECT			
B30-002-007-02	E-LF-11	E-GENERIC	7B	NAN		MT	FIXTURE			
B32-001-008-02	E-LF-9	E-4.16KVSWGR	24A	NAN		ELPS	FIXTURE			
B32-001-009-02	E-LF-9	E-4.16KVSWGR	24B	NAN		ELPS	FIXTURE			
B32-001-010-02	E-LF-9	E-4.16KVSWGR	24C	NAN		ELPS	FIXTURE			
B32-003-004-01	E-LF-9	E-480VSWGR	5B1	NAN		ELPS	FIXTURE			
B32-003-005-01	E-LF-9	E-480VSWGR	5B2	NAN		ELPS	FIXTURE			
B32-003-006-01	E-LF-9	E-480VSWGR	5B3	NAN		ELPS	FIXTURE			
B30-002-020-01	E-480VSWGR	E-GENERIC	20	NAN		MT	SPTFAIL			
B30-003-020-01	H-DUCT-20	E-GENERIC	20	NAN		MT	DEFLECT	SPTFAIL		

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

---------- AREA=ELECTRICAL EQUIPMENT SPACES ----------

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B20-005-002-02	H-DUCT-23A	E-K2626-4	23A	NAN		CCW	DEFLECT			
B25-105-004-01	H-DUCT-5B4	E-K7579-3	5B4	NAN		HVAC	DEFLECT			
B25-144-004-03	I-XYM-498	H-DUCT-6B5	6B5	NAN		HVAC	SPTFAIL			
B24-002-008-03	M-HR	E-K2607-3	23C	NAN		EDG	SPTFAIL			
B30-005-020-01	M-HR	E-GENERIC	20	NAN		MT	SPTFAIL	DEFLECT		
B32-001-011-05	P-DRAIN-23F	E-K2607+	23F	NAN		ELPS	SPTFAIL	PIPEFAIL		

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=HVAC EQUIPMENT SPACES

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B25-109-002-02	C-COVER	E-K6843-2.50	8B4	A	HVA	HVAC	LOOSE			
B25-044-001-01	C-GRATING	I-E2	3V4	A	CE	HVAC	INTERFERE			
B28-003-001-12	C-GRATING	PA-2990-4	3V2	A	CE	FW	INTERFERE			
B25-041-001-01	C-HATCH	H-E1	3V3	A	CE	HVAC	LOOSE			
B25-041-001-02	C-HATCH	H-E2	3V3	A	CE	HVAC	LOOSE			
B28-003-013-04	C-LADDER-3V3	P-4260-2	3V3	A	CE	FW	CIVILFAIL			
B28-003-013-05	C-LADDER-3V8	P-4260-2	3V8	A	CE	FW	CIVILFAIL			
B28-003-013-10	C-LADDER-3V8	P-5052-2	3V8	A	CE	FW	DEFLECT			
B25-040-003-01	C-MR-3V3	H-E1	3V3	A	CE	HVAC	CIVILFAIL			
B25-018-011-01	C-MR-3V6	H-E4	3V6	A	CE	HVAC	CIVILFAIL			
B25-018-002-01	C-MR-3V7	H-E5	3V7	A	CE	HVAC	CIVILFAIL			
B25-021-001-02	C-MR-3V8	H-E6	3V8	A	CE	HVAC	CIVILFAIL			
B25-152-001-01	C-WALL	H-S69	24E	A	CE	HVAC	CIVILFAIL			
B25-152-001-02	C-WALL	H-S69	24E	A	CE	HVAC	CIVILFAIL			
B25-155-001-01	C-WALL	H-S68	24E	A	CE	HVAC	CIVILFAIL			
B25-155-001-02	C-WALL	H-S68	24E	A	CE	HVAC	CIVILFAIL			
B25-158-001-01	C-WALL	H-S67	24E	A	CE	HVAC	CIVILFAIL			
B25-158-001-04	C-WALL	H-S67	24E	A	CE	HVAC	CIVILFAIL			
B28-003-013-03	C-2L-2	P-4260-2	3V3	A	CE	FW	CIVILFAIL			
B01-002-003-02	C-62L-2	P-0476-4	3V2	A	CE	AUXFW	CIVILFAIL			
B01-003-003-02	C-62L-2	P-0573-4	3V2	A	CE	AUXFW	CIVILFAIL			
B04-001-001-01	C-62L-2	P-0593-4	3V2	A	CE	MNSTM	CIVILFAIL			
B25-030-001-01	H-HTG-COIL	H-S1	3V1	A	HVA	HVAC	SPTFAIL	ENVIRON		
B25-077-001-02	H-HTG-COIL	H-S33+	8B2	A	HVA	HVAC	SPTFAIL	ENVIRON		
B25-157-002-05	H-S71	H-DUCT-24E	24E	A	HVA	HVAC	SPTFAIL			
B28-003-013-01	M-PWST	P-4260-2	3V3	A	CE	FW	SPTFAIL			
B25-034-002-01	M-TCV5003	I-SV113	3V1	A	EMS	HVAC	MECHFAIL	ENVIRON		
B25-158-001-03	C-BLOCKWALL	H-DUCT-24E	24E	M	CE	HVAC	CIVILFAIL		BRACE	OVERLAP
B25-158-002-02	C-BLOCKWALL	E-LPH37	24E	M	CE	HVAC	CIVILFAIL		BRACE	OVERLAP
B30-001-008-02	C-BLOCKWALL	E-GENERIC	8B4	M	CE	MT	CIVILFAIL		BRACE	OVERLAP
B25-040-015-01	C-1L-2	H-DAMPER	3V4	M	CE	HVAC	CIVILFAIL		BRACE	NECESSARY
B25-048-004-01	C-1L-2	E-K8237-0.75	3V4	M	CE	HVAC	CIVILFAIL		BRACE	NECESSARY
B25-018-009-01	C-111L-2	H-DUCT-3V8	3V8	M	CE	HVAC	CIVILFAIL		BRACE	NECESSARY
B25-035-004-02	C-112L-2	E-K8160-2	3V2	M	CE	HVAC	CIVILFAIL		BRACE	NECESSARY
B25-035-004-03	C-112L-2	E-K8161-1.50	3V2	M	CE	HVAC	CIVILFAIL		BRACE	NECESSARY
B25-018-011-02	C-15L-2+	H-E4	3V6	M	CE	HVAC	CIVILFAIL		SECLOOSE	EXPEDIENT
B25-019-001-01	C-18L-2+	H-E5	3V7	M	CE	HVAC	LOOSE		SECLOOSE	EXPEDIENT
B25-019-001-02	C-18L-2+	H-E5	3V7	M	CE	HVAC	CIVILFAIL		SECLOOSE	EXPEDIENT
B25-021-001-01	C-22L-2+	H-E6	3V8	M	CE	HVAC	LOOSE		SECLOOSE	EXPEDIENT
B25-021-001-03	C-22L-2+IL	H-E6	3V8	M	CE	HVAC	CIVILFAIL		SECLOOSE	EXPEDIENT
B25-040-004-01	C-5L-2+	H-E2	3V4	M	CE	HVAC	LOOSE		SECLOOSE	EXPEDIENT
B25-040-001-01	C-9L-2+	H-E1	3V3	M	CE	HVAC	LOOSE		SECLOOSE	EXPEDIENT
B01-002-003-03	C-99L-2	P-0476-4	3V2	M	CE	AUXFW	CIVILFAIL		BRACE	NECESSARY
B01-003-003-01	C-99L-2	P-0573-4	3V2	M	CE	AUXFW	CIVILFAIL		BRACE	NECESSARY
B04-001-001-02	C-99L-2	P-0593-4	3V2	M	CE	MNSTM	CIVILFAIL		BRACE	NECESSARY
B25-014-001-01	C-99L-2	M-RCV12	3V2	M	CE	CI	CIVILFAIL		BRACE	NECESSARY
B25-014-001-02	C-99L-2	M-RCV12	3V2	M	CE	CI	CIVILFAIL		BRACE	NECESSARY
B25-098-002-01	C-99L-2	P-4391-4	3V2	M	CE	CI	CIVILFAIL		BRACE	NECESSARY
B25-030-001-02	E-LF-8	H-S1	3V1	M	EE	HVAC	FIXTURE		CHAIN	EXPEDIENT
B25-032-001-01	E-LF-8	H-S2	3V1	M	EE	HVAC	FIXTURE		CHAIN	EXPEDIENT
B25-040-021-01	E-LF-8	I-SV31	3V2	M	EE	HVAC	FIXTURE		CHAIN	EXPEDIENT
B25-077-001-01	E-LF-8	H-S33+	3V1	M	EE	HVAC	FIXTURE		CHAIN	EXPEDIENT
B25-107-001-02	E-R-8B4	H-S38	8B4	M	EE	HVAC	DEFLECT		SUPPORT	EXPEDIENT

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=HVAC EQUIPMENT SPACES

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B25-105-003-01	H-CHILLER	H-CR38	8B4	M	HVA	HVAC	SPTFAIL		SUPPORT	EXPEDIENT
B25-152-002-01	H-DUCT-24E	E-LPF36	24E	M	HVA	HVAC	SPTFAIL		SUPPORT	NECESSARY
B25-157-002-01	H-DUCT-24E	H-S67	24E	M	HVA	HVAC	SPTFAIL	DEFLECT	SUPPORT	NECESSARY
B28-008-023-01	H-DUCT-24E	P-5045-2	24E	M	HVA	FW	SPTFAIL		SUPPORT	NECESSARY
B25-105-001-02	H-E36	E-CP37	8B4	M	ENG	HVAC	SPTFAIL		SUPPORT	OVERLAP
B25-105-002-01	H-E36	E-CP37	8B4	M	ENG	HVAC	SPTFAIL		SUPPORT	OVERLAP
B25-152-001-03	H-S70	H-S69	24E	M	HVA	HVAC	SPTFAIL		SUPPORT	EXPEDIENT
B30-005-008-01	M-FE	H-GENERIC	8B4	M	EMS	MT	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B30-005-024-01	M-FE	H-GENERIC	24E	M	EMS	MT	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B25-151-002-01	N-LOCKER	H-GENERIC	24E	M	NPO	HVAC	LOOSE		RELOCATE	EXPEDIENT
B25-155-002-01	N-LOCKER	E-LPG63	24E	M	NPO	HVAC	LOOSE		RELOCATE	EXPEDIENT
B25-158-001-02	N-LOCKER	H-S67	24E	M	NPO	HVAC	LOOSE		RELOCATE	EXPEDIENT
B25-158-002-01	N-LOCKER	E-LPH37	24E	M	NPO	HVAC	LOOSE		RELOCATE	EXPEDIENT
B25-079-001-01	P-DRAIN-8B2	H-S34	8B2	M	PSE	HVAC	PIPEFAIL	SPTFAIL	SUPPORT	NECESSARY
B25-124-001-01	P-DRAIN-8B4	H-DAMPER	8B4	M	PSE	HVAC	SPTFAIL		SUPPORT	EXPEDIENT
B25-076-003-01	P-SPR-8B2	H-S33	8B2	M	PSE	HVAC	SPTFAIL		SUPPORT	EXPEDIENT
B25-076-003-02	P-SPR-8B2	H-S33	8B2	M	PSE	HVAC	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-008-02	P-SPR-8B4	E-GENERIC	8B4	M	PSE	MT	SPTFAIL		SUPPORT	NECESSARY
B25-105-001-01	P-USB-8B4	H-CR37+	8B4	M	PSE	HVAC	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-008-01	P-USB-8B4	H-DUCT-8B4	8B4	M	PSE	MT	SPTFAIL		SUPPORT	EXPEDIENT
B25-034-003-01	P-3103-2	I-SV113	3V1	M	PSE	HVAC	PIPEFAIL		SUPPORT	EXPEDIENT
B25-031-006-01	P-3104-6	E-K5338-1	3V1	M	PSE	HVAC	DEFLECT		SUPPORT	EXPEDIENT
B25-079-001-02	P-3105-6	H-S34	8B2	M	PSE	HVAC	SPTFAIL		SUPPORT	NECESSARY
B25-040-001-02	C-MR-3V3	H-E1	3V3	NAN		HVAC	CIVILFAIL			
B25-040-004-02	C-MR-3V4	H-E2	3V4	NAN		HVAC	CIVILFAIL			
B25-008-001-01	C-PLAT-3V8	I-RE28A+	3V8	NAN		CI	CIVILFAIL			
B28-003-011-02	C-SB	P-4259-4	3V3	NAN		FW	LOOSE			
B25-050-001-01	C-3L-2	H-DAMPER	3V3	NAN		HVAC	CIVILFAIL			
B25-049-001-01	C-4L-2	H-DAMPER	3V3	NAN		HVAC	CIVILFAIL			
B28-003-012-02	C-4L-2	P-5053-2	3V3	NAN		FW	CIVILFAIL			
B28-003-013-06	E-LF-3V3	P-4260-2	3V3	NAN		FW	FIXTURE			
B28-003-013-07	E-LF-3V3	P-4260-2	3V3	NAN		FW	FIXTURE			
B28-003-013-09	E-LF-3V3	P-4260-2	3V3	NAN		FW	FIXTURE			
B25-032-002-01	E-LF-8	E-K8114-1.50	3V1	NAN		HVAC	FIXTURE			
B25-043-001-01	E-LF-9	H-E2	3V4	NAN		HVAC	FIXTURE			
B25-077-001-03	E-LF-9	H-S33+	8B2	NAN		HVAC	FIXTURE			
B30-002-008-01	E-LF-9	H-GENERIC	8B4	NAN		MT	FIXTURE			
B30-002-024-01	E-LF-9	H-567+	24E	NAN		MT	FIXTURE			
B28-003-013-08	H-DUCT-3V3	P-4260-2	3V3	NAN		FW	DEFLECT			
B25-105-003-02	M-VALVE	H-CR38	8B4	NAN		HVAC	DEFLECT	MECHFAIL		
B25-107-001-01	P-DRAIN-8B4	H-S38	8B4	NAN		HVAC	DEFLECT			
B25-029-006-04	P-1705-4	H-DUCT-3V2	3V2	NAN		HVAC	DEFLECT			
B28-003-001-13	P-2997-2	PA-2990-4	3V2	NAN		FW	DEFLECT			
B25-029-006-03	PS-1600-2	H-DUCT-3V2	3V2	NAN		HVAC	DEFLECT			
B25-077-002-01	NS-CD	E-K9670+	8B2	X	QC	HVAC	HOUSEKEEP			
B25-082-004-01	NS-CD	E-K9967	8B2	X	QC	HVAC	HOUSEKEEP			
B25-113-005-01	NS-CD	E-KV018+	8B4	X	QC	HVAC	HOUSEKEEP			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=INTAKE STRUCTURE

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B22-003-002-01	C-PLAT-30A3	E-K1011	30A3	A	CE	ASW	CIVILFAIL			
B22-004-002-01	C-PLAT-30A4	E-K1017	30A4	A	CE	ASW	CIVILFAIL			
B22-003-002-02	E-LF-9	E-KZ005	30A3	A	EE	ASW	FIXTURE			
B22-004-002-02	E-LF-9	E-KZ006	30A4	A	EE	ASW	FIXTURE			
B22-008-004-07	P-0709-4	E-K1045-2	30A5	A	PSE	ASW	DEFLECT			
B22-007-001-01	P-USB-30A5	E-ASWGO	30A5	M	PSE	ASW	SPTFAIL		SUPPORT	EXPEDIENT
B22-007-001-03	P-0477-16	M-ASWGO	30A5	M	PSE	ASW	PIPEFAIL		SUPPORT	NECESSARY
B22-007-001-02	P-0943-16	M-ASWGO	30A5	M	PSE	ASW	PIPEFAIL		SUPPORT	NECESSARY
B22-003-002-04	P-0954-16	E-K1010-3+	30A5	M	PSE	ASW	PIPEFAIL		SUPPORT	NECESSARY
B25-160-003-01	E-LF-ND	H-DUCT-30A5	30A5	NAN		HVAC	FIXTURE			
B22-007-004-01	E-LF-9	E-K1091	30A5	NAN		ASW	FIXTURE			
B22-008-004-01	E-LF-9	E-K1093	30A5	NAN		ASW	FIXTURE			
B22-001-001-02	M-BOTTLE	P-0687-24	30A5	NAN		ASW	SPTFAIL			
B22-002-001-03	M-BOTTLE	P-0680-24	30A5	NAN		ASW	SPTFAIL			
B22-002-001-04	P-3836-4	P-0680-24	30A5	NAN		ASW	DEFLECT	PIPEFAIL		

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=OUTSIDE AREAS

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B30-001-029-03	C-CRANE-29	E-GENERIC	29	A	CE	MT	CIVILFAIL			
B21-001-001-01	C-LADDER	P-1917-4	26	A	CE	AUXFW	CIVILFAIL			
B21-001-002-01	C-LADDER	M-CST	26	A	CE	AUXFW	CIVILFAIL			
B21-001-002-02	C-LADDER	M-CST	26	A	CE	AUXFW	CIVILFAIL			
B01-002-003-07	C-SB	P-0476-4	29	A	CE	AUXFW	CIVILFAIL			
B01-003-003-05	C-SB	P-0573-4	29	A	CE	AUXFW	CIVILFAIL			
B04-001-001-04	C-SB	P-0593-4	29	A	CE	MNSTM	CIVILFAIL			
B30-001-029-02	C-SB	GENERIC	29	A	CE	MT	CIVILFAIL			
B30-001-029-04	C-SB	E-GENERIC	29	A	CE	MT	CIVILFAIL			
B28-003-013-02	C-4L-2	P-4260-2	26	A	CE	FW	CIVILFAIL			
B01-003-003-04	C-42FW-2	P-0576-3	29	A	PSE	AUXFW	INTERFERE			
B30-001-029-05	C-42FW-2	GENERIC	29	A	CE	MT	CIVILFAIL			
B03-017-023-01	C-44FW-2	E-K5769-1	29	A	CE	MNSTM	CIVILFAIL			
B03-014-004-01	C-48FW-2	E-K5806-1	29	A	CE	MNSTM	CIVILFAIL			
B01-002-008-02	E-LF-29	I-FT77	29	A	CE	AUXFW	FIXTURE			
B04-001-001-06	E-LF-52	PA-0593-4	29	A	EE	MNSTM	FIXTURE			
B30-002-029-01	E-500KV	E-GENERIC	29	A	EE	MT	SPTFAIL			
B30-002-029-02	E-500KV	E-GENERIC	29	A	EE	MT	SPTFAIL			
B30-002-029-03	E-500KV	E-GENERIC	29	A	EE	MT	MECHFAIL			
B01-008-002-01	I-FS4	E-LCV106	29	A	PSE	AUXFW	PIPEFAIL			
B01-009-002-01	I-FS4	E-LCV107	29	A	PSE	AUXFW	PIPEFAIL			
B28-003-011-01	M-PWST	P-4259-4	26	A	CE	FW	SPTFAIL			
B28-003-012-01	M-PWST	P-4261-2	26	A	CE	FW	SPTFAIL			
B21-001-001-03	M-TANK	M-CST	26	A	CE	AUXFW	SPTFAIL			
B01-002-003-04	P-1743-16	P-0476-4	29	A	PSE	AUXFW	DEFLECT			
B03-024-001-01	PS-0227-28	I-PT524	29	A	PSE	MNSTM	DEFLECT	INTERFERE		
B01-002-003-05	C-CRANE-29	P-0476-4	29	M	CE	AUXFW	CIVILFAIL		BRACE	EXPEDIENT
B01-003-003-03	C-CRANE-29	P-0573-4	29	M	CE	AUXFW	CIVILFAIL		BRACE	EXPEDIENT
B04-001-001-03	C-CRANE-29	P-0593-4	29	M	CE	MNSTM	CIVILFAIL		BRACE	EXPEDIENT
B30-001-029-01	C-CRANE-29	GENERIC	29	M	CE	MT	CIVILFAIL		BRACE	EXPEDIENT
B03-017-001-01	C-PLAT-29	I-PCV19	29	M	ICE	MNSTM	CIVILFAIL		TSHIELD	EXPEDIENT
B03-018-001-01	C-PLAT-29	I-PCV20	29	M	ICE	MNSTM	CIVILFAIL		TSHIELD	EXPEDIENT
B01-002-005-01	C-RSM-29	P-0569-3	29	M	CE	AUXFW	RELSTRUCT		CLEARANCE	OVERLAP
B03-009-002-01	C-30FW-2	M-FCV41	29	M	CE	MNSTM	CIVILFAIL		BRACE	NECESSARY
B03-017-023-02	C-46FW-2	E-K5769-1	29	M	CE	MNSTM	CIVILFAIL		BRACE	NECESSARY
B30-002-029-04	E-500KV	E-GENERIC	29	M	EE	MT	SPTFAIL		BRACE	NECESSARY
B30-005-029-02	M-BOTTLE	E-GENERIC	29	M	EMS	MT	SPTFAIL		SUPPORT	OVERLAP
B30-005-029-01	M-HOIST-29	E-GENERIC	29	M	EMS	MT	MECHFAIL		STOP	EXPEDIENT
B01-012-002-08	P-0510-2	E-K5836-2	29	M	PSE	AUXFW	SPTFAIL		SUPPORT	EXPEDIENT
B02-003-002-01	P-1743-16	E-K5839-2	29	M	PSE	AUXFW	DEFLECT	INTERFERE	RELOCATE	EXPEDIENT
B30-006-029-02	P-3103-2	I-PM104+	29	M	PSE	MT	SPTFAIL		SUPPORT	NECESSARY
B30-006-029-03	P-3104-6	E-GENERIC	29	M	PSE	MT	SPTFAIL		SUPPORT	NECESSARY
B30-006-029-01	P-3228-3	I-PM104+	29	M	PSE	MT	SPTFAIL		SUPPORT	NECESSARY
B01-002-005-02	P-3433-1.50+	I-FT50+	29	M	PSE	AUXFW	DEFLECT	INTERFERE	SUPPORT	NECESSARY
B01-002-006-02	PA-0227-28	I-FT50	29	M	PSE	AUXFW	SPTFAIL		SUPPORT	EXPEDIENT
B01-002-006-01	PA-0228-28	I-FT50	29	M	PSE	AUXFW	SPTFAIL		SUPPORT	EXPEDIENT
B01-002-008-01	PA-0555-16	I-FT77	29	M	PSE	AUXFW	PIPEFAIL		SUPPORT	EXPEDIENT
B30-006-029-04	PA-0583-28	GENERIC	29	M	PSE	MT	SPTFAIL		SUPPORT	EXPEDIENT
B01-008-001-01	PA-0584-28	M-LCV106	29	M	PSE	AUXFW	SPTFAIL		SUPPORT	EXPEDIENT
B03-024-001-02	PS-0227-28	I-PT524	29	M	ENG	MNSTM	SPTFAIL		BRACE	OVERLAP
B03-025-001-01	PS-0227-28	I-PT525	29	M	EMS	MNSTM	DEFLECT	INTERFERE	TMODIFY	NECESSARY
B03-021-001-01	PS-0228-28	I-PT514	29	M	ENG	MNSTM	SPTFAIL		BRACE	OVERLAP
B01-012-002-10	C-DOOR	E-K5836-2	29	NAN		AUXFW	SPTFAIL			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=OUTSIDE AREAS

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B21-001-001-02	E-LF-26	M-CST	26	NAN		AUXFW	FIXTURE			
B03-025-001-02	E-LF-5	I-PM108	29	NAN		MNSTM	FIXTURE			
B01-002-003-06	P-3427-1.50	P-0476-4	29	NAN		AUXFW	DEFLECT			
B03-010-001-01	PA-3426-1.50	M-FCV42	29	NAN		MNSTM	DEFLECT			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=PENETRATION AREA

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B20-032-001-02	C-DOOR	P-0082-20	3CC	A	CE	CCW	SPTFAIL			
B02-004-001-01	C-MR-3CC	M-FCV440	3CC	A	CE	AUXFW	CIVILFAIL			
B02-005-001-01	C-MR-3CC	M-FCV441	3CC	A	CE	AUXFW	CIVILFAIL			
B30-001-003-03	C-MR-3CC	M-FCV44	3CC	A	CE	MT	CIVILFAIL			
B03-003-001-02	C-SB	PS-0785-10	3CC	A	CE	MNSTM	CIVILFAIL			
B03-003-001-01	C-3GW-2	M-FCV23	3CC	A	CE	MNSTM	CIVILFAIL			
B03-012-002-01	C-3GW-2	M-FCV44	3CC	A	CE	MNSTM	CIVILFAIL			
B03-011-001-04	C-8GW-2	M-FCV43	3CC	A	CE	MNSTM	CIVILFAIL			
B03-011-002-01	C-8GW-2	M-FCV43	3CC	A	CE	MNSTM	CIVILFAIL			
B01-002-010-01	E-LF-9	I-FT78	3CC	A	EE	AUXFW	FIXTURE			
B01-010-001-01	E-LF-9	M-LCV108	3CC	A	EE	AUXFW	FIXTURE			
B01-011-001-01	E-LF-9	M-LCV109	3CC	A	EE	AUXFW	FIXTURE			
B01-014-001-01	E-LF-9	M-LCV113	3CC	A	EE	AUXFW	FIXTURE			
B01-015-001-01	E-LF-9	M-LCV115	3CC	A	EE	AUXFW	FIXTURE			
B03-032-001-01	E-LF-9	I-PT546	3CC	A	EE	MNSTM	FIXTURE			
B03-019-016-01	H-S33	I-PCV21	3CC	A	HVA	MNSTM	SPTFAIL			
B03-020-016-01	H-S33	I-PCV22	3CC	A	HVA	MNSTM	SPTFAIL			
B23-002-005-02	I-FI27	P-0265-8	3CC	A	PSE	SPRAY	DEFLECT			
B25-141-002-01	I-PANEL	E-KK757-1.50	3CC	A	ICE	CI	SPTFAIL			
B20-052-001-02	I-RNGFFD	P-2679-2 +	3CC	A	ICE	CCW	SPTFAIL			
B02-005-002-01	M-FCV530	E-K6125-2.50	3CC	A	EMS	AUXFW	MECHFAIL			
B20-052-001-03	M-FFDHX	P-2679-2	3CC	A	EMS	CCW	SPTFAIL			
B06-018-002-02	M-TANK	E-KT260-3	3CC	A	EMS	RCS	SPTFAIL			
B15-002-004-01	P-0106-18	P-1981-4	3CC	A	PSE	SI	DEFLECT			
B04-001-001-10	P-0826-2	P-2416-1	3CC	A	PSE	MNSTM	PIPEFAIL			
B04-001-001-07	P-0922-2	P-2416-1	3CC	A	PSE	MNSTM	PIPEFAIL			
B18-011-002-02	P-1046-6	E-K6384	3CC	A	PSE	RHR	DEFLECT			
B20-038-006-03	P-1085-14	P-4172-0.75+	3CC	A	PSE	CCW	SPTFAIL			
B15-001-005-01	P-2278-18	PS-0735-8	3CC	A	PSE	SI	DEFLECT			
B20-046-002-01	P-3007-10	E-K6312-1.25	3CC	A	PSE	CCW	INTERFERE			
B18-001-012-01	PS-0119-8	PA-0119-8	3CC	A	ENG	RHR	INTERFERE			
B01-002-010-02	C-RSM-3CC	I-FT78	3CC	M	ENG	AUXFW	RELSTRUCT		TMODIFY	OVERLAP
B20-038-006-02	C-25GE-2	P-4172-0.75+	3CC	M	PSE	CCW	CIVILFAIL		TMODIFY	NECESSARY
B20-038-007-01	C-25GE-2	P-4172-0.75+	3CC	M	PSE	CCW	CIVILFAIL		TMODIFY	NECESSARY
B03-004-001-01	C-3GW-2	PS-3918-3	3CC	M	CE	MNSTM	CIVILFAIL		BRACE	NECESSARY
B30-001-003-01	C-74GW-2	I-GENERIC	3CC	M	CE	MT	CIVILFAIL		BRACE	NECESSARY
B30-001-003-02	C-74GW-2	E-GENERIC	3CC	M	CE	MT	CIVILFAIL		BRACE	NECESSARY
B16-001-001-01	E-DNCA	P-0221-18	3CC	M	EE	SI	DEFLECT		RELOCATE	EXPEDIENT
B20-059-002-01	E-KK216-1.50	P-0121-6	3CC	M	EE	CCW	DEFLECT		RELOCATE	EXPEDIENT
B01-002-009-01	E-K6310	P-5071-3	3CC	M	EE	AUXFW	DEFLECT	INTERFERE	RELOCATE	EXPEDIENT
B09-015-001-02	E-LF-8	P-2061-1	3CC	M	EE	RCS	FIXTURE		CHAIN	EXPEDIENT
B11-012-002-01	E-LF-8	I-HCV142	3CC	M	EE	CVCS	FIXTURE		CHAIN	EXPEDIENT
B15-002-006-01	E-LF-8	I-FT922	3CC	M	EE	SI	FIXTURE		CHAIN	EXPEDIENT
B18-001-015-01	E-LF-8	I-HCV670	3CC	M	EE	RHR	FIXTURE		CHAIN	EXPEDIENT
B18-001-018-01	E-LF-8	I-FT640	3CC	M	EE	RHR	FIXTURE		CHAIN	EXPEDIENT
B18-010-002-02	E-LF-8	I-HCV638	3CC	M	EE	RHR	FIXTURE		CHAIN	EXPEDIENT
B19-003-002-01	E-LF-8	I-9354B	3CC	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT
B23-017-002-01	E-LF-8	I-PT936	3CC	M	EE	SPRAY	FIXTURE		CHAIN	EXPEDIENT
B25-002-002-01	E-LF-8	I-FCV654	3CC	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT
B25-140-002-01	E-LF-8	I-FCV239	3CC	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT
B25-140-003-01	E-LF-8	I-FCV240	3CC	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT
B29-003-001-01	E-LF-8	I-FCV501	3CC	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT
B31-003-002-01	E-LF-8	I-FCV584	3CC	M	EE	CI	FIXTURE		CHAIN	EXPEDIENT

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=PENETRATION AREA

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B25-141-002-03	E-LF-9	I-RCHMC	3CC	M	EE	CI	FIXTURE		RELOCATE	EXPEDIENT
B10-003-001-01	E-RS-3CC	P-0746-3	3CC	M	EE	CVCS	DEFLECT		CLEARANCE	EXPEDIENT
B04-006-001-01	H-DUCT-3CC	M-FCV95	3CC	M	HVA	MNSTM	SPTFAIL		RELOCATE	OVERLAP
B09-005-005-04	H-DUCT-3CC	E-KK205-1	3CC	M	HVA	RCS	SPTFAIL		TSHIELD	EXPEDIENT
B09-005-005-03	H-LSP91	E-KK205-1	3CC	M	HVA	RCS	SPTFAIL		BRACE	NECESSARY
B09-006-005-02	H-LSP91	E-KK204-1	3CC	M	HVA	RCS	SPTFAIL		BRACE	NECESSARY
B20-040-003-01	M-HR	I-FI196	3CC	M	EMS	CCW	DEFLECT		STOP	EXPEDIENT
B03-013-004-01	M-TANK	E-K6542-1	3CC	M	EMS	MNSTM	SPTFAIL		STOP	EXPEDIENT
B20-038-006-04	M-TANKSGBD	P-4172-0.75	3CC	M	EMS	CCW	DEFLECT		TMODIFY	NECESSARY
B20-039-003-04	P-IAH-3CC	PA-0126-8	3CC	M	PSE	CCW	SPTFAIL	DEFLECT	SUPPORT	EXPEDIENT
B11-012-005-01	P-SA-3CC	E-K6893-0.75	3CC	M	PSE	CVCS	SPTFAIL		SUPPORT	EXPEDIENT
B23-018-003-01	P-SA-3CC	E-KT208-1.50	3CC	M	PSE	SPRAY	SPTFAIL		SUPPORT	EXPEDIENT
B25-035-004-01	P-SA-3CC	E-K8160-2	3CC	M	PSE	HVAC	DEFLECT		SUPPORT	NECESSARY
B25-134-001-01	P-SA-3CC	M-FCV699	3CC	M	PSE	CI	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-003-02	P-SA-3CC	I-PM72	3CC	M	PSE	MT	SPTFAIL		SUPPORT	EXPEDIENT
B01-012-002-03	P-SPR-3CC	E-KT254-1	3CC	M	PSE	AUXFW	SPTFAIL		SUPPORT	EXPEDIENT
B01-012-002-05	P-SPR-3CC	E-K7636-0.75	3CC	M	PSE	AUXFW	SPTFAIL		SUPPORT	NECESSARY
B01-012-002-06	P-SPR-3CC	E-K7636-0.75	3CC	M	PSE	AUXFW	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B02-004-002-01	P-SPR-3CC	E-K6134-3	3CC	M	PSE	AUXFW	DEFLECT		SUPPORT	EXPEDIENT
B03-030-001-01	P-SPR-3CC	I-PT544	3CC	M	PSE	MNSTM	SPTFAIL		SUPPORT	EXPEDIENT
B05-012-001-01	P-SPR-3CC	M-FCV160	3CC	M	PSE	MNSTM	SPTFAIL		SUPPORT	EXPEDIENT
B24-002-008-04	P-SPR-3CC	E-K2706-2+	3CC	M	PSE	EDG	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B25-008-002-01	P-SPR-3CC	E-KK216-1.50	3CC	M	PSE	CI	SPTFAIL		SUPPORT	EXPEDIENT
B25-008-002-02	P-SPR-3CC	E-KK216-1.50	3CC	M	PSE	CI	SPTFAIL		SUPPORT	NECESSARY
B25-008-002-04	P-SPR-3CC	E-KK216-1.50	3CC	M	PSE	CI	SPTFAIL		SUPPORT	EXPEDIENT
B25-009-002-02	P-SPR-3CC	E-KK217-1.50	3CC	M	PSE	CI	SPTFAIL		SUPPORT	EXPEDIENT
B28-004-007-01	P-SPR-3CC	PA-3605-2	3CC	M	PSE	FW	DEFLECT		SUPPORT	EXPEDIENT
B28-004-011-01	P-SPR-3CC	PA-3608-4	3CC	M	PSE	FW	SPTFAIL		SUPPORT	EXPEDIENT
B28-004-011-02	P-SPR-3CC	P-3603-4	3CC	M	PSE	FW	SPTFAIL		SUPPORT	NECESSARY
B28-006-001-01	P-SPR-3CC	I-FCV633	3CC	M	PSE	FW	SPTFAIL		SUPPORT	NECESSARY
B30-006-003-03	P-SPR-3CC	E-GENERIC	3CC	M	PSE	MT	SPTFAIL		SUPPORT	NECESSARY
B20-059-002-03	P-USB-3CC	P-0121-6+	3CC	M	PSE	CCW	PIPEFAIL	DEFLECT	SUPPORT	EXPEDIENT
B15-014-001-01	P-0381-4	I-8883	3CC	M	PSE	SI	DEFLECT		SUPPORT	NECESSARY
B18-011-002-01	P-0381-4	E-K6384	3CC	M	PSE	RHR	DEFLECT		SUPPORT	NECESSARY
B18-018-002-01	P-0381-4	E-K6385	3CC	M	PSE	RHR	DEFLECT		SUPPORT	NECESSARY
B20-052-001-01	P-0381-4	E-K2679-2+	3CC	M	PSE	CCW	DEFLECT		SUPPORT	EXPEDIENT
B15-002-003-01	P-0529-2	I-FE918	3CC	M	PSE	SI	SPTFAIL		SUPPORT	NECESSARY
B20-030-005-02	P-0529-2	PA-0099-12	3CC	M	PSE	CCW	SPTFAIL		SUPPORT	NECESSARY
B24-002-032-02	P-0721-12	E-K2704-2+	3CC	M	PSE	EDG	DEFLECT		SUPPORT	NECESSARY
B20-038-001-03	P-0726-4	P-2402-2	3CC	M	PSE	CCW	SPTFAIL		SUPPORT	OVERLAP
B20-038-008-01	P-0726-4	P-2403-2	3CC	M	PSE	CCW	SPTFAIL		SUPPORT	NECESSARY
B20-017-001-01	P-1040-2.50	P-3281-12	3CC	M	PSE	CCW	SPTFAIL	PIPEFAIL	CONSTDEF	OVERLAP
B20-018-006-01	P-1042-2.50	PA-0320-12	3CC	M	PSE	CCW	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP
B04-001-001-05	P-1043-2.50	M-FCV129	3CC	M	PSE	MNSTM	PIPEFAIL		SUPPORT	EXPEDIENT
B20-027-006-01	P-1043-2.50	PS-0319-12	3CC	M	PSE	CCW	DEFLECT		TMODIFY	NECESSARY
B01-014-002-02	P-1046-6	E-K6204-3	3CC	M	PSE	AUXFW	DEFLECT		SUPPORT	NECESSARY
B04-001-001-08	P-1046-6	P-2416-1	3CC	M	PSE	MNSTM	PIPEFAIL		SUPPORT	NECESSARY
B18-010-002-01	P-1046-6	I-HCV638	3CC	M	PSE	RHR	DEFLECT		SUPPORT	NECESSARY
B20-038-006-01	P-1046-6	P-4172-0.75+	3CC	M	PSE	CCW	DEFLECT		SUPPORT	NECESSARY
B24-002-008-01	P-1046-6	E-2706-2	3CC	M	PSE	EDG	DEFLECT		SUPPORT	NECESSARY
B24-002-008-02	P-1046-6	E-2706-2	3CC	M	PSE	EDG	DEFLECT		SUPPORT	EXPEDIENT
B25-008-002-03	P-1046-6	E-KK216-1.50	3CC	M	PSE	CI	DEFLECT		SUPPORT	NECESSARY
B06-018-002-01	P-1750-6	E-KT260-3	3CC	M	PSE	RCS	DEFLECT		SUPPORT	EXPEDIENT

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=PENETRATION AREA

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B15-002-009-01	P-1750-8	PA-3850-4	3CC	M	PSE	SI	DEFLECT		TMODIFY	NECESSARY
B15-002-009-02	P-1750-8	PS-3850-4	3CC	M	PSE	SI	DEFLECT		SUPPORT	EXPEDIENT
B18-001-017-01	P-1750-8	P-0985-12	3CC	M	PSE	RHR	DEFLECT		SUPPORT	EXPEDIENT
B25-019-002-01	P-1750-8	E-K6261-3	3CC	M	PSE	HVAC	DEFLECT		SUPPORT	EXPEDIENT
B20-032-001-03	P-2369-18	I-FCV360	3CC	M	ICE	CCW	DEFLECT		TMODIFY	NECESSARY
B20-023-001-02	P-2399-16	I-FCV366	3CC	M	ICE	CCW	DEFLECT		TMODIFY	NECESSARY
B20-045-001-01	P-2681-2	PA-0133-10	3CC	M	PSE	CCW	DEFLECT		TMODIFY	NECESSARY
B02-002-002-02	P-2772-4	E-K6246-3	3CC	M	PSE	AUXFW	DEFLECT		SUPPORT	EXPEDIENT
B09-010-004-07	P-2772-4	E-K9122-2	3CC	M	PSE	RCS	DEFLECT		SUPPORT	EXPEDIENT
B03-019-023-01	P-3105-6	E-K6556-3	3CC	M	PSE	MNSTM	DEFLECT	INTERFERE	SUPPORT	NECESSARY
B09-012-001-01	P-3133-4	M-8045	3CC	M	PSE	RCS	DEFLECT		SUPPORT	EXPEDIENT
B04-001-001-09	P-3738-4	P-2416-1	3CC	M	PSE	MNSTM	PIPEFAIL		SUPPORT	NECESSARY
B02-001-003-02	P-3874-2	PA-0557-16	3CC	M	PSE	AUXFW	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B23-004-001-06	P-4072-3	P-0325-8	3CC	M	PSE	SPRAY	DEFLECT		SUPPORT	NECESSARY
B23-004-004-05	P-4072-3	P-0326-8	3CC	M	PSE	SPRAY	DEFLECT	SPTFAIL	SUPPORT	NECESSARY
B10-004-002-01	P-4303-1	I-FT144	3CC	M	PSE	CVCS	SPTFAIL		SUPPORT	EXPEDIENT
B10-005-002-01	P-4303-1	I-FT143	3CC	M	PSE	CVCS	SPTFAIL		SUPPORT	EXPEDIENT
B10-006-002-01	P-4303-1	I-FT116	3CC	M	PSE	CVCS	SPTFAIL		SUPPORT	EXPEDIENT
B10-007-002-01	P-4303-1	I-FT115	3CC	M	PSE	CVCS	SPTFAIL		SUPPORT	EXPEDIENT
B18-018-002-02	P-4303-1	E-K6384-1.25	3CC	M	PSE	RHR	DEFLECT		SUPPORT	EXPEDIENT
B30-006-003-01	P-4303-1	I-PM123	3CC	M	PSE	MT	SPTFAIL		SUPPORT	EXPEDIENT
B23-004-001-07	P-4347-3	P-0325-8	3CC	M	PSE	SPRAY	DEFLECT		SUPPORT	NECESSARY
B23-004-004-04	P-4347-3	P-0326-8	3CC	M	PSE	SPRAY	DEFLECT	SPTFAIL	SUPPORT	NECESSARY
B10-004-002-02	PA-0826-2	I-FT144	3CC	M	PSE	CVCS	SPTFAIL		SUPPORT	EXPEDIENT
B17-007-002-01	PS-0118-8	E-K6355-2	3CC	M	EE	SI	DEFLECT		TMODIFY	EXPEDIENT
B18-001-006-01	PS-0118-8	PA-0118-8	3CC	M	ENG	RHR	INTERFERE		CLEARANCE	OVERLAP
B10-003-001-02	PS-1042-2.50	P-0746-3	3CC	M	PSE	CVCS	DEFLECT		SUPPORT	NECESSARY
B05-009-004-01	PS-1750-8	E-K6278-3	3CC	M	PSE	MNSTM	DEFLECT	SPTFAIL	SUPPORT	NECESSARY
B30-001-003-05	C-COVER	E-GENERIC	3CC	NAN		MT	LOOSE			
B09-005-005-06	C-DOOR	E-KK205-1	3CC	NAN		RCS	CIVILFAIL			
B03-011-001-01	C-MR-3CC	M-FCV43	3CC	NAN		MNSTM	CIVILFAIL			
B03-019-001-02	C-PLAT-3CC	M-PCV21	3CC	NAN		MNSTM	CIVILFAIL			
B03-020-001-02	C-PLAT-3CC	M-PCV22	3CC	NAN		MNSTM	CIVILFAIL			
B20-059-002-04	C-SB	P-0121-6	3CC	NAN		CCW	DEFLECT	SPTFAIL		
B01-010-002-01	C-1GW-2	E-K6494-3	3CC	NAN		AUXFW	CIVILFAIL			
B03-019-001-01	C-19GW-2	M-PCV21	3CC	NAN		MNSTM	CIVILFAIL			
B03-020-001-01	C-19GW-2	M-PCV22	3CC	NAN		MNSTM	CIVILFAIL			
B03-013-004-02	C-2GW-2	E-K6543-1.50	3CC	NAN		MNSTM	CIVILFAIL			
B03-011-001-05	C-8GW-2	M-FCV43	3CC	NAN		MNSTM	CIVILFAIL			
B20-020-003-03	E-K3809-1.50	P-0128-1.50	3CC	NAN		CCW	DEFLECT			
B20-023-001-03	E-LF-8	M-FCV366	3CC	NAN		CCW	FIXTURE			
B02-001-003-01	E-LF-9	PA-0557-16	3CC	NAN		AUXFW	FIXTURE			
B20-025-008-01	E-LF-9	I-FT70	3CC	NAN		CCW	FIXTURE			
B23-010-001-01	E-LF-9	M-9001A+	3CC	NAN		SPRAY	FIXTURE			
B23-011-001-01	E-LF-9	M-9001B+	3CC	NAN		SPRAY	FIXTURE			
B20-024-001-03	E-RS-3CC	P-0104-20	3CC	NAN		CCW	DEFLECT			
B25-099-002-01	H-DUCT-3CC	E-K7545-1.50	3CC	NAN		CI	SPTFAIL			
B28-005-001-01	H-DUCT-3CC	P-2095-4	3CC	NAN		FW	SPTFAIL			
B04-002-001-01	I-FS5	M-VALVE	3CC	NAN		MNSTM	PIPEFAIL			
B05-013-002-01	I-PANEL	I-FCV250	3CC	NAN		MNSTM	SPTFAIL			
B09-006-005-04	I-PANEL	E-KK204-1	3CC	NAN		RCS	SPTFAIL			
B25-141-002-02	I-PANEL	I-RCHMC	3CC	NAN		CI	SPTFAIL			
B03-026-002-02	I-PM124	E-KT673-1.50	3CC	NAN		MNSTM	SPTFAIL			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=PENETRATION AREA

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B28-004-007-02	I-PM80	PA-3605-2	3CC	NAN		FW	SPTFAIL			
B02-002-002-01	P-DRAIN-3CC	E-K6495-3	3CC	NAN		AUXFW	SPTFAIL	PIPEFAIL		
B20-038-001-01	P-SA-3CC	P-2402-2	3CC	NAN		CCW	SPTFAIL			
B20-055-005-02	P-SA-3CC	P-2290-3	3CC	NAN		CCW	SPTFAIL			
B23-020-002-01	P-SA-3CC	I-PT939	3CC	NAN		SPRAY	SPTFAIL			
B28-004-004-01	P-SA-3CC	P-3603-4	3CC	NAN		FW	DEFLECT			
B05-015-004-02	P-SPR-3CC	E-K6272-3	3CC	NAN		MNSTM	SPTFAIL			
B20-059-002-02	P-SPR-3CC	P-0121-6	3CC	NAN		CCW	DEFLECT	SPTFAIL		
B09-006-005-03	P-USB-3CC	E-KK204-1	3CC	NAN		RCS	DEFLECT			
B28-004-021-01	P-USB-3CC	P-3614-2	3CC	NAN		FW	SPTFAIL	DEFLECT		
B20-038-001-02	P-0156-2.50	P-2402-2	3CC	NAN		CCW	DEFLECT			
B15-036-002-01	P-0531-1	I-8880	3CC	NAN		SI	DEFLECT			
B05-013-001-01	P-0726-4	M-FCV250	3CC	NAN		MNSTM	SPTFAIL			
B18-010-002-03	P-2067-2	I-HCV638	3CC	NAN		RHR	DEFLECT	SPTFAIL		
B18-016-002-01	P-2067-2	M-HCV637	3CC	NAN		RHR	DEFLECT	SPTFAIL		
B18-001-016-01	P-2357-2	P-1662-2	3CC	NAN		RHR	DEFLECT			
B03-011-001-03	P-3824-1	M-FCV43	3CC	NAN		MNSTM	SPTFAIL			
B03-011-001-02	P-3917-3	M-FCV43	3CC	NAN		MNSTM	DEFLECT	INTERFERE		
B03-016-002-02	P-4072-3	I-FCV22	3CC	NAN		MNSTM	DEFLECT			
B03-016-002-01	P-4347-3	I-FCV22	3CC	NAN		MNSTM	DEFLECT			
B03-026-002-01	PS-USB-3CC	E-KT612-1.50	3CC	NAN		MNSTM	DEFLECT	INTERFERE		
B12-002-002-01	PS-0026-2	M-8152	3CC	NAN		CVCS	DEFLECT			
B05-002-001-03	PS-1041-2.50	PA-1041-2.50	3CC	NAN		MNSTM	DEFLECT			
B05-011-004-01	PS-1042-2.50	E-K6290-1.50	3CC	NAN		MNSTM	DEFLECT			
B04-002-001-02	PS-1043-2.50	P-0594-4	3CC	NAN		MNSTM	DEFLECT			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=VITAL PUMP ROOMS

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B11-002-001-01	C-MR-3I1	P-0042-6	3I1	A	CE	CVCS	DEFLECT			
B11-003-001-01	C-MR-3I1	P-0043-6	3I1	A	CE	CVCS	CIVILFAIL			
B11-005-001-02	C-MR-3I1	P-1454-6	3I1	A	PSE	CVCS	DEFLECT	SPTFAIL		
B01-002-013-03	C-MR-3T1	P-2079-1	3T1	A	CE	AUXFW	CIVILFAIL			
B01-005-001-01	C-MR-3T1	M-AFWPP 2-1	3T1	A	CE	AUXFW	CIVILFAIL			
B10-001-001-03	C-PLAT-3D1	P-0053-3	3D1	A	CE	CVCS	CIVILFAIL			
B11-001-001-02	C-PLAT-3D1	P-1456-8	3D1	A	CE	CVCS	CIVILFAIL			
B11-002-002-01	C-PLAT-3D1	P-1474-3	3D1	A	CE	CVCS	CIVILFAIL			
B11-003-002-01	C-PLAT-3D1	P-1475-3	3D1	A	CE	CVCS	CIVILFAIL			
B11-005-001-01	C-PLAT-3D1	P-1454-6	3D1	A	CE	CVCS	CIVILFAIL			
B14-001-001-01	C-PLAT-3D1	P-1466-2	3D1	A	CE	CVCS	CIVILFAIL			
B14-002-001-01	C-PLAT-3D1	P-1468-2	3D1	A	CE	CVCS	CIVILFAIL			
B14-003-001-01	C-PLAT-3D1	P-1464-2	3D1	A	CE	CVCS	CIVILFAIL			
B15-001-003-01	C-PLAT-3D1	P-1971-8	3D1	A	CE	SI	CIVILFAIL			
B18-003-001-01	C-PLAT-3D1	M-RHRPP 2-1	3D1	A	CE	RHR	CIVILFAIL			
B20-020-001-01	C-PLAT-3D1	P-0124-12	3D1	A	CE	CCW	CIVILFAIL			
B20-020-003-01	C-PLAT-3D1	P-0128-1.50+	3D1	A	CE	CCW	CIVILFAIL			
B20-020-006-01	C-PLAT-3D1	P-0131-1.50	3D1	A	CE	CCW	CIVILFAIL			
B10-001-001-02	C-PLAT-3D2	P-0053-3	3D2	A	CE	CVCS	CIVILFAIL			
B11-001-001-01	C-PLAT-3D2	P-0041-4	3D2	A	CE	CVCS	CIVILFAIL			
B11-001-001-07	C-PLAT-3D2	P-1452-1	3D2	A	CE	CVCS	CIVILFAIL			
B11-004-001-01	C-PLAT-3D2	P-0044-4	3D2	A	CE	CVCS	CIVILFAIL			
B14-003-001-02	C-PLAT-3D2	P-1463-2	3D2	A	CE	CVCS	CIVILFAIL			
B17-001-001-02	C-PLAT-3D2	P-2579-1	3D2	A	CE	SI	CIVILFAIL			
B17-001-005-01	C-PLAT-3D2	P-2578-1	3D2	A	CE	SI	CIVILFAIL			
B18-005-001-01	C-PLAT-3D2	M-RHRPP 2-2	3D2	A	CE	RHR	CIVILFAIL			
B20-020-005-01	C-PLAT-3D2	P-0127-12	3D2	A	CE	CCW	CIVILFAIL			
B20-030-003-01	C-PLAT-3D2	P-0100-1.50	3D2	A	CE	CCW	CIVILFAIL			
B20-030-005-01	C-PLAT-3D2	P-0122-1.50	3D2	A	CE	CCW	CIVILFAIL			
B25-018-020-01	C-RSM-3T1	H-DUCT-3T1	3T1	A	ENG	HVAC	RELSTRUCT			
B11-008-001-01	C-SB	M-CHGPP 2-3	3I2	A	CE	CVCS	CIVILFAIL			
B20-007-001-01	C-SB	P-0095-30	3K3	A	CE	CCW	CIVILFAIL			
B20-011-001-01	C-SB	P-0096-30	3K3	A	CE	CCW	CIVILFAIL			
B20-023-001-01	C-SB	P-0081-20	3K3	A	CE	CCW	CIVILFAIL			
B20-032-001-01	C-SB	P-0082-20	3K3	A	CE	CCW	CIVILFAIL			
B20-055-001-01	C-SB	P-2286-3	3K3	A	CE	CCW	CIVILFAIL			
B20-055-005-01	C-SB	P-2290-3	3K3	A	CE	CCW	CIVILFAIL			
B20-058-001-01	C-SB	P-2282-20	3K3	A	CE	CCW	CIVILFAIL			
B20-063-001-01	C-SB	P-2129-2	3K3	A	CE	CCW	CIVILFAIL			
B20-063-002-01	C-SB	P-2131-2	3K3	A	CE	CCW	CIVILFAIL			
B23-005-001-01	C-SB	M-CSPP 2-1	3G	A	CE	SPRAY	CIVILFAIL			
B23-006-001-01	C-SB	M-CSPP 2-2	3G	A	CE	SPRAY	CIVILFAIL			
B23-007-001-01	C-SB	M-SAT	3G	A	CE	SPRAY	CIVILFAIL			
B18-001-015-02	C-STAIR-3D1	P-1663-8	3D1	A	CE	RHR	CIVILFAIL			
B30-001-003-04	C-WALL	M-CCWPP	3K	A	CE	MT	CIVILFAIL			
B18-002-001-01	E-LF-3D1	M-RHRPP 2-1	3D1	A	EE	RHR	FIXTURE			
B18-004-001-01	E-LF-3D2	M-RHRPP 2-2	3D2	A	EE	RHR	FIXTURE			
B11-006-001-01	E-LF-3I1	M-CHGPP 2-1	3I1	A	EE	CVCS	FIXTURE			
B11-007-001-01	E-LF-3I1	M-CHGPP 2-2	3I1	A	EE	CVCS	FIXTURE			
B14-004-002-01	E-LF-3I1	E-8105	3I1	A	EE	CVCS	FIXTURE			
B14-005-002-01	E-LF-3I1	E-8106	3I1	A	EE	CVCS	FIXTURE			
B11-008-001-02	E-LF-3I2	M-CHGPP 2-3	3I2	A	EE	CVCS	FIXTURE			
B20-007-003-01	E-LF-3K3	I-RE17A	3K3	A	EE	CCW	FIXTURE			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=VITAL PUMP ROOMS

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B20-011-003-01	E-LF-3K3	I-RE17B	3K3	A	EE	CCW	FIXTURE			
B25-030-002-02	E-NSAA+	E-K8012-4	3T2	A	EE	HVAC	DEFLECT			
B15-007-001-01	E-RS-3N	M-SIPP 2-1	3N	A	EE	SI	SPTFAIL			
B15-008-001-01	E-RS-3N	M-SIPP 2-2	3N	A	EE	SI	SPTFAIL			
B01-001-001-02	E-RS-3T1	P-0380-10	3T1	A	EE	AUXFW	INTERFERE			
B01-007-001-02	E-TLE25	M-AFWPP 2-3	3T2	A	EE	AUXFW	SPTFAIL			
B25-018-020-02	H-LINKAGE	H-DAMPER	3T2	A	HVA	HVAC	LOOSE	ENVIRON		
B18-002-001-02	M-HOIST-3D1	M-RHRPP 2-1	3D1	A	CE	RHR	DEFLECT	MECHFAIL		
B18-004-001-04	M-HOIST-3D2	M-RHRPP 2-2	3D2	A	CE	RHR	MECHFAIL			
B20-007-002-02	M-RE17A+	I-RE17A+	3K3	A	EMS	CCW	SPTFAIL			
B11-006-002-02	NS-T	E-K7050	3I1	A	EE	CVCS	ENVIRON			
B23-013-002-01	NS-T	E-K8816-2	3G	A	ENG	SPRAY	ENVIRON			
B11-007-002-02	P-0096-30	E-K7047+	3K3	A	PSE	CVCS	DEFLECT			
B01-017-002-01	P-1045-10	E-K9126-4	3T1	A	PSE	AUXFW	DEFLECT			
B23-007-001-02	P-2808-0.75	M-SAT	3G	A	EMS	SPRAY	DEFLECT			
B11-007-002-03	P-3039-20	E-K7047+	3K3	A	PSE	CVCS	DEFLECT			
B28-003-001-01	PS-0221-18	P-2990-4	3T1	A	PSE	FW	DEFLECT			
B23-002-005-01	C-MR-3G	I-PI933D	3G	M	ICE	SPRAY	DEFLECT		TMODIFY	EXPEDIENT
B20-001-001-01	C-MR-3K1	M-CCWPP 2-1	3K1	M	CE	CCW	DEFLECT	CIVILFAIL	BRACE	EXPEDIENT
B20-003-001-01	C-MR-3K2	M-CCWPP 2-2	3K2	M	CE	CCW	DEFLECT	CIVILFAIL	BRACE	EXPEDIENT
B20-005-001-01	C-MR-3K3	M-CCWPP 2-3	3K3	M	CE	CCW	DEFLECT	CIVILFAIL	BRACE	EXPEDIENT.
B01-006-001-01	C-MR-3T2	M-AFWPP 2-2	3T2	M	CE	AUXFW	CIVILFAIL		BRACE	NECESSARY
B01-007-001-01	C-MR-3T2	M-AFWPP 2-3	3T2	M	CE	AUXFW	CIVILFAIL		BRACE	NECESSARY
B01-019-001-01	C-MR-3T2	I-PT434	3T2	M	CE	AUXFW	CIVILFAIL		BRACE	NECESSARY
B11-004-002-03	E-KHT18-3	P-0047-3	3I2	M	EE	CVCS	SPTFAIL		SUPPORT	EXPEDIENT
B23-005-001-02	E-LF-3G	M-CSPP 2-1	3G	M	EE	SPRAY	FIXTURE		CHAIN	EXPEDIENT
B23-006-001-02	E-LF-3G	M-CSPP 2-2	3G	M	EE	SPRAY	FIXTURE		CHAIN	EXPEDIENT
B23-012-001-01	E-LF-3G	M-8892	3G	M	EE	SPRAY	FIXTURE		CHAIN	EXPEDIENT
B23-013-001-01	E-LF-3G	M-8894A	3G	M	EE	SPRAY	FIXTURE		CHAIN	EXPEDIENT
B23-014-001-01	E-LF-3G	M-8994B	3G	M	EE	SPRAY	FIXTURE		CHAIN	EXPEDIENT
B20-001-001-02	E-LF-3K1	M-CCWPP 2-1	3K1	M	EE	CCW	FIXTURE		CHAIN	EXPEDIENT
B20-003-001-02	E-LF-3K2	M-CCWPP 2-2	3K2	M	EE	CCW	FIXTURE		CHAIN	EXPEDIENT
B20-005-001-02	E-LF-3K3	M-CCWPP 2-3	3K3	M	EE	CCW	FIXTURE		CHAIN	EXPEDIENT
B15-001-002-01	E-LF-8	I-PI938	3N	M	EE	SI	FIXTURE		CHAIN	EXPEDIENT
B15-001-004-01	E-LF-8	I-PI939	3N	M	EE	SI	FIXTURE		CHAIN	EXPEDIENT
B11-006-001-02	M-HOIST-3I1	M-CHGPP 2-1	3I1	M	CE	CVCS	DEFLECT		SECLOOSE	EXPEDIENT
B11-007-001-02	M-HOIST-3I1	M-CHGPP 2-2	3I1	M	CE	CVCS	DEFLECT		SECLOOSE	EXPEDIENT
B20-022-004-01	M-HOIST-3I1	P-1925-2	3I1	M	EMS	CCW	DEFLECT		SECLOOSE	EXPEDIENT
B20-029-004-01	M-HOIST-3I1	P-3275-1	3I1	M	EMS	CCW	DEFLECT		SECLOOSE	EXPEDIENT
B11-008-001-03	M-HOIST-3I2	M-CHGPP 2-3	3I2	M	CE	CVCS	DEFLECT		SECLOOSE	EXPEDIENT
B18-002-002-01	M-SPT	M-RHRPP 2-1	3D1	M	ENG	RHR	ENVIRON		RELOCATE	OVERLAP
B18-004-002-01	M-SPT	M-RHRPP 2-2	3D2	M	ENG	RHR	ENVIRON		RELOCATE	OVERLAP
B11-008-001-04	M-TANK-CHGPP	I-PI192C	3I2	M	EMS	CVCS	SPTFAIL		SUPPORT	NECESSARY
B23-014-002-01	NS-CD	E-K8815-2	3G	M	EE	SPRAY	HOUSEKEEP		CONSTDEF	OVERLAP
B25-076-013-01	P-SPR-3I1	H-DUCT-3I1	3I1	M	PSE	HVAC	SPTFAIL		SUPPORT	EXPEDIENT
B20-001-001-03	P-SPR-3K1	M-CCWPP 2-1	3K1	M	PSE	CCW	SPTFAIL	DEFLECT	RELOCATE	EXPEDIENT
B20-007-002-01	P-SPR-3K3	P-3178-0.375	3K3	M	PSE	CCW	DEFLECT	CIVILFAIL	SUPPORT	EXPEDIENT
B25-040-033-01	P-0261-12	H-DUCT-3G	3G	M	HVA	HVAC	INTERFERE		SUPPORT	EXPEDIENT
B01-002-013-05	P-0382-4	P-0567-2	3T2	M	PSE	AUXFW	DEFLECT		TMODIFY	NECESSARY
B01-002-013-06	P-0721-12	PS-0757-1.50	3T1	M	PSE	AUXFW	DEFLECT		SUPPORT	NECESSARY
B11-006-004-01	P-1474-3	E-K7050-1	3I1	M	EE	CVCS	DEFLECT		TMODIFY	EXPEDIENT
B01-001-002-01	P-1750-8	PS-0562-8	3T1	M	PSE	AUXFW	DEFLECT		SUPPORT	NECESSARY
B16-006-002-01	P-1750-8	E-K9416-4	3T1	M	PSE	SI	DEFLECT		SUPPORT	NECESSARY

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=VITAL PUMP ROOMS

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B25-029-006-01	P-1750-8	H-DUCT-3T2	3T2	M	PSE	HVAC	DEFLECT		SUPPORT	EXPEDIENT
B30-006-003-05	P-2416-1	GENERIC	3T2	M	PSE	MT	DEFLECT		SUPPORT	NECESSARY
B19-015-001-01	P-3551-14	P-1684-0.375	3D1	M	ICE	CI	DEFLECT		TMODIFY	NECESSARY
B25-040-030-01	PS-0263-10	H-DUCT-3G	3G	M	HVA	HVAC	DEFLECT		TMODIFY	EXPEDIENT
B15-002-008-01	PS-1045-10	P-2641-4	3T1	M	PSE	SI	DEFLECT		RELOCATE	NECESSARY
B18-002-001-03	SQ	M-RHRPP 2-1	3D1	M	PSE	RHR	DEFLECT		CONSTDEF	OVERLAP
B18-004-001-02	SQ	M-RHRPP 2-2	3D2	M	PSE	RHR	DEFLECT		CONSTDEF	OVERLAP
B18-002-001-04	C-MR-3D1	M-RHRPP 2-1	3D1	NAN		RHR	CIVILFAIL			
B18-004-001-03	C-MR-3D2	M-RHRPP 2-2	3D2	NAN		RHR	CIVILFAIL			
B25-040-030-02	C-MR-3G	H-DUCT-3G	3G	NAN		HVAC	CIVILFAIL			
B25-040-033-02	C-MR-3G	H-DUCT-3G	3G	NAN		HVAC	CIVILFAIL			
B04-007-001-01	C-MR-3T1	M-FCV15	3T1	NAN		MNSTM	CIVILFAIL			
B01-004-005-02	E-K8012-4+	P-0567-2	3T1	NAN		AUXFW	DEFLECT	INTERFERE		
B28-003-001-03	E-K8033	P-2990-4	3T1	NAN		FW	DEFLECT			
B01-003-002-01	E-LF-BOL	I-PS421	3T2	NAN		AUXFW	FIXTURE			
B20-020-003-02	E-LF-3D1	P-0128-1.50	3D1	NAN		CCW	FIXTURE			
B20-020-006-02	E-LF-3D1	P-0131-1.50	3D1	NAN		CCW	FIXTURE			
B20-030-003-02	E-LF-3D2	P-0100-1.50	3D2	NAN		CCW	FIXTURE			
B20-030-006-01	E-LF-3D2	P-0122-1.50	3D2	NAN		CCW	FIXTURE			
B11-001-001-04	E-LF-3I1	M-8125	3I1	NAN		CVCS	FIXTURE			
B11-001-001-05	E-LF-3I1	P-0041-4	3I1	NAN		CVCS	FIXTURE			
B14-003-001-03	E-LF-3I1	P-1464-2	3I1	NAN		CVCS	FIXTURE			
B15-001-003-02	E-LF-3I1	M-8804A	3I1	NAN		SI	FIXTURE			
B19-016-001-01	E-LF-3I1	M-9353A	3I1	NAN		CI	FIXTURE			
B19-018-001-01	E-LF-3I1	M-9353B	3I1	NAN		CI	FIXTURE			
B20-053-001-04	E-LF-3I2	P-2294-1.50	3I2	NAN		CCW	FIXTURE			
B20-053-004-01	E-LF-3I2	P-2397-2	3I2	NAN		CCW	FIXTURE			
B20-053-004-02	E-LF-3I2	P-2295-1.50	3I2	NAN		CCW	FIXTURE			
B20-019-001-01	E-LF-3N	P-0312-2	3N	NAN		CCW	FIXTURE			
B20-019-001-02	E-LF-3N	P-1928-1	3N	NAN		CCW	FIXTURE			
B20-019-003-01	E-LF-3N	P-2260-1	3N	NAN		CCW	FIXTURE			
B20-019-006-01	E-LF-3N	P-1929-1	3N	NAN		CCW	FIXTURE			
B20-019-006-02	E-LF-3N	P-0313-2	3N	NAN		CCW	FIXTURE			
B20-019-007-01	E-LF-3N	P-2276-1	3N	NAN		CCW	FIXTURE			
B20-028-001-01	E-LF-3N	P-1926-1	3N	NAN		CCW	FIXTURE			
B20-028-003-01	E-LF-3N	P-2259-1	3N	NAN		CCW	FIXTURE			
B20-028-003-02	E-LF-3N	P-0310-2	3N	NAN		CCW	FIXTURE			
B20-028-006-01	E-LF-3N	P-1927-1	3N	NAN		CCW	FIXTURE			
B20-028-006-02	E-LF-3N	P-0311-2	3N	NAN		CCW	FIXTURE			
B20-028-007-01	E-LF-3N	P-2261-1	3N	NAN		CCW	FIXTURE			
B01-002-001-01	E-RS-3T1	PA-0558-8	3T1	NAN		AUXFW	DEFLECT			
B01-002-003-01	E-RS-3T1	P-0568-6	3T1	NAN		AUXFW	DEFLECT			
B01-002-013-01	E-RS-3T1	P-0564-1.50	3T1	NAN		AUXFW	DEFLECT			
B15-002-008-02	E-RS-3T1	P-2641-4	3T1	NAN		SI	DEFLECT			
B01-002-013-04	E-TL25	P-0564-1.50	3T1	NAN		AUXFW	SPTFAIL			
B25-029-006-02	P-SPR-3T2	H-DUCT-3T2	3T2	NAN		HVAC	PIPEFAIL			
B20-001-002-01	P-ULB-3K1	E-K7076	3K1	NAN		CCW	DEFLECT			
B11-006-002-01	P-ULB-3K3	E-K7057+	3K3	NAN		CVCS	DEFLECT			
B25-040-035-01	P-USB-3G	H-DUCT-3G	3G	NAN		HVAC	INTERFERE			
B28-004-052-04	P-USB-3T1	P-3722-6	3T1	NAN		FW	DEFLECT			
B28-004-052-05	P-USB-3T1	P-3722-6	3T1	NAN		FW	DEFLECT			
B01-002-013-02	P-0381-4	P-0564-1.50	3T1	NAN		AUXFW	DEFLECT			
B28-003-001-08	P-0382-4	P-2990-4	3T1	NAN		FW	DEFLECT			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=VITAL PUMP ROOMS

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B28-004-052-03	P-2805-2	P-3722-6	3T1	NAN		FW	INTERFERE			
B28-004-052-01	P-5110-4	PA-3722-6	3T1	NAN		FW	DEFLECT			
B04-003-001-02	PS-0760-3	P-1045-10	3T1	NAN		MNSTM	DEFLECT			
B01-003-002-02	E-LF-BOL	I-PS421	3T2	X	QC	AUXFW	FIXTURE			
B11-007-002-01	NS-CD	E-R-3I1	3I1	X	QC	CVCS	HOUSEKEEP			
B11-007-002-04	NS-CD	E-K8813	3I1	X	QC	CVCS	HOUSEKEEP			
B15-021-002-02	NS-CD	E-K9170	3D1	X	QC	SI	HOUSEKEEP			
B25-161-002-01	NS-CD	E-K7242-3	3K1	X	QC	HVAC	HOUSEKEEP			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=TURBINE BUILDING

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B01-014-002-03	C-GRATING	E-KT243-1.25	19A	A	CE	AUXFW	LOOSE			
B30-001-019-02	C-P10T-2	I-PM40A	19E	A	CE	MT	CIVILFAIL			
B30-001-019-01	C-P11T-2	I-PM149	19E	A	CE	MT	CIVILFAIL			
B20-008-001-03	C-P12T-2	M-CCWHX 2-1	19E	A	CE	CCW	CIVILFAIL			
B01-006-002-01	C-P17T-2	E-K4000-0.75	19A	A	CE	AUXFW	CIVILFAIL			
B01-006-002-02	C-P18T-2	E-K4012-0.75	19A	A	CE	AUXFW	CIVILFAIL			
B30-001-019-03	C-P26T-2	E-GENERIC	19A	A	CE	MT	CIVILFAIL			
B30-001-019-04	C-P27T-2	E-GENERIC	19A	A	CE	MT	CIVILFAIL			
B30-001-019-05	C-P30T-2	E-GENERIC	19A	A	CE	MT	CIVILFAIL			
B30-001-019-06	C-P31T-2	E-GENERIC	19A	A	CE	MT	CIVILFAIL			
B28-008-023-02	C-RSM-19A	P-5045-2	19A	A	ENG	FW	RELSTRUCT	SPTFAIL		
B25-144-004-02	E-K0115+	H-DUCT-19A	19A	A	EE	HVAC	DEFLECT	SPTFAIL		
B22-009-002-02	E-LF-9	I-FCV602	19E	A	EE	ASW	FIXTURE			
B28-008-017-01	E-LF-9	PA-3958-2	19A	A	EE	FW	FIXTURE			
B30-002-019-01	E-LF-9	M-CCWHX	19E	A	EE	MT	FIXTURE			
B22-010-002-02	E-LF-9,35	I-FCV603	19E	A	EE	ASW	FIXTURE			
B28-008-013-02	E-R-19A	P-3955-2	19A	A	EE	FW	SPTFAIL			
B25-144-001-04	E-RS-19A	H-DUCT-19A	19A	A	EE	HVAC	SPTFAIL			
B30-002-019-02	GENERIC	E-CRPS	19D	A	EE	MT	SPTFAIL	DEFLECT		
B28-008-003-02	M-BOTTLE	P-3950-2	19A	A	NPO	FW	SPTFAIL			
B20-012-001-02	M-HOIST-19E	I-TI898	19E	A	CE	CCW	MECHFAIL			
B28-008-019-02	M-HR	PA-3960-2	19A	A	EMS	FW	DEFLECT			
B28-008-008-01	M-PANEL	PA-3945-2	19A	A	EMS	FW	SPTFAIL			
B28-008-001-04	P-SA-19A	P-3944-6	19A	A	PSE	FW	DEFLECT			
B20-001-002-10	P-ULB-19A	E-K4881-2+	19A	A	PSE	CCW	DEFLECT			
B20-034-002-01	C-BLOCKWALL	E-K4788-2	19A	M	CE	CCW	CIVILFAIL		CLEARANCE	EXPEDIENT
B22-001-001-01	C-BLOCKWALL	P-3681-6	19A	M	CE	ASW	CIVILFAIL		BRACE	OVERLAP
B22-002-001-01	C-BLOCKWALL	P-3682-6	19A	M	CE	ASW	CIVILFAIL		BRACE	OVERLAP
B25-144-001-01	C-BLOCKWALL	H-DUCT-19A	19A	M	CE	HVAC	CIVILFAIL		BRACE	OVERLAP
B25-144-001-02	C-BLOCKWALL	H-DUCT-19D	19D	M	CE	HVAC	CIVILFAIL		BRACE	OVERLAP
B28-007-004-02	C-BLOCKWALL	P-2683-4	19A	M	CE	FW	CIVILFAIL		BRACE	OVERLAP
B28-007-004-03	C-BLOCKWALL	P-2683-4	19A	M	CE	FW	CIVILFAIL		BRACE	OVERLAP
B28-008-003-01	C-BLOCKWALL	P-3950-2	19A	M	CE	FW	CIVILFAIL		BRACE	OVERLAP
B28-008-006-01	C-BLOCKWALL	P-3948-2	19A	M	CE	FW	CIVILFAIL		BRACE	OVERLAP
B28-008-007-04	C-BLOCKWALL	P-3949-2	19A	M	CE	FW	CIVILFAIL		BRACE	OVERLAP
B28-008-009-03	C-BLOCKWALL	P-3988-10	19A	M	CE	FW	CIVILFAIL		BRACE	OVERLAP
B28-008-023-04	C-BLOCKWALL	P-5045-2	25	M	CE	FW	CIVILFAIL		BRACE	OVERLAP
B25-144-001-05	C-CRANE-19D	H-DUCT-19D	19D	M	CE	HVAC	CIVILFAIL		BRACE	NECESSARY
B28-008-009-01	C-DOOR	I-FS28	19A	M	CE	FW	CIVILFAIL		BRACE	EXPEDIENT
B28-008-007-01	C-ELEVATOR	P-3949-2	19D	M	CE	FW	CIVILFAIL		TMODIFY	NECESSARY
B20-008-001-02	C-MR-19E	I-TI895	19E	M	CE	CCW	CIVILFAIL		BRACE	NECESSARY
B20-012-001-01	C-MR-19E	I-TI898	19E	M	CE	CCW	CIVILFAIL		BRACE	NECESSARY
B25-144-001-03	C-PLAT-19D	H-DUCT-19D	19D	M	CE	HVAC	CIVILFAIL		BRACE	NECESSARY
B22-009-002-01	C-PLAT-19E	I-FCV602	19E	M	CE	ASW	CIVILFAIL		BRACE	NECESSARY
B22-010-002-01	C-PLAT-19E	I-FCV603	19E	M	CE	ASW	CIVILFAIL		BRACE	NECESSARY
B20-007-001-06	C-P12T-2	I-PI113	19E	M	ICE	CCW	DEFLECT		TMODIFY	EXPEDIENT
B20-007-001-07	C-P12T-2	I-PI113	19E	M	ICE	CCW	DEFLECT		TMODIFY	NECESSARY
B25-151-007-01	C-P63T-2	H-DUCT-19D	19D	M	CE	HVAC	CIVILFAIL		BRACE	NECESSARY
B25-154-005-01	C-P63T-2	H-DUCT-19D	19D	M	CE	HVAC	CIVILFAIL		BRACE	NECESSARY
B28-008-013-04	C-P63T-2	PA-3955-2	19D	M	CE	FW	CIVILFAIL		BRACE	NECESSARY
B28-008-016-06	C-P63T-2	PA-3961-2	19D	M	CE	FW	CIVILFAIL		BRACE	NECESSARY
B20-008-001-04	C-P9T-2	M-CCWHX 2-1	19E	M	CE	CCW	CIVILFAIL		BRACE	NECESSARY
B20-015-001-01	C-P9T-2	I-PS190	19E	M	CE	CCW	DEFLECT		CLEARANCE	EXPEDIENT

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=TURBINE BUILDING

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B20-009-001-01	C-RSM-19E	PA-0101-30	19E	M	PSE	CCW	RELSTRUCT	INTERFERE	TMODIFY	EXPEDIENT
B20-013-001-01	C-RSM-19E	PA-0102-30	19E	M	PSE	CCW	RELSTRUCT	INTERFERE	TMODIFY	EXPEDIENT
B28-008-011-02	C-STAIR	P-3953-2	19A	M	CE	FW	CIVILFAIL		BRACE	EXPEDIENT
B28-008-011-03	C-STAIR	P-3953-2	19A	M	PSE	FW	CIVILFAIL		BRACE	NECESSARY
B28-008-024-06	C-STAIR	P-3962-2	19A	M	CE	FW	CIVILFAIL		BRACE	NECESSARY
B28-008-016-04	E-K3089-4	P-3961-2	19A	M	EE	FW	INTERFERE		TMODIFY	EXPEDIENT
B28-008-007-02	E-LF-15	P-3949-2	19D	M	EE	FW	FIXTURE		CHAIN	EXPEDIENT
B28-008-016-02	E-LF-15	PA-3961-2	19A	M	EE	FW	FIXTURE		CHAIN	EXPEDIENT
B28-008-024-03	E-LF-15	PA-3962-2	19D	M	EE	FW	FIXTURE		CHAIN	EXPEDIENT
B28-008-001-01	H-S51	P-3944-6	19A	M	HVA	FW	SPTFAIL		BRACE	NECESSARY
B28-008-016-03	H-S61	P-3961-2	19D	M	CE	FW	SPTFAIL	CIVILFAIL	BRACE	NECESSARY
B28-008-013-03	H-S64	P-3955-2	19D	M	CE	FW	SPTFAIL		BRACE	NECESSARY
B28-008-007-03	H-S75	P-3949-2	19A	M	HVA	FW	SPTFAIL		TMODIFY	NECESSARY
B28-008-003-05	M-HR	PA-3950-2	19A	M	EMS	FW	DEFLECT		STOP	EXPEDIENT
B28-008-011-01	M-HR	PA-3953-2	19A	M	EMS	FW	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-016-01	M-HR	PA-3961-2	19D	M	EMS	FW	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-024-01	M-HR	PA-3962-2	19D	M	EMS	FW	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-002-02	M-TANK	P-3951-2	19A	M	EMS	FW	SPTFAIL		RELOCATE	OVERLAP
B28-007-004-01	M-TANK-19A	PA-2683-4	19A	M	EMS	FW	SPTFAIL		TMODIFY	EXPEDIENT
B28-008-020-02	P-DRAIN-19A	P-5042-4	19A	M	PSE	FW	SPTFAIL		SUPPORT	EXPEDIENT
B24-005-039-01	P-DRAIN-21	PS-2191-1.50	21	M	PSE	EDG	PIPEFAIL	SPTFAIL	SUPPORT	EXPEDIENT
B22-002-001-02	P-SPR-19A	PA-3682-6	19A	M	PSE	ASW	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-001-07	P-SPR-19A	P-3944-6	19A	M	PSE	FW	SPTFAIL		SUPPORT	NECESSARY
B28-008-003-04	P-SPR-19A	PA-3950-2	19A	M	PSE	FW	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B28-008-012-01	P-SPR-19A	PA-3954-2	19A	M	PSE	FW	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-016-05	P-SPR-19A	P-3961-2	19A	M	PSE	FW	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-017-03	P-SPR-19A	P-3958-2	19A	M	PSE	FW	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-018-02	P-SPR-19A	P-3959-2	19A	M	PSE	FW	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-020-04	P-SPR-19A	P-5042-4	19A	M	PSE	FW	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B28-008-020-06	P-SPR-19A	P-5042-4	19A	M	PSE	FW	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-022-01	P-SPR-19A	P-5044-2	19A	M	PSE	FW	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-023-05	P-SPR-19A	P-5045-2	19A	M	PSE	FW	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B30-006-019-01	P-SPR-19E	M-CCWHX	19E	M	PSE	MT	SPTFAIL		SUPPORT	NECESSARY
B28-008-001-03	P-USB-19A	P-3944-6	19A	M	PSE	FW	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-001-05	P-0579-8+	PS-3944-6	19A	M	PSE	FW	DEFLECT		SUPPORT	EXPEDIENT
B28-008-020-03	P-0580-8	P-5042-4	19A	M	PSE	FW	DEFLECT		SUPPORT	NECESSARY
B28-008-001-06	P-0581-12	P-3944-6	19A	M	PSE	FW	DEFLECT		SUPPORT	NECESSARY
B28-008-001-11	P-0581-12	P-3944-6	19A	M	PSE	FW	DEFLECT		SUPPORT	NECESSARY
B28-008-003-03	P-0581-12	P-3950-2	19A	M	PSE	FW	DEFLECT		SUPPORT	EXPEDIENT
B28-008-013-01	P-1742-8	P-3955-2	19A	M	PSE	FW	DEFLECT		STOP	NECESSARY
B25-144-001-06	P-1750-8	H-DUCT-19A	19A	M	PSE	HVAC	DEFLECT		SUPPORT	EXPEDIENT
B20-034-002-02	P-2628-3	E-4788-2	19A	M	PSE	CCW	DEFLECT	SPTFAIL	SUPPORT	NECESSARY
B28-008-001-02	P-2772-4	P-3944-6	19A	M	PSE	FW	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-010-02	P-2772-4	PA-3952-4	19A	M	PSE	FW	SPTFAIL		SUPPORT	NECESSARY
B22-009-004-02	P-2987-3	E-KD352-2	19E	M	PSE	ASW	SPTFAIL	DEFLECT	SUPPORT	EXPEDIENT
B28-008-009-02	P-3018-2+	PA-3943-6	19A	M	PSE	FW	SPTFAIL		SUPPORT	EXPEDIENT
B20-001-002-08	P-3112-2.50	E-K4880-2+	19A	M	PSE	CCW	SPTFAIL		SUPPORT	EXPEDIENT
B20-007-001-04	P-3135-1	PA-0095-30	19E	M	PSE	CCW	DEFLECT		RELOCATE	NECESSARY
B20-016-001-01	P-3135-1	I-FT69	19A	M	PSE	CCW	SPTFAIL		RELOCATE	OVERLAP
B22-009-004-01	P-3354-1.50	E-KD352-2+	19E	M	PSE	ASW	SPTFAIL	DEFLECT	SUPPORT	EXPEDIENT
B20-001-002-09	P-4234-6	E-K4881-2	19A	M	PSE	CCW	SPTFAIL		SUPPORT	NECESSARY
B28-008-002-01	P-4554-4+	P-3951-2	19A	M	PSE	FW	DEFLECT	SPTFAIL	SUPPORT	EXPEDIENT
B28-008-017-04	PS-0338-4	P-3958-2	19A	M	PSE	FW	DEFLECT		SUPPORT	EXPEDIENT

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=TURBINE BUILDING

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B28-008-020-01	PS-0579-8	PS-5042-4	19A	M	PSE	FW	DEFLECT		RELOCATE	EXPEDIENT
B28-008-024-04	C-BEAM	P-3962-2	19A	NAN		FW	INTERFERE			
B28-008-023-03	C-CEILING	PA-5045-2	25	NAN		FW	CIVILFAIL			
B22-005-002-01	C-MR-19E	I-PT5	19E	NAN		ASW	CIVILFAIL			
B22-006-002-01	C-MR-19E	I-PT6	19E	NAN		ASW	CIVILFAIL			
B25-154-005-02	C-P57T-2	H-DUCT-19D	19D	NAN		HVAC	CIVILFAIL			
B20-009-001-02	C-P9T-2	PA-0101-30	19E	NAN		CCW	DEFLECT			
B28-008-008-02	C-SB	P-3945-2	19A	NAN		FW	CIVILFAIL			
B28-008-015-02	C-STAIR	P-3957-4	19A	NAN		FW	CIVILFAIL			
B28-008-016-07	C-STAIR	P-3961-2	19A	NAN		FW	CIVILFAIL			
B28-008-019-05	C-STAIR	P-3960-2	19A	NAN		FW	DEFLECT	CIVILFAIL		
B20-007-001-02	C-58GW-2	P-0095-30	19A	NAN		CCW	CIVILFAIL			
B28-008-019-04	E-EEDE-12+	PA-3960-2	19A	NAN		FW	SPTFAIL			
B28-008-019-01	E-LF-9	PA-3960-2	19A	NAN		FW	FIXTURE			
B28-008-001-09	E-TBB	PA-39446	19E	NAN		FW	SPTFAIL			
B28-008-001-08	H-DUCT-19A	P-3944-6	19A	NAN		FW	DEFLECT			
B20-007-001-05	M-HOIST-19E	M-CCWHX 2-1	19E	NAN		CCW	MECHFAIL			
B20-008-001-01	M-HOIST-19E	I-TI895	19E	NAN		CCW	MECHFAIL			
B20-011-001-03	M-HOIST-19E	I-PI111	19E	NAN		CCW	MECHFAIL			
B28-008-018-01	M-HR	PA-3959-2	19A	NAN		FW	DEFLECT	SPTFAIL		
B25-105-004-02	P-DRAIN-19A	E-K6846-1.50	19A	NAN		HVAC	PIPEFAIL	SPTFAIL		
B28-008-021-02	P-DRAIN-19A	P-5043-2	19A	NAN		FW	DEFLECT			
B28-008-020-05	P-IAH-19A	P-5042-4	19A	NAN		FW	SPTFAIL			
B28-008-004-01	P-SA-19A	P-3946-4	19A	NAN		FW	SPTFAIL			
B28-008-010-01	P-SA-19A	P-3952-4	19A	NAN		FW	SPTFAIL			
B28-008-015-01	P-SPR-19A	P-3957-4	19A	NAN		FW	SPTFAIL			
B28-008-019-03	P-SPR-19A	P-3960-2	19A	NAN		FW	SPTFAIL			
B28-008-024-02	P-SPR-19A	P-3962-2	19A	NAN		FW	SPTFAIL			
B28-008-024-05	P-SPR-19A	P-3962-2	19A	NAN		FW	SPTFAIL			
B20-024-001-02	P-USB-19A	I-FT65	19A	NAN		CCW	SPTFAIL			
B25-109-002-01	P-USB-19A	E-K7000-2+	19A	NAN		HVAC	SPTFAIL	PIPEFAIL		
B20-001-002-07	P-1046-6	E-K4847-2	19E	NAN		CCW	DEFLECT			
B22-010-004-01	P-1046-6	E-K4847-2	19E	NAN		ASW	DEFLECT			
B25-144-004-01	P-1742-8	H-DUCT-19A	19A	NAN		HVAC	DEFLECT			
B28-008-010-03	P-1742-8	P-3952-4	19A	NAN		FW	DEFLECT			
B28-008-001-10	P-2772-4	P-3944-6	19A	NAN		FW	DEFLECT			
B25-105-002-02	P-3117-8	E-K6845-1.5	19A	NAN		HVAC	DEFLECT			
B28-008-002-03	P-3135-1	P-3951-2	19A	NAN		FW	DEFLECT			
B20-007-001-03	P-3403-2	I-PI113	19E	NAN		CCW	DEFLECT			
B20-009-001-03	P-3405-2	PA-0101-30	19E	NAN		CCW	DEFLECT			
B28-008-017-02	PS-0338-4	P-3958-2	19A	NAN		FW	DEFLECT			

UNIT 2 INTERACTIONS BY AREA, SORTED BY RESOLUTION TYPE AND SOURCE

AREA=VARIOUS

IDSNO	SOURCE	TARGET	FZ	RES	DISC	SYSTEM	PHENOM	SECPHEN	MODCODE	MODEVAL
B30-001-001-01	C-WALL	GENERIC	VRS	A	CE	MT	CIVILFAIL			
B30-005-000-02	M-FE	GENERIC	VRS	M	EMS	MT	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B30-005-000-01	M-HR	M-VALVE	VRS	M	EMS	MT	DEFLECT		STOP	EXPEDIENT
B30-006-000-02	M-HR	P-GENERIC	VRS	M	PSE	MT	DEFLECT		STOP	EXPEDIENT
B30-006-000-01	M-HR	P-GENERIC	VRS	NAN		MT	DEFLECT			

ATTACHMENT 5-C.1

TO THE PGandE

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

UNIT 1

DATA MANAGEMENT REPORTS:

INTERACTION DATA BASE

LISTING BY SYSTEM

SUBSORTED BY RESOLUTION METHOD AND TARGET

This attachment contains the results of sorting the SISIP data base by target system and resolution method. Data within each system and resolution method category are subsorted by target code.

TABLE OF SYSTEM BY RES

SYSTEM FREQUENCY PERCENT	RES A	M	NAN	P	X	Y	TOTAL
ASW	13 0.59	8 0.36	6 0.27	0 0.00	1 0.05	0 0.00	28 1.27
AUXFW	26 1.18	29 1.32	44 2.00	1 0.05	5 0.23	9 0.41	114 5.19
CCW	27 1.23	43 1.96	65 2.96	0 0.00	4 0.18	1 0.05	140 6.37
CI	31 1.41	31 1.41	26 1.18	0 0.00	10 0.45	2 0.09	100 4.55
CVCS	61 2.78	39 1.77	25 1.14	0 0.00	4 0.18	1 0.05	130 5.91
EDG	14 0.64	30 1.36	13 0.59	0 0.00	15 0.68	2 0.09	74 3.37
ELPS	15 0.68	36 1.64	21 0.96	0 0.00	0 0.00	0 0.00	72 3.28
FW	126 5.73	58 2.64	173 7.87	2 0.09	5 0.23	63 2.87	427 19.43
HVAC	66 3.00	90 4.09	123 5.60	0 0.00	5 0.23	14 0.64	298 13.56
MNSTM	112 5.10	88 4.00	55 2.50	0 0.00	18 0.82	1 0.05	274 12.47
MT	46 2.09	69 3.14	25 1.14	1 0.05	8 0.36	1 0.05	150 6.82
RCS	70 3.18	69 3.14	68 3.09	0 0.00	15 0.68	19 0.86	241 10.96
RHR	12 0.55	16 0.73	4 0.18	0 0.00	0 0.00	1 0.05	33 1.50
SI	15 0.68	25 1.14	30 1.36	0 0.00	3 0.14	0 0.00	73 3.32
SPRAY	12 0.55	12 0.55	19 0.86	0 0.00	1 0.05	0 0.00	44 2.00
TOTAL	646 29.39	643 29.25	697 31.71	4 0.18	94 4.28	114 5.19	2198 100.00

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=AUX. SALTWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
22-009-004-001	C-P9T-1	E-K4866-0.75	TB	14E	A	EE	CIVILFAIL				
22-005-002-002	C-P11T-1	I-GENERIC	TB	14E	A	ICE	CIVILFAIL				
22-005-002-003	C-P9T-1	I-PT5	TB	14E	A	ICE	CIVILFAIL				
22-006-007-002	E-LF-14E	I-PT5	TB	14E	A	EE	FIXTURE				
22-006-007-003	C-PLAT-14E	I-PT5	TB	14E	A	CE	CIVILFAIL				
22-012-007-001	C-PLAT-14E	I-PT6	TB	14E	A	CE	CIVILFAIL				
22-012-007-003	E-LF-14E	I-PT6	TB	14E	A	EE	FIXTURE				
22-016-001-001	P-ULB-30A5	M-ASWG01-8	IS	30A5	A	EMS	SPTFAIL	PIPEFAIL			
22-017-001-001	P-ULB-30A5	M-ASWG01-9	IS	30A5	A	EMS	SPTFAIL	PIPEFAIL			
22-001-001-001	C-PLAT-30A1	M-ASWPP1-1	IS	30A1	A	CE	CIVILFAIL				
22-001-001-002	E-LF-30A1	M-ASWPP1-1	IS	30A1	A	EE	FIXTURE				
22-007-001-001	E-LF-30A2	M-ASWPP1-2	IS	30A2	A	EE	FIXTURE				
22-007-001-002	C-PLAT-30A2	M-ASWPP1-2	IS	30A2	A	CE	CIVILFAIL				
22-012-008-005	C-WALL	E-KD350-1.50	TB	14A	M	CE	CIVILFAIL		BRACE	OVERLAP	
22-006-008-002	C-WALL	E-KD351-1.50	TB	14A	M	CE	CIVILFAIL		BRACE	OVERLAP	
22-012-008-003	P-SPR-14E	E-KD353-1	TB	14E	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT	
22-012-008-004	P-USB-14E	E-KD353-1	TB	14E	M	EMS	SPTFAIL	HOUSEKEEP	CONSTDEF	EXPEDIENT	
22-009-002-002	M-BOTTLE	P-0680-24	IS	30A5	M	EMS	SPTFAIL		SECLOOSE	EXPEDIENT	
22-009-002-003	P-0677-16	P-0680-24	IS	30A5	M	PSE	PIPEFAIL		SUPPORT	NECESSARY	
22-003-002-002	P-0677-16	P-0687-24	IS	30A5	M	PSE	PIPEFAIL		SUPPORT	NECESSARY	
22-003-002-003	M-BOTTLE	P-0687-24	IS	30A5	M	EMS	SPTFAIL		SECLOOSE	EXPEDIENT	
22-006-008-001	NS-T	E-KD351-1.50	TB	14A	NAN	PSE	DEFLECT				
22-012-008-002	E-LF-14E	E-KD353-1	TB	14E	NAN	EE	FIXTURE				
22-006-007-001	P-USB-14E	I-PT5	TB	14E	NAN	PSE	PIPEFAIL				
22-012-007-002	P-USB-14E	I-PT6	TB	14E	NAN	PSE	PIPEFAIL				
22-009-002-001	E-LF-30A5	P-0680-24	IS	30A5	NAN	EE	FIXTURE				
22-003-002-001	E-LF-30A5	P-0687-24	IS	30A5	NAN	EE	FIXTURE				
22-012-008-001	NS-CD	E-KD353-1	TB	14E	X	QC	HOUSEKEEP				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=AUXILIARY FEEDWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
02-004-001-001	E-LF-3BB	E-FCV440	PEN	3BB	A	EE	FIXTURE				
02-005-001-001	E-LF-3BB	E-FCV441	PEN	3BB	A	EE	FIXTURE				
01-019-002-003	M-TANK	E-K2665-1	TB	14A	A	CE	SPTFAIL				
01-019-002-011	E-LF-14A	E-K2665-1	TB	14A	A	EE	FIXTURE				
01-020-002-009	E-LF-14A	E-K2666-1	TB	14A	A	EE	FIXTURE				
02-003-002-001	NS-T	E-K5865-1.25	OA	28	A	ENG	ENVIRON				
02-003-002-002	NS-T	E-K5865-1.25	OA	28	A	ENG	ENVIRON				
01-007-002-002	P-0721-12	E-K5971-2	PEN	3BB	A	EE	DEFLECT				
02-003-002-003	C-DOOR	E-K6067-1.25	OA	28	A	CE	SPTFAIL				
01-010-002-001	E-LF-3BB	E-K6436-1.25	PEN	3BB	A	EE	FIXTURE				
01-019-002-001	C-WALL	E-K6958+	AUX	4A	A	CE	CIVILFAIL				
01-019-002-017	M-BOTTLE	E-K6993-4	AUX	3L	A	NPO	LOOSE	MECHFAIL			
01-012-002-004	P-USB-5A4	E-K7143-2	EL	5A4	A	EE	DEFLECT				
01-012-010-001	E-LF-BOL	E-TFW1	EL	5A1	A	EE	FIXTURE				
01-015-010-001	E-LF-BOL	E-TFW2	EL	5A3	A	EE	FIXTURE				
01-015-001-001	E-LF-3BB	I-LCV113	PEN	3BB	A	EE	FIXTURE				
01-006-001-002	P-USB-3Q1	M-AFWPP1-1	PPS	3Q1	A	PSE	PIPEFAIL				
01-014-001-001	C-PLAT-3BB	M-AFWPP1-3	PEN	3BB	A	CE	CIVILFAIL				
01-020-001-001	M-TANK	M-AFWPP1-3	PPS	3Q2	A	CE	SPTFAIL	ENVIRON			I
02-004-001-002	C-PLAT-3BB	M-FCV440	PEN	3BB	A	CE	CIVILFAIL				
02-005-001-002	C-PLAT-3BB	M-FCV441	PEN	3BB	A	CE	CIVILFAIL				
01-009-001-001	E-LF-3BB	M-LCV108	PEN	3BB	A	EE	FIXTURE				
01-010-001-001	E-LF-3BB	M-LCV109	PEN	3BB	A	EE	FIXTURE				
01-012-001-001	SQ	M-LCV110	OA	28	A	ENG	MECHFAIL				
01-013-001-001	SQ	M-LCV111	OA	28	A	ENG	MECHFAIL				
01-016-001-001	E-LF-3BB	M-LCV115	PEN	3BB	A	EE	FIXTURE				
01-020-002-001	N-BATT CHG	E-FNJB	EL	6A1	M	NPO	LOOSE		SECLOOSE	OVERLAP	
01-012-002-002	M-FE	E-HNJB	EL	5A3	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY	
01-012-005-003	P-ULB-3Q2	E-KK793-0.75	PPS	3Q2	M	PSE	DEFLECT		STOP	NECESSARY	
01-015-002-003	E-RS-3BB	E-KT243-1.25	PEN	3BB	M	EE	INTERFERE		RELOCATE	EXPEDIENT	
01-015-002-001	C-HANDRAIL	E-KT987-1.50	EL	6A5	M	CE	LOOSE		SECLOOSE	OVERLAP	
01-019-002-002	C-STAIR-14A	E-K2665-1	TB	14A	M	CE	CIVILFAIL		BRACE	EXPEDIENT	
01-019-002-004	P-SPR-14A	E-K2665-1	TB	14A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT	
01-019-002-005	M-HOIST-14A	E-K2665-1	TB	14A	M	CE	MECHFAIL		STOP	EXPEDIENT	
01-019-002-006	M-HR	E-K2665-1	TB	14A	M	EMS	MECHFAIL		SECLOOSE	EXPEDIENT	
01-019-002-007	M-FE	E-K2665-1	TB	14A	M	EMS	LOOSE	MECHFAIL	SECLOOSE	EXPEDIENT	
01-020-002-004	P-4434-1	E-K2666-1	TB	14A	M	PSE	LOOSE	DEFLECT	SUPPORT	EXPEDIENT	
01-020-002-007	M-FCV723	E-K2666-1	TB	14A	M	EE	MECHFAIL		TMODIFY	EXPEDIENT	
01-012-002-003	P-SPR-3BB	E-K5755+	PEN	3BB	M	PSE	SPTFAIL		SUPPORT	NECESSARY	
01-012-002-001	P-SPR-3BB	E-K5755-0.75	PEN	3BB	M	PSE	SPTFAIL		SUPPORT	NECESSARY	
02-003-002-004	P-1743-16	E-K5865-1.25	OA	28	M	PSE	SPTFAIL		RELOCATE	NECESSARY	
02-003-002-007	E-R-28	E-K5865-1.25	OA	28	M	EE	INTERFERE		SUPPORT	OVERLAP	
01-013-002-001	NS-CD	E-K6145-0.75	OA	28	M	ENG	HOUSEKEEP		SUPPORT	OVERLAP	
01-009-002-006	P-1445-4	E-K6254-3	PEN	3BB	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
01-017-002-001	NS-T	E-K7227-3	AUX	4A	M	ENG	ENVIRON		CONSTDEF	EXPEDIENT	
01-020-002-003	C-HANDRAIL	E-K7237-2	EL	6A5	M	CE	LOOSE		SECLOOSE	OVERLAP	
01-018-001-001	E-LF-BOL	I-PT433	AUX	S3	M	EE	FIXTURE		SECLOOSE	OVERLAP	
01-006-001-001	P-2442-6	M-AFWPP1-1	PPS	3Q1	M	PSE	DEFLECT		RELOCATE	EXPEDIENT	
01-020-001-002	M-TANK	M-AFWPP1-3	PPS	3Q2	M	PSE	PIPEFAIL	ENVIRON	RELOCATE	EXPEDIENT	I
01-005-005-001	P-2475-0.75	P-0570-3	OA	28	M	PSE	INTERFERE		CLEARANCE	OVERLAP	
01-003-005-002	P-0593-4	P-0573-4	PEN	3BB	M	CE	DEFLECT		BRACE	EXPEDIENT	
01-003-011-001	C-PLAT-28	P-0576-3	OA	28	M	CE	INTERFERE		CLEARANCE	EXPEDIENT	
02-001-004-002	P-0556-16	PA-0556-16	PEN	3BB	M	PSE	DEFLECT	SPTFAIL	SUPPORT	NECESSARY	

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=AUXILIARY FEEDWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
02-001-004-003	C-PLAT-3BB	PA-0556-16	PEN	3BB	M	CE	INTERFERE		CLEARANCE	EXPEDIENT	
02-001-003-002	P-0557-16	PA-0557-16	PEN	3BB	M	PSE	DEFLECT	SPTFAIL	SUPPORT	NECESSARY	
01-015-002-002	E-LF-3BB	E-KK594-0.75	PEN	3BB	NAN	EE	FIXTURE				
01-012-005-001	P-USB-3BB	E-KK793-0.75	PEN	3BB	NAN	PSE	DEFLECT				
01-015-002-004	E-K3118-1.50	E-KT243-1.25	PEN	3BB	NAN	EE	DEFLECT				
01-015-002-005	P-SPR-3BB	E-KT243-1.25	PEN	3BB	NAN	PSE	DEFLECT				
01-015-002-006	P-SPR-3BB	E-KT243-1.25	PEN	3BB	NAN	PSE	DEFLECT				
01-015-002-007	E-R-3BB	E-KT243-1.25	PEN	3BB	NAN	EE	DEFLECT				
01-015-002-008	E-LF-3BB	E-KT243-1.25	PEN	3BB	NAN	EE	FIXTURE				
02-012-004-002	E-R-3BB	E-KT301-1	PEN	3BB	NAN	EE	DEFLECT				
01-019-002-008	E-LF-14A	E-K2665-1	TB	14A	NAN	EE	FIXTURE				
01-019-002-009	E-LF-12A	E-K2665-1	EL	12A	NAN	EE	FIXTURE				
01-019-002-010	E-LF-12B	E-K2665-1	EL	12B	NAN	EE	FIXTURE				
01-020-002-005	P-USB-14A	E-K2666-1	TB	14A	NAN	PSE	INTERFERE	DEFLECT			
01-020-002-008	E-LF-12A	E-K2666-1	EL	12A	NAN	EE	FIXTURE				
01-013-002-002	P-USB-28	E-K5757-0.75	OA	28	NAN	PSE	SPTFAIL				
02-002-002-001	P-4587-2.50	E-K5849-3	OA	28	NAN	PSE	DEFLECT				
02-003-002-005	P-SA-28	E-K5865-1.25	OA	28	NAN	PSE	DEFLECT				
02-003-002-006	P-USB-28	E-K5865-1.25	OA	28	NAN	PSE	DEFLECT				
01-007-002-001	I-FX510+	E-K5985-2	OA	28	NAN	ICE	SPTFAIL				
01-007-002-003	E-LF-28	E-K5985-2	OA	28	NAN	EE	FIXTURE				
01-008-002-001	I-FX510	E-K5985-2	OA	28	NAN	CE	SPTFAIL				
01-012-002-005	E-LF-28	E-K6143-1.25	OA	28	NAN	EE	FIXTURE				
01-009-002-001	P-1595-3	E-K6254-3	PEN	3BB	NAN	PSE	DEFLECT				
01-009-002-002	P-2742-1	E-K6254-3	PEN	3BB	NAN	PSE	SPTFAIL				
01-009-002-003	P-USB-3BB	E-K6254-3	PEN	3BB	NAN	PSE	SPTFAIL				
01-009-002-004	P-1445-4	E-K6254-3	PEN	3BB	NAN	PSE	DEFLECT				
01-009-002-005	P-1595-3	E-K6254-3	PEN	3BB	NAN	PSE	DEFLECT				
01-010-002-002	P-1595-3	E-K6254-3	PEN	3BB	NAN	PSE	SPTFAIL				
01-010-002-003	P-2742-1	E-K6254-3	PEN	3BB	NAN	PSE	DEFLECT				
01-010-002-004	P-USB-3BB	E-K6254-3	PEN	3BB	NAN	PSE	SPTFAIL				
01-010-002-005	P-1445-4	E-K6254-3	PEN	3BB	NAN	PSE	DEFLECT				
02-004-002-001	P-0557-16	E-K6479-3	PEN	3BB	NAN	PSE	DEFLECT				
01-019-002-016	E-PANEL	E-K6993-4	AUX	3L	NAN	ICE	SPTFAIL				
01-002-011-001	P-2416-1	P-0476-4	PEN	3BB	NAN	PSE	DEFLECT				
02-001-001-001	P-USB-1B	P-0554-16	CNT	1B	NAN	PSE	PIPEFAIL				
02-001-002-001	P-USB-1B	P-0555-16	CNT	1B	NAN	PSE	PIPEFAIL				
02-001-003-001	P-DRAIN-1B	P-0556-16	CNT	1B	NAN	PSE	PIPEFAIL				
02-001-004-001	P-DRAIN-1B	P-0557-16	CNT	1B	NAN	PSE	PIPEFAIL				
01-001-002-001	E-T15	P-0562-8	PEN	3BB	NAN	EE	SPTFAIL				
01-002-020-001	E-LF-3BB	P-0563-4	PEN	3BB	NAN	EE	FIXTURE				
01-002-020-002	P-DRAIN-3BB	P-0563-4	PEN	3BB	NAN	PSE	DEFLECT				
01-002-025-001	P-0283-3	P-0572-4	PEN	3BB	NAN	PSE	DEFLECT				
01-003-005-001	P-2416-1	P-0573-4	PEN	3BB	NAN	PSE	DEFLECT				
01-003-005-003	E-LF-3BB	P-0573-4	PEN	3BB	NAN	EE	FIXTURE				
01-004-005-001	E-LF-3BB	P-0574-4	PEN	3BB	NAN	EE	FIXTURE				
01-006-001-003	NS-CD	M-AFWPP1-1	PPS	3Q1	P	NPO	HOUSEKEEP				
01-012-005-002	NS-CD	E-KK793-0.75	PEN	3BB	X	QC	HOUSEKEEP				
01-020-002-006	P-SA-14A	E-K2666-1	TB	14A	X	GC	DEFLECT				
01-012-002-006	NS-CD	E-K5755-0.75	OA	28	X	QC	HOUSEKEEP				
01-009-002-007	NS-CD	E-K5962-3	PEN	3BB	X	GC	HOUSEKEEP				
01-020-002-002	NS-CD	E-K7231+	EL	5A4	X	GC	HOUSEKEEP				
02-012-004-001	E-R-3BB	E-KT301-1	PEN	3BB	Y	OSE	DEFLECT				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=AUXILIARY FEEDWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
01-019-002-013	I-PANEL	E-K4006-0.75	TB	14A	Y	ICE	SPTFAIL				
01-019-002-015	I-PANEL	E-K4006-0.75	TB	14A	Y	ICE	SPTFAIL				
01-019-002-012	I-PANEL	E-K4012-0.75	TB	14A	Y	ICE	SPTFAIL				
01-019-002-014	I-PANEL	E-K4012-0.75	TB	14A	Y	ICE	SPTFAIL				
01-020-020-011	I-PANEL	E-K4015-0.75	TB	14A	Y	ICE	SPTFAIL				
01-020-020-013	I-PANEL	E-K4015-0.75	TB	14A	Y	ICE	SPTFAIL				
01-020-020-010	I-PANEL	E-K4020-0.75	TB	14A	Y	ICE	SPTFAIL				
01-020-020-012	I-PANEL	E-K4020-0.75	TB	14A	Y	ICE	SPTFAIL				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=COMPONENT COOLING WATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
21-003-003-001	NS-T	E-ENGE	AUX	3AA	A	ENG	ENVIRON				
20-017-004-001	C-WALL	E-K7248+	AUX	4A	A	CE	CIVILFAIL				
20-040-066-001	M-GFFD HX	I-FIT1	PEN	3BB	A	EMS	SPTFAIL				
21-003-001-001	C-PLAT-31	I-LT40	AUX	31	A	CE	CIVILFAIL				
20-007-001-003	C-P12T1	I-PI113	TB	14E	A	ICE	DEFLECT				
21-002-007-001	C-LADDER	I-TUBING	AUX	3R	A	CE	SPTFAIL				
20-014-001-004	C-PLAT-14E	M-CCWHX1-1	TB	14E	A	CE	CIVILFAIL				
20-015-001-001	C-PLAT-14E	M-CCWHX1-2	TB	14E	A	CE	CIVILFAIL				
21-001-001-001	M-TANK	M-CST	HV	3P3	A	CE	SPTFAIL				
20-081-019-001	I-RE19	M-SC55	PEN	3BB	A	EMS	SPTFAIL				
20-010-001-001	C-PLAT-14A	P-0095-30	TB	14A	A	CE	CIVILFAIL				
20-019-001-001	C-PLAT-14A	P-0103-20	TB	14A	A	CE	CIVILFAIL				
21-002-001-001	C-RSM-31	P-0380-10	AUX	31	A	PSE	RELSTRUCT				
21-002-005-001	C-PLAT-31	P-0567-2	AUX	31	A	CE	CIVILFAIL				
21-002-010-001	C-RSM-31	P-1917-4	AUX	31	A	PSE	RELSTRUCT				
20-039-044-001	P-0927-14	P-2679-2	PEN	3BB	A	PSE	DEFLECT				
20-027-007-001	E-ANTENNA	P-3168-2	CNT	1C	A	EE	SPTFAIL				
21-002-003-001	C-RSM-31	P-4551-2	AUX	31	A	PSE	RELSTRUCT				
20-065-012-001	P-0135-4	PA-0139-1	CNT	1B	A	ENG	DEFLECT				
20-052-013-001	E-LF-3BB	PA-0314-12	PEN	3BB	A	EE	FIXTURE				
20-051-018-001	E-LF-3BB	PA-0315-12	PEN	3BB	A	EE	FIXTURE				
20-048-013-001	E-LF-3BB	PA-0318-12	PEN	3B	A	EE	FIXTURE				
20-052-014-001	E-LF-3BB	PA-0319-12	PEN	3BB	A	EE	FIXTURE				
20-051-017-001	E-LF-3BB	PA-0320-12	PEN	3BB	A	EE	FIXTURE				
20-050-017-001	E-LF-3BB	PA-0321-12	PEN	3BB	A	EE	FIXTURE				
20-049-013-001	E-LF-3BB	PA-0322-12	PEN	3BB	A	EE	FIXTURE				
20-048-014-001	E-LF-3BB	PA-0323-12	PEN	3BB	A	EE	FIXTURE				
20-045-032-001	E-LF-3BB	E-K6114-1.25	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
20-003-003-003	C-COVER	E-K6977-4	PEN	3BB	M	CE	LOOSE		SECLOOSE	EXPEDIENT	
21-003-003-002	P-USB-3X	E-K9894-3	AUX	3X	M	PSE	SPTFAIL	HOUSEKEEP	CONSTDEF	OVERLAP	
20-063-003-001	E-LF-3L	I-CSP	AUX	3L	M	EE	FIXTURE		CHAIN	EXPEDIENT	
20-063-003-002	M-TANK	I-CSP	AUX	3L	M	CE	SPTFAIL		BRACE	EXPEDIENT	
20-045-014-001	E-LF-3BB	I-FCV360	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
20-057-002-001	E-LF-3J1	I-FCV606	PPS	3J1	M	EE	FIXTURE		CHAIN	EXPEDIENT	
20-058-002-001	E-LF-3J2	I-FCV607	PPS	3J2	M	EE	FIXTURE		CHAIN	EXPEDIENT	
20-059-002-001	E-LF-3J3	I-FCV608	PPS	3J3	M	EE	FIXTURE		CHAIN	EXPEDIENT	
20-016-001-003	P-3103-2	I-FT68	TB	14A	M	PSE	SPTFAIL	PIPEFAIL	TMODIFY	EXPEDIENT	
20-012-004-001	E-LF-3J3	I-RE17A	PPS	3J3	M	EE	FIXTURE		CHAIN	EXPEDIENT	
20-013-004-001	E-LF-3J3	I-RE17B	PPS	3J3	M	EE	FIXTURE		CHAIN	EXPEDIENT	
20-014-001-003	P-SPR-14E	M-CCWHX	TB	14E	M	PSE	SPTFAIL		SUPPORT	NECESSARY	
20-004-001-001	E-LF-3J1	M-CCWPP1-1	PPS	3J1	M	EE	FIXTURE		CHAIN	EXPEDIENT	
20-004-001-002	C-CRANE-3J1	M-CCWPP1-1	PPS	3J1	M	CE	CIVILFAIL		BRACE	EXPEDIENT	
20-004-001-003	M-HOIST-3J1	M-CCWPP1-1	PPS	3J1	M	CE	MECHFAIL		BRACE	EXPEDIENT	
20-002-001-001	E-LF-3J2	M-CCWPP1-2	PPS	3J2	M	EE	FIXTURE		CHAIN	EXPEDIENT	
20-003-001-001	P-SPR-3J3	M-CCWPP1-3	PPS	3J3	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
20-003-001-002	E-LF-3J3	M-CCWPP1-3	PPS	3J3	M	EE	FIXTURE		CHAIN	EXPEDIENT	
20-044-018-001	E-ANTENNA	M-CCWTANK	HV	8B1	M	CE	SPTFAIL		BRACE	EXPEDIENT	
20-056-001-001	E-LF-3BB	M-FCV361	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
20-019-001-002	P-ULB-14A	P-0103-20	TB	14A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
20-020-001-001	P-ULB-14A	P-0104-20	TB	14A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
20-046-001-001	P-1595-3	P-0121-6	PEN	3BB	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
20-044-001-001	P-1595-3	P-0123-6	PEN	3BB	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
20-045-008-001	C-71G	P-0137-4	CNT	1B	M	CE	INTERFERE	DEFLECT	CLEARANCE	OVERLAP	

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=COMPONENT COOLING WATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
20-053-017-001	PA-0310-2	P-0312-2	PEN	3BB	M	PSE	DEFLECT		RELOCATE	OVERLAP	
20-023-001-001	P-SA-3J3	P-2131-2	PPS	3J3	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
21-004-010-003	C-CRANE-3R	P-2242-3	AUX	3R	M	CE	CIVILFAIL		TSHIELD	EXPEDIENT	
20-021-001-001	P-ULB-14A	P-2277-20	TB	14A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
20-045-013-001	C-69G	P-2305-4	CNT	1B	M	CE	INTERFERE	DEFLECT	CLEARANCE	OVERLAP	
20-040-001-001	P-DRAIN-1B	P-2314-4	CNT	1B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
21-004-003-004	P-3354-1.50	P-3006-4	PEN	3BB	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT	
21-004-003-006	P-0382-4	P-3006-4	PPS	3Q1	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
20-025-004-001	P-1246-10	P-3163-2	CNT	1A	M	PSE	DEFLECT		SUPPORT	NECESSARY	
20-038-006-002	C-26GE	P-4172-0.75	PEN	3BB	M	PSE	INTERFERE	DEFLECT	TMODIFY	EXPEDIENT	
20-081-001-001	M-SGBDTANK	P-4172-0.75	PEN	3BB	M	CE	SPTFAIL	CIVILFAIL	BRACE	NECESSARY	
20-082-001-001	M-BOTTLE	P-4172-0.75	PEN	3BB	M	CE	SPTFAIL		SUPPORT	EXPEDIENT	
20-081-009-001	M-SGBDTANK	P-4173-0.75	PEN	3BB	M	CE	SPTFAIL	CIVILFAIL	BRACE	NECESSARY	
20-082-005-001	M-BOTTLE	P-4173-0.75	PEN	3BB	M	CE	SPTFAIL		SUPPORT	EXPEDIENT	
20-010-001-002	P-SPR-14E	PA-0095-30	TB	14E	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
20-018-001-001	P-4000-2	PA-0098-12	TB	14E	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
20-055-003-001	E-LF-3BB	PA-0144-4	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
20-003-003-002	P-ULB-3BB	E-K6977-4	PEN	3BB	NAN	PSE	DEFLECT				
20-003-003-004	C-COVER	E-K6977-4	PEN	3BB	NAN	EE	LOOSE				
20-044-023-001	C-PLAT-28	E-K9966-2	OA	28	NAN	CE	INTERFERE				
20-010-001-003	P-USB-14E	I-PI113	TB	14E	NAN	PSE	PIPEFAIL				
20-010-001-004	E-LF-14E	I-TE4	TB	14E	NAN	EE	FIXTURE				
20-014-001-001	P-USB-14E	M-CCWHX1-1	TB	14E	NAN	PSE	PIPEFAIL				
20-014-001-002	P-USB-14E	M-CCWHX1-1	TB	14E	NAN	PSE	PIPEFAIL				
20-015-001-002	P-USB-14E	M-CCWHX1-2	TB	14E	NAN	PSE	PIPEFAIL				
20-015-001-003	P-USB-14E	M-CCWHX1-2	TB	14E	NAN	PSE	PIPEFAIL				
20-015-001-004	P-DRAIN-14E	M-CCWHX1-2	TB	14E	NAN	PSE	SPTFAIL	PIPEFAIL			
21-001-001-002	E-LF-3R	M-CST	AUX	3R	NAN	EE	FIXTURE				
20-045-012-001	E-LF-3BB	M-FCV360	PEN	3BB	NAN	EE	FIXTURE				
20-043-012-001	E-LF-3BB	M-FCV366	PEN	3BB	NAN	EE	FIXTURE				
20-044-005-001	P-3108-2	M-LCV69	PEN	3BB	NAN	PSE	ENVIRON				
20-046-017-001	E-LF-3BB	M-LCV70	PEN	3BB	NAN	EE	FIXTURE				
20-016-001-001	P-SPR-14E	P-0101-30	TB	14E	NAN	PSE	SPTFAIL	PIPEFAIL			
20-016-001-002	P-USB-14E	P-0101-30	TB	14E	NAN	PSE	PIPEFAIL				
20-017-001-001	P-SPR-14E	P-0102-30	TB	14E	NAN	PSE	SPTFAIL	PIPEFAIL			
20-017-001-002	P-USB-14E	P-0102-30	TB	14E	NAN	PSE	PIPEFAIL				
20-045-001-001	E-LF-3BB	P-0106-18	PEN	3BB	NAN	EE	FIXTURE				
20-045-002-002	P-0180-10	P-0180-10	CNT	1A	NAN	PSE	DEFLECT				
20-053-016-001	E-LF-3M	P-0310-2	PPS	3M	NAN	EE	FIXTURE				
20-053-007-001	E-LF-3M	P-0311-2	PPS	3M	NAN	EE	FIXTURE				
20-054-001-001	P-0106-18	P-0312-2	PEN	3BB	NAN	PSE	DEFLECT				
20-054-001-002	E-LF-3M	P-0312-2	PPS	3M	NAN	EE	FIXTURE				
20-054-008-001	E-LF-3M	P-0313-2	PPS	3M	NAN	EE	FIXTURE				
20-052-002-001	E-RS-1A	P-0314-12	CNT	1A	NAN	EE	SPTFAIL				
20-051-010-001	P-1042-2.50	P-0320-12	PEN	3BB	NAN	PSE	DEFLECT				
20-072-005-001	C-RSM-1A	P-1701-1.50	CNT	1A	NAN	PSE	RELSTRUCT				
20-059-005-001	P-1508-4	P-2127-4	AUX	3A	NAN	PSE	DEFLECT				
20-039-020-001	H-DUCT-1A	P-2211-6	CNT	1A	NAN	HVA	SPTFAIL				
21-004-010-001	E-LF-3R	P-2242-3	AUX	3R	NAN	EE	FIXTURE				
21-004-010-002	C-HANDRAIL	P-2242-3	AUX	3R	NAN	CE	SPTFAIL				
21-004-010-004	C-CRANE-3R	P-2242-3	AUX	3R	NAN	CE	SPTFAIL				
21-004-010-005	E-LF-3Q	P-2242-3	PPS	3Q	NAN	EE	FIXTURE				
21-004-010-006	P-1932-1	P-2242-3	PPS	3Q	NAN	PSE	DEFLECT				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=COMPONENT COOLING WATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
20-065-003-001	M-TANK	P-2304-4	CNT	1B	NAN	PSE	DEFLECT				
20-040-021-001	P-3456-1	P-2340-6	CNT	1A	NAN	PSE	DEFLECT				
20-062-004-001	E-LF-3C	P-2688-0.75	AUX	3C	NAN	EE	FIXTURE				
20-062-004-002	M-HOIST-3C	P-2688-0.75	AUX	3C	NAN	CE	MECHFAIL				
20-061-004-002	M-HOIST-3C	P-2689-0.75	AUX	3C	NAN	CE	MECHFAIL				
20-072-003-001	P-ULB-1A	P-2947-1.50	CNT	1A	NAN	PSE	DEFLECT				
21-004-003-001	P-1595-3	P-3006-4	PEN	3BB	NAN	PSE	SPTFAIL				
21-004-003-002	E-LF-3BB	P-3006-4	PEN	3BB	NAN	EE	FIXTURE				
21-004-003-003	E-R-3BB	P-3006-4	PEN	3BB	NAN	EE	SPTFAIL				
21-004-003-005	E-LF-3BB	P-3006-4	PEN	3BB	NAN	EE	FIXTURE				
20-063-001-001	E-LF-3L	P-3249-2	AUX	3L	NAN	EE	FIXTURE				
20-063-004-001	E-LF-3L	P-3266-2	AUX	3L	NAN	EE	FIXTURE				
20-020-005-001	P-SA-3BB	P-3279-12	PEN	3BB	NAN	PSE	SPTFAIL	PIPEFAIL			
20-020-008-001	E-LF-3BB	P-3282-12	PEN	3BB	NAN	EE	FIXTURE				
20-050-015-001	P-2416-1	P-3286-12	PEN	3BB	NAN	PSE	DEFLECT				
20-050-016-001	E-LF-3BB	P-3286-12	PEN	3BB	NAN	EE	FIXTURE				
20-045-027-001	P-SA-3BB	P-3288-12	PEN	3BB	NAN	PSE	DEFLECT				
20-055-006-001	E-LF-1A	P-3291-4	CNT	1A	NAN	EE	FIXTURE				
20-055-009-001	E-LF-1A	P-3291-4	CNT	1A	NAN	EE	FIXTURE				
20-061-004-001	E-LF-3C	P-4689-0.75	AUX	3C	NAN	EE	FIXTURE				
20-045-002-001	E-LF-3BB	PA-0106-18	PEN	3BB	NAN	EE	FIXTURE				
20-021-007-001	E-LF-3BB	PA-2279-12	PEN	3BB	NAN	EE	FIXTURE				
20-021-018-001	E-LF-3BB	PA-2279-12	PEN	3BB	NAN	EE	FIXTURE				
20-051-014-001	E-LF-3BB	PA-3280-12	PEN	3BB	NAN	EE	FIXTURE				
20-050-014-001	E-LF-3BB	PA-3281-12	PEN	3BB	NAN	EE	FIXTURE				
20-020-010-001	E-LF-3BB	PA-3283-12	PEN	3BB	NAN	EE	FIXTURE				
20-051-016-001	E-LF-3BB	PA-3285-12	PEN	3BB	NAN	EE	FIXTURE				
20-045-026-001	E-LF-3BB	PA-3287-12	PEN	3BB	NAN	EE	FIXTURE				
20-045-028-001	E-LF-3BB	PA-3288-12	PEN	3BB	NAN	EE	FIXTURE				
20-034-006-001	NS-CD	E-K6989-1	PEN	3BB	X	QC	HOUSEKEEP				
20-003-005-001	NS-CD	E-K7025-1	PPS	3J3	X	QC	HOUSEKEEP				
20-064-007-001	NS-CD	P-2307-1	CNT	1A	X	GC	HOUSEKEEP				
20-071-001-001	NS-CD	P-2320-1.50	CNT	1A	X	GC	HOUSEKEEP				
20-044-009-001	NS-MISC	I-LC59+	HV	8B1	Y	ENG	HOUSEKEEP				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

---------- SYSTEM=CNT ISOLATION OF NON-ESSENTIAL SYSTEMS ----------

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
29-021-005-001	M-TANK	E-KX505-0.75	CNT	1B	A	EMS	SPTFAIL				
29-022-005-002	M-TANK	E-KX525-0.75	CNT	1B	A	EMS	SPTFAIL				
25-191-002-002	P-IAH-3BB	E-K4992-1.25	PEN	3BB	A	PSE	DEFLECT				
25-193-002-001	I-PANEL	E-K8496+	PEN	3BB	A	CE	SPTFAIL				
25-096-001-001	E-LF-3P5	GENERIC	HV	3P5	A	EE	FIXTURE				
25-102-006-001	C-112L	H-DUCT	HV	3P2	A	CE	CIVILFAIL				
25-102-010-001	P-DRAIN-3P2	H-MISC	HV	3P2	A	ENG	PIPEFAIL				
29-013-004-002	E-LF-1A	I-FCV258	CNT	1A	A	EE	FIXTURE				
31-003-004-001	C-103GE	I-FCV584	PEN	3BB	A	CE	CIVILFAIL				
25-107-005-001	E-LF-3P2	I-FCV663	HV	3P2	A	EE	FIXTURE				
25-107-005-002	C-99L	I-FCV663	HV	3P2	A	CE	CIVILFAIL				
25-109-005-001	E-LF-3P2	I-FCV664	HV	3P2	A	EE	FIXTURE				
25-109-005-002	C-99L	I-FCV664	HV	3P2	A	CE	CIVILFAIL				
25-118-001-001	C-11GE	I-FCV679	PEN	3BB	A	CE	CIVILFAIL				
25-118-005-003	C-103GE	I-FCV679	PEN	3BB	A	CE	CIVILFAIL				
31-005-004-001	C-104GE	I-FCV682	PEN	3BB	A	CE	CIVILFAIL				
19-004-006-001	C-PLAT-3BB	I-PM184	PEN	3BB	A	CE	CIVILFAIL				
25-107-004-001	E-LF-3P2	I-SV296	HV	3P2	A	EE	FIXTURE				
25-107-004-002	C-99L	I-SV296	HV	3P2	A	CE	CIVILFAIL				
25-109-004-001	E-LF-3P2	I-SV297	HV	3P2	A	EE	FIXTURE				
25-109-004-002	C-99L	I-SV297	HV	3P2	A	CE	CIVILFAIL				
19-001-004-001	C-103GE	I-9354B	PEN	3BB	A	CE	CIVILFAIL				
29-010-001-001	P-SPR-1A	M-FCV255	CNT	1A	A	PSE	DEFLECT				
29-007-002-001	C-11GE	M-FCV260	PEN	3BB	A	CE	CIVILFAIL				
29-001-003-001	C-104GE	M-FCV501	PEN	3BB	A	CE	CIVILFAIL				
31-002-007-001	C-103GE	M-FCV584	PEN	3BB	A	CE	CIVILFAIL				
25-116-003-001	C-11GE	M-FCV679	PEN	3BB	A	CE	CIVILFAIL				
25-105-001-001	C-PLAT-3P2	M-RCV12	HV	3P2	A	CE	CIVILFAIL				
31-001-005-001	C-103GE	M-VALVE	PEN	3BB	A	CE	CIVILFAIL				
19-017-001-001	H-E15	M-9352A	CNT	1A	A	HVA	SPTFAIL				
29-004-001-001	C-11GE	P-3001-4	PEN	3BB	A	CE	CIVILFAIL				
29-021-005-004	P-DRAIN-1A	E-KX505-0.75	CNT	1A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
29-022-005-001	P-DRAIN-1A	E-KX525-0.75	CNT	1A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
25-185-002-002	P-SPR-3BB	E-K3888-1	PEN	3BB	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
25-112-006-001	P-0721-12	E-K6243-1.25	PEN	3BB	M	PSE	DEFLECT		STOP	NECESSARY	
25-108-002-001	M-HOIST-7A	E-K7518-3	EL	7A	M	EMS	MECHFAIL		STOP	EXPEDIENT	
25-122-005-001	C-34F	H-CFC1-1	CNT	1C	M	CE	DEFLECT		BRACE	EXPEDIENT	
25-122-007-001	P-3256-2	H-CFC1-1	CNT	1C	M	PSE	PIPEFAIL		RELOCATE	EXPEDIENT	
25-105-001-002	P-USB-8B3	H-CR35	HV	8B3	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
25-189-002-001	E-LF-3BB	I-FCV239	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
25-189-004-002	E-LF-3BB	I-FCV240	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
25-184-002-001	E-LF-3BB	I-FCV669	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
25-186-001-001	E-LF-3BB	I-FCV669	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
25-118-005-001	P-1132-2	I-FCV679	PEN	3BB	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
25-119-005-001	E-LF-3BB	I-FCV681	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
31-005-004-002	E-LF-3BB	I-FCV682	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
25-187-001-001	E-LF-3BB	I-FCV700	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
25-117-005-001	P-1167-4	I-FCV768	CNT	1A	M	ICE	DEFLECT		TMODIFY	NECESSARY	
19-004-003-001	P-1870-1	I-PM127	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
19-014-005-001	P-1870-1	I-PM127	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
25-114-004-001	E-LF-3BB	I-SV287	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
19-015-009-001	E-LF-3BB	I-9356B	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
25-194-001-001	E-LF-3BB	M-FCV239	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=CNT ISOLATION OF NON-ESSENTIAL SYSTEMS

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-195-001-001	E-LF-3BB	M-FCV240	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
29-001-002-002	E-LF-3BB	M-FCV501	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
29-001-003-002	E-LF-3BB	M-FCV501	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
25-181-001-001	C-103GE	M-FCV668	PEN	3BB	M	CE	INTERFERE	DEFLECT	BRACE	OVERLAP	
25-183-001-001	E-LF-3BB	M-FCV669	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
31-004-002-001	E-LF-3BB	M-FCV682	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
25-112-004-001	E-LF-3BB	M-SV289	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
27-004-002-001	C-HANDRAIL	M-VALVE	AUX	3R	M	CE	SPTFAIL		SECLOOSE	EXPEDIENT	
25-189-004-001	P-3126-2	P-4636-0.375	CNT	1A	M	PSE	SPTFAIL		SUPPORT	NECESSARY	
29-021-005-002	E-LF-1B	E-KX505-0.75	CNT	1B	NAN	EE	FIXTURE				
29-022-005-003	E-LF-1B	E-KX525-0.75	CNT	1B	NAN	EE	FIXTURE				
25-103-007-001	H-DUCT-1A	E-K1751-2	CNT	1A	NAN	HVA	SPTFAIL				
19-004-011-001	E-LF-1A	E-K1973-2.50	CNT	1A	NAN	EE	FIXTURE				
19-014-006-001	PS-3BB	E-K1985-1	PEN	3BB	NAN	PSE	DEFLECT				
25-185-002-005	P-3253-1.50	E-K3763-0.75	PEN	3BB	NAN	PSE	INTERFERE	DEFLECT			
25-194-002-002	P-ULB-3BB	E-K4984-2	PEN	3BB	NAN	PSE	DEFLECT				
25-180-002-001	P-3253-1.50	E-K7545-1.50	PEN	3BB	NAN	PSE	INTERFERE	DEFLECT			
25-105-007-001	C-99L	E-K8277-0.75	HV	3P2	NAN	CE	DEFLECT				
25-097-001-001	E-LF-3P2	H-DUCT	HV	3P2	NAN	EE	FIXTURE				
25-097-001-002	E-LF-3P5	H-DUCT	HV	3P5	NAN	EE	FIXTURE				
25-102-007-001	E-LF-3P2	H-E3	HV	3P2	NAN	EE	FIXTURE				
25-094-002-001	E-LF-3P5	H-FILTER	HV	3P5	NAN	EE	FIXTURE				
29-013-004-001	E-R-1A	I-FCV258	CNT	1A	NAN	EE	INTERFERE				
25-118-005-002	M-VALVE	I-FCV679	PEN	3BB	NAN	PSE	DEFLECT				
25-102-009-001	E-LF-3P2	I-FE5015	HV	3P2	NAN	EE	FIXTURE				
19-004-006-002	E-LF-3BB	I-PM184	PEN	3BB	NAN	EE	FIXTURE				
19-008-003-001	P-IAH-3BB	I-9355B	PEN	3BB	NAN	PSE	DEFLECT				
19-015-010-001	E-LF-3BB	I-9356B	PEN	3BB	NAN	EE	FIXTURE				
19-015-013-001	P-IAH-3BB	I-9356B	PEN	3BB	NAN	PSE	DEFLECT				
19-026-011-001	P-IAH-3BB	I-9357B	PEN	3BB	NAN	PSE	DEFLECT				
25-107-001-001	E-LF-3B2	M-FCV663	PPS	3B2	NAN	EE	FIXTURE				
25-109-001-001	E-LF-3B2	M-FCV664	PPS	3B2	NAN	EE	FIXTURE				
27-004-002-002	E-LF-3R	M-VALVE	AUX	3R	NAN	EE	FIXTURE				
19-027-001-001	E-LF-3H1	P-1684-2	PPS	3H1	NAN	EE	FIXTURE				
29-006-001-001	E-LF-3BB	P-2993-4	PEN	3BB	NAN	EE	FIXTURE				
29-021-005-003	NS-CD	E-KX505-0.75	CNT	1B	X	QC	HOUSEKEEP				
25-185-002-004	NS-CD	E-K3763-0.75	PEN	3BB	X	QC	HOUSEKEEP				
25-185-002-003	NS-CD	E-K3880-1	PEN	3BB	X	QC	HOUSEKEEP				
25-185-002-001	NS-CD	E-K3888-1	EL	7A	X	QC	HOUSEKEEP				
25-194-002-001	NS-CD	E-K4983-3	PEN	3BB	X	GC	HOUSEKEEP				
31-003-006-001	NS-CD	E-K6294-1	PEN	3BB	X	GC	HOUSEKEEP				
25-181-002-001	NS-CD	E-K7197-1.50	PEN	3BB	X	QC	HOUSEKEEP				
29-003-006-001	NS-CD	E-MSAH	AUX	3X	X	QC	HOUSEKEEP				
31-005-004-003	NS-CD	I-FCV682	PEN	3BB	X	GC	HOUSEKEEP				
25-191-002-001	NS-CD	M-FCV236	PEN	3BB	X	GC	HOUSEKEEP				
29-003-006-002	I-PANEL	E-K9166-2	AUX	3L	Y	ICE	SPTFAIL				
25-095-001-001	P-USB-3P5	H-S3	HV	3P5	Y	OSE	SPTFAIL	ENVIRON			

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=CHEM. & VOL. CONTROL SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
12-013-003-001	M-8152	E-K6266-1	PEN	3BB	A	EMS	SPTFAIL				
11-006-005-002	NS-T	E-K7054-0.75	PPS	3H1	A	ENG	ENVIRON				
11-007-005-003	C-WALL	E-K7057+	AUX	4A	A	CE	CIVILFAIL				
11-006-005-001	P-0095-30	E-K7507+	PPS	3J2	A	PSE	DEFLECT				
13-003-013-001	C-GRATING	E-K9440-2	AUX	3X	A	CE	LOOSE				I
13-004-011-001	C-GRATING	E-K9441-2	AUX	3X	A	CE	LOOSE				I
13-009-002-002	NS-T	E-K9737-1	AUX	3X	A	ENG	ENVIRON				
13-011-002-001	E-LF-3AA	I-HCV104	AUX	3AA	A	EE	FIXTURE				
13-012-002-002	E-LF-3AA	I-HCV105	AUX	3AA	A	EE	FIXTURE				
13-012-007-001	E-LF-3AA	I-LT104	AUX	3AA	A	EE	FIXTURE				
10-002-002-001	E-LF-1B	I-8141A	CNT	1B	A	EE	FIXTURE				
10-011-002-001	E-LF-1B	I-8141D	CNT	1B	A	EE	FIXTURE				
12-003-006-001	M-9351A	I-8143	CNT	1B	A	PSE	SPTFAIL				
12-010-004-001	E-LF-1A	I-8145	CNT	1A	A	EE	FIXTURE				
12-011-002-001	E-LF-1A	I-8146	CNT	1A	A	EE	FIXTURE				
12-012-004-001	E-LF-1A	I-8147	CNT	1A	A	EE	FIXTURE				
12-001-004-001	SQ	I-8148	CNT	1A	A	PSE	MECHFAIL				
12-014-002-001	E-LF-1A	I-8148	CNT	1A	A	EE	FIXTURE				
12-015-002-001	E-LF-1A	I-8149A	CNT	1A	A	EE	FIXTURE				
12-016-002-001	E-LF-1A	I-8149B	CNT	1A	A	EE	FIXTURE				
12-017-002-001	E-LF-1A	I-8149C	CNT	1A	A	EE	FIXTURE				
13-003-009-002	C-GRATING	M-BATPP1-1	AUX	3X	A	CE	LOOSE				
13-003-009-003	M-TANK	M-BATPP1-1	AUX	3X	A	CE	SPTFAIL				I
13-004-007-002	C-HANDRAIL	M-BATPP1-2	AUX	3AA	A	CE	LOOSE				I
13-009-001-002	C-COVER	M-BAT1-1	AUX	3S	A	CE	LOOSE				I
13-010-001-006	C-COVER	M-BAT1-2	AUX	3S	A	CE	LOOSE				I
11-001-006-001	E-LF-3H1	M-CHGPP1-1	PPS	3H1	A	EE	FIXTURE				
11-002-003-001	E-LF-3H1	M-CHGPP1-2	PPS	3H1	A	EE	FIXTURE				
11-003-003-001	C-CRANE-3H2	M-CHGPP1-3	PPS	3H2	A	CE	MECHFAIL				
11-003-003-002	E-LF-3H2	M-CHGPP1-3	PPS	3B2	A	EE	FIXTURE				
11-003-003-003	C-SB	M-CHGPP1-3	PPS	3H2	A	CE	CIVILFAIL				
10-013-004-001	P-DRAIN-1A	M-8142	CNT	1A	A	PSE	SPTFAIL	PIPEFAIL			
12-013-001-001	SQ	M-8152	PEN	3BB	A	ENG	MECHFAIL				
10-022-008-001	M-HOIST-3X	M-8380	AUX	3X	A	CE	MECHFAIL				
10-020-006-001	M-HOIST-3X	M-8382A	AUX	3X	A	CE	MECHFAIL				
10-019-006-001	M-HOIST-3X	M-8382B	AUX	3X	A	CE	MECHFAIL				
10-020-002-001	M-HOIST-3X	M-8384A	AUX	3X	A	CE	MECHFAIL				
10-019-002-001	M-HOIST-3X	M-8384B	AUX	3X	A	CE	MECHFAIL				
10-021-004-001	M-HOIST-3X	M-8387A	AUX	3X	A	CE	MECHFAIL				
10-022-003-001	M-HOIST-3X	M-8396A	AUX	3X	A	CE	MECHFAIL				
10-022-005-001	M-HOIST-3X	M-8396B	AUX	3X	A	CE	MECHFAIL				
11-004-001-001	C-PLAT-3B2	P-0041-4	PPS	3B2	A	CE	CIVILFAIL				
11-001-001-001	C-PLAT-3B1	P-0042-6	PPS	3B1	A	CE	CIVILFAIL				
11-003-004-001	C-CRANE-3H2	P-0047-3	PPS	3H2	A	CE	MECHFAIL				
11-005-007-001	C-LADDER	P-0048-3	PEN	3BB	A	CE	SPTFAIL				
11-005-007-002	C-PLAT-3B2	P-0048-3	PPS	3B2	A	CE	CIVILFAIL				
12-001-003-001	H-DUCT-1B	P-0051-2	CNT	1B	A	HVA	SPTFAIL				
11-021-002-001	C-PLAT-3B2	P-0053-3	PPS	3B2	A	CE	CIVILFAIL				
10-003-001-001	C-11GE	P-0054-2	PEN	3BB	A	CE	CIVILFAIL				
10-006-001-001	C-11GE	P-0055-2	PEN	3BB	A	CE	CIVILFAIL				
10-009-001-001	C-11GE	P-0056-2	PEN	3BB	A	CE	CIVILFAIL				
10-012-001-001	C-11GE	P-0057-2	PEN	3BB	A	CE	CIVILFAIL				
13-003-010-001	C-GRATING	P-0071-2	AUX	3X	A	CE	LOOSE				I

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=CHEM. & VOL. CONTROL SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
10-013-001-001	P-1041-2.50	P-0746-3	PEN	3BB	A	PSE	DEFLECT				
11-004-007-002	C-PLAT-3B2	P-1452-1	PPS	3B2	A	CE	CIVILFAIL				
11-001-007-001	C-LADDER	P-1474-3	PEN	3BB	A	CE	SPTFAIL				
11-001-007-002	C-PLAT-3B1	P-1474-3	PPS	3B1	A	CE	CIVILFAIL				
11-002-007-001	C-PLAT-3B1	P-1475-3	PPS	3B1	A	CE	CIVILFAIL				
10-007-001-001	H-DUCT-1B	P-1497-0.75	CNT	1B	A	HVA	SPTFAIL				
10-013-003-005	P-3126-2	P-1500-0.75	CNT	1A	A	PSE	SPTFAIL				
12-002-005-001	P-0025-3	PS-0025-3	CNT	1B	A	ENG	DEFLECT				
11-007-005-005	E-BUSDUCT	E-GDA	EL	12B	M	EE	SPTFAIL		SUPPORT	NECESSARY	
11-007-005-001	M-FE	E-GNJA	EL	5A3	M	EMS	LOOSE		SECLOOSE	NECESSARY	
11-007-005-002	M-FE	E-GNJA	EL	5A3	M	EMS	LOOSE		SECLOOSE	NECESSARY	
10-024-006-001	E-LF-3BB	E-JNK	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
10-024-006-002	P-SPR-3BB	E-JNK	PEN	3BB	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT	
10-024-006-003	P-SPR-3BB	E-JNK	PEN	3BB	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT	
12-007-006-002	C-GRATING	E-KX551-1.50	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
11-014-002-001	NS-CD	E-K6101-1.25	PEN	3BB	M	ENG	SPTFAIL		SUPPORT	OVERLAP	
13-009-002-001	E-R-3X	E-K9736-1	AUX	3X	M	EE	DEFLECT		CONSTDEF	OVERLAP	
11-005-008-001	E-LF-3B2	I-FT128	PPS	3B2	M	EE	FIXTURE		CHAIN	EXPEDIENT	
13-011-002-002	P-ULB-3AA	I-HCV104	AUX	3AA	M	PSE	PIPEFAIL		SUPPORT	OVERLAP	
13-012-002-001	P-ULB-3AA	I-HCV105	AUX	3AA	M	PSE	PIPEFAIL		SUPPORT	OVERLAP	
11-005-010-001	E-R-3BB	I-HCV142	PEN	3BB	M	EE	SPTFAIL		SECLOOSE	EXPEDIENT	
11-012-002-001	NS-CD	I-HCV142	PEN	3BB	M	ENG	HOUSEKEEP		TMODIFY	OVERLAP	
11-012-002-003	E-LF-3BB	I-HCV142	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
13-011-006-001	NS-CD	I-LT102	AUX	3AA	M	ENG	HOUSEKEEP		TSHIELD	OVERLAP	
12-013-002-001	PS-3BB	I-8152	PEN	3BB	M	EMS	DEFLECT		TMODIFY	EXPEDIENT	
13-003-009-001	E-R-3X	M-BATPP1-1	AUX	3X	M	EE	DEFLECT		SUPPORT	OVERLAP	
13-010-001-003	P-ULB-3AA	M-BAT1-2	AUX	3AA	M	PSE	SPTFAIL	PIPEFAIL	CONSTDEF	OVERLAP	
13-010-001-004	M-HOIST-3AA	M-BAT1-2	AUX	3AA	M	CE	MECHFAIL		STOP	EXPEDIENT	
13-010-001-005	M-TANK	M-BAT1-2	AUX	3AA	M	CE	SPTFAIL		BRACE	NECESSARY	
13-012-001-001	M-HOIST-3AA	M-HCV105	AUX	3AA	M	CE	MECHFAIL		STOP	EXPEDIENT	
11-004-003-001	E-LF-3X	M-LCV112B	AUX	3X	M	EE	FIXTURE		CHAIN	EXPEDIENT	
11-009-001-001	E-LF-3X	M-LCV112B	AUX	3X	M	EE	FIXTURE		CHAIN	EXPEDIENT	
11-004-004-001	E-LF-3X	M-LCV112C	AUX	3X	M	EE	FIXTURE		CHAIN	EXPEDIENT	
11-010-001-001	E-LF-3X	M-LCV112C	AUX	3X	M	EE	FIXTURE		CHAIN	EXPEDIENT	
11-003-001-001	C-CRANE-3H2	P-0044-6	PPS	3H2	M	CE	MECHFAIL		BRACE	EXPEDIENT	
10-012-001-002	P-1134-0.75	P-0057-2	CNT	1A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
10-013-001-003	P-1042-2.50	P-0746-3	PEN	3BB	M	CE	DEFLECT		CLEARANCE	EXPEDIENT	
10-002-001-001	P-SA-1A	P-1479-2	CNT	1A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
10-015-001-001	P-1043-2.50	P-1490-0.75	CNT	1A	M	PSE	DEFLECT		SUPPORT	NECESSARY	
10-001-001-001	P-3900-1	P-1495-0.75	CNT	1A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
10-013-003-007	P-3209-12	P-1499-0.75	CNT	1A	M	PSE	DEFLECT		TMODIFY	NECESSARY	
10-013-003-003	P-SA-1A	P-1500-0.75	CNT	1A	M	PSE	DEFLECT		SUPPORT	NECESSARY	
10-013-003-004	P-3263-4	P-1500-0.75	CNT	1A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
10-013-003-006	P-3243-3	P-1500-0.75	CNT	1A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
13-002-001-001	M-HOIST-3AA	P-1558-2	AUX	3AA	M	CE	MECHFAIL		STOP	EXPEDIENT	
13-001-013-001	P-1596-2	P-2086-2	AUX	3AA	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
12-003-001-002	P-4397-2	PA-0063-1	CNT	1B	M	PSE	DEFLECT		SUPPORT	OVERLAP	
10-015-017-001	PS-1A	E-KX154-2	CNT	1A	NAN	HVA	SPTFAIL				
12-007-006-003	I-TUBING	E-KX590-1.50	CNT	1B	NAN	ICE	SPTFAIL				
12-007-006-004	I-TUBING	E-KX590-1.50	CNT	1B	NAN	ICE	SPTFAIL				
12-015-004-001	E-LF-1A	E-K1758-2	CNT	1A	NAN	EE	FIXTURE				
11-007-005-004	P-0082-20	E-K7048+	PPS	3J2	NAN	PSE	DEFLECT				
11-012-008-001	E-LF-5A4	I-H01	EL	5A4	NAN	EE	FIXTURE				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=CHEM. & VOL. CONTROL SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
10-014-007-001	PS-1A	I-IJEB	CNT	1A	NAN	PSE	DEFLECT				
13-004-007-001	M-TANK	M-BATPP1-2	AUX	3AA	NAN	EMS	SPTFAIL	ENVIRON			I
13-009-001-001	E-LF-3AA	M-BAT1-1	AUX	3AA	NAN	EE	FIXTURE				
13-010-001-001	E-LF-3AA	M-BAT1-2	AUX	3AA	NAN	EE	FIXTURE				
13-010-001-002	P-USB-3AA	M-BAT1-2	AUX	3AA	NAN	PSE	DEFLECT				
11-005-005-001	E-LF-3B3	M-FCV128	AUX	3B3	NAN	EE	FIXTURE				
10-022-010-001	E-LF-3L	M-SEAL HX	AUX	3L	NAN	EE	FIXTURE				
14-003-002-001	E-LF-3H1	M-8105	PPS	3H1	NAN	EE	FIXTURE				
14-004-001-001	E-LF-3H1	M-8105	PPS	3H1	NAN	EE	FIXTURE				
10-005-001-001	PS-1B	P-0059-2	CNT	1B	NAN	PSE	DEFLECT				
12-003-001-001	P-DRAIN-1B	P-0063-1	CNT	1B	NAN	PSE	SPTFAIL				
12-001-003-002	P-3819-0.75	P-0246-3	CNT	1B	NAN	PSE	DEFLECT				
11-004-007-001	E-LF-3X	P-1452-1	AUX	3X	NAN	EE	FIXTURE				
10-013-003-001	P-SA-1A	P-1500-0.75	CNT	1A	NAN	PSE	SPTFAIL				
10-013-003-002	P-SA-1A	P-1500-0.75	CNT	1A	NAN	PSE	SPTFAIL				
13-001-001-001	E-LF-3AA	P-1557-2	AUX	3AA	NAN	EE	FIXTURE				
10-022-006-001	E-LF-3L	P-3236-4	AUX	3L	NAN	EE	FIXTURE				
10-015-001-002	P-3755-0.75	P-3755-0.75	CNT	1B	NAN	PSE	DEFLECT				
10-013-001-002	P-0257-3	PA-0746-3	PEN	3BB	NAN	PSE	DEFLECT				
12-007-006-001	P-SA-1A	E-KX551-1.50	CNT	1A	X	GC	SPTFAIL	PIPEFAIL			
13-010-002-001	NS-CD	E-K9738-1	AUX	3AA	X	GC	HOUSEKEEP				
11-012-002-002	NS-CD	I-HCV142	EL	5A4	X	QC	HOUSEKEEP				
12-001-001-001	NS-CD	PS-0048-3	CNT	1B	X	QC	HOUSEKEEP				
12-017-004-001	I-PANEL	E-K9175-2	AUX	3L	Y	ICE	SPTFAIL				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=EMERG. DIESEL GENERATORS

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
24-008-004-001	E-LF-BOL	E-PMGQD11	DG	11A1	A	EE	FIXTURE				
24-009-004-001	E-LF-BOL	E-PMGQD12	DG	11B1	A	EE	FIXTURE				
24-010-004-001	E-LF-BOL	E-PMGQD13	DG	11C1	A	EE	FIXTURE				
24-006-001-001	C-DOOR	M-DG1-1	DG	11A2	A	CE	SPTFAIL				
24-007-001-006	C-DOOR	M-DG1-1	DG	11A1	A	CE	SPTFAIL				
24-007-005-003	H-DUCT-11A1	M-DG1-1	DG	11A1	A	PSE	MECHFAIL				
24-007-016-002	E-12KVSWGR	M-DG1-1	DG	11A1	A	EE	MECHFAIL	CIVILFAIL			
24-006-021-002	C-DOOR	M-DG1-2	DG	11B2	A	CE	SPTFAIL				
24-007-010-002	C-DOOR	M-DG1-2	DG	11B1	A	CE	SPTFAIL				
24-007-010-003	H-DUCT-11B1	M-DG1-2	DG	11B1	A	PSE	MECHFAIL				
24-006-041-002	C-DOOR	M-DG1-3	DG	11C2	A	CE	SPTFAIL				
24-007-015-001	H-DUCT-11C1	M-DG1-3	DG	11C1	A	PSE	MECHFAIL				
24-007-015-002	C-DOOR	M-DG1-3	DG	11C1	A	CE	SPTFAIL				
24-001-024-002	C-COVER	P-2589-2	DG	11A1	A	EMS	LOOSE				
24-007-005-007	P-SPR-14A	E-KA303-1	TB	14A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT	
24-007-005-008	P-1185-4	E-KA303-1	TB	14A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
24-007-005-005	C-HANDRAIL	E-KT114-2	EL	6A5	M	CE	LOOSE		SECLOOSE	OVERLAP	
24-001-009-001	P-2182-22	E-K2496+	DG	11A1	M	PSE	DEFLECT		SUPPORT	OVERLAP	
24-001-118-001	P-2188-22	E-K2522-1.25	DG	11C1	M	PSE	PIPEFAIL		SUPPORT	OVERLAP	
24-009-005-001	E-BUSDUCT	E-K2674-3	EL	12B	M	EE	SPTFAIL		SUPPORT	NECESSARY	
24-007-005-001	P-2173-5	E-R-11A1	DG	11A1	M	PSE	DEFLECT		RELOCATE	OVERLAP	
24-007-010-001	P-2586-5	E-R-11B1	DG	11B1	M	PSE	DEFLECT		RELOCATE	OVERLAP	
24-007-015-003	P-2587-5	E-R-11C1	DG	11C1	M	PSE	DEFLECT		RELOCATE	OVERLAP	
24-011-003-001	E-LF-11A1	M-AR1-1	DG	11A1	M	EE	FIXTURE		RELOCATE	NECESSARY	
24-012-003-001	E-LF-11B1	M-AR1-2	DG	11B1	M	EE	FIXTURE		RELOCATE	NECESSARY	
24-013-003-001	E-LF-11C1	M-AR1-3	DG	11C1	M	EE	FIXTURE		RELOCATE	NECESSARY	
24-007-001-001	C-MR-11A1	M-DG1-1	DG	11A1	M	CE	CIVILFAIL	MECHFAIL	SECLOOSE	EXPEDIENT	
24-007-001-002	E-LF-11A1	M-DG1-1	DG	11A1	M	EE	FIXTURE		CHAIN	NECESSARY	
24-007-001-003	P-2182-22	M-DG1-1	DG	11A1	M	PSE	PIPEFAIL		SUPPORT	OVERLAP	
24-007-001-004	P-INSUL	M-DG1-1	DG	11A1	M	PSE	HOUSEKEEP		SECLOOSE	OVERLAP	
24-007-001-005	P-DRAIN-11A1	M-DG1-1	DG	11A1	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
24-007-016-001	C-DOOR	M-DG1-1	DG	11A1	M	CE	MECHFAIL	ENVIRON	BRACE	NECESSARY	
24-007-006-001	P-2185-22	M-DG1-2	DG	11B1	M	PSE	PIPEFAIL		SUPPORT	OVERLAP	
24-007-006-002	P-INSUL	M-DG1-2	DG	11B1	M	PSE	HOUSEKEEP		SECLOOSE	OVERLAP	
24-007-006-003	E-LF-11B1	M-DG1-2	DG	11B1	M	EE	FIXTURE		CHAIN	NECESSARY	
24-007-006-004	C-MR-11B1	M-DG1-2	DG	11B1	M	CE	CIVILFAIL	MECHFAIL	SECLOOSE	EXPEDIENT	
24-007-006-005	P-DRAIN-11B1	M-DG1-2	DG	11B1	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
24-007-017-001	C-DOOR	M-DG1-2	DG	11B1	M	CE	MECHFAIL	ENVIRON	BRACE	NECESSARY	
24-007-011-001	C-MR-11C1	M-DG1-3	DG	11C1	M	CE	CIVILFAIL	MECHFAIL	SECLOOSE	EXPEDIENT	
24-007-011-003	P-2188-22	M-DG1-3	DG	11C1	M	PSE	PIPEFAIL		SUPPORT	OVERLAP	
24-007-011-004	P-INSUL	M-DG1-3	DG	11C1	M	PSE	HOUSEKEEP		SECLOOSE	OVERLAP	
24-007-011-005	P-DRAIN-11C1	M-DG1-3	DG	11C1	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
24-007-018-001	C-DOOR	M-DG1-3	DG	11C1	M	CE	MECHFAIL	ENVIRON	BRACE	NECESSARY	
24-001-026-001	C-COVER	M-LCV88	DG	11A1	M	NPO	LOOSE		SECLOOSE	OVERLAP	
24-008-017-001	E-TEAJ	E-KD350-2	TB	14A	NAN	EE	HOUSEKEEP				
24-007-005-010	E-LF-10	E-K2014-1.50	EL	10	NAN	EE	FIXTURE				
24-007-005-011	E-LF-10	E-K2018-1	EL	10	NAN	EE	FIXTURE				
24-010-003-002	P-DRAIN-11C1	E-K2323-4	DG	11C1	NAN	PSE	DEFLECT				
24-010-004-002	P-DRAIN-11C1	E-K2585-1.50	DG	11C1	NAN	PSE	DEFLECT				
24-008-005-001	E-COVER	E-K7250-1.25	PEN	3BB	NAN	EE	LOOSE				
24-008-003-001	E-LF-11A1	E-SED11	DG	11A1	NAN	EE	FIXTURE				
24-009-003-001	E-LF-11A1	E-SED12	DG	11A1	NAN	EE	FIXTURE				
24-010-003-001	E-LF-11C1	E-SED13	DG	11C1	NAN	EE	FIXTURE				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=EMERG. DIESEL GENERATORS

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
24-006-001-002	E-LF-11A2	M-DG1-1	DG	11A2	NAN	EE	FIXTURE				
24-006-021-001	E-LF-11B2	M-DG1-2	DG	11B2	NAN	EE	FIXTURE				
24-006-041-001	E-LF-11C2	M-DG1-3	DG	11C2	NAN	EE	FIXTURE				
24-003-003-001	E-LF-13E	P-2173-5	HV	13E	NAN	EE	FIXTURE				
24-007-005-004	NS-CD	E-KT114-2	EL	5A1	X	QC	HOUSEKEEP				
24-007-015-004	NS-CD	E-K2624-6	EL	10	X	QC	HOUSEKEEP				
24-001-153-001	C-COVER	I-LCV86	DG	11B1	X	QC	LOOSE				
24-001-044-001	C-COVER	I-LCV89	DG	11B2	X	GC	LOOSE				
24-001-135-001	C-COVER	M-LCV85	DG	11A2	X	GC	LOOSE				
24-001-152-001	C-COVER	M-LCV86	DG	11B2	X	QC	LOOSE				
24-001-169-001	C-COVER	M-LCV87	DG	11C2	X	GC	LOOSE				
24-001-043-001	C-COVER	M-LCV89	DG	11B2	X	GC	LOOSE				
24-001-060-001	C-COVER	M-LCV90	DG	11C2	X	GC	LOOSE				
24-001-133-001	C-COVER	P-2588-2	DG	11A1	X	QC	LOOSE				
24-001-024-001	C-COVER	P-2589-2	DG	11A1	X	QC	LOOSE				
24-001-150-001	C-COVER	P-2590-2	DG	11B1	X	QC	LOOSE				
24-001-041-001	C-COVER	P-2591-2	DG	11B2	X	QC	LOOSE				
24-001-167-001	C-COVER	P-2596-2	DG	11C1	X	QC	LOOSE				
24-001-058-001	C-COVER	P-2597-2	DG	11C1	X	QC	LOOSE				
24-007-005-006	PS-14A	E-KA308-1	TB	14A	Y	OSE	DEFLECT				
24-007-005-009	P-ULB-14A	E-KA308-1	TB	14A	Y	OSE	DEFLECT				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=ELECTRIC POWER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
32-001-027-001	E-LF-BOL	E-BATT CHG	EL	6A2	A	EE	FIXTURE				
32-001-029-001	E-LF-BOL	E-BATT CHG	EL	6A3	A	EE	FIXTURE				
32-001-025-011	C-MISC-3BB	E-R-3BB	PEN	3BB	A	EE	SPTFAIL				
32-001-025-012	E-COVER	E-R-3BB	PEN	3BB	A	EE	LOOSE				
32-001-033-005	N-CABINET	E-125VBATTER	EL	6A2	A	CE	SPTFAIL				
32-001-008-005	E-LF-13A	E-4.16KVSWGR	EL	13A	A	EE	FIXTURE				
32-001-009-005	E-LF-BOL	E-4.16KVSWGR	EL	13B	A	EE	FIXTURE				
32-001-009-008	E-MISC-13B	E-4.16KVSWGR	EL	13B	A	EE	DEFLECT				
32-001-010-004	E-LF-BOL	E-4.16KVSWGR	EL	13C	A	EE	FIXTURE				
32-001-022-001	E-LF-5A1	E-480VSWGR	EL	5A1	A	EE	FIXTURE				
32-001-022-002	E-LF-BOL	E-480VSWGR	EL	5A1	A	EE	FIXTURE				
32-001-023-001	E-LF-5A2	E-480VSWGR	EL	5A2	A	EE	FIXTURE				
32-001-023-002	E-LF-BOL	E-480VSWGR	EL	5A2	A	EE	FIXTURE				
32-001-024-001	E-LF-5A3	E-480VSWGR	EL	5A3	A	EE	FIXTURE				
32-001-024-002	E-LF-BOL	E-480VSWGR	EL	5A3	A	EE	FIXTURE				
32-001-030-001	H-DUCT-6A3	E-BATT CHG	EL	6A3	M	CE	SPTFAIL		SUPPORT	OVERLAP	
32-001-027-002	M-BOTTLE	E-DC SWGR	EL	6A2	M	EMS	SPTFAIL		SECLOOSE	NECESSARY	
32-004-002-001	N-CABINET	E-DC SWGR	EL	6A2	M	NPO	LOOSE		SECLOOSE	EXPEDIENT	
32-001-011-003	E-BUSDUCT	E-FDC	EL	12A	M	EE	SPTFAIL		SUPPORT	NECESSARY	
32-001-025-010	E-BUSDUCT	E-GBD	EL	12B	M	EE	SPTFAIL		SUPPORT	NECESSARY	
32-001-025-001	C-GRATING	E-GDB	EL	12B	M	CE	LOOSE		SECLOOSE	EXPEDIENT	I
32-001-011-001	E-BUSDUCT	E-GDC	EL	12B	M	EE	SPTFAIL		SUPPORT	NECESSARY	
32-001-011-002	E-BUSDUCT	E-GDD	EL	12B	M	EE	SPTFAIL		SUPPORT	NECESSARY	
32-001-025-002	C-GRATING	E-HDBB	EL	12C	M	CE	LOOSE		SECLOOSE	EXPEDIENT	
32-001-037-001	H-DUCT-6A3	E-PANEL	EL	6A3	M	CE	SPTFAIL		SUPPORT	OVERLAP	
32-001-025-003	C-GRATING	E-R-12A	EL	12A	M	CE	LOOSE		SECLOOSE	EXPEDIENT	
32-001-038-001	C-WALL	E-SSPS	EL	8G	M	ICE	CIVILFAIL	ENVIRON	TSHIELD	NECESSARY	
32-001-032-001	E-LF-6A1	E-125VBATTER	EL	6A1	M	EE	FIXTURE		CHAIN	NECESSARY	
32-001-032-002	C-WALL	E-125VBATTER	EL	6A1	M	CE	CIVILFAIL		BRACE	OVERLAP	
32-001-032-003	C-WALL	E-125VBATTER	EL	6A1	M	CE	CIVILFAIL		BRACE	OVERLAP	
32-001-032-005	H-DUCT-6A1	E-125VBATTER	EL	6A1	M	CE	SPTFAIL		SUPPORT	OVERLAP	
32-001-033-001	E-LF-6A2	E-125VBATTER	EL	6A2	M	EE	FIXTURE		CHAIN	NECESSARY	
32-001-033-002	C-WALL	E-125VBATTER	EL	6A2	M	CE	CIVILFAIL		BRACE	OVERLAP	
32-001-033-003	C-WALL	E-125VBATTER	EL	6A2	M	CE	CIVILFAIL		BRACE	OVERLAP	
32-001-033-004	N-CABINET	E-125VBATTER	EL	6A2	M	CE	SPTFAIL		SECLOOSE	EXPEDIENT	
32-001-034-001	E-LF-6A3	E-125VBATTER	EL	6A3	M	EE	FIXTURE		CHAIN	NECESSARY	
32-001-034-002	C-WALL	E-125VBATTER	EL	6A3	M	CE	CIVILFAIL		BRACE	OVERLAP	
32-001-034-003	C-WALL	E-125VBATTER	EL	6A3	M	CE	CIVILFAIL		BRACE	OVERLAP	
32-001-008-003	E-LF-13A	E-4.16KVSWGR	EL	13A	M	EE	FIXTURE		CHAIN	EXPEDIENT	
32-001-008-004	P-DRAIN-13A	E-4.16KVSWGR	EL	13A	M	PSE	SPTFAIL	PIPEFAIL	RELOCATE	NECESSARY	
32-001-008-006	N-BKR	E-4.16KVSWGR	EL	13A	M	NPO	LOOSE		RELOCATE	NECESSARY	
32-001-008-008	M-FE	E-4.16KVSWGR	EL	13A	M	EMS	LOOSE		SECLOOSE	NECESSARY	
32-001-009-003	E-LF-13B	E-4.16KVSWGR	EL	13B	M	EE	FIXTURE		CHAIN	EXPEDIENT	
32-001-009-004	P-DRAIN-13B	E-4.16KVSWGR	EL	13B	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
32-001-009-006	N-BKR	E-4.16KVSWGR	EL	13B	M	NPO	LOOSE		RELOCATE	NECESSARY	
32-001-010-003	E-LF-13C	E-4.16KVSWGR	EL	13C	M	EE	FIXTURE		CHAIN	EXPEDIENT	
32-001-010-005	N-BKR	E-4.16KVSWGR	EL	13C	M	NPO	LOOSE		RELOCATE	NECESSARY	
32-001-022-004	C-WALL	E-480VSWGR	EL	5A1	M	CE	CIVILFAIL		BRACE	OVERLAP	
32-001-023-004	C-WALL	E-480VSWGR	EL	5A2	M	CE	CIVILFAIL		BRACE	OVERLAP	
32-001-024-004	C-WALL	E-480VSWGR	EL	5A3	M	CE	CIVILFAIL		BRACE	OVERLAP	
32-009-001-001	N-MISC-8C	GENERIC	EL	8C	M	NPO	LOOSE		SECLOOSE	EXPEDIENT	
32-001-025-004	C-WALL	E-R-12A	EL	12A	NAN	CE	CIVILFAIL				
32-001-025-007	C-WALL	E-R-12A	EL	12A	NAN	CE	CIVILFAIL				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=ELECTRIC POWER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
32-001-025-005	C-WALL	E-R-12B	EL	12B	NAN	CE	CIVILFAIL				
32-001-025-008	C-WALL	E-R-12B	EL	12B	NAN	CE	CIVILFAIL				
32-001-025-006	C-WALL	E-R-12C	EL	12C	NAN	CE	CIVILFAIL				
32-001-025-009	C-WALL	E-R-12C	EL	12C	NAN	CE	CIVILFAIL				
32-001-032-004	N-CAN	E-125VBATTER	EL	6A1	NAN	CE	LOOSE				
32-001-033-006	N-CAN	E-125VBATTER	EL	6A2	NAN	CE	LOOSE				
32-001-034-004	N-CAN	E-125VBATTER	EL	6A3	NAN	CE	LOOSE				
32-001-008-001	C-WALL	E-4.16KVSWGR	EL	13A	NAN	CE	CIVILFAIL				
32-001-008-002	C-WALL	E-4.16KVSWGR	EL	13A	NAN	CE	CIVILFAIL				
32-001-008-007	E-PHONE	E-4.16KVSWGR	EL	13A	NAN	EMS	LOOSE				
32-001-009-001	C-WALL	E-4.16KVSWGR	EL	13B	NAN	CE	CIVILFAIL				
32-001-009-002	C-WALL	E-4.16KVSWGR	EL	13B	NAN	CE	CIVILFAIL				
32-001-009-007	E-PHONE	E-4.16KVSWGR	EL	13B	NAN	EMS	LOOSE				
32-001-010-001	C-WALL	E-4.16KVSWGR	EL	13C	NAN	CE	CIVILFAIL				
32-001-010-002	C-WALL	E-4.16KVSWGR	EL	13C	NAN	CE	CIVILFAIL				
32-001-010-006	E-PHONE	E-4.16KVSWGR	EL	13C	NAN	EMS	LOOSE				
32-001-022-003	E-PHONE	E-480VSWGR	EL	5A1	NAN	EMS	LOOSE				
32-001-023-003	E-PHONE	E-480VSWGR	EL	5A2	NAN	EMS	LOOSE				
32-001-024-003	E-PHONE	E-480VSWGR	EL	5A3	NAN	EMS	LOOSE				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=FIREWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-006-065-001	M-BOTTLE	M-FW TANK	VAR	26	A	EMS	LOOSE	MECHFAIL			I
28-004-008-001	C-PLAT-14A	M-HR	VAR	14A	A	CE	CIVILFAIL				
28-004-015-001	P-SPR-16A	M-HR	VAR	16A	A	EMS	SPTFAIL	PIPEFAIL			
28-004-017-001	C-BLDG	M-HR	VAR	14D	A	CE	CIVILFAIL				
28-004-017-003	H-HVAC U-1	M-HR	VAR	14D	A	CE	SPTFAIL				
28-004-021-001	E-LF-17	M-HR	VAR	17	A	EE	FIXTURE				
28-004-032-002	E-LF-14A	M-HR	VAR	14A	A	EE	FIXTURE				
28-004-037-001	C-STAIR-14A	M-HR	VAR	14A	A	CE	CIVILFAIL				
28-004-039-001	C-STAIR-14A	M-HR	VAR	14A	A	CE	CIVILFAIL				
28-004-039-004	P-SPR-14A	M-HR	VAR	14A	A	PSE	SPTFAIL	PIPEFAIL			
28-004-043-001	C-STAIR-14A	M-HR	VAR	14A	A	CE	CIVILFAIL				
28-004-043-002	E-LF-14A	M-HR	VAR	14A	A	EE	FIXTURE				
28-004-059-001	P-1892-2	M-HR	VAR	14A	A	PSE	SPTFAIL	PIPEFAIL			
28-004-059-002	C-STAIR-14A	M-HR	VAR	14A	A	CE	CIVILFAIL				
28-004-061-001	P-SPR-14A	M-HR	VAR	14A	A	PSE	SPTFAIL				
28-004-083-001	C-STAIR-14A	M-HR	VAR	14A	A	CE	CIVILFAIL				
28-004-085-001	C-STAIR-14A	M-HR	VAR	14A	A	CE	CIVILFAIL				
28-004-087-001	P-SPR-14A	M-HR	VAR	14A	A	PSE	SPTFAIL	PIPEFAIL			
28-004-087-003	C-STAIR-14A	M-HR	VAR	14A	A	CE	CIVILFAIL				
28-005-009-003	E-TL14	M-HR	VAR	3X	A	EE	SPTFAIL				
28-005-016-002	C-HANDRAIL	M-HR	VAR	3C	A	CE	LOOSE				
28-005-016-003	C-PLAT-3C	M-HR	VAR	3C	A	CE	CIVILFAIL				
28-005-018-002	C-PLAT-3C	M-HR	VAR	3C	A	CE	CIVILFAIL				
28-005-022-001	E-LF-S3	M-HR	VAR	S3	A	EE	FIXTURE				
28-005-029-001	E-LF-3BB	M-HR	VAR	3BB	A	EE	FIXTURE				
28-005-036-001	E-LF-3BB	M-HR	VAR	3BB	A	EE	FIXTURE				
28-005-040-002	M-HOIST-3AA	M-HR	VAR	3AA	A	CE	MECHFAIL				
28-005-059-001	C-STAIR-S5	M-HR	VAR	S5	A	CE	CIVILFAIL				
28-005-061-001	C-STAIR-S5	M-HR	VAR	S5	A	CE	CIVILFAIL				
28-005-063-001	C-STAIR-S5	M-HR	VAR	S5	A	CE	CIVILFAIL				
28-005-072-004	C-PLAT-3C	M-HR	VAR	3C	A	CE	CIVILFAIL				
28-005-077-001	C-HANDRAIL	M-HR	VAR	3C	A	CE	SPTFAIL				
28-005-079-002	C-SB	M-HR	VAR	3C	A	CE	SPTFAIL				
28-005-088-001	C-PLAT-3C	M-HR	VAR	3C	A	CE	CIVILFAIL				
28-005-090-001	C-PLAT-3C	M-HR	VAR	3C	A	CE	CIVILFAIL				
28-005-092-001	E-LF-3AA	M-HR	VAR	3AA	A	EE	FIXTURE				
28-005-126-001	C-PLAT-3C	M-HR	VAR	3C	A	CE	CIVILFAIL				
28-005-129-001	C-HANDRAIL	M-HR	VAR	3C	A	CE	SPTFAIL				
28-006-023-001	E-LF-3R	M-HR	VAR	3R	A	EE	FIXTURE				
28-006-032-001	C-LADDER	M-HR	VAR	3P2	A	CE	SPTFAIL				
28-006-037-002	N-MISC-3R	M-HR	VAR	3R	A	NPO	LOOSE				
28-006-039-001	E-LF-3R	M-HR	VAR	3R	A	EE	FIXTURE				
28-008-016-002	P-0706-4	M-HR	VAR	30A5	A	PSE	PIPEFAIL				
28-008-018-001	P-0705-4	M-HR	VAR	30A5	A	PSE	SPTFAIL	PIPEFAIL			
28-003-014-001	C-34F	M-VALVE	VAR	1C	A	CE	CIVILFAIL				
28-004-057-001	P-1897-6	M-VALVE	VAR	14A	A	PSE	SPTFAIL	PIPEFAIL			
28-004-079-001	C-STAIR-1D	M-VALVE	VAR	14A	A	CE	CIVILFAIL				
28-004-080-001	C-STAIR-1D	M-VALVE	VAR	14A	A	CE	CIVILFAIL				
28-004-090-001	C-STAIR-1D	M-VALVE	VAR	14A	A	CE	CIVILFAIL				
28-004-090-002	M-TANK	M-VALVE	VAR	14A	A	EMS	SPTFAIL				
28-004-090-003	C-DOOR	M-VALVE	VAR	14A	A	CE	SPTFAIL				
28-005-041-001	C-SB	M-VALVE	VAR	S2	A	CE	SPTFAIL				
28-005-043-001	C-SB	M-VALVE	VAR	S2	A	CE	SPTFAIL				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=FIREWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-006-074-001	C-PLAT-3Q1	P-ULB-3Q1	VAR	3Q1	A	CE	CIVILFAIL				
28-006-002-001	C-PLAT-3Q1	P-1470-3	VAR	3Q1	A	CE	CIVILFAIL				
28-006-112-001	M-TANK	P-2659-6	VAR	31	A	PSE	RELSTRUCT				
28-006-121-002	C-LADDER	P-2659-6	VAR	3Q1	A	CE	SPTFAIL				
28-004-004-013	C-PLAT-14A	P-2666-6	VAR	14A	A	CE	CIVILFAIL				
28-004-004-016	H-DUCT-14A	P-2666-6	VAR	14A	A	EMS	SPTFAIL				
28-004-054-004	P-0543-30	P-2667-6	VAR	14A	A	PSE	DEFLECT				
28-004-054-008	P-1377-8	P-2667-6	VAR	14A	A	PSE	DEFLECT				
28-004-056-001	P-1897-6	P-2668-4	VAR	14A	A	PSE	SPTFAIL	PIPEFAIL			
28-004-034-001	C-STAIR-2B	P-2670-4	VAR	14A	A	CE	CIVILFAIL				
28-004-034-003	C-STAIR-2B	P-2670-4	VAR	14A	A	CE	CIVILFAIL				
28-004-034-004	C-STAIR-2B	P-2670-4	VAR	14A	A	CE	CIVILFAIL				
28-004-023-002	C-STAIR-1C	P-2671-4	VAR	14A	A	CE	CIVILFAIL				
28-005-001-003	C-WALL	P-2677-6	VAR	3AA	A	CE	CIVILFAIL				I
28-005-005-001	P-USB-3AA	P-2678-4	VAR	3AA	A	PSE	DEFLECT				
28-005-005-002	C-SB	P-2678-4	VAR	S2	A	CE	SPTFAIL				
28-005-005-010	C-SB	P-2678-4	VAR	3X	A	CE	LOOSE				
28-005-042-001	C-SB	P-2680-4	VAR	S2	A	CE	SPTFAIL				
28-005-042-002	C-STAIR-1K	P-2680-4	VAR	S2	A	CE	CIVILFAIL				
28-006-076-001	C-PLAT-3Q1	P-2682-12	VAR	3Q1	A	CE	CIVILFAIL				
28-006-076-002	M-TANK	P-2682-12	VAR	31	A	PSE	RELSTRUCT				
28-006-078-001	C-PLAT-3Q1	P-2826-3	VAR	3Q1	A	CE	CIVILFAIL				
28-006-119-001	C-PLAT-3Q1	P-2827-3	VAR	3Q1	A	CE	CIVILFAIL				
28-003-011-001	H-E15	P-3155-2	VAR	1A	A	HVA	SPTFAIL				
28-004-051-004	C-STAIR-3B	P-3293-2	VAR	14A	A	CE	CIVILFAIL				
28-004-042-001	C-PLAT-14A	P-3294-2	VAR	14A	A	CE	CIVILFAIL				
28-004-036-001	C-STAIR-2B	P-3295-2	VAR	14A	A	CE	CIVILFAIL				
28-004-038-001	C-STAIR-2B	P-3296-2	VAR	14A	A	CE	CIVILFAIL				
28-004-040-001	C-STAIR-2B	P-3297-2	VAR	14A	A	CE	CIVILFAIL				
28-004-031-002	C-WALL	P-3298-2	VAR	14A	A	CE	CIVILFAIL				
28-004-025-001	C-STAIR-1C	P-3299-2	VAR	14A	A	CE	CIVILFAIL				
28-004-014-001	P-SPR-16A	P-3304-2	VAR	16A	A	EMS	SPTFAIL	PIPEFAIL			
28-004-014-002	N-MISC-16A	P-3304-2	VAR	16A	A	NPO	LOOSE				
28-004-020-002	C-PLAT-14A	P-3307-2	VAR	14A	A	CE	CIVILFAIL				
28-004-020-006	C-MR-17	P-3307-2	VAR	17	A	CE	CIVILFAIL	MECHFAIL			
28-004-082-001	C-STAIR-1D	P-3308-2	VAR	14A	A	CE	CIVILFAIL				
28-004-078-002	C-STAIR-1D	P-3309-4	VAR	14A	A	CE	CIVILFAIL				
28-004-078-003	P-3034-4	P-3309-4	VAR	14A	A	PSE	SPTFAIL				
28-004-078-004	C-STAIR-1D	P-3309-4	VAR	14A	A	CE	CIVILFAIL				
28-004-086-002	C-STAIR-1D	P-3310-2	VAR	14A	A	CE	CIVILFAIL				
28-004-084-002	C-STAIR-1D	P-3311-2	VAR	14A	A	CE	CIVILFAIL				
28-004-088-003	C-STAIR-1D	P-3312-2	VAR	14A	A	CE	CIVILFAIL				
28-004-058-001	P-1897-6	P-3317-2	VAR	14A	A	PSE	SPTFAIL	PIPEFAIL			
28-004-062-002	C-STAIR-1B	P-3319-2	VAR	14A	A	CE	CIVILFAIL				
28-004-062-003	P-ULB-14A	P-3319-2	VAR	14A	A	PSE	SPTFAIL	PIPEFAIL			
28-003-024-003	H-DUCT-1B	P-3457-1	VAR	1B	A	HVA	SPTFAIL				
28-003-047-001	H-DUCT-1B	P-3458-1	VAR	1B	A	HVA	SPTFAIL				
28-005-056-001	C-SB	P-3609-4	VAR	S2	A	CE	SPTFAIL				
28-005-044-001	C-STAIR-1K	P-3610-4	VAR	S2	A	CE	CIVILFAIL				
28-005-049-001	C-SB	P-3611-4	VAR	S2	A	CE	SPTFAIL				
28-005-051-001	C-SB	P-3612-4	VAR	S2	A	CE	SPTFAIL				
28-005-056-002	C-SB	P-3615-4	VAR	S2	A	CE	SPTFAIL				
28-005-072-003	C-PLAT-3C	P-3619-4	VAR	3C	A	CE	CIVILFAIL				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=FIREWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-005-072-006	C-PLAT-3C	P-3619-4	VAR	3C	A	CE	CIVILFAIL				
28-005-072-007	C-WALL	P-3619-4	VAR	3C	A	CE	CIVILFAIL				
28-005-124-002	C-SB	P-3619-4	VAR	S2	A	CE	SPTFAIL				
28-005-073-001	C-PLAT-3C	P-3620-2	VAR	3C	A	CE	CIVILFAIL				
28-005-130-001	C-SB	P-3622-2	VAR	3C	A	CE	SPTFAIL				
28-005-084-006	C-SB	P-3688-2	VAR	3L	A	CE	SPTFAIL				
28-005-086-001	C-SB	P-3689-4	VAR	3C	A	CE	SPTFAIL				
28-005-015-002	C-GRATING	P-3690-2	VAR	3C	A	CE	LOOSE				
28-005-087-002	C-SB	P-3690-2	VAR	3C	A	CE	SPTFAIL				
28-005-062-002	C-STAIR-S5	P-4253-2	VAR	S5	A	CE	CIVILFAIL				
28-005-056-007	C-STAIR-S5	P-4256-4	VAR	S5	A	CE	CIVILFAIL				
28-003-015-002	H-DUCT-1B	P-4356-1.50	VAR	1B	A	HVA	SPTFAIL				
28-003-052-002	H-DUCT-1B	P-4358-1.50	VAR	1B	A	HVA	SPTFAIL				
28-006-122-001	C-PLAT-3Q1	P-4531-1	VAR	3Q1	A	CE	CIVILFAIL				
28-006-028-002	M-TANK	P-4550-8	VAR	3P3	A	CE	MECHFAIL				
28-006-029-001	M-TANK	P-4551-2	VAR	3P3	A	CE	MECHFAIL				
28-006-031-004	C-LADDER	P-4552-2	VAR	3P2	A	CE	SPTFAIL				
28-006-031-005	C-PLAT-3P3	P-4552-2	VAR	3P3	A	CE	CIVILFAIL				
28-004-098-001	M-HOIST-14A	P-5021-2	VAR	14A	A	CE	MECHFAIL				
28-004-035-001	C-STAIR-2B	PA-2670-4	VAR	14A	A	CE	CIVILFAIL				
28-010-002-001	P-1750-8	E-K9415-4	VAR	3Q2	M	PSE	DEFLECT		SUPPORT	NECESSARY	
28-010-002-002	P-0721-12	E-K9415-4	VAR	3Q2	M	PSE	DEFLECT		SUPPORT	NECESSARY	
28-003-024-001	P-3457-1+	GENERIC	VAR	1A	M	ENG	SPTFAIL		SUPPORT	EXPEDIENT	
28-005-030-001	P-1595-3	M-FS38	VAR	3BB	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
28-004-017-002	E-LF-14D	M-HR	VAR	14D	M	EE	FIXTURE		CHAIN	EXPEDIENT	
28-004-017-004	C-PLAT-14D	M-HR	VAR	14D	M	CE	CIVILFAIL		BRACE	NECESSARY	
28-004-030-001	H-S46	M-HR	VAR	14D	M	CE	SPTFAIL		BRACE	NECESSARY	
28-004-030-002	C-PLAT-14D	M-HR	VAR	14D	M	CE	CIVILFAIL		BRACE	NECESSARY	
28-004-041-003	C-PLAT-14D	M-HR	VAR	14D	M	CE	CIVILFAIL		BRACE	NECESSARY	
28-004-046-001	E-LF-11D	M-HR	VAR	11D	M	EE	FIXTURE		CHAIN	EXPEDIENT	
28-004-052-002	E-LF-14D	M-HR	VAR	14D	M	EE	FIXTURE		CHAIN	EXPEDIENT	
28-005-078-001	P-3622-2	M-HR	VAR	3C	M	EMS	SPTFAIL		CONSTDEF	EXPEDIENT	
28-004-033-001	P-3103-2	P-2095-4	VAR	14A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
28-006-001-001	C-PLAT-3Q1	P-2660-10	VAR	3Q1	M	CE	CIVILFAIL		BRACE	EXPEDIENT	
28-004-004-004	P-3593-12	P-2666-6	VAR	14A	M	PSE	DEFLECT		RELOCATE	EXPEDIENT	
28-004-004-008	P-3593-12	P-2666-6	VAR	14A	M	PSE	DEFLECT		RELOCATE	EXPEDIENT	
28-004-004-009	C-STAIR-2B	P-2666-6	VAR	14A	M	CE	CIVILFAIL		BRACE	EXPEDIENT	
28-004-004-011	M-DEMIN	P-2666-6	VAR	14A	M	EMS	SPTFAIL		SUPPORT	EXPEDIENT	
28-004-004-014	P-1956-4	P-2666-6	VAR	14A	M	PSE	DEFLECT		SUPPORT	NECESSARY	
28-004-004-015	C-STAIR-1D	P-2666-6	VAR	14A	M	CE	CIVILFAIL		BRACE	NECESSARY	
28-003-008-006	P-2385-4	P-2674-4	VAR	1A	M	PSE	DEFLECT		STOP	EXPEDIENT	
28-003-008-007	P-2385-4	P-2674-4	VAR	1A	M	PSE	DEFLECT		STOP	EXPEDIENT	
28-005-001-004	M-TANK	P-2677-6	VAR	3AA	M	CE	SPTFAIL		SECLOOSE	EXPEDIENT	I
28-005-001-005	C-PLAT-3AA	P-2677-6	VAR	3AA	M	CE	LOOSE		SECLOOSE	EXPEDIENT	I
28-003-009-001	E-RS-1A	P-3156-2	VAR	1A	M	EE	INTERFERE		CONSTDEF	EXPEDIENT	
28-003-045-001	E-RNRP	P-3160-2	VAR	1C	M	EE	SPTFAIL		SECLOOSE	NECESSARY	
28-003-045-002	C-PLAT-1A	P-3160-2	VAR	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
28-004-051-001	P-2972-3	P-3293-2	VAR	14A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
28-004-051-003	N-MISC-14A	P-3293-2	VAR	14A	M	NPO	LOOSE		RELOCATE	EXPEDIENT	
28-004-051-005	P-SPR-14A	P-3293-2	VAR	14A	M	PSE	SPTFAIL	PIPEFAIL	RELOCATE	NECESSARY	
28-004-040-002	P-SPR-14A	P-3297-2	VAR	14A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
28-004-040-003	C-PLAT-14D	P-3297-2	VAR	14A	M	CE	CIVILFAIL		BRACE	NECESSARY	
28-007-018-001	M-BOTTLE	P-3297-2	VAR	14D	M	NPO	LOOSE	MECHFAIL	RELOCATE	EXPEDIENT	

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=FIREWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-007-018-002	C-BLDG	P-3297-2	VAR	14D	M	CE	CIVILFAIL		TSHIELD	NECESSARY	
28-004-029-001	P-SA-14A	P-3301-2	VAR	14A	M	PSE	DEFLECT		STOP	NECESSARY	
28-004-029-003	C-PLAT-14D	P-3301-2	VAR	14D	M	CE	CIVILFAIL		BRACE	NECESSARY	
28-004-084-001	C-PLAT-14A	P-3311-2	VAR	14A	M	CE	CIVILFAIL		BRACE	EXPEDIENT	
28-004-064-007	P-SA-14D	P-3316-2	VAR	14D	M	ENG	INTERFERE		TMODIFY	OVERLAP	
28-004-058-002	C-STAIR-1D	P-3317-2	VAR	14A	M	CE	CIVILFAIL		BRACE	EXPEDIENT	
28-004-011-003	E-LF-BOL	P-3608-2	VAR	3AA	M	EE	FIXTURE		RELOCATE	EXPEDIENT	
28-005-039-002	M-HOIST-3AA	P-3608-2	VAR	3AA	M	NPO	MECHFAIL		RELOCATE	EXPEDIENT	
28-005-056-003	P-3252-1.50	P-3609-4	VAR	3BB	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
28-006-018-001	P-2442-6	P-3616-2	VAR	31	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
28-005-072-001	C-MR-3C	P-3619-4	VAR	3C	M	CE	CIVILFAIL		BRACE	NECESSARY	
28-005-072-002	C-MR-3C	P-3619-4	VAR	3C	M	CE	CIVILFAIL		BRACE	NECESSARY	
28-005-072-005	C-MR-3C	P-3619-4	VAR	3C	M	CE	SPTFAIL		BRACE	EXPEDIENT	
28-005-073-003	NS-CD	P-3620-2	VAR	3C	M	NPO	HOUSEKEEP		SUPPORT	OVERLAP	
28-005-125-003	NS-CD	P-3620-4	VAR	3C	M	NPO	HOUSEKEEP		CONSTDEF	OVERLAP	
28-006-024-002	P-2446-6	P-3641-2	VAR	31	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
28-005-084-003	H-DUCT-3L	P-3688-2	VAR	3L	M	CE	DEFLECT		CONSTDEF	EXPEDIENT	
28-003-027-001	C-PLAT-1B	P-4357-1.50	VAR	1B	M	CE	INTERFERE		CLEARANCE	EXPEDIENT	
28-003-015-001	P-USB-1A	P-4364-2	VAR	1A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
28-003-052-003	C-STAIR-1GE	P-4366-2	VAR	1A	M	CE	DEFLECT		BRACE	EXPEDIENT	
28-004-044-003	P-SPR-14A	P-5038-4	VAR	14A	M	PSE	SPTFAIL	PIPEFAIL	RELOCATE	NECESSARY	
28-004-044-004	P-SPR-14A	P-5038-4	VAR	14A	M	PSE	SPTFAIL	PIPEFAIL	RELOCATE	NECESSARY	
28-004-044-006	C-STAIR-3B	P-5038-4	VAR	14A	M	CE	CIVILFAIL		BRACE	NECESSARY	
28-004-044-007	P-SPR-14A	P-5038-4	VAR	14A	M	PSE	SPTFAIL	PIPEFAIL	RELOCATE	NECESSARY	
28-004-049-003	P-SPR-14A	P-5041-2	VAR	14A	M	PSE	SPTFAIL	PIPEFAIL	RELOCATE	NECESSARY	
28-006-129-001	C-MISC-3Q2	E-K9415-4	VAR	3Q2	NAN	EE	DEFLECT				
28-002-001-001	E-LF-3BB	M-FCV633	VAR	3BB	NAN	EE	FIXTURE				
28-004-001-001	E-LF-3BB	M-FS25	VAR	3BB	NAN	EE	FIXTURE				
28-005-045-001	E-LF-S2	M-FS50	VAR	S2	NAN	EE	FIXTURE				
28-004-043-003	M-STATOR GL	M-HR	VAR	14A	NAN	EMS	SPTFAIL				
28-004-059-004	P-USB-14A	M-HR	VAR	14A	NAN	PSE	PIPEFAIL				
28-005-009-001	I-PM129	M-HR	VAR	3X	NAN	CE	SPTFAIL				
28-005-077-002	E-LF-3C	M-HR	VAR	3C	NAN	EE	FIXTURE				
28-005-083-002	I-PM129	M-HR	VAR	3X	NAN	CE	SPTFAIL				
28-005-110-001	P-USB-3AA	M-HR	VAR	3AA	NAN	PSE	SPTFAIL	PIPEFAIL			
28-008-018-003	P-USB-30A5	M-HR	VAR	30A5	NAN	PSE	PIPEFAIL				
28-008-003-001	P-SA-30A5	M-STR	VAR	30A5	NAN	PSE	DEFLECT				
28-004-009-001	E-LF-14A	M-VALVE	VAR	14E	NAN	EE	FIXTURE				
28-004-011-001	P-ULB-16A	M-VALVE	VAR	16A	NAN	PSE	DEFLECT				
28-004-013-001	E-LF-16A	M-VALVE	VAR	16A	NAN	EE	FIXTURE				
28-004-057-002	P-USB-14A	M-VALVE	VAR	14A	NAN	PSE	PIPEFAIL				
28-004-093-001	E-LF-14A	M-VALVE	VAR	14A	NAN	EE	FIXTURE				
28-004-095-001	E-LF-14A	M-VALVE	VAR	14A	NAN	EE	FIXTURE				
28-005-011-001	E-LF-3L	M-VALVE	VAR	3L	NAN	EE	FIXTURE				
28-005-043-002	E-LF-S2	M-VALVE	VAR	S2	NAN	EE	FIXTURE				
28-005-050-001	E-LF-S2	M-VALVE	VAR	S2	NAN	EE	FIXTURE				
28-005-057-001	E-LF-S2	M-VALVE	VAR	S2	NAN	EE	FIXTURE				
28-008-013-001	E-LF-30A5	M-VALVE	VAR	30A5	NAN	EE	FIXTURE				
28-008-020-001	P-SA-30A5	M-VALVE	VAR	30A5	NAN	PSE	DEFLECT				
28-008-024-001	E-LF-30A5	M-VALVE	VAR	30A5	NAN	EE	FIXTURE				
28-006-026-001	P-0399-4	P-1704-4	VAR	31	NAN	PSE	INTERFERE	DEFLECT			
28-006-026-002	E-LF-31	P-1704-4	VAR	31	NAN	EE	FIXTURE				
28-006-121-001	C-LADDER	P-2659-6	VAR	3AA	NAN	CE	SPTFAIL				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=FIREWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-004-004-001	P-2139-2	P-2666-6	VAR	14A	NAN	PSE	DEFLECT				
28-004-004-002	PS-14A	P-2666-6	VAR	14A	NAN	PSE	DEFLECT				
28-004-004-003	E-R-14E	P-2666-6	VAR	14E	NAN	EE	DEFLECT				
28-004-004-005	P-SA-14E	P-2666-6	VAR	14E	NAN	PSE	DEFLECT				
28-004-004-006	PS-14A	P-2666-6	VAR	14A	NAN	PSE	DEFLECT				
28-004-004-007	P-SPR-14A	P-2666-6	VAR	14A	NAN	PSE	DEFLECT				
28-004-004-010	P-2896-3	P-2666-6	VAR	14A	NAN	PSE	SPTFAIL				
28-004-004-012	E-LF-14A	P-2666-6	VAR	14A	NAN	EE	FIXTURE				
28-004-004-017	E-LF-14E	P-2666-6	VAR	14E	NAN	EE	FIXTURE				
28-004-004-018	P-USB-14E	P-2666-6	VAR	14E	NAN	PSE	SPTFAIL				
28-004-054-001	E-LF-14A	P-2667-6	VAR	14A	NAN	EE	FIXTURE				
28-004-054-002	P-2972-3	P-2667-6	VAR	14A	NAN	PSE	DEFLECT				
28-004-054-003	P-SPR-14A	P-2667-6	VAR	14A	NAN	PSE	SPTFAIL	PIPEFAIL			
28-004-054-005	P-SPR-14A	P-2667-6	VAR	14A	NAN	PSE	SPTFAIL	PIPEFAIL			
28-004-054-006	P-SPR-14A	P-2667-6	VAR	14A	NAN	PSE	SPTFAIL	PIPEFAIL			
28-004-054-009	E-LF-14A	P-2667-6	VAR	14A	NAN	EE	FIXTURE				
28-004-054-010	P-ULB-14A	P-2667-6	VAR	14A	NAN	PSE	SPTFAIL	PIPEFAIL			
28-004-054-012	E-LF-14A	P-2667-7	VAR	14A	NAN	EE	FIXTURE				
28-004-056-003	E-LF-14A	P-2668-4	VAR	14A	NAN	EE	FIXTURE				
28-004-066-001	E-LF-14D	P-2669-4	VAR	14D	NAN	EE	FIXTURE				
28-004-034-002	E-R-14A	P-2670-4	VAR	14A	NAN	EE	INTERFERE				
28-004-023-001	P-ULB-14A	P-2671-4	VAR	14A	NAN	PSE	DEFLECT				
28-004-023-003	P-SA-14A	P-2671-4	VAR	14A	NAN	PSE	DEFLECT				
28-004-001-002	E-LF-3BB	P-2673-4	VAR	3BB	NAN	EE	FIXTURE				
28-004-001-003	H-DUCT-3BB	P-2673-4	VAR	3BB	NAN	HVA	SPTFAIL				
28-003-008-001	P-4350-1	P-2674-4	VAR	1A	NAN	PSE	DEFLECT				
28-003-008-002	P-1162-0.75	P-2674-4	VAR	1A	NAN	PSE	DEFLECT				
28-003-008-003	E-LF-1A	P-2674-4	VAR	1A	NAN	EE	FIXTURE				
28-003-008-004	E-LF-1A	P-2674-4	VAR	1A	NAN	EE	FIXTURE				
28-003-008-005	P-2385-4	P-2674-4	VAR	1A	NAN	PSE	DEFLECT				
28-003-008-008	P-USB-1A	P-2674-4	VAR	1A	NAN	PSE	DEFLECT				
28-003-008-009	P-3900-1	P-2674-4	VAR	1A	NAN	PSE	DEFLECT				
28-005-001-001	NS-CD	P-2677-6	VAR	3AA	NAN	PSE	HOUSEKEEP				
28-005-001-002	P-4546-2.50	P-2677-6	VAR	3AA	NAN	PSE	DEFLECT				
28-005-005-003	M-FCV282	P-2678-4	VAR	3AA	NAN	EMS	MECHFAIL				
28-005-005-004	E-LF-3AA	P-2678-4	VAR	3AA	NAN	EE	FIXTURE				
28-005-005-005	H-DUCT-3X	P-2678-4	VAR	3X	NAN	HVA	DEFLECT				
28-005-005-006	P-4298-1.50	P-2678-4	VAR	3X	NAN	PSE	INTERFERE	DEFLECT			
28-005-005-007	E-LF-3X	P-2678-4	VAR	3X	NAN	EE	FIXTURE				
28-005-005-008	P-2110-1	P-2678-4	VAR	3X	NAN	PSE	SPTFAIL	ENVIRON			
28-005-005-009	P-2757-1.50	P-2678-4	VAR	3X	NAN	PSE	DEFLECT				
28-005-005-011	P-2119-4	P-2678-4	VAR	3X	NAN	PSE	SPTFAIL	PIPEFAIL			
28-005-042-003	E-LF-S2	P-2680-4	VAR	S2	NAN	EE	FIXTURE				
28-004-010-001	E-LF-14A	P-2683-4	VAR	14A	NAN	EE	FIXTURE				
28-004-010-002	P-ULB-14E	P-2683-4	VAR	14E	NAN	PSE	SPTFAIL	PIPEFAIL			
28-003-006-001	PS-1A	P-2788-1	VAR	1A	NAN	PSE	DEFLECT				
28-008-001-001	P-IAH-30A5	P-2975-4	VAR	30A5	NAN	PSE	SPTFAIL				
28-008-001-002	P-SA-30A5	P-2975-4	VAR	30A5	NAN	PSE	SPTFAIL				
28-008-001-003	P-ULB-30A5	P-2975-4	VAR	30A5	NAN	PSE	SPTFAIL				
28-008-001-004	P-ULB-30A5	P-2975-4	VAR	30A5	NAN	PSE	DEFLECT				
28-008-019-001	P-IAH-30A5	P-2975-4	VAR	30A5	NAN	PSE	SPTFAIL	PIPEFAIL			
28-004-094-001	P-SPR-14A	P-2992-10	VAR	14A	NAN	PSE	SPTFAIL				
28-004-094-002	P-3034-4	P-2992-10	VAR	14A	NAN	PSE	DEFLECT				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=FIREWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-003-022-001	P-IAH-1A	P-3159-2	VAR	1A	NAN	PSE	DEFLECT				
28-005-010-001	M-8030	P-3159-2	VAR	1A	NAN	EMS	MECHFAIL				
28-004-051-002	E-LF-14A	P-3293-2	VAR	14A	NAN	EE	FIXTURE				
28-004-042-002	E-LF-14A	P-3294-2	VAR	14A	NAN	EE	FIXTURE				
28-004-031-001	E-LF-14A	P-3298-2	VAR	14A	NAN	EE	FIXTURE				
28-004-029-002	E-R-14D	P-3301-2	VAR	14D	NAN	EE	INTERFERE				
28-004-005-001	I-PM40A	P-3302-2	VAR	14E	NAN	CE	SPTFAIL				
28-004-018-001	E-LF-14A	P-3305-2	VAR	14A	NAN	EE	FIXTURE				
28-004-016-001	E-LF-14A	P-3306-2	VAR	14A	NAN	EE	FIXTURE				
28-004-016-002	E-LF-14A	P-3306-2	VAR	14A	NAN	EE	FIXTURE				
28-004-020-001	E-R-14A	P-3307-2	VAR	14A	NAN	PSE	DEFLECT				
28-004-020-003	P-IAH-16A	P-3307-2	VAR	16A	NAN	PSE	DEFLECT				
28-004-020-004	P-SPR-16A	P-3307-2	VAR	16A	NAN	PSE	SPTFAIL				
28-004-020-005	E-LF-16A	P-3307-2	VAR	16A	NAN	EE	FIXTURE				
28-004-086-001	E-LF-14A	P-3310-2	VAR	14A	NAN	EE	FIXTURE				
28-004-088-001	E-LF-14A	P-3312-2	VAR	14A	NAN	EE	FIXTURE				
28-004-076-002	P-3018-2	P-3313-2	VAR	14A	NAN	PSE	SPTFAIL				
28-004-070-002	PS-14A	P-3314-2	VAR	14A	NAN	PSE	DEFLECT				
28-004-064-003	E-R-14A	P-3316-2	VAR	14A	NAN	EE	DEFLECT				
28-004-064-005	P-SPR-14A	P-3316-2	VAR	14A	NAN	PSE	SPTFAIL				
28-003-004-001	P-SA-1C	P-3457-1	VAR	1C	NAN	PSE	INTERFERE	DEFLECT			
28-003-024-002	P-SA-1B	P-3457-1	VAR	1B	NAN	PSE	DEFLECT				
28-003-047-002	P-SA-1B	P-3458-1	VAR	1B	NAN	PSE	DEFLECT				
28-005-091-001	E-LF-3AA	P-3600-2	VAR	3AA	NAN	EE	FIXTURE				
28-005-082-001	P-USB-3X	P-3601-2	VAR	3X	NAN	PSE	SPTFAIL	PIPEFAIL			
28-005-082-002	P-SPR-3X	P-3601-2	VAR	3X	NAN	PSE	INTERFERE				
28-005-023-001	P-IAH-3BB	P-3603-4	VAR	3BB	NAN	PSE	DEFLECT				
28-005-035-001	E-LF-3BB	P-3607-2	VAR	3BB	NAN	EE	FIXTURE				
28-005-107-001	P-USB-3AA	P-3607-2	VAR	3AA	NAN	PSE	SPTFAIL	PIPEFAIL			
28-005-039-001	E-LF-3AA	P-3608-2	VAR	3AA	NAN	EE	FIXTURE				
28-005-111-001	E-LF-3AA	P-3608-2	VAR	3AA	NAN	EE	FIXTURE				
28-005-056-004	E-LF-3BB	P-3609-4	VAR	3BB	NAN	EE	FIXTURE				
28-005-056-005	E-LF-3L	P-3609-4	VAR	3L	NAN	EE	FIXTURE				
28-005-056-009	P-3252-1.50	P-3609-4	VAR	3L	NAN	PSE	DEFLECT				
28-005-049-002	C-HANDRAIL	P-3611-4	VAR	S2	NAN	CE	SPTFAIL				
28-005-051-002	E-R-3X	P-3612-4	VAR	3X	NAN	EE	INTERFERE				
28-005-051-003	E-R-3X	P-3612-4	VAR	3X	NAN	EE	INTERFERE				
28-005-114-001	E-R-3X	P-3612-4	VAR	3X	NAN	EE	INTERFERE				
28-005-114-002	E-LF-3X	P-3612-4	VAR	3X	NAN	EE	FIXTURE				
28-005-056-006	E-LF-S5	P-3615-4	VAR	S5	NAN	EE	FIXTURE				
28-005-056-008	C-HANDRAIL	P-3615-4	VAR	S2	NAN	CE	SPTFAIL				
28-006-018-002	P-0308-2	P-3616-2	VAR	31	NAN	PSE	DEFLECT				
28-005-119-001	PS-3L	P-3617-2	VAR	3L	NAN	PSE	SPTFAIL	PIPEFAIL			
28-005-067-001	E-R-3L	P-3618-2	VAR	3L	NAN	EE	INTERFERE	DEFLECT			
28-005-124-001	E-LF-S2	P-3619-4	VAR	S2	NAN	EE	FIXTURE				
28-005-073-002	E-R-3C	P-3620-2	VAR	3C	NAN	EE	INTERFERE				
28-006-022-001	E-LF-3R	P-3640-2	VAR	3R	NAN	EE	FIXTURE				
28-006-022-002	E-R-3R	P-3640-2	VAR	3R	NAN	EE	SPTFAIL				
28-006-024-001	E-R-31	P-3641-2	VAR	31	NAN	EE	DEFLECT				
28-006-040-001	P-1862-8	P-3642-2	VAR	31	NAN	PSE	INTERFERE	DEFLECT			
28-006-038-001	E-LF-3R	P-3644-2	VAR	3R	NAN	EE	FIXTURE				
28-005-084-002	E-R-3L	P-3688-2	VAR	3L	NAN	EE	DEFLECT				
28-005-084-004	NS-CD	P-3688-2	VAR	3L	NAN	PSE	HOUSEKEEP				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=FIREWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-005-084-005	E-LF-3L	P-3688-2	VAR	3L	NAN	EE	FIXTURE				
28-005-015-001	E-R-3C	P-3690-2	VAR	3C	NAN	EE	INTERFERE				
28-005-087-001	E-R-3C	P-3690-2	VAR	3C	NAN	EE	INTERFERE				
28-005-089-001	E-R-3C	P-3691-2	VAR	3C	NAN	EE	INTERFERE				
28-007-004-001	E-LF-3R	P-3722-6	VAR	3R	NAN	EE	FIXTURE				
28-007-004-002	M-PCV91	P-3722-6	VAR	3R	NAN	EMS	MECHFAIL				
28-008-011-001	E-LF-30A5	P-3736-2	VAR	30A5	NAN	EE	FIXTURE				
28-008-011-002	P-SA-30A5	P-3736-2	VAR	30A5	NAN	PSE	DEFLECT				
28-008-021-001	P-SA-30A5	P-3736-2	VAR	30A5	NAN	PSE	DEFLECT				
28-008-021-002	E-LF-30A5	P-3736-2	VAR	30A5	NAN	EE	FIXTURE				
28-008-021-003	P-IAH-30A5	P-3736-2	VAR	30A5	NAN	PSE	SPTFAIL				
28-008-014-001	P-IAH-30A5	P-3737-2	VAR	30A5	NAN	PSE	SPTFAIL				
28-008-014-002	E-LF-30A5	P-3737-2	VAR	30A5	NAN	EE	FIXTURE				
28-008-014-003	P-SA-30A5	P-3737-2	VAR	30A5	NAN	PSE	DEFLECT				
28-008-017-002	P-0708-4	P-3737-2	VAR	30A5	NAN	PSE	DEFLECT				
28-008-017-003	P-0705-4	P-3737-2	VAR	30A5	NAN	PSE	DEFLECT				
28-008-017-004	E-LF-30A5	P-3737-2	VAR	30A5	NAN	EE	FIXTURE				
28-008-017-005	P-USB-30A5	P-3737-2	VAR	30A5	NAN	PSE	PIPEFAIL				
28-008-025-002	P-USB-30A5	P-3737-2	VAR	30A5	NAN	EE	PIPEFAIL				
28-003-015-003	E-LF-1B	P-4356-1.50	VAR	1B	NAN	EE	FIXTURE				
28-003-027-002	E-LF-1B	P-4357-1.50	VAR	1B	NAN	EE	FIXTURE				
28-003-052-001	E-LF-1B	P-4358-1.50	VAR	1B	NAN	EE	FIXTURE				
28-003-036-001	E-LF-1B	P-4359-1.50	VAR	1B	NAN	EE	FIXTURE				
28-006-028-001	PS-31	P-4550-8	VAR	31	NAN	PSE	DEFLECT				
28-006-031-001	E-R-3P3	P-4552-2	VAR	3P3	NAN	EE	DEFLECT				
28-006-031-002	E-LF-3P3	P-4552-2	VAR	3P3	NAN	EE	FIXTURE				
28-004-098-002	E-LF-14A	P-5021-2	VAR	14A	NAN	EE	FIXTURE				
28-004-044-001	E-LF-14A	P-5038-4	VAR	14A	NAN	EE	FIXTURE				
28-004-044-002	P-0507-4	P-5038-4	VAR	14A	NAN	PSE	DEFLECT				
28-004-044-005	E-LF-14A	P-5038-4	VAR	14A	NAN	EE	FIXTURE				
28-004-045-001	P-SPR-11D	P-5039-2	VAR	11D	NAN	PSE	SPTFAIL	PIPEFAIL			
28-004-045-002	H-DUCT-11D	P-5039-2	VAR	11D	NAN	HVA	DEFLECT				
28-004-045-003	E-LF-14A	P-5039-2	VAR	14A	NAN	EE	FIXTURE				
28-004-047-001	P-SPR-14A	P-5040-2	VAR	14A	NAN	PSE	SPTFAIL				
28-004-047-002	E-R-14A	P-5040-2	VAR	14A	NAN	EE	DEFLECT				
28-004-047-003	E-LF-12C	P-5040-2	VAR	12C	NAN	EE	FIXTURE				
28-004-049-001	E-LF-14A	P-5041-2	VAR	14A	NAN	EE	FIXTURE				
28-004-049-002	P-SPR-14A	P-5041-2	VAR	14A	NAN	PSE	SPTFAIL				
28-005-062-001	E-LF-S5	P-5046-2	VAR	S5	NAN	EE	FIXTURE				
28-004-064-001	C-PLAT-14A	P-3316-2	VAR	14A	P	NPO	LOOSE				
28-004-064-002	C-PLAT-14A	P-3316-2	VAR	14A	P	NPO	LOOSE				
28-006-128-001	E-RS-3Q2	E-K9401-4	VAR	3Q2	X	QC	SPTFAIL				
28-004-021-002	NS-MISC	M-HR	VAR	17	X	GC	LOOSE				
28-004-032-001	N-FAN	M-HR	VAR	14A	X	GC	LOOSE				
28-005-063-002	E-LF-S5	M-HR	VAR	S5	X	GC	FIXTURE				
28-006-031-003	C-HANDRAIL	P-4552-2	VAR	3P2	X	GC	LOOSE				
28-004-008-002	E-LF-14A	M-HR	VAR	14A	Y	EE	FIXTURE				
28-004-019-001	E-LF-14A	M-HR	VAR	14A	Y	EE	FIXTURE				
28-004-026-001	E-LF-14A	M-HR	VAR	14A	Y	EE	FIXTURE				
28-004-026-002	C-HANDRAIL	M-HR	VAR	14A	Y	CE	SPTFAIL				
28-004-028-001	E-LF-14A	M-HR	VAR	14A	Y	EE	FIXTURE				
28-004-037-002	E-LF-14A	M-HR	VAR	14A	Y	EE	FIXTURE				
28-004-037-003	P-SPR-14A	M-HR	VAR	14A	Y	PSE	SPTFAIL				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=FIREWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-004-039-002	E-LF-14A	M-HR	VAR	14A	Y	EE	FIXTURE				
28-004-039-003	C-HANDRAIL	M-HR	VAR	14A	Y	CE	SPTFAIL				
28-004-041-001	C-HANDRAIL	M-HR	VAR	14D	Y	CE	SPTFAIL				
28-004-041-002	E-LF-14D	M-HR	VAR	14D	Y	EE	FIXTURE				
28-004-048-001	E-LF-12C	M-HR	VAR	12C	Y	EE	FIXTURE				
28-004-050-001	E-LF-13E	M-HR	VAR	13E	Y	EE	FIXTURE				
28-004-052-001	C-HANDRAIL	M-HR	VAR	14D	Y	CE	SPTFAIL				
28-004-059-003	E-LF-14A	M-HR	VAR	14A	Y	EE	FIXTURE				
28-004-061-002	E-LF-14A	M-HR	VAR	14A	Y	EE	FIXTURE				
28-004-061-003	M-HX-14A	M-HR	VAR	14A	Y	PSE	SPTFAIL				
28-004-063-001	E-LF-14A	M-HR	VAR	14A	Y	EE	FIXTURE				
28-004-065-001	E-LF-14D	M-HR	VAR	14D	Y	EE	FIXTURE				
28-004-071-001	E-LF-14A	M-HR	VAR	14A	Y	EE	FIXTURE				
28-004-075-001	E-LF-14A	M-HR	VAR	14A	Y	EE	FIXTURE				
28-004-077-001	E-LF-14A	M-HR	VAR	14A	Y	EE	FIXTURE				
28-004-083-002	M-TANK	M-HR	VAR	14A	Y	EMS	SPTFAIL				
28-004-083-003	H-FILTER	M-HR	VAR	14A	Y	NPO	LOOSE				
28-004-085-002	E-LF-14A	M-HR	VAR	14A	Y	EE	FIXTURE				
28-004-087-002	C-HANDRAIL	M-HR	VAR	14A	Y	CE	SPTFAIL				
28-004-089-001	E-LF-14D	M-HR	VAR	14D	Y	EE	FIXTURE				
28-004-089-002	C-HANDRAIL	M-HR	VAR	14D.	Y	CE	SPTFAIL				
28-005-009-002	E-LF-3X	M-HR	VAR	3X	Y	EE	FIXTURE				
28-005-016-001	E-LF-3C	M-HR	VAR	3C	Y	EE	FIXTURE				
28-005-018-001	E-LF-3C	M-HR	VAR	3C	Y	EE	FIXTURE				
28-005-032-001	P-1445-4	M-HR	VAR	3BB	Y	EMS	DEFLECT	ENVIRON			
28-005-034-001	E-LF-3BB	M-HR	VAR	3BB	Y	EE	FIXTURE				
28-005-040-001	E-LF-3AA	M-HR	VAR	3AA	Y	EE	FIXTURE				
28-005-048-001	E-LF-S2	M-HR	VAR	S2	Y	EE	FIXTURE				
28-005-059-002	E-LF-S5	M-HR	VAR	S5	Y	EE	FIXTURE				
28-005-061-002	E-LF-S5	M-HR	VAR	S5	Y	EE	FIXTURE				
28-005-079-001	E-LF-3C	M-HR	VAR	3C	Y	EE	FIXTURE				
28-005-083-001	E-LF-3X	M-HR	VAR	3X	Y	EE	FIXTURE				
28-005-126-002	NS-CD	M-HR	VAR	3C	Y	QC	HOUSEKEEP				
28-005-131-001	E-LF-3C	M-HR	VAR	3C	Y	EE	FIXTURE				
28-006-021-001	E-LF-3R	M-HR	VAR	3R	Y	EE	FIXTURE				
28-006-023-002	C-PLAT-3R	M-HR	VAR	3R	Y	CE	CIVILFAIL				
28-006-030-001	M-TANK	M-HR	VAR	3P3	Y	CE	MECHFAIL				
28-006-037-001	E-LF-3R	M-HR	VAR	3R	Y	EE	FIXTURE				
28-008-015-001	E-LF-30A5	M-HR	VAR	30A5	Y	EE	FIXTURE				
28-008-016-001	E-LF-30A5	M-HR	VAR	30A5	Y	EE	FIXTURE				
28-008-018-002	E-LF-30A5	M-HR	VAR	30A5	Y	EE	FIXTURE				
28-008-022-001	E-LF-30A5	M-HR	VAR	30A5	Y	EE	FIXTURE				
28-004-079-002	H-DUCT-14A	M-VALVE	VAR	14A	Y	EMS	SPTFAIL				
28-004-080-002	H-DUCT-14A	M-VALVE	VAR	14A	Y	EMS	SPTFAIL				
28-004-054-007	P-2635-10	P-2667-6	VAR	14A	Y	OSE	DEFLECT				
28-004-054-011	P-0579-8	P-2667-6	VAR	14A	Y	OSE	DEFLECT				
28-004-056-002	M-HX-14A	P-2668-4	VAR	14A	Y	CE	SPTFAIL				
28-004-082-002	M-TANK	P-3308-2	VAR	14A	Y	EMS	SPTFAIL				
28-004-078-001	H-DUCT-14A	P-3309-4	VAR	14A	Y	EMS	SPTFAIL				
28-004-088-002	E-LF-14D	P-3312-2	VAR	14D	Y	EE	FIXTURE				
28-004-076-001	P-SPR-14A	P-3313-2	VAR	14A	Y	PSE	SPTFAIL	PIPEFAIL			
28-004-070-001	P-1950-3	P-3314-2	VAR	14A	Y	OSE	INTERFERE	DEFLECT			
28-004-064-004	P-ULB-14A	P-3316-2	VAR	14A	Y	PSE	DEFLECT				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=FIREWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-004-064-006	P-SA-14A	P-3316-2	VAR	14A	Y	PSE	DEFLECT				
28-004-062-001	M-HX-14A	P-3319-2	VAR	14A	Y	CE	SPTFAIL				
28-008-025-001	P-0705-4	P-3737-2	VAR	30A5	Y	EMS	DEFLECT				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=HVAC FOR VITAL EQUIPMENT COOLING

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-204-004-001	H-S61	E-KA109-1	TB	14D	A	CE	SPTFAIL	CIVILFAIL			
25-204-004-005	C-PLAT-14D	E-KA109-1	TB	14D	A	CE	CIVILFAIL				
25-203-004-005	C-PLAT-14D	E-KA110-1	TB	14D	A	CE	CIVILFAIL				
25-203-004-007	H-HVAC UNIT	E-KA110-1	TB	14D	A	CE	SPTFAIL				
25-203-004-008	N-LOCKER	E-KA110-1	TB	14D	A	NPO	LOOSE				
25-203-004-009	P-4404-24	E-KA110-1	TB	14D	A	EMS	DEFLECT				
25-196-008-001	E-LF-3BB	E-KK212-1.50	PEN	3BB	A	EE	FIXTURE				
25-197-008-001	E-LF-3BB	E-KK213-1.50	PEN	3BB	A	EE	FIXTURE				
25-197-008-004	M-TANK	E-KK213-1.50	AUX	3R	A	EMS	INTERFERE	DEFLECT			
25-201-008-007	E-LF-3BB	E-KT172-1	PEN	3BB	A	EE	FIXTURE				
25-146-009-001	N-MISC-17	E-K2770-1	TB	17	A	NPO	LOOSE				
25-164-003-002	H-DUCT-5A4	E-K5984+	EL	5A4	A	HVA	DEFLECT				
25-070-038-006	H-DUCT-8B3	E-K6730-1.50	HV	8B3	A	CE	SPTFAIL				
25-070-038-004	NS-CD	E-K6731-1.50	HV	8B3	A	EE	HOUSEKEEP				
25-070-038-007	H-DUCT-8B3	E-K6731-1.50	HV	8B3	A	CE	SPTFAIL				
25-039-005-001	I-PANEL	E-K9156-0.75	AUX	3L	A	ICE	SPTFAIL				
25-039-004-001	H-DUCT-3X	E-K9314-2	AUX	3X	A	HVA	SPTFAIL				
25-013-002-002	I-PANEL	E-NSAC+	AUX	3L	A	ICE	SPTFAIL				
25-017-001-001	E-LF-3P6	H-DAMPER	HV	3P6	A	EE	FIXTURE				
25-041-007-001	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	FIXTURE				
25-041-008-001	E-LF-3AA	H-DAMPER	AUX	3AA	A	EE	FIXTURE				
25-067-001-001	E-LF-3L	H-DAMPER	AUX	3L	A	EE	FIXTURE				
25-070-002-001	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	FIXTURE				
25-070-009-002	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	FIXTURE				
25-070-011-001	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	FIXTURE				
25-077-001-001	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	FIXTURE				
25-078-001-001	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	FIXTURE				
25-079-001-001	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	FIXTURE				
25-081-001-001	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	FIXTURE				
25-090-001-001	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	FIXTURE				
25-091-001-001	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	FIXTURE				
25-200-002-001	P-USB-8B3	H-DAMPER	HV	8B3	A	PSE	SPTFAIL				
25-015-001-001	C-CRANE-3R	H-DUCT	AUX	3R	A	CE	CIVILFAIL				
25-015-001-002	C-LADDER	H-DUCT	AUX	3R	A	CE	SPTFAIL				
25-015-002-001	C-CRANE-3R	H-DUCT	AUX	3R	A	CE	CIVILFAIL				
25-016-011-001	C-PLAT-3P7	H-DUCT	HV	3P7	A	CE	CIVILFAIL				
25-068-032-001	C-PLAT-3S	H-DUCT	AUX	3S	A	CE	CIVILFAIL				
25-083-002-002	SQ	H-DUCT	HV	8B1	A	ENG	SPTFAIL				
25-092-001-002	C-MISC-14D	H-DUCT	TB	14D	A	NPO	LOOSE				
25-092-001-006	C-DOOR	H-DUCT	TB	14D	A	CE	SPTFAIL				
25-092-001-007	C-PLAT-14D	H-DUCT	TB	14D	A	CE	CIVILFAIL				
25-162-011-002	M-HR	H-DUCT	EL	6A5	A	EMS	SPTFAIL				
25-165-004-005	C-BLDG	H-DUCT	TB	14D	A	CE	LOOSE				
25-177-003-001	H-FILTER	H-DUCT	DG	11A2	A	HVA	MECHFAIL				
25-178-003-002	H-FILTER	H-DUCT	DG	11B2	A	HVA	MECHFAIL				
25-179-003-001	H-FILTER	H-DUCT	DG	11C2	A	HVA	MECHFAIL				
25-043-001-002	C-COVER	H-E1	HV	3P4	A	CE	LOOSE				
25-046-001-002	E-LF-3P3	H-E2	HV	3P3	A	EE	FIXTURE				
25-046-001-003	C-COVER	H-E2	HV	3P3	A	CE	LOOSE				
25-014-001-001	E-LF-3P6	H-E4	HV	3P6	A	EE	FIXTURE				
25-011-001-002	C-PLAT-3P6	H-FILTER	HV	3P6	A	CE	CIVILFAIL				
25-011-002-001	C-PLAT-3P6	H-FILTER	HV	3P6	A	CE	CIVILFAIL				
25-029-001-003	P-USB-8B1	H-MISC	HV	8B1	A	EMS	SPTFAIL	ENVIRON			

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=HVAC FOR VITAL EQUIPMENT COOLING

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-032-001-001	P-USB-8B1	H-MISC	HV	8B1	A	EMS	SPTFAIL	ENVIRON			
25-002-001-001	P-ULB-3P1	H-S1	HV	3P1	A	EMS	PIPEFAIL				
25-007-001-001	P-ULB-3P1	H-S2	HV	3P1	A	EMS	PIPEFAIL	ENVIRON			
25-092-008-001	E-LF-8B3	H-S39	HV	8B3	A	EE	FIXTURE				
25-092-009-001	E-LF-8B3	H-S40	HV	8B3	A	EE	FIXTURE				
25-145-001-001	P-STM DUMP	H-S43	HV	8B3	A	HVA	ENVIRON				
25-170-001-001	N-LOCKER	H-S68	HV	13E	A	NPO	LOOSE				
25-127-002-001	C-34F	I-FCV070	CNT	1A	A	CE	CIVILFAIL				
25-128-002-001	C-34F	I-FCV071	CNT	1A	A	CE	CIVILFAIL				
25-196-001-001	E-LF-3P2	I-RE28A	HV	3P2	A	EE	FIXTURE				
25-196-001-002	C-99L	I-RE28A	HV	3P2	A	CE	CIVILFAIL				
25-197-001-001	C-PLAT-3P2	I-RE28B	HV	3P2	A	CE	CIVILFAIL				
25-197-001-002	E-LF-3P2	I-RE28B	HV	3P2	A	EE	FIXTURE				
25-203-004-004	C-GRATING	E-KA110-1	TB	14D	M	CE	LOOSE		SECLOOSE	EXPEDIENT	
25-203-004-006	P-SPR-14D	E-KA110-1	TB	14D	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
25-155-004-002	C-GRATING	E-K1733-1.25	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
25-147-004-001	C-GRATING	E-K1789-1.25	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
25-146-009-003	P-SPR-14A	E-K2770-1	TB	14A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT	
25-146-009-004	P-SPR-14A	E-K2770-1	TB	14A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT	
25-146-009-005	P-SPR-14A	E-K2770-1	TB	14A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT	
25-146-009-006	P-SPR-14A	E-K2770-1	TB	14A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT	
25-002-004-001	P-1750-8	E-K6011-1	PEN	3BB	M	PSE	DEFLECT		SUPPORT	NECESSARY	
25-032-001-002	P-0721-12	E-K8021-3	PPS	3Q1	M	PSE	DEFLECT		SUPPORT	NECESSARY	
25-032-013-002	C-PLAT-3P3	H-DAMPER	HV	3P3	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-032-014-001	C-PLAT-3P3	H-DAMPER	HV	3P3	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-010-001	C-PLAT-3P4	H-DAMPER	HV	3P4	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-010-003	C-PLAT-3P4	H-DAMPER	HV	3P4	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-017-001	C-PLAT-3P3	H-DAMPER	HV	3P3	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-020-001	C-PLAT-3P4	H-DAMPER	HV	3P4	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-021-001	C-PLAT-3P3	H-DAMPER	HV	3P3	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-024-001	C-PLAT-3P3	H-DAMPER	HV	3P3	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-025-001	C-PLAT-3P3	H-DAMPER	HV	3P3	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-053-003-001	C-PLAT-3P3	H-DAMPER	HV	3P3	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-054-001-001	C-PLAT-3P3	H-DAMPER	HV	3P3	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-055-001-001	C-PLAT-3P3	H-DAMPER	HV	3P3	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-068-029-001	C-HANDRAIL	H-DAMPER	PPS	3B1	M	CE	LOOSE		SECLOOSE	EXPEDIENT	
25-068-030-001	C-HANDRAIL	H-DAMPER	PPS	3B1	M	CE	LOOSE		SECLOOSE	EXPEDIENT	
25-069-004-001	P-1600-2	H-DAMPER	HV	3P2	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
25-070-009-001	P-DRAIN-8B1	H-DAMPER	HV	8B1	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
25-079-001-002	P-DRAIN-8B1	H-DAMPER	HV	8B1	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
25-085-003-001	E-LF-BOL	H-DAMPER	AUX	3AA	M	EE	FIXTURE		RELOCATE	EXPEDIENT	
25-198-002-001	E-LF-8B3	H-DAMPER	HV	8B3	M	EE	FIXTURE		RELOCATE	EXPEDIENT	
25-016-004-001	C-PLAT-3P7	H-DUCT	HV	3P7	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-016-007-001	C-PLAT-3P8	H-DUCT	HV	3P8	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-029-006-001	P-0721-12	H-DUCT	PPS	3Q2	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
25-041-020-001	C-MR-3M	H-DUCT	PPS	3M	M	CE	CIVILFAIL		BRACE	EXPEDIENT	
25-041-021-001	C-MR-3H1	H-DUCT	PPS	3H1	M	CE	CIVILFAIL		BRACE	EXPEDIENT	
25-041-022-001	C-MR-3H1	H-DUCT	PPS	3H1	M	CE	CIVILFAIL		BRACE	EXPEDIENT	
25-092-001-004	P-SPR-14D	H-DUCT	TB	14D	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
25-092-001-009	C-BLDG	H-DUCT	TB	14D	M	NPO	LOOSE		RELOCATE	EXPEDIENT	
25-162-004-001	P-1742-8	H-DUCT	TB	14A	M	PSE	DEFLECT		SUPPORT	NECESSARY	
25-162-004-002	C-PLAT-14A	H-DUCT	TB	14A	M	CE	INTERFERE	DEFLECT	BRACE	EXPEDIENT	
25-162-004-004	C-WALL	H-DUCT	TB	14A	M	CE	CIVILFAIL		BRACE	OVERLAP	

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=HVAC FOR VITAL EQUIPMENT COOLING

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-162-012-003	C-WALL	H-DUCT	TB	14D	M	CE	CIVILFAIL		BRACE	OVERLAP	
25-162-012-005	C-WALL	H-DUCT	TB	14A	M	CE	CIVILFAIL		BRACE	OVERLAP	
25-165-004-001	P-SPR-14D	H-DUCT	TB	14D	M	PSE	SPTFAIL		SUPPORT	NECESSARY	
25-177-002-001	C-DOOR	H-DUCT	DG	11A2	M	CE	SPTFAIL		CONSTDEF	EXPEDIENT	
25-177-003-002	C-DOOR	H-DUCT	DG	11A2	M	CE	SPTFAIL		CONSTDEF	EXPEDIENT	
25-178-002-001	C-DOOR	H-DUCT	DG	11B2	M	CE	SPTFAIL		CONSTDEF	EXPEDIENT	
25-178-003-001	C-DOOR	H-DUCT	DG	11B2	M	CE	SPTFAIL		CONSTDEF	EXPEDIENT	
25-179-002-001	C-DOOR	H-DUCT	DG	11C2	M	CE	SPTFAIL		CONSTDEF	EXPEDIENT	
25-179-003-002	C-DOOR	H-DUCT	DG	11C2	M	CE	SPTFAIL		CONSTDEF	EXPEDIENT	
25-014-001-002	C-PLAT-3P6	H-E4	HV	3P6	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-019-001-001	C-PLAT-3P7	H-E5	HV	3P7	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-021-001-001	C-PLAT-3P8	H-E6	HV	3P8	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-024-001-001	C-PLAT-3P8	H-E6	HV	3P8	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-018-001-001	C-PLAT-3P3	H-FILTER	HV	3P7	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-018-002-001	C-PLAT-3P7	H-FILTER	HV	3P7	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-018-003-001	C-PLAT-3P7	H-FILTER	HV	3P7	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-018-003-002	C-PLAT-3P7	H-FILTER	HV	3P7	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-023-001-001	C-PLAT-3P8	H-FILTER	HV	3P8	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-023-002-001	C-PLAT-3P8	H-FILTER	HV	3P8	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-023-003-001	C-PLAT-3P8	H-FILTER	HV	3P8	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-023-003-002	C-PLAT-3P8	H-FILTER	HV	3P8	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-002-001	M-HOIST-3P4	H-FILTER	HV	3P4	M	CE	MECHFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-002-002	C-PLAT-3P4	H-FILTER	HV	3P4	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-003-001	C-PLAT-3P4	H-FILTER	HV	3P4	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-003-002	C-PLAT-3P4	H-FILTER	HV	3P4	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-006-001	C-PLAT-3P3	H-FILTER	HV	3P3	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-042-006-003	C-PLAT-3P3	H-FILTER	HV	3P3	M	CE	CIVILFAIL	LOOSE	SECLOOSE	EXPEDIENT	
25-162-003-001	C-WALL	H-FILTER	TB	14D	M	CE	CIVILFAIL		BRACE	OVERLAP	
25-162-003-002	C-PLAT-14D	H-FILTER	TB	14D	M	CE	CIVILFAIL		BRACE	NECESSARY	
25-034-001-001	P-DRAIN-8B1	H-MISC	HV	8B1	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
25-004-001-001	E-LF-3P1	H-S1	HV	3P1	M	EE	FIXTURE		CHAIN	EXPEDIENT	
25-006-001-001	E-LF-3P1	H-S2	HV	3P1	M	EE	FIXTURE		CHAIN	EXPEDIENT	
25-077-001-002	H-HTG COIL	H-S3I	HV	8B1	M	PSE	SPTFAIL		SUPPORT	NECESSARY	
25-029-001-002	NS-MISC	H-S31	HV	8B1	M	HVA	HOUSEKEEP		RELOCATE	OVERLAP	
25-029-001-004	M-BOTTLE	H-S31	HV	8B1	M	CE	SPTFAIL		SUPPORT	EXPEDIENT	
25-079-002-001	P-ULB-8B1	H-S32	HV	8B1	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
25-171-004-003	C-BLDG	H-S67	TB	14D	M	CE	LOOSE		TSHIELD	NECESSARY	
25-173-002-001	E-LF-13E	H-S67	HV	13E	M	EE	FIXTURE		CHAIN	EXPEDIENT	
25-168-004-001	C-PLAT-14D	H-S68	TB	14D	M	CE	CIVILFAIL		BRACE	NECESSARY	
25-168-004-002	C-BLDG	H-S68	TB	14D	M	CE	LOOSE		TSHIELD	NECESSARY	
25-170-002-001	E-LF-13E	H-S68	HV	13E	M	EE	FIXTURE		CHAIN	EXPEDIENT	
25-165-004-002	C-PLAT-14D	H-S69	TB	14D	M	CE	CIVILFAIL		BRACE	NECESSARY	
25-165-004-003	C-BLDG	H-S69	TB	14D	M	CE	LOOSE		TSHIELD	NECESSARY	
25-167-002-001	E-LF-13E	H-S69	HV	13E	M	EE	FIXTURE		CHAIN	EXPEDIENT	
25-123-002-001	P-3256-2	I-FCV066	CNT	1C	M	PSE	PIPEFAIL		RELOCATE	EXPEDIENT	
25-124-002-001	P-3256-2	I-FCV067	CNT	1C	M	PSE	PIPEFAIL		RELOCATE	EXPEDIENT	
25-125-002-001	P-3256-2	I-FCV068	CNT	1C	M	PSE	PIPEFAIL		RELOCATE	EXPEDIENT	
25-126-002-001	P-3256-2	I-FCV069	CNT	1C	M	PSE	PIPEFAIL		RELOCATE	EXPEDIENT	
25-127-002-002	P-3256-2	I-FCV070	CNT	1C	M	PSE	PIPEFAIL		RELOCATE	EXPEDIENT	
25-128-002-002	P-3256-2	I-FCV071	CNT	1C	M	PSE	PIPEFAIL		RELOCATE	EXPEDIENT	
25-204-004-004	P-DRAIN-14D	E-KD543-1	TB	14D	NAN	PSE	SPTFAIL	PIPEFAIL			
25-197-008-003	P-0594-4	E-KK213-1.50	PEN	3BB	NAN	PSE	INTERFERE	DEFLECT			
25-197-008-007	P-DRAIN-3P2	E-KK213-1.50	HV	3P2	NAN	PSE	INTERFERE	DEFLECT			

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=HVAC FOR VITAL EQUIPMENT COOLING

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-201-008-008	P-SPR-3BB	E-KT168-2	PEN	3BB	NAN	PSE	SPTFAIL				
25-070-004-001	E-LF-8B1	E-KV113-1.25	HV	8B1	NAN	EE	FIXTURE				
25-073-005-001	P-ULB-8B3	E-KV129-2	HV	8B3	NAN	PSE	SPTFAIL				
25-201-008-001	C-HANDRAIL	E-KX208-1	CNT	1C	NAN	CE	SPTFAIL				
25-201-008-005	E-R-1A	E-KX208-1	CNT	1A	NAN	EE	DEFLECT				
25-202-008-001	E-LF-1A	E-KX209-1	CNT	1A	NAN	EE	FIXTURE				
25-202-008-002	M-FE	E-KX209-1	CNT	1A	NAN	EMS	SPTFAIL				
25-131-004-001	C-LADDER	E-K1441-1	CNT	1C	NAN	CE	SPTFAIL				
25-155-004-003	C-RSM-1A	E-K1733-1.25	CNT	1A	NAN	CE	INTERFERE	RELSTRUCT			
25-155-004-001	C-LADDER	E-K1954-1	CNT	1C	NAN	CE	SPTFAIL				
25-146-009-002	P-SPR-14A	E-K2770-1	TB	14A	NAN	PSE	DEFLECT				
25-164-003-003	E-LF-5A4	E-K5984-1	EL	5A4	NAN	EE	FIXTURE				
25-070-038-002	H-DUCT-8B3	E-K6727-1.50	HV	8B3	NAN	HVA	DEFLECT				
25-070-038-001	P-DRAIN-8B3	E-K6733-1.50	HV	8B3	NAN	PSE	INTERFERE	DEFLECT			
25-070-038-003	E-LF-8B3	E-K6733-1.50	HV	8B3	NAN	EE	FIXTURE				
25-070-038-005	P-USB-8B3	E-K6733-1.50	HV	8B3	NAN	PSE	DEFLECT				
25-164-003-001	H-S44	E-K7656+	EL	5A1	NAN	HVA	DEFLECT				
25-055-005-001	H-DUCT-3P2	E-K8243-0.75	HV	3P2	NAN	HVA	SPTFAIL				
25-196-008-002	P-DRAIN-3BB	E-K9898-0.75	PEN	3BB	NAN	PSE	SPTFAIL	PIPEFAIL			
25-197-008-002	P-SPR-3BB	E-K9946-1.50	PEN	3BB	NAN	PSE	INTERFERE	DEFLECT			
25-197-008-005	H-DUCT-3P2	E-K9946-1.50	HV	3P2	NAN	HVA	INTERFERE	DEFLECT			
25-197-008-006	P-0593-4	E-K9960-1.50	HV	3P2	NAN	PSE	INTERFERE	DEFLECT			
25-092-004-001	E-LF-8B1	E-R-8B1	HV	8B1	NAN	EE	FIXTURE				
25-022-001-001	E-LF-3P7	H-DAMPER	HV	3P7	NAN	EE	FIXTURE				
25-027-001-001	E-LF-3P8	H-DAMPER	HV	3P8	NAN	EE	FIXTURE				
25-032-013-001	E-LF-3P3	H-DAMPER	HV	3P3	NAN	EE	FIXTURE				
25-042-010-002	E-LF-3P4	H-DAMPER	HV	3P4	NAN	EE	FIXTURE				
25-042-012-001	E-LF-3P3	H-DAMPER	HV	3P3	NAN	EE	FIXTURE				
25-042-015-001	E-LF-3P3	H-DAMPER	HV	3P3	NAN	EE	FIXTURE				
25-042-017-002	E-LF-3P3	H-DAMPER	HV	3P3	NAN	EE	FIXTURE				
25-069-002-001	E-LF-3P2	H-DAMPER	HV	3P2	NAN	EE	FIXTURE				
25-070-008-001	E-LF-8B1	H-DAMPER	HV	8B1	NAN	EE	FIXTURE				
25-070-010-001	E-LF-8B1	H-DAMPER	HV	8B1	NAN	EE	FIXTURE				
25-005-005-001	M-VALVE	H-DUCT	HV	3P1	NAN	EMS	MECHFAIL				
25-005-007-001	E-LF-3P1	H-DUCT	HV	3P1	NAN	EE	FIXTURE				
25-005-014-001	E-LF-3P1	H-DUCT	HV	3P1	NAN	EE	FIXTURE				
25-005-015-001	E-LF-3R	H-DUCT	AUX	3R	NAN	EE	FIXTURE				
25-005-017-001	E-LF-3P2	H-DUCT	HV	3P2	NAN	EE	FIXTURE				
25-005-017-002	P-2442-6	H-DUCT	AUX	31	NAN	PSE	DEFLECT				
25-005-017-003	E-LF-31	H-DUCT	AUX	31	NAN	EE	FIXTURE				
25-005-019-001	E-LF-3R	H-DUCT	AUX	3R	NAN	EE	FIXTURE				
25-016-010-001	E-LF-3P7	H-DUCT	HV	3P7	NAN	EE	FIXTURE				
25-041-010-001	E-LF-3AA	H-DUCT	AUX	3AA	NAN	EE	FIXTURE				
25-041-016-001	P-DRAIN-3C	H-DUCT	AUX	3C	NAN	PSE	PIPEFAIL				
25-041-016-002	E-LF-3L	H-DUCT	AUX	3L	NAN	EE	FIXTURE				
25-041-016-003	E-LF-3C	H-DUCT	AUX	3C	NAN	EE	FIXTURE				
25-041-020-002	E-LF-3M	H-DUCT	PPS	3M	NAN	EE	FIXTURE				
25-068-004-001	E-LF-3AA	H-DUCT	AUX	3AA	NAN	EE	FIXTURE				
25-068-006-001	E-LF-3X	H-DUCT	AUX	3X	NAN	EE	FIXTURE				
25-068-006-002	E-LF-3X	H-DUCT	AUX	3X	NAN	EE	FIXTURE				
25-068-009-001	E-LF-3L	H-DUCT	AUX	3L	NAN	EE	FIXTURE				
25-068-015-001	P-ULB-3J3	H-DUCT	PPS	3J3	NAN	PSE	DEFLECT	ENVIRON			
25-068-015-002	E-LF-3J3	H-DUCT	PPS	3J3	NAN	EE	FIXTURE				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=HVAC FOR VITAL EQUIPMENT COOLING

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-068-017-001	E-LF-3J2	H-DUCT	PPS	3J2	NAN	EE	FIXTURE				
25-068-018-001	E-LF-3J1	H-DUCT	PPS	3J1	NAN	EE	FIXTURE				
25-083-002-001	E-LF-8B1	H-DUCT	HV	8B1	NAN	EE	FIXTURE				
25-083-003-001	P-ULB-8B1	H-DUCT	HV	8B1	NAN	PSE	SPTFAIL				
25-083-003-002	E-LF-8B1	H-DUCT	HV	8B1	NAN	EE	FIXTURE				
25-083-004-001	E-LF-8B1	H-DUCT	HV	8B1	NAN	EE	FIXTURE				
25-083-005-001	E-LF-8B1	H-DUCT	HV	8B1	NAN	EE	FIXTURE				
25-083-005-002	P-DRAIN-8B1	H-DUCT	HV	8B1	NAN	PSE	SPTFAIL				
25-083-013-001	E-LF-8C	H-DUCT	EL	8C	NAN	EE	FIXTURE				
25-092-001-001	E-LF-14D	H-DUCT	TB	14D	NAN	EE	FIXTURE				
25-092-001-003	P-USB-14D	H-DUCT	TB	14D	NAN	PSE	PIPEFAIL				
25-092-007-001	E-LF-8B1	H-DUCT	HV	8B1	NAN	EE	FIXTURE				
25-092-010-001	E-LF-8B1	H-DUCT	HV	8B1	NAN	EE	FIXTURE				
25-162-004-003	E-R-14A	H-DUCT	TB	14A	NAN	EE	DEFLECT				
25-162-009-001	E-R-5A4	H-DUCT	EL	5A4	NAN	EE	DEFLECT				
25-162-009-002	E-LF-5A1	H-DUCT	EL	5A1	NAN	EE	FIXTURE				
25-162-009-003	E-LF-6A5	H-DUCT	EL	6A5	NAN	EE	FIXTURE				
25-162-010-001	E-INVERTER	H-DUCT	EL	6A1	NAN	CE	SPTFAIL				
25-162-011-001	E-LF-6A5	H-DUCT	EL	6A5	NAN	EE	FIXTURE				
25-162-012-001	E-R-14A	H-DUCT	TB	14A	NAN	EE	DEFLECT				
25-162-012-002	C-PLAT-14A	H-DUCT	TB	14A	NAN	CE	DEFLECT				
25-162-012-004	E-LF-5A4	H-DUCT	EL	5A4	NAN	EE	FIXTURE				
25-166-001-001	E-LF-12A	H-DUCT	EL	12A	NAN	EE	FIXTURE				
25-166-002-001	E-LF-13D	H-DUCT	EL	13D	NAN	EE	FIXTURE				
25-169-001-001	E-LF-12B	H-DUCT	EL	12B	NAN	EE	FIXTURE				
25-172-001-001	E-LF-12C	H-DUCT	EL	12C	NAN	EE	FIXTURE				
25-172-002-001	E-LF-13D	H-DUCT	EL	13D	NAN	EE	FIXTURE				
25-177-002-002	E-LF-11A2	H-DUCT	DG	11A2	NAN	EE	FIXTURE				
25-177-003-003	E-LF-11A2	H-DUCT	DG	11A2	NAN	EE	FIXTURE				
25-178-002-002	E-LF-11B2	H-DUCT	DG	11B2	NAN	EE	FIXTURE				
25-178-003-003	E-LF-11B2	H-DUCT	DG	11B2	NAN	EE	FIXTURE				
25-179-002-002	E-LF-11C2	H-DUCT	DG	11C2	NAN	EE	FIXTURE				
25-179-003-003	E-LF-11C2	H-DUCT	DG	11C2	NAN	EE	FIXTURE				
25-043-001-001	E-LF-3P4	H-E1	HV	3P4	NAN	EE	FIXTURE				
25-045-001-001	E-LF-3P4	H-E1	HV	3P3	NAN	EE	FIXTURE				
25-046-001-001	E-LF-3P3	H-E2	HV	3P3	NAN	EE	FIXTURE				
25-048-001-001	E-LF-3P3	H-E2	HV	3P3	NAN	EE	FIXTURE				
25-001-002-001	E-LF-3P1	H-FILTER	HV	3P1	NAN	EE	FIXTURE				
25-011-001-001	E-LF-3P6	H-FILTER	HV	3P6	NAN	EE	FIXTURE				
25-011-002-002	E-LF-3P6	H-FILTER	HV	3P6	NAN	EE	FIXTURE				
25-018-001-002	E-LF-3P7	H-FILTER	HV	3P7	NAN	EE	FIXTURE				
25-023-001-002	E-LF-3P8	H-FILTER	HV	3P8	NAN	EE	FIXTURE				
25-028-002-001	E-LF-8B1	H-FILTER	HV	8B1	NAN	EE	FIXTURE				
25-042-004-001	E-LF-3P3	H-FILTER	HV	3P3	NAN	EE	FIXTURE				
25-042-006-002	E-LF-3P3	H-FILTER	HV	3P3	NAN	EE	FIXTURE				
25-070-012-001	P-DRAIN-8B1	H-FILTER	HV	8B1	NAN	PSE	SPTFAIL				
25-070-012-002	E-LF-8B1	H-FILTER	HV	8B1	NAN	EE	FIXTURE				
25-070-013-001	E-LF-8B1	H-FILTER	HV	8B1	NAN	EE	FIXTURE				
25-092-006-001	E-LF-8B1	H-FILTER	HV	8B1	NAN	EE	FIXTURE				
25-092-006-002	P-DRAIN-8B1	H-FILTER	HV	8B1	NAN	PSE	SPTFAIL				
25-001-003-001	E-LF-3P1	H-HEATER	HV	3P1	NAN	EE	FIXTURE				
25-070-016-001	E-LF-8B1	H-HEATER	HV	8B1	NAN	EE	FIXTURE				
25-030-001-001	P-5215-8	H-S1	OA	28	NAN	PSE	SPTFAIL	ENVIRON			

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=HVAC FOR VITAL EQUIPMENT COOLING

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-029-001-001	E-LF-8B1	H-S31	HV	8B1	NAN	EE	FIXTURE				
25-079-002-002	M-TANK	H-S32	HV	8B1	NAN	CE	SPTFAIL				
25-070-014-001	P-DRAIN-8B3	H-S35	HV	8B3	NAN	PSE	SPTFAIL				
25-070-014-002	E-LF-8B3	H-S35	HV	8B3	NAN	EE	FIXTURE				
25-070-015-001	E-LF-8B3	H-S36	HV	8B3	NAN	EE	FIXTURE				
25-164-001-001	E-LF-6A5	H-S44	EL	6A5	NAN	EE	FIXTURE				
25-171-004-001	H-DUCT	H-S67	TB	14D	NAN	HVA	MECHFAIL				
25-171-004-002	E-LF-14D	H-S67	TB	14D	NAN	EE	FIXTURE				
25-168-004-003	E-LF-14D	H-S68	TB	14D	NAN	EE	FIXTURE				
25-165-004-004	E-LF-14D	H-S69	TB	14D	NAN	EE	FIXTURE				
25-068-020-001	E-LF-3P3	I-FI5016	PPS	3J3	NAN	EE	FIXTURE				
25-177-003-004	C-HANDRAIL	M-DG1-1	DG	11A2	NAN	CE	LOOSE				
25-178-003-004	C-HANDRAIL	M-DG1-2	DG	11B2	NAN	CE	LOOSE				
25-179-003-004	C-HANDRAIL	M-DG1-3	DG	11C2	NAN	CE	LOOSE				
25-203-004-010	NS-CD	E-KA110-1	TB	14D	X	QC	HOUSEKEEP				
25-202-008-003	NS-CD	E-KT164-1.25	EL	6A4	X	QC	HOUSEKEEP				
25-202-008-004	NS-CD	E-KT174-1.25	PEN	3BB	X	QC	HOUSEKEEP				
25-140-004-001	C-PLAT-1C	E-K1729-1.25	CNT	1C	X	QC	INTERFERE	DEFLECT			
25-092-001-005	NS-CD	H-DUCT	TB	14D	X	GC	LOOSE				
25-204-004-002	E-LF-14D	E-KA109-1	TB	14D	Y	EE	FIXTURE				
25-204-004-003	E-LF-14D	E-KA109-1	TB	14D	Y	EE	FIXTURE				
25-204-004-006	P-4403-24	E-KA109-1	TB	14D	Y	EMS	DEFLECT				
25-203-004-001	H-S61	E-KA110-1	TB	14D	Y	OSE	SPTFAIL	CIVILFAIL			
25-203-004-002	E-LF-14D	E-KA110-1	TB	14D	Y	EE	FIXTURE				
25-203-004-003	E-LF-14D	E-KA110-1	TB	14D	Y	EE	FIXTURE				
25-201-008-006	E-PANEL	E-KK323-3	EL	6A4	Y	OSE	SPTFAIL	MECHFAIL			
25-201-008-003	P-2787-1	E-KX207-1	CNT	1A	Y	EE	DEFLECT				
25-201-008-004	NS-CD	E-KX207-1	CNT	1A	Y	ENG	HOUSEKEEP				
25-201-008-002	E-RS-1A	E-KX208-1	CNT	1A	Y	EE	INTERFERE				
25-013-002-001	I-PANEL	E-NSAC+	AUX	3L	Y	ICE	SPTFAIL				
25-092-001-008	H-S61	H-DUCT	TB	14D	Y	CE	SPTFAIL				
25-085-001-001	E-LF-14D	H-OS98	TB	14D	Y	EE	FIXTURE				
25-204-001-001	E-LF-14D	I-CEL102	TB	14D	Y	EE	FIXTURE				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=MAIN STEAM SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
04-004-001-001	E-LF-3BB	E-FCV25	PEN	3BB	A	EE	FIXTURE				
03-003-003-002	C-PLAT-28	E-KT610-1	OA	28	A	CE	CIVILFAIL				
03-037-003-002	C-PLAT-1A	E-KX246-2.50	CNT	1A	A	CE	INTERFERE	DEFLECT			
05-022-005-003	M-FCV763	E-K1788-1	CNT	1B	A	PSE	DEFLECT				
03-022-024-002	P-ULB-28	E-K5776+	OA	28	A	PSE	DEFLECT				
03-024-030-001	NS-T	E-K5786+	OA	28	A	ENG	ENVIRON				
03-058-005-001	P-SPR-3BB	E-K5815-1	PEN	3BB	A	PSE	SPTFAIL	PIPEFAIL			
03-020-007-001	P-0225-28	E-K6457-1.25	PEN	3BB	A	ENG	INTERFERE				
03-020-007-009	NS-T	E-K6457-1.25	PEN	3BB	A	ENG	ENVIRON				
03-020-007-010	NS-T	E-K6464-1.25	PEN	3BB	A	ENG	ENVIRON				
03-020-007-007	NS-T	E-K6702-1	PEN	3BB	A	ENG	ENVIRON				
03-020-007-008	NS-T	E-K6703-1.25	PEN	3BB	A	ENG	ENVIRON				
03-053-001-002	E-LF-1C	GENERIC	CNT	1C	A	EE	FIXTURE				
05-040-003-001	P-1040-2.50	I-FCV244	PEN	3BB	A	ICE	DEFLECT				
05-036-003-001	P-1040-2.50	I-FCV246	PEN	3BB	A	ICE	DEFLECT				
05-032-003-001	P-1040-2.50	I-FCV248	PEN	3BB	A	ICE	DEFLECT				
03-020-003-001	NS-T	I-FCV44	PEN	3BB	A	ENG	ENVIRON				
05-004-003-001	E-LF-1B	I-FCV760	CNT	1B	A	EE	FIXTURE				
05-010-003-001	H-DUCT-1B	I-FCV761	CNT	1B	A	HVA	MECHFAIL				
05-016-003-001	H-DUCT-1B	I-FCV762	CNT	1B	A	HVA	MECHFAIL				
05-022-003-003	H-DUCT-1B	I-FCV763	CNT	1B	A	HVA	MECHFAIL				
03-053-002-002	H-DUCT-1C	I-FE512+	CNT	1C	A	HVA	SPTFAIL				
03-054-002-001	H-DUCT-1C	I-FE512+	CNT	1C	A	HVA	SPTFAIL				
03-055-002-001	H-DUCT-1C	I-FE512+	CNT	1C	A	HVA	SPTFAIL				
03-033-001-002	C-114F	I-FT512	CNT	1C	A	CE	INTERFERE				
03-033-001-003	H-DUCT-1B	I-FT512	CNT	1B	A	HVA	MECHFAIL				
03-034-001-002	H-DUCT-1B	I-FT513	CNT	1B	A	HVA	MECHFAIL				
03-036-001-002	H-DUCT-1B	I-FT522	CNT	1B	A	HVA	MECHFAIL				
03-037-001-001	C-115F	I-FT523	CNT	1C	A	CE	INTERFERE				
03-037-001-003	H-DUCT-1B	I-FT523	CNT	1B	A	HVA	MECHFAIL				
03-046-001-001	H-DUCT-1B	I-FT532	CNT	1B	A	HVA	MECHFAIL				
03-045-001-001	H-DUCT-1B	I-FT533	CNT	1B	A	HVA	MECHFAIL				
03-051-001-003	C-116G	I-FT542	CNT	1C	A	CE	INTERFERE	DEFLECT			
03-051-001-005	H-DUCT-1B	I-FT542	CNT	1B	A	HVA	MECHFAIL				
03-052-001-001	H-DUCT-1B	I-FT543	CNT	1B	A	HVA	MECHFAIL				
03-029-001-001	C-114F	I-LT501	CNT	1C	A	CE	INTERFERE				
03-029-001-003	E-LF-1A	I-LT501	CNT	1A	A	EE	FIXTURE				
03-029-001-004	H-DUCT-1B	I-LT501	CNT	1B	A	HVA	MECHFAIL				
03-035-001-004	E-LF-1B	I-LT502	CNT	1B	A	EE	FIXTURE				
03-035-001-005	H-DUCT-1B	I-LT502	CNT	1B	A	HVA	MECHFAIL				
03-041-001-001	H-DUCT-1B	I-LT503	CNT	1B	A	HVA	MECHFAIL				
03-047-001-003	E-LF-1B	I-LT504	CNT	1B	A	EE	FIXTURE				
03-047-001-004	E-LF-1B	I-LT504	CNT	1B	A	EE	FIXTURE				
03-047-001-005	H-DUCT-1B	I-LT504	CNT	1B	A	HVA	MECHFAIL				
03-030-001-005	H-DUCT-1B	I-LT517	CNT	1B	A	HVA	MECHFAIL				
03-031-001-002	C-114F	I-LT518	CNT	1C	A	CE	INTERFERE				
03-031-001-003	H-DUCT-1B	I-LT518	CNT	1B	A	HVA	MECHFAIL				
03-032-001-002	C-76F	I-LT519	CNT	1C	A	CE	INTERFERE				
03-032-001-003	H-DUCT-1B	I-LT519	CNT	1B	A	HVA	MECHFAIL				
03-038-001-001	C-115F	I-LT527	CNT	1C	A	CE	INTERFERE				
03-038-001-005	H-DUCT-1B	I-LT527	CNT	1B	A	HVA	MECHFAIL				
03-039-001-001	C-116G	I-LT528	CNT	1C	A	CE	INTERFERE	DEFLECT			
03-039-001-002	H-DUCT-1B	I-LT528	CNT	1B	A	HVA	MECHFAIL				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=MAIN STEAM SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
03-040-001-001	C-RSM-1C	I-LT529	CNT	1C	A	EMS	INTERFERE	DEFLECT			
03-040-001-003	H-DUCT-1B	I-LT529	CNT	1B	A	HVA	MECHFAIL				
03-043-001-001	C-116G	I-LT537	CNT	1C	A	CE	INTERFERE	DEFLECT			
03-043-001-002	H-DUCT-1B	I-LT537	CNT	1B	A	HVA	MECHFAIL				
03-044-001-001	C-116G	I-LT538	CNT	1C	A	CE	INTERFERE	DEFLECT			
03-044-001-002	H-DUCT-1B	I-LT538	CNT	1B	A	HVA	MECHFAIL				
03-042-001-002	H-DUCT-1B	I-LT539	CNT	1B	A	HVA	MECHFAIL				
03-048-001-002	C-116G	I-LT547	CNT	1C	A	CE	INTERFERE	DEFLECT			
03-048-001-003	H-DUCT-1B	I-LT547	CNT	1B	A	HVA	MECHFAIL				
03-049-001-003	C-116G	I-LT548	CNT	1C	A	CE	INTERFERE	DEFLECT			
03-049-001-005	H-DUCT-1B	I-LT548	CNT	1B	A	HVA	MECHFAIL				
03-050-001-003	H-DUCT-1B	I-LT549	CNT	1B	A	HVA	MECHFAIL				
03-004-002-002	C-PLAT-28	I-PM014	OA	28	A	CE	CIVILFAIL				
03-022-013-002	C-PLAT-28	I-PM100	OA	28	A	CE	CIVILFAIL				
03-001-002-002	C-PLAT-28	I-PM103	OA	28	A	CE	CIVILFAIL				
03-007-002-001	E-LF-3BB	I-PM106	PEN	3BB	A	EE	FIXTURE				
03-007-002-002	C-9GW	I-PM106	PEN	3BB	A	CE	CIVILFAIL				
03-002-002-002	C-PLAT-28	I-PM107	OA	28	A	CE	CIVILFAIL				
03-005-002-002	C-PLAT-28	I-PM108	OA	28	A	CE	CIVILFAIL				
03-003-002-002	C-PLAT-28	I-PM111	OA	28	A	CE	CIVILFAIL				
03-006-002-001	C-PLAT-28	I-PM112	OA	28	A	CE	CIVILFAIL				
03-009-002-001	C-9GW	I-PM113	PEN	3BB	A	CE	CIVILFAIL				
05-022-003-002	E-LF-1A	I-PM162	CNT	1A	A	EE	FIXTURE				
03-051-001-002	E-LF-1A	I-PM47	CNT	1A	A	EE	FIXTURE				
03-050-001-001	E-LF-1A	I-PM51	CNT	1A	A	EE	FIXTURE				
03-049-001-001	E-LF-1A	I-PM55	CNT	1A	A	EE	FIXTURE				
03-035-002-002	H-E16	I-PM84	CNT	1A	A	HVA	SPTFAIL				
03-001-001-001	C-PLAT-28	I-PT514	OA	28	A	CE	CIVILFAIL				
03-002-001-002	C-PLAT-28	I-PT515	OA	28	A	CE	CIVILFAIL				
03-003-001-002	C-PLAT-28	I-PT516	OA	28	A	CE	CIVILFAIL				
03-004-001-001	C-PLAT-28	I-PT524	OA	28	A	CE	CIVILFAIL				
03-005-001-001	C-PLAT-28	I-PT525	OA	28	A	CE	CIVILFAIL				
03-006-001-001	C-PLAT-28	I-PT526	OA	28	A	CE	CIVILFAIL				
03-008-001-002	E-LF-3BB	I-PT534	PEN	3BB	A	EE	FIXTURE				
03-008-001-001	E-LF-3BB	I-PT535	PEN	3BB	A	EE	FIXTURE				
03-009-001-001	E-LF-3BB	I-PT536	PEN	3BB	A	EE	FIXTURE				
03-026-013-001	E-LF-3BB	I-PT536A	PEN	3BB	A	EE	FIXTURE				
03-026-014-001	E-LF-3BB	I-PT536A	PEN	3BB	A	EE	FIXTURE				
03-010-001-001	E-LF-3BB	I-PT544	PEN	3BB	A	EE	FIXTURE				
03-011-001-001	E-LF-3BB	I-PT545	PEN	3BB	A	EE	FIXTURE				
03-012-001-001	E-LF-3BB	I-PT546	PEN	3BB	A	EE	FIXTURE				
03-028-013-001	E-LF-3BB	I-PT546A	PEN	3BB	A	EE	FIXTURE				
03-028-014-001	E-LF-3BB	I-PT546A	PEN	3BB	A	EE	FIXTURE				
03-062-001-001	C-8GW	M-FCV23	PEN	3BB	A	CE	CIVILFAIL				
03-060-001-001	C-PLAT-28	M-FCV24	OA	28	A	CE	CIVILFAIL				
03-064-001-001	C-PLAT-3BB	M-FCV24	PEN	3BB	A	CE	CIVILFAIL				
05-039-003-001	C-11GG	M-FCV244	PEN	3BB	A	CE	CIVILFAIL				
05-035-003-001	C-11GE	M-FCV246	PEN	3BB	A	CE	CIVILFAIL				
05-031-003-001	C-11GE	M-FCV248	PEN	3BB	A	CE	CIVILFAIL				
03-058-001-001	C-PLAT-28	M-FCV25	OA	28	A	CE	CIVILFAIL				
05-027-003-001	C-11GE	M-FCV250	PEN	3BB	A	CE	CIVILFAIL				
03-017-001-001	C-PLAT-28	M-FCV41	OA	28	A	CE	CIVILFAIL				
03-017-007-001	M-FCV25	M-FCV41	OA	28	A	PSE	MECHFAIL				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=MAIN STEAM SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
03-018-001-001	C-PLAT-28	M-FCV42	OA	28	A	CE	CIVILFAIL				
03-019-001-001	C-8GW	M-FCV43	PEN	3BB	A	CE	CIVILFAIL				
05-021-002-001	H-DUCT-1B	M-FCV763	CNT	1B	A	HVA	MECHFAIL				
04-003-001-003	C-PLAT-3P2	P-0593-4	HV	3P2	A	CE	CIVILFAIL				
05-017-001-001	P-1042-2.50	P-1162-0.75	CNT	1A	A	PSE	DEFLECT				
05-041-001-002	C-11GE	P-1863-1	PEN	3BB	A	CE	CIVILFAIL				
03-058-005-002	C-PLAT-28	E-KT062+	OA	28	M	CE	CIVILFAIL		BRACE	EXPEDIENT	
03-040-003-003	C-74GW	E-KT351-3	PEN	3BB	M	CE	CIVILFAIL		BRACE	NECESSARY	
03-048-003-001	C-GRATING	E-KX103-1.50	CNT	1A	M	EE	INTERFERE	RELSTRUCT	RELOCATE	OVERLAP	
03-045-003-001	C-GRATING	E-KX110-2	CNT	1A	M	EE	INTERFERE	RELSTRUCT	RELOCATE	OVERLAP	
03-043-003-001	C-STAIR-1A	E-KX177-0.75	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
03-044-003-001	C-STAIR-1A	E-KX178-0.75	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
03-038-003-004	C-GRATING	E-KX195-1	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
03-040-003-002	C-GRATING	E-KX197-1.25	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
03-029-003-003	C-GRATING	E-KX390-1.50	CNT	1A	M	EE	INTERFERE	RELSTRUCT	RELOCATE	EXPEDIENT	
03-047-003-002	C-GRATING	E-KX390-1.50	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
05-016-005-003	C-GRATING	E-K1741-2	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
03-022-024-003	C-PLAT-28	E-K5774-0.75	OA	28	M	CE	CIVILFAIL	LOOSE	SECLOOSE	OVERLAP	
03-022-024-001	NS-T	E-K5776+	OA	28	M	ENG	ENVIRON		CONSTDEF	OVERLAP	
03-026-025-002	P-0123-6	E-K5779-1	PEN	3BB	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
03-026-025-001	C-PLAT-7A	E-K5794-1	EL	7A	M	CE	LOOSE		SECLOOSE	OVERLAP	
03-018-007-002	C-PLAT-28	E-K5807-1	OA	28	M	CE	CIVILFAIL		CLEARANCE	EXPEDIENT	
03-022-008-001	P-USB-28	E-K5849-3	OA	28	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
03-020-007-002	NS-T	E-K6457-1.25	PEN	3BB	M	ENG	ENVIRON		CONSTDEF	OVERLAP	
03-020-007-005	P-0225-28	E-K6464-1.25	PEN	3BB	M	ENG	INTERFERE	ENVIRON	TMODIFY	OVERLAP	
03-024-030-003	E-R-28	E-K6505+	OA	28	M	EE	DEFLECT		SUPPORT	OVERLAP	
03-026-022-001	I-PANEL	E-K6505-0.75	OA	28	M	CE	SPTFAIL		BRACE	OVERLAP	
03-028-023-001	I-PANEL	E-K6557-1	OA	28	M	CE	SPTFAIL		BRACE	OVERLAP	
03-020-007-004	P-4347-3	E-K6702-1	PEN	3BB	M	PSE	DEFLECT		TMODIFY	NECESSARY	
03-020-007-006	P-4072-3	E-K6702-1	PEN	3BB	M	PSE	DEFLECT		TMODIFY	NECESSARY	
05-028-003-001	P-1040-2.50	I-FCV250	PEN	3BB	M	ICE	DEFLECT		TMODIFY	NECESSARY	
03-019-003-001	C-3GW	I-FCV43	PEN	3BB	M	CE	CIVILFAIL		SECLOOSE	OVERLAP	
03-020-003-002	C-3GW	I-FCV44	PEN	3BB	M	CE	CIVILFAIL		SECLOOSE	OVERLAP	
03-053-002-001	P-3256-2	I-FE512	CNT	1C	M	PSE	PIPEFAIL		RELOCATE	NECESSARY	
03-036-001-001	E-LF-1A	I-FT522	CNT	1A	M	EE	FIXTURE		SECLOOSE	OVERLAP	
03-005-002-003	H-DUCT-1B	I-LT501	CNT	1B	M	HVA	DEFLECT		CONSTDEF	EXPEDIENT	
03-035-001-003	P-USB-1B	I-LT502	CNT	1B	M	ICE	DEFLECT		TMODIFY	EXPEDIENT	
03-047-001-001	P-4397-2	I-LT504	CNT	1B	M	PSE	SPTFAIL		SUPPORT	OVERLAP	
03-047-001-002	P-1038-2	I-LT504	CNT	1B	M	ICE	INTERFERE	DEFLECT	TMODIFY	EXPEDIENT	
03-032-005-001	P-1870-1	I-LT516	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-030-001-002	C-PLAT-1C	I-LT517	CNT	1C	M	CE	INTERFERE		BRACE	NECESSARY	
03-030-001-004	P-1870-1	I-LT517	CNT	1B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT	
03-038-001-003	E-TL17	I-LT527	CNT	1A	M	EE	SPTFAIL		BRACE	NECESSARY	
03-040-001-002	E-LF-1A	I-LT529	CNT	1A	M	EE	FIXTURE		SECLOOSE	OVERLAP	
03-022-001-001	C-PLAT-28	I-PCV19	OA	28	M	ICE	CIVILFAIL	LOOSE	TSHIELD	EXPEDIENT	
03-022-002-001	P-0476-4	I-PCV19	OA	28	M	PSE	DEFLECT		STOP	OVERLAP	
03-022-002-002	C-PLAT-28	I-PCV19	OA	28	M	ICE	CIVILFAIL	LOOSE	TSHIELD	EXPEDIENT	
03-022-003-001	C-PLAT-28	I-PCV19	OA	28	M	ICE	CIVILFAIL	LOOSE	TSHIELD	EXPEDIENT	
03-022-003-002	C-PLAT-28	I-PCV19	OA	28	M	ICE	CIVILFAIL	LOOSE	TSHIELD	EXPEDIENT	
03-024-001-001	C-PLAT-28	I-PCV20	OA	28	M	ICE	CIVILFAIL	LOOSE	TSHIELD	EXPEDIENT	
03-024-002-001	C-PLAT-28	I-PCV20	OA	28	M	ICE	CIVILFAIL	LOOSE	TSHIELD	EXPEDIENT	
03-024-003-001	C-PLAT-28	I-PCV20	OA	28	M	ICE	CIVILFAIL	LOOSE	TSHIELD	EXPEDIENT	
03-028-001-001	C-PLAT-3BB	I-PCV22	PEN	3BB	M	ICE	DEFLECT		TMODIFY	EXPEDIENT	

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=MAIN STEAM SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
03-028-002-001	C-PLAT-3BB	I-PCV22	PEN	3BB	M	ICE	DEFLECT		TMODIFY	EXPEDIENT	
03-028-003-001	C-PLAT-3BB	I-PCV22	PEN	3BB	M	ICE	DEFLECT		TMODIFY	EXPEDIENT	
03-022-013-001	P-3103-2	I-PM100	OA	28	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT	
03-001-002-001	P-3103-2	I-PM103	OA	28	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
03-004-002-001	P-3103-2	I-PM104	OA	28	M	PSE	PIPEFAIL		SUPPORT	NECESSARY	
03-002-002-001	P-3103-2	I-PM107	OA	28	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
03-005-002-001	P-3103-2	I-PM108	OA	28	M	PSE	PIPEFAIL		SUPPORT	NECESSARY	
03-003-002-001	P-3103-2	I-PM111	OA	28	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
03-006-002-002	P-3103-2	I-PM112	OA	28	M	PSE	PIPEFAIL		SUPPORT	NECESSARY	
05-022-003-001	P-1870-1	I-PM162	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
05-022-004-001	P-1870-1	I-PM162	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-033-001-001	P-1870-1	I-PM44	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-033-002-001	P-1870-1	I-PM44	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-051-001-001	P-1870-1	I-PM47	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-051-002-001	P-1870-1	I-PM47	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-032-001-001	P-1870-1	I-PM48	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-032-002-001	P-1870-1	I-PM48	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-050-001-002	P-1870-1	I-PM51	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-050-002-001	P-1870-1	I-PM51	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-031-001-001	P-1870-1	I-PM52	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-031-002-001	P-1870-1	I-PM52	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-049-001-002	P-1870-1	I-PM55	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-049-002-001	P-1870-1	I-PM55	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-030-001-001	P-1870-1	I-PM56	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-030-002-001	P-1870-1	I-PM56	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-048-001-001	P-1870-1	I-PM59	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-048-002-001	P-1870-1	I-PM59	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
03-035-001-001	P-4397-2	I-PM84	CNT	1A	M	PSE	SPTFAIL		SUPPORT	OVERLAP	
03-035-002-001	P-4397-2	I-PM84	CNT	1A	M	PSE	SPTFAIL		SUPPORT	OVERLAP	
03-001-001-002	P-3433-1.50	I-PT514	OA	28	M	PSE	DEFLECT		SUPPORT	NECESSARY	
03-002-001-001	P-3433-1.50	I-PT515	OA	28	M	PSE	DEFLECT		SUPPORT	NECESSARY	
03-003-001-001	P-3433-1.50	I-PT516	OA	28	M	PSE	DEFLECT		SUPPORT	NECESSARY	
03-049-001-004	C-PLAT-1C	I-PX11	CNT	1C	M	CE	INTERFERE	DEFLECT	SUPPORT	NECESSARY	
03-007-001-001	C-74GW	I-TUBING	PEN	3BB	M	CE	CIVILFAIL		BRACE	NECESSARY	
03-055-001-002	C-PLAT-1C	I-VALVE	CNT	1C	M	CE	INTERFERE	DEFLECT	CLEARANCE	NECESSARY	
05-038-001-001	NS-CD	M-FCV160	PEN	3BB	M	ENG	HOUSEKEEP		STOP	OVERLAP	
03-018-007-001	M-FCV25	M-FCV42	OA	28	M	EE	INTERFERE	DEFLECT	CLEARANCE	NECESSARY	
05-008-001-001	P-3847-6	M-FCV763	CNT	1B	M	PSE	INTERFERE	DEFLECT	CONSTDEF	EXPEDIENT	
04-001-001-001	C-HANDRAIL	P-0593-4	OA	28	M	CE	LOOSE		SECLOOSE	EXPEDIENT	
04-003-001-005	P-2416-1	P-0593-4	PEN	3BB	M	PSE	DEFLECT		SUPPORT	OVERLAP	
05-001-001-001	E-K1534-5	P-1040-2.50	CNT	1A	M	EE	SPTFAIL		RELOCATE	EXPEDIENT	
03-001-003-001	H-DUCT-3BB	E-KT157-1	PEN	3BB	NAN	HVA	DEFLECT				
03-037-003-004	I-TUBING	E-KX109-2	CNT	1A	NAN	ICE	SPTFAIL				
03-037-003-005	E-LF-1A	E-KX109-2	CNT	1A	NAN	EE	FIXTURE				
03-030-003-001	H-DUCT-1A	E-KX152-1	CNT	1A	NAN	HVA	SPTFAIL				
03-038-003-003	H-DUCT-1A	E-KX152-1	CNT	1A	NAN	HVA	SPTFAIL				
03-036-003-001	I-TUBING	E-KX167-2	CNT	1A	NAN	ICE	DEFLECT				
03-040-003-001	I-TUBING	E-KX167-2	CNT	1A	NAN	ICE	DEFLECT				
03-045-003-002	C-GRATING	E-KX179-0.75	CNT	1A	NAN	CE	INTERFERE	RELSTRUCT			
03-042-003-002	C-GRATING	E-KX180-1.50	CNT	1A	NAN	CE	INTERFERE	DEFLECT			
03-038-003-001	H-DUCT-1A	E-KX193-1.50	CNT	1A	NAN	HVA	SPTFAIL				
03-038-003-002	I-TUBING	E-KX193-1.50	CNT	1A	NAN	ICE	SPTFAIL				
03-042-003-001	P-ULB-1A	E-KX245-1	CNT	1A	NAN	PSE	DEFLECT				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=MAIN STEAM SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
03-037-003-003	PS-2576-8	E-KX246-2.50	CNT	1A	NAN	PSE	DEFLECT				
03-032-003-001	H-DUCT-1A	E-KX296-2.50	CNT	1A	NAN	HVA	SPTFAIL				
03-037-003-006	H-DUCT-1A	E-KX296-2.50	CNT	1A	NAN	HVA	SPTFAIL				
03-029-003-002	H-DUCT-1A	E-KX394-1	CNT	1A	NAN	HVA	SPTFAIL				
03-035-003-005	H-DUCT-1A	E-KX394-1	CNT	1A	NAN	HVA	SPTFAIL				
03-047-003-001	I-TUBING	E-KX395-1	CNT	1A	NAN	ICE	DEFLECT				
03-041-003-001	H-DUCT-1A	E-KX397-1	CNT	1A	NAN	HVA	SPTFAIL				
03-041-003-002	I-TUBING	E-KX397-1	CNT	1A	NAN	ICE	DEFLECT				
03-029-003-001	I-TUBING	E-KX398-1	CNT	1A	NAN	ICE	DEFLECT				
03-035-003-002	H-DUCT-1A	E-KX399-1	CNT	1A	NAN	HVA	SPTFAIL				
03-035-003-003	I-TUBING	E-KX399-1	CNT	1A	NAN	ICE	DEFLECT				
03-035-003-004	I-TUBING	E-KX399-1	CNT	1A	NAN	ICE	DEFLECT				
05-010-005-001	P-IAH-1A	E-K1726-2	CNT	1A	NAN	ICE	DEFLECT				
05-016-005-004	P-IAH-1A	E-K1736-2	CNT	1A	NAN	ICE	DEFLECT				
05-022-005-002	C-GRATING	E-K1742-1.50	CNT	1A	NAN	CE	INTERFERE	DEFLECT			
05-010-005-002	P-IAH-1A	E-K1868-1.50	CNT	1A	NAN	ICE	DEFLECT				
05-016-005-002	H-DUCT-1A	E-K1880-1	CNT	1A	NAN	HVA	SPTFAIL				
03-019-007-004	E-LF-3BB	E-K5878-1.50	PEN	3BB	NAN	EE	FIXTURE				
03-022-023-001	PS-3BB	E-K6002-2	PEN	3BB	NAN	PSE	DEFLECT				
03-019-007-001	P-0121-6	E-K6133-2	PEN	3BB	NAN	PSE	DEFLECT				
03-019-007-002	P-ULB-3BB	E-K6133-2	PEN	3BB	NAN	PSE	DEFLECT				
05-036-005-001	P-SPR-3BB	E-K6287-3	PEN	3BB	NAN	PSE	SPTFAIL				
03-026-023-001	P-0121-6	E-K6556-2	PEN	3BB	NAN	PSE	DEFLECT				
03-020-007-003	P-4072-3	E-K6703-1.25	PEN	3BB	NAN	PSE	DEFLECT				
05-003-002-001	P-USB-1B	I-FCV760	CNT	1B	NAN	PSE	SPTFAIL				
05-009-002-001	P-USB-1B	I-FCV761	CNT	1B	NAN	PSE	SPTFAIL				
05-016-001-001	P-USB-1B	I-FCV762	CNT	1B	NAN	PSE	DEFLECT				
03-037-001-002	E-R-1B	I-FT523	CNT	1B	NAN	ICE	INTERFERE	DEFLECT			
03-035-001-002	P-USB-1B	I-LT502	CNT	1B	NAN	PSE	INTERFERE	DEFLECT			
03-038-001-002	E-R-1B	I-LT527	CNT	1B	NAN	ICE	INTERFERE	DEFLECT			
03-038-001-004	M-8033A	I-LT527	CNT	1A	NAN	EMS	DEFLECT				
05-001-001-002	P-1040-2.50	I-1051-0.375	CNT	1B	NAN	PSE	INTERFERE	DEFLECT			
03-056-001-001	P-DRAIN-1B	P-0225-28	CNT	1B	NAN	PSE	SPTFAIL				
03-015-001-001	E-LF-3BB	P-0226-28	PEN	3BB	NAN	EE	FIXTURE				
03-055-001-001	P-3210-10	P-0226-28	CNT	1B	NAN	PSE	SPTFAIL				
03-054-001-001	P-USB-1B	P-0227-28	CNT	1B	NAN	PSE	PIPEFAIL				
03-053-001-001	P-USB-1B	P-0228-28	CNT	1B	NAN	PSE	PIPEFAIL				
04-003-001-001	E-LF-3P2	P-0593-4	HV	3P2	NAN	EE	FIXTURE				
04-003-001-002	E-LF-3P2	P-0593-4	HV	3P2	NAN	EE	FIXTURE				
04-003-001-004	E-LF-3BB	P-0593-4	PEN	3BB	NAN	EE	FIXTURE				
04-010-001-001	E-LF-3BB	P-0594-4	PEN	3BB	NAN	EE	FIXTURE				
04-006-001-001	E-LF-3BB	P-0760-4	PEN	3BB	NAN	EE	FIXTURE				
05-041-001-001	P-3210-10	P-1863-1	CNT	1A	NAN	PSE	DEFLECT				
04-002-003-001	NS-CD	E-BJF6	OA	28	X	QC	HOUSEKEEP				
05-016-005-005	NS-CD	E-KT026-1	PEN	3BB	X	GC	HOUSEKEEP				
05-004-005-001	NS-CD	E-KT027-2	PEN	3BB	X	GC	HOUSEKEEP				
03-003-003-001	NS-CD	E-KT610-1	OA	28	X	QC	HOUSEKEEP				
03-024-030-004	NS-CD	E-K5781-0.75	OA	28	X	QC	HOUSEKEEP				
03-019-007-003	NS-CD	E-K6110-1.50	PEN	3BB	X	QC	HOUSEKEEP				
03-024-030-002	NS-CD	E-K6505+	OA	28	X	QC	HOUSEKEEP				
03-028-023-002	NS-CD	E-K6557+	OA	28	X	QC	HOUSEKEEP				
05-010-003-002	E-LF-1B	I-FCV761	CNT	1B	X	GC	FIXTURE				
03-051-001-004	NS-CD	I-FT542	CNT	1C	X	QC	HOUSEKEEP				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=MAIN STEAM SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
03-029-001-002	NS-CD	I-LT501	CNT	1B	X	QC	HOUSEKEEP				
03-030-001-003	NS-CD	I-LT517	CNT	1C	X	QC	HOUSEKEEP				
03-042-001-001	NS-CD	I-LT539	CNT	1C	X	QC	HOUSEKEEP				
03-001-001-003	NS-CD	I-PT514	OA	28	X	QC	HOUSEKEEP				
03-002-001-003	NS-CD	I-PT515	OA	28	X	QC	HOUSEKEEP				
03-004-001-002	NS-CD	I-PT524	OA	28	X	QC	HOUSEKEEP				
03-005-001-002	NS-CD	I-PT525	OA	28	X	QC	HOUSEKEEP				
03-024-023-001	NS-CD	M-BOTTLE	OA	28	X	QC	LOOSE				
04-004-003-001	M-TANK	E-K8317-1.50	AUX	3R	Y	EMS	SPTFAIL				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=MULTIPLE TARGETS

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
30-001-063-001	E-LF-6A1	E-DC SWGR	EL	6A1	A	EE	FIXTURE				
30-001-063-002	E-LF-6A2	E-DC SWGR	EL	6A2	A	EE	FIXTURE				
30-001-063-003	E-LF-6A3	E-DC SWGR	EL	6A3	A	EE	FIXTURE				
30-005-003-001	M-TANK	E-KK284+	PEN	3BB	A	CE	SPTFAIL				
30-001-011-001	P-4120-1	E-K2924-1.50	PEN	3BB	A	PSE	DEFLECT				
30-001-036-001	C-PLAT-1A	E-R-1A	CNT	1A	A	EE	RELSTRUCT				
30-001-051-001	H-DUCT-10	E-R-10	EL	10	A	HVA	SPTFAIL				
30-001-052-001	E-12KVSWGR	E-R-10	EL	10	A	EE	SPTFAIL				
30-001-082-001	E-SWGR	E-R-10	EL	10	A	EE	SPTFAIL	MECHFAIL			
30-001-054-002	C-31FW	E-R-28	OA	28	A	CE	CIVILFAIL				
30-001-054-003	C-32FW	E-R-28	OA	28	A	CE	CIVILFAIL				
30-001-054-005	C-41FW	E-R-28	OA	28	A	CE	CIVILFAIL				
30-001-054-006	C-42FW	E-R-28	OA	28	A	CE	CIVILFAIL				
30-001-054-008	C-44FW	E-R-28	OA	28	A	CE	CIVILFAIL				
30-001-054-009	C-45FW	E-R-28	OA	28	A	CE	CIVILFAIL				
30-001-054-010	C-46FW	E-R-28	OA	28	A	CE	CIVILFAIL				
30-001-054-011	C-47FW	E-R-28	OA	28	A	CE	CIVILFAIL				
30-001-054-012	C-48FW	E-R-28	OA	28	A	CE	CIVILFAIL				
30-001-054-013	C-PLAT-28	E-R-28	OA	28	A	CE	CIVILFAIL				
30-001-039-001	M-STUD TENS	GENERIC	CNT	1C	A	NPO	LOOSE				I
30-001-040-001	PS-1C	GENERIC	CNT	1C	A	EMS	ENVIRON				I
30-001-041-001	N-TOOLS	GENERIC	CNT	1C	A	NPO	LOOSE				I
30-001-044-001	E-LF-1A	GENERIC	CNT	1A	A	EE	FIXTURE				I
30-001-055-001	N-MISC-1C	GENERIC	CNT	1C	A	NPO	LOOSE				
30-001-056-001	N-MISC-3R	GENERIC	AUX	3R	A	NPO	LOOSE				
30-001-058-001	M-STUDS	GENERIC	CNT	1C	A	NPO	LOOSE				
30-001-064-001	E-DET	GENERIC	EL	8C	A	EE	SPTFAIL				
30-001-068-001	E-PANEL	GENERIC	EL	8C	A	EE	SPTFAIL				
30-001-069-001	N-CABINET	GENERIC	EL	8C	A	NPO	LOOSE				
30-001-073-001	E-LF-8C	GENERIC	EL	8C	A	EE	FIXTURE				
30-001-074-001	C-BOARD	GENERIC	EL	8C	A	NPO	SPTFAIL				
30-001-076-001	M-BOTTLE	GENERIC	OA	26	A	EMS	SPTFAIL	MECHFAIL			I
30-001-087-001	E-TRANS	GENERIC	OA	28	A	EE	SPTFAIL				
30-001-088-001	E-R-28	GENERIC	OA	28	A	EE	SPTFAIL				
30-001-089-001	E-LF-28	GENERIC	OA	28	A	EE	FIXTURE				
30-001-091-001	C-CRANE-28	GENERIC	OA	28	A	CE	CIVILFAIL				
30-002-001-005	P-USB-5A4	GENERIC	EL	5A4	A	PSE	PIPEFAIL				
30-007-028-001	M-BOTTLE	GENERIC	OA	28	A	NPO	SPTFAIL	MECHFAIL			
30-001-099-001	I-PM30	I-H01	EL	5A4	A	ICE	SPTFAIL				
30-001-099-003	I-PM199	I-H01	EL	5A4	A	ICE	SPTFAIL				
30-001-014-003	C-P10T-1	I-PT505	TB	14E	A	ICE	CIVILFAIL				
30-001-094-001	C-113F	I-TUBING	CNT	1C	A	CE	CIVILFAIL				
30-001-006-001	SQ	M-FCV1065	CNT	1A	A	PSE	MECHFAIL				
30-001-007-001	SQ	M-FCV1066	CNT	1A	A	PSE	MECHFAIL				
30-001-085-001	NS-CD	P-0227-28	OA	28	A	PSE	HOUSEKEEP	ENVIRON			
30-001-021-001	C-11GE	PS-2161-37	PEN	3BB	A	CE	CIVILFAIL				
30-001-061-001	C-WALL	E-DC SWGR	EL	6A1	M	CE	CIVILFAIL		BRACE	OVERLAP	
30-001-061-002	C-WALL	E-DC SWGR	EL	6A2	M	CE	CIVILFAIL		BRACE	OVERLAP	
30-001-061-003	C-WALL	E-DC SWGR	EL	6A3	M	CE	CIVILFAIL		BRACE	OVERLAP	
30-001-084-001	M-FE	E-DC SWGR	EL	6A1	M	EMS	MECHFAIL		SECLOOSE	NECESSARY	
30-001-048-001	P-SPR-3Q1	E-KK367-1	PPS	3Q1	M	PSE	DEFLECT		RELOCATE	EXPEDIENT	
30-001-083-001	C-PLAT-3BB	E-KT377-2	PEN	3BB	M	EE	INTERFERE		TMODIFY	OVERLAP	
30-001-033-001	C-GRATING	E-MISC	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=MULTIPLE TARGETS

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
30-001-058-002	M-FE	E-MISC	EL	6A3	M	EMS	MECHFAIL		SECLOOSE	NECESSARY	
30-001-065-001	C-COVER	E-MISC	AUX	4B	M	CE	LOOSE		SECLOOSE	EXPEDIENT	I
30-001-065-003	C-COVER	E-MISC	EL	6A5	M	CE	LOOSE		SECLOOSE	EXPEDIENT	I
30-001-010-001	NS-T	E-R-1A	CNT	1A	M	ENG	ENVIRON		RELOCATE	OVERLAP	
30-001-045-001	NS-CD	E-R-1B	CNT	1B	M	ENG	HOUSEKEEP		SUPPORT	OVERLAP	
30-001-050-001	C-WALL	E-R-10	EL	10	M	CE	CIVILFAIL		BRACE	OVERLAP	
30-001-054-001	C-30FW	E-R-28	OA	28	M	CE	CIVILFAIL		BRACE	NECESSARY	
30-001-054-004	C-40FW	E-R-28	OA	28	M	CE	CIVILFAIL		BRACE	NECESSARY	
30-001-054-007	C-43FW	E-R-28	OA	28	M	CE	CIVILFAIL		BRACE	NECESSARY	
30-001-078-001	N-CABINET	E-R-4A	AUX	4A	M	CE	SPTFAIL		SECLOOSE	EXPEDIENT	I
30-001-079-001	N-CABINET	E-R-4A	AUX	4A	M	CE	SPTFAIL		SECLOOSE	EXPEDIENT	I
30-001-080-001	N-CASK	E-R-4A	AUX	4A	M	CE	LOOSE		TSHIELD	EXPEDIENT	
30-002-001-002	C-HANDRAIL	E-R-5A4	EL	5A4	M	CE	LOOSE		CONSTDEF	OVERLAP	
30-001-096-001	H-DUCT-5A4	E-480V SWGR	EL	5A4	M	CE	SPTFAIL		SUPPORT	OVERLAP	
30-001-065-002	C-COVER	E-480VSWGR	EL	5A4	M	CE	LOOSE		SECLOOSE	EXPEDIENT	I
30-001-001-001	C-PLAT-1A	GENERIC	CNT	1A	M	CE	CIVILFAIL		SECLOOSE	NECESSARY	
30-001-003-001	M-8033A	GENERIC	CNT	1A	M	EMS	DEFLECT		SECLOOSE	EXPEDIENT	
30-001-005-001	P-2995-4	GENERIC	CNT	1A	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT	
30-001-009-001	P-3456-1	GENERIC	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
30-001-011-002	P-4174-4	GENERIC	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
30-001-012-001	P-4174-4	GENERIC	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
30-001-012-003	P-3900-1	GENERIC	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
30-001-015-001	P-3900-1	GENERIC	CNT	1A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
30-001-016-001	P-2058-3	GENERIC	PEN	3BB	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
30-001-017-001	P-4397-2	GENERIC	CNT	1B	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
30-001-017-002	P-4397-2	GENERIC	CNT	1B	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
30-001-018-001	P-3900-1	GENERIC	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
30-001-022-001	C-PLAT-1C	GENERIC	CNT	1C	M	CE	CIVILFAIL		BRACE	EXPEDIENT	
30-001-022-002	C-HANDRAIL	GENERIC	CNT	1C	M	CE	LOOSE		BRACE	EXPEDIENT	
30-001-023-001	M-HR	GENERIC	CNT	1C	M	EMS	LOOSE	MECHFAIL	SECLOOSE	EXPEDIENT	
30-001-027-001	P-SPR-3Q1	GENERIC	PPS	3Q1	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT	
30-001-028-001	C-PLAT-28	GENERIC	OA	28	M	CE	CIVILFAIL		BRACE	EXPEDIENT	
30-001-042-001	I-HUM DET	GENERIC	CNT	1A	M	ICE	MECHFAIL		SECLOOSE	OVERLAP	I
30-001-043-001	M-FE	GENERIC	CNT	1A	M	NPO	MECHFAIL		CONSTDEF	NECESSARY	I
30-001-047-001	C-PLAT-1A	GENERIC	CNT	1A	M	CE	LOOSE		SECLOOSE	EXPEDIENT	I
30-001-049-001	N-MISC-7A	GENERIC	EL	7A	M	NPO	LOOSE		SECLOOSE	EXPEDIENT	
30-001-057-001	M-TANK	GENERIC	CNT	1A	M	CE	SPTFAIL		SUPPORT	NECESSARY	
30-001-059-001	C-LADDER	GENERIC	CNT	1C	M	CE	SPTFAIL		SECLOOSE	EXPEDIENT	
30-001-067-001	E-CLOCK	GENERIC	EL	8C	M	EE	SPTFAIL		RELOCATE	EXPEDIENT	
30-001-070-001	N-SHIELD	GENERIC	EL	8C	M	CE	LOOSE		BRACE	EXPEDIENT	
30-001-071-001	E-PANEL	GENERIC	EL	8C	M	EE	SPTFAIL		SECLOOSE	EXPEDIENT	
30-001-072-001	E-MISC-8C	GENERIC	EL	8C	M	CE	MECHFAIL		SECLOOSE	NECESSARY	
30-001-077-001	M-AUX-SUMPPP	GENERIC	AUX	2	M	EE	PIPEFAIL	ENVIRON	RELOCATE	EXPEDIENT	
30-001-081-001	M-BOTTLE	GENERIC	OA	28	M	EMS	SPTFAIL		SECLOOSE	EXPEDIENT	
30-001-086-001	M-HOIST-28	GENERIC	OA	28	M	CE	MECHFAIL		SECLOOSE	NECESSARY	
30-001-092-001	E-LT ARR	GENERIC	OA	28	M	EE	SPTFAIL		BRACE	NECESSARY	
30-001-093-001	P-USB-28	GENERIC	OA	28	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
30-001-095-001	C-102F	GENERIC	CNT	1C	M	CE	CIVILFAIL		BRACE	NECESSARY	
30-001-098-001	H-DUCT-1A	GENERIC	CNT	1A	M	CE	SPTFAIL		SUPPORT	OVERLAP	
30-002-001-003	M-HR	GENERIC	EL	5A4	M	EMS	MECHFAIL		SECLOOSE	EXPEDIENT	
30-002-001-004	P-3684-2	GENERIC	EL	5A4	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT	
30-003-001-001	H-DUCT-1B	GENERIC	CNT	1B	M	HVA	SPTFAIL		SECLOOSE	NECESSARY	
30-005-000-001	M-BOTTLE	GENERIC	VAR	VAR	M	EMS	LOOSE		SECLOOSE	NECESSARY	

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=MULTIPLE TARGETS

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
30-007-010-001	N-CABINET	GENERIC	EL	10	M	NPO	LOOSE		SECLOOSE	NECESSARY	
30-001-024-001	NS-CD	I-FCV454+	AUX	3C	M	PSE	HOUSEKEEP		CONSTDEF	OVERLAP	
30-001-099-002	I-XTR84	I-H01	EL	5A4	M	ICE	SPTFAIL		SECLOOSE	EXPEDIENT	
30-001-012-002	E-LF-3B2	I-PT142	PPS	3B2	M	EE	FIXTURE		CHAIN	EXPEDIENT	
30-001-013-001	P-SPR-3Q2	M-AFWPP1-3	PPS	3Q2	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
30-001-062-001	C-GRATING	M-8982A	PPS	3B1	M	CE	LOOSE		SECLOOSE	EXPEDIENT	
30-001-062-002	C-GRATING	M-8982B	PPS	3B2	M	CE	LOOSE		SECLOOSE	EXPEDIENT	
30-001-019-001	P-3245-2	P-ULB-1A	CNT	1A	M	PSE	DEFLECT		SUPPORT	OVERLAP	
30-001-014-001	P-1040-2.5+	P-ULB-3BB	PEN	3BB	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY	
30-001-060-001	E-PHONE	E-DC SWGR	EL	6A1	NAN	EMS	LOOSE				
30-001-060-002	E-PHONE	E-DC SWGR	EL	6A2	NAN	EMS	LOOSE				
30-006-014-001	P-ULB-14E	E-KD360-1.25	TB	14E	NAN	OSE	SPTFAIL	PIPEFAIL			
30-001-030-001	P-3819-0.50	E-KX510-1	CNT	1B	NAN	PSE	DEFLECT				
30-001-031-001	PS-1A	E-K1793-1.25	CNT	1A	NAN	PSE	DEFLECT				
30-001-032-002	P-DRAIN-11C1	E-K2323-4	DG	11C1	NAN	PSE	DEFLECT				
30-001-033-002	P-DRAIN-11C1	E-K2585-1.50	DG	11C1	NAN	PSE	DEFLECT				
30-001-032-001	P-SPR-14E	E-K2724-2	TB	14E	NAN	PSE	DEFLECT				
30-008-014-001	P-3117-8	E-K7519-3	TB	14A	NAN	PSE	DEFLECT				
30-001-053-001	E-LF-10	E-R-10	EL	10	NAN	EE	FIXTURE				
30-001-090-001	P-DRAIN-28	E-R-28	OA	28	NAN	PSE	INTERFERE	DEFLECT			
30-001-038-001	M-INCORE DR	GENERIC	CNT	1A	NAN	CE	SPTFAIL				I
30-002-002-001	E-LF-5A3	GENERIC	EL	5A3	NAN	EE	FIXTURE				
30-002-003-001	E-LF-5A2	GENERIC	EL	5A2	NAN	EE	FIXTURE				
30-002-004-001	E-LF-5A1	GENERIC	EL	5A1	NAN	EE	FIXTURE				
30-001-035-001	E-LF-3R	H-DUCT	AUX	3R	NAN	EE	FIXTURE				
30-001-022-003	E-LF-3BB	M-VALVE	PEN	3BB	NAN	EE	FIXTURE				
30-001-075-001	E-LF-3BB	P-ULB-3BB	PEN	3BB	NAN	EE	FIXTURE				I
30-001-017-003	E-LF-3BB	P-3280-12	PEN	3BB	NAN	EE	FIXTURE				
30-001-025-002	P-2416-1	P-3286-12	PEN	3BB	NAN	PSE	DEFLECT				
30-001-019-002	E-LF-3BB	P-3287-12	PEN	3BB	NAN	EE	FIXTURE				
30-001-027-002	E-LF-3BB	PA-2279-12	PEN	3BB	NAN	EE	FIXTURE				
30-001-017-004	E-LF-3BB	PA-3281-12	PEN	3BB	NAN	EE	FIXTURE				
30-001-021-002	E-LF-3BB	PA-3282-12	PEN	3BB	NAN	EE	FIXTURE				
30-001-018-002	E-LF-3BB	PA-3285-12	PEN	3BB	NAN	EE	FIXTURE				
30-001-037-001	N-MISC-1A	GENERIC	CNT	1A	P	NPO	HOUSEKEEP				
30-001-026-001	NS-T	E-K5893-1.25	AUX	3C	X	QC	HOUSEKEEP				
30-001-025-001	NS-CD	E-K6628-1	AUX	3C	X	GC	HOUSEKEEP				
30-001-008-001	NS-CD	GENERIC	CNT	1A	X	GC	HOUSEKEEP				
30-001-020-001	NS-CD	GENERIC	CNT	1A	X	GC	HOUSEKEEP				
30-001-046-001	C-PLAT-1B	GENERIC	CNT	1B	X	QC	LOOSE				I
30-002-001-001	NS-CD	GENERIC	EL	5A4	X	GC	HOUSEKEEP				
30-001-004-001	NS-CD	I-TUBING	CNT	1C	X	QC	HOUSEKEEP				
30-001-066-001	P-0971-2	P-ULB-3BB	PEN	3BB	X	QC	PIPEFAIL				
30-001-029-001	P-2975-4	GENERIC	IS	30A5	Y	ENG	SPTFAIL	PIPEFAIL			

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=REACTOR COOLANT SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
06-060-032-002	M-TANK	E-KK079-0.75	CNT	1B	A	EMS	SPTFAIL				
06-020-003-002	C-PLAT-1A	E-KX246-2.50	CNT	1A	A	CE	INTERFERE	DEFLECT			
07-009-003-003	C-PLAT-1A	E-KX246-2.50	CNT	1A	A	CE	INTERFERE	DEFLECT			
07-016-002-002	NS-T	E-KX532-1.50	CNT	1B	A	ENG	ENVIRON				
09-007-002-005	NS-CD	E-K1752-1.25	CNT	1C	A	ENG	ENVIRON				
09-002-002-002	NS-T	E-K1768-1.25	CNT	1C	A	ENG	ENVIRON				
09-007-002-002	E-KX652	E-K1790-1.25	CNT	1A	A	EE	SPTFAIL				
06-060-010-011	C-104GE	E-K3477+	PEN	3BB	A	CE	CIVILFAIL				
06-057-002-001	H-DUCT-6A2	E-K4976-0.75	EL	6A2	A	HVA	INTERFERE	DEFLECT			
06-001-004-002	NS-CD	I-FLUX MON	CNT	1B	A	NPO	HOUSEKEEP				
06-001-004-004	M-TANK	I-FLUX MON	CNT	1B	A	CE	SPTFAIL				
06-023-001-001	P-4275-0.75	I-FT415	CNT	1A	A	PSE	DEFLECT				
07-006-001-002	C-STAIR-1C	I-LT457	CNT	1C	A	CE	DEFLECT				
07-008-001-001	NS-CD	I-LT459	CNT	1C	A	ENG	HOUSEKEEP				
07-009-001-004	M-FE	I-LT460+	CNT	1C	A	ICE	LOOSE				
07-010-001-002	C-STAIR-1C	I-LT461	CNT	1C	A	CE	DEFLECT				
07-011-001-001	C-STAIR-1C	I-LT462	CNT	1C	A	CE	DEFLECT				
09-014-005-001	C-11GE	I-PM123	PEN	3BB	A	CE	CIVILFAIL				
07-006-002-002	H-E16	I-PM20	CNT	1A	A	HVA	SPTFAIL				
07-008-002-001	H-E16	I-PM22	CNT	1A	A	HVA	SPTFAIL				
07-008-002-002	P-4397-2	I-PM22	CNT	1A	A	PSE	SPTFAIL	PIPEFAIL			
07-009-002-002	H-E16	I-PM89	CNT	1A	A	HVA	SPTFAIL				
07-012-002-002	H-E16	I-PM95	CNT	1A	A	HVA	SPTFAIL				
06-059-006-001	E-LF-1B	I-RVLIS	CNT	1B	A	EE	FIXTURE				
06-059-036-002	C-GRATING	I-RVLIS	CNT	1B	A	NPO	LOOSE				
06-060-006-001	E-LF-1B	I-RVLIS	CNT	1B	A	EE	FIXTURE				
06-059-004-001	E-LF-1B	I-TE1315	CNT	1B	A	EE	FIXTURE				
06-059-034-001	E-LF-1B	I-TE1317	CNT	1B	A	EE	FIXTURE				
06-060-027-001	M-TANK	I-TE1327	CNT	1B	A	EMS	SPTFAIL				
06-060-028-003	M-TANK	I-TE1328	CNT	1B	A	EMS	SPTFAIL				
06-059-016-001	C-SHIELD	I-4681-0.187	CNT	1C	A	CE	CIVILFAIL				
06-059-026-001	M-5-10PATH	I-4683-0.187	CNT	1B	A	EMS	MECHFAIL				
06-060-011-001	C-SHIELD	I-4684-0.187	CNT	1C	A	CE	CIVILFAIL				
06-060-021-001	M-5-10PATH	I-4686-0.187	CNT	1B	A	EMS	MECHFAIL				
06-060-021-002	M-BOTTLE	I-4686-0.187	CNT	1B	A	EMS	LOOSE	MECHFAIL			
09-014-004-001	C-11GE	I-8029	PEN	3BB	A	CE	CIVILFAIL				
09-009-004-001	E-LF-1A	I-8034A	CNT	1A	A	EE	FIXTURE				
09-012-004-001	C-11GE	I-8045	PEN	3BB	A	CE	CIVILFAIL				
06-001-001-001	E-LF-1C	M-CRDM	CNT	1C	A	EE	FIXTURE				
06-001-001-002	C-SHIELD	M-CRDM	CNT	1C	A	CE	CIVILFAIL				
06-001-001-004	M-HOIST-1C	M-CRDM	CNT	1C	A	CE	MECHFAIL				
06-001-001-005	E-R-1C	M-CRDM	CNT	1C	A	EE	SPTFAIL				
06-001-001-007	NS-CD	M-CRDM	CNT	1C	A	NPO	HOUSEKEEP				
06-001-002-001	C-HANDRAIL	M-CRDM	CNT	1C	A	CE	LOOSE				
06-001-002-002	M-HOIST-1C	M-CRDM	CNT	1C	A	CE	MECHFAIL				
06-001-002-003	C-CABLE	M-CRDM	CNT	1C	A	CE	DEFLECT				
08-001-003-001	C-128F	M-PCV455A	CNT	1B	A	CE	CIVILFAIL				
09-013-002-001	C-11GE	M-8029	PEN	3BB	A	CE	CIVILFAIL				
09-011-002-001	C-11GE	M-8045	PEN	3BB	A	CE	CIVILFAIL				
06-002-009-001	C-SHIELD	M-8059A	CNT	1B	A	PSE	DEFLECT				
06-003-007-001	C-SHIELD	M-8059B	CNT	1B	A	PSE	DEFLECT				
06-004-006-003	C-SHIELD	M-8059C	CNT	1B	A	PSE	DEFLECT				
06-005-010-001	C-SHIELD	M-8059D	CNT	1B	A	PSE	DEFLECT				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=REACTOR COOLANT SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
06-002-008-001	C-SHIELD	M-8060A	CNT	1B	A	PSE	DEFLECT				
06-003-006-001	C-SHIELD	M-8060B	CNT	1B	A	PSE	DEFLECT				
06-004-005-003	C-SHIELD	M-8060C	CNT	1B	A	PSE	DEFLECT				
06-005-009-001	C-SHIELD	M-8060D	CNT	1B	A	PSE	DEFLECT				
06-002-007-001	C-SHIELD	M-8061A	CNT	1B	A	PSE	DEFLECT				
06-003-005-002	C-SHIELD	M-8061B	CNT	1B	A	PSE	DEFLECT				
06-004-004-003	C-SHIELD	M-8061C	CNT	1B	A	PSE	DEFLECT				
06-005-008-001	C-SHIELD	M-8061D	CNT	1B	A	PSE	DEFLECT				
09-015-004-001	C-LADDER	M-8853B	PEN	3BB	A	CE	SPTFAIL				
08-001-007-001	H-DUCT-1B	P-0014-4	CNT	1B	A	HVA	SPTFAIL				
09-015-008-001	C-105GE	P-1491-1	PEN	3BB	A	CE	CIVILFAIL				
09-015-007-002	C-105GE	P-2004-3	PEN	3BB	A	CE	CIVILFAIL				
09-015-006-001	C-HANDRAIL	P-2061-1	PEN	3BB	A	CE	LOOSE				
09-015-002-002	P-1043-2.50	P-2998-4	CNT	1A	A	PSE	DEFLECT				
09-015-001-001	C-105GE	P-2999-4	PEN	3BB	A	CE	CIVILFAIL				
09-015-009-001	C-105GE	P-3852-1	PEN	3BB	A	CE	CIVILFAIL				
09-015-001-005	C-103GE	PA-2999-4	PEN	3BB	A	CE	CIVILFAIL				
06-059-042-002	C-GRATING	E-KK068-0.75	CNT	1A	M	EE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
06-059-042-001	P-SA-1B	E-KK074-0.75	CNT	1B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
06-060-032-004	P-4397-2	E-KK082-0.75	CNT	1B	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
06-060-032-007	P-3819-0.75	E-KK082-0.75	CNT	1B	M	PSE	PIPEFAIL		TMODIFY	OVERLAP	
06-059-010-005	P-1046-6	E-KK200-1.50	PEN	3BB	M	PSE	DEFLECT		RELOCATE	EXPEDIENT	
06-006-002-005	P-4603-4	E-KK307-2	PEN	3BB	M	PSE	INTERFERE	DEFLECT	SUPPORT	EXPEDIENT	
06-006-002-004	P-1114-4	E-KK308-1.25	PEN	3BB	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
06-060-010-004	P-1595-3	E-KK385-3	PEN	3BB	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
06-060-010-005	C-74GW	E-KK385-3	PEN	3BB	M	CE	CIVILFAIL		BRACE	EXPEDIENT	
06-027-002-002	P-SPR-3BB	E-KT064+	PEN	3BB	M	PSE	SPTFAIL		SUPPORT	NECESSARY	
07-025-006-001	P-USB-7A	E-KT072+	EL	7A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT	
06-009-003-002	C-GRATING	E-KX161-2	CNT	1A	M	EE	INTERFERE	RELSTRUCT	CLEARANCE	OVERLAP	
07-007-003-003	C-GRATING	E-KX195-1	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
07-004-003-002	C-GRATING	E-KX197-1.25	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
06-015-002-002	C-GRATING	E-KX292-1.25	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
06-025-002-004	C-PLAT-1B	E-KX400-2	CNT	1B	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
06-027-002-001	C-GRATING	E-KX411-1.50	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
06-006-002-001	C-GRATING	E-KX418-1.50	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
06-006-002-002	C-GRATING	E-KX418-1.50	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
09-003-004-001	C-GRATING	E-KX461-1	CNT	1A	M	CE	INTERFERE		CLEARANCE	EXPEDIENT	
07-014-002-001	E-INCORE DR	E-KX498-0.75	CNT	1A	M	ICE	MECHFAIL		SUPPORT	EXPEDIENT	
07-013-002-004	NS-T	E-KX499-0.75	CNT	1B	M	ENG	ENVIRON		TMODIFY	OVERLAP	
09-004-002-003	C-GRATING	E-K1728-1.50	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
09-007-002-003	C-GRATING	E-K1790-1.25	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
09-002-002-001	C-GRATING	E-K1961-2	CNT	1A	M	CE	INTERFERE		CLEARANCE	EXPEDIENT	
07-012-003-001	C-HANDRAIL	E-TSAB	EL	5A1	M	CE	LOOSE		SECLOOSE	OVERLAP	
06-003-005-001	P-3816-0.75	GENERIC	CNT	1B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT	
06-001-004-001	M-5-10PATH	I-FLUX MON	CNT	1B	M	EMS	SPTFAIL		SUPPORT	NECESSARY	
06-001-004-003	M-BOTTLE	I-FLUX MON	CNT	1B	M	EMS	SPTFAIL		SECLOOSE	EXPEDIENT	
06-001-004-006	C-72FG	I-FLUX MON	CNT	1B	M	CE	CIVILFAIL		BRACE	NECESSARY	
06-001-004-007	I-ELPP06	I-FLUX MON	CNT	1B	M	ICE	SPTFAIL		RELOCATE	NECESSARY	
06-059-007-001	E-LF-3BB	I-LIS1310	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
06-059-021-001	E-LF-3BB	I-LIS1311	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
06-059-030-001	E-LF-3BB	I-LIS1312	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
07-008-001-002	C-PLAT-1A	I-LT459	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
07-008-001-003	P-0021-8	I-LT459	CNT	1C	M	PSE	DEFLECT		RELOCATE	EXPEDIENT	

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=REACTOR COOLANT SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
07-009-001-002	C-PLAT-1A	I-LT460	CNT	1A	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
07-009-001-003	C-PLAT-1C	I-LT460	CNT	1C	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
07-009-001-005	E-R-1C	I-LT460	CNT	1C	M	ICE	DEFLECT		TMODIFY	EXPEDIENT	
07-010-001-001	C-PLAT-1C	I-LT461	CNT	1C	M	CE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT	
07-006-001-001	P-4397-2	I-PM20	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
07-006-002-001	P-4397-2	I-PM20	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
07-009-001-001	P-4397-2	I-PM89	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
07-009-002-001	P-4397-2	I-PM89	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
07-012-001-001	P-4397-2	I-PM95	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
07-012-002-001	P-4397-2	I-PM95	CNT	1A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
07-016-001-001	E-R-1C	I-POT116	CNT	1C	M	EE	INTERFERE		RELOCATE	EXPEDIENT	
07-016-001-002	NS-CD	I-POT116	CNT	1C	M	ENG	ENVIRON		RELOCATE	EXPEDIENT	
07-016-003-001	E-R-1C	I-POT117	CNT	1C	M	EE	INTERFERE		RELOCATE	EXPEDIENT	
07-016-003-002	NS-CD	I-POT117	CNT	1C	M	ENG	ENVIRON		RELOCATE	EXPEDIENT	
07-016-005-001	E-R-1C	I-POT118	CNT	1C	M	EE	INTERFERE		RELOCATE	EXPEDIENT	
07-016-005-002	NS-CD	I-POT118	CNT	1C	M	ENG	ENVIRON		RELOCATE	EXPEDIENT	
07-015-001-001	P-1135-3	I-PT458A	CNT	1A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT	
06-059-027-001	M-5-10PATH	I-RVLIS	CNT	1B	M	EMS	MECHFAIL		SUPPORT	EXPEDIENT	
06-059-036-001	M-5-10PATH	I-RVLIS	CNT	1B	M	EMS	MECHFAIL		SUPPORT	NECESSARY	
06-060-022-001	M-5-10PATH	I-RVLIS	CNT	1B	M	EMS	MECHFAIL		SECLOOSE	EXPEDIENT	
06-060-011-002	E-LF-3BB	I-4684-0.187	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
06-060-004-003	E-LF-3BB	I-4685-0.187	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
06-060-021-004	E-LF-3BB	I-4686-0.187	PEN	3BB	M	EE	FIXTURE		CHAIN	EXPEDIENT	
06-001-001-003	C-MISC-1C	M-CRDM	CNT	1C	M	CE	MECHFAIL		SECLOOSE	EXPEDIENT	
06-001-001-006	M-HOIST-1C	M-CRDM	CNT	1C	M	CE	MECHFAIL		STOP	EXPEDIENT	
06-001-001-008	M-TANK	M-CRDM	CNT	1C	M	CE	SPTFAIL		BRACE	NECESSARY	
06-001-001-010	H-DUCT-1C	M-CRDM	CNT	1C	M	CE	SPTFAIL		SUPPORT	OVERLAP	
06-059-038-001	M-5-10PATH	M-RVLIS	CNT	1B	M	EMS	MECHFAIL		SUPPORT	NECESSARY	
06-059-002-001	C-COVER	M-VALVE	CNT	1C	M	EMS	LOOSE		SECLOOSE	OVERLAP	
06-059-039-001	M-5-10PATH	P-RVLIS	CNT	1B	M	EMS	MECHFAIL		SUPPORT	NECESSARY	
06-005-014-001	P-4397-2	P-0246-3	CNT	1B	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP	
06-005-027-001	P-4398-2	P-1158-3	CNT	1B	M	PSE	INTERFERE		TMODIFY	NECESSARY	
09-015-002-001	P-1043-2.50	P-2998-4	CNT	1A	M	PSE	DEFLECT		TMODIFY	OVERLAP	
06-060-032-006	E-R-1A	E-KK069-0.75	CNT	1A	NAN	EE	DEFLECT				
06-060-032-003	E-K1902-2.50	E-KK078-0.75	CNT	1A	NAN	EE	DEFLECT				
06-060-032-001	E-LF-1B	E-KK080-0.75	CNT	1B	NAN	EE	FIXTURE				
06-060-010-001	E-LF-5A4	E-KK368-3	EL	5A4	NAN	EE	FIXTURE				
06-059-010-001	E-LF-5A4	E-KK377-3	EL	5A4	NAN	EE	FIXTURE				
06-060-010-009	E-LF-3BB	E-KK384-2	PEN	3BB	NAN	EE	FIXTURE				
06-060-010-010	E-R-3BB	E-KK384-2	PEN	3BB	NAN	EE	INTERFERE	DEFLECT			
06-060-010-003	E-LF-3BB	E-KK385-3	PEN	3BB	NAN	EE	FIXTURE				
06-020-003-004	P-USB-1A	E-KX109-2	CNT	1A	NAN	ICE	SPTFAIL				
06-020-003-005	E-LF-1A	E-KX109-2	CNT	1A	NAN	EE	FIXTURE				
07-009-003-001	I-TUBING	E-KX109-2	CNT	1A	NAN	ICE	SPTFAIL				
07-009-003-002	E-LF-1A	E-KX109-2	CNT	1A	NAN	EE	FIXTURE				
06-025-002-001	H-DUCT-1A	E-KX141-2	CNT	1A	NAN	HVA	SPTFAIL				
07-013-002-001	H-DUCT-1A	E-KX141-2	CNT	1A	NAN	HVA	SPTFAIL				
06-010-003-001	H-DUCT-1A	E-KX145-1.50	CNT	1A	NAN	HVA	DEFLECT				
06-021-003-001	H-DUCT-1A	E-KX145-1.50	CNT	1A	NAN	HVA	DEFLECT				
07-006-003-001	H-DUCT-1A	E-KX145-1.50	CNT	1A	NAN	HVA	DEFLECT				
07-010-003-001	H-DUCT-1A	E-KX145-1.50	CNT	1A	NAN	HVA	SPTFAIL				
06-008-003-001	H-DUCT-1A	E-KX149-2.50	CNT	1A	NAN	HVA	DEFLECT				
06-015-002-001	H-DUCT-1A	E-KX149-2.50	CNT	1A	NAN	HVA	DEFLECT				

TABLE 8-2.A
UNIT 1-INTERACTIONS BY SYSTEM SORTED BY RESOLUTION AND TARGET

SYSTEM=REACTOR COOLANT SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
06-019-003-001	H-DUCT-1A	E-KX149-2.50	CNT	1A	NAN	HVA	DEFLECT				
06-025-002-002	E-LF-1A	E-KX162-2	CNT	1A	NAN	EE	FIXTURE				
06-025-002-003	P-USB-1A	E-KX162-2	CNT	1A	NAN	ICE	SPTFAIL				
07-013-002-002	E-LF-1A	E-KX162-2	CNT	1A	NAN	EE	FIXTURE				
07-013-002-003	I-TUBING	E-KX162-2	CNT	1A	NAN	ICE	SPTFAIL				
06-019-003-002	P-IAH-1A	E-KX167-2	CNT	1A	NAN	ICE	DEFLECT				
07-004-003-001	P-IAH-1A	E-KX167-2	CNT	1A	NAN	ICE	DEFLECT				
06-019-003-003	P-USB-1A	E-KX168-1.25	CNT	1A	NAN	ICE	DEFLECT				
07-007-003-001	I-TUBING	E-KX193-1.50	CNT	1A	NAN	ICE	DEFLECT				
07-007-003-002	H-DUCT-1A	E-KX193-1.50	CNT	1A	NAN	HVA	SPTFAIL				
06-020-003-006	P-2576-8	E-KX246-2.50	CNT	1A	NAN	PSE	DEFLECT				
07-009-003-004	P-2576-8	E-KX246-2.50	CNT	1A	NAN	PSE	DEFLECT				
06-020-003-003	H-DUCT-1A	E-KX296-1	CNT	1A	NAN	HVA	SPTFAIL				
06-009-003-001	H-DUCT-1A	E-KX296-2.50	CNT	1A	NAN	HVA	SPTFAIL				
07-009-003-005	H-DUCT-1A	E-KX296-2.50	CNT	1A	NAN	HVA	SPTFAIL				
09-006-006-002	P-USB-1A	E-KX457-1	CNT	1A	NAN	PSE	DEFLECT				
06-020-003-001	P-USB-1A	E-KX563-1.25	CNT	1A	NAN	ICE	DEFLECT				
07-009-003-006	I-TUBING	E-KX563-1.25	CNT	1A	NAN	ICE	SPTFAIL				
06-019-003-004	P-USB-1A	E-KX681-1	CNT	1A	NAN	ICE	DEFLECT				
09-004-002-001	P-IAH-1A	E-K1726-2	CNT	1A	NAN	ICE	SPTFAIL				
09-007-002-001	P-IAH-1A	E-K1736-2	CNT	1A	NAN	ICE	SPTFAIL				
09-004-002-002	P-IAH-1A	E-K1868-0.75	CNT	1A	NAN	ICE	SPTFAIL				
06-059-010-003	E-LF-3BB	E-K3467-1.25	PEN	3BB	NAN	EE	FIXTURE				
06-060-010-006	E-LF-3BB	E-K3477+	PEN	3BB	NAN	EE	FIXTURE				
06-060-010-007	H-DUCT-3BB	E-K3477+	PEN	3BB	NAN	HVA	DEFLECT				
06-060-010-008	E-LF-3BB	E-K3477+	PEN	3BB	NAN	EE	FIXTURE				
06-059-010-004	E-LF-3BB	E-K3478	PEN	3BB	NAN	EE	FIXTURE				
06-001-004-005	E-PHONE	I-FLUX MON	CNT	1B	NAN	EMS	LOOSE				
06-001-004-008	P-0527-0.75	I-FLUX MON	CNT	1B	NAN	PSE	INTERFERE				
07-015-001-002	P-1657-4	I-PT458A	CNT	1A	NAN	PSE	DEFLECT				
06-060-028-001	E-PHONE	I-TE1328	CNT	1B	NAN	EMS	LOOSE				
06-060-004-001	E-LF-1B	I-4685-0.187	CNT	1B	NAN	EE	FIXTURE				
06-047-009-001	E-PHONE	I-8091	CNT	1A	NAN	EMS	LOOSE				
06-004-006-001	P-3816-0.75	M-8059C	CNT	1B	NAN	PSE	SPTFAIL				
06-004-006-002	P-4397-2	M-8059C	CNT	1B	NAN	PSE	SPTFAIL				
06-004-005-001	P-3816-0.75	M-8060C	CNT	1B	NAN	PSE	SPTFAIL				
06-004-005-002	P-4397-2	M-8060C	CNT	1B	NAN	PSE	SPTFAIL				
06-004-004-001	P-3816-0.75	M-8061C	CNT	1B	NAN	PSE	SPTFAIL				
06-004-004-002	P-4397-2	M-8061C	CNT	1B	NAN	PSE	SPTFAIL				
03-001-001-001	P-SA-1B	P-0013-4	CNT	1B	NAN	PSE	DEFLECT				
09-015-008-002	E-LF-3BB	P-1459-1	PEN	3BB	NAN	EE	FIXTURE				
09-015-007-001	E-LF-3BB	P-2004-3	PEN	3BB	NAN	EE	FIXTURE				
09-015-007-003	P-0119-8	P-2004-3	PEN	3BB	NAN	PSE	SPTFAIL				
09-015-001-002	P-SA-3BB	P-2999-4	PEN	3BB	NAN	PSE	DEFLECT				
09-015-001-003	E-LF-3BB	P-2999-4	PEN	3BB	NAN	EE	FIXTURE				
09-015-001-004	C-HANDRAIL	P-2999-4	PEN	3BB	NAN	CE	LOOSE				
09-013-001-001	P-1134-0.75	P-3000-3	CNT	1A	NAN	PSE	DEFLECT				
09-015-011-001	E-LF-3BB	P-3851-1	PEN	3BB	NAN	EE	FIXTURE				
06-060-032-005	NS-CD	E-KK083-0.75	CNT	1B	X	QC	HOUSEKEEP				
06-006-002-003	NS-CD	E-KK308-1.25	PEN	3BB	X	QC	HOUSEKEEP				
06-014-003-003	NS-CD	E-KT461-3	CNT	1A	X	QC	HOUSEKEEP				
09-006-006-001	NS-CD	E-KX457-1	CNT	1A	X	QC	HOUSEKEEP				
09-007-002-004	NS-CD	E-K1752-1.25	CNT	1C	X	QC	HOUSEKEEP				

ATTACHMENT 5-C.2

TO THE PGandE

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

UNIT 2

DATA MANAGEMENT REPORTS:

INTERACTION DATA BASE

LISTING BY SYSTEM

SUBSORTED BY RESOLUTION METHOD AND TARGET

This attachment contains the results of sorting the SISIP data base by target system and resolution method. Data within each system and resolution method category are subsorted by target code.

ATTACHMENT 5-C.2
UNIT 2 SUMMARY OF RESOLUTION TYPES PER SYSTEM

TABLE OF SYSTEM BY RES

SYSTEM FREQUENCY	RES A	M	NAN	P	X	TOTAL
ASW	7	12	13	0	0	32
AUXFW	34	34	15	0	2	85
CCW	38	74	56	0	0	168
CI	1	33	13	0	0	47
CVCS	55	52	50	0	7	164
EDG	13	26	6	0	1	46
ELPS	13	37	11	0	0	61
FW	32	78	64	0	5	179
HVAC	37	78	35	0	7	157
MNSTM	34	75	40	0	1	150
MT	42	75	24	0	0	141
RCS	32	61	70	1	1	165
RHR	11	16	12	0	1	40
SI	27	47	28	0	4	106
SPRAY	9	20	5	0	0	34
TOTAL	385	718	442	1	29	1575

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=AUX. SALTWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B22-003-002-02	E-LF-9	E-KZ005	IS	30A3	A	EE	FIXTURE			
B22-004-002-02	E-LF-9	E-KZ006	IS	30A4	A	EE	FIXTURE			
B22-003-002-01	C-PLAT-30A3	E-K1011	IS	30A3	A	CE	CIVILFAIL			
B22-004-002-01	C-PLAT-30A4	E-K1017	IS	30A4	A	CE	CIVILFAIL			
B22-008-004-07	P-0709-4	E-K1045-2	IS	30A5	A	PSE	DEFLECT			
B22-009-002-02	E-LF-9	I-FCV602	TB	19E	A	EE	FIXTURE			
B22-010-002-02	E-LF-9,35	I-FCV603	TB	19E	A	EE	FIXTURE			
B22-007-001-01	P-USB-30A5	E-ASWGO	IS	30A5	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B22-009-004-02	P-2987-3	E-KD352-2	TB	19E	M	PSE	SPTFAIL	DEFLECT	SUPPORT	EXPEDIENT
B22-009-004-01	P-3354-1.50	E-KD352-2+	TB	19E	M	PSE	SPTFAIL	DEFLECT	SUPPORT	EXPEDIENT
B22-003-002-04	P-0954-16	E-K1010-3+	IS	30A5	M	PSE	PIPEFAIL		SUPPORT	NECESSARY
B22-008-004-06	M-VAVLE	E-K7242-3+	AUX	4B	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B22-009-002-01	C-PLAT-19E	I-FCV602	TB	19E	M	CE	CIVILFAIL		BRACE	NECESSARY
B22-010-002-01	C-PLAT-19E	I-FCV603	TB	19E	M	CE	CIVILFAIL		BRACE	NECESSARY
B22-007-001-03	P-0477-16	M-ASWGO	IS	30A5	M	PSE	PIPEFAIL		SUPPORT	NECESSARY
B22-007-001-02	P-0943-16	M-ASWGO	IS	30A5	M	PSE	PIPEFAIL		SUPPORT	NECESSARY
B22-001-001-01	C-BLOCKWALL	P-3681-6	TB	19A	M	CE	CIVILFAIL		BRACE	OVERLAP
B22-002-001-01	C-BLOCKWALL	P-3682-6	TB	19A	M	CE	CIVILFAIL		BRACE	OVERLAP
B22-002-001-02	P-SPR-19A	PA-3682-6	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B22-007-004-01	E-LF-9	E-K1091	IS	30A5	NAN		FIXTURE			
B22-008-004-01	E-LF-9	E-K1093	IS	30A5	NAN		FIXTURE			
B22-003-002-03	C-DOOR	E-K2106-4	EL	20	NAN		CIVILFAIL			
B22-010-004-01	P-1046-6	E-K4847-2	TB	19E	NAN		DEFLECT			
B22-008-004-02	C-WALL	E-K7200-2+	AUX	4B	NAN		CIVILFAIL			
B22-008-004-05	E-HTR	E-K7242-3	AUX	4B	NAN		SPTFAIL			
B22-008-004-03	M-TANK	E-K7242-3	AUX	4B	NAN		SPTFAIL			
B22-008-004-04	M-REFGR	E-K7242-3+	AUX	4B	NAN		LOOSE			
B22-005-002-01	C-MR-19E	I-PT5	TB	19E	NAN		CIVILFAIL			
B22-006-002-01	C-MR-19E	I-PT6	TB	19E	NAN		CIVILFAIL			
B22-002-001-03	M-BOTTLE	P-0680-24	IS	30A5	NAN		SPTFAIL			
B22-002-001-04	P-3836-4	P-0680-24	IS	30A5	NAN		DEFLECT	PIPEFAIL		
B22-001-001-02	M-BOTTLE	P-0687-24	IS	30A5	NAN		SPTFAIL			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=AUXILIARY FEEDWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B01-012-002-02	I-PANEL	E-HNKA	EL	6B2	A	EE	SPTFAIL			
B01-014-002-03	C-GRATING	E-KT243-1.25	TB	19A	A	CE	LOOSE			
B01-012-002-07	E-480VSWGR	E-KT982-3	EL	5B4	A	EE	SPTFAIL			
B01-006-002-01	C-P17T-2	E-K4000-0.75	TB	19A	A	CE	CIVILFAIL			
B01-006-002-02	C-P18T-2	E-K4012-0.75	TB	19A	A	CE	CIVILFAIL			
B02-005-002-01	M-FCV530	E-K6125-2.50	PEN	3CC	A	EMS	MECHFAIL			
B01-017-002-01	P-1045-10	E-K9126-4	PPS	3T1	A	PSE	DEFLECT			
B01-008-002-01	I-FS4	E-LCV106	OA	29	A	PSE	PIPEFAIL			
B01-009-002-01	I-FS4	E-LCV107	OA	29	A	PSE	PIPEFAIL			
B01-002-008-02	E-LF-29	I-FT77	OA	29	A	CE	FIXTURE			
B01-002-010-01	E-LF-9	I-FT78	PEN	3CC	A	EE	FIXTURE			
B01-005-001-01	C-MR-3T1	M-AFWPP 2-1	PPS	3T1	A	CE	CIVILFAIL			
B01-007-001-03	M-TANK	M-AFWPP 2-3	AUX	3W	A	EMS	SPTFAIL	ENVIRON		
B01-007-001-02	E-TLE25	M-AFWPP 2-3	PPS	3T2	A	EE	SPTFAIL			
B21-001-002-01	C-LADDER	M-CST	OA	26	A	CE	CIVILFAIL			
B21-001-002-02	C-LADDER	M-CST	OA	26	A	CE	CIVILFAIL			
B21-001-001-03	M-TANK	M-CST	OA	26	A	CE	SPTFAIL			
B02-004-001-01	C-MR-3CC	M-FCV440	PEN	3CC	A	CE	CIVILFAIL			
B02-005-001-01	C-MR-3CC	M-FCV441	PEN	3CC	A	CE	CIVILFAIL			
B01-010-001-01	E-LF-9	M-LCV108	PEN	3CC	A	EE	FIXTURE			
B01-011-001-01	E-LF-9	M-LCV109	PEN	3CC	A	EE	FIXTURE			
B01-014-001-01	E-LF-9	M-LCV113	PEN	3CC	A	EE	FIXTURE			
B01-015-001-01	E-LF-9	M-LCV115	PEN	3CC	A	EE	FIXTURE			
B01-001-001-01	C-COVER	P-0380-10	AUX	32	A	CE	LOOSE			
B01-001-001-02	E-RS-3T1	P-0380-10	PPS	3T1	A	EE	INTERFERE			
B01-002-003-02	C-62L-2	P-0476-4	HV	3V2	A	CE	CIVILFAIL			
B01-002-003-07	C-SB	P-0476-4	OA	29	A	CE	CIVILFAIL			
B01-002-003-04	P-1743-16	P-0476-4	OA	29	A	PSE	DEFLECT			
B01-004-005-01	C-COVER	P-0567-2+	AUX	32	A	CE	LOOSE			
B01-003-003-02	C-62L-2	P-0573-4	HV	3V2	A	CE	CIVILFAIL			
B01-003-003-05	C-SB	P-0573-4	OA	29	A	CE	CIVILFAIL			
B01-003-003-04	C-42FW-2	P-0576-3	OA	29	A	PSE	INTERFERE			
B21-001-001-01	C-LADDER	P-1917-4	OA	26	A	CE	CIVILFAIL			
B01-002-013-03	C-MR-3T1	P-2079-1	PPS	3T1	A	CE	CIVILFAIL			
B01-012-002-01	M-FE	E-HNKA	EL	6B2	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B01-012-002-03	P-SPR-3CC	E-KT254-1	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B01-012-002-11	C-WALL	E-KT333-1	AUX	4B	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B01-012-002-12	C-WALL	E-KT333-1	AUX	4B	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B01-012-002-09	P-SPR-4B	E-KT333-1	AUX	4B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B01-012-002-04	P-DRAIN-9A	E-KX140-2.50	CNT	9A	M	PSE	DEFLECT	INTERFERE	SUPPORT	EXPEDIENT
B01-012-002-08	P-0510-2	E-K5836-2	OA	29	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B02-003-002-01	P-1743-16	E-K5839-2	OA	29	M	PSE	DEFLECT	INTERFERE	RELOCATE	EXPEDIENT
B02-004-002-01	P-SPR-3CC	E-K6134-3	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B01-014-002-02	P-1046-6	E-K6204-3	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B02-002-002-02	P-2772-4	E-K6246-3	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B01-007-002-02	C-BLOCKWALL	E-K6993-4+	AUX	3L	M	CE	CIVILFAIL		BRACE	OVERLAP
B01-012-002-05	P-SPR-3CC	E-K7636-0.75	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B01-012-002-06	P-SPR-3CC	E-K7636-0.75	PEN	3CC	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B01-016-002-03	P-3706-10	ES-K8013-4+	AUX	3X	M	PSE	DEFLECT		SUPPORT	NECESSARY
B01-002-006-02	PA-0227-28	I-FT50	OA	29	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B01-002-006-01	PA-0228-28	I-FT50	OA	29	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B01-002-005-02	P-3433-1.50+	I-FT50+	OA	29	M	PSE	DEFLECT	INTERFERE	SUPPORT	NECESSARY
B01-002-008-01	PA-0555-16	I-FT77	OA	29	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=AUXILIARY FEEDWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B01-002-010-02	C-RSM-3CC	I-FT78	PEN	3CC	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B01-019-001-01	C-MR-3T2	I-PT434	PPS	3T2	M	CE	CIVILFAIL		BRACE	NECESSARY
B01-006-001-01	C-MR-3T2	M-AFWPP 2-2	PPS	3T2	M	CE	CIVILFAIL		BRACE	NECESSARY
B01-007-001-01	C-MR-3T2	M-AFWPP 2-3	PPS	3T2	M	CE	CIVILFAIL		BRACE	NECESSARY
B01-008-001-01	PA-0584-28	M-LCV106	OA	29	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B01-002-003-03	C-99L-2	P-0476-4	HV	3V2	M	CE	CIVILFAIL		BRACE	NECESSARY
B01-002-003-05	C-CRANE-29	P-0476-4	OA	29	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B01-002-013-05	P-0382-4	P-0567-2	PPS	3T2	M	PSE	DEFLECT		TMODIFY	NECESSARY
B01-002-005-01	C-RSM-29	P-0569-3	OA	29	M	CE	RELSTRUCT		CLEARANCE	OVERLAP
B01-003-003-01	C-99L-2	P-0573-4	HV	3V2	M	CE	CIVILFAIL		BRACE	NECESSARY
B01-003-003-03	C-CRANE-29	P-0573-4	OA	29	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B01-002-009-01	E-K6310	P-5071-3	PEN	3CC	M	EE	DEFLECT	INTERFERE	RELOCATE	EXPEDIENT
B02-001-003-02	P-3874-2	PA-0557-16	PEN	3CC	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B01-001-002-01	P-1750-8	PS-0562-8	PPS	3T1	M	PSE	DEFLECT		SUPPORT	NECESSARY
B01-002-013-06	P-0721-12	PS-0757-1.50	PPS	3T1	M	PSE	DEFLECT		SUPPORT	NECESSARY
B01-014-002-01	PS-2343-3	E-KX505-2.50	CNT	9A	NAN		DEFLECT			
B01-012-002-10	C-DOOR	E-K5836-2	OA	29	NAN		SPTFAIL			
B01-010-002-01	C-1GW-2	E-K6494-3	PEN	3CC	NAN		CIVILFAIL			
B02-002-002-01	P-DRAIN-3CC	E-K6495-3	PEN	3CC	NAN		SPTFAIL	PIPEFAIL		
B01-016-002-02	C-DOOR	E-K9477-2	AUX	3AA	NAN		SPTFAIL			
B01-003-002-01	E-LF-BOL	I-PS421	PPS	3T2	NAN		FIXTURE			
B21-001-001-02	E-LF-26	M-CST	OA	26	NAN		FIXTURE			
B01-002-003-06	P-3427-1.50	P-0476-4	OA	29	NAN		DEFLECT			
B01-002-013-01	E-RS-3T1	P-0564-1.50	PPS	3T1	NAN		DEFLECT			
B01-002-013-04	E-TL25	P-0564-1.50	PPS	3T1	NAN		SPTFAIL			
B01-002-013-02	P-0381-4	P-0564-1.50	PPS	3T1	NAN		DEFLECT			
B01-004-005-02	E-K8012-4+	P-0567-2	PPS	3T1	NAN		DEFLECT	INTERFERE		
B01-002-003-01	E-RS-3T1	P-0568-6	PPS	3T1	NAN		DEFLECT			
B02-001-003-01	E-LF-9	PA-0557-16	PEN	3CC	NAN		FIXTURE			
B01-002-001-01	E-RS-3T1	PA-0558-8	PPS	3T1	NAN		DEFLECT			
B01-016-002-01	NS-CD	E-BJK52	AUX	3L	X	QC	HOUSEKEEP			
B01-003-002-02	E-LF-BOL	I-PS421	PPS	3T2	X	QC	FIXTURE			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=COMPONENT COOLING WATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B20-005-002-01	C-STAIR	E-K2662-1.50	EL	S7	A	CE	CIVILFAIL			
B20-001-002-10	P-ULB-19A	E-K4881-2+	TB	19A	A	PSE	DEFLECT			
B20-046-002-01	P-3007-10	E-K6312-1.25	PEN	3CC	A	PSE	INTERFERE			
B20-001-002-03	H-S22	E-K7208-2	AUX	4B	A	HVA	DEFLECT			
B20-054-001-01	H-DUCT-3L	I-CSPNL	AUX	3L	A	CE	SPTFAIL			
B20-007-003-01	E-LF-3K3	I-RE17A	PPS	3K3	A	EE	FIXTURE			
B20-007-002-02	M-RE17A+	I-RE17A+	PPS	3K3	A	EMS	SPTFAIL			
B20-011-003-01	E-LF-3K3	I-RE17B	PPS	3K3	A	EE	FIXTURE			
B20-012-001-02	M-HOIST-19E	I-TI898	TB	19E	A	CE	MECHFAIL			
B20-044-002-01	M-BAEVAP	M-BAEVAPHX	AUX	3L	A	EMS	MECHFAIL			
B20-008-001-03	C-P12T-2	M-CCWHX 2-1	TB	19E	A	CE	CIVILFAIL			
B20-023-001-01	C-SB	P-0081-20	PPS	3K3	A	CE	CIVILFAIL			
B20-032-001-02	C-DOOR	P-0082-20	PEN	3CC	A	CE	SPTFAIL			
B20-032-001-01	C-SB	P-0082-20	PPS	3K3	A	CE	CIVILFAIL			
B20-007-001-01	C-SB	P-0095-30	PPS	3K3	A	CE	CIVILFAIL			
B20-011-001-01	C-SB	P-0096-30	PPS	3K3	A	CE	CIVILFAIL			
B20-030-003-01	C-PLAT-3D2	P-0100-1.50	PPS	3D2	A	CE	CIVILFAIL			
B20-030-005-01	C-PLAT-3D2	P-0122-1.50	PPS	3D2	A	CE	CIVILFAIL			
B20-020-001-01	C-PLAT-3D1	P-0124-12	PPS	3D1	A	CE	CIVILFAIL			
B20-020-005-01	C-PLAT-3D2	P-0127-12	PPS	3D2	A	CE	CIVILFAIL			
B20-020-003-01	C-PLAT-3D1	P-0128-1.50+	PPS	3D1	A	CE	CIVILFAIL			
B20-020-006-01	C-PLAT-3D1	P-0131-1.50	PPS	3D1	A	CE	CIVILFAIL			
B20-037-003-01	C-DOOR	P-0153-12	AUX	3U	A	CE	SPTFAIL			
B20-044-009-01	M-BATANK	P-1759-6+	AUX	3L	A	EMS	SPTFAIL			
B20-044-011-01	M-BATANK	P-1761-2+	AUX	3L	A	EMS	SPTFAIL			
B20-044-003-01	C-MR-3L	P-1763-4	AUX	3L	A	CE	CIVILFAIL			
B20-063-001-01	C-SB	P-2129-2	PPS	3K3	A	CE	CIVILFAIL			
B20-063-002-01	C-SB	P-2131-2	PPS	3K3	A	CE	CIVILFAIL			
B20-058-001-01	C-SB	P-2282-20	PPS	3K3	A	CE	CIVILFAIL			
B20-055-001-01	C-SB	P-2286-3	PPS	3K3	A	CE	CIVILFAIL			
B20-055-005-01	C-SB	P-2290-3	PPS	3K3	A	CE	CIVILFAIL			
B20-053-001-06	I-PNBC	P-2292-3	AUX	3L	A	ICE	SPTFAIL			
B20-045-008-02	PS-0238-6	P-2300-3	CNT	9B	A	PSE	DEFLECT			
B20-045-012-01	PS-2308-1	P-2304-4	CNT	9B	A	PSE	INTERFERE			
B20-052-001-03	M-FFDHX	P-2679-2	PEN	3CC	A	EMS	SPTFAIL			
B20-052-001-02	I-RNGFFD	P-2679-2 +	PEN	3CC	A	ICE	SPTFAIL			
B20-054-001-03	I-CSP2-1	P-3249-2+	AUX	3L	A	EMS	SPTFAIL			
B20-038-006-03	P-1085-14	P-4172-0.75+	PEN	3CC	A	PSE	SPTFAIL			
B20-052-001-01	P-0381-4	E-K2679-2+	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B20-003-002-01	C-BLOCKWALL	E-K2690-1.50	EL	23B	M	CE	CIVILFAIL		BRACE	OVERLAP
B20-034-002-01	C-BLOCKWALL	E-K4788-2	TB	19A	M	CE	CIVILFAIL		CLEARANCE	EXPEDIENT
B20-001-002-08	P-3112-2.50	E-K4880-2+	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B20-001-002-09	P-4234-6	E-K4881-2	TB	19A	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B20-001-002-02	C-DOOR	E-K7208-2	AUX	4B	M	CE	SPTFAIL		SUPPORT	EXPEDIENT
B20-001-002-04	C-WALL	E-K7208-2	AUX	4B	M	CE	CIVILFAIL		BRACE	NECESSARY
B20-001-002-05	M-TANK	E-K7248-2+	AUX	4B	M	EMS	SPTFAIL		TSHIELD	EXPEDIENT
B20-034-002-02	P-2628-3	E-4788-2	TB	19A	M	PSE	DEFLECT	SPTFAIL	SUPPORT	NECESSARY
B20-054-002-01	M-TANK-3L	I-CSP 2-1	AUX	3L	M	CE	SPTFAIL		SUPPORT	NECESSARY
B20-032-001-03	P-2369-18	I-FCV360	PEN	3CC	M	ICE	DEFLECT		TMODIFY	NECESSARY
B20-023-001-02	P-2399-16	I-FCV366	PEN	3CC	M	ICE	DEFLECT		TMODIFY	NECESSARY
B20-045-012-02	P-1901-1	I-FE96	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B20-040-003-01	M-HR	I-FI196	PEN	3CC	M	EMS	DEFLECT		STOP	EXPEDIENT
B20-016-001-01	P-3135-1	I-FT69	TB	19A	M	PSE	SPTFAIL		RELOCATE	OVERLAP

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=COMPONENT COOLING WATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B20-007-001-06	C-P12T-2	I-PI113	TB	19E	M	ICE	DEFLECT		TMODIFY	EXPEDIENT
B20-007-001-07	C-P12T-2	I-PI113	TB	19E	M	ICE	DEFLECT		TMODIFY	NECESSARY
B20-015-001-01	C-P9T-2	I-PS190	TB	19E	M	CE	DEFLECT		CLEARANCE	EXPEDIENT
B20-008-001-02	C-MR-19E	I-TI895	TB	19E	M	CE	CIVILFAIL		BRACE	NECESSARY
B20-012-001-01	C-MR-19E	I-TI898	TB	19E	M	CE	CIVILFAIL		BRACE	NECESSARY
B20-008-001-04	C-P9T-2	M-CCWHX 2-1	TB	19E	M	CE	CIVILFAIL		BRACE	NECESSARY
B20-001-001-01	C-MR-3K1	M-CCWPP 2-1	PPS	3K1	M	CE	DEFLECT	CIVILFAIL	BRACE	EXPEDIENT
B20-001-001-02	E-LF-3K1	M-CCWPP 2-1	PPS	3K1	M	EE	FIXTURE		CHAIN	EXPEDIENT
B20-001-001-03	P-SPR-3K1	M-CCWPP 2-1	PPS	3K1	M	PSE	SPTFAIL	DEFLECT	RELOCATE	EXPEDIENT
B20-003-001-01	C-MR-3K2	M-CCWPP 2-2	PPS	3K2	M	CE	DEFLECT	CIVILFAIL	BRACE	EXPEDIENT
B20-003-001-02	E-LF-3K2	M-CCWPP 2-2	PPS	3K2	M	EE	FIXTURE		CHAIN	EXPEDIENT
B20-005-001-01	C-MR-3K3	M-CCWPP 2-3	PPS	3K3	M	CE	DEFLECT	CIVILFAIL	BRACE	EXPEDIENT
B20-005-001-02	E-LF-3K3	M-CCWPP 2-3	PPS	3K3	M	EE	FIXTURE		CHAIN	EXPEDIENT
B20-059-002-01	E-KK216-1.50	P-0121-6	PEN	3CC	M	EE	DEFLECT		RELOCATE	EXPEDIENT
B20-059-002-03	P-USB-3CC	P-0121-6+	PEN	3CC	M	PSE	PIPEFAIL	DEFLECT	SUPPORT	EXPEDIENT
B20-039-003-03	C-MR-3L	P-0126-8	AUX	3L	M	CE	DEFLECT		BRACE	OVERLAP
B20-045-006-02	C-69G-2	P-0136-4	CNT	9B	M	CE	INTERFERE		CLEARANCE	NECESSARY
B20-037-001-01	E-RS-3U	P-0152-12	AUX	3U	M	EE	INTERFERE		CLEARANCE	EXPEDIENT
B20-022-004-01	M-HOIST-3I1	P-1925-2	PPS	3I1	M	EMS	DEFLECT		SECLOOSE	EXPEDIENT
B20-059-006-02	P-0152-12	P-2242-3	AUX	3U	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B20-055-001-03	N-MISC-3C	P-2286-3+	AUX	3C	M	NPO	LOOSE		TSHIELD	EXPEDIENT
B20-045-010-01	PS-0253-10	P-2299-3	CNT	9B	M	PSE	INTERFERE		RELOCATE	EXPEDIENT
B20-045-021-01	C-70G-2	P-2343-3	CNT	9B	M	CE	DEFLECT		CLEARANCE	NECESSARY
B20-038-001-03	P-0726-4	P-2402-2	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	OVERLAP
B20-038-008-01	P-0726-4	P-2403-2	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B20-025-004-02	P-3256-2	P-3163-2	CNT	9A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B20-025-007-01	P-1246-10	P-3164-2	CNT	9A	M	PSE	DEFLECT		SUPPORT	NECESSARY
B20-018-004-01	E-RS-9A	P-3171-2	CNT	9A	M	PSE	DEFLECT		CLEARANCE	EXPEDIENT
B20-007-002-01	P-SPR-3K3	P-3178-0.375	PPS	3K3	M	PSE	DEFLECT	CIVILFAIL	SUPPORT	EXPEDIENT
B20-054-001-02	H-DUCT-3L	P-3249-2+	AUX	3L	M	ENG	DEFLECT		TMODIFY	OVERLAP
B20-054-003-01	I-CSP	P-3266-2	AUX	3L	M	EMS	DEFLECT		CLEARANCE	EXPEDIENT
B20-029-004-01	M-HOIST-3I1	P-3275-1	PPS	3I1	M	EMS	DEFLECT		SECLOOSE	EXPEDIENT
B20-017-001-01	P-1040-2.50	P-3281-12	PEN	3CC	M	PSE	SPTFAIL	PIPEFAIL	CONSTDEF	OVERLAP
B20-045-006-01	C-68G-2	P-3746-3	CNT	9B	M	CE	DEFLECT		CLEARANCE	NECESSARY
B20-038-006-04	M-TANKSGBD	P-4172-0.75	PEN	3CC	M	EMS	DEFLECT		TMODIFY	NECESSARY
B20-038-006-02	C-25GE-2	P-4172-0.75+	PEN	3CC	M	PSE	CIVILFAIL		TMODIFY	NECESSARY
B20-038-007-01	C-25GE-2	P-4172-0.75+	PEN	3CC	M	PSE	CIVILFAIL		TMODIFY	NECESSARY
B20-038-006-01	P-1046-6	P-4172-0.75+	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B20-007-001-04	P-3135-1	PA-0095-30	TB	19E	M	PSE	DEFLECT		RELOCATE	NECESSARY
B20-030-005-02	P-0529-2	PA-0099-12	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B20-009-001-01	C-RSM-19E	PA-0101-30	TB	19E	M	PSE	RELSTRUCT	INTERFERE	TMODIFY	EXPEDIENT
B20-013-001-01	C-RSM-19E	PA-0102-30	TB	19E	M	PSE	RELSTRUCT	INTERFERE	TMODIFY	EXPEDIENT
B20-039-003-04	P-IAH-3CC	PA-0126-8	PEN	3CC	M	PSE	SPTFAIL	DEFLECT	SUPPORT	EXPEDIENT
B20-045-001-01	P-2681-2	PA-0133-10	PEN	3CC	M	PSE	DEFLECT		TMODIFY	NECESSARY
B20-027-002-01	C-39G-2	PA-0314-12	CNT	9C	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B20-018-002-01	C-35F-2	PA-0315-12	CNT	9C	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B20-017-002-01	C-36F-2	PA-0316-12	CNT	9C	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B20-026-002-01	C-37F-2	PA-0317-12	CNT	9C	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B20-025-002-01	C-38F-2	PA-0318-12	CNT	9C	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B20-018-006-01	P-1042-2.50	PA-0320-12	PEN	3CC	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP
B20-053-001-01	H-DUCT-3L	PA-2292-3	AUX	3L	M	CE	DEFLECT		TMODIFY	EXPEDIENT
B20-045-019-01	C-RSM-9B	PA-2313-3	CNT	9B	M	PSE	INTERFERE		CLEARANCE	OVERLAP
B20-025-004-01	P-3256-2	PA-3163-2	CNT	9C	M	PSE	DEFLECT		SUPPORT	EXPEDIENT

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=COMPONENT COOLING WATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B20-017-002-02	P-3196-8	PS-0316-12	CNT	9A	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B20-027-006-01	P-1043-2.50	PS-0319-12	PEN	3CC	M	PSE	DEFLECT		TMODIFY	NECESSARY
B20-025-006-01	P-1246-10	PS-0323-12	CNT	9A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B20-025-006-02	P-3192-8	PS-0323-12	CNT	9A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B20-045-019-02	P-1015-1	PS-2313-3	CNT	9B	M	PSE	DEFLECT		RELOCATE	OVERLAP
B20-045-008-03	E-K1533-5	PS-3745-3	CNT	9B	M	EE	DEFLECT		SUPPORT	EXPEDIENT
B20-005-002-02	H-DUCT-23A	E-K2626-4	EL	23A	NAN		DEFLECT			
B20-001-002-07	P-1046-6	E-K4847-2	TB	19E	NAN		DEFLECT			
B20-001-002-01	P-ULB-3K1	E-K7076	PPS	3K1	NAN		DEFLECT			
B20-001-002-06	P-USB-4B	E-K7242-3	AUX	4B	NAN		SPTFAIL			
B20-054-002-02	I-CSP1HX	I-CSP 2-1	AUX	3L	NAN		SPTFAIL			
B20-039-003-02	E-LF-3L	I-FE146	AUX	3L	NAN		FIXTURE			
B20-024-001-02	P-USB-19A	I-FT65	TB	19A	NAN		SPTFAIL			
B20-025-008-01	E-LF-9	I-FT70	PEN	3CC	NAN		FIXTURE			
B20-011-001-03	M-HOIST-19E	I-PI111	TB	19E	NAN		MECHFAIL			
B20-007-001-03	P-3403-2	I-PI113	TB	19E	NAN		DEFLECT			
B20-008-001-01	M-HOIST-19E	I-TI895	TB	19E	NAN		MECHFAIL			
B20-007-001-05	M-HOIST-19E	M-CCWHX 2-1	TB	19E	NAN		MECHFAIL			
B20-023-001-03	E-LF-8	M-FCV366	PEN	3CC	NAN		FIXTURE			
B20-035-003-01	E-LF-3L	M-LDHX 2-1	AUX	3L	NAN		FIXTURE			
B20-041-002-01	M-TANK	M-NSSSHX	AUX	3X	NAN		SPTFAIL			
B20-020-002-01	C-HATCH	M-RHRHX 2-1	AUX	3AA	NAN		LOOSE			
B20-030-002-01	C-HATCH	M-RHRHX 2-2	AUX	3AA	NAN		LOOSE			
B20-007-001-02	C-58GW-2	P-0095-30	TB	19A	NAN		CIVILFAIL			
B20-030-003-02	E-LF-3D2	P-0100-1.50	PPS	3D2	NAN		FIXTURE			
B20-024-001-03	E-RS-3CC	P-0104-20	PEN	3CC	NAN		DEFLECT			
B20-059-002-04	C-SB	P-0121-6	PEN	3CC	NAN		DEFLECT	SPTFAIL		
B20-059-002-02	P-SPR-3CC	P-0121-6	PEN	3CC	NAN		DEFLECT	SPTFAIL		
B20-030-006-01	E-LF-3D2	P-0122-1.50	PPS	3D2	NAN		FIXTURE			
B20-039-003-01	E-LF-3L	P-0126-8	AUX	3L	NAN		FIXTURE			
B20-020-003-03	E-K3809-1.50	P-0128-1.50	PEN	3CC	NAN		DEFLECT			
B20-020-003-02	E-LF-3D1	P-0128-1.50	PPS	3D1	NAN		FIXTURE			
B20-020-006-02	E-LF-3D1	P-0131-1.50	PPS	3D1	NAN		FIXTURE			
B20-028-003-02	E-LF-3N	P-0310-2	PPS	3N	NAN		FIXTURE			
B20-028-006-02	E-LF-3N	P-0311-2	PPS	3N	NAN		FIXTURE			
B20-019-001-01	E-LF-3N	P-0312-2	PPS	3N	NAN		FIXTURE			
B20-019-006-02	E-LF-3N	P-0313-2	PPS	3N	NAN		FIXTURE			
B20-028-001-01	E-LF-3N	P-1926-1	PPS	3N	NAN		FIXTURE			
B20-028-006-01	E-LF-3N	P-1927-1	PPS	3N	NAN		FIXTURE			
B20-019-001-02	E-LF-3N	P-1928-1	PPS	3N	NAN		FIXTURE			
B20-019-006-01	E-LF-3N	P-1929-1	PPS	3N	NAN		FIXTURE			
B20-028-003-01	E-LF-3N	P-2259-1	PPS	3N	NAN		FIXTURE			
B20-019-003-01	E-LF-3N	P-2260-1	PPS	3N	NAN		FIXTURE			
B20-028-007-01	E-LF-3N	P-2261-1	PPS	3N	NAN		FIXTURE			
B20-019-007-01	E-LF-3N	P-2276-1	PPS	3N	NAN		FIXTURE			
B20-055-001-02	P-2058-3	P-2286-3	AUX	3C	NAN		DEFLECT			
B20-055-005-03	P-4000-3	P-2290-3	AUX	3C	NAN		SPTFAIL	DEFLECT		
B20-055-005-02	P-SA-3CC	P-2290-3	PEN	3CC	NAN		SPTFAIL			
B20-053-001-02	E-LF-3L	P-2292-3	AUX	3L	NAN		FIXTURE			
B20-053-001-03	I-PM3	P-2292-3	AUX	3L	NAN		SPTFAIL			
B20-053-004-03	I-PM3	P-2293-3	AUX	3L	NAN		SPTFAIL			
B20-053-001-04	E-LF-3I2	P-2294-1.50	PPS	3I2	NAN		FIXTURE			
B20-053-004-02	E-LF-3I2	P-2295-1.50	PPS	3I2	NAN		FIXTURE			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

---------- SYSTEM=COMPONENT COOLING WATER SYSTEM ----------

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B20-053-004-01	E-LF-3I2	P-2397-2	PPS	3I2	NAN		FIXTURE			
B20-038-001-01	P-SA-3CC	P-2402-2	PEN	3CC	NAN		SPTFAIL			
B20-038-001-02	P-0156-2.50	P-2402-2	PEN	3CC	NAN		DEFLECT			
B20-041-007-01	H-DUCT-3X	P-3268-2	AUX	3X	NAN		DEFLECT			
B20-030-001-01	E-LF-3X	PA-0094-12	AUX	3X	NAN		FIXTURE			
B20-009-001-02	C-P9T-2	PA-0101-30	TB	19E	NAN		DEFLECT			
B20-009-001-03	P-3405-2	PA-0101-30	TB	19E	NAN		DEFLECT			
B20-059-006-01	M-HR	PA-2242-3	AUX	32	NAN		DEFLECT			
B20-053-001-05	H-DUCT-3L	PA-2292-3	AUX	3L	NAN		DEFLECT			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=CNT ISOL. OF NON-VITAL SYSTEMS

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B25-141-002-01	I-PANEL	E-KK757-1.50	PEN	3CC	A	ICE	SPTFAIL			
B25-008-002-01	P-SPR-3CC	E-KK216-1.50	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-008-002-02	P-SPR-3CC	E-KK216-1.50	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B25-008-002-04	P-SPR-3CC	E-KK216-1.50	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-008-002-03	P-1046-6	E-KK216-1.50	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B25-009-002-02	P-SPR-3CC	E-KK217-1.50	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-013-006-01	C-RSM-9A	E-K1725-1.50	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B25-011-006-01	C-RSM-9A	E-K1761-1.50	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B25-015-004-01	C-RSM-9A	E-K1786-1.25	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B19-013-004-01	C-RSM-9A	E-K1982-1	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B25-128-004-02	C-RSM-9A	E-K1999-1	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B25-139-001-01	P-3210-10	I-FCV237	CNT	9A	M	PSE	DEFLECT		SUPPORT	NECESSARY
B25-140-002-01	E-LF-8	I-FCV239	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B25-140-003-01	E-LF-8	I-FCV240	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B29-003-001-01	E-LF-8	I-FCV501	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B31-003-002-01	E-LF-8	I-FCV584	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B25-002-002-01	E-LF-8	I-FCV654	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B19-007-001-01	C-STAIR-9A	I-PI475	CNT	9A	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B25-141-002-03	E-LF-9	I-RCHMC	PEN	3CC	M	EE	FIXTURE		RELOCATE	EXPEDIENT
B19-001-001-03	P-0891-1	I-1673-0.375	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B19-004-001-02	C-82F-2	I-1674-0.375	CNT	9B	M	ICE	DEFLECT		TMODIFY	NECESSARY
B19-004-001-01	E-DJAC	I-1674-0.375	CNT	9B	M	ICE	DEFLECT		TMODIFY	NECESSARY
B19-007-001-02	E-R-9B	I-1675-0.375	CNT	9B	M	EE	DEFLECT		RELOCATE	EXPEDIENT
B19-008-001-02	E-R-9B	I-1676-0.375	CNT	9B	M	EE	DEFLECT		RELOCATE	EXPEDIENT
B19-002-002-01	P-4066-1	I-9354A	CNT	9A	M	ICE	DEFLECT		TMODIFY	NECESSARY
B19-003-002-01	E-LF-8	I-9354B	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B25-134-001-01	P-SA-3CC	M-FCV699	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-013-001-01	C-27F-2	M-RCV11	CNT	9A	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-014-001-01	C-99L-2	M-RCV12	HV	3V2	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-014-001-02	C-99L-2	M-RCV12	HV	3V2	M	CE	CIVILFAIL		BRACE	NECESSARY
B19-015-001-01	P-3551-14	P-1684-0.375	PPS	3D1	M	ICE	DEFLECT		TMODIFY	NECESSARY
B25-098-002-01	C-99L-2	P-4391-4	HV	3V2	M	CE	CIVILFAIL		BRACE	NECESSARY
B29-005-001-01	P-1135-3	PA-2993-4	CNT	9A	M	PSE	DEFLECT		SUPPORT	OVERLAP
B29-004-001-01	P-1135-3	PA-3002-4	CNT	9A	M	PSE	DEFLECT		SUPPORT	OVERLAP
B25-013-006-02	P-SA-9A	E-K1711-0.75	CNT	9A	NAN		DEFLECT			
B25-128-004-01	E-LF-SEA	E-K1739-0.75	CNT	9A	NAN		FIXTURE			
B25-099-002-01	H-DUCT-3CC	E-K7545-1.50	PEN	3CC	NAN		SPTFAIL			
B29-003-004-02	P-2454-4	E-K8929-1.25	AUX	3L	NAN		DEFLECT			
B25-141-002-02	I-PANEL	I-RCHMC	PEN	3CC	NAN		SPTFAIL			
B25-008-001-01	C-PLAT-3V8	I-RE28A+	HV	3V8	NAN		CIVILFAIL			
B19-001-001-01	C-81F-2	I-1673-0.375	CNT	9C	NAN		DEFLECT			
B19-001-001-02	E-KR273-0.75	I-1673-0.375	CNT	9C	NAN		DEFLECT			
B19-004-001-03	E-KX884-1	I-1674-0.375	CNT	9C	NAN		DEFLECT			
B19-007-001-03	I-F1C171	I-1675-0.375	CNT	9B	NAN		DEFLECT			
B19-008-001-01	I-F1C171	I-1676-0.375	CNT	9B	NAN		DEFLECT			
B19-016-001-01	E-LF-3I1	M-9353A	PPS	3I1	NAN		FIXTURE			
B19-018-001-01	E-LF-3I1	M-9353B	PPS	3I1	NAN		FIXTURE			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=CHEM. & VOL. CONTROL SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B13-021-004-01	E-LF-3AA	E-ENHA	AUX	3AA	A	EE	FIXTURE			
B11-011-006-02	NS-T	E-KT594	AUX	3X	A	ENG	ENVIRON			
B11-011-006-01	NS-T	E-KT595	AUX	3X	A	ENG	ENVIRON			
B12-012-004-01	E-DJA+	E-KX650-1.50	CNT	9A	A	CE	DEFLECT			
B12-008-004-03	E-DJA+	E-K1796-1.50	CNT	9A	A	EE	INTERFERE			
B11-007-002-06	C-BLOCKWALL	E-K6950	AUX	4B	A	CE	CIVILFAIL			
B11-007-002-02	P-0096-30	E-K7047+	PPS	3K3	A	PSE	DEFLECT			
B11-007-002-03	P-3039-20	E-K7047+	PPS	3K3	A	PSE	DEFLECT			
B11-006-002-02	NS-T	E-K7050	PPS	3I1	A	EE	ENVIRON			
B13-017-002-01	M-FCV110B	E-K8756-1	AUX	3X	A	PSE	DEFLECT			
B13-010-002-01	P-ULB-3X	E-K9441-2	AUX	3X	A	PSE	SPTFAIL			
B13-015-004-01	NS-T	E-K9490-1.25	AUX	3X	A	ENG	ENVIRON			
B13-011-004-01	E-LF-9	E-TAB	AUX	3AA	A	EE	FIXTURE			
B14-004-002-01	E-LF-3I1	E-8105	PPS	3I1	A	EE	FIXTURE			
B14-005-002-01	E-LF-3I1	E-8106	PPS	3I1	A	EE	FIXTURE			
B10-009-002-01	PS-4624-1	I-FI170	CNT	9B	A	EMS	DEFLECT			
B10-010-003-01	P-4398-2	I-PT186	CNT	9B	A	PSE	PIPEFAIL			
B13-007-001-02	C-HATCH	M-BAT 2-2	AUX	3AA	A	CE	LOOSE			
B13-007-001-01	C-SB	M-BAT 2-2	AUX	3AA	A	CE	CIVILFAIL			
B11-006-001-01	E-LF-3I1	M-CHGPP 2-1	PPS	3I1	A	EE	FIXTURE			
B11-007-001-01	E-LF-3I1	M-CHGPP 2-2	PPS	3I1	A	EE	FIXTURE			
B11-008-001-01	C-SB	M-CHGPP 2-3	PPS	3I2	A	CE	CIVILFAIL			
B11-008-001-02	E-LF-3I2	M-CHGPP 2-3	PPS	3I2	A	EE	FIXTURE			
B10-016-002-03	M-HOIST-3X	M-8380	AUX	3X	A	CE	SPTFAIL			
B10-002-001-03	M-HOIST-3X	M-8382A	AUX	3X	A	CE	SPTFAIL			
B10-001-001-01	M-HOIST-3X	M-8382B	AUX	3X	A	CE	SPTFAIL			
B10-002-001-02	M-HOIST-3X	M-8384A	AUX	3X	A	CE	SPTFAIL			
B10-001-001-05	M-HOIST-3X	M-8384B	AUX	3X	A	CE	SPTFAIL			
B10-002-001-04	M-HOIST-3X	M-8387A	AUX	3X	A	CE	SPTFAIL			
B10-016-002-01	M-HOIST-3X	M-8396A	AUX	3X	A	CE	SPTFAIL			
B10-016-002-02	M-HOIST-3X	M-8396B	AUX	3X	A	CE	SPTFAIL			
B11-001-001-01	C-PLAT-3D2	P-0041-4	PPS	3D2	A	CE	CIVILFAIL			
B11-002-001-01	C-MR-3I1	P-0042-6	PPS	3I1	A	CE	DEFLECT			
B11-003-001-01	C-MR-3I1	P-0043-6	PPS	3I1	A	CE	CIVILFAIL			
B11-004-001-01	C-PLAT-3D2	P-0044-4	PPS	3D2	A	CE	CIVILFAIL			
B10-001-001-03	C-PLAT-3D1	P-0053-3	PPS	3D1	A	CE	CIVILFAIL			
B10-001-001-02	C-PLAT-3D2	P-0053-3	PPS	3D2	A	CE	CIVILFAIL			
B10-012-001-02	E-RCP 2-1	P-0058-2	CNT	9B	A	EMS	SPTFAIL			
B10-013-001-01	E-RCP 2-2	P-0059-2	CNT	9B	A	EMS	SPTFAIL			
B12-003-001-08	C-SHIELD-9B	P-0063-1	CNT	9B	A	CE	CIVILFAIL			
B12-003-001-04	C-29G-2	P-0063-1	CNT	9B	A	CE	CIVILFAIL			
B12-003-001-05	C-576-2	P-0063-1	CNT	9B	A	CE	CIVILFAIL			
B11-001-001-07	C-PLAT-3D2	P-1452-1	PPS	3D2	A	CE	CIVILFAIL			
B11-005-001-02	C-MR-3I1	P-1454-6	PPS	3I1	A	PSE	DEFLECT	SPTFAIL		
B11-005-001-01	C-PLAT-3D1	P-1454-6	PPS	3D1	A	CE	CIVILFAIL			
B11-001-001-02	C-PLAT-3D1	P-1456-8	PPS	3D1	A	CE	CIVILFAIL			
B14-003-001-02	C-PLAT-3D2	P-1463-2	PPS	3D2	A	CE	CIVILFAIL			
B14-003-001-01	C-PLAT-3D1	P-1464-2	PPS	3D1	A	CE	CIVILFAIL			
B14-001-001-01	C-PLAT-3D1	P-1466-2	PPS	3D1	A	CE	CIVILFAIL			
B14-002-001-01	C-PLAT-3D1	P-1468-2	PPS	3D1	A	CE	CIVILFAIL			
B11-002-002-01	C-PLAT-3D1	P-1474-3	PPS	3D1	A	CE	CIVILFAIL			
B11-003-002-01	C-PLAT-3D1	P-1475-3	PPS	3D1	A	CE	CIVILFAIL			
B10-011-001-01	E-RCP 2-4	P-1498-0.75	CNT	9B	A	EMS	SPTFAIL			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=CHEM. & VOL. CONTROL SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B10-012-001-03	M-RCP 2-1	PA-0058-2	CNT	9B	A	EMS	DEFLECT			
B10-015-001-01	M-RCPHX2-4	PA-3755-0.75	CNT	9B	A	EMS	SPTFAIL			
B11-011-006-03	I-VRS-PANEL	E-KT075	EL	5B1	M	ICE	SPTFAIL		BRACE	EXPEDIENT
B13-019-002-01	P-USB-3AA	E-KT879-2.50	AUX	3AA	M	PSE	SPTFAIL		RELOCATE	NECESSARY
B12-008-004-02	P-2886-0.75	E-KX152-1.25	CNT	9A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B12-008-004-01	C-STAIR-9A	E-K1560-1.50	CNT	9A	M	CE	DEFLECT		CLEARANCE	EXPEDIENT
B10-014-002-01	C-RSM-9A	E-K1885-0.75	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	NECESSARY
B11-012-005-01	P-SA-3CC	E-K6893-0.75	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B11-006-004-01	P-1474-3	E-K7050-1	PPS	3I1	M	EE	DEFLECT		TMODIFY	EXPEDIENT
B13-009-002-02	P-SPR-3X	E-K9440-2	AUX	3X	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B13-009-002-01	P-3706-10	E-K9440-2	AUX	3X	M	PSE	DEFLECT		SUPPORT	NECESSARY
B13-017-004-01	NS-CD	E-K9493-1	AUX	3X	M	EE	HOUSEKEEP		CONSTDEF	OVERLAP
B11-009-002-01	E-LF-3X	E-LCV112B	AUX	3X	M	EE	FIXTURE		CHAIN	EXPEDIENT
B11-010-002-01	E-LF-3X	E-LCV112C	AUX	3X	M	EE	FIXTURE		CHAIN	EXPEDIENT
B13-018-002-01	E-LF-3X	E-8104	AUX	3X	M	EE	FIXTURE		CHAIN	EXPEDIENT
B10-007-002-01	P-4303-1	I-FT115	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B10-006-002-01	P-4303-1	I-FT116	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B10-005-002-01	P-4303-1	I-FT143	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B10-004-002-01	P-4303-1	I-FT144	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B10-004-002-02	PA-0826-2	I-FT144	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B10-010-002-03	E-KX785-0.75	I-FIC171	CNT	9A	M	EE	DEFLECT		RELOCATE	EXPEDIENT
B10-010-002-01	P-4398-2	I-FIC171	CNT	9A	M	PSE	DEFLECT		TMODIFY	NECESSARY
B13-013-002-01	P-3478-2	I-HCV104	AUX	3AA	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B11-012-002-01	E-LF-8	I-HCV142	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B12-002-001-01	E-DJAC	I-LCV459	CNT	9B	M	EE	SPTFAIL		SUPPORT	EXPEDIENT
B13-020-001-01	P-0195-2	I-LT106	AUX	3AA	M	PSE	DEFLECT	SPTFAIL	SUPPORT	NECESSARY
B11-008-001-04	M-TANK-CHGPP	I-PI192C	PPS	3I2	M	EMS	SPTFAIL		SUPPORT	NECESSARY
B10-010-003-02	P-4370-1.25	I-PT186	CNT	9A	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B13-008-001-01	C-PLAT-3AA	M-BAT 2-1	AUX	3AA	M	CE	CIVILFAIL		RELOCATE	EXPEDIENT
B13-008-001-02	M-TANK	M-BAT 2-1	AUX	3AA	M	EMS	SPTFAIL		SUPPORT	NECESSARY
B11-006-001-02	M-HOIST-3I1	M-CHGPP 2-1	PPS	3I1	M	CE	DEFLECT		SECLOOSE	EXPEDIENT
B11-007-001-02	M-HOIST-3I1	M-CHGPP 2-2	PPS	3I1	M	CE	DEFLECT		SECLOOSE	EXPEDIENT
B11-008-001-03	M-HOIST-3I2	M-CHGPP 2-3	PPS	3I2	M	CE	DEFLECT		SECLOOSE	EXPEDIENT
B13-014-001-01	C-PLAT-3AA	M-HCV105	AUX	3AA	M	CE	CIVILFAIL		RELOCATE	EXPEDIENT
B10-020-001-01	C-MR-3L	M-SWHX	AUX	3L	M	CE	CIVILFAIL		BRACE	OVERLAP
B10-016-001-01	P-3126-2	M-8142	CNT	9A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B10-016-001-02	P-3811-1	M-8142	CNT	9A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B12-002-001-03	P-4397-2	P-0024-3	CNT	9B	M	PSE	SPTFAIL		SUPPORT	OVERLAP
B11-004-002-03	E-KHT18-3	P-0047-3	PPS	3I2	M	EE	SPTFAIL		SUPPORT	EXPEDIENT
B12-001-002-02	P-1007-2	P-0050-3	CNT	9B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B10-004-001-02	P-4397-2	P-0054-2	CNT	9B	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B10-005-001-02	P-0532-4	P-0055-2	CNT	9A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B10-005-001-01	P-4397-2	P-0055-2	CNT	9B	M	PSE	DEFLECT		SUPPORT	OVERLAP
B10-012-001-01	M-RCP 2-1	P-0058-2	CNT	9B	M	PSE	DEFLECT		CONSTDEF	OVERLAP
B10-015-001-02	P-USB-9B	P-0061-2	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B12-003-001-03	P-3080-2	P-0063-1	CNT	9B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B12-003-001-02	P-3081-2	P-0063-1	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B12-003-001-01	P-4260-0.75	P-0063-1	CNT	9B	M	PSE	SPTFAIL		SUPPORT	OVERLAP
B10-003-001-01	E-RS-3CC	P-0746-3	PEN	3CC	M	EE	DEFLECT		CLEARANCE	EXPEDIENT
B10-003-001-02	PS-1042-2.50	P-0746-3	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B10-012-001-04	P-3243-3	P-1479-2	CNT	9A	M	PSE	DEFLECT	SPTFAIL	SUPPORT	EXPEDIENT
B10-013-003-01	P-3122-2	P-1484-0.75	CNT	9A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B10-016-001-03	P-3243-3	P-1499-0.75	CNT	9A	M	PSE	DEFLECT		SUPPORT	NECESSARY

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=CHEM. & VOL. CONTROL SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B13-002-001-01	C-PLAT-3AA	P-1558-2	AUX	3AA	M	CE	CIVILFAIL		RELOCATE	EXPEDIENT
B12-005-005-01	E-KX937-0.75	E-KX537-0.75	CNT	9A	NAN		DEFLECT			
B12-012-004-02	E-DJCD	E-KX544-1.50	CNT	9A	NAN		INTERFERE	DEFLECT		
B12-004-005-01	E-BJK269	E-K1864-0.75	CNT	9A	NAN		DEFLECT			
B12-009-004-01	M-8149A	E-K1976-1	CNT	9A	NAN		DEFLECT			
B11-007-002-07	E-BUSDUCT	E-K2667-3	EL	23B	NAN		DEFLECT			
B11-006-002-01	P-ULB-3K3	E-K7057+	PPS	3K3	NAN		DEFLECT			
B13-009-002-03	C-HATCH	E-K9440-2	AUX	3X	NAN		LOOSE			
B10-010-002-02	P-1869-1	I-F1C171	CNT	9A	NAN		SPTFAIL			
B13-013-002-02	C-SB	I-HCV104	AUX	3AA	NAN		CIVILFAIL			
B13-019-001-02	C-SB	I-LT102	AUX	3AA	NAN		CIVILFAIL			
B13-019-001-01	E-LF-5	I-LT102	AUX	3AA	NAN		FIXTURE			
B13-020-001-02	E-LF-5	I-LT106	AUX	3AA	NAN		FIXTURE			
B13-020-001-03	P-0066-2	I-LT106	AUX	3AA	NAN		DEFLECT			
B11-005-003-01	E-LF-3X	I-PT128	AUX	3X	NAN		FIXTURE			
B11-005-003-02	E-LF-3X	I-PT128	AUX	3X	NAN		FIXTURE			
B10-011-003-01	E-KX929-1	I-PT183	CNT	9A	NAN		DEFLECT			
B10-008-003-01	E-LF-5	I-PT188	CNT	9A	NAN		FIXTURE			
B13-008-001-03	P-USB-3AA	M-BAT 2-1	AUX	3AA	NAN		DEFLECT			
B13-013-001-01	E-LF-3X	M-FCV110A	AUX	3X	NAN		FIXTURE			
B13-017-001-01	E-LF-3X	M-FCV110B	AUX	3X	NAN		FIXTURE			
B13-015-001-01	E-LF-3X	M-FCV111A	AUX	3X	NAN		FIXTURE			
B13-016-001-01	E-LF-3X	M-FCV111B	AUX	3X	NAN		FIXTURE			
B11-011-001-01	E-LF-3D3	M-FCV128	AUX	3D3	NAN		FIXTURE			
B13-013-001-02	E-LF-3AA	M-HCV104	AUX	3AA	NAN		FIXTURE			
B13-005-001-02	E-LF-3X	M-HCV104	AUX	3X	NAN		FIXTURE			
B13-014-001-02	E-LF-3AA	M-HCV105	AUX	3AA	NAN		FIXTURE			
B10-020-001-02	E-LF-3L	M-SMHX	AUX	3L	NAN		FIXTURE			
B12-002-001-04	C-66F-2	M-8076	CNT	9B	NAN		DEFLECT			
B11-001-001-04	E-LF-3I1	M-8125	PPS	3I1	NAN		FIXTURE			
B12-002-002-01	PS-0026-2	M-8152	PEN	3CC	NAN		DEFLECT			
B10-016-002-06	E-LF-3X	M-8373	AUX	3X	NAN		FIXTURE			
B13-002-001-03	E-LF-3AA	M-8456A	AUX	3AA	NAN		FIXTURE			
B13-001-001-01	E-LF-3AA	M-8456B	AUX	3AA	NAN		FIXTURE			
B13-002-001-02	E-LF-3AA	M-8456B	AUX	3AA	NAN		FIXTURE			
B12-002-001-02	P-4397-2	P-0024-3	CNT	9B	NAN		PIPEFAIL			
B11-001-001-05	E-LF-3I1	P-0041-4	PPS	3I1	NAN		FIXTURE			
B12-001-002-01	C-STAIR-9A	P-0051-2	CNT	9A	NAN		CIVILFAIL			
B10-001-001-04	P-USB-3X	P-0052-3	AUX	3X	NAN		DEFLECT			
B12-003-001-06	E-LF-5	P-0063-1	CNT	9B	NAN		FIXTURE			
B12-003-001-07	P-4251-0.75	P-0063-1	CNT	9B	NAN		SPTFAIL			
B10-016-002-05	E-LF-3L	P-0065-4	AUX	3L	NAN		FIXTURE			
B13-004-002-01	E-LF-3X	P-0073-2	AUX	3X	NAN		FIXTURE			
B13-005-001-01	E-LF-3X	P-0736-2	AUX	3X	NAN		FIXTURE			
B11-001-001-06	E-LF-3X	P-1452-1	AUX	3X	NAN		FIXTURE			
B14-003-001-04	E-LF-3X	P-1463-2	AUX	3X	NAN		FIXTURE			
B14-003-001-03	E-LF-3I1	P-1464-2	PPS	3I1	NAN		FIXTURE			
B10-008-001-01	C-GRATING	P-1495-0.75	CNT	9A	NAN		INTERFERE			
B10-016-002-04	E-LF-3L	P-3636-4	AUX	3L	NAN		FIXTURE			
B10-004-001-01	PS-2314-3	PA-0054-2	CNT	9B	NAN		DEFLECT			
B12-003-001-09	C-SHIELD-9B	PS-0063-1	CNT	9B	NAN		CIVILFAIL			
B11-011-006-04	NS-CD	E-KT595	AUX	3X	X	QC	HOUSEKEEP			
B11-007-002-05	NS-CD	E-K6950+	AUX	4B	X	QC	HOUSEKEEP			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=CHEM. & VOL. CONTROL SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B11-007-002-04	NS-CD	E-K8813	PPS	3I1	X	QC	HOUSEKEEP			
B11-009-002-02	NS-CD	E-K9236	AUX	3L	X	QC	HOUSEKEEP			
B13-018-002-02	NS-CD	E-K9484	AUX	3X	X	QC	HOUSEKEEP			
B11-007-002-01	NS-CD	E-R-3I1	PPS	3I1	X	QC	HOUSEKEEP			
B13-013-004-01	E-LF-3X	E-TAB	AUX	3X	X	QC	FIXTURE			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=EMERG. DIESEL GENERATORS

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B24-002-032-01	E-LF-CO2	E-K2241-0.75	DG	22A1	A	EE	FIXTURE			
B24-002-008-05	E-LF-CO2	E-K2242-0.75	DG	22B1	A	EE	FIXTURE			
B24-002-002-01	M-COMPR 2-2	I-PI600	DG	22B1	A	EMS	SPTFAIL			
B24-002-038-01	M-COMPR 2-1	I-PI622	DG	22A1	A	EMS	SPTFAIL			
B24-003-002-01	M-COMPR 2-2	I-PI840	DG	22B1	A	EMS	SPTFAIL			
B24-003-012-01	M-COMPR 2-2	I-PI841	DG	22A1	A	EMS	SPTFAIL			
B24-008-016-05	C-DOOR	M-DG 2-1	DG	22A2	A	EMS	SPTFAIL			
B24-008-016-03	C-MR-22A1	M-DG 2-1	DG	22A1	A	CE	CIVILFAIL			
B24-008-017-01	P-2586-5	M-DG 2-1	DG	22A1	A	PSE	PIPEFAIL			
B24-008-016-11	PS-2192-1.50	M-DG 2-1	DG	22A1	A	EMS	DEFLECT			
B24-008-003-01	C-DOOR	M-DG 2-2	DG	22B2	A	EMS	SPTFAIL			
B24-008-003-02	C-MR-22B1	M-DG 2-2	DG	22B1	A	CE	CIVILFAIL			
B24-008-003-08	P-2173-5	M-DG 2-2	DG	22B1	A	PSE	PIPEFAIL			
B24-008-016-06	P-2586-5	E-DG 2-1	DG	22A1	M	PSE	DEFLECT		TMODIFY	OVERLAP
B24-008-004-01	P-SA-5B4	E-KT554-2	EL	5B4	M	PSE	SPTFAIL		TMODIFY	EXPEDIENT
B24-002-032-02	P-0721-12	E-K2704-2+	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B24-002-008-04	P-SPR-3CC	E-K2706-2+	PEN	3CC	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B24-002-008-01	P-1046-6	E-2706-2	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B24-002-008-02	P-1046-6	E-2706-2	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B24-008-016-04	C-DOOR	M-DG 2-1	DG	22A1	M	CE	CIVILFAIL		SUPPORT	NECESSARY
B24-008-016-01	E-LF-15	M-DG 2-1	DG	22A1	M	EE	FIXTURE		CHAIN	NECESSARY
B24-008-016-02	E-LF-15	M-DG 2-1	DG	22A2	M	EE	FIXTURE		RELOCATE	NECESSARY
B24-008-016-09	P-CARDOX-22A	M-DG 2-1	DG	22A1	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B24-008-016-08	P-DRAIN-22A1	M-DG 2-1	DG	22A1	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B24-007-018-01	C-BLOCKWALL	M-DG 2-1 FAN	DG	22A2	M	CE	CIVILFAIL		BRACE	OVERLAP
B24-007-018-02	C-HANDRAIL	M-DG 2-1 FAN	DG	22A2	M	CE	LOOSE		SUPPORT	EXPEDIENT
B24-008-003-03	C-DOOR	M-DG 2-2	DG	22B1	M	CE	CIVILFAIL		SUPPORT	NECESSARY
B24-008-003-09	E-LF-15	M-DG 2-2	DG	22B2	M	EE	FIXTURE		RELOCATE	NECESSARY
B24-008-003-10	E-LF-15	M-DG 2-2	DG	22B1	M	EE	FIXTURE		CHAIN	NECESSARY
B24-008-003-11	E-LF-15	M-DG 2-2	DG	22B1	M	EE	FIXTURE		RELOCATE	NECESSARY
B24-008-003-05	P-CARDOX-22B	M-DG 2-2	DG	22B1	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B24-008-003-07	P-DRAIN-22B1	M-DG 2-2	DG	22B1	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B24-007-001-01	C-BLOCKWALL	M-DG 2-2 FAN	DG	22B2	M	CE	CIVILFAIL		BRACE	OVERLAP
B24-007-001-02	C-HANDRAIL	M-DG 2-2 FAN	DG	22B2	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B24-007-001-03	P-USB-22B2	M-DG 2-2 FAN	DG	22B2	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B24-001-019-01	C-COVER	M-LCV86	DG	22A2	M	CE	LOOSE		SECLOOSE	OVERLAP
B24-001-034-01	C-COVER	M-LCV89	DG	22A2	M	CE	LOOSE		SECLOOSE	OVERLAP
B24-004-002-01	P-DRAIN-22A2	PS-2187-22	DG	22A2	M	PSE	PIPEFAIL	SPTFAIL	SUPPORT	NECESSARY
B24-005-039-01	P-DRAIN-21	PS-2191-1.50	TB	21	M	PSE	PIPEFAIL	SPTFAIL	SUPPORT	EXPEDIENT
B24-008-004-02	P-2173-5	E-DG 2-2	DG	22B1	NAN		DEFLECT			
B24-002-008-03	M-HR	E-K2607-3	EL	23C	NAN		SPTFAIL			
B24-008-016-10	M-HOIST-22A1	M-DG 2-1	DG	22A1	NAN		MECHFAIL			
B24-008-016-07	P-SA-22A1	M-DG 2-1	DG	22A1	NAN		SPTFAIL			
B24-008-003-06	M-HOIST-22B1	M-DG 2-2	DG	22B1	NAN		MECHFAIL			
B24-008-003-04	P-SA-22B1	M-DG 2-2	DG	22B1	NAN		SPTFAIL			
B24-001-013-01	C-COVER	M-LCV85	DG	22B2	X	QC	LOOSE			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=ELECTRIC POWER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B32-004-001-01	E-LF-9	E-DCSWGR	EL	6B1	A	EE	FIXTURE			
B32-004-002-01	E-LF-9	E-DCSWGR	EL	6B2	A	EE	FIXTURE			
B32-004-004-02	E-LF-9	E-DCSWGR	EL	6B3	A	EE	FIXTURE			
B32-011-001-03	C-STAIR	E-K2819-1.50	EL	23E	A	CE	CIVILFAIL			
B32-011-001-02	E-BUSDUCT	E-K2819-1.50	EL	23E	A	EE	SPTFAIL			
B32-011-002-02	C-STAIR	E-K2820-1.50	EL	23E	A	CE	CIVILFAIL			
B32-011-002-03	E-BUSDUCT	E-K2820-1.50	EL	23E	A	EE	SPTFAIL			
B32-011-003-03	C-STAIR	E-K2821-1.50	EL	23E	A	CE	CIVILFAIL			
B32-011-003-02	E-BUSDUCT	E-K2821-1.50	EL	23E	A	EE	SPTFAIL			
B32-003-007-05	C-WALL	E-K6944-4	AUX	4B	A	CE	CIVILFAIL			
B32-003-007-04	C-WALL	E-K6962-4	AUX	4B	A	CE	CIVILFAIL			
B32-011-001-04	E-RC	E-K7835-2.50	EL	7B	A	EE	SPTFAIL			
B32-010-001-02	E-PNAPC+	E-TRIP BKR	EL	6B4	A	EE	SPTFAIL			
B32-005-001-04	C-BASIN	E-BATTERY	EL	6B1	M	CE	SPTFAIL		TSHIELD	EXPEDIENT
B32-005-003-05	C-BASIN	E-BATTERY	EL	6B3	M	CE	SPTFAIL		TSHIELD	EXPEDIENT
B32-005-001-03	C-BLOCKWALL	E-BATTERY	EL	6B1	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-005-002-01	C-BLOCKWALL	E-BATTERY	EL	6B2	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-005-003-01	C-BLOCKWALL	E-BATTERY	EL	6B3	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-005-001-01	E-LF-8	E-BATTERY	EL	6B1	M	EE	FIXTURE		CHAIN	NECESSARY
B32-005-002-02	E-LF-8	E-BATTERY	EL	6B2	M	EE	FIXTURE		CHAIN	NECESSARY
B32-005-003-03	E-LF-8	E-BATTERY	EL	6B3	M	EE	FIXTURE		CHAIN	NECESSARY
B32-005-003-02	N-CABINET	E-BATTERY	EL	6B3	M	EE	SPTFAIL		SECLOOSE	NECESSARY
B32-005-001-02	P-DRAIN-6B1	E-BATTERY	EL	6B1	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B32-005-002-03	P-DRAIN-6B2	E-BATTERY	EL	6B2	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B32-005-003-04	P-DRAIN-6B3	E-BATTERY	EL	6B3	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B32-004-001-02	M-FE	E-DCSWGR	EL	6B1	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B32-004-002-02	M-FE	E-DCSWGR	EL	6B2	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B32-004-004-01	M-FE	E-DCSWGR	EL	6B3	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B32-001-011-03	C-STAIR	E-K2130-4	EL	20	M	CE	CIVILFAIL		BRACE	NECESSARY
B32-001-011-02	P-2149-3	E-K2469-2	DG	22C	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B32-001-011-04	C-BLOCKWALL	E-K2619+	EL	23F	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-011-003-01	C-BLOCKWALL	E-K2652-2	EL	24D	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-011-002-01	C-BLOCKWALL	E-K2653-2	EL	24D	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-011-001-01	C-BLOCKWALL	E-K2654-2	EL	24D	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-010-001-01	C-WALL	E-SSPS	EL	8H	M	CE	CIVILFAIL	ENVIRON	TSHIELD	NECESSARY
B32-001-008-03	C-BLOCKWALL	E-4.16KVSWGR	EL	24A	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-001-009-03	C-BLOCKWALL	E-4.16KVSWGR	EL	24B	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-001-010-03	C-BLOCKWALL	E-4.16KVSWGR	EL	24C	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-001-008-04	M-FE	E-4.16KVSWGR	EL	24A	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B32-001-008-01	N-EQUIP	E-4.16KVSWGR	EL	24A	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B32-001-009-01	N-EQUIP	E-4.16KVSWGR	EL	24B	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B32-001-010-01	N-EQUIP	E-4.16KVSWGR	EL	24C	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B32-001-009-04	N-LOCKER	E-4.16KVSWGR	EL	24B	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B32-003-004-02	C-BLOCKWALL	E-480VSWGR	EL	5B1	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-003-005-02	C-BLOCKWALL	E-480VSWGR	EL	5B2	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-003-006-02	C-BLOCKWALL	E-480VSWGR	EL	5B3	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-003-005-04	E-LF-BOL	E-480VSWGR	EL	5B2	M	EE	FIXTURE		SUPPORT	EXPEDIENT
B32-003-005-03	M-FE	E-480VSWGR	EL	5B2	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B32-009-001-01	N-CABINET	I-VB2	EL	8C	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B32-009-001-02	N-CABINET	I-VB5	EL	8C	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B32-001-011-01	E-CABINET	E-K2469-2	DG	22C	NAN		SPTFAIL			
B32-001-011-05	P-DRAIN-23F	E-K2607+	EL	23F	NAN		SPTFAIL	PIPEFAIL		
B32-003-007-02	C-WALL	E-K6934-4	AUX	4B	NAN		CIVILFAIL			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=ELECTRIC POWER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B32-003-007-03	C-WALL	E-K6944-4	AUX	4B	NAN		CIVILFAIL			
B32-003-007-01	C-WALL	E-K6962-4+	AUX	4B	NAN		INTERFERE			
B32-001-008-02	E-LF-9	E-4.16KVSWGR	EL	24A	NAN		FIXTURE			
B32-001-009-02	E-LF-9	E-4.16KVSWGR	EL	24B	NAN		FIXTURE			
B32-001-010-02	E-LF-9	E-4.16KVSWGR	EL	24C	NAN		FIXTURE			
B32-003-004-01	E-LF-9	E-480VSWGR	EL	5B1	NAN		FIXTURE			
B32-003-005-01	E-LF-9	E-480VSWGR	EL	5B2	NAN		FIXTURE			
B32-003-006-01	E-LF-9	E-480VSWGR	EL	5B3	NAN		FIXTURE			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=FIREWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B28-003-007-01	E-LF-3W	P-1705-4	AUX	3W	A	EE	FIXTURE			
B28-005-005-03	E-K1534-5	P-2674-4	CNT	9A	A	EE	DEFLECT			
B28-003-003-03	E-LF-3W	P-2989-4	AUX	3W	A	EE	FIXTURE			
B28-003-001-02	C-SB	P-2990-4	AUX	32	A	CE	DEFLECT	CIVILFAIL		
B28-003-001-01	PS-0221-18	P-2990-4	PPS	3T1	A	PSE	DEFLECT			
B28-004-003-01	C-SB	P-3602-2	AUX	S4	A	CE	CIVILFAIL			
B28-004-003-02	C-SB	P-3602-2	AUX	S4	A	CE	CIVILFAIL			
B28-004-034-01	P-SPR-3C	P-3619-4	AUX	3C	A	PSE	SPTFAIL			
B28-004-038-01	C-16K-2	P-3620-2	AUX	3C	A	CE	CIVILFAIL			
B28-004-038-02	C-16K-2	P-3620-2	AUX	3C	A	CE	CIVILFAIL			
B28-003-005-03	C-CATWALK	P-3640-2	AUX	3W	A	CE	CIVILFAIL			
B28-008-001-04	P-SA-19A	P-3944-6	TB	19A	A	PSE	DEFLECT			
B28-008-003-02	M-BOTTLE	P-3950-2	TB	19A	A	NPO	SPTFAIL			
B28-008-013-02	E-R-19A	P-3955-2	TB	19A	A	EE	SPTFAIL			
B28-003-011-01	M-PWST	P-4259-4	OA	26	A	CE	SPTFAIL			
B28-003-013-04	C-LADDER-3V3	P-4260-2	HV	3V3	A	CE	CIVILFAIL			
B28-003-013-05	C-LADDER-3V8	P-4260-2	HV	3V8	A	CE	CIVILFAIL			
B28-003-013-03	C-2L-2	P-4260-2	HV	3V3	A	CE	CIVILFAIL			
B28-003-013-01	M-PWST	P-4260-2	HV	3V3	A	CE	SPTFAIL			
B28-003-013-02	C-4L-2	P-4260-2	OA	26	A	CE	CIVILFAIL			
B28-003-012-01	M-PWST	P-4261-2	OA	26	A	CE	SPTFAIL			
B28-008-021-05	C-FB	P-5043-2	DG	22C	A	CE	CIVILFAIL			
B28-008-023-02	C-RSM-19A	P-5045-2	TB	19A	A	ENG	RELSTRUCT	SPTFAIL		
B28-003-013-10	C-LADDER-3V8	P-5052-2	HV	3V8	A	CE	DEFLECT			
B28-005-005-04	E-K1534-5	PA-2674-4	CNT	9A	A	EE	SPTFAIL			
B28-003-001-12	C-GRATING	PA-2990-4	HV	3V2	A	CE	INTERFERE			
B28-004-011-04	C-MR-3AA	PA-3608-2.50	AUX	3AA	A	CE	CIVILFAIL			
B28-008-008-01	M-PANEL	PA-3945-2	TB	19A	A	EMS	SPTFAIL			
B28-008-017-01	E-LF-9	PA-3958-2	TB	19A	A	EE	FIXTURE			
B28-008-019-02	M-HR	PA-3960-2	TB	19A	A	EMS	DEFLECT			
B28-005-009-01	E-K1534-5	PA-4364-2	CNT	9A	A	EE	SPTFAIL			
B28-004-045-01	P-3688-2	PS-2642-3	AUX	3L	A	PSE	INTERFERE			
B28-006-001-01	P-SPR-3CC	I-FCV633	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B28-008-009-01	C-DOOR	I-FS28	TB	19A	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B28-005-005-01	E-K1531-5	P-2674-4	CNT	9A	M	EE	SPTFAIL		SUPPORT	OVERLAP
B28-005-005-02	P-3209-12	P-2674-4	CNT	9A	M	PSE	DEFLECT		SUPPORT	NECESSARY
B28-005-005-05	PS-3256-2	P-2674-4	CNT	9A	M	PSE	DEFLECT		CLEARANCE	NECESSARY
B28-004-052-06	P-SPR-3AA	P-2677-6	AUX	3AA	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-007-004-02	C-BLOCKWALL	P-2683-4	TB	19A	M	CE	CIVILFAIL		BRACE	OVERLAP
B28-007-004-03	C-BLOCKWALL	P-2683-4	TB	19A	M	CE	CIVILFAIL		BRACE	OVERLAP
B28-003-003-04	P-SPR-3W	P-2989-4	AUX	3W	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B28-005-007-01	C-STAIR-9A	P-3155-2	CNT	9A	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B28-005-013-01	C-ANNULUS	P-3161-2	CNT	9A	M	CE	INTERFERE		TMODIFY	OVERLAP
B28-004-011-02	P-SPR-3CC	P-3603-4	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B28-004-034-03	C-16K-2	P-3619-4	AUX	3C	M	CE	CIVILFAIL		TMODIFY	NECESSARY
B28-004-035-01	M-HR	P-3622-2	AUX	3C	M	EMS	DEFLECT		SUPPORT	EXPEDIENT
B28-003-005-01	C-HANDRAIL	P-3640-2	AUX	3W	M	CE	LOOSE		SUPPORT	EXPEDIENT
B28-002-005-03	M-HR	P-3640-2	AUX	3W	M	EMS	SPTFAIL		SUPPORT	EXPEDIENT
B28-003-008-02	P-SPR-3W	P-3643-2	AUX	3W	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-004-052-07	P-SPR-3AA	P-3722-6	AUX	3AA	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-001-01	H-S51	P-3944-6	TB	19A	M	HVA	SPTFAIL		BRACE	NECESSARY
B28-008-001-07	P-SPR-19A	P-3944-6	TB	19A	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B28-008-001-03	P-USB-19A	P-3944-6	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=FIREWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B28-008-001-06	P-0581-12	P-3944-6	TB	19A	M	PSE	DEFLECT		SUPPORT	NECESSARY
B28-008-001-11	P-0581-12	P-3944-6	TB	19A	M	PSE	DEFLECT		SUPPORT	NECESSARY
B28-008-001-02	P-2772-4	P-3944-6	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-006-01	C-BLOCKWALL	P-3948-2	TB	19A	M	CE	CIVILFAIL		BRACE	OVERLAP
B28-008-007-04	C-BLOCKWALL	P-3949-2	TB	19A	M	CE	CIVILFAIL		BRACE	OVERLAP
B28-008-007-01	C-ELEVATOR	P-3949-2	TB	19D	M	CE	CIVILFAIL		TMODIFY	NECESSARY
B28-008-007-02	E-LF-15	P-3949-2	TB	19D	M	EE	FIXTURE		CHAIN	EXPEDIENT
B28-008-007-03	H-S75	P-3949-2	TB	19A	M	HVA	SPTFAIL		TMODIFY	NECESSARY
B28-008-003-01	C-BLOCKWALL	P-3950-2	TB	19A	M	CE	CIVILFAIL		BRACE	OVERLAP
B28-008-003-03	P-0581-12	P-3950-2	TB	19A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B28-008-002-02	M-TANK	P-3951-2	TB	19A	M	EMS	SPTFAIL		RELOCATE	OVERLAP
B28-008-002-01	P-4554-4+	P-3951-2	TB	19A	M	PSE	DEFLECT	SPTFAIL	SUPPORT	EXPEDIENT
B28-008-011-02	C-STAIR	P-3953-2	TB	19A	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B28-008-011-03	C-STAIR	P-3953-2	TB	19A	M	PSE	CIVILFAIL		BRACE	NECESSARY
B28-008-013-03	H-S64	P-3955-2	TB	19D	M	CE	SPTFAIL		BRACE	NECESSARY
B28-008-013-01	P-1742-8	P-3955-2	TB	19A	M	PSE	DEFLECT		STOP	NECESSARY
B28-008-017-03	P-SPR-19A	P-3958-2	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-017-04	PS-0338-4	P-3958-2	TB	19A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B28-008-018-02	P-SPR-19A	P-3959-2	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-016-04	E-K3089-4	P-3961-2	TB	19A	M	EE	INTERFERE		TMODIFY	EXPEDIENT
B28-008-016-03	H-S61	P-3961-2	TB	19D	M	CE	SPTFAIL	CIVILFAIL	BRACE	NECESSARY
B28-008-016-05	P-SPR-19A	P-3961-2	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-024-06	C-STAIR	P-3962-2	TB	19A	M	CE	CIVILFAIL		BRACE	NECESSARY
B28-008-009-03	C-BLOCKWALL	P-3988-10	TB	19A	M	CE	CIVILFAIL		BRACE	OVERLAP
B28-008-020-02	P-DRAIN-19A	P-5042-4	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-020-04	P-SPR-19A	P-5042-4	TB	19A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B28-008-020-06	P-SPR-19A	P-5042-4	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-020-03	P-0580-8	P-5042-4	TB	19A	M	PSE	DEFLECT		SUPPORT	NECESSARY
B28-008-021-04	P-SPR-22C	P-5043-2	DG	22C	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-022-02	E-K2614-3	P-5044-2	EL	23A	M	EE	SPTFAIL		TMODIFY	EXPEDIENT
B28-008-022-01	P-SPR-19A	P-5044-2	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-023-01	H-DUCT-24E	P-5045-2	HV	24E	M	HVA	SPTFAIL		SUPPORT	NECESSARY
B28-008-023-04	C-BLOCKWALL	P-5045-2	TB	25	M	CE	CIVILFAIL		BRACE	OVERLAP
B28-008-023-05	P-SPR-19A	P-5045-2	TB	19A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B28-005-016-01	E-RNRP-A,B	PA-1361-2	CNT	9C	M	CE	SPTFAIL		SUPPORT	EXPEDIENT
B28-007-004-01	M-TANK-19A	PA-2683-4	TB	19A	M	EMS	SPTFAIL		TMODIFY	EXPEDIENT
B28-005-008-01	C-34F-2	PA-3157-2	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B28-005-008-02	M-HR	PA-3157-2	CNT	9C	M	EMS	SPTFAIL		BRACE	EXPEDIENT
B28-005-016-02	M-HR	PA-3160-2	CNT	9C	M	EMS	SPTFAIL		BRACE	EXPEDIENT
B28-005-013-02	C-35F-2	PA-3161-2	CNT	9C	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B28-005-013-03	M-HR	PA-3161-2	CNT	9C	M	EMS	SPTFAIL		BRACE	EXPEDIENT
B28-004-007-01	P-SPR-3CC	PA-3605-2	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B28-004-011-01	P-SPR-3CC	PA-3608-4	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-009-02	P-3018-2+	PA-3943-6	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-003-05	M-HR	PA-3950-2	TB	19A	M	EMS	DEFLECT		STOP	EXPEDIENT
B28-008-003-04	P-SPR-19A	PA-3950-2	TB	19A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B28-008-010-02	P-2772-4	PA-3952-4	TB	19A	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B28-008-011-01	M-HR	PA-3953-2	TB	19A	M	EMS	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-012-01	P-SPR-19A	PA-3954-2	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-013-04	C-P63T-2	PA-3955-2	TB	19D	M	CE	CIVILFAIL		BRACE	NECESSARY
B28-008-016-06	C-P63T-2	PA-3961-2	TB	19D	M	CE	CIVILFAIL		BRACE	NECESSARY
B28-008-016-02	E-LF-15	PA-3961-2	TB	19A	M	EE	FIXTURE		CHAIN	EXPEDIENT
B28-008-016-01	M-HR	PA-3961-2	TB	19D	M	EMS	SPTFAIL		SUPPORT	EXPEDIENT

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=FIREWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B28-008-024-03	E-LF-15	PA-3962-2	TB	19D	M	EE	FIXTURE		CHAIN	EXPEDIENT
B28-008-024-01	M-HR	PA-3962-2	TB	19D	M	EMS	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-001-05	P-0579-8+	PS-3944-6	TB	19A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B28-008-020-01	PS-0579-8	PS-5042-4	TB	19A	M	PSE	DEFLECT		RELOCATE	EXPEDIENT
B28-003-002-01	P-2124-4	P-0516-2	AUX	32	NAN		DEFLECT			
B28-003-007-02	E-LF-3W	P-1705-4	AUX	3W	NAN		FIXTURE			
B28-005-001-01	H-DUCT-3CC	P-2095-4	PEN	3CC	NAN		SPTFAIL			
B28-004-001-01	M-PCV91	P-2677-6	AUX	3W	NAN		MECHFAIL			
B28-003-003-01	E-LF-3W	P-2989-4	AUX	3W	NAN		FIXTURE			
B28-003-001-06	E-KS863-1.50	P-2990-4	AUX	32	NAN		DEFLECT			
B28-003-001-09	E-LF-32	P-2990-4	AUX	32	NAN		FIXTURE			
B28-003-001-04	P-2741-4	P-2990-4	AUX	32	NAN		DEFLECT			
B28-003-001-16	P-2771-4	P-2990-4	AUX	32	NAN		DEFLECT			
B28-003-001-03	E-K8033	P-2990-4	PPS	3T1	NAN		DEFLECT			
B28-003-001-08	P-0382-4	P-2990-4	PPS	3T1	NAN		DEFLECT			
B28-004-004-01	P-SA-3CC	P-3603-4	PEN	3CC	NAN		DEFLECT			
B28-004-021-01	P-USB-3CC	P-3614-2	PEN	3CC	NAN		SPTFAIL	DEFLECT		
B28-004-034-02	C-MR-3C	P-3619-4	AUX	3C	NAN		DEFLECT			
B28-004-037-01	E-KS228-2+	P-3620-2+	AUX	3C	NAN		INTERFERE			
B28-003-004-01	E-LF-3W	P-3639-2	AUX	3W	NAN		FIXTURE			
B28-003-005-04	E-LF-3W	P-3640-2	AUX	3W	NAN		FIXTURE			
B28-003-005-05	E-LF-3W	P-3640-2	AUX	3W	NAN		FIXTURE			
B28-003-008-01	E-LF-3W	P-3643-2	AUX	3W	NAN		FIXTURE			
B28-003-009-01	E-LF-3W	P-3644-2	AUX	3W	NAN		FIXTURE			
B28-004-049-01	C-SB	P-3690-2	AUX	3C	NAN		CIVILFAIL			
B28-004-052-04	P-USB-3T1	P-3722-6	PPS	3T1	NAN		DEFLECT			
B28-004-052-05	P-USB-3T1	P-3722-6	PPS	3T1	NAN		DEFLECT			
B28-004-052-03	P-2805-2	P-3722-6	PPS	3T1	NAN		INTERFERE			
B28-008-001-08	H-DUCT-19A	P-3944-6	TB	19A	NAN		DEFLECT			
B28-008-001-10	P-2772-4	P-3944-6	TB	19A	NAN		DEFLECT			
B28-008-008-02	C-SB	P-3945-2	TB	19A	NAN		CIVILFAIL			
B28-008-004-01	P-SA-19A	P-3946-4	TB	19A	NAN		SPTFAIL			
B28-008-002-03	P-3135-1	P-3951-2	TB	19A	NAN		DEFLECT			
B28-008-010-01	P-SA-19A	P-3952-4	TB	19A	NAN		SPTFAIL			
B28-008-010-03	P-1742-8	P-3952-4	TB	19A	NAN		DEFLECT			
B28-008-015-02	C-STAIR	P-3957-4	TB	19A	NAN		CIVILFAIL			
B28-008-015-01	P-SPR-19A	P-3957-4	TB	19A	NAN		SPTFAIL			
B28-008-017-02	PS-0338-4	P-3958-2	TB	19A	NAN		DEFLECT			
B28-008-019-05	C-STAIR	P-3960-2	TB	19A	NAN		DEFLECT	CIVILFAIL		
B28-008-019-03	P-SPR-19A	P-3960-2	TB	19A	NAN		SPTFAIL			
B28-008-016-07	C-STAIR	P-3961-2	TB	19A	NAN		CIVILFAIL			
B28-008-024-04	C-BEAM	P-3962-2	TB	19A	NAN		INTERFERE			
B28-008-024-02	P-SPR-19A	P-3962-2	TB	19A	NAN		SPTFAIL			
B28-008-024-05	P-SPR-19A	P-3962-2	TB	19A	NAN		SPTFAIL			
B28-003-011-02	C-SB	P-4259-4	HV	3V3	NAN		LOOSE			
B28-003-013-06	E-LF-3V3	P-4260-2	HV	3V3	NAN		FIXTURE			
B28-003-013-07	E-LF-3V3	P-4260-2	HV	3V3	NAN		FIXTURE			
B28-003-013-09	E-LF-3V3	P-4260-2	HV	3V3	NAN		FIXTURE			
B28-003-013-08	H-DUCT-3V3	P-4260-2	HV	3V3	NAN		DEFLECT			
B28-008-020-05	P-IAH-19A	P-5042-4	TB	19A	NAN		SPTFAIL			
B28-008-021-01	E-LF-9	P-5043-2	DG	22C	NAN		FIXTURE			
B28-008-021-03	H-DUCT-22C	P-5043-2	DG	22C	NAN		SPTFAIL			
B28-008-021-02	P-DRAIN-19A	P-5043-2	TB	19A	NAN		DEFLECT			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=FIREWATER SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B28-003-011-03	C-SHIELD-32	P-5051-4	AUX	32	NAN		CIVILFAIL			
B28-003-012-02	C-4L-2	P-5053-2	HV	3V3	NAN		CIVILFAIL			
B28-003-001-11	E-K3070+	PA-2990-4	AUX	32	NAN		DEFLECT			
B28-003-001-10	P-2337-2	PA-2990-4	AUX	33	NAN		DEFLECT			
B28-003-001-14	P-2997-2	PA-2990-4	AUX	33	NAN		DEFLECT			
B28-003-001-13	P-2997-2	PA-2990-4	HV	3V2	NAN		DEFLECT			
B28-004-003-03	M-HR	PA-3602-2	AUX	3S	NAN		SPTFAIL			
B28-004-007-02	I-PM80	PA-3605-2	PEN	3CC	NAN		SPTFAIL			
B28-004-011-03	M-HOIST-3AA	PA-3608-2+	AUX	3AA	NAN		MECHFAIL			
B28-004-052-01	P-5110-4	PA-3722-6	PPS	3T1	NAN		DEFLECT			
B28-008-001-09	E-TBB	PA-39446	TB	19E	NAN		SPTFAIL			
B28-008-018-01	M-HR	PA-3959-2	TB	19A	NAN		DEFLECT	SPTFAIL		
B28-008-019-04	E-EEDE-12+	PA-3960-2	TB	19A	NAN		SPTFAIL			
B28-008-019-01	E-LF-9	PA-3960-2	TB	19A	NAN		FIXTURE			
B28-008-023-03	C-CEILING	PA-5045-2	TB	25	NAN		CIVILFAIL			
B28-003-003-02	NS-CD	P-2989-4	AUX	3W	X	GC	HOUSEKEEP			
B28-003-001-05	NS-CD	P-2990-4	AUX	32	X	QC	HOUSEKEEP			
B28-003-001-07	NS-CD	P-2990-4	AUX	32	X	QC	HOUSEKEEP			
B28-003-004-02	NS-CD	P-3639-2	AUX	3W	X	GC	HOUSEKEEP			
B28-003-005-02	NS-CD	P-3640-2	AUX	3W	X	GC	HOUSEKEEP			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=HVAC FOR VITAL EQUIP. COOLING

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B25-109-002-02	C-COVER	E-K6843-2.50	HV	8B4	A	HVA	LOOSE			
B25-030-002-02	E-NSAA+	E-K8012-4	PPS	3T2	A	EE	DEFLECT			
B25-025-002-01	C-STAIR	E-K9798-2+	AUX	S2	A	CE	CIVILFAIL			
B25-146-002-02	E-IC211	E-S46	EL	6B5	A	CE	SPTFAIL			
B25-146-002-01	E-TYBU	E-S46	EL	6B5	A	EE	SPTFAIL			
B25-146-002-03	E-PNPRC-2	E-S46+	EL	6B4	A	EE	SPTFAIL			
B25-018-020-02	H-LINKAGE	H-DAMPER	PPS	3T2	A	HVA	LOOSE	ENVIRON		
B25-157-002-04	C-STAIR	H-DUCT-S7	EL	S7	A	CE	CIVILFAIL			
B25-157-003-01	C-STAIR	H-DUCT-S7	EL	S7	A	CE	CIVILFAIL			
B25-144-004-02	E-K0115+	H-DUCT-19A	TB	19A	A	EE	DEFLECT	SPTFAIL		
B25-144-001-04	E-RS-19A	H-DUCT-19A	TB	19A	A	EE	SPTFAIL			
B25-163-001-01	C-DOOR	H-DUCT-22A2	DG	22A2	A	CE	CIVILFAIL			
B25-163-001-02	M-FILTER	H-DUCT-22A2	DG	22A2	A	PSE	PIPEFAIL	SPTFAIL		
B25-163-002-01	C-DOOR	H-DUCT-22B2	DG	22B2	A	CE	CIVILFAIL			
B25-163-002-03	M-FILTER	H-DUCT-22B2	DG	22B2	A	PSE	PIPEFAIL			
B25-151-005-01	C-WALL	H-DUCT-23A	EL	23A	A	CE	CIVILFAIL			
B25-154-003-01	C-WALL	H-DUCT-23B	EL	23B	A	CE	CIVILFAIL			
B25-157-003-02	C-WALL	H-DUCT-23C	EL	23C	A	CE	CIVILFAIL			
B25-157-002-05	H-S71	H-DUCT-24E	HV	24E	A	HVA	SPTFAIL			
B25-040-040-07	C-7K-2	H-DUCT-3A	AUX	3A	A	CE	CIVILFAIL			
B25-018-020-01	C-RSM-3T1	H-DUCT-3T1	PPS	3T1	A	ENG	RELSTRUCT			
B25-041-001-01	C-HATCH	H-E1	HV	3V3	A	CE	LOOSE			
B25-040-003-01	C-MR-3V3	H-E1	HV	3V3	A	CE	CIVILFAIL			
B25-041-001-02	C-HATCH	H-E2	HV	3V3	A	CE	LOOSE			
B25-018-011-01	C-MR-3V6	H-E4	HV	3V6	A	CE	CIVILFAIL			
B25-018-002-01	C-MR-3V7	H-E5	HV	3V7	A	CE	CIVILFAIL			
B25-021-001-02	C-MR-3V8	H-E6	HV	3V8	A	CE	CIVILFAIL			
B25-030-001-01	H-HTG-COIL	H-S1	HV	3V1	A	HVA	SPTFAIL	ENVIRON		
B25-077-001-02	H-HTG-COIL	H-S33+	HV	8B2	A	HVA	SPTFAIL	ENVIRON		
B25-158-001-01	C-WALL	H-S67	HV	24E	A	CE	CIVILFAIL			
B25-158-001-04	C-WALL	H-S67	HV	24E	A	CE	CIVILFAIL			
B25-155-001-01	C-WALL	H-S68	HV	24E	A	CE	CIVILFAIL			
B25-155-001-02	C-WALL	H-S68	HV	24E	A	CE	CIVILFAIL			
B25-152-001-01	C-WALL	H-S69	HV	24E	A	CE	CIVILFAIL			
B25-152-001-02	C-WALL	H-S69	HV	24E	A	CE	CIVILFAIL			
B25-044-001-01	C-GRATING	I-E2	HV	3V4	A	CE	INTERFERE			
B25-034-002-01	M-TCV5003	I-SV113	HV	3V1	A	EMS	MECHFAIL	ENVIRON		
B25-105-001-02	H-E36	E-CP37	HV	8B4	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B25-105-002-01	H-E36	E-CP37	HV	8B4	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B25-155-002-02	C-BLOCKWALL	E-K2649-1.50	EL	24D	M	CE	CIVILFAIL		BRACE	OVERLAP
B25-031-006-01	P-3104-6	E-K5338-1	HV	3V1	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B25-019-002-01	P-1750-8	E-K6261-3	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B25-108-002-01	M-HOIST-7B	E-K7518-3	EL	7B	M	EMS	DEFLECT		STOP	EXPEDIENT
B25-082-004-02	P-CARDOX-7B	E-K7967-2	EL	7B	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B25-041-002-01	P-0465-4	E-K8042-4+	AUX	32	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B25-035-004-02	C-112L-2	E-K8160-2	HV	3V2	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-035-004-01	P-SA-3CC	E-K8160-2	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B25-035-004-03	C-112L-2	E-K8161-1.50	HV	3V2	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-048-004-01	C-1L-2	E-K8237-0.75	HV	3V4	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-059-004-01	M-FE	E-K8838-1.50	AUX	3C	M	EMS	LOOSE	MECHFAIL	SECLOOSE	EXPEDIENT
B25-081-004-01	P-3105-6	E-K9717-1.50	AUX	3AA	M	PSE	DEFLECT		SUPPORT	NECESSARY
B25-024-004-01	M-TANK	E-K9798-2	AUX	3AA	M	EE	DEFLECT	SPTFAIL	TMODIFY	EXPEDIENT
B25-034-004-01	P-ULB-3AA	E-K9800-2	AUX	3AA	M	PSE	DEFLECT	ENVIRON	SUPPORT	EXPEDIENT

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=HVAC FOR VITAL EQUIP. COOLING

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B25-152-002-01	H-DUCT-24E	E-LPF36	HV	24E	M	HVA	SPTFAIL		SUPPORT	NECESSARY
B25-155-002-01	N-LOCKER	E-LPG63	HV	24E	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B25-158-002-02	C-BLOCKWALL	E-LPH37	HV	24E	M	CE	CIVILFAIL		BRACE	OVERLAP
B25-158-002-01	N-LOCKER	E-LPH37	HV	24E	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B25-024-004-02	P-SPR-3AA	E-9798-2+	AUX	3AA	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-105-001-01	P-USB-8B4	H-CR37+	HV	8B4	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-105-003-01	H-CHILLER	H-CR38	HV	8B4	M	HVA	SPTFAIL		SUPPORT	EXPEDIENT
B25-063-002-01	E-LF-8	H-DAMPER	AUX	3L	M	EE	FIXTURE		RELOCATE	NECESSARY
B25-029-007-02	P-SPR-3W	H-DAMPER	AUX	3W	M	PSE	SPTFAIL		TMODIFY	NECESSARY
B25-040-015-01	C-1L-2	H-DAMPER	HV	3V4	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-124-001-01	P-DRAIN-8B4	H-DAMPER	HV	8B4	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-144-001-01	C-BLOCKWALL	H-DUCT-19A	TB	19A	M	CE	CIVILFAIL		BRACE	OVERLAP
B25-144-001-06	P-1750-8	H-DUCT-19A	TB	19A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B25-144-001-02	C-BLOCKWALL	H-DUCT-19D	TB	19D	M	CE	CIVILFAIL		BRACE	OVERLAP
B25-144-001-05	C-CRANE-19D	H-DUCT-19D	TB	19D	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-144-001-03	C-PLAT-19D	H-DUCT-19D	TB	19D	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-151-007-01	C-P63T-2	H-DUCT-19D	TB	19D	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-154-005-01	C-P63T-2	H-DUCT-19D	TB	19D	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-163-001-03	E-LF-15	H-DUCT-22A2	DG	22A2	M	EE	FIXTURE		CHAIN	NECESSARY
B25-163-002-02	E-LF-15	H-DUCT-22B2	DG	22B2	M	EE	FIXTURE		CHAIN	NECESSARY
B25-151-004-01	C-BLOCKWALL	H-DUCT-24D	EL	24D	M	CE	CIVILFAIL		BRACE	OVERLAP
B25-154-002-01	C-BLOCKWALL	H-DUCT-24D	EL	24D	M	CE	CIVILFAIL		BRACE	OVERLAP
B25-157-002-03	C-BLOCKWALL	H-DUCT-24D	EL	24D	M	CE	CIVILFAIL		BRACE	OVERLAP
B25-157-002-02	C-WALL	H-DUCT-24D	EL	24D	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-158-001-03	C-BLOCKWALL	H-DUCT-24E	HV	24E	M	CE	CIVILFAIL		BRACE	OVERLAP
B25-040-040-08	P-2119-4	H-DUCT-3A	AUX	3A	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B25-040-040-01	C-MR-3AA	H-DUCT-3AA	AUX	3AA	M	CE	DEFLECT		RELOCATE	OVERLAP
B25-040-040-04	C-MR-3AA	H-DUCT-3AA	AUX	3AA	M	CE	DEFLECT	LOOSE	RELOCATE	OVERLAP
B25-040-040-05	M-HOIST-3AA	H-DUCT-3AA	AUX	3AA	M	EMS	DEFLECT		RELOCATE	OVERLAP
B25-040-040-09	M-HOIST-3AA	H-DUCT-3AA	AUX	3AA	M	EMS	DEFLECT		RELOCATE	OVERLAP
B25-040-000-00	P-SPR-3AA	H-DUCT-3AA	AUX	3AA	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-040-033-01	P-0261-12	H-DUCT-3G	PPS	3G	M	HVA	INTERFERE		SUPPORT	EXPEDIENT
B25-040-030-01	PS-0263-10	H-DUCT-3G	PPS	3G	M	HVA	DEFLECT		TMODIFY	EXPEDIENT
B25-076-013-01	P-SPR-3I1	H-DUCT-3I1	PPS	3I1	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-029-006-01	P-1750-8	H-DUCT-3T2	PPS	3T2	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B25-018-009-01	C-111L-2	H-DUCT-3V8	HV	3V8	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-040-040-10	P-SPR-4B	H-DUCT-4B	AUX	4B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-144-005-02	M-FE	H-DUCT-6B5	EL	6B5	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B25-144-005-01	M-HR	H-DUCT-6B5	EL	6B5	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B25-040-001-01	C-9L-2+	H-E1	HV	3V3	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B25-040-004-01	C-5L-2+	H-E2	HV	3V4	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B25-018-011-02	C-15L-2+	H-E4	HV	3V6	M	CE	CIVILFAIL		SECLOOSE	EXPEDIENT
B25-019-001-01	C-18L-2+	H-E5	HV	3V7	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B25-019-001-02	C-18L-2+	H-E5	HV	3V7	M	CE	CIVILFAIL		SECLOOSE	EXPEDIENT
B25-021-001-01	C-22L-2+	H-E6	HV	3V8	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B25-021-001-03	C-22L-2+IL	H-E6	HV	3V8	M	CE	CIVILFAIL		SECLOOSE	EXPEDIENT
B25-151-002-01	N-LOCKER	H-GENERIC	HV	24E	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B25-030-001-02	E-LF-8	H-S1	HV	3V1	M	EE	FIXTURE		CHAIN	EXPEDIENT
B25-032-001-01	E-LF-8	H-S2	HV	3V1	M	EE	FIXTURE		CHAIN	EXPEDIENT
B25-076-003-01	P-SPR-8B2	H-S33	HV	8B2	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-076-003-02	P-SPR-8B2	H-S33	HV	8B2	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-077-001-01	E-LF-8	H-S33+	HV	3V1	M	EE	FIXTURE		CHAIN	EXPEDIENT
B25-079-001-01	P-DRAIN-8B2	H-S34	HV	8B2	M	PSE	PIPEFAIL	SPTFAIL	SUPPORT	NECESSARY

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=HVAC FOR VITAL EQUIP. COOLING

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B25-079-001-02	P-3105-6	H-S34	HV	8B2	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B25-107-001-02	E-R-8B4	H-S38	HV	8B4	M	EE	DEFLECT		SUPPORT	EXPEDIENT
B25-157-002-01	H-DUCT-24E	H-S67	HV	24E	M	HVA	SPTFAIL	DEFLECT	SUPPORT	NECESSARY
B25-158-001-02	N-LOCKER	H-S67	HV	24E	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B25-152-001-03	H-S70	H-S69	HV	24E	M	HVA	SPTFAIL		SUPPORT	EXPEDIENT
B25-076-010-01	M-HR	I-SV102B+	AUX	3L	M	EMS	DEFLECT		STOP	NECESSARY
B25-091-002-01	IS-SV103A+	I-SV103A+	AUX	3L	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B25-034-003-01	P-3103-2	I-SV113	HV	3V1	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B25-040-021-01	E-LF-8	I-SV31	HV	3V2	M	EE	FIXTURE		CHAIN	EXPEDIENT
B25-105-002-02	P-3117-8	E-K6845-1.5	TB	19A	NAN		DEFLECT			
B25-105-004-02	P-DRAIN-19A	E-K6846-1.50	TB	19A	NAN		PIPEFAIL	SPTFAIL		
B25-109-002-01	P-USB-19A	E-K7000-2+	TB	19A	NAN		SPTFAIL	PIPEFAIL		
B25-105-004-01	H-DUCT-5B4	E-K7579-3	EL	5B4	NAN		DEFLECT			
B25-032-002-01	E-LF-8	E-K8114-1.50	HV	3V1	NAN		FIXTURE			
B25-059-004-02	C-16K-2	E-K8838-1.25	AUX	3C	NAN		CIVILFAIL			
B25-105-003-02	M-VALVE	H-CR38	HV	8B4	NAN		DEFLECT	MECHFAIL		
B25-050-001-01	C-3L-2	H-DAMPER	HV	3V3	NAN		CIVILFAIL			
B25-049-001-01	C-4L-2	H-DAMPER	HV	3V3	NAN		CIVILFAIL			
B25-144-004-01	P-1742-8	H-DUCT-19A	TB	19A	NAN		DEFLECT			
B25-154-005-02	C-P57T-2	H-DUCT-19D	TB	19D	NAN		CIVILFAIL			
B25-154-003-02	C-WALL	H-DUCT-23B	EL	23B	NAN		CIVILFAIL			
B25-040-040-06	M-TANK	H-DUCT-3A	AUX	3A	NAN		DEFLECT			
B25-040-040-02	C-MR-3AA	H-DUCT-3AA	AUX	3AA	NAN		DEFLECT			
B25-040-040-03	PS-SA-3AA	H-DUCT-3AA	AUX	3AA	NAN		DEFLECT			
B25-040-033-03	C-MR-3C	H-DUCT-3C	AUX	3C	NAN		CIVILFAIL			
B25-040-033-04	M-TANK	H-DUCT-3C	AUX	3C	NAN		SPTFAIL	DEFLECT		
B25-040-030-02	C-MR-3G	H-DUCT-3G	PPS	3G	NAN		CIVILFAIL			
B25-040-033-02	C-MR-3G	H-DUCT-3G	PPS	3G	NAN		CIVILFAIL			
B25-040-035-01	P-USB-3G	H-DUCT-3G	PPS	3G	NAN		INTERFERE			
B25-029-006-02	P-SPR-3T2	H-DUCT-3T2	PPS	3T2	NAN		PIPEFAIL			
B25-018-016-01	P-SA-3U	H-DUCT-3U	AUX	3U	NAN		SPTFAIL			
B25-029-006-04	P-1705-4	H-DUCT-3V2	HV	3V2	NAN		DEFLECT			
B25-029-006-03	PS-1600-2	H-DUCT-3V2	HV	3V2	NAN		DEFLECT			
B25-018-012-01	C-SB	H-DUCT-3W	AUX	3W	NAN		CIVILFAIL			
B25-018-017-01	C-SB	H-DUCT-3W	AUX	3W	NAN		CIVILFAIL			
B25-160-003-01	E-LF-ND	H-DUCT-30A5	IS	30A5	NAN		FIXTURE			
B25-018-015-02	C-RSM-32	H-DUCT-32	AUX	32	NAN		RELSTRUCT			
B25-029-007-01	P-2989-4	H-DUCT-32	AUX	32	NAN		DEFLECT			
B25-144-004-03	I-XYM-498	H-DUCT-6B5	EL	6B5	NAN		SPTFAIL			
B25-040-001-02	C-MR-3V3	H-E1	HV	3V3	NAN		CIVILFAIL			
B25-040-004-02	C-MR-3V4	H-E2	HV	3V4	NAN		CIVILFAIL			
B25-043-001-01	E-LF-9	H-E2	HV	3V4	NAN		FIXTURE			
B25-077-001-03	E-LF-9	H-S33+	HV	8B2	NAN		FIXTURE			
B25-107-001-01	P-DRAIN-8B4	H-S38	HV	8B4	NAN		DEFLECT			
B25-113-005-01	NS-CD	E-KV018+	HV	8B4	X	QC	HOUSEKEEP			
B25-161-002-01	NS-CD	E-K7242-3	PPS	3K1	X	QC	HOUSEKEEP			
B25-030-002-01	NS-CD	E-K8012-4	AUX	3X	X	QC	HOUSEKEEP			
B25-065-004-02	NS-CD	E-K9335	AUX	3L	X	QC	HOUSEKEEP			
B25-065-004-01	NS-CD	E-K9339	AUX	3L	X	QC	HOUSEKEEP			
B25-077-002-01	NS-CD	E-K9670+	HV	8B2	X	QC	HOUSEKEEP			
B25-082-004-01	NS-CD	E-K9967	HV	8B2	X	QC	HOUSEKEEP			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=MAIN STEAM SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B03-017-023-01	C-44FW-2	E-K5769-1	OA	29	A	CE	CIVILFAIL			
B03-014-004-01	C-48FW-2	E-K5806-1	OA	29	A	CE	CIVILFAIL			
B03-046-001-02	C-RSM-9C	I-FT532	CNT	9C	A	ICE	RELSTRUCT			
B03-005-002-05	C-PLAT-9A	I-LT501	CNT	9A	A	CE	CIVILFAIL			
B03-033-001-04	C-RSM-9C	I-LT517	CNT	9C	A	ICE	RELSTRUCT			
B03-034-001-02	C-RSM-9C	I-LT518	CNT	9C	A	ICE	RELSTRUCT			
B03-039-001-03	C-CRANE-9C	I-LT528	CNT	9C	A	CE	CIVILFAIL			
B03-039-001-02	C-RSM-9C	I-LT528	CNT	9C	A	ICE	RELSTRUCT			
B03-048-001-02	C-RSM-9C	I-LT547	CNT	9C	A	ICE	RELSTRUCT			
B03-049-001-02	C-RSM-9C	I-LT548	CNT	9C	A	ICE	RELSTRUCT			
B03-019-016-01	H-S33	I-PCV21	PEN	3CC	A	HVA	SPTFAIL			
B03-020-016-01	H-S33	I-PCV22	PEN	3CC	A	HVA	SPTFAIL			
B03-040-001-01	C-110F-2	I-PM45	CNT	9A	A	CE	CIVILFAIL			
B03-041-001-01	C-110F-2	I-PM45	CNT	9A	A	CE	CIVILFAIL			
B03-024-001-01	PS-0227-28	I-PT524	OA	29	A	PSE	DEFLECT	INTERFERE		
B03-032-001-01	E-LF-9	I-PT546	PEN	3CC	A	EE	FIXTURE			
B05-003-001-02	P-1167-4	I-1052-0.375	CNT	9A	A	ICE	DEFLECT			
B05-004-001-02	P-1167-4	I-1052-0.375	CNT	9A	A	ICE	DEFLECT			
B05-003-001-01	C-RSM-9A	I-1053-0.375	CNT	9A	A	CE	RELSTRUCT			
B03-003-001-01	C-3GW-2	M-FCV23	PEN	3CC	A	CE	CIVILFAIL			
B03-011-001-04	C-8GW-2	M-FCV43	PEN	3CC	A	CE	CIVILFAIL			
B03-011-002-01	C-8GW-2	M-FCV43	PEN	3CC	A	CE	CIVILFAIL			
B03-012-002-01	C-3GW-2	M-FCV44	PEN	3CC	A	CE	CIVILFAIL			
B04-001-001-01	C-62L-2	P-0593-4	HV	3V2	A	CE	CIVILFAIL			
B04-001-001-04	C-SB	P-0593-4	OA	29	A	CE	CIVILFAIL			
B05-001-001-02	C-PLAT-9B	P-1012-2	CNT	9B	A	CE	CIVILFAIL			
B05-001-001-03	H-DUCT-9A	P-1040-2.50	CNT	9A	A	CE	SPTFAIL			
B05-002-001-04	E-K1534-5	P-1041-2.50	CNT	9A	A	EE	DEFLECT			
B05-002-001-02	H-DUCT-9A	P-1041-2.50	CNT	9A	A	HVA	SPTFAIL			
B04-003-001-01	C-COVER	P-1045-10	AUX	32	A	CE	LOOSE			
B04-001-001-10	P-0826-2	P-2416-1	PEN	3CC	A	PSE	PIPEFAIL			
B04-001-001-07	P-0922-2	P-2416-1	PEN	3CC	A	PSE	PIPEFAIL			
B04-001-001-06	E-LF-52	PA-0593-4	OA	29	A	EE	FIXTURE			
B03-003-001-02	C-SB	PS-0785-10	PEN	3CC	A	CE	CIVILFAIL			
B03-017-023-02	C-46FW-2	E-K5769-1	OA	29	M	CE	CIVILFAIL		BRACE	NECESSARY
B05-009-004-01	PS-1750-8	E-K6278-3	PEN	3CC	M	PSE	DEFLECT	SPTFAIL	SUPPORT	NECESSARY
B03-013-004-01	M-TANK	E-K6542-1	PEN	3CC	M	EMS	SPTFAIL		STOP	EXPEDIENT
B03-019-023-01	P-3105-6	E-K6556-3	PEN	3CC	M	PSE	DEFLECT	INTERFERE	SUPPORT	NECESSARY
B04-006-002-01	C-WALL	E-K8620-1+	AUX	4B	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B05-005-002-04	C-PLAT-9B	I-FCV760	CNT	9B	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B05-005-002-01	P-SA-9B	I-FCV760	CNT	9B	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B05-005-002-02	P-USB-9B	I-FCV760	CNT	9B	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B05-006-002-02	H-DUCT-9A	I-FCV761	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B05-006-002-01	P-USB-9B	I-FCV761	CNT	9B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B05-007-002-02	C-STAIR-9A	I-FCV762	CNT	9A	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B03-036-001-01	P-4271-0.75	I-FT512	CNT	9A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B03-037-001-01	C-RSM-9C	I-FT513	CNT	9C	M	ICE	RELSTRUCT		TMODIFY	NECESSARY
B03-042-001-01	P-3256-2	I-FT523	CNT	9C	M	PSE	PIPEFAIL		SUPPORT	NECESSARY
B03-047-001-01	C-116G-2	I-FT533	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-051-001-01	C-116G-2	I-FT542	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-043-001-03	M-HOIST-9C	I-GENERIC	CNT	9C	M	EMS	MECHFAIL		SECLOOSE	EXPEDIENT
B03-005-002-02	P-DRAIN-9B	I-LT501	CNT	9B	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B03-005-002-03	P-DRAIN-9B	I-LT501	CNT	9B	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=MAIN STEAM SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B03-005-002-04	P-1870-1	I-LT501	CNT	9B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B03-005-002-01	P-3989-0.75	I-LT501	CNT	9B	M	PSE	DEFLECT		SUPPORT	NECESSARY
B03-006-002-04	P-DRAIN-9A	I-LT502	CNT	9A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B03-007-002-01	P-2886-0.75	I-LT503	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B03-007-002-02	P-4625-1	I-LT503	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B03-008-002-02	M-COVER	I-LT504	CNT	9B	M	ICE	LOOSE		TMODIFY	EXPEDIENT
B03-033-001-01	C-114F-2	I-LT517	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-033-001-02	H-DUCT-9B	I-LT517	CNT	9B	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-033-001-03	P-1870-1	I-LT517	CNT	9A	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B03-034-001-01	C-114F-2	I-LT518	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-035-001-01	C-RSM-9C	I-LT519	CNT	9C	M	CE	RELSTRUCT		TMODIFY	NECESSARY
B03-035-001-04	C-114F-2	I-LT519	CNT	9C	M	ICE	RELSTRUCT		TMODIFY	NECESSARY
B03-026-001-02	E-TL27	I-LT526	CNT	9A	M	EE	LOOSE		SUPPORT	NECESSARY
B03-038-001-01	C-115F-2	I-LT527	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-039-001-01	C-115F-2	I-LT528	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-040-001-03	C-76F-2	I-LT529	CNT	9C	M	CE	DEFLECT		CLEARANCE	NECESSARY
B03-043-001-04	C-RSM-9C	I-LT537	CNT	9C	M	ICE	RELSTRUCT		TMODIFY	NECESSARY
B03-043-001-01	C-116G-2	I-LT537	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-043-001-05	P-1869-1	I-LT537	CNT	9B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B03-044-001-02	C-RSM-9C	I-LT538	CNT	9C	M	CE	RELSTRUCT		TMODIFY	NECESSARY
B03-044-001-01	C-116G-2	I-LT538	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-045-001-04	C-RSM-9C	I-LT539	CNT	9C	M	CE	RELSTRUCT		TMODIFY	NECESSARY
B03-045-001-01	C-116G-2	I-LT539	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-048-001-01	C-116G-2	I-LT547	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-049-001-01	C-116G-2	I-LT548	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-017-001-01	C-PLAT-29	I-PCV19	OA	29	M	ICE	CIVILFAIL		TSHIELD	EXPEDIENT
B03-018-001-01	C-PLAT-29	I-PCV20	OA	29	M	ICE	CIVILFAIL		TSHIELD	EXPEDIENT
B03-036-001-02	H-DUCT-9A	I-PM44	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-036-001-03	H-DUCT-9A	I-PM44	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-040-001-02	H-DUCT-9A	I-PM45	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-041-001-02	H-DUCT-9A	I-PM45	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-035-001-02	H-DUCT-9A	I-PM48	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-035-001-03	H-DUCT-9A	I-PM48	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-037-001-02	H-DUCT-9A	I-PM48	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-037-001-03	H-DUCT-9A	I-PM48	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-034-001-03	H-DUCT-9A	I-PM52	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-039-001-04	H-DUCT-9A	I-PM53	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-033-001-05	H-DUCT-9A	I-PM56	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-038-001-03	H-DUCT-9A	I-PM57	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-021-001-01	PS-0228-28	I-PT514	OA	29	M	ENG	SPTFAIL		BRACE	OVERLAP
B03-024-001-02	PS-0227-28	I-PT524	OA	29	M	ENG	SPTFAIL		BRACE	OVERLAP
B03-025-001-01	PS-0227-28	I-PT525	OA	29	M	EMS	DEFLECT	INTERFERE	TMODIFY	NECESSARY
B03-030-001-01	P-SPR-3CC	I-PT544	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B03-006-002-03	C-114F-2	I-PX452	CNT	9C	M	PSE	INTERFERE		CLEARANCE	NECESSARY
B04-001-001-05	P-1043-2.50	M-FCV129	PEN	3CC	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B05-012-001-01	P-SPR-3CC	M-FCV160	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B03-009-002-01	C-30FW-2	M-FCV41	OA	29	M	CE	CIVILFAIL		BRACE	NECESSARY
B04-006-001-01	H-DUCT-3CC	M-FCV95	PEN	3CC	M	HVA	SPTFAIL		RELOCATE	OVERLAP
B04-001-001-02	C-99L-2	P-0593-4	HV	3V2	M	CE	CIVILFAIL		BRACE	NECESSARY
B04-001-001-03	C-CRANE-29	P-0593-4	OA	29	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B05-004-001-01	E-R-9A	P-1043-2.50	CNT	9A	M	EE	DEFLECT	INTERFERE	RELOCATE	EXPEDIENT
B04-001-001-08	P-1046-6	P-2416-1	PEN	3CC	M	PSE	PIPEFAIL		SUPPORT	NECESSARY
B04-001-001-09	P-3738-4	P-2416-1	PEN	3CC	M	PSE	PIPEFAIL		SUPPORT	NECESSARY

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=MAIN STEAM SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B03-003-001-03	P-1869-1	PA-0226-28	CNT	9C	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B04-003-001-03	P-0208-3	PS-1045-10	AUX	32	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B05-004-001-01	C-3GW-2	PS-3918-3	PEN	3CC	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-026-002-01	PS-USB-3CC	E-KT612-1.50	PEN	3CC	NAN		DEFLECT	INTERFERE		
B03-026-002-02	I-PM124	E-KT673-1.50	PEN	3CC	NAN		SPTFAIL			
B05-015-004-02	P-SPR-3CC	E-K6272-3	PEN	3CC	NAN		SPTFAIL			
B05-011-004-01	PS-1042-2.50	E-K6290-1.50	PEN	3CC	NAN		DEFLECT			
B03-013-004-02	C-2GW-2	E-K6543-1.50	PEN	3CC	NAN		CIVILFAIL			
B05-015-004-01	P-ULB-3L	E-K9315-2	AUX	3L	NAN		DEFLECT			
B03-016-002-02	P-4072-3	I-FCV22	PEN	3CC	NAN		DEFLECT			
B03-016-002-01	P-4347-3	I-FCV22	PEN	3CC	NAN		DEFLECT			
B05-013-002-01	I-PANEL	I-FCV250	PEN	3CC	NAN		SPTFAIL			
B05-005-002-03	E-LF-SEA	I-FCV760	CNT	9B	NAN		FIXTURE			
B05-007-002-01	E-LF-SEA	I-FCV762	CNT	9B	NAN		FIXTURE			
B05-008-002-01	E-FIRESTOP	I-FCV763	CNT	9B	NAN		HOUSEKEEP			
B03-046-001-01	C-123G-2	I-FT532	CNT	9C	NAN		CIVILFAIL			
B03-052-001-01	C-124G-2	I-FT543	CNT	9C	NAN		CIVILFAIL			
B03-043-001-02	C-CRANE-9C	I-GENERIC	CNT	9C	NAN		CIVILFAIL			
B03-006-002-01	H-IODINE	I-LT502	CNT	9A	NAN		SPTFAIL			
B03-006-002-02	P-0532-4	I-LT502	CNT	9A	NAN		SPTFAIL			
B03-008-002-01	C-95G-2	I-LT504	CNT	9A	NAN		CIVILFAIL			
B03-026-001-01	P-3512-1	I-LT526	CNT	9A	NAN		DEFLECT			
B03-038-001-02	H-DUCT-9A	I-LT527	CNT	9B	NAN		SPTFAIL			
B03-045-001-03	C-MR-9C	I-LT539	CNT	9C	NAN		CIVILFAIL			
B03-045-001-02	M-HOIST-9C	I-LT539	CNT	9C	NAN		MECHFAIL			
B03-025-001-02	E-LF-5	I-PM108	OA	29	NAN		FIXTURE			
B04-007-001-01	C-MR-3T1	M-FCV15	PPS	3T1	NAN		CIVILFAIL			
B05-013-001-01	P-0726-4	M-FCV250	PEN	3CC	NAN		SPTFAIL			
B03-010-001-01	PA-3426-1.50	M-FCV42	OA	29	NAN		DEFLECT			
B03-011-001-01	C-MR-3CC	M-FCV43	PEN	3CC	NAN		CIVILFAIL			
B03-011-001-05	C-8GW-2	M-FCV43	PEN	3CC	NAN		CIVILFAIL			
B03-011-001-03	P-3824-1	M-FCV43	PEN	3CC	NAN		SPTFAIL			
B03-011-001-02	P-3917-3	M-FCV43	PEN	3CC	NAN		DEFLECT	INTERFERE		
B03-019-001-02	C-PLAT-3CC	M-PCV21	PEN	3CC	NAN		CIVILFAIL			
B03-019-001-01	C-19GW-2	M-PCV21	PEN	3CC	NAN		CIVILFAIL			
B03-020-001-02	C-PLAT-3CC	M-PCV22	PEN	3CC	NAN		CIVILFAIL			
B03-020-001-01	C-19GW-2	M-PCV22	PEN	3CC	NAN		CIVILFAIL			
B04-002-001-01	I-FS5	M-VALVE	PEN	3CC	NAN		PIPEFAIL			
B04-002-001-02	PS-1043-2.50	P-0594-4	PEN	3CC	NAN		DEFLECT			
B05-001-001-01	C-PLAT-9A	P-1040-2.50	CNT	9A	NAN		CIVILFAIL			
B05-002-001-01	E-RS-9A	P-1041-2.50	CNT	9A	NAN		SPTFAIL			
B04-003-001-02	PS-0760-3	P-1045-10	PPS	3T1	NAN		DEFLECT			
B05-002-001-03	PS-1041-2.50	PA-1041-2.50	PEN	3CC	NAN		DEFLECT			
B05-013-004-01	E-BJK51	E-K9114	AUX	3L	X	QC	HOUSEKEEP			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=MULTIPLE TARGETS

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B30-002-019-02	GENERIC	E-CRPS	TB	19D	A	EE	SPTFAIL	DEFLECT		
B30-001-009-22	C-RSM-9A	E-GENERIC	CNT	9A	A	ENG	RELSTRUCT			
B30-001-022-01	C-FB	E-GENERIC	DG	22C	A	CE	CIVILFAIL			
B30-001-022-02	C-FB	E-GENERIC	DG	22C	A	CE	CIVILFAIL			
B30-006-022-01	P-SPR-22C	E-GENERIC	DG	22C	A	PSE	DEFLECT	SPTFAIL		
B30-001-020-01	C-FB	E-GENERIC	EL	20	A	CE	CIVILFAIL			
B30-002-023-01	E-BUSDUCT	E-GENERIC	EL	23A	A	EE	DEFLECT			
B30-002-020-02	E-12KV SWGR	E-GENERIC	EL	20	A	EE	SPTFAIL			
B30-002-020-04	E-12KV SWGR	E-GENERIC	EL	20	A	EE	LOOSE	SPTFAIL		
B30-002-020-03	E-4.16KV SWG	E-GENERIC	EL	20	A	EE	SPTFAIL			
B30-001-029-03	C-CRANE-29	E-GENERIC	OA	29	A	CE	CIVILFAIL			
B30-001-029-04	C-SB	E-GENERIC	OA	29	A	CE	CIVILFAIL			
B30-002-029-01	E-500KV	E-GENERIC	OA	29	A	EE	SPTFAIL			
B30-002-029-02	E-500KV	E-GENERIC	OA	29	A	EE	SPTFAIL			
B30-002-029-03	E-500KV	E-GENERIC	OA	29	A	EE	MECHFAIL			
B30-001-019-03	C-P26T-2	E-GENERIC	TB	19A	A	CE	CIVILFAIL			
B30-001-019-04	C-P27T-2	E-GENERIC	TB	19A	A	CE	CIVILFAIL			
B30-001-019-05	C-P30T-2	E-GENERIC	TB	19A	A	CE	CIVILFAIL			
B30-001-019-06	C-P31T-2	E-GENERIC	TB	19A	A	CE	CIVILFAIL			
B30-001-003-07	C-80GE-2	E-K8790-1+	AUX	3D3	A	EE	CIVILFAIL			
B30-001-009-11	C-CRANE-9C	GENERIC	CNT	9C	A	CE	CIVILFAIL			
B30-001-009-12	C-CRANE-9C	GENERIC	CNT	9C	A	CE	CIVILFAIL			
B30-001-009-13	C-CRANE-9C	GENERIC	CNT	9C	A	CE	CIVILFAIL			
B30-001-009-14	C-CRANE-9C	GENERIC	CNT	9C	A	CE	CIVILFAIL			
B30-001-009-15	C-CRANE-9C	GENERIC	CNT	9C	A	CE	CIVILFAIL			
B30-001-009-25	C-PLAT-9C	GENERIC	CNT	9C	A	CE	CIVILFAIL			
B30-005-009-08	M-CRANE-9C	GENERIC	CNT	9C	A	EMS	SPTFAIL	MECHFAIL		
B30-001-029-02	C-SB	GENERIC	OA	29	A	CE	CIVILFAIL			
B30-001-029-05	C-42FW-2	GENERIC	OA	29	A	CE	CIVILFAIL			
B30-001-001-01	C-WALL	GENERIC	VAR	VRS	A	CE	CIVILFAIL			
B30-003-009-04	H-CRDM	I-CRDMRIC	CNT	9C	A	HVA	MECHFAIL			
B30-002-009-15	E-RS-9C	I-GENERIC	CNT	9C	A	ICE	SPTFAIL			
B30-001-019-01	C-P11T-2	I-PM149	TB	19E	A	CE	CIVILFAIL			
B30-001-019-02	C-P10T-2	I-PM40A	TB	19E	A	CE	CIVILFAIL			
B30-002-009-01	E-LF-18	I-SG	CNT	9C	A	EE	FIXTURE			
B30-002-009-02	E-LF-9C	I-SG	CNT	9C	A	EE	FIXTURE			
B30-002-009-08	E-CRANE-9C	I-SG-2-1	CNT	9C	A	CE	SPTFAIL			
B30-002-009-10	E-CRANE-9C	I-SG-2-1	CNT	9C	A	CE	SPTFAIL			
B30-002-009-11	E-CRANE-9C	I-SG-2-1	CNT	9C	A	CE	SPTFAIL			
B30-002-019-01	E-LF-9	M-CCWHX	TB	19E	A	EE	FIXTURE			
B30-001-003-04	C-WALL	M-CCWPP	PPS	3K	A	CE	CIVILFAIL			
B30-001-003-03	C-MR-3CC	M-FCV44	PEN	3CC	A	CE	CIVILFAIL			
B30-001-023-04	C-BLOCKWALL	E-BJA300	EL	23C	M	CE	CIVILFAIL		BRACE	OVERLAP
B30-001-023-05	C-BLOCKWALL	E-BJA302,303	EL	23B	M	CE	CIVILFAIL		BRACE	OVERLAP
B30-001-023-06	C-BLOCKWALL	E-BJA304,305	EL	23A	M	CE	CIVILFAIL		BRACE	OVERLAP
B30-001-009-20	C-RSM-9A	E-BTX5E+	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B30-006-004-01	P-SPR-4B	E-GENERIC	AUX	4B	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B30-001-009-21	C-73G-2	E-GENERIC	CNT	9A	M	CE	CIVILFAIL		BRACE	NECESSARY
B30-002-009-13	E-K1532-5+	E-GENERIC	CNT	9A	M	EE	SPTFAIL		SUPPORT	OVERLAP
B30-001-023-01	C-GRATING	E-GENERIC	EL	23A	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B30-001-023-02	C-GRATING	E-GENERIC	EL	23B	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B30-001-023-03	C-HATCH	E-GENERIC	EL	23B	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B30-002-023-02	E-BUSDUCT	E-GENERIC	EL	23B	M	EE	SPTFAIL		SUPPORT	NECESSARY

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=MULTIPLE TARGETS

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B30-002-007-01	E-LF-8	E-GENERIC	EL	7B	M	EE	FIXTURE		CHAIN	EXPEDIENT
B30-004-008-01	I-CABINET	E-GENERIC	EL	8C	M	ICE	SPTFAIL		SUPPORT	EXPEDIENT
B30-005-007-02	M-FE	E-GENERIC	EL	7B	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B30-001-008-02	C-BLOCKWALL	E-GENERIC	HV	8B4	M	CE	CIVILFAIL		BRACE	OVERLAP
B30-006-008-02	P-SPR-8B4	E-GENERIC	HV	8B4	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B30-002-029-04	E-500KV	E-GENERIC	OA	29	M	EE	SPTFAIL		BRACE	NECESSARY
B30-005-029-02	M-BOTTLE	E-GENERIC	OA	29	M	EMS	SPTFAIL		SUPPORT	OVERLAP
B30-005-029-01	M-HOIST-29	E-GENERIC	OA	29	M	EMS	MECHFAIL		STOP	EXPEDIENT
B30-006-029-03	P-3104-6	E-GENERIC	OA	29	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B30-001-003-02	C-74GW-2	E-GENERIC	PEN	3CC	M	CE	CIVILFAIL		BRACE	NECESSARY
B30-006-003-03	P-SPR-3CC	E-GENERIC	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B30-001-003-06	C-16K-2	E-KK391-0.75	AUX	3C	M	EE	CIVILFAIL		TMODIFY	NECESSARY
B30-006-005-01	P-SA-5B4	E-K6875-1+	EL	5B4	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B30-005-007-01	M-FE	E-K7366-3+	EL	7B	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B30-006-005-02	M-HR	E-K8377-1.50	EL	5B4	M	EMS	SPTFAIL		SUPPORT	NECESSARY
B30-006-003-04	P-SPR-3AA	GENERIC	AUX	3AA	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B30-001-009-16	C-CRANE-9C	GENERIC	CNT	9C	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B30-001-009-23	C-GRATING	GENERIC	CNT	9A	M	CE	LOOSE		SECLOOSE	OVERLAP
B30-001-009-03	C-MR-9C	GENERIC	CNT	9C	M	NPO	CIVILFAIL		BRACE	NECESSARY
B30-001-009-01	C-PLAT-9C	GENERIC	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B30-001-009-02	C-PLAT-9C	GENERIC	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B30-001-009-10	C-PLAT-9C	GENERIC	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B30-001-009-19	C-STAIR-9A	GENERIC	CNT	9A	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B30-002-009-03	E-CRANE-9C	GENERIC	CNT	9C	M	CE	SPTFAIL		SUPPORT	NECESSARY
B30-004-009-01	I-PM58+	GENERIC	CNT	9A	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B30-005-009-01	M-FE	GENERIC	CNT	9C	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B30-005-009-02	M-OILTANK	GENERIC	CNT	9C	M	EMS	SPTFAIL		SUPPORT	NECESSARY
B30-006-009-06	P-4397-2	GENERIC	CNT	9B	M	PSE	PIPEFAIL		SUPPORT	OVERLAP
B30-006-009-07	P-4398-2	GENERIC	CNT	9B	M	PSE	PIPEFAIL		SUPPORT	OVERLAP
B30-001-029-01	C-CRANE-29	GENERIC	OA	29	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B30-006-029-04	PA-0583-28	GENERIC	OA	29	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-003-05	P-2416-1	GENERIC	PPS	3T2	M	PSE	DEFLECT		SUPPORT	NECESSARY
B30-005-000-02	M-FE	GENERIC	VAR	VRS	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B30-006-008-01	P-USB-8B4	H-DUCT-8B4	HV	8B4	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B30-005-008-01	M-FE	H-GENERIC	HV	8B4	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B30-005-024-01	M-FE	H-GENERIC	HV	24E	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B30-002-009-14	E-KX940-0.75	I-GENERIC	CNT	9A	M	EE	SPTFAIL		SUPPORT	EXPEDIENT
B30-002-009-12	E-K1532-5+	I-GENERIC	CNT	9A	M	EE	SPTFAIL	DEFLECT	SUPPORT	OVERLAP
B30-003-009-01	H-DUCT-9A	I-GENERIC	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B30-003-009-02	H-DUCT-9B	I-GENERIC	CNT	9B	M	CE	SPTFAIL		SUPPORT	OVERLAP
B30-003-009-05	H-DUCT-9B	I-GENERIC	CNT	9B	M	HVA	SPTFAIL		SUPPORT	OVERLAP
B30-003-009-03	H-DUCT-9C	I-GENERIC	CNT	9C	M	CE	SPTFAIL		SUPPORT	OVERLAP
B30-006-009-08	P-3210-10	I-GENERIC	CNT	9A	M	PSE	DEFLECT		TMODIFY	NECESSARY
B30-006-009-04	P-4397-2	I-GENERIC	CNT	9B	M	PSE	PIPEFAIL		SUPPORT	NECESSARY
B30-001-008-01	C-BOARD	I-GENERIC	EL	8C	M	CE	SPTFAIL		SUPPORT	NECESSARY
B30-001-003-01	C-74GW-2	I-GENERIC	PEN	3CC	M	CE	CIVILFAIL		BRACE	NECESSARY
B30-006-029-02	P-3103-2	I-PM104+	OA	29	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B30-006-029-01	P-3228-3	I-PM104+	OA	29	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B30-006-003-01	P-4303-1	I-PM123	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-009-03	P-3196-8	I-PM138	CNT	9A	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B30-006-003-02	P-SA-3CC	I-PM72	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B30-007-008-01	N-CABINET	I-POV2+	EL	8C	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B30-002-009-06	E-BATTERY	I-SG	CNT	9C	M	EE	LOOSE		RELOCATE	NECESSARY

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=MULTIPLE TARGETS

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B30-002-009-04	E-CRANE-9C	I-SG	CNT	9C	M	EE	SPTFAIL		SUPPORT	NECESSARY
B30-002-009-05	E-CRANE-9C	I-SG	CNT	9C	M	EE	SPTFAIL		SUPPORT	EXPEDIENT
B30-005-009-03	M-OILTANK	I-SG	CNT	9C	M	EMS	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-009-02	P-1870-1	I-SG 2-1	CNT	9C	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-009-01	P-1869-1	I-SG 2-3,4	CNT	9C	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B30-002-009-07	E-CRANE-9C	I-SG-2-1	CNT	9C	M	CE	SPTFAIL		SUPPORT	NECESSARY
B30-002-009-09	E-CRANE-9C	I-SG-2-1	CNT	9C	M	CE	SPTFAIL		SUPPORT	NECESSARY
B30-006-019-01	P-SPR-19E	M-CCWHX	TB	19E	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B30-005-000-01	M-HR	M-VALVE	VAR	VRS	M	EMS	DEFLECT		STOP	EXPEDIENT
B30-006-009-09	P-3210-10	P-GENERIC	CNT	9A	M	PSE	SPTFAIL	DEFLECT	SUPPORT	NECESSARY
B30-006-000-02	M-HR	P-GENERIC	VAR	VRS	M	PSE	DEFLECT		STOP	EXPEDIENT
B30-005-009-04	M-LCV130	E-GENERIC	CNT	9A	NAN		MECHFAIL			
B30-001-007-01	C-MR-7B	E-GENERIC	EL	7B	NAN		CIVILFAIL			
B30-002-007-02	E-LF-11	E-GENERIC	EL	7B	NAN		FIXTURE			
B30-002-020-01	E-480VSWGR	E-GENERIC	EL	20	NAN		SPTFAIL			
B30-003-020-01	H-DUCT-20	E-GENERIC	EL	20	NAN		DEFLECT	SPTFAIL		
B30-005-020-01	M-HR	E-GENERIC	EL	20	NAN		SPTFAIL	DEFLECT		
B30-001-003-05	C-COVER	E-GENERIC	PEN	3CC	NAN		LOOSE			
B30-005-009-07	M-8030	E-R-9A	CNT	9C	NAN		MECHFAIL			
B30-002-009-16	E-R-9A	GENERIC	CNT	9A	NAN		SPTFAIL			
B30-005-009-06	M-CRANE-9C	GENERIC	CNT	9C	NAN		MECHFAIL			
B30-005-009-05	M-HOIST-9C	GENERIC	CNT	9C	NAN		MECHFAIL			
B30-002-008-01	E-LF-9	H-GENERIC	HV	8B4	NAN		FIXTURE			
B30-002-024-01	E-LF-9	H-567+	HV	24E	NAN		FIXTURE			
B30-001-009-24	C-SHIELD-9C	I-GENERIC	CNT	9C	NAN		CIVILFAIL			
B30-006-009-05	P-4398-2	I-PM23+	CNT	9A	NAN		SPTFAIL			
B30-001-009-18	C-36F-2	I-PZR	CNT	9C	NAN		LOOSE			
B30-001-009-09	C-CRANE-9C	I-SG	CNT	9C	NAN		LOOSE			
B30-001-009-04	C-35F-2	I-SG	CNT	9C	NAN		CIVILFAIL			
B30-001-009-05	C-36F-2	I-SG	CNT	9C	NAN		CIVILFAIL			
B30-001-009-06	C-37F-2	I-SG	CNT	9C	NAN		CIVILFAIL			
B30-001-009-07	C-38F-2	I-SG	CNT	9C	NAN		CIVILFAIL			
B30-001-009-08	C-39G-2	I-SG	CNT	9C	NAN		CIVILFAIL			
B30-001-009-17	C-38F-2	I-SG-2-2	CNT	9C	NAN		LOOSE			
B30-006-000-01	M-HR	P-GENERIC	VAR	VRS	NAN		DEFLECT			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=REACTOR COOLANT SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B06-018-002-02	M-TANK	E-KT260-3	PEN	3CC	A	EMS	SPTFAIL			
B06-032-002-01	P-5150-0.75	E-KX111-0.75	CNT	9A	A	PSE	DEFLECT			
B06-046-002-03	E-R-9C	E-K1855-1.50	CNT	9C	A	CE	SPTFAIL			
B06-044-002-02	E-RS-9C	E-1915-1.50	CNT	9C	A	CE	SPTFAIL			
B06-003-004-03	E-RCP 2-3	I-FIC499C	CNT	9B	A	EMS	MECHFAIL			
B06-004-004-01	M-HX-9B	I-FIC499D	CNT	9B	A	EMS	SPTFAIL			
B06-005-001-15	M-INSSPT	I-FLUX MON	CNT	9B	A	EMS	SPTFAIL			
B06-005-001-08	M-TANK	I-FLUX MON	CNT	9B	A	CE	SPTFAIL			
B06-022-001-06	C-SHIELD-9B	I-FT414	CNT	9B	A	PSE	INTERFERE			
B06-027-001-01	C-SB	I-FT426	CNT	9A	A	CE	CIVILFAIL			
B06-029-001-01	C-SHIELD-9B	I-FT435	CNT	9B	A	PSE	INTERFERE			
B06-031-001-02	C-29G-2	I-FT444	CNT	9B	A	CE	CIVILFAIL			
B06-032-001-01	C-29G-2	I-FT445	CNT	9B	A	CE	CIVILFAIL			
B06-033-001-01	C-29G-2	I-FT446	CNT	9B	A	CE	CIVILFAIL			
B07-010-001-02	E-K1910-4	I-LT459	CNT	9A	A	EE	SPTFAIL			
B07-011-001-02	E-BTX6	I-LT460	CNT	9A	A	EE	SPTFAIL			
B07-012-001-02	E-BTX6	I-LT461	CNT	9A	A	EE	SPTFAIL			
B07-005-002-01	M-INS SPT	I-LT462	CNT	9C	A	EMS	LOOSE			
B07-006-001-01	C-110F-2	I-PT455	CNT	9A	A	CE	CIVILFAIL			
B07-009-001-01	E-BTX6	I-PT474	CNT	9A	A	EE	SPTFAIL			
B06-005-001-05	C-LADDER	M-CRDM	CNT	9C	A	CE	CIVILFAIL			
B06-005-001-01	M-HOIST-9C	M-CRDM	CNT	9C	A	EMS	MECHFAIL			
B06-005-001-02	M-REACT-MAN	M-CRDM	CNT	9C	A	EMS	SPTFAIL			
B06-026-001-03	C-SHIELD-9B	M-8061B	CNT	9B	A	PSE	INTERFERE			
B06-032-001-03	C-SHIELD-9B	M-8061D	CNT	9B	A	PSE	INTERFERE			
B06-002-001-01	PS-1151-2	M-8063C	CNT	9B	A	PSE	DEFLECT			
B06-002-002-02	PS-1151-2	M-8063C	CNT	9B	A	PSE	DEFLECT			
B06-004-001-01	C-PLAT-9B	M-8072D	CNT	9B	A	PSE	DEFLECT			
B06-043-001-01	E-K1672-1	P-USB-9C	CNT	9C	A	EE	DEFLECT	INTERFERE		
B08-001-001-01	C-PLAT-9B	P-0013-4	CNT	9B	A	CE	CIVILFAIL			
B06-005-001-24	C-MR-9B	PA-RCS	CNT	9B	A	CE	CIVILFAIL			
B06-005-001-23	C-72FG-2	PA-RCS	CNT	9B	A	CE	LOOSE			
B09-006-005-02	H-LSP91	E-KK204-1	PEN	3CC	M	HVA	SPTFAIL		BRACE	NECESSARY
B09-005-005-04	H-DUCT-3CC	E-KK205-1	PEN	3CC	M	HVA	SPTFAIL		TSHIELD	EXPEDIENT
B09-005-005-03	H-LSP91	E-KK205-1	PEN	3CC	M	HVA	SPTFAIL		BRACE	NECESSARY
B06-018-002-01	P-1750-6	E-KT260-3	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B06-025-002-01	P-4272-0.75	E-KX168-1.25	CNT	9A	M	EE	DEFLECT		TMODIFY	EXPEDIENT
B06-030-002-01	P-2886-0.75	E-KX747-1.25	CNT	9A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B06-046-002-02	C-HANDRAIL	E-K1855-1.25	CNT	9C	M	CE	CIVILFAIL		CONSTDEF	EXPEDIENT
B09-005-005-01	NS-CD	E-K1857-1	CNT	9C	M	EE	HOUSEKEEP		CONSTDEF	OVERLAP
B09-005-005-05	P-3454-1.5	E-K1857-1	CNT	9A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B06-044-002-01	C-HANDRAIL	E-K1915-1.25	CNT	9C	M	CE	CIVILFAIL		CONSTDEF	EXPEDIENT
B09-010-004-04	P-SA-3L	E-K9100-1.25	AUX	3L	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B09-010-004-06	P-2445-2	E-K9100-1.25	AUX	3L	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B09-010-004-05	P-2781-3	E-K9100-1.25	AUX	3L	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B09-010-004-07	P-2772-4	E-K9122-2	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B06-001-004-02	PS-0253-10	I-FIC499A	CNT	9A	M	ICE	DEFLECT		TMODIFY	NECESSARY
B06-003-004-04	P-4369-1.25	I-FIC499C	CNT	9A	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B06-003-004-01	P-4625-1	I-FIC499C	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B06-005-001-12	E-KX886-1	I-FLUX MON	CNT	9B	M	EE	DEFLECT		RELOCATE	EXPEDIENT
B06-005-001-09	I-ELPP06	I-FLUX MON	CNT	9B	M	ICE	SPTFAIL		RELOCATE	NECESSARY
B06-005-001-10	I-LI56	I-FLUX MON	CNT	9B	M	ICE	SPTFAIL		SUPPORT	EXPEDIENT
B06-022-001-04	P-4275-0.75	I-FT414	CNT	9A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=REACTOR COOLANT SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B06-022-001-05	P-4368-1.25	I-FT414	CNT	9A	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B06-022-001-01	PS-0005-31	I-FT414	CNT	9B	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B06-023-001-01	PS-0005-31	I-FT415	CNT	9B	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B06-024-001-01	PS-0005-31	I-FT416	CNT	9B	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B06-025-001-02	PS-0006-31	I-FT424	CNT	9B	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B06-026-001-01	PS-0006-31	I-FT425	CNT	9B	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B06-027-001-02	PS-0006-31	I-FT426	CNT	9B	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B06-030-001-03	P-0233-1	I-FT436	CNT	9B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B06-030-001-02	P-3818-0.50	I-FT436	CNT	9B	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B06-031-001-01	P-3819-0.50	I-FT444	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B06-033-001-03	P-0008-31	I-FT446	CNT	9B	M	PSE	INTERFERE		TMODIFY	NECESSARY
B07-010-001-01	M-FE	I-LT459	CNT	9C	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B07-011-001-06	C-82F-2	I-LT460	CNT	9B	M	ICE	CIVILFAIL	DEFLECT	TMODIFY	NECESSARY
B07-011-001-03	C-85F-2	I-LT460	CNT	9B	M	ICE	DEFLECT		TMODIFY	NECESSARY
B07-012-001-06	C-85F-2	I-LT461	CNT	9B	M	ICE	DEFLECT		TMODIFY	NECESSARY
B07-012-001-01	P-USB-9B	I-LT461	CNT	9B	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B07-012-001-08	E-K1971-0.75	I-LT461+	CNT	9B	M	EE	SPTFAIL		SUPPORT	EXPEDIENT
B06-049-001-01	P-4249-0.75	I-L1S1320	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B06-030-001-01	C-STAIR-9A	I-PM23	CNT	9A	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B06-029-001-03	C-STAIR-9A	I-PM24	CNT	9A	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B06-028-001-02	C-STAIR-9A	I-PM25	CNT	9A	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B09-009-002-01	C-STAIR-9A	I-8034A	CNT	9A	M	CE	DEFLECT		SUPPORT	NECESSARY
B09-009-002-02	C-STAIR-9A	I-8034A	CNT	9A	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B06-005-001-03	H-DUCT-9C	M-CRDM	CNT	9C	M	HVA	SPTFAIL		SUPPORT	OVERLAP
B09-012-001-01	P-3133-4	M-8045	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B06-001-003-01	M-INS SPT	P-0005-31	CNT	9B	M	EMS	SPTFAIL		SUPPORT	EXPEDIENT
B06-002-003-01	M-INS SPT	P-0006-31	CNT	9B	M	CE	SPTFAIL		SUPPORT	EXPEDIENT
B06-003-003-01	M-INS SPT	P-0007-31	CNT	9B	M	CE	SPTFAIL		SUPPORT	EXPEDIENT
B06-004-003-01	M-INS SPT	P-0008-31	CNT	9B	M	CE	SPTFAIL		SUPPORT	EXPEDIENT
B07-001-003-01	E-KX479-1.50	P-0727-6	CNT	9C	M	EE	DEFLECT		RELOCATE	EXPEDIENT
B07-001-002-01	E-KX480-1.50	P-0728-6	CNT	9C	M	EE	DEFLECT		RELOCATE	EXPEDIENT
B07-001-001-01	E-KX481-1.50	P-0729-6	CNT	9C	M	EE	DEFLECT		RELOCATE	EXPEDIENT
B08-001-001-02	C-PLAT-9B	P-1169-0.75	CNT	9B	M	CE	CIVILFAIL		BRACE	NECESSARY
B09-015-001-02	E-LF-8	P-2061-1	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B06-005-001-25	C-72FG-2	PA-RCS	CNT	9B	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B06-005-001-21	H-DUCT-9B	PA-RCS	CNT	9B	M	HVA	SPTFAIL		CONSTDEF	EXPEDIENT
B06-005-001-19	M-5-10 PATH	PA-RCS	CNT	9B	M	EMS	MECHFAIL		SUPPORT	NECESSARY
B06-005-001-20	M-5-10 PATH	PA-RCS	CNT	9B	M	EMS	SPTFAIL		SUPPORT	NECESSARY
B06-005-001-28	M-5-10 PATH	PA-RCS	CNT	9B	M	ICE	SPTFAIL		SUPPORT	NECESSARY
B09-001-002-01	P-0891-1	PS-2754-3	CNT	9C	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B09-006-005-04	I-PANEL	E-KK204-1	PEN	3CC	NAN		SPTFAIL			
B09-006-005-03	P-USB-3CC	E-KK204-1	PEN	3CC	NAN		DEFLECT			
B09-005-005-06	C-DOOR	E-KK205-1	PEN	3CC	NAN		CIVILFAIL			
B06-026-002-01	P-SPR-9A	E-KX165-1.25	CNT	9A	NAN		PIPEFAIL			
B06-025-002-02	P-4272-0.75	E-KX168-1.25	CNT	9A	NAN		DEFLECT			
B06-034-002-01	C-GRATING	E-KX275-2.50	CNT	9A	NAN		INTERFERE			
B06-034-002-02	E-KX120-3	E-KX275-2.50	CNT	9A	NAN		DEFLECT	INTERFERE		
B06-034-002-03	E-TJJB	E-KX391-2	CNT	9B	NAN		SPTFAIL			
B06-038-002-01	C-PLAT-9B	E-KX572-1	CNT	9B	NAN		INTERFERE			
B09-002-002-01	C-PLAT-9C	E-K1752-1.25	CNT	9C	NAN		CIVILFAIL			
B09-004-002-01	C-GRATING	E-K1790-1.25	CNT	9A	NAN		INTERFERE			
B09-004-002-02	E-SP3J	E-K1790-1.50	CNT	9A	NAN		SPTFAIL			
B06-046-002-01	E-KX459-0.75	E-K1855-1.50	CNT	9B	NAN		DEFLECT			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=REACTOR COOLANT SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B09-005-005-02	P-1673-0.375	E-K1857-1	CNT	9C	NAN		SPTFAIL			
B09-006-005-01	E-KX219-1.50	E-K1917-1	CNT	9A	NAN		DEFLECT			
B09-007-004-02	C-LADDER	E-K1921-1	CNT	9C	NAN		CIVILFAIL			
B09-007-004-01	E-KX219-1.50	E-K1921-1	CNT	9A	NAN		DEFLECT			
B09-010-004-02	C-HATCH	E-K9100-1.25	AUX	3L	NAN		LOOSE			
B09-010-004-03	H-DAMPER	E-K9127-3	AUX	3L	NAN		DEFLECT			
B06-001-004-03	E-K1614-1.50	I-FIC499A	CNT	9A	NAN		DEFLECT	INTERFERE		
B06-001-004-01	PS-1632-1	I-FIC499A	CNT	9B	NAN		DEFLECT			
B06-002-004-01	P-4624-1	I-FIC499B	CNT	9B	NAN		SPTFAIL			
B06-003-004-02	P-2886-0.75	I-FIC499C	CNT	9B	NAN		DEFLECT			
B06-005-001-16	C-51FG-2	I-FLUX MON	CNT	9B	NAN		CIVILFAIL			
B06-005-001-17	C-51FG-2	I-FLUX MON	CNT	9B	NAN		CIVILFAIL			
B06-005-001-18	C-79FG-2	I-FLUX MON	CNT	9B	NAN		CIVILFAIL			
B06-005-001-06	E-LF-50	I-FLUX MON	CNT	9B	NAN		FIXTURE			
B06-005-001-11	E-LF-50	I-FLUX MON	CNT	9B	NAN		FIXTURE			
B06-005-001-13	E-LF-50	I-FLUX MON	CNT	9B	NAN		FIXTURE			
B06-005-001-14	E-LF-50	I-FLUX MON	CNT	9B	NAN		FIXTURE			
B06-005-001-07	M-TANK	I-FLUX MON	CNT	9B	NAN		SPTFAIL			
B06-022-001-02	C-54F-2	I-FT414	CNT	9B	NAN		CIVILFAIL			
B06-022-001-03	E-KX699	I-FT414	CNT	9A	NAN		DEFLECT			
B06-023-001-03	C-PLAT-9A	I-FT415	CNT	9A	NAN		CIVILFAIL			
B06-023-001-02	C-54F-2	I-FT415	CNT	9B	NAN		CIVILFAIL			
B06-024-001-02	C-PLAT-9A	I-FT416	CNT	9A	NAN		CIVILFAIL			
B06-024-001-03	C-54F-2	I-FT416	CNT	9B	NAN		CIVILFAIL			
B06-025-001-03	C-55F-2	I-FT424	CNT	9B	NAN		CIVILFAIL			
B06-026-001-02	C-55F-2	I-FT425	CNT	9B	NAN		CIVILFAIL			
B06-027-001-03	C-55F-2	I-FT426	CNT	9B	NAN		CIVILFAIL			
B06-028-001-01	C-56F-2	I-FT434	CNT	9B	NAN		CIVILFAIL			
B06-029-001-02	C-56G-2	I-FT435	CNT	9B	NAN		CIVILFAIL			
B06-030-001-04	C-56G-2	I-FT436	CNT	9B	NAN		CIVILFAIL			
B06-031-001-03	C-57G-2	I-FT444	CNT	9B	NAN		CIVILFAIL			
B06-032-001-02	C-57G-2	I-FT445	CNT	9B	NAN		CIVILFAIL			
B06-033-001-02	C-57G-2	I-FT446	CNT	9B	NAN		CIVILFAIL			
B07-010-001-03	P-4397-2	I-LT459	CNT	9B	NAN		SPTFAIL			
B07-011-001-04	E-BTX5	I-LT460	CNT	9A	NAN		SPTFAIL			
B07-011-001-01	E-BTX6	I-LT460	CNT	9A	NAN		SPTFAIL			
B07-011-001-05	E-KX165-1	I-LT460	CNT	9A	NAN		DEFLECT			
B07-012-001-03	E-BTX4	I-LT461	CNT	9A	NAN		SPTFAIL			
B07-012-001-07	E-KX-686	I-LT461	CNT	9A	NAN		DEFLECT			
B07-012-001-04	E-R-9C	I-LT461	CNT	9C	NAN		DEFLECT			
B07-012-001-05	E-TELE	I-LT461	CNT	9C	NAN		LOOSE			
B07-005-002-02	E-LF-SEA	I-LT462	CNT	9A	NAN		FIXTURE			
B09-005-002-01	E-LF-SEA	I-PCV456	CNT	9C	NAN		FIXTURE			
B06-022-001-07	C-PLAT-9A	I-PM19	CNT	9A	NAN		CIVILFAIL			
B07-005-002-04	E-PL27-1	I-PT458A	CNT	9A	NAN		DEFLECT			
B07-005-002-03	P-1657-4	I-PT458A	CNT	9A	NAN		DEFLECT			
B08-001-002-01	P-USB-9B	I-TE451	CNT	9B	NAN		DEFLECT			
B06-005-001-26	C-CATWALK	M-CRDM	CNT	9C	NAN		CIVILFAIL			
B06-005-001-29	C-HANDRAIL	M-CRDM	CNT	9C	NAN		CIVILFAIL			
B06-005-001-04	C-STAIR-9C	M-CRDM	CNT	9C	NAN		CIVILFAIL			
B06-005-001-30	E-MANIPCRANE	M-CRDM	CNT	9C	NAN		SPTFAIL			
B06-025-001-01	C-SHIELD-9B	M-8061B	CNT	9B	NAN		INTERFERE			
B06-044-001-01	E-KX798-1	M-8078A	CNT	9C	NAN		DEFLECT	INTERFERE		

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=REACTOR COOLANT SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B08-001-001-03	P-SA-9B	P-0013-4	CNT	9B	NAN		DEFLECT			
B07-001-004-01	PS-9B	P-3100-0.75	CNT	9B	NAN		DEFLECT			
B06-005-001-27	C-72FG-2	PA-RCS	CNT	9B	NAN		LOOSE			
B06-005-001-22	E-K1837-1	PA-RCS	CNT	9B	NAN		SPTFAIL			
B06-005-001-31	E-MANIPCRANE	M-CRDM	CNT	9C	P	NPO	SPTFAIL			
B09-010-004-01	E-BJK226	E-K9128	AUX	3L	X	QC	HOUSEKEEP			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=RESIDUAL HEAT REMOVAL SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B18-011-002-02	P-1046-6	E-K6384	PEN	3CC	A	PSE	DEFLECT			
B18-014-002-01	C-BLOCKWALL	E-K7033-2	AUX	4B	A	CE	CIVILFAIL			
B18-003-001-01	C-PLAT-3D1	M-RHRPP 2-1	PPS	3D1	A	CE	CIVILFAIL			
B18-002-001-01	E-LF-3D1	M-RHRPP 2-1	PPS	3D1	A	EE	FIXTURE			
B18-002-001-02	M-HOIST-3D1	M-RHRPP 2-1	PPS	3D1	A	CE	DEFLECT	MECHFAIL		
B18-005-001-01	C-PLAT-3D2	M-RHRPP 2-2	PPS	3D2	A	CE	CIVILFAIL			
B18-004-001-01	E-LF-3D2	M-RHRPP 2-2	PPS	3D2	A	EE	FIXTURE			
B18-004-001-04	M-HOIST-3D2	M-RHRPP 2-2	PPS	3D2	A	CE	MECHFAIL			
B18-001-015-02	C-STAIR-3D1	P-1663-8	PPS	3D1	A	CE	CIVILFAIL			
B18-001-001-01	PS-0238-6	PA-0109-14	CNT	9B	A	PSE	DEFLECT			
B18-001-012-01	PS-0119-8	PA-0119-8	PEN	3CC	A	ENG	INTERFERE			
B18-011-002-01	P-0381-4	E-K6384	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B18-018-002-02	P-4303-1	E-K6384-1.25	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B18-018-002-01	P-0381-4	E-K6385	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B18-001-018-01	E-LF-8	I-FT640	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B18-010-002-02	E-LF-8	I-HCV638	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B18-010-002-01	P-1046-6	I-HCV638	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B18-001-015-01	E-LF-8	I-HCV670	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B18-002-002-01	M-SPT	M-RHRPP 2-1	PPS	3D1	M	ENG	ENVIRON		RELOCATE	OVERLAP
B18-002-001-03	SQ	M-RHRPP 2-1	PPS	3D1	M	PSE	DEFLECT		CONSTDEF	OVERLAP
B18-004-002-01	M-SPT	M-RHRPP 2-2	PPS	3D2	M	ENG	ENVIRON		RELOCATE	OVERLAP
B18-004-001-02	SQ	M-RHRPP 2-2	PPS	3D2	M	PSE	DEFLECT		CONSTDEF	OVERLAP
B18-001-019-01	C-125G-2	M-8703	CNT	9A	M	CE	DEFLECT	CIVILFAIL	BRACE	EXPEDIENT
B18-013-001-01	M-8035	M-8703	CNT	9B	M	ICE	MECHFAIL		SUPPORT	EXPEDIENT
B18-001-019-02	C-125G-2	P-0120-12	CNT	9A	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B18-001-017-01	P-1750-8	P-0985-12	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B18-001-006-01	PS-0118-8	PA-0118-8	PEN	3CC	M	ENG	INTERFERE		CLEARANCE	OVERLAP
B18-007-002-01	C-LADDER	E-KX674-0.75	CNT	9C	NAN		CIVILFAIL	DEFLECT		
B18-009-002-01	C-CATWALK	E-K8571	AUX	3C	NAN		INTERFERE			
B18-010-002-03	P-2067-2	I-HCV638	PEN	3CC	NAN		DEFLECT	SPTFAIL		
B18-001-002-01	C-95G-2	I-PT406	CNT	9A	NAN		CIVILFAIL			
B18-016-002-01	P-2067-2	M-HCV637	PEN	3CC	NAN		DEFLECT	SPTFAIL		
B18-002-001-04	C-MR-3D1	M-RHRPP 2-1	PPS	3D1	NAN		CIVILFAIL			
B18-004-001-03	C-MR-3D2	M-RHRPP 2-2	PPS	3D2	NAN		CIVILFAIL			
B18-008-001-01	E-LF-3D3	M-8700A	AUX	3D3	NAN		FIXTURE			
B18-014-001-01	E-LF-3D3	M-8700B	AUX	3D3	NAN		FIXTURE			
B18-001-016-01	P-2357-2	P-1662-2	PEN	3CC	NAN		DEFLECT			
B18-001-001-03	C-95G-2	P-3095-0.75	CNT	9A	NAN		CIVILFAIL			
B18-001-001-02	C-95G-2	PA-3095-0.75	CNT	9A	NAN		CIVILFAIL			
B18-014-002-02	NS-CD	E-K7033-2	AUX	4B	X	QC	HOUSEKEEP			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=SAFETY INJECTION SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B15-024-004-01	C-73G-2	E-DJDA	CNT	9A	A	EE	DEFLECT			
B15-037-002-02	C-RSM-9A	E-KX526-0.75	CNT	9A	A	ENG	RELSTRUCT			
B15-038-002-01	C-RSM-9A	E-KX529-0.75	CNT	9A	A	ENG	RELSTRUCT			
B15-023-004-01	P-4272-0.75	E-KX653-2	CNT	9A	A	PSE	DEFLECT			
B17-008-004-01	I-PM74	E-K8852	AUX	3D3	A	ICE	SPTFAIL			
B17-003-002-01	E-LF-3D3	E-R-3D3	AUX	3D3	A	EE	FIXTURE			
B15-003-005-01	PS-4278-0.75	I-FE977	CNT	9A	A	PSE	SPTFAIL			
B17-001-004-01	C-WALL	I-PT947	AUX	3D3	A	PSE	INTERFERE			
B17-002-001-01	C-PLAT-3D3	M-BIT	AUX	3D3	A	CE	CIVILFAIL			
B15-007-001-01	E-RS-3N	M-SIPP 2-1	PPS	3N	A	EE	SPTFAIL			
B15-008-001-01	E-RS-3N	M-SIPP 2-2	PPS	3N	A	EE	SPTFAIL			
B15-003-008-04	E-RCP 2-1	P-0253-10	CNT	9B	A	EMS	SPTFAIL			
B15-003-006-04	E-SP3I	P-0508-8	CNT	9A	A	EE	SPTFAIL			
B15-001-003-01	C-PLAT-3D1	P-1971-8	PPS	3D1	A	CE	CIVILFAIL			
B15-002-004-01	P-0106-18	P-1981-4	PEN	3CC	A	PSE	DEFLECT			
B17-001-009-01	I-MISC-9B	P-1992-1.50	CNT	9B	A	CE	SPTFAIL			
B15-003-009-03	E-BTX4	P-2000-0.75	CNT	9B	A	EE	SPTFAIL			
B17-001-001-01	C-PLAT-3D3	P-2032-6	AUX	3D3	A	CE	CIVILFAIL			
B17-001-005-01	C-PLAT-3D2	P-2578-1	PPS	3D2	A	CE	CIVILFAIL			
B17-001-001-02	C-PLAT-3D2	P-2579-1	PPS	3D2	A	CE	CIVILFAIL			
B15-003-006-01	C-110F-2	P-3845-6	CNT	9A	A	CE	CIVILFAIL			
B15-003-010-03	E-RCP2-3	PA-0255-10	CNT	9B	A	EMS	SPTFAIL			
B15-001-005-01	P-2278-18	PS-0735-8	PEN	3CC	A	PSE	DEFLECT			
B15-003-008-03	PS-1999-0.75	PS-1999-0.75	CNT	9B	A	PSE	DEFLECT			
B17-001-001-03	C-80GE-2	PS-2032-6	AUX	3D3	A	PSE	SPTFAIL			
B15-003-007-03	E-PJCA+	PS-3847-6	CNT	9B	A	CE	SPTFAIL			
B15-003-007-05	PS-3847-6	PS-3847-6	CNT	9B	A	ENG	INTERFERE			
B15-024-004-02	C-RSM-9A	E-DJDA	CNT	9A	M	EE	RELSTRUCT		TMODIFY	EXPEDIENT
B16-008-002-01	E-KT899-2	E-KT510-1.25	AUX	3AA	M	EE	DEFLECT		SUPPORT	OVERLAP
B16-008-002-02	E-MISC-3AA	E-KT510-1.25	AUX	3AA	M	EMS	LOOSE		RELOCATE	OVERLAP
B16-007-002-02	P-USB-3X	E-KT571-1.50	AUX	3X	M	PSE	DEFLECT		CONSTDEF	OVERLAP
B16-007-002-01	P-1750-8	E-KT571-1.50	AUX	3X	M	PSE	DEFLECT		SUPPORT	NECESSARY
B16-008-002-03	E-LF-8	E-KT999-1	EL	7B	M	EE	FIXTURE		RELOCATE	EXPEDIENT
B15-022-004-01	P-4271-0.75	E-KX184-1.50	CNT	9A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B15-025-004-01	P-SPR-9A	E-KX267-0.75	CNT	9A	M	PSE	PIPEFAIL	DEFLECT	SUPPORT	EXPEDIENT
B17-010-004-01	C-RSM-9A	E-K1450-1	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B17-007-002-01	PS-0118-8	E-K6355-2	PEN	3CC	M	EE	DEFLECT		TMODIFY	EXPEDIENT
B16-006-002-01	P-1750-8	E-K9416-4	PPS	3T1	M	PSE	DEFLECT		SUPPORT	NECESSARY
B17-003-002-02	P-0994-1	E-R-3D3	AUX	3D3	M	PSE	SPTFAIL		SUPPORT	OVERLAP
B17-004-002-01	P-0994-1	E-R-3D3	AUX	3D3	M	PSE	DEFLECT	SPTFAIL	SUPPORT	OVERLAP
B15-002-003-01	P-0529-2	I-FE918	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B17-001-011-01	E-K1533-5	I-FE927	CNT	9A	M	EE	DEFLECT		SUPPORT	EXPEDIENT
B15-003-005-02	PS-4278-0.75	I-FE977	CNT	9A	M	PSE	SPTFAIL		SUPPORT	OVERLAP
B15-002-006-01	E-LF-8	I-FT922	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B15-001-002-01	E-LF-8	I-PI938	PPS	3N	M	EE	FIXTURE		CHAIN	EXPEDIENT
B15-001-004-01	E-LF-8	I-PI939	PPS	3N	M	EE	FIXTURE		CHAIN	EXPEDIENT
B15-026-002-01	IS-8871	I-8871	CNT	9A	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B15-022-003-01	M-PRT	I-8879A	CNT	9A	M	CE	SPTFAIL		SUPPORT	NECESSARY
B15-025-002-01	P-4371-1.25	I-8879D	CNT	9A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B15-014-001-01	P-0381-4	I-8883	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B15-031-002-01	IS-8824	IS-8824	CNT	9A	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B17-010-001-01	E-KX123-2	M-8843	CNT	9C	M	EE	SPTFAIL		SUPPORT	EXPEDIENT
B16-001-001-01	E-DNCA	P-0221-18	PEN	3CC	M	EE	DEFLECT		RELOCATE	EXPEDIENT

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=SAFETY INJECTION SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B15-003-010-02	PS-0007-31	P-0255-10	CNT	9B	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B15-003-010-01	PS-0008-31	P-0255-10	CNT	9B	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B15-003-006-06	E-TL26	P-0508-8	CNT	9A	M	EE	SPTFAIL		SUPPORT	EXPEDIENT
B15-003-007-04	C-120G-2	P-0509-8	CNT	9A	M	CE	CIVILFAIL		BRACE	NECESSARY
B15-005-005-01	C-120G-2	P-1977-4	CNT	9A	M	CE	CIVILFAIL		BRACE	NECESSARY
B17-001-009-03	C-120G-2	P-1992-1.50	CNT	9A	M	CE	CIVILFAIL		BRACE	NECESSARY
B17-001-009-04	M-HCV943	P-1992-1.50	CNT	9A	M	EMS	SPTFAIL		SUPPORT	EXPEDIENT
B15-003-009-04	P-4397-2	P-2000-0.75	CNT	9B	M	PSE	SPTFAIL		SUPPORT	OVERLAP
B15-003-009-01	P-4406-1	P-2000-0.75	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B15-003-009-02	P-4406-1	P-2000-0.75	CNT	9B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B15-002-008-01	PS-1045-10	P-2641-4	PPS	3T1	M	PSE	DEFLECT		RELOCATE	NECESSARY
B15-003-006-07	P-3184-8	P-3844-6	CNT	9A	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B15-003-007-02	C-28G-2	P-3846-6	CNT	9A	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B15-003-003-02	C-27F-2	P-3856-2	CNT	9A	M	CE	CIVILFAIL		BRACE	NECESSARY
B15-003-003-03	P-3243-3	P-3856-2	CNT	9A	M	PSE	DEFLECT	SPTFAIL	SUPPORT	EXPEDIENT
B15-003-005-03	C-GRATING	P-3858-2	CNT	9A	M	CE	INTERFERE		CLEARANCE	NECESSARY
B17-001-007-02	PS-1016-3	PA-1016-3	CNT	9A	M	PSE	DEFLECT		TMODIFY	EXPEDIENT
B15-002-009-01	P-1750-8	PA-3850-4	PEN	3CC	M	PSE	DEFLECT		TMODIFY	NECESSARY
B15-003-004-01	C-ANNULUS	PA-3857-2	CNT	9A	M	PSE	INTERFERE		CLEARANCE	EXPEDIENT
B15-003-008-02	M-INS SPT	PS-1999-0.75	CNT	9B	M	EMS	SPTFAIL		SUPPORT	EXPEDIENT
B15-002-009-02	P-1750-8	PS-3850-4	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B16-006-002-02	M-BATANK2-2	E-KT580-2	AUX	3AA	NAN		DEFLECT			
B15-022-004-03	ES-KX231-1	E-KX231-1	CNT	9A	NAN		DEFLECT			
B15-037-002-01	C-RSM-9A	E-KX526-0.75	CNT	9A	NAN		RELSTRUCT			
B15-023-004-02	P-4272-0.75	E-KX653-2	CNT	9A	NAN		DEFLECT			
B15-023-004-03	P-4272-0.75	E-KX653-2	CNT	9A	NAN		DEFLECT			
B15-022-004-02	C-ANNULUS	E-KX678-1.50	CNT	9A	NAN		RELSTRUCT			
B17-001-002-01	P-0994-1	I-FT917	AUX	3D3	NAN		DEFLECT	SPTFAIL		
B16-006-001-01	C-SHIELD-32	I-LT920	AUX	32	NAN		CIVILFAIL			
B15-036-002-01	P-0531-1	I-8880	PEN	3CC	NAN		DEFLECT			
B15-029-002-01	P-1631-4	I-8884C	CNT	9A	NAN		SPTFAIL			
B17-005-002-01	P-2032-6	I-8911	AUX	3D3	NAN		DEFLECT			
B15-001-003-02	E-LF-3I1	M-8804A	PPS	3I1	NAN		FIXTURE			
B17-009-001-01	E-LF-3D3	M-8870B	AUX	3D3	NAN		FIXTURE			
B15-003-006-05	H-DUCT-9A	P-0508-8	CNT	9A	NAN		DEFLECT			
B17-001-008-01	C-MR-9B	P-1991-1.50	CNT	9B	NAN		CIVILFAIL			
B17-001-009-02	P-0223-1	P-1992-1.50	CNT	9A	NAN		DEFLECT			
B17-001-009-05	P-1009-2	P-1992-1.50	CNT	9B	NAN		SPTFAIL			
B17-001-007-01	P-2523-0.50	P-1995-3	CNT	9A	NAN		SPTFAIL			
B15-003-011-01	C-29G-2	P-2002-0.75	CNT	9B	NAN		CIVILFAIL			
B15-005-003-01	E-RS-9A	P-2575-8	CNT	9A	NAN		DEFLECT			
B15-002-008-02	E-RS-3T1	P-2641-4	PPS	3T1	NAN		DEFLECT			
B15-004-002-01	M-FE	P-3182-2	AUX	3D3	NAN		LOOSE			
B15-004-001-01	M-FE	P-3241-2	AUX	3D3	NAN		LOOSE			
B15-003-006-02	P-3184-8	P-3844-6	CNT	9A	NAN		SPTFAIL			
B15-003-006-03	C-110F-2	P-3845-6	CNT	9A	NAN		CIVILFAIL			
B15-003-007-01	E-TJVC+	P-3846-6	CNT	9B	NAN		SPTFAIL			
B15-003-003-01	E-SP3J	P-3856-2	CNT	9A	NAN		SPTFAIL			
B15-003-008-01	P-4356-1.50	PA-0253-10	CNT	9B	NAN		DEFLECT			
B15-021-002-01	NS-CD	E-K8821-2	AUX	3D3	X	QC	HOUSEKEEP			
B15-011-002-01	NS-CD	E-K9110+	AUX	3X	X	QC	HOUSEKEEP			
B15-021-002-02	NS-CD	E-K9170	PPS	3D1	X	QC	HOUSEKEEP			
B15-013-002-01	NS-CD	E-K9172	AUX	3L	X	QC	HOUSEKEEP			

UNIT 2 INTERACTIONS BY SYSTEM, SORTED BY RESOLUTION METHOD AND TARGET

SYSTEM=CONTAINMENT SPRAY SYSTEM

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B23-013-002-01	NS-T	E-K8816-2	PPS	3G	A	ENG	ENVIRON			
B23-005-001-01	C-SB	M-CSPP 2-1	PPS	3G	A	CE	CIVILFAIL			
B23-006-001-01	C-SB	M-CSPP 2-2	PPS	3G	A	CE	CIVILFAIL			
B23-007-001-01	C-SB	M-SAT	PPS	3G	A	CE	CIVILFAIL			
B23-007-001-02	P-2808-0.75	M-SAT	PPS	3G	A	EMS	DEFLECT			
B23-002-005-02	I-FI27	P-0265-8	PEN	3CC	A	PSE	DEFLECT			
B23-004-001-01	E-PJ	P-0270-10	CNT	9A	A	EE	DEFLECT			
B23-004-001-05	P-3090-2	P-0270-10	CNT	9A	A	PSE	DEFLECT			
B23-004-001-04	C-100G-2	P-0325-80	CNT	9A	A	CE	DEFLECT			
B23-018-003-01	P-SA-3CC	E-KT208-1.50	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B23-014-002-01	NS-CD	E-K8815-2	PPS	3G	M	EE	HOUSEKEEP		CONSTDEF	OVERLAP
B23-002-005-01	C-MR-3G	I-PI933D	PPS	3G	M	ICE	DEFLECT		TMODIFY	EXPEDIENT
B23-017-002-01	E-LF-8	I-PT936	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B23-005-001-02	E-LF-3G	M-CSPP 2-1	PPS	3G	M	EE	FIXTURE		CHAIN	EXPEDIENT
B23-006-001-02	E-LF-3G	M-CSPP 2-2	PPS	3G	M	EE	FIXTURE		CHAIN	EXPEDIENT
B23-012-001-01	E-LF-3G	M-8892	PPS	3G	M	EE	FIXTURE		CHAIN	EXPEDIENT
B23-013-001-01	E-LF-3G	M-8894A	PPS	3G	M	EE	FIXTURE		CHAIN	EXPEDIENT
B23-014-001-01	E-LF-3G	M-8994B	PPS	3G	M	EE	FIXTURE		CHAIN	EXPEDIENT
B23-004-004-03	C-RSM-9A	M-9006B	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B23-004-001-03	C-GRATING	P-0270-10	CNT	9C	M	PSE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT
B23-004-004-01	E-RNRPA	P-0271-10	CNT	9C	M	EE	SPTFAIL		SUPPORT	EXPEDIENT
B23-004-001-06	P-4072-3	P-0325-8	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B23-004-001-07	P-4347-3	P-0325-8	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B23-004-004-05	P-4072-3	P-0326-8	PEN	3CC	M	PSE	DEFLECT	SPTFAIL	SUPPORT	NECESSARY
B23-004-004-04	P-4347-3	P-0326-8	PEN	3CC	M	PSE	DEFLECT	SPTFAIL	SUPPORT	NECESSARY
B23-004-001-08	C-RSM-9A	PA-0270-10	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B23-004-001-02	PS-0270-10	PS-0270-10	CNT	9A	M	ENG	DEFLECT		TMODIFY	OVERLAP
B23-004-004-06	P-3455-1.50	PS-0326-8	CNT	9A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B23-004-004-07	P-3512-1	PS-0326-8	CNT	9A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B23-020-002-01	P-SA-3CC	I-PT939	PEN	3CC	NAN		SPTFAIL			
B23-010-001-01	E-LF-9	M-9001A+	PEN	3CC	NAN		FIXTURE			
B23-011-001-01	E-LF-9	M-9001B+	PEN	3CC	NAN		FIXTURE			
B23-004-004-02	C-101G-2	P-0271-10	CNT	9A	NAN		CIVILFAIL			
B23-004-001-09	E-K1993-4	PS-0270-10	CNT	9A	NAN		DEFLECT			

ATTACHMENT 5-D.1

TO THE PGandE

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

UNIT 1

DATA MANAGEMENT REPORTS:

INTERACTION DATA BASE

LISTING BY INTERACTION PHENOMENA

SUBSORTED BY RESOLUTION METHOD AND SOURCE

This attachment contains the results of sorting the SISIP data base by interaction phenomenon and resolution method. Data within each phenomenon and resolution method category are subsorted by source code.

TABLE OF PHENOM BY RES

PHENOM / FREQUENCY PERCENT	RES A	M	NAN	P	X	Y	TOTAL
CIVILFAIL	190 8.64	100 4.55	12 0.55	0 0.00	0 0.00	1 0.05	303 13.79
DEFLECT	43 1.96	107 4.87	166 7.55	0 0.00	2 0.09	11 0.50	329 14.97
ENVIRON	20 0.91	8 0.36	1 0.05	0 0.00	0 0.00	1 0.05	30 1.36
FIXTURE	130 5.91	79 3.59	292 13.28	0 0.00	4 0.18	50 2.27	555 25.25
HOUSEKEEP	6 0.27	13 0.59	3 0.14	2 0.09	60 2.73	4 0.18	88 4.00
INTERFERE	19 0.86	63 2.87	37 1.68	0 0.00	1 0.05	2 0.09	122 5.55
LOOSE	36 1.64	50 2.27	21 0.96	2 0.09	24 1.09	3 0.14	136 6.19
MECHFAIL	62 2.82	33 1.50	7 0.32	0 0.00	0 0.00	1 0.05	103 4.69
PIPEFAIL	6 0.27	24 1.09	23 1.05	0 0.00	1 0.05	1 0.05	55 2.50
RELSTRUCT	8 0.36	2 0.09	1 0.05	0 0.00	0 0.00	6 0.27	17 0.77
SPTFAIL	126 5.73	164 7.46	134 6.10	0 0.00	2 0.09	34 1.55	460 20.93
TOTAL	646 29.39	643 29.25	697 31.71	4 0.18	94 4.28	114 5.19	2198 100.00

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=CIVILFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-004-017-001	C-BLDG	M-HR	VAR	14D	A	CE	FW				
30-001-091-001	C-CRANE-28	GENERIC	OA	28	A	CE	MT				
25-015-001-001	C-CRANE-3R	H-DUCT	AUX	3R	A	CE	HVAC				
25-015-002-001	C-CRANE-3R	H-DUCT	AUX	3R	A	CE	HVAC				
28-004-020-006	C-MR-17	P-3307-2	VAR	17	A	CE	FW	MECHFAIL			
20-010-001-001	C-PLAT-14A	P-0095-30	TB	14A	A	CE	CCW				
20-019-001-001	C-PLAT-14A	P-0103-20	TB	14A	A	CE	CCW				
28-004-008-001	C-PLAT-14A	M-HR	VAR	14A	A	CE	FW				
28-004-004-013	C-PLAT-14A	P-2666-6	VAR	14A	A	CE	FW				
28-004-042-001	C-PLAT-14A	P-3294-2	VAR	14A	A	CE	FW				
28-004-020-002	C-PLAT-14A	P-3307-2	VAR	14A	A	CE	FW				
25-204-004-005	C-PLAT-14D	E-KA109-1	TB	14D	A	CE	HVAC				
25-203-004-005	C-PLAT-14D	E-KA110-1	TB	14D	A	CE	HVAC				
25-092-001-007	C-PLAT-14D	H-DUCT	TB	14D	A	CE	HVAC				
22-006-007-003	C-PLAT-14E	I-PT5	TB	14E	A	CE	ASW				
22-012-007-001	C-PLAT-14E	I-PT6	TB	14E	A	CE	ASW				
20-014-001-004	C-PLAT-14E	M-CCWHX1-1	TB	14E	A	CE	CCW				
20-015-001-001	C-PLAT-14E	M-CCWHX1-2	TB	14E	A	CE	CCW				
03-003-003-002	C-PLAT-28	E-KT610-1	OA	28	A	CE	MNSTM				
30-001-054-013	C-PLAT-28	E-R-28	OA	28	A	CE	MT				
03-004-002-002	C-PLAT-28	I-PM014	OA	28	A	CE	MNSTM				
03-022-013-002	C-PLAT-28	I-PM100	OA	28	A	CE	MNSTM				
03-001-002-002	C-PLAT-28	I-PM103	OA	28	A	CE	MNSTM				
03-002-002-002	C-PLAT-28	I-PM107	OA	28	A	CE	MNSTM				
03-005-002-002	C-PLAT-28	I-PM108	OA	28	A	CE	MNSTM				
03-003-002-002	C-PLAT-28	I-PM111	OA	28	A	CE	MNSTM				
03-006-002-001	C-PLAT-28	I-PM112	OA	28	A	CE	MNSTM				
03-001-001-001	C-PLAT-28	I-PT514	OA	28	A	CE	MNSTM				
03-002-001-002	C-PLAT-28	I-PT515	OA	28	A	CE	MNSTM				
03-003-001-002	C-PLAT-28	I-PT516	OA	28	A	CE	MNSTM				
03-004-001-001	C-PLAT-28	I-PT524	OA	28	A	CE	MNSTM				
03-005-001-001	C-PLAT-28	I-PT525	OA	28	A	CE	MNSTM				
03-006-001-001	C-PLAT-28	I-PT526	OA	28	A	CE	MNSTM				
03-060-001-001	C-PLAT-28	M-FCV24	OA	28	A	CE	MNSTM				
03-058-001-001	C-PLAT-28	M-FCV25	OA	28	A	CE	MNSTM				
03-017-001-001	C-PLAT-28	M-FCV41	OA	28	A	CE	MNSTM				
03-018-001-001	C-PLAT-28	M-FCV42	OA	28	A	CE	MNSTM				
19-004-006-001	C-PLAT-3BB	I-PM184	PEN	3BB	A	CE	CI				
01-014-001-001	C-PLAT-3BB	M-AFWPP1-3	PEN	3BB	A	CE	AUXFW				
03-064-001-001	C-PLAT-3BB	M-FCV24	PEN	3BB	A	CE	MNSTM				
02-004-001-002	C-PLAT-3BB	M-FCV440	PEN	3BB	A	CE	AUXFW				
02-005-001-002	C-PLAT-3BB	M-FCV441	PEN	3BB	A	CE	AUXFW				
18-001-088-001	C-PLAT-3B1	M-RHRHX1-1	PPS	3B1	A	CE	RHR				
11-001-001-001	C-PLAT-3B1	P-0042-6	PPS	3B1	A	CE	CVCS				
11-001-007-002	C-PLAT-3B1	P-1474-3	PPS	3B1	A	CE	CVCS				
11-002-007-001	C-PLAT-3B1	P-1475-3	PPS	3B1	A	CE	CVCS				
18-001-102-001	C-PLAT-3B2	M-RHRHX1-2	PPS	3B2	A	CE	RHR				
11-004-001-001	C-PLAT-3B2	P-0041-4	PPS	3B2	A	CE	CVCS				
11-005-007-002	C-PLAT-3B2	P-0048-3	PPS	3B2	A	CE	CVCS				
11-021-002-001	C-PLAT-3B2	P-0053-3	PPS	3B2	A	CE	CVCS				
11-004-007-002	C-PLAT-3B2	P-1452-1	PPS	3B2	A	CE	CVCS				
18-001-024-001	C-PLAT-3B2	P-1661-8	PPS	3B2	A	CE	RHR				
28-005-016-003	C-PLAT-3C	M-HR	VAR	3C	A	CE	FW				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=CIVILFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-005-018-002	C-PLAT-3C	M-HR	VAR	3C	A	CE	FW				
28-005-072-004	C-PLAT-3C	M-HR	VAR	3C	A	CE	FW				
28-005-088-001	C-PLAT-3C	M-HR	VAR	3C	A	CE	FW				
28-005-090-001	C-PLAT-3C	M-HR	VAR	3C	A	CE	FW				
28-005-126-001	C-PLAT-3C	M-HR	VAR	3C	A	CE	FW				
28-005-072-003	C-PLAT-3C	P-3619-4	VAR	3C	A	CE	FW				
28-005-072-006	C-PLAT-3C	P-3619-4	VAR	3C	A	CE	FW				
28-005-073-001	C-PLAT-3C	P-3620-2	VAR	3C	A	CE	FW				
25-197-001-001	C-PLAT-3P2	I-RE28B	HV	3P2	A	CE	HVAC				
25-105-001-001	C-PLAT-3P2	M-RCV12	HV	3P2	A	CE	CI				
04-003-001-003	C-PLAT-3P2	P-0593-4	HV	3P2	A	CE	MNSTM				
28-006-031-005	C-PLAT-3P3	P-4552-2	VAR	3P3	A	CE	FW				
25-011-001-002	C-PLAT-3P6	H-FILTER	HV	3P6	A	CE	HVAC				
25-011-002-001	C-PLAT-3P6	H-FILTER	HV	3P6	A	CE	HVAC				
25-016-011-001	C-PLAT-3P7	H-DUCT	HV	3P7	A	CE	HVAC				
28-006-074-001	C-PLAT-3Q1	P-ULB-3Q1	VAR	3Q1	A	CE	FW				
28-006-002-001	C-PLAT-3Q1	P-1470-3	VAR	3Q1	A	CE	FW				
28-006-076-001	C-PLAT-3Q1	P-2682-12	VAR	3Q1	A	CE	FW				
28-006-078-001	C-PLAT-3Q1	P-2826-3	VAR	3Q1	A	CE	FW				
28-006-119-001	C-PLAT-3Q1	P-2827-3	VAR	3Q1	A	CE	FW				
28-006-122-001	C-PLAT-3Q1	P-4531-1	VAR	3Q1	A	CE	FW				
25-068-032-001	C-PLAT-3S	H-DUCT	AUX	3S	A	CE	HVAC				
22-001-001-001	C-PLAT-30A1	M-ASWPP1-1	IS	30A1	A	CE	ASW				
22-007-001-002	C-PLAT-30A2	M-ASWPP1-2	IS	30A2	A	CE	ASW				
21-003-001-001	C-PLAT-31	I-LT40	AUX	31	A	CE	CCW				
21-002-005-001	C-PLAT-31	P-0567-2	AUX	31	A	CE	CCW				
30-001-014-003	C-P10T-1	I-PT505	TB	14E	A	ICE	MT				
22-005-002-002	C-P11T-1	I-GENERIC	TB	14E	A	ICE	ASW				
22-009-004-001	C-P9T-1	E-K4866-0.75	TB	14E	A	EE	ASW				
22-005-002-003	C-P9T-1	I-PT5	TB	14E	A	ICE	ASW				
11-003-003-003	C-SB	M-CHGPP1-3	PPS	3H2	A	CE	CVCS				
23-002-004-002	C-SB	M-CSPP1-1	PPS	3F	A	CE	SPRAY				
23-012-004-002	C-SB	M-CSPP1-2	PPS	3F	A	CE	SPRAY				
23-066-001-001	C-SB	M-SAT	PPS	3F	A	CE	SPRAY				
06-059-016-001	C-SHIELD	I-4681-0.187	CNT	1C	A	CE	RCS				
06-060-011-001	C-SHIELD	I-4684-0.187	CNT	1C	A	CE	RCS				
06-001-001-002	C-SHIELD	M-CRDM	CNT	1C	A	CE	RCS				
28-005-059-001	C-STAIR-S5	M-HR	VAR	S5	A	CE	FW				
28-005-061-001	C-STAIR-S5	M-HR	VAR	S5	A	CE	FW				
28-005-063-001	C-STAIR-S5	M-HR	VAR	S5	A	CE	FW				
28-005-062-002	C-STAIR-S5	P-4253-2	VAR	S5	A	CE	FW				
28-005-056-007	C-STAIR-S5	P-4256-4	VAR	S5	A	CE	FW				
28-004-062-002	C-STAIR-1B	P-3319-2	VAR	14A	A	CE	FW				
28-004-023-002	C-STAIR-1C	P-2671-4	VAR	14A	A	CE	FW				
28-004-025-001	C-STAIR-1C	P-3299-2	VAR	14A	A	CE	FW				
28-004-079-001	C-STAIR-1D	M-VALVE	VAR	14A	A	CE	FW				
28-004-080-001	C-STAIR-1D	M-VALVE	VAR	14A	A	CE	FW				
28-004-090-001	C-STAIR-1D	M-VALVE	VAR	14A	A	CE	FW				
28-004-082-001	C-STAIR-1D	P-3308-2	VAR	14A	A	CE	FW				
28-004-078-002	C-STAIR-1D	P-3309-4	VAR	14A	A	CE	FW				
28-004-078-004	C-STAIR-1D	P-3309-4	VAR	14A	A	CE	FW				
28-004-086-002	C-STAIR-1D	P-3310-2	VAR	14A	A	CE	FW				
28-004-084-002	C-STAIR-1D	P-3311-2	VAR	14A	A	CE	FW				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=CIVILFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-004-088-003	C-STAIR-1D	P-3312-2	VAR	14A	A	CE	FW				
28-005-042-002	C-STAIR-1K	P-2680-4	VAR	S2	A	CE	FW				
28-005-044-001	C-STAIR-1K	P-3610-4	VAR	S2	A	CE	FW				
28-004-037-001	C-STAIR-14A	M-HR	VAR	14A	A	CE	FW				
28-004-039-001	C-STAIR-14A	M-HR	VAR	14A	A	CE	FW				
28-004-043-001	C-STAIR-14A	M-HR	VAR	14A	A	CE	FW				
28-004-059-002	C-STAIR-14A	M-HR	VAR	14A	A	CE	FW				
28-004-083-001	C-STAIR-14A	M-HR	VAR	14A	A	CE	FW				
28-004-085-001	C-STAIR-14A	M-HR	VAR	14A	A	CE	FW				
28-004-087-003	C-STAIR-14A	M-HR	VAR	14A	A	CE	FW				
28-004-034-001	C-STAIR-2B	P-2670-4	VAR	14A	A	CE	FW				
28-004-034-003	C-STAIR-2B	P-2670-4	VAR	14A	A	CE	FW				
28-004-034-004	C-STAIR-2B	P-2670-4	VAR	14A	A	CE	FW				
28-004-036-001	C-STAIR-2B	P-3295-2	VAR	14A	A	CE	FW				
28-004-038-001	C-STAIR-2B	P-3296-2	VAR	14A	A	CE	FW				
28-004-040-001	C-STAIR-2B	P-3297-2	VAR	14A	A	CE	FW				
28-004-035-001	C-STAIR-2B	PA-2670-4	VAR	14A	A	CE	FW				
28-004-051-004	C-STAIR-3B	P-3293-2	VAR	14A	A	CE	FW				
01-019-002-001	C-WALL	E-K6958+	AUX	4A	A	CE	AUXFW				
11-007-005-003	C-WALL	E-K7057+	AUX	4A	A	CE	CVCS				
20-017-004-001	C-WALL	E-K7248+	AUX	4A	A	CE	CCW				
28-005-001-003	C-WALL	P-2677-6	VAR	3AA	A	CE	FW				I
28-004-031-002	C-WALL	P-3298-2	VAR	14A	A	CE	FW				
28-005-072-007	C-WALL	P-3619-4	VAR	3C	A	CE	FW				
31-003-004-001	C-103GE	I-FCV584	PEN	3BB	A	CE	CI				
25-118-005-003	C-103GE	I-FCV679	PEN	3BB	A	CE	CI				
19-001-004-001	C-103GE	I-9354B	PEN	3BB	A	CE	CI				
31-002-007-001	C-103GE	M-FCV584	PEN	3BB	A	CE	CI				
31-001-005-001	C-103GE	M-VALVE	PEN	3BB	A	CE	CI				
09-015-001-005	C-103GE	PA-2999-4	PEN	3BB	A	CE	RCS				
06-060-010-011	C-104GE	E-K3477+	PEN	3BB	A	CE	RCS				
31-005-004-001	C-104GE	I-FCV682	PEN	3BB	A	CE	CI				
29-001-003-001	C-104GE	M-FCV501	PEN	3BB	A	CE	CI				
09-015-008-001	C-105GE	P-1491-1	PEN	3BB	A	CE	RCS				
09-015-007-002	C-105GE	P-2004-3	PEN	3BB	A	CE	RCS				
09-015-001-001	C-105GE	P-2999-4	PEN	3BB	A	CE	RCS				
09-015-009-001	C-105GE	P-3852-1	PEN	3BB	A	CE	RCS				
17-001-008-002	C-106GN	P-2033-4	PEN	3BB	A	CE	SI				
25-118-001-001	C-11GE	I-FCV679	PEN	3BB	A	CE	CI				
09-014-005-001	C-11GE	I-PM123	PEN	3BB	A	CE	RCS				
23-047-001-001	C-11GE	I-PT932	PEN	3BB	A	CE	SPRAY				
23-047-002-001	C-11GE	I-PT932	PEN	3BB	A	CE	SPRAY				
23-046-001-001	C-11GE	I-PT937	PEN	3BB	A	CE	SPRAY				
09-014-004-001	C-11GE	I-8029	PEN	3BB	A	CE	RCS				
09-012-004-001	C-11GE	I-8045	PEN	3BB	A	CE	RCS				
05-035-003-001	C-11GE	M-FCV246	PEN	3BB	A	CE	MNSTM				
05-031-003-001	C-11GE	M-FCV248	PEN	3BB	A	CE	MNSTM				
05-027-003-001	C-11GE	M-FCV250	PEN	3BB	A	CE	MNSTM				
29-007-002-001	C-11GE	M-FCV260	PEN	3BB	A	CE	CI				
25-116-003-001	C-11GE	M-FCV679	PEN	3BB	A	CE	CI				
09-013-002-001	C-11GE	M-8029	PEN	3BB	A	CE	RCS				
09-011-002-001	C-11GE	M-8045	PEN	3BB	A	CE	RCS				
10-003-001-001	C-11GE	P-0054-2	PEN	3BB	A	CE	CVCS				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=CIVILFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
10-006-001-001	C-11GE	P-0055-2	PEN	3BB	A	CE	CVCS				
10-009-001-001	C-11GE	P-0056-2	PEN	3BB	A	CE	CVCS				
10-012-001-001	C-11GE	P-0057-2	PEN	3BB	A	CE	CVCS				
05-041-001-002	C-11GE	P-1863-1	PEN	3BB	A	CE	MNSTM				
29-004-001-001	C-11GE	P-3001-4	PEN	3BB	A	CE	CI				
30-001-021-001	C-11GE	PS-2161-37	PEN	3BB	A	CE	MT				
05-039-003-001	C-11GG	M-FCV244	PEN	3BB	A	CE	MNSTM				
25-102-006-001	C-112L	H-DUCT	HV	3P2	A	CE	CI				
30-001-094-001	C-113F	I-TUBING	CNT	1C	A	CE	MT				
08-001-003-001	C-128F	M-PCV455A	CNT	1B	A	CE	RCS				
30-001-054-002	C-31FW	E-R-28	OA	28	A	CE	MT				
30-001-054-003	C-32FW	E-R-28	OA	28	A	CE	MT				
25-127-002-001	C-34F	I-FCV070	CNT	1A	A	CE	HVAC				
25-128-002-001	C-34F	I-FCV071	CNT	1A	A	CE	HVAC				
28-003-014-001	C-34F	M-VALVE	VAR	1C	A	CE	FW				
30-001-054-005	C-41FW	E-R-28	OA	28	A	CE	MT				
30-001-054-006	C-42FW	E-R-28	OA	28	A	CE	MT				
30-001-054-008	C-44FW	E-R-28	OA	28	A	CE	MT				
30-001-054-009	C-45FW	E-R-28	OA	28	A	CE	MT				
30-001-054-010	C-46FW	E-R-28	OA	28	A	CE	MT				
30-001-054-011	C-47FW	E-R-28	OA	28	A	CE	MT				
30-001-054-012	C-48FW	E-R-28	OA	28	A	CE	MT				
03-062-001-001	C-8GW	M-FCV23	PEN	3BB	A	CE	MNSTM				
03-019-001-001	C-8GW	M-FCV43	PEN	3BB	A	CE	MNSTM				
03-007-002-002	C-9GW	I-PM106	PEN	3BB	A	CE	MNSTM				
03-009-002-001	C-9GW	I-PM113	PEN	3BB	A	CE	MNSTM				
25-107-005-002	C-99L	I-FCV663	HV	3P2	A	CE	CI				
25-109-005-002	C-99L	I-FCV664	HV	3P2	A	CE	CI				
25-196-001-002	C-99L	I-RE28A	HV	3P2	A	CE	HVAC				
25-107-004-002	C-99L	I-SV296	HV	3P2	A	CE	CI				
25-109-004-002	C-99L	I-SV297	HV	3P2	A	CE	CI				
28-007-018-002	C-BLDG	P-3297-2	VAR	14D	M	CE	FW		TSHIELD	NECESSARY	
20-004-001-002	C-CRANE-3J1	M-CCWPP1-1	PPS	3J1	M	CE	CCW		BRACE	EXPEDIENT	
21-004-010-003	C-CRANE-3R	P-2242-3	AUX	3R	M	CE	CCW		TSHIELD	EXPEDIENT	
24-007-001-001	C-MR-11A1	M-DG1-1	DG	11A1	M	CE	EDG	MECHFAIL	SECLOOSE	EXPEDIENT	
24-007-006-004	C-MR-11B1	M-DG1-2	DG	11B1	M	CE	EDG	MECHFAIL	SECLOOSE	EXPEDIENT	
24-007-011-001	C-MR-11C1	M-DG1-3	DG	11C1	M	CE	EDG	MECHFAIL	SECLOOSE	EXPEDIENT	
28-005-072-001	C-MR-3C	P-3619-4	VAR	3C	M	CE	FW		BRACE	NECESSARY	
28-005-072-002	C-MR-3C	P-3619-4	VAR	3C	M	CE	FW		BRACE	NECESSARY	
25-041-021-001	C-MR-3H1	H-DUCT	PPS	3H1	M	CE	HVAC		BRACE	EXPEDIENT	
25-041-022-001	C-MR-3H1	H-DUCT	PPS	3H1	M	CE	HVAC		BRACE	EXPEDIENT	
25-041-020-001	C-MR-3M	H-DUCT	PPS	3M	M	CE	HVAC		BRACE	EXPEDIENT	
30-001-001-001	C-PLAT-1A	GENERIC	CNT	1A	M	CE	MT		SECLOOSE	NECESSARY	
30-001-022-001	C-PLAT-1C	GENERIC	CNT	1C	M	CE	MT		BRACE	EXPEDIENT	
28-004-084-001	C-PLAT-14A	P-3311-2	VAR	14A	M	CE	FW		BRACE	EXPEDIENT	
25-162-003-002	C-PLAT-14D	H-FILTER	TB	14D	M	CE	HVAC		BRACE	NECESSARY	
25-168-004-001	C-PLAT-14D	H-S68	TB	14D	M	CE	HVAC		BRACE	NECESSARY	
25-165-004-002	C-PLAT-14D	H-S69	TB	14D	M	CE	HVAC		BRACE	NECESSARY	
28-004-017-004	C-PLAT-14D	M-HR	VAR	14D	M	CE	FW		BRACE	NECESSARY	
28-004-030-002	C-PLAT-14D	M-HR	VAR	14D	M	CE	FW		BRACE	NECESSARY	
28-004-041-003	C-PLAT-14D	M-HR	VAR	14D	M	CE	FW		BRACE	NECESSARY	
28-004-040-003	C-PLAT-14D	P-3297-2	VAR	14A	M	CE	FW		BRACE	NECESSARY	
28-004-029-003	C-PLAT-14D	P-3301-2	VAR	14D	M	CE	FW		BRACE	NECESSARY	

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=CIVILFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
03-058-005-002	C-PLAT-28	E-KT062+	OA	28	M	CE	MNSTM		BRACE	EXPEDIENT	
03-022-024-003	C-PLAT-28	E-K5774-0.75	OA	28	M	CE	MNSTM	LOOSE	SECLOOSE	OVERLAP	
03-018-007-002	C-PLAT-28	E-K5807-1	OA	28	M	CE	MNSTM		CLEARANCE	EXPEDIENT	
30-001-028-001	C-PLAT-28	GENERIC	OA	28	M	CE	MT		BRACE	EXPEDIENT	
03-022-001-001	C-PLAT-28	I-PCV19	OA	28	M	ICE	MNSTM	LOOSE	TSHIELD	EXPEDIENT	
03-022-002-002	C-PLAT-28	I-PCV19	OA	28	M	ICE	MNSTM	LOOSE	TSHIELD	EXPEDIENT	
03-022-003-001	C-PLAT-28	I-PCV19	OA	28	M	ICE	MNSTM	LOOSE	TSHIELD	EXPEDIENT	
03-022-003-002	C-PLAT-28	I-PCV19	OA	28	M	ICE	MNSTM	LOOSE	TSHIELD	EXPEDIENT	
03-024-001-001	C-PLAT-28	I-PCV20	OA	28	M	ICE	MNSTM	LOOSE	TSHIELD	EXPEDIENT	
03-024-002-001	C-PLAT-28	I-PCV20	OA	28	M	ICE	MNSTM	LOOSE	TSHIELD	EXPEDIENT	
03-024-003-001	C-PLAT-28	I-PCV20	OA	28	M	ICE	MNSTM	LOOSE	TSHIELD	EXPEDIENT	
25-032-013-002	C-PLAT-3P3	H-DAMPER	HV	3P3	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-032-014-001	C-PLAT-3P3	H-DAMPER	HV	3P3	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-042-017-001	C-PLAT-3P3	H-DAMPER	HV	3P3	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-042-021-001	C-PLAT-3P3	H-DAMPER	HV	3P3	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-042-024-001	C-PLAT-3P3	H-DAMPER	HV	3P3	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-042-025-001	C-PLAT-3P3	H-DAMPER	HV	3P3	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-053-003-001	C-PLAT-3P3	H-DAMPER	HV	3P3	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-054-001-001	C-PLAT-3P3	H-DAMPER	HV	3P3	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-055-001-001	C-PLAT-3P3	H-DAMPER	HV	3P3	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-042-006-001	C-PLAT-3P3	H-FILTER	HV	3P3	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-042-006-003	C-PLAT-3P3	H-FILTER	HV	3P3	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-018-001-001	C-PLAT-3P3	H-FILTER	HV	3P7	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-042-010-001	C-PLAT-3P4	H-DAMPER	HV	3P4	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-042-010-003	C-PLAT-3P4	H-DAMPER	HV	3P4	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-042-020-001	C-PLAT-3P4	H-DAMPER	HV	3P4	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-042-002-002	C-PLAT-3P4	H-FILTER	HV	3P4	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-042-003-001	C-PLAT-3P4	H-FILTER	HV	3P4	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-042-003-002	C-PLAT-3P4	H-FILTER	HV	3P4	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-014-001-002	C-PLAT-3P6	H-E4	HV	3P6	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-016-004-001	C-PLAT-3P7	H-DUCT	HV	3P7	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-019-001-001	C-PLAT-3P7	H-E5	HV	3P7	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-018-002-001	C-PLAT-3P7	H-FILTER	HV	3P7	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-018-003-001	C-PLAT-3P7	H-FILTER	HV	3P7	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-018-003-002	C-PLAT-3P7	H-FILTER	HV	3P7	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-016-007-001	C-PLAT-3P8	H-DUCT	HV	3P8	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-021-001-001	C-PLAT-3P8	H-E6	HV	3P8	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-024-001-001	C-PLAT-3P8	H-E6	HV	3P8	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-023-001-001	C-PLAT-3P8	H-FILTER	HV	3P8	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-023-002-001	C-PLAT-3P8	H-FILTER	HV	3P8	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-023-003-001	C-PLAT-3P8	H-FILTER	HV	3P8	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-023-003-002	C-PLAT-3P8	H-FILTER	HV	3P8	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
28-006-001-001	C-PLAT-3Q1	P-2660-10	VAR	3Q1	M	CE	FW		BRACE	EXPEDIENT	
28-004-004-015	C-STAIR-1D	P-2666-6	VAR	14A	M	CE	FW		BRACE	NECESSARY	
28-004-058-002	C-STAIR-1D	P-3317-2	VAR	14A	M	CE	FW		BRACE	EXPEDIENT	
01-019-002-002	C-STAIR-14A	E-K2665-1	TB	14A	M	CE	AUXFW		BRACE	EXPEDIENT	
28-004-004-009	C-STAIR-2B	P-2666-6	VAR	14A	M	CE	FW		BRACE	EXPEDIENT	
28-004-044-006	C-STAIR-3B	P-5038-4	VAR	14A	M	CE	FW		BRACE	NECESSARY	
30-001-061-001	C-WALL	E-DC SWGR	EL	6A1	M	CE	MT		BRACE	OVERLAP	
30-001-061-002	C-WALL	E-DC SWGR	EL	6A2	M	CE	MT		BRACE	OVERLAP	
30-001-061-003	C-WALL.	E-DC SWGR	EL	6A3	M	CE	MT		BRACE	OVERLAP	
30-001-050-001	C-WALL	E-R-10	EL	10	M	CE	MT		BRACE	OVERLAP	
32-001-038-001	C-WALL	E-SSPS	EL	8G	M	ICE	ELPS	ENVIRON	TSHIELD	NECESSARY	

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=CIVILFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
32-001-032-002	C-WALL	E-125VBATTER	EL	6A1	M	CE	ELPS		BRACE	OVERLAP	
32-001-032-003	C-WALL	E-125VBATTER	EL	6A1	M	CE	ELPS		BRACE	OVERLAP	
32-001-033-002	C-WALL	E-125VBATTER	EL	6A2	M	CE	ELPS		BRACE	OVERLAP	
32-001-033-003	C-WALL	E-125VBATTER	EL	6A2	M	CE	ELPS		BRACE	OVERLAP	
32-001-034-002	C-WALL	E-125VBATTER	EL	6A3	M	CE	ELPS		BRACE	OVERLAP	
32-001-034-003	C-WALL	E-125VBATTER	EL	6A3	M	CE	ELPS		BRACE	OVERLAP	
32-001-022-004	C-WALL	E-480VSWGR	EL	5A1	M	CE	ELPS		BRACE	OVERLAP	
32-001-023-004	C-WALL	E-480VSWGR	EL	5A2	M	CE	ELPS		BRACE	OVERLAP	
32-001-024-004	C-WALL	E-480VSWGR	EL	5A3	M	CE	ELPS		BRACE	OVERLAP	
22-012-008-005	C-WALL	E-KD350-1.50	TB	14A	M	CE	ASW		BRACE	OVERLAP	
22-006-008-002	C-WALL	E-KD351-1.50	TB	14A	M	CE	ASW		BRACE	OVERLAP	
25-162-004-004	C-WALL	H-DUCT	TB	14A	M	CE	HVAC		BRACE	OVERLAP	
25-162-012-005	C-WALL	H-DUCT	TB	14A	M	CE	HVAC		BRACE	OVERLAP	
25-162-012-003	C-WALL	H-DUCT	TB	14D	M	CE	HVAC		BRACE	OVERLAP	
25-162-003-001	C-WALL	H-FILTER	TB	14D	M	CE	HVAC		BRACE	OVERLAP	
30-001-095-001	C-102F	GENERIC	CNT	1C	M	CE	MT		BRACE	NECESSARY	
03-019-003-001	C-3GW	I-FCV43	PEN	3BB	M	CE	MNSTM		SECLOOSE	OVERLAP	
03-020-003-002	C-3GW	I-FCV44	PEN	3BB	M	CE	MNSTM		SECLOOSE	OVERLAP	
30-001-054-001	C-30FW	E-R-28	OA	28	M	CE	MT		BRACE	NECESSARY	
30-001-054-004	C-40FW	E-R-28	OA	28	M	CE	MT		BRACE	NECESSARY	
30-001-054-007	C-43FW	E-R-28	OA	28	M	CE	MT		BRACE	NECESSARY	
06-001-004-006	C-72FG	I-FLUX MON	CNT	1B	M	CE	RCS		BRACE	NECESSARY	
06-060-010-005	C-74GW	E-KK385-3	PEN	3BB	M	CE	RCS		BRACE	EXPEDIENT	
03-040-003-003	C-74GW	E-KT351-3	PEN	3BB	M	CE	MNSTM		BRACE	NECESSARY	
03-007-001-001	C-74GW	I-TUBING	PEN	3BB	M	CE	MNSTM		BRACE	NECESSARY	
32-001-025-004	C-WALL	E-R-12A	EL	12A	NAN	CE	ELPS				
32-001-025-007	C-WALL	E-R-12A	EL	12A	NAN	CE	ELPS				
32-001-025-005	C-WALL	E-R-12B	EL	12B	NAN	CE	ELPS				
32-001-025-008	C-WALL	E-R-12B	EL	12B	NAN	CE	ELPS				
32-001-025-006	C-WALL	E-R-12C	EL	12C	NAN	CE	ELPS				
32-001-025-009	C-WALL	E-R-12C	EL	12C	NAN	CE	ELPS				
32-001-008-001	C-WALL	E-4.16KVSWGR	EL	13A	NAN	CE	ELPS				
32-001-008-002	C-WALL	E-4.16KVSWGR	EL	13A	NAN	CE	ELPS				
32-001-009-001	C-WALL	E-4.16KVSWGR	EL	13B	NAN	CE	ELPS				
32-001-009-002	C-WALL	E-4.16KVSWGR	EL	13B	NAN	CE	ELPS				
32-001-010-001	C-WALL	E-4.16KVSWGR	EL	13C	NAN	CE	ELPS				
32-001-010-002	C-WALL	E-4.16KVSWGR	EL	13C	NAN	CE	ELPS				
28-006-023-002	C-PLAT-3R	M-HR	VAR	3R	Y	CE	FW				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=DEFLECT

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
06-001-002-003	C-CABLE	M-CRDM	CNT	1C	A	CE	RCS				
20-007-001-003	C-P12T1	I-PI113	TB	14E	A	ICE	CCW				
06-002-009-001	C-SHIELD	M-8059A	CNT	1B	A	PSE	RCS				
06-003-007-001	C-SHIELD	M-8059B	CNT	1B	A	PSE	RCS				
06-004-006-003	C-SHIELD	M-8059C	CNT	1B	A	PSE	RCS				
06-005-010-001	C-SHIELD	M-8059D	CNT	1B	A	PSE	RCS				
06-002-008-001	C-SHIELD	M-8060A	CNT	1B	A	PSE	RCS				
06-003-006-001	C-SHIELD	M-8060B	CNT	1B	A	PSE	RCS				
06-004-005-003	C-SHIELD	M-8060C	CNT	1B	A	PSE	RCS				
06-005-009-001	C-SHIELD	M-8060D	CNT	1B	A	PSE	RCS				
06-002-007-001	C-SHIELD	M-8061A	CNT	1B	A	PSE	RCS				
06-003-005-002	C-SHIELD	M-8061B	CNT	1B	A	PSE	RCS				
06-004-004-003	C-SHIELD	M-8061C	CNT	1B	A	PSE	RCS				
06-005-008-001	C-SHIELD	M-8061D	CNT	1B	A	PSE	RCS				
07-006-001-002	C-STAIR-1C	I-LT457	CNT	1C	A	CE	RCS				
07-010-001-002	C-STAIR-1C	I-LT461	CNT	1C	A	CE	RCS				
07-011-001-001	C-STAIR-1C	I-LT462	CNT	1C	A	CE	RCS				
32-001-009-008	E-MISC-13B	E-4.16KVSWGR	EL	13B	A	EE	ELPS				
25-164-003-002	H-DUCT-5A4	E-K5984+	EL	5A4	A	HVA	HVAC				
05-022-005-003	M-FCV763	E-K1788-1	CNT	1B	A	PSE	MNSTM				
25-191-002-002	P-IAH-3BB	E-K4992-1.25	PEN	3BB	A	PSE	CI				
29-010-001-001	P-SPR-1A	M-FCV255	CNT	1A	A	PSE	CI				
03-022-024-002	P-ULB-28	E-K5776+	OA	28	A	PSE	MNSTM				
28-005-005-001	P-USB-3AA	P-2678-4	VAR	3AA	A	PSE	FW				
01-012-002-004	P-USB-5A4	E-K7143-2	EL	5A4	A	EE	AUXFW				
12-002-005-001	P-0025-3	PS-0025-3	CNT	1B	A	ENG	CVCS				
11-006-005-001	P-0095-30	E-K7507+	PPS	3J2	A	PSE	CVCS				
20-065-012-001	P-0135-4	PA-0139-1	CNT	1B	A	ENG	CCW				
18-023-002-001	P-0224-8	E-K6385-1.25	PEN	3BB	A	PSE	RHR				
28-004-054-004	P-0543-30	P-2667-6	VAR	14A	A	PSE	FW				
15-048-002-001	P-0556-16	E-K6494+	PEN	3BB	A	PSE	SI				
01-007-002-002	P-0721-12	E-K5971-2	PEN	3BB	A	EE	AUXFW				
20-039-044-001	P-0927-14	P-2679-2	PEN	3BB	A	PSE	CCW				
05-040-003-001	P-1040-2.50	I-FCV244	PEN	3BB	A	ICE	MNSTM				
05-036-003-001	P-1040-2.50	I-FCV246	PEN	3BB	A	ICE	MNSTM				
05-032-003-001	P-1040-2.50	I-FCV248	PEN	3BB	A	ICE	MNSTM				
10-013-001-001	P-1041-2.50	P-0746-3	PEN	3BB	A	PSE	CVCS				
05-017-001-001	P-1042-2.50	P-1162-0.75	CNT	1A	A	PSE	MNSTM				
09-015-002-002	P-1043-2.50	P-2998-4	CNT	1A	A	PSE	RCS				
28-004-054-008	P-1377-8	P-2667-6	VAR	14A	A	PSE	FW				
30-001-011-001	P-4120-1	E-K2924-1.50	PEN	3BB	A	PSE	MT				
06-023-001-001	P-4275-0.75	I-FT415	CNT	1A	A	PSE	RCS				
25-203-004-009	P-4404-24	E-KA110-1	TB	14D	A	EMS	HVAC				
23-050-001-002	C-PLAT-1A	P-0325-8	CNT	1A	M	CE	SPRAY		BRACE	NECESSARY	
03-028-001-001	C-PLAT-3BB	I-PCV22	PEN	3BB	M	ICE	MNSTM		TMODIFY	EXPEDIENT	
03-028-002-001	C-PLAT-3BB	I-PCV22	PEN	3BB	M	ICE	MNSTM		TMODIFY	EXPEDIENT	
03-028-003-001	C-PLAT-3BB	I-PCV22	PEN	3BB	M	ICE	MNSTM		TMODIFY	EXPEDIENT	
18-011-001-001	C-SHIELD	I-TE639	PEN	3BB	M	ICE	RHR		TSHIELD	OVERLAP	
28-003-052-003	C-STAIR-1GE	P-4366-2	VAR	1A	M	CE	FW		BRACE	EXPEDIENT	
25-122-005-001	C-34F	H-CFC1-1	CNT	1C	M	CE	CI		BRACE	EXPEDIENT	
23-049-003-001	E-K6318	E-KK379-0.75	PEN	3BB	M	EE	SPRAY		SUPPORT	EXPEDIENT	
07-009-001-005	E-R-1C	I-LT460	CNT	1C	M	ICE	RCS		TMODIFY	EXPEDIENT	
03-024-030-003	E-R-28	E-K6505+	OA	28	M	EE	MNSTM		SUPPORT	OVERLAP	

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=DEFLECT

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
13-009-002-001	E-R-3X	E-K9736-1	AUX	3X	M	EE	CVCS		CONSTDEF	OVERLAP	
13-003-009-001	E-R-3X	M-BATPP1-1	AUX	3X	M	EE	CVCS		SUPPORT	OVERLAP	
03-005-002-003	H-DUCT-1B	I-LT501	CNT	1B	M	HVA	MNSTM		CONSTDEF	EXPEDIENT	
28-005-084-003	H-DUCT-3L	P-3688-2	VAR	3L	M	CE	FW		CONSTDEF	EXPEDIENT	
15-001-029-001	M-FCV363	P-3849-4	PEN	3BB	M	PSE	SI		RELOCATE	EXPEDIENT	
30-001-003-001	M-8033A	GENERIC	CNT	1A	M	EMS	MT		SECLOOSE	EXPEDIENT	
29-021-005-004	P-DRAIN-1A	E-KX505-0.75	CNT	1A	M	PSE	CI		SUPPORT	EXPEDIENT	
29-022-005-001	P-DRAIN-1A	E-KX525-0.75	CNT	1A	M	PSE	CI		SUPPORT	EXPEDIENT	
20-040-001-001	P-DRAIN-1B	P-2314-4	CNT	1B	M	PSE	CCW		SUPPORT	EXPEDIENT	
10-002-001-001	P-SA-1A	P-1479-2	CNT	1A	M	PSE	CVCS		SUPPORT	EXPEDIENT	
10-013-003-003	P-SA-1A	P-1500-0.75	CNT	1A	M	PSE	CVCS		SUPPORT	NECESSARY	
06-059-042-001	P-SA-1B	E-KK074-0.75	CNT	1B	M	PSE	RCS		SUPPORT	EXPEDIENT	
28-004-029-001	P-SA-14A	P-3301-2	VAR	14A	M	PSE	FW		STOP	NECESSARY	
20-023-001-001	P-SA-3J3	P-2131-2	PPS	3J3	M	PSE	CCW		SUPPORT	EXPEDIENT	
20-010-001-002	P-SPR-14E	PA-0095-30	TB	14E	M	PSE	CCW		SUPPORT	EXPEDIENT	
23-048-003-002	P-SPR-3BB	E-KK383-1	PEN	3BB	M	EE	SPRAY		TMODIFY	EXPEDIENT	
30-001-048-001	P-SPR-3Q1	E-KK367-1	PPS	3Q1	M	PSE	MT		RELOCATE	EXPEDIENT	
18-001-023-002	P-ULB-3BB	I-8716A	PEN	3BB	M	PSE	RHR		SUPPORT	EXPEDIENT	
15-003-003-001	P-ULB-3M	E-K9396-1.25	PPS	3M	M	PSE	SI		STOP	OVERLAP	
01-012-005-003	P-ULB-3Q2	E-KK793-0.75	PPS	3Q2	M	PSE	AUXFW		STOP	NECESSARY	
15-001-116-001	P-USB-1A	P-0524-0.75	CNT	1A	M	PSE	SI		SUPPORT	EXPEDIENT	
15-001-116-002	P-USB-1A	P-0524-0.75	CNT	1A	M	PSE	SI		SUPPORT	EXPEDIENT	
28-003-015-001	P-USB-1A	P-4364-2	VAR	1A	M	PSE	FW		SUPPORT	EXPEDIENT	
03-035-001-003	P-USB-1B	I-LT502	CNT	1B	M	ICE	MNSTM		TMODIFY	EXPEDIENT	
03-022-008-001	P-USB-28	E-K5849-3	OA	28	M	PSE	MNSTM		SUPPORT	EXPEDIENT	
07-008-001-003	P-0021-8	I-LT459	CNT	1C	M	PSE	RCS		RELOCATE	EXPEDIENT	
03-026-025-002	P-0123-6	E-K5779-1	PEN	3BB	M	PSE	MNSTM		SUPPORT	EXPEDIENT	
16-002-003-002	P-0220-4	E-KT948-1	PPS	3Q1	M	PSE	SI		SUPPORT	OVERLAP	
21-004-003-006	P-0382-4	P-3006-4	PPS	3Q1	M	PSE	CCW		SUPPORT	EXPEDIENT	
03-022-002-001	P-0476-4	I-PCV19	OA	28	M	PSE	MNSTM		STOP	OVERLAP	
02-001-004-002	P-0556-16	PA-0556-16	PEN	3BB	M	PSE	AUXFW	SPTFAIL	SUPPORT	NECESSARY	
02-001-003-002	P-0557-16	PA-0557-16	PEN	3BB	M	PSE	AUXFW	SPTFAIL	SUPPORT	NECESSARY	
01-003-005-002	P-0593-4	P-0573-4	PEN	3BB	M	CE	AUXFW		BRACE	EXPEDIENT	
25-112-006-001	P-0721-12	E-K6243-1.25	PEN	3BB	M	PSE	CI		STOP	NECESSARY	
25-032-001-002	P-0721-12	E-K8021-3	PPS	3Q1	M	PSE	HVAC		SUPPORT	NECESSARY	
25-029-006-001	P-0721-12	H-DUCT	PPS	3Q2	M	PSE	HVAC		SUPPORT	EXPEDIENT	
28-010-002-002	P-0721-12	E-K9415-4	VAR	3Q2	M	PSE	FW		SUPPORT	NECESSARY	
17-001-005-001	P-0994-1	E-8803A	AUX	3B3	M	PSE	SI		SUPPORT	EXPEDIENT	
17-001-006-001	P-0994-1	E-8803B	AUX	3B3	M	PSE	SI		SUPPORT	EXPEDIENT	
05-028-003-001	P-1040-2.50	I-FCV250	PEN	3BB	M	ICE	MNSTM		TMODIFY	NECESSARY	
10-013-001-003	P-1042-2.50	P-0746-3	PEN	3BB	M	CE	CVCS		CLEARANCE	EXPEDIENT	
10-015-001-001	P-1043-2.50	P-1490-0.75	CNT	1A	M	PSE	CVCS		SUPPORT	NECESSARY	
09-015-002-001	P-1043-2.50	P-2998-4	CNT	1A	M	PSE	RCS		TMODIFY	OVERLAP	
06-059-010-005	P-1046-6	E-KK200-1.50	PEN	3BB	M	PSE	RCS		RELOCATE	EXPEDIENT	
15-014-002-001	P-1046-6	I-8883	PEN	3BB	M	ICE	SI		TMODIFY	EXPEDIENT	
06-006-002-004	P-1114-4	E-KK308-1.25	PEN	3BB	M	PSE	RCS		SUPPORT	EXPEDIENT	
25-118-005-001	P-1132-2	I-FCV679	PEN	3BB	M	PSE	CI		SUPPORT	EXPEDIENT	
10-012-001-002	P-1134-0.75	P-0057-2	CNT	1A	M	PSE	CVCS		SUPPORT	EXPEDIENT	
25-117-005-001	P-1167-4	I-FCV768	CNT	1A	M	ICE	CI		TMODIFY	NECESSARY	
24-007-005-008	P-1185-4	E-KA303-1	TB	14A	M	PSE	EDG		SUPPORT	EXPEDIENT	
20-025-004-001	P-1246-10	P-3163-2	CNT	1A	M	PSE	CCW		SUPPORT	NECESSARY	
01-009-002-006	P-1445-4	E-K6254-3	PEN	3BB	M	PSE	AUXFW		SUPPORT	EXPEDIENT	
06-060-010-004	P-1595-3	E-KK385-3	PEN	3BB	M	PSE	RCS		SUPPORT	EXPEDIENT	

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=DEFLECT

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
20-046-001-001	P-1595-3	P-0121-6	PEN	3BB	M	PSE	CCW		SUPPORT	EXPEDIENT	
20-044-001-001	P-1595-3	P-0123-6	PEN	3BB	M	PSE	CCW		SUPPORT	EXPEDIENT	
28-005-030-001	P-1595-3	M-FS38	VAR	3BB	M	PSE	FW		SUPPORT	EXPEDIENT	
13-001-013-001	P-1596-2	P-2086-2	AUX	3AA	M	PSE	CVCS		SUPPORT	EXPEDIENT	
25-069-004-001	P-1600-2	H-DAMPER	HV	3P2	M	PSE	HVAC		SUPPORT	EXPEDIENT	
25-162-004-001	P-1742-8	H-DUCT	TB	14A	M	PSE	HVAC		SUPPORT	NECESSARY	
25-002-004-001	P-1750-8	E-K6011-1	PEN	3BB	M	PSE	HVAC		SUPPORT	NECESSARY	
15-015-002-003	P-1750-8	E-K6482-1.25	PEN	3BB	M	PSE	SI		TMODIFY	NECESSARY	
18-001-017-003	P-1750-8	P-0985-12	PEN	3BB	M	PSE	RHR	DEFLECT	SUPPORT	EXPEDIENT	
28-010-002-001	P-1750-8	E-K9415-4	VAR	3Q2	M	PSE	FW		SUPPORT	NECESSARY	
28-004-004-014	P-1956-4	P-2666-6	VAR	14A	M	PSE	FW		SUPPORT	NECESSARY	
15-001-101-002	P-2000-0.75	P-2000-0.75	CNT	1B	M	PSE	SI		RELOCATE	EXPEDIENT	
24-007-005-001	P-2173-5	E-R-11A1	DG	11A1	M	PSE	EDG		RELOCATE	OVERLAP	
24-001-009-001	P-2182-22	E-K2496+	DG	11A1	M	PSE	EDG		SUPPORT	OVERLAP	
28-003-008-006	P-2385-4	P-2674-4	VAR	1A	M	PSE	FW		STOP	EXPEDIENT	
28-003-008-007	P-2385-4	P-2674-4	VAR	1A	M	PSE	FW		STOP	EXPEDIENT	
04-003-001-005	P-2416-1	P-0593-4	PEN	3BB	M	PSE	MNSTM		SUPPORT	OVERLAP	
01-006-001-001	P-2442-6	M-AFWPP1-1	PPS	3Q1	M	PSE	AUXFW		RELOCATE	EXPEDIENT	
28-006-018-001	P-2442-6	P-3616-2	VAR	31	M	PSE	FW		SUPPORT	EXPEDIENT	
28-006-024-002	P-2446-6	P-3641-2	VAR	31	M	PSE	FW		SUPPORT	EXPEDIENT	
15-001-009-001	P-2570-0.75	P-2570-0.75	PEN	3BB	M	PSE	SI		TSHIELD	EXPEDIENT	
24-007-010-001	P-2586-5	E-R-11B1	DG	11B1	M	PSE	EDG		RELOCATE	OVERLAP	
24-007-015-003	P-2587-5	E-R-11C1	DG	11C1	M	PSE	EDG		RELOCATE	OVERLAP	
28-004-051-001	P-2972-3	P-3293-2	VAR	14A	M	PSE	FW		SUPPORT	EXPEDIENT	
15-002-003-001	P-3108-2	E-K6497-3	PEN	3BB	M	PSE	SI		SECLOOSE	EXPEDIENT	
10-013-003-007	P-3209-12	P-1499-0.75	CNT	1A	M	PSE	CVCS		TMODIFY	NECESSARY	
10-013-003-006	P-3243-3	P-1500-0.75	CNT	1A	M	PSE	CVCS		SUPPORT	EXPEDIENT	
30-001-019-001	P-3245-2	P-ULB-1A	CNT	1A	M	PSE	MT		SUPPORT	OVERLAP	
28-005-056-003	P-3252-1.50	P-3609-4	VAR	3BB	M	PSE	FW		SUPPORT	EXPEDIENT	
10-013-003-004	P-3263-4	P-1500-0.75	CNT	1A	M	PSE	CVCS		SUPPORT	EXPEDIENT	
03-001-001-002	P-3433-1.50	I-PT514	OA	28	M	PSE	MNSTM		SUPPORT	NECESSARY	
03-002-001-001	P-3433-1.50	I-PT515	OA	28	M	PSE	MNSTM		SUPPORT	NECESSARY	
03-003-001-001	P-3433-1.50	I-PT516	OA	28	M	PSE	MNSTM		SUPPORT	NECESSARY	
28-004-004-004	P-3593-12	P-2666-6	VAR	14A	M	PSE	FW		RELOCATE	EXPEDIENT	
28-004-004-008	P-3593-12	P-2666-6	VAR	14A	M	PSE	FW		RELOCATE	EXPEDIENT	
06-003-005-001	P-3816-0.75	GENERIC	CNT	1B	M	PSE	RCS		SUPPORT	EXPEDIENT	
30-001-015-001	P-3900-1	GENERIC	CNT	1A	M	PSE	MT		SUPPORT	EXPEDIENT	
10-001-001-001	P-3900-1	P-1495-0.75	CNT	1A	M	PSE	CVCS		SUPPORT	EXPEDIENT	
20-018-001-001	P-4000-2	PA-0098-12	TB	14E	M	PSE	CCW		SUPPORT	EXPEDIENT	
03-020-007-006	P-4072-3	E-K6702-1	PEN	3BB	M	PSE	MNSTM		TMODIFY	NECESSARY	
03-020-007-004	P-4347-3	E-K6702-1	PEN	3BB	M	PSE	MNSTM		TMODIFY	NECESSARY	
12-003-001-002	P-4397-2	PA-0063-1	CNT	1B	M	PSE	CVCS		SUPPORT	OVERLAP	
20-053-017-001	PA-0310-2	P-0312-2	PEN	3BB	M	PSE	CCW		RELOCATE	OVERLAP	
12-013-002-001	PS-3BB	I-8152	PEN	3BB	M	EMS	CVCS		TMODIFY	EXPEDIENT	
28-006-129-001	C-MISC-3Q2	E-K9415-4	VAR	3Q2	NAN	EE	FW				
25-162-012-002	C-PLAT-14A	H-DUCT	TB	14A	NAN	CE	HVAC				
25-105-007-001	C-99L	E-K8277-0.75	HV	3P2	NAN	CE	CI				
06-060-032-003	E-K1902-2.50	E-KK078-0.75	CNT	1A	NAN	EE	RCS				
01-015-002-004	E-K3118-1.50	E-KT243-1.25	PEN	3BB	NAN	EE	AUXFW				
06-060-032-006	E-R-1A	E-KK069-0.75	CNT	1A	NAN	EE	RCS				
25-201-008-005	E-R-1A	E-KX208-1	CNT	1A	NAN	EE	HVAC				
25-162-004-003	E-R-14A	H-DUCT	TB	14A	NAN	EE	HVAC				
25-162-012-001	E-R-14A	H-DUCT	TB	14A	NAN	EE	HVAC				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=DEFLECT

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-004-020-001	E-R-14A	P-3307-2	VAR	14A	NAN	PSE	FW				
28-004-064-003	E-R-14A	P-3316-2	VAR	14A	NAN	EE	FW				
28-004-047-002	E-R-14A	P-5040-2	VAR	14A	NAN	EE	FW				
28-004-004-003	E-R-14E	P-2666-6	VAR	14E	NAN	EE	FW				
01-015-002-007	E-R-3BB	E-KT243-1.25	PEN	3BB	NAN	EE	AUXFW				
02-012-004-002	E-R-3BB	E-KT301-1	PEN	3BB	NAN	EE	AUXFW				
28-005-084-002	E-R-3L	P-3688-2	VAR	3L	NAN	EE	FW				
28-006-031-001	E-R-3P3	P-4552-2	VAR	3P3	NAN	EE	FW				
28-006-024-001	E-R-31	P-3641-2	VAR	31	NAN	EE	FW				
25-162-009-001	E-R-5A4	H-DUCT	EL	5A4	NAN	EE	HVAC				
06-010-003-001	H-DUCT-1A	E-KX145-1.50	CNT	1A	NAN	HVA	RCS				
06-021-003-001	H-DUCT-1A	E-KX145-1.50	CNT	1A	NAN	HVA	RCS				
07-006-003-001	H-DUCT-1A	E-KX145-1.50	CNT	1A	NAN	HVA	RCS				
06-008-003-001	H-DUCT-1A	E-KX149-2.50	CNT	1A	NAN	HVA	RCS				
06-015-002-001	H-DUCT-1A	E-KX149-2.50	CNT	1A	NAN	HVA	RCS				
06-019-003-001	H-DUCT-1A	E-KX149-2.50	CNT	1A	NAN	HVA	RCS				
28-004-045-002	H-DUCT-11D	P-5039-2	VAR	11D	NAN	HVA	FW				
03-001-003-001	H-DUCT-3BB	E-KT157-1	PEN	3BB	NAN	HVA	MNSTM				
06-060-010-007	H-DUCT-3BB	E-K3477+	PEN	3BB	NAN	HVA	RCS				
28-005-005-005	H-DUCT-3X	P-2678-4	VAR	3X	NAN	HVA	FW				
25-070-038-002	H-DUCT-8B3	E-K6727-1.50	HV	8B3	NAN	HVA	HVAC				
25-164-003-001	H-S44	E-K7656+	EL	5A1	NAN	HVA	HVAC				
03-036-003-001	I-TUBING	E-KX167-2	CNT	1A	NAN	ICE	MNSTM				
03-040-003-001	I-TUBING	E-KX167-2	CNT	1A	NAN	ICE	MNSTM				
07-007-003-001	I-TUBING	E-KX193-1.50	CNT	1A	NAN	ICE	RCS				
15-040-004-001	I-TUBING	E-KX319-1	CNT	1A	NAN	ICE	SI				
03-047-003-001	I-TUBING	E-KX395-1	CNT	1A	NAN	ICE	MNSTM				
03-041-003-002	I-TUBING	E-KX397-1	CNT	1A	NAN	ICE	MNSTM				
03-029-003-001	I-TUBING	E-KX398-1	CNT	1A	NAN	ICE	MNSTM				
03-035-003-003	I-TUBING	E-KX399-1	CNT	1A	NAN	ICE	MNSTM				
03-035-003-004	I-TUBING	E-KX399-1	CNT	1A	NAN	ICE	MNSTM				
20-065-003-001	M-TANK	P-2304-4	CNT	1B	NAN	PSE	CCW				
25-118-005-002	M-VALVE	I-FCV679	PEN	3BB	NAN	PSE	CI				
03-038-001-004	M-8033A	I-LT527	CNT	1A	NAN	EMS	MNSTM				
22-006-008-001	NS-T	E-KD351-1.50	TB	14A	NAN	PSE	ASW				
24-010-003-002	P-DRAIN-11C1	E-K2323-4	DG	11C1	NAN	PSE	EDG				
30-001-032-002	P-DRAIN-11C1	E-K2323-4	DG	11C1	NAN	PSE	MT				
24-010-004-002	P-DRAIN-11C1	E-K2585-1.50	DG	11C1	NAN	PSE	EDG				
30-001-033-002	P-DRAIN-11C1	E-K2585-1.50	DG	11C1	NAN	PSE	MT				
01-002-020-002	P-DRAIN-3BB	P-0563-4	PEN	3BB	NAN	PSE	AUXFW				
06-019-003-002	P-IAH-1A	E-KX167-2	CNT	1A	NAN	ICE	RCS				
07-004-003-001	P-IAH-1A	E-KX167-2	CNT	1A	NAN	ICE	RCS				
15-020-005-001	P-IAH-1A	E-KX200-1.50	CNT	1A	NAN	ICE	SI				
05-010-005-001	P-IAH-1A	E-K1726-2	CNT	1A	NAN	ICE	MNSTM				
05-016-005-004	P-IAH-1A	E-K1736-2	CNT	1A	NAN	ICE	MNSTM				
05-010-005-002	P-IAH-1A	E-K1868-1.50	CNT	1A	NAN	ICE	MNSTM				
28-003-022-001	P-IAH-1A	P-3159-2	VAR	1A	NAN	PSE	FW				
28-004-020-003	P-IAH-16A	P-3307-2	VAR	16A	NAN	PSE	FW				
19-008-003-001	P-IAH-3BB	I-9355B	PEN	3BB	NAN	PSE	CI				
19-015-013-001	P-IAH-3BB	I-9356B	PEN	3BB	NAN	PSE	CI				
19-026-011-001	P-IAH-3BB	I-9357B	PEN	3BB	NAN	PSE	CI				
28-005-023-001	P-IAH-3BB	P-3603-4	VAR	3BB	NAN	PSE	FW				
08-001-001-001	P-SA-1B	P-0013-4	CNT	1B	NAN	PSE	RCS				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=DEFLECT

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-003-024-002	P-SA-1B	P-3457-1	VAR	1B	NAN	PSE	FW				
28-003-047-002	P-SA-1B	P-3458-1	VAR	1B	NAN	PSE	FW				
28-004-023-003	P-SA-14A	P-2671-4	VAR	14A	NAN	PSE	FW				
28-004-004-005	P-SA-14E	P-2666-6	VAR	14E	NAN	PSE	FW				
02-003-002-005	P-SA-28	E-K5865-1.25	OA	28	NAN	PSE	AUXFW				
09-015-001-002	P-SA-3BB	P-2999-4	PEN	3BB	NAN	PSE	RCS				
20-045-027-001	P-SA-3BB	P-3288-12	PEN	3BB	NAN	PSE	CCW				
28-008-003-001	P-SA-30A5	M-STR	VAR	30A5	NAN	PSE	FW				
28-008-020-001	P-SA-30A5	M-VALVE	VAR	30A5	NAN	PSE	FW				
28-008-011-002	P-SA-30A5	P-3736-2	VAR	30A5	NAN	PSE	FW				
28-008-021-001	P-SA-30A5	P-3736-2	VAR	30A5	NAN	PSE	FW				
28-008-014-003	P-SA-30A5	P-3737-2	VAR	30A5	NAN	PSE	FW				
25-146-009-002	P-SPR-14A	E-K2770-1	TB	14A	NAN	PSE	HVAC				
28-004-004-007	P-SPR-14A	P-2666-6	VAR	14A	NAN	PSE	FW				
30-001-032-001	P-SPR-14E	E-K2724-2	TB	14E	NAN	PSE	MT				
01-015-002-005	P-SPR-3BB	E-KT243-1.25	PEN	3BB	NAN	PSE	AUXFW				
01-015-002-006	P-SPR-3BB	E-KT243-1.25	PEN	3BB	NAN	PSE	AUXFW				
15-015-002-001	P-SPR-3L	E-K9170-2	AUX	3L	NAN	PSE	SI				
03-042-003-001	P-ULB-1A	E-KX245-1	CNT	1A	NAN	PSE	MNSTM				
20-072-003-001	P-ULB-1A	P-2947-1.50	CNT	1A	NAN	PSE	CCW				
28-004-023-001	P-ULB-14A	P-2671-4	VAR	14A	NAN	PSE	FW				
28-004-011-001	P-ULB-16A	M-VALVE	VAR	16A	NAN	PSE	FW				
25-194-002-002	P-ULB-3BB	E-K4984-2	PEN	3BB	NAN	PSE	CI				
03-019-007-002	P-ULB-3BB	E-K6133-2	PEN	3BB	NAN	PSE	MNSTM				
20-003-003-002	P-ULB-3BB	E-K6977-4	PEN	3BB	NAN	PSE	CCW				
25-068-015-001	P-ULB-3J3	H-DUCT	PPS	3J3	NAN	PSE	HVAC	ENVIRON			
28-008-001-004	P-ULB-30A5	P-2975-4	VAR	30A5	NAN	PSE	FW				
06-019-003-003	P-USB-1A	E-KX168-1.25	CNT	1A	NAN	ICE	RCS				
09-006-006-002	P-USB-1A	E-KX457-1	CNT	1A	NAN	PSE	RCS				
06-020-003-001	P-USB-1A	E-KX563-1.25	CNT	1A	NAN	ICE	RCS				
06-019-003-004	P-USB-1A	E-KX681-1	CNT	1A	NAN	ICE	RCS				
17-001-022-003	P-USB-1A	P-1992-1.50	CNT	1A	NAN	PSE	SI				
28-003-008-008	P-USB-1A	P-2674-4	VAR	1A	NAN	PSE	FW				
05-016-001-001	P-USB-1B	I-FCV762	CNT	1B	NAN	PSE	MNSTM				
02-003-002-006	P-USB-28	E-K5865-1.25	OA	28	NAN	PSE	AUXFW				
13-010-001-002	P-USB-3AA	M-BAT1-2	AUX	3AA	NAN	PSE	CVCS				
01-012-005-001	P-USB-3BB	E-KK793-0.75	PEN	3BB	NAN	PSE	AUXFW				
23-004-004-004	P-USB-3BB	E-9001A	PEN	3BB	NAN	PSE	SPRAY				
23-013-004-003	P-USB-3BB	E-9003B	PEN	3BB	NAN	PSE	SPRAY				
25-070-038-005	P-USB-8B3	E-K6733-1.50	HV	8B3	NAN	PSE	HVAC				
11-007-005-004	P-0082-20	E-K7048+	PPS	3J2	NAN	PSE	CVCS				
20-054-001-001	P-0106-18	P-0312-2	PEN	3BB	NAN	PSE	CCW				
03-019-007-001	P-0121-6	E-K6133-2	PEN	3BB	NAN	PSE	MNSTM				
03-026-023-001	P-0121-6	E-K6556-2	PEN	3BB	NAN	PSE	MNSTM				
20-045-002-002	P-0180-10	P-0180-10	CNT	1A	NAN	PSE	CCW				
10-013-001-002	P-0257-3	PA-0746-3	PEN	3BB	NAN	PSE	CVCS				
01-002-025-001	P-0283-3	P-0572-4	PEN	3BB	NAN	PSE	AUXFW				
28-006-018-002	P-0308-2	P-3616-2	VAR	31	NAN	PSE	FW				
28-004-044-002	P-0507-4	P-5038-4	VAR	14A	NAN	PSE	FW				
02-004-002-001	P-0557-16	E-K6479-3	PEN	3BB	NAN	PSE	AUXFW				
28-008-017-003	P-0705-4	P-3737-2	VAR	30A5	NAN	PSE	FW				
28-008-017-002	P-0708-4	P-3737-2	VAR	30A5	NAN	PSE	FW				
20-051-010-001	P-1042-2.50	P-0320-12	PEN	3BB	NAN	PSE	CCW				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=DEFLECT

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
09-013-001-001	P-1134-0.75	P-3000-3	CNT	1A	NAN	PSE	RCS				
28-003-008-002	P-1162-0.75	P-2674-4	VAR	1A	NAN	PSE	FW				
01-009-002-004	P-1445-4	E-K6254-3	PEN	3BB	NAN	PSE	AUXFW				
01-010-002-005	P-1445-4	E-K6254-3	PEN	3BB	NAN	PSE	AUXFW				
20-059-005-001	P-1508-4	P-2127-4	AUX	3A	NAN	PSE	CCW				
01-009-002-001	P-1595-3	E-K6254-3	PEN	3BB	NAN	PSE	AUXFW				
01-009-002-005	P-1595-3	E-K6254-3	PEN	3BB	NAN	PSE	AUXFW				
15-035-004-001	P-1631-4	E-KX630-0.75	CNT	1A	NAN	PSE	SI				
07-015-001-002	P-1657-4	I-PT458A	CNT	1A	NAN	PSE	RCS				
21-004-010-006	P-1932-1	P-2242-3	PPS	3Q	NAN	PSE	CCW				
28-004-004-001	P-2139-2	P-2666-6	VAR	14A	NAN	PSE	FW				
28-003-008-005	P-2385-4	P-2674-4	VAR	1A	NAN	PSE	FW				
01-002-011-001	P-2416-1	P-0476-4	PEN	3BB	NAN	PSE	AUXFW				
01-003-005-001	P-2416-1	P-0573-4	PEN	3BB	NAN	PSE	AUXFW				
20-050-015-001	P-2416-1	P-3286-12	PEN	3BB	NAN	PSE	CCW				
30-001-025-002	P-2416-1	P-3286-12	PEN	3BB	NAN	PSE	MT				
25-005-017-002	P-2442-6	H-DUCT	AUX	31	NAN	PSE	HVAC				
06-020-003-006	P-2576-8	E-KX246-2.50	CNT	1A	NAN	PSE	RCS				
07-009-003-004	P-2576-8	E-KX246-2.50	CNT	1A	NAN	PSE	RCS				
01-010-002-003	P-2742-1	E-K6254-3	PEN	3BB	NAN	PSE	AUXFW				
28-005-005-009	P-2757-1.50	P-2678-4	VAR	3X	NAN	PSE	FW				
28-004-054-002	P-2972-3	P-2667-6	VAR	14A	NAN	PSE	FW				
28-004-094-002	P-3034-4	P-2992-10	VAR	14A	NAN	PSE	FW				
30-008-014-001	P-3117-8	E-K7519-3	TB	14A	NAN	PSE	MT				
05-041-001-001	P-3210-10	P-1863-1	CNT	1A	NAN	PSE	MNSTM				
17-001-008-001	P-3252-1.50	P-2033-4	PEN	3BB	NAN	PSE	SI				
28-005-056-009	P-3252-1.50	P-3609-4	VAR	3L	NAN	PSE	FW				
20-040-021-001	P-3456-1	P-2340-6	CNT	1A	NAN	PSE	CCW				
15-003-011-001	P-3496-3	P-0256-10	CNT	1B	NAN	PSE	SI				
10-015-001-002	P-3755-0.75	P-3755-0.75	CNT	1B	NAN	PSE	CVCS				
30-001-030-001	P-3819-0.50	E-KX510-1	CNT	1B	NAN	PSE	MT				
12-001-003-002	P-3819-0.75	P-0246-3	CNT	1B	NAN	PSE	CVCS				
17-001-022-002	P-3834-1	P-1992-1.50	CNT	1A	NAN	PSE	SI				
28-003-008-009	P-3900-1	P-2674-4	VAR	1A	NAN	PSE	FW				
03-020-007-003	P-4072-3	E-K6703-1.25	PEN	3BB	NAN	PSE	MNSTM				
28-003-008-001	P-4350-1	P-2674-4	VAR	1A	NAN	PSE	FW				
28-005-001-002	P-4546-2.50	P-2677-6	VAR	3AA	NAN	PSE	FW				
02-002-002-001	P-4587-2.50	E-K5849-3	OA	28	NAN	PSE	AUXFW				
15-020-005-002	PS-1A	E-JJEA	CNT	1A	NAN	PSE	SI				
30-001-031-001	PS-1A	E-K1793-1.25	CNT	1A	NAN	PSE	MT				
10-014-007-001	PS-1A	I-IJEB	CNT	1A	NAN	PSE	CVCS				
28-003-006-001	PS-1A	P-2788-1	VAR	1A	NAN	PSE	FW				
10-005-001-001	PS-1B	P-0059-2	CNT	1B	NAN	PSE	CVCS				
28-004-004-002	PS-14A	P-2666-6	VAR	14A	NAN	PSE	FW				
28-004-004-006	PS-14A	P-2666-6	VAR	14A	NAN	PSE	FW				
28-004-070-002	PS-14A	P-3314-2	VAR	14A	NAN	PSE	FW				
03-037-003-003	PS-2576-8	E-KX246-2.50	CNT	1A	NAN	PSE	MNSTM				
19-014-006-001	PS-3BB	E-K1985-1	PEN	3BB	NAN	PSE	CI				
03-022-023-001	PS-3BB	E-K6002-2	PEN	3BB	NAN	PSE	MNSTM				
17-001-034-001	PS-3BB	P-2075-1	PEN	3BB	NAN	PSE	SI				
28-006-028-001	PS-31	P-4550-8	VAR	31	NAN	PSE	FW				
15-001-112-001	P-IAH-1A	P-0249-0.75	CNT	1A	X	GC	SI				
01-020-002-006	P-SA-14A	E-K2666-1	TB	14A	X	GC	AUXFW				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=DEFLECT

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
02-012-004-001	E-R-3BB	E-KT301-1	PEN	3BB	Y	OSE	AUXFW				
28-004-064-006	P-SA-14A	P-3316-2	VAR	14A	Y	PSE	FW				
24-007-005-009	P-ULB-14A	E-KA308-1	TB	14A	Y	OSE	EDG				
28-004-064-004	P-ULB-14A	P-3316-2	VAR	14A	Y	PSE	FW				
28-004-054-011	P-0579-8	P-2667-6	VAR	14A	Y	OSE	FW				
28-008-025-001	P-0705-4	P-3737-2	VAR	30A5	Y	EMS	FW				
28-005-032-001	P-1445-4	M-HR	VAR	3BB	Y	EMS	FW	ENVIRON			
28-004-054-007	P-2635-10	P-2667-6	VAR	14A	Y	OSE	FW				
25-201-008-003	P-2787-1	E-KX207-1	CNT	1A	Y	EE	HVAC				
25-204-004-006	P-4403-24	E-KA109-1	TB	14D	Y	EMS	HVAC				
24-007-005-006	PS-14A	E-KA308-1	TB	14A	Y	OSE	EDG				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=ENVIRON

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
09-007-002-005	NS-CD	E-K1752-1.25	CNT	1C	A	ENG	RCS				
21-003-003-001	NS-T	E-ENGE	AUX	3AA	A	ENG	CCW				
16-002-003-003	NS-T	E-KT510-1.25	AUX	3A	A	ENG	SI				
13-009-002-002	NS-T	E-K9737-1	AUX	3X	A	ENG	CVCS				
07-016-002-002	NS-T	E-KX532-1.50	CNT	1B	A	ENG	RCS				
09-002-002-002	NS-T	E-K1768-1.25	CNT	1C	A	ENG	RCS				
03-024-030-001	NS-T	E-K5786+	OA	28	A	ENG	MNSTM				
02-003-002-001	NS-T	E-K5865-1.25	OA	28	A	ENG	AUXFW				
02-003-002-002	NS-T	E-K5865-1.25	OA	28	A	ENG	AUXFW				
03-020-007-009	NS-T	E-K6457-1.25	PEN	3BB	A	ENG	MNSTM				
03-020-007-010	NS-T	E-K6464-1.25	PEN	3BB	A	ENG	MNSTM				
03-020-007-007	NS-T	E-K6702-1	PEN	3BB	A	ENG	MNSTM				
03-020-007-008	NS-T	E-K6703-1.25	PEN	3BB	A	ENG	MNSTM				
03-020-003-001	NS-T	I-FCV44	PEN	3BB	A	ENG	MNSTM				
15-018-002-001	NS-T	E-K6661+	PPS	3B1	A	ENG	SI				
11-006-005-002	NS-T	E-K7054-0.75	PPS	3H1	A	ENG	CVCS				
15-015-002-002	NS-T	E-K8545+	PPS	3B2	A	ENG	SI				
15-003-003-002	NS-T	E-K9396-1.25	PPS	3M	A	ENG	SI				
25-145-001-001	P-STM DUMP	H-S43	HV	8B3	A	HVA	HVAC				
30-001-040-001	PS-1C	GENERIC	CNT	1C	A	EMS	MT				I
07-016-001-002	NS-CD	I-POT116	CNT	1C	M	ENG	RCS		RELOCATE	EXPEDIENT	
07-016-003-002	NS-CD	I-POT117	CNT	1C	M	ENG	RCS		RELOCATE	EXPEDIENT	
07-016-005-002	NS-CD	I-POT118	CNT	1C	M	ENG	RCS		RELOCATE	EXPEDIENT	
01-017-002-001	NS-T	E-K7227-3	AUX	4A	M	ENG	AUXFW		CONSTDEF	EXPEDIENT	
07-013-002-004	NS-T	E-KX499-0.75	CNT	1B	M	ENG	RCS		TMODIFY	OVERLAP	
30-001-010-001	NS-T	E-R-1A	CNT	1A	M	ENG	MT		RELOCATE	OVERLAP	
03-022-024-001	NS-T	E-K5776+	OA	28	M	ENG	MNSTM		CONSTDEF	OVERLAP	
03-020-007-002	NS-T	E-K6457-1.25	PEN	3BB	M	ENG	MNSTM		CONSTDEF	OVERLAP	
20-044-005-001	P-3108-2	M-LCV69	PEN	3BB	NAN	PSE	CCW				
18-010-003-001	NS-T	E-K6318-0.75	PEN	3BB	Y	ENG	RHR				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=FIXTURE

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
24-008-004-001	E-LF-BOL	E-PMGQD11	DG	11A1	A	EE	EDG				
24-009-004-001	E-LF-BOL	E-PMGQD12	DG	11B1	A	EE	EDG				
24-010-004-001	E-LF-BOL	E-PMGQD13	DG	11C1	A	EE	EDG				
32-001-027-001	E-LF-BOL	E-BATT CHG	EL	6A2	A	EE	ELPS				
32-001-029-001	E-LF-BOL	E-BATT CHG	EL	6A3	A	EE	ELPS				
01-012-010-001	E-LF-BOL	E-TFW1	EL	5A1	A	EE	AUXFW				
01-015-010-001	E-LF-BOL	E-TFW2	EL	5A3	A	EE	AUXFW				
32-001-009-005	E-LF-BOL	E-4.16KVSWGR	EL	13B	A	EE	ELPS				
32-001-010-004	E-LF-BOL	E-4.16KVSWGR	EL	13C	A	EE	ELPS				
32-001-022-002	E-LF-BOL	E-480VSWGR	EL	5A1	A	EE	ELPS				
32-001-023-002	E-LF-BOL	E-480VSWGR	EL	5A2	A	EE	ELPS				
32-001-024-002	E-LF-BOL	E-480VSWGR	EL	5A3	A	EE	ELPS				
28-005-022-001	E-LF-S3	M-HR	VAR	S3	A	EE	FW				
30-001-044-001	E-LF-1A	GENERIC	CNT	1A	A	EE	MT				I
29-013-004-002	E-LF-1A	I-FCV258	CNT	1A	A	EE	CI				
03-029-001-003	E-LF-1A	I-LT501	CNT	1A	A	EE	MNSTM				
05-022-003-002	E-LF-1A	I-PM162	CNT	1A	A	EE	MNSTM				
03-051-001-002	E-LF-1A	I-PM47	CNT	1A	A	EE	MNSTM				
03-050-001-001	E-LF-1A	I-PM51	CNT	1A	A	EE	MNSTM				
03-049-001-001	E-LF-1A	I-PM55	CNT	1A	A	EE	MNSTM				
09-009-004-001	E-LF-1A	I-8034A	CNT	1A	A	EE	RCS				
12-010-004-001	E-LF-1A	I-8145	CNT	1A	A	EE	CVCS				
12-011-002-001	E-LF-1A	I-8146	CNT	1A	A	EE	CVCS				
12-012-004-001	E-LF-1A	I-8147	CNT	1A	A	EE	CVCS				
12-014-002-001	E-LF-1A	I-8148	CNT	1A	A	EE	CVCS				
12-015-002-001	E-LF-1A	I-8149A	CNT	1A	A	EE	CVCS				
12-016-002-001	E-LF-1A	I-8149B	CNT	1A	A	EE	CVCS				
12-017-002-001	E-LF-1A	I-8149C	CNT	1A	A	EE	CVCS				
18-014-001-001	E-LF-1A	I-8703	CNT	1A	A	EE	RHR				
05-004-003-001	E-LF-1B	I-FCV760	CNT	1B	A	EE	MNSTM				
03-035-001-004	E-LF-1B	I-LT502	CNT	1B	A	EE	MNSTM				
03-047-001-003	E-LF-1B	I-LT504	CNT	1B	A	EE	MNSTM				
03-047-001-004	E-LF-1B	I-LT504	CNT	1B	A	EE	MNSTM				
06-059-006-001	E-LF-1B	I-RVLIS	CNT	1B	A	EE	RCS				
06-060-006-001	E-LF-1B	I-RVLIS	CNT	1B	A	EE	RCS				
06-059-004-001	E-LF-1B	I-TE1315	CNT	1B	A	EE	RCS				
06-059-034-001	E-LF-1B	I-TE1317	CNT	1B	A	EE	RCS				
10-002-002-001	E-LF-1B	I-8141A	CNT	1B	A	EE	CVCS				
10-011-002-001	E-LF-1B	I-8141D	CNT	1B	A	EE	CVCS				
03-053-001-002	E-LF-1C	GENERIC	CNT	1C	A	EE	MNSTM				
06-001-001-001	E-LF-1C	M-CRDM	CNT	1C	A	EE	RCS				
32-001-008-005	E-LF-13A	E-4.16KVSWGR	EL	13A	A	EE	ELPS				
01-019-002-011	E-LF-14A	E-K2665-1	TB	14A	A	EE	AUXFW				
01-020-002-009	E-LF-14A	E-K2666-1	TB	14A	A	EE	AUXFW				
28-004-032-002	E-LF-14A	M-HR	VAR	14A	A	EE	FW				
28-004-043-002	E-LF-14A	M-HR	VAR	14A	A	EE	FW				
22-006-007-002	E-LF-14E	I-PT5	TB	14E	A	EE	ASW				
22-012-007-003	E-LF-14E	I-PT6	TB	14E	A	EE	ASW				
28-004-021-001	E-LF-17	M-HR	VAR	17	A	EE	FW				
30-001-089-001	E-LF-28	GENERIC	OA	28	A	EE	MT				
25-041-008-001	E-LF-3AA	H-DAMPER	AUX	3AA	A	EE	HVAC				
13-011-002-001	E-LF-3AA	I-HCV104	AUX	3AA	A	EE	CVCS				
13-012-002-002	E-LF-3AA	I-HCV105	AUX	3AA	A	EE	CVCS				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=FIXTURE

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
13-012-007-001	E-LF-3AA	I-LT104	AUX	3AA	A	EE	CVCS				
28-005-092-001	E-LF-3AA	M-HR	VAR	3AA	A	EE	FW				
04-004-001-001	E-LF-3BB	E-FCV25	PEN	3BB	A	EE	MNSTM				
02-004-001-001	E-LF-3BB	E-FCV440	PEN	3BB	A	EE	AUXFW				
02-005-001-001	E-LF-3BB	E-FCV441	PEN	3BB	A	EE	AUXFW				
25-196-008-001	E-LF-3BB	E-KK212-1.50	PEN	3BB	A	EE	HVAC				
25-197-008-001	E-LF-3BB	E-KK213-1.50	PEN	3BB	A	EE	HVAC				
25-201-008-007	E-LF-3BB	E-KT172-1	PEN	3BB	A	EE	HVAC				
01-010-002-001	E-LF-3BB	E-K6436-1.25	PEN	3BB	A	EE	AUXFW				
01-015-001-001	E-LF-3BB	I-LCV113	PEN	3BB	A	EE	AUXFW				
03-007-002-001	E-LF-3BB	I-PM106	PEN	3BB	A	EE	MNSTM				
03-008-001-002	E-LF-3BB	I-PT534	PEN	3BB	A	EE	MNSTM				
03-008-001-001	E-LF-3BB	I-PT535	PEN	3BB	A	EE	MNSTM				
03-009-001-001	E-LF-3BB	I-PT536	PEN	3BB	A	EE	MNSTM				
03-026-013-001	E-LF-3BB	I-PT536A	PEN	3BB	A	EE	MNSTM				
03-026-014-001	E-LF-3BB	I-PT536A	PEN	3BB	A	EE	MNSTM				
03-010-001-001	E-LF-3BB	I-PT544	PEN	3BB	A	EE	MNSTM				
03-011-001-001	E-LF-3BB	I-PT545	PEN	3BB	A	EE	MNSTM				
03-012-001-001	E-LF-3BB	I-PT546	PEN	3BB	A	EE	MNSTM				
03-028-013-001	E-LF-3BB	I-PT546A	PEN	3BB	A	EE	MNSTM				
03-028-014-001	E-LF-3BB	I-PT546A	PEN	3BB	A	EE	MNSTM				
23-003-004-003	E-LF-3BB	I-9001A	PEN	3BB	A	EE	SPRAY				
23-009-002-002	E-LF-3BB	I-9003A	PEN	3BB	A	EE	SPRAY				
23-020-002-002	E-LF-3BB	I-9003B	PEN	3BB	A	EE	SPRAY				
23-056-002-001	E-LF-3BB	I-9007A	PEN	3BB	A	EE	SPRAY				
01-009-001-001	E-LF-3BB	M-LCV108	PEN	3BB	A	EE	AUXFW				
01-010-001-001	E-LF-3BB	M-LCV109	PEN	3BB	A	EE	AUXFW				
01-016-001-001	E-LF-3BB	M-LCV115	PEN	3BB	A	EE	AUXFW				
20-052-013-001	E-LF-3BB	PA-0314-12	PEN	3BB	A	EE	CCW				
20-051-018-001	E-LF-3BB	PA-0315-12	PEN	3BB	A	EE	CCW				
20-048-013-001	E-LF-3BB	PA-0318-12	PEN	3B	A	EE	CCW				
20-052-014-001	E-LF-3BB	PA-0319-12	PEN	3BB	A	EE	CCW				
20-051-017-001	E-LF-3BB	PA-0320-12	PEN	3BB	A	EE	CCW				
20-050-017-001	E-LF-3BB	PA-0321-12	PEN	3BB	A	EE	CCW				
20-049-013-001	E-LF-3BB	PA-0322-12	PEN	3BB	A	EE	CCW				
20-048-014-001	E-LF-3BB	PA-0323-12	PEN	3BB	A	EE	CCW				
28-005-029-001	E-LF-3BB	M-HR	VAR	3BB	A	EE	FW				
28-005-036-001	E-LF-3BB	M-HR	VAR	3BB	A	EE	FW				
18-005-001-001	E-LF-3B1	M-RHRPP1-1	PPS	3B1	A	EE	RHR				
18-016-001-001	E-LF-3B2	M-RHRPP1-2	PPS	3B2	A	EE	RHR				
11-001-006-001	E-LF-3H1	M-CHGPP1-1	PPS	3H1	A	EE	CVCS				
11-002-003-001	E-LF-3H1	M-CHGPP1-2	PPS	3H1	A	EE	CVCS				
11-003-003-002	E-LF-3H2	M-CHGPP1-3	PPS	3B2	A	EE	CVCS				
25-067-001-001	E-LF-3L	H-DAMPER	AUX	3L	A	EE	HVAC				
25-107-005-001	E-LF-3P2	I-FCV663	HV	3P2	A	EE	CI				
25-109-005-001	E-LF-3P2	I-FCV664	HV	3P2	A	EE	CI				
25-196-001-001	E-LF-3P2	I-RE28A	HV	3P2	A	EE	HVAC				
25-197-001-002	E-LF-3P2	I-RE28B	HV	3P2	A	EE	HVAC				
25-107-004-001	E-LF-3P2	I-SV296	HV	3P2	A	EE	CI				
25-109-004-001	E-LF-3P2	I-SV297	HV	3P2	A	EE	CI				
25-046-001-002	E-LF-3P3	H-E2	HV	3P3	A	EE	HVAC				
25-096-001-001	E-LF-3P5	GENERIC	HV	3P5	A	EE	CI				
25-017-001-001	E-LF-3P6	H-DAMPER	HV	3P6	A	EE	HVAC				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=FIXTURE

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-014-001-001	E-LF-3P6	H-E4	HV	3P6	A	EE	HVAC				
28-006-023-001	E-LF-3R	M-HR	VAR	3R	A	EE	FW				
28-006-039-001	E-LF-3R	M-HR	VAR	3R	A	EE	FW				
22-001-001-002	E-LF-30A1	M-ASWPP1-1	IS	30A1	A	EE	ASW				
22-007-001-001	E-LF-30A2	M-ASWPP1-2	IS	30A2	A	EE	ASW				
32-001-022-001	E-LF-5A1	E-480VSWGR	EL	5A1	A	EE	ELPS				
32-001-023-001	E-LF-5A2	E-480VSWGR	EL	5A2	A	EE	ELPS				
32-001-024-001	E-LF-5A3	E-480VSWGR	EL	5A3	A	EE	ELPS				
30-001-063-001	E-LF-6A1	E-DC SWGR	EL	6A1	A	EE	MT				
30-001-063-002	E-LF-6A2	E-DC SWGR	EL	6A2	A	EE	MT				
30-001-063-003	E-LF-6A3	E-DC SWGR	EL	6A3	A	EE	MT				
25-041-007-001	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	HVAC				
25-070-002-001	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	HVAC				
25-070-009-002	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	HVAC				
25-070-011-001	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	HVAC				
25-077-001-001	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	HVAC				
25-078-001-001	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	HVAC				
25-079-001-001	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	HVAC				
25-081-001-001	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	HVAC				
25-090-001-001	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	HVAC				
25-091-001-001	E-LF-8B1	H-DAMPER	HV	8B1	A	EE	HVAC				
25-092-008-001	E-LF-8B3	H-S39	HV	8B3	A	EE	HVAC				
25-092-009-001	E-LF-8B3	H-S40	HV	8B3	A	EE	HVAC				
30-001-073-001	E-LF-8C	GENERIC	EL	8C	A	EE	MT				
25-085-003-001	E-LF-BOL	H-DAMPER	AUX	3AA	M	EE	HVAC		RELOCATE	EXPEDIENT	
01-018-001-001	E-LF-BOL	I-PT433	AUX	S3	M	EE	AUXFW		SECLOOSE	OVERLAP	
15-002-006-001	E-LF-BOL	I-FT922	PEN	3BB	M	EE	SI		RELOCATE	EXPEDIENT	
28-004-011-003	E-LF-BOL	P-3608-2	VAR	3AA	M	EE	FW		RELOCATE	EXPEDIENT	
03-036-001-001	E-LF-1A	I-FT522	CNT	1A	M	EE	MNSTM		SECLOOSE	OVERLAP	
03-040-001-002	E-LF-1A	I-LT529	CNT	1A	M	EE	MNSTM		SECLOOSE	OVERLAP	
24-011-003-001	E-LF-11A1	M-AR1-1	DG	11A1	M	EE	EDG		RELOCATE	NECESSARY	
24-007-001-002	E-LF-11A1	M-DG1-1	DG	11A1	M	EE	EDG		CHAIN	NECESSARY	
24-012-003-001	E-LF-11B1	M-AR1-2	DG	11B1	M	EE	EDG		RELOCATE	NECESSARY	
24-007-006-003	E-LF-11B1	M-DG1-2	DG	11B1	M	EE	EDG		CHAIN	NECESSARY	
24-013-003-001	E-LF-11C1	M-AR1-3	DG	11C1	M	EE	EDG		RELOCATE	NECESSARY	
28-004-046-001	E-LF-11D	M-HR	VAR	11D	M	EE	FW		CHAIN	EXPEDIENT	
32-001-008-003	E-LF-13A	E-4.16KVSWGR	EL	13A	M	EE	ELPS		CHAIN	EXPEDIENT	
32-001-009-003	E-LF-13B	E-4.16KVSWGR	EL	13B	M	EE	ELPS		CHAIN	EXPEDIENT	
32-001-010-003	E-LF-13C	E-4.16KVSWGR	EL	13C	M	EE	ELPS		CHAIN	EXPEDIENT	
25-173-002-001	E-LF-13E	H-S67	HV	13E	M	EE	HVAC		CHAIN	EXPEDIENT	
25-170-002-001	E-LF-13E	H-S68	HV	13E	M	EE	HVAC		CHAIN	EXPEDIENT	
25-167-002-001	E-LF-13E	H-S69	HV	13E	M	EE	HVAC		CHAIN	EXPEDIENT	
28-004-017-002	E-LF-14D	M-HR	VAR	14D	M	EE	FW		CHAIN	EXPEDIENT	
28-004-052-002	E-LF-14D	M-HR	VAR	14D	M	EE	FW		CHAIN	EXPEDIENT	
10-024-006-001	E-LF-3BB	E-JNK	PEN	3BB	M	EE	CVCS		CHAIN	EXPEDIENT	
20-045-032-001	E-LF-3BB	E-K6114-1.25	PEN	3BB	M	EE	CCW		CHAIN	EXPEDIENT	
25-189-002-001	E-LF-3BB	I-FCV239	PEN	3BB	M	EE	CI		CHAIN	EXPEDIENT	
25-189-004-002	E-LF-3BB	I-FCV240	PEN	3BB	M	EE	CI		CHAIN	EXPEDIENT	
20-045-014-001	E-LF-3BB	I-FCV360	PEN	3BB	M	EE	CCW		CHAIN	EXPEDIENT	
25-184-002-001	E-LF-3BB	I-FCV669	PEN	3BB	M	EE	CI		CHAIN	EXPEDIENT	
25-186-001-001	E-LF-3BB	I-FCV669	PEN	3BB	M	EE	CI		CHAIN	EXPEDIENT	
25-119-005-001	E-LF-3BB	I-FCV681	PEN	3BB	M	EE	CI		CHAIN	EXPEDIENT	
31-005-004-002	E-LF-3BB	I-FCV682	PEN	3BB	M	EE	CI		CHAIN	EXPEDIENT	

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=FIXTURE

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-187-001-001	E-LF-3BB	I-FCV700	PEN	3BB	M	EE	CI		CHAIN	EXPEDIENT	
18-013-001-001	E-LF-3BB	I-FT640	PEN	3BB	M	EE	RHR		CHAIN	EXPEDIENT	
11-012-002-003	E-LF-3BB	I-HCV142	PEN	3BB	M	EE	CVCS		CHAIN	EXPEDIENT	
18-001-021-001	E-LF-3BB	I-HCV638	PEN	3BB	M	EE	RHR		CHAIN	EXPEDIENT	
06-059-007-001	E-LF-3BB	I-LIS1310	PEN	3BB	M	EE	RCS		CHAIN	EXPEDIENT	
06-059-021-001	E-LF-3BB	I-LIS1311	PEN	3BB	M	EE	RCS		CHAIN	EXPEDIENT	
06-059-030-001	E-LF-3BB	I-LIS1312	PEN	3BB	M	EE	RCS		CHAIN	EXPEDIENT	
25-114-004-001	E-LF-3BB	I-SV287	PEN	3BB	M	EE	CI		CHAIN	EXPEDIENT	
18-011-001-002	E-LF-3BB	I-TE639	PEN	3BB	M	EE	RHR		CHAIN	EXPEDIENT	
18-022-001-001	E-LF-3BB	I-TE649	PEN	3BB	M	EE	RHR		CHAIN	EXPEDIENT	
06-060-011-002	E-LF-3BB	I-4684-0.187	PEN	3BB	M	EE	RCS		CHAIN	EXPEDIENT	
06-060-004-003	E-LF-3BB	I-4685-0.187	PEN	3BB	M	EE	RCS		CHAIN	EXPEDIENT	
06-060-021-004	E-LF-3BB	I-4686-0.187	PEN	3BB	M	EE	RCS		CHAIN	EXPEDIENT	
18-001-023-001	E-LF-3BB	I-8716A	PEN	3BB	M	EE	RHR		CHAIN	EXPEDIENT	
19-015-009-001	E-LF-3BB	I-9356B	PEN	3BB	M	EE	CI		CHAIN	EXPEDIENT	
25-194-001-001	E-LF-3BB	M-FCV239	PEN	3BB	M	EE	CI		CHAIN	EXPEDIENT	
25-195-001-001	E-LF-3BB	M-FCV240	PEN	3BB	M	EE	CI		CHAIN	EXPEDIENT	
20-056-001-001	E-LF-3BB	M-FCV361	PEN	3BB	M	EE	CCW		CHAIN	EXPEDIENT	
29-001-002-002	E-LF-3BB	M-FCV501	PEN	3BB	M	EE	CI		CHAIN	EXPEDIENT	
29-001-003-002	E-LF-3BB	M-FCV501	PEN	3BB	M	EE	CI		CHAIN	EXPEDIENT	
25-183-001-001	E-LF-3BB	M-FCV669	PEN	3BB	M	EE	CI		CHAIN	EXPEDIENT	
31-004-002-001	E-LF-3BB	M-FCV682	PEN	3BB	M	EE	CI		CHAIN	EXPEDIENT	
25-112-004-001	E-LF-3BB	M-SV289	PEN	3BB	M	EE	CI		CHAIN	EXPEDIENT	
20-055-003-001	E-LF-3BB	PA-0144-4	PEN	3BB	M	EE	CCW		CHAIN	EXPEDIENT	
11-005-008-001	E-LF-3B2	I-FT128	PPS	3B2	M	EE	CVCS		CHAIN	EXPEDIENT	
30-001-012-002	E-LF-3B2	I-PT142	PPS	3B2	M	EE	MT		CHAIN	EXPEDIENT	
18-001-009-001	E-LF-3B3	I-P1632	AUX	3B3	M	EE	RHR		SECLOOSE	OVERLAP	
23-024-009-001	E-LF-3F	I-FT930	PPS	3F	M	EE	SPRAY		CHAIN	EXPEDIENT	
23-002-004-001	E-LF-3F	M-CSPP1-1	PPS	3F	M	EE	SPRAY		CHAIN	EXPEDIENT	
23-012-004-001	E-LF-3F	M-CSPP1-2	PPS	3F	M	EE	SPRAY		CHAIN	EXPEDIENT	
23-012-004-003	E-LF-3F	M-CSPP1-2	PPS	3F	M	EE	SPRAY		CHAIN	NECESSARY	
20-057-002-001	E-LF-3J1	I-FCV606	PPS	3J1	M	EE	CCW		CHAIN	EXPEDIENT	
20-004-001-001	E-LF-3J1	M-CCWPP1-1	PPS	3J1	M	EE	CCW		CHAIN	EXPEDIENT	
20-058-002-001	E-LF-3J2	I-FCV607	PPS	3J2	M	EE	CCW		CHAIN	EXPEDIENT	
20-002-001-001	E-LF-3J2	M-CCWPP1-2	PPS	3J2	M	EE	CCW		CHAIN	EXPEDIENT	
20-059-002-001	E-LF-3J3	I-FCV608	PPS	3J3	M	EE	CCW		CHAIN	EXPEDIENT	
20-012-004-001	E-LF-3J3	I-RE17A	PPS	3J3	M	EE	CCW		CHAIN	EXPEDIENT	
20-013-004-001	E-LF-3J3	I-RE17B	PPS	3J3	M	EE	CCW		CHAIN	EXPEDIENT	
20-003-001-002	E-LF-3J3	M-CCWPP1-3	PPS	3J3	M	EE	CCW		CHAIN	EXPEDIENT	
20-063-003-001	E-LF-3L	I-CSP	AUX	3L	M	EE	CCW		CHAIN	EXPEDIENT	
25-004-001-001	E-LF-3P1	H-S1	HV	3P1	M	EE	HVAC		CHAIN	EXPEDIENT	
25-006-001-001	E-LF-3P1	H-S2	HV	3P1	M	EE	HVAC		CHAIN	EXPEDIENT	
11-004-003-001	E-LF-3X	M-LCV112B	AUX	3X	M	EE	CVCS		CHAIN	EXPEDIENT	
11-009-001-001	E-LF-3X	M-LCV112B	AUX	3X	M	EE	CVCS		CHAIN	EXPEDIENT	
11-004-004-001	E-LF-3X	M-LCV112C	AUX	3X	M	EE	CVCS		CHAIN	EXPEDIENT	
11-010-001-001	E-LF-3X	M-LCV112C	AUX	3X	M	EE	CVCS		CHAIN	EXPEDIENT	
32-001-032-001	E-LF-6A1	E-125VBATTER	EL	6A1	M	EE	ELPS		CHAIN	NECESSARY	
32-001-033-001	E-LF-6A2	E-125VBATTER	EL	6A2	M	EE	ELPS		CHAIN	NECESSARY	
32-001-034-001	E-LF-6A3	E-125VBATTER	EL	6A3	M	EE	ELPS		CHAIN	NECESSARY	
25-198-002-001	E-LF-8B3	H-DAMPER	HV	8B3	M	EE	HVAC		RELOCATE	EXPEDIENT	
28-005-045-001	E-LF-S2	M-FS50	VAR	S2	NAN	EE	FW				
28-005-043-002	E-LF-S2	M-VALVE	VAR	S2	NAN	EE	FW				
28-005-050-001	E-LF-S2	M-VALVE	VAR	S2	NAN	EE	FW				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=FIXTURE

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-005-057-001	E-LF-S2	M-VALVE	VAR	S2	NAN	EE	FW				
28-005-042-003	E-LF-S2	P-2680-4	VAR	S2	NAN	EE	FW				
28-005-124-001	E-LF-S2	P-3619-4	VAR	S2	NAN	EE	FW				
28-005-056-006	E-LF-S5	P-3615-4	VAR	S5	NAN	EE	FW				
28-005-062-001	E-LF-S5	P-5046-2	VAR	S5	NAN	EE	FW				
03-037-003-005	E-LF-1A	E-KX109-2	CNT	1A	NAN	EE	MNSTM				
06-020-003-005	E-LF-1A	E-KX109-2	CNT	1A	NAN	EE	RCS				
07-009-003-002	E-LF-1A	E-KX109-2	CNT	1A	NAN	EE	RCS				
06-025-002-002	E-LF-1A	E-KX162-2	CNT	1A	NAN	EE	RCS				
07-013-002-002	E-LF-1A	E-KX162-2	CNT	1A	NAN	EE	RCS				
25-202-008-001	E-LF-1A	E-KX209-1	CNT	1A	NAN	EE	HVAC				
18-003-003-001	E-LF-1A	E-K1732-1.50	CNT	1A	NAN	EE	RHR				
12-015-004-001	E-LF-1A	E-K1758-2	CNT	1A	NAN	EE	CVCS				
19-004-011-001	E-LF-1A	E-K1973-2.50	CNT	1A	NAN	EE	CI				
23-053-001-001	E-LF-1A	P-0326-8	CNT	1A	NAN	EE	SPRAY				
20-055-006-001	E-LF-1A	P-3291-4	CNT	1A	NAN	EE	CCW				
20-055-009-001	E-LF-1A	P-3291-4	CNT	1A	NAN	EE	CCW				
28-003-008-003	E-LF-1A	P-2674-4	VAR	1A	NAN	EE	FW				
28-003-008-004	E-LF-1A	P-2674-4	VAR	1A	NAN	EE	FW				
06-060-032-001	E-LF-1B	E-KK080-0.75	CNT	1B	NAN	EE	RCS				
29-021-005-002	E-LF-1B	E-KX505-0.75	CNT	1B	NAN	EE	CI				
29-022-005-003	E-LF-1B	E-KX525-0.75	CNT	1B	NAN	EE	CI				
06-060-004-001	E-LF-1B	I-4685-0.187	CNT	1B	NAN	EE	RCS				
28-003-015-003	E-LF-1B	P-4356-1.50	VAR	1B	NAN	EE	FW				
28-003-027-002	E-LF-1B	P-4357-1.50	VAR	1B	NAN	EE	FW				
28-003-052-001	E-LF-1B	P-4358-1.50	VAR	1B	NAN	EE	FW				
28-003-036-001	E-LF-1B	P-4359-1.50	VAR	1B	NAN	EE	FW				
24-007-005-010	E-LF-10	E-K2014-1.50	EL	10	NAN	EE	EDG				
24-007-005-011	E-LF-10	E-K2018-1	EL	10	NAN	EE	EDG				
30-001-053-001	E-LF-10	E-R-10	EL	10	NAN	EE	MT				
24-008-003-001	E-LF-11A1	E-SED11	DG	11A1	NAN	EE	EDG				
24-009-003-001	E-LF-11A1	E-SED12	DG	11A1	NAN	EE	EDG				
25-177-002-002	E-LF-11A2	H-DUCT	DG	11A2	NAN	EE	HVAC				
25-177-003-003	E-LF-11A2	H-DUCT	DG	11A2	NAN	EE	HVAC				
24-006-001-002	E-LF-11A2	M-DG1-1	DG	11A2	NAN	EE	EDG				
25-178-002-002	E-LF-11B2	H-DUCT	DG	11B2	NAN	EE	HVAC				
25-178-003-003	E-LF-11B2	H-DUCT	DG	11B2	NAN	EE	HVAC				
24-006-021-001	E-LF-11B2	M-DG1-2	DG	11B2	NAN	EE	EDG				
24-010-003-001	E-LF-11C1	E-SED13	DG	11C1	NAN	EE	EDG				
25-179-002-002	E-LF-11C2	H-DUCT	DG	11C2	NAN	EE	HVAC				
25-179-003-003	E-LF-11C2	H-DUCT	DG	11C2	NAN	EE	HVAC				
24-006-041-001	E-LF-11C2	M-DG1-3	DG	11C2	NAN	EE	EDG				
01-019-002-009	E-LF-12A	E-K2665-1	EL	12A	NAN	EE	AUXFW				
01-020-002-008	E-LF-12A	E-K2666-1	EL	12A	NAN	EE	AUXFW				
25-166-001-001	E-LF-12A	H-DUCT	EL	12A	NAN	EE	HVAC				
01-019-002-010	E-LF-12B	E-K2665-1	EL	12B	NAN	EE	AUXFW				
25-169-001-001	E-LF-12B	H-DUCT	EL	12B	NAN	EE	HVAC				
25-172-001-001	E-LF-12C	H-DUCT	EL	12C	NAN	EE	HVAC				
28-004-047-003	E-LF-12C	P-5040-2	VAR	12C	NAN	EE	FW				
25-166-002-001	E-LF-13D	H-DUCT	EL	13D	NAN	EE	HVAC				
25-172-002-001	E-LF-13D	H-DUCT	EL	13D	NAN	EE	HVAC				
24-003-003-001	E-LF-13E	P-2173-5	HV	13E	NAN	EE	EDG				
01-019-002-008	E-LF-14A	E-K2665-1	TB	14A	NAN	EE	AUXFW				

TABLE 8-5.A 14:11 TUESDAY, APRIL 2, 1985

UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=FIXTURE

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-004-093-001	E-LF-14A	M-VALVE	VAR	14A	NAN	EE	FW				
28-004-095-001	E-LF-14A	M-VALVE	VAR	14A	NAN	EE	FW				
28-004-009-001	E-LF-14A	M-VALVE	VAR	14E	NAN	EE	FW				
28-004-004-012	E-LF-14A	P-2666-6	VAR	14A	NAN	EE	FW				
28-004-054-001	E-LF-14A	P-2667-6	VAR	14A	NAN	EE	FW				
28-004-054-009	E-LF-14A	P-2667-6	VAR	14A	NAN	EE	FW				
28-004-054-012	E-LF-14A	P-2667-7	VAR	14A	NAN	EE	FW				
28-004-056-003	E-LF-14A	P-2668-4	VAR	14A	NAN	EE	FW				
28-004-010-001	E-LF-14A	P-2683-4	VAR	14A	NAN	EE	FW				
28-004-051-002	E-LF-14A	P-3293-2	VAR	14A	NAN	EE	FW				
28-004-042-002	E-LF-14A	P-3294-2	VAR	14A	NAN	EE	FW				
28-004-031-001	E-LF-14A	P-3298-2	VAR	14A	NAN	EE	FW				
28-004-018-001	E-LF-14A	P-3305-2	VAR	14A	NAN	EE	FW				
28-004-016-001	E-LF-14A	P-3306-2	VAR	14A	NAN	EE	FW				
28-004-016-002	E-LF-14A	P-3306-2	VAR	14A	NAN	EE	FW				
28-004-086-001	E-LF-14A	P-3310-2	VAR	14A	NAN	EE	FW				
28-004-088-001	E-LF-14A	P-3312-2	VAR	14A	NAN	EE	FW				
28-004-098-002	E-LF-14A	P-5021-2	VAR	14A	NAN	EE	FW				
28-004-044-001	E-LF-14A	P-5038-4	VAR	14A	NAN	EE	FW				
28-004-044-005	E-LF-14A	P-5038-4	VAR	14A	NAN	EE	FW				
28-004-045-003	E-LF-14A	P-5039-2	VAR	14A	NAN	EE	FW				
28-004-049-001	E-LF-14A	P-5041-2	VAR	14A	NAN	EE	FW				
25-092-001-001	E-LF-14D	H-DUCT	TB	14D	NAN	EE	HVAC				
25-171-004-002	E-LF-14D	H-S67	TB	14D	NAN	EE	HVAC				
25-168-004-003	E-LF-14D	H-S68	TB	14D	NAN	EE	HVAC				
25-165-004-004	E-LF-14D	H-S69	TB	14D	NAN	EE	HVAC				
28-004-066-001	E-LF-14D	P-2669-4	VAR	14D	NAN	EE	FW				
22-012-008-002	E-LF-14E	E-KD353-1	TB	14E	NAN	EE	ASW				
20-010-001-004	E-LF-14E	I-TE4	TB	14E	NAN	EE	CCW				
28-004-004-017	E-LF-14E	P-2666-6	VAR	14E	NAN	EE	FW				
28-004-013-001	E-LF-16A	M-VALVE	VAR	16A	NAN	EE	FW				
28-004-020-005	E-LF-16A	P-3307-2	VAR	16A	NAN	EE	FW				
16-005-001-001	E-LF-28	M-RWST1-1	AUX	3R	NAN	EE	SI				I
01-007-002-003	E-LF-28	E-K5985-2	OA	28	NAN	EE	AUXFW				
01-012-002-005	E-LF-28	E-K6143-1.25	OA	28	NAN	EE	AUXFW				
17-010-003-001	E-LF-3AA	E-KT193-0.75	AUX	3AA	NAN	EE	SI				
25-041-010-001	E-LF-3AA	H-DUCT	AUX	3AA	NAN	EE	HVAC				
25-068-004-001	E-LF-3AA	H-DUCT	AUX	3AA	NAN	EE	HVAC				
13-009-001-001	E-LF-3AA	M-BAT1-1	AUX	3AA	NAN	EE	CVCS				
13-010-001-001	E-LF-3AA	M-BAT1-2	AUX	3AA	NAN	EE	CVCS				
13-001-001-001	E-LF-3AA	P-1557-2	AUX	3AA	NAN	EE	CVCS				
28-005-005-004	E-LF-3AA	P-2678-4	VAR	3AA	NAN	EE	FW				
28-005-091-001	E-LF-3AA	P-3600-2	VAR	3AA	NAN	EE	FW				
28-005-039-001	E-LF-3AA	P-3608-2	VAR	3AA	NAN	EE	FW				
28-005-111-001	E-LF-3AA	P-3608-2	VAR	3AA	NAN	EE	FW				
23-048-003-001	E-LF-3BB	E-KK383-1	PEN	3BB	NAN	EE	SPRAY				
06-060-010-009	E-LF-3BB	E-KK384-2	PEN	3BB	NAN	EE	RCS				
06-060-010-003	E-LF-3BB	E-KK385-3	PEN	3BB	NAN	EE	RCS				
01-015-002-002	E-LF-3BB	E-KK594-0.75	PEN	3BB	NAN	EE	AUXFW				
01-015-002-008	E-LF-3BB	E-KT243-1.25	PEN	3BB	NAN	EE	AUXFW				
06-059-010-003	E-LF-3BB	E-K3467-1.25	PEN	3BB	NAN	EE	RCS				
06-060-010-006	E-LF-3BB	E-K3477+	PEN	3BB	NAN	EE	RCS				
06-060-010-008	E-LF-3BB	E-K3477+	PEN	3BB	NAN	EE	RCS				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=FIXTURE

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
06-059-010-004	E-LF-3BB	E-K3478	PEN	3BB	NAN	EE	RCS				
03-019-007-004	E-LF-3BB	E-K5878-1.50	PEN	3BB	NAN	EE	MNSTM				
23-014-002-001	E-LF-3BB	E-K6426-1.25	PEN	3BB	NAN	EE	SPRAY				
23-009-002-003	E-LF-3BB	E-9003A	PEN	3BB	NAN	EE	SPRAY				
23-014-004-004	E-LF-3BB	E-9003B	PEN	3BB	NAN	EE	SPRAY				
19-004-006-002	E-LF-3BB	I-PM184	PEN	3BB	NAN	EE	CI				
23-013-004-002	E-LF-3BB	I-9001B	PEN	3BB	NAN	EE	SPRAY				
19-015-010-001	E-LF-3BB	I-9356B	PEN	3BB	NAN	EE	CI				
20-045-012-001	E-LF-3BB	M-FCV360	PEN	3BB	NAN	EE	CCW				
20-043-012-001	E-LF-3BB	M-FCV366	PEN	3BB	NAN	EE	CCW				
18-024-001-001	E-LF-3BB	M-HCV670	PEN	3BB	NAN	EE	RHR				
20-046-017-001	E-LF-3BB	M-LCV70	PEN	3BB	NAN	EE	CCW				
30-001-022-003	E-LF-3BB	M-VALVE	PEN	3BB	NAN	EE	MT				
15-001-027-001	E-LF-3BB	M-8802A	PEN	3BB	NAN	EE	SI				
15-001-185-001	E-LF-3BB	M-8890A	PEN	3BB	NAN	EE	SI				
23-020-002-004	E-LF-3BB	M-9003B	PEN	3BB	NAN	EE	SPRAY				
30-001-075-001	E-LF-3BB	P-ULB-3BB	PEN	3BB	NAN	EE	MT				I
20-045-001-001	E-LF-3BB	P-0106-18	PEN	3BB	NAN	EE	CCW				
03-015-001-001	E-LF-3BB	P-0226-28	PEN	3BB	NAN	EE	MNSTM				
23-050-001-001	E-LF-3BB	P-0246-8	PEN	3BB	NAN	EE	SPRAY				
23-053-001-002	E-LF-3BB	P-0265-8	PEN	3BB	NAN	EE	SPRAY				
01-002-020-001	E-LF-3BB	P-0563-4	PEN	3BB	NAN	EE	AUXFW				
01-003-005-003	E-LF-3BB	P-0573-4	PEN	3BB	NAN	EE	AUXFW				
01-004-005-001	E-LF-3BB	P-0574-4	PEN	3BB	NAN	EE	AUXFW				
04-003-001-004	E-LF-3BB	P-0593-4	PEN	3BB	NAN	EE	MNSTM				
04-010-001-001	E-LF-3BB	P-0594-4	PEN	3BB	NAN	EE	MNSTM				
04-006-001-001	E-LF-3BB	P-0760-4	PEN	3BB	NAN	EE	MNSTM				
15-001-184-001	E-LF-3BB	P-1181-0.75	PEN	3BB	NAN	EE	SI				
09-015-008-002	E-LF-3BB	P-1459-1	PEN	3BB	NAN	EE	RCS				
15-001-010-001	E-LF-3BB	P-1981-4	PEN	3BB	NAN	EE	SI				
09-015-007-001	E-LF-3BB	P-2004-3	PEN	3BB	NAN	EE	RCS				
17-001-036-001	E-LF-3BB	P-2075-1	PEN	3BB	NAN	EE	SI				
29-006-001-001	E-LF-3BB	P-2993-4	PEN	3BB	NAN	EE	CI				
09-015-001-003	E-LF-3BB	P-2999-4	PEN	3BB	NAN	EE	RCS				
21-004-003-002	E-LF-3BB	P-3006-4	PEN	3BB	NAN	EE	CCW				
21-004-003-005	E-LF-3BB	P-3006-4	PEN	3BB	NAN	EE	CCW				
30-001-017-003	E-LF-3BB	P-3280-12	PEN	3BB	NAN	EE	MT				
20-020-008-001	E-LF-3BB	P-3282-12	PEN	3BB	NAN	EE	CCW				
20-050-016-001	E-LF-3BB	P-3286-12	PEN	3BB	NAN	EE	CCW				
30-001-019-002	E-LF-3BB	P-3287-12	PEN	3BB	NAN	EE	MT				
09-015-011-001	E-LF-3BB	P-3851-1	PEN	3BB	NAN	EE	RCS				
15-001-189-001	E-LF-3BB	P-3851-1	PEN	3BB	NAN	EE	SI				
20-045-002-001	E-LF-3BB	PA-0106-18	PEN	3BB	NAN	EE	CCW				
20-021-007-001	E-LF-3BB	PA-2279-12	PEN	3BB	NAN	EE	CCW				
20-021-018-001	E-LF-3BB	PA-2279-12	PEN	3BB	NAN	EE	CCW				
30-001-027-002	E-LF-3BB	PA-2279-12	PEN	3BB	NAN	EE	MT				
20-051-014-001	E-LF-3BB	PA-3280-12	PEN	3BB	NAN	EE	CCW				
20-050-014-001	E-LF-3BB	PA-3281-12	PEN	3BB	NAN	EE	CCW				
30-001-017-004	E-LF-3BB	PA-3281-12	PEN	3BB	NAN	EE	MT				
30-001-021-002	E-LF-3BB	PA-3282-12	PEN	3BB	NAN	EE	MT				
20-020-010-001	E-LF-3BB	PA-3283-12	PEN	3BB	NAN	EE	CCW				
20-051-016-001	E-LF-3BB	PA-3285-12	PEN	3BB	NAN	EE	CCW				
30-001-018-002	E-LF-3BB	PA-3285-12	PEN	3BB	NAN	EE	MT				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=FIXTURE

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
20-045-026-001	E-LF-3BB	PA-3287-12	PEN	3BB	NAN	EE	CCW				
20-045-028-001	E-LF-3BB	PA-3288-12	PEN	3BB	NAN	EE	CCW				
28-002-001-001	E-LF-3BB	M-FCV633	VAR	3BB	NAN	EE	FW				
28-004-001-001	E-LF-3BB	M-FS25	VAR	3BB	NAN	EE	FW				
28-004-001-002	E-LF-3BB	P-2673-4	VAR	3BB	NAN	EE	FW				
28-005-035-001	E-LF-3BB	P-3607-2	VAR	3BB	NAN	EE	FW				
28-005-056-004	E-LF-3BB	P-3609-4	VAR	3BB	NAN	EE	FW				
25-107-001-001	E-LF-3B2	M-FCV663	PPS	3B2	NAN	EE	CI				
25-109-001-001	E-LF-3B2	M-FCV664	PPS	3B2	NAN	EE	CI				
11-005-005-001	E-LF-3B3	M-FCV128	AUX	3B3	NAN	EE	CVCS				
25-041-016-003	E-LF-3C	H-DUCT	AUX	3C	NAN	EE	HVAC				
20-062-004-001	E-LF-3C	P-2688-0.75	AUX	3C	NAN	EE	CCW				
20-061-004-001	E-LF-3C	P-4689-0.75	AUX	3C	NAN	EE	CCW				
28-005-077-002	E-LF-3C	M-HR	VAR	3C	NAN	EE	FW				
23-029-001-001	E-LF-3F	P-3154-0.75	PPS	3F	NAN	EE	SPRAY				
14-003-002-001	E-LF-3H1	M-8105	PPS	3H1	NAN	EE	CVCS				
14-004-001-001	E-LF-3H1	M-8105	PPS	3H1	NAN	EE	CVCS				
16-009-001-001	E-LF-3H1	M-8804A	PPS	3H1	NAN	EE	SI				
19-027-001-001	E-LF-3H1	P-1684-2	PPS	3H1	NAN	EE	CI				
25-068-018-001	E-LF-3J1	H-DUCT	PPS	3J1	NAN	EE	HVAC				
25-068-017-001	E-LF-3J2	H-DUCT	PPS	3J2	NAN	EE	HVAC				
25-068-015-002	E-LF-3J3	H-DUCT	PPS	3J3	NAN	EE	HVAC				
25-041-016-002	E-LF-3L	H-DUCT	AUX	3L	NAN	EE	HVAC				
25-068-009-001	E-LF-3L	H-DUCT	AUX	3L	NAN	EE	HVAC				
10-022-010-001	E-LF-3L	M-SEAL HX	AUX	3L	NAN	EE	CVCS				
10-022-006-001	E-LF-3L	P-3236-4	AUX	3L	NAN	EE	CVCS				
20-063-001-001	E-LF-3L	P-3249-2	AUX	3L	NAN	EE	CCW				
20-063-004-001	E-LF-3L	P-3266-2	AUX	3L	NAN	EE	CCW				
28-005-011-001	E-LF-3L	M-VALVE	VAR	3L	NAN	EE	FW				
28-005-056-005	E-LF-3L	P-3609-4	VAR	3L	NAN	EE	FW				
28-005-084-005	E-LF-3L	P-3688-2	VAR	3L	NAN	EE	FW				
25-041-020-002	E-LF-3M	H-DUCT	PPS	3M	NAN	EE	HVAC				
20-053-016-001	E-LF-3M	P-0310-2	PPS	3M	NAN	EE	CCW				
20-053-007-001	E-LF-3M	P-0311-2	PPS	3M	NAN	EE	CCW				
20-054-001-002	E-LF-3M	P-0312-2	PPS	3M	NAN	EE	CCW				
20-054-008-001	E-LF-3M	P-0313-2	PPS	3M	NAN	EE	CCW				
25-005-007-001	E-LF-3P1	H-DUCT	HV	3P1	NAN	EE	HVAC				
25-005-014-001	E-LF-3P1	H-DUCT	HV	3P1	NAN	EE	HVAC				
25-001-002-001	E-LF-3P1	H-FILTER	HV	3P1	NAN	EE	HVAC				
25-001-003-001	E-LF-3P1	H-HEATER	HV	3P1	NAN	EE	HVAC				
25-069-002-001	E-LF-3P2	H-DAMPER	HV	3P2	NAN	EE	HVAC				
25-097-001-001	E-LF-3P2	H-DUCT	HV	3P2	NAN	EE	CI				
25-005-017-001	E-LF-3P2	H-DUCT	HV	3P2	NAN	EE	HVAC				
25-102-007-001	E-LF-3P2	H-E3	HV	3P2	NAN	EE	CI				
25-102-009-001	E-LF-3P2	I-FE5015	HV	3P2	NAN	EE	CI				
04-003-001-001	E-LF-3P2	P-0593-4	HV	3P2	NAN	EE	MNSTM				
04-003-001-002	E-LF-3P2	P-0593-4	HV	3P2	NAN	EE	MNSTM				
25-032-013-001	E-LF-3P3	H-DAMPER	HV	3P3	NAN	EE	HVAC				
25-042-012-001	E-LF-3P3	H-DAMPER	HV	3P3	NAN	EE	HVAC				
25-042-015-001	E-LF-3P3	H-DAMPER	HV	3P3	NAN	EE	HVAC				
25-042-017-002	E-LF-3P3	H-DAMPER	HV	3P3	NAN	EE	HVAC				
25-046-001-001	E-LF-3P3	H-E2	HV	3P3	NAN	EE	HVAC				
25-048-001-001	E-LF-3P3	H-E2	HV	3P3	NAN	EE	HVAC				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=FIXTURE

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-042-004-001	E-LF-3P3	H-FILTER	HV	3P3	NAN	EE	HVAC				
25-042-006-002	E-LF-3P3	H-FILTER	HV	3P3	NAN	EE	HVAC				
25-068-020-001	E-LF-3P3	I-FI5016	PPS	3J3	NAN	EE	HVAC				
28-006-031-002	E-LF-3P3	P-4552-2	VAR	3P3	NAN	EE	FW				
25-042-010-002	E-LF-3P4	H-DAMPER	HV	3P4	NAN	EE	HVAC				
25-045-001-001	E-LF-3P4	H-E1	HV	3P3	NAN	EE	HVAC				
25-043-001-001	E-LF-3P4	H-E1	HV	3P4	NAN	EE	HVAC				
25-097-001-002	E-LF-3P5	H-DUCT	HV	3P5	NAN	EE	CI				
25-094-002-001	E-LF-3P5	H-FILTER	HV	3P5	NAN	EE	CI				
25-011-001-001	E-LF-3P6	H-FILTER	HV	3P6	NAN	EE	HVAC				
25-011-002-002	E-LF-3P6	H-FILTER	HV	3P6	NAN	EE	HVAC				
25-022-001-001	E-LF-3P7	H-DAMPER	HV	3P7	NAN	EE	HVAC				
25-016-010-001	E-LF-3P7	H-DUCT	HV	3P7	NAN	EE	HVAC				
25-018-001-002	E-LF-3P7	H-FILTER	HV	3P7	NAN	EE	HVAC				
25-027-001-001	E-LF-3P8	H-DAMPER	HV	3P8	NAN	EE	HVAC				
25-023-001-002	E-LF-3P8	H-FILTER	HV	3P8	NAN	EE	HVAC				
21-004-010-005	E-LF-3Q	P-2242-3	PPS	3Q	NAN	EE	CCW				
16-004-003-001	E-LF-3R	E-KT980-1	AUX	3R	NAN	EE	SI				
16-004-003-004	E-LF-3R	E-KT980-1	AUX	3R	NAN	EE	SI				
25-005-015-001	E-LF-3R	H-DUCT	AUX	3R	NAN	EE	HVAC				
25-005-019-001	E-LF-3R	H-DUCT	AUX	3R	NAN	EE	HVAC				
30-001-035-001	E-LF-3R	H-DUCT	AUX	3R	NAN	EE	MT				
21-001-001-002	E-LF-3R	M-CST	AUX	3R	NAN	EE	CCW				
27-004-002-002	E-LF-3R	M-VALVE	AUX	3R	NAN	EE	CI				
21-004-010-001	E-LF-3R	P-2242-3	AUX	3R	NAN	EE	CCW				
28-006-022-001	E-LF-3R	P-3640-2	VAR	3R	NAN	EE	FW				
28-006-038-001	E-LF-3R	P-3644-2	VAR	3R	NAN	EE	FW				
28-007-004-001	E-LF-3R	P-3722-6	VAR	3R	NAN	EE	FW				
18-008-002-001	E-LF-3X	E-K9319+	AUX	3X	NAN	EE	RHR				
25-068-006-001	E-LF-3X	H-DUCT	AUX	3X	NAN	EE	HVAC				
25-068-006-002	E-LF-3X	H-DUCT	AUX	3X	NAN	EE	HVAC				
11-004-007-001	E-LF-3X	P-1452-1	AUX	3X	NAN	EE	CVCS				
28-005-005-007	E-LF-3X	P-2678-4	VAR	3X	NAN	EE	FW				
28-005-114-002	E-LF-3X	P-3612-4	VAR	3X	NAN	EE	FW				
22-009-002-001	E-LF-30A5	P-0680-24	IS	30A5	NAN	EE	ASW				
22-003-002-001	E-LF-30A5	P-0687-24	IS	30A5	NAN	EE	ASW				
28-008-013-001	E-LF-30A5	M-VALVE	VAR	30A5	NAN	EE	FW				
28-008-024-001	E-LF-30A5	M-VALVE	VAR	30A5	NAN	EE	FW				
28-008-011-001	E-LF-30A5	P-3736-2	VAR	30A5	NAN	EE	FW				
28-008-021-002	E-LF-30A5	P-3736-2	VAR	30A5	NAN	EE	FW				
28-008-014-002	E-LF-30A5	P-3737-2	VAR	30A5	NAN	EE	FW				
28-008-017-004	E-LF-30A5	P-3737-2	VAR	30A5	NAN	EE	FW				
25-005-017-003	E-LF-31	H-DUCT	AUX	31	NAN	EE	HVAC				
28-006-026-002	E-LF-31	P-1704-4	VAR	31	NAN	EE	FW				
30-002-004-001	E-LF-5A1	GENERIC	EL	5A1	NAN	EE	MT				
25-162-009-002	E-LF-5A1	H-DUCT	EL	5A1	NAN	EE	HVAC				
18-003-003-002	E-LF-5A2	E-K7317-3	EL	5A2	NAN	EE	RHR				
30-002-003-001	E-LF-5A2	GENERIC	EL	5A2	NAN	EE	MT				
30-002-002-001	E-LF-5A3	GENERIC	EL	5A3	NAN	EE	MT				
06-060-010-001	E-LF-5A4	E-KK368-3	EL	5A4	NAN	EE	RCS				
06-059-010-001	E-LF-5A4	E-KK377-3	EL	5A4	NAN	EE	RCS				
25-164-003-003	E-LF-5A4	E-K5984-1	EL	5A4	NAN	EE	HVAC				
25-162-012-004	E-LF-5A4	H-DUCT	EL	5A4	NAN	EE	HVAC				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=FIXTURE

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
11-012-008-001	E-LF-5A4	I-H01	EL	5A4	NAN	EE	CVCS				
25-162-009-003	E-LF-6A5	H-DUCT	EL	6A5	NAN	EE	HVAC				
25-162-011-001	E-LF-6A5	H-DUCT	EL	6A5	NAN	EE	HVAC				
25-164-001-001	E-LF-6A5	H-S44	EL	6A5	NAN	EE	HVAC				
25-070-004-001	E-LF-8B1	E-KV113-1.25	HV	8B1	NAN	EE	HVAC				
25-092-004-001	E-LF-8B1	E-R-8B1	HV	8B1	NAN	EE	HVAC				
25-070-008-001	E-LF-8B1	H-DAMPER	HV	8B1	NAN	EE	HVAC				
25-070-010-001	E-LF-8B1	H-DAMPER	HV	8B1	NAN	EE	HVAC				
25-083-002-001	E-LF-8B1	H-DUCT	HV	8B1	NAN	EE	HVAC				
25-083-003-002	E-LF-8B1	H-DUCT	HV	8B1	NAN	EE	HVAC				
25-083-004-001	E-LF-8B1	H-DUCT	HV	8B1	NAN	EE	HVAC				
25-083-005-001	E-LF-8B1	H-DUCT	HV	8B1	NAN	EE	HVAC				
25-092-007-001	E-LF-8B1	H-DUCT	HV	8B1	NAN	EE	HVAC				
25-092-010-001	E-LF-8B1	H-DUCT	HV	8B1	NAN	EE	HVAC				
25-028-002-001	E-LF-8B1	H-FILTER	HV	8B1	NAN	EE	HVAC				
25-070-012-002	E-LF-8B1	H-FILTER	HV	8B1	NAN	EE	HVAC				
25-070-013-001	E-LF-8B1	H-FILTER	HV	8B1	NAN	EE	HVAC				
25-092-006-001	E-LF-8B1	H-FILTER	HV	8B1	NAN	EE	HVAC				
25-070-016-001	E-LF-8B1	H-HEATER	HV	8B1	NAN	EE	HVAC				
25-029-001-001	E-LF-8B1	H-S31	HV	8B1	NAN	EE	HVAC				
25-070-038-003	E-LF-8B3	E-K6733-1.50	HV	8B3	NAN	EE	HVAC				
25-070-014-002	E-LF-8B3	H-S35	HV	8B3	NAN	EE	HVAC				
25-070-015-001	E-LF-8B3	H-S36	HV	8B3	NAN	EE	HVAC				
25-083-013-001	E-LF-8C	H-DUCT	EL	8C	NAN	EE	HVAC				
28-005-063-002	E-LF-S5	M-HR	VAR	S5	X	GC	FW				
05-010-003-002	E-LF-1B	I-FCV761	CNT	1B	X	GC	MNSTM				
06-059-016-002	E-LF-1C	I-4681-0.187	CNT	1C	X	GC	RCS				
06-060-011-003	E-LF-1C	I-4684-0.187	CNT	1C	X	GC	RCS				
28-005-048-001	E-LF-S2	M-HR	VAR	S2	Y	EE	FW				
28-005-059-002	E-LF-S5	M-HR	VAR	S5	Y	EE	FW				
28-005-061-002	E-LF-S5	M-HR	VAR	S5	Y	EE	FW				
06-059-028-001	E-LF-1B	I-TE1319	CNT	1B	Y	EE	RCS				
06-060-028-002	E-LF-1B	I-TE1328	CNT	1B	Y	EE	RCS				
28-004-048-001	E-LF-12C	M-HR	VAR	12C	Y	EE	FW				
28-004-050-001	E-LF-13E	M-HR	VAR	13E	Y	EE	FW				
28-004-008-002	E-LF-14A	M-HR	VAR	14A	Y	EE	FW				
28-004-019-001	E-LF-14A	M-HR	VAR	14A	Y	EE	FW				
28-004-026-001	E-LF-14A	M-HR	VAR	14A	Y	EE	FW				
28-004-028-001	E-LF-14A	M-HR	VAR	14A	Y	EE	FW				
28-004-037-002	E-LF-14A	M-HR	VAR	14A	Y	EE	FW				
28-004-039-002	E-LF-14A	M-HR	VAR	14A	Y	EE	FW				
28-004-059-003	E-LF-14A	M-HR	VAR	14A	Y	EE	FW				
28-004-061-002	E-LF-14A	M-HR	VAR	14A	Y	EE	FW				
28-004-063-001	E-LF-14A	M-HR	VAR	14A	Y	EE	FW				
28-004-071-001	E-LF-14A	M-HR	VAR	14A	Y	EE	FW				
28-004-075-001	E-LF-14A	M-HR	VAR	14A	Y	EE	FW				
28-004-077-001	E-LF-14A	M-HR	VAR	14A	Y	EE	FW				
28-004-085-002	E-LF-14A	M-HR	VAR	14A	Y	EE	FW				
25-204-004-002	E-LF-14D	E-KA109-1	TB	14D	Y	EE	HVAC				
25-204-004-003	E-LF-14D	E-KA109-1	TB	14D	Y	EE	HVAC				
25-203-004-002	E-LF-14D	E-KA110-1	TB	14D	Y	EE	HVAC				
25-203-004-003	E-LF-14D	E-KA110-1	TB	14D	Y	EE	HVAC				
25-085-001-001	E-LF-14D	H-OS98	TB	14D	Y	EE	HVAC				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=FIXTURE

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-204-001-001	E-LF-14D	I-CEL102	TB	14D	Y	EE	HVAC				
28-004-041-002	E-LF-14D	M-HR	VAR	14D	Y	EE	FW				
28-004-065-001	E-LF-14D	M-HR	VAR	14D	Y	EE	FW				
28-004-089-001	E-LF-14D	M-HR	VAR	14D	Y	EE	FW				
28-004-088-002	E-LF-14D	P-3312-2	VAR	14D	Y	EE	FW				
28-005-040-001	E-LF-3AA	M-HR	VAR	3AA	Y	EE	FW				
06-059-009-001	E-LF-3BB	I-LT1310	PEN	3BB	Y	EE	RCS				
06-059-003-001	E-LF-3BB	I-LT1311	PEN	3BB	Y	EE	RCS				
06-059-031-001	E-LF-3BB	I-LT1312	PEN	3BB	Y	EE	RCS				
06-060-009-001	E-LF-3BB	I-LT1320	PEN	3BB	Y	EE	RCS				
06-060-019-001	E-LF-3BB	I-LT1321	PEN	3BB	Y	EE	RCS				
06-060-026-001	E-LF-3BB	I-LT1322	PEN	3BB	Y	EE	RCS				
28-005-034-001	E-LF-3BB	M-HR	VAR	3BB	Y	EE	FW				
28-005-016-001	E-LF-3C	M-HR	VAR	3C	Y	EE	FW				
28-005-018-001	E-LF-3C	M-HR	VAR	3C	Y	EE	FW				
28-005-079-001	E-LF-3C	M-HR	VAR	3C	Y	EE	FW				
28-005-131-001	E-LF-3C	M-HR	VAR	3C	Y	EE	FW				
28-006-021-001	E-LF-3R	M-HR	VAR	3R	Y	EE	FW				
28-006-037-001	E-LF-3R	M-HR	VAR	3R	Y	EE	FW				
28-005-009-002	E-LF-3X	M-HR	VAR	3X	Y	EE	FW				
28-005-083-001	E-LF-3X	M-HR	VAR	3X	Y	EE	FW				
28-008-015-001	E-LF-30A5	M-HR	VAR	30A5	Y	EE	FW				
28-008-016-001	E-LF-30A5	M-HR	VAR	30A5	Y	EE	FW				
28-008-018-002	E-LF-30A5	M-HR	VAR	30A5	Y	EE	FW				
28-008-022-001	E-LF-30A5	M-HR	VAR	30A5	Y	EE	FW				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=HOUSEKEEP

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
06-001-004-002	NS-CD	I-FLUX MON	CNT	1B	A	NPO	RCS				
07-008-001-001	NS-CD	I-LT459	CNT	1C	A	ENG	RCS				
06-001-001-007	NS-CD	M-CRDM	CNT	1C	A	NPO	RCS				
17-001-022-004	NS-CD	P-1992-1.50	CNT	1B	A	ENG	SI	ENVIRON			
25-070-038-004	NS-CD	E-K6731-1.50	HV	8B3	A	EE	HVAC				
30-001-085-001	NS-CD	P-0227-28	OA	28	A	PSE	MT	ENVIRON			
30-001-024-001	NS-CD	I-FCV454+	AUX	3C	M	PSE	MT		CONSTDEF	OVERLAP	
13-011-006-001	NS-CD	I-LT102	AUX	3AA	M	ENG	CVCS		TSHIELD	OVERLAP	
30-001-045-001	NS-CD	E-R-1B	CNT	1B	M	ENG	MT		SUPPORT	OVERLAP	
01-013-002-001	NS-CD	E-K6145-0.75	OA	28	M	ENG	AUXFW		SUPPORT	OVERLAP	
11-012-002-001	NS-CD	I-HCV142	PEN	3BB	M	ENG	CVCS		TMODIFY	OVERLAP	
05-033-001-001	NS-CD	M-FCV160	PEN	3BB	M	ENG	MNSTM		STOP	OVERLAP	
28-005-073-003	NS-CD	P-3620-2	VAR	3C	M	NPO	FW		SUPPORT	OVERLAP	
28-005-125-003	NS-CD	P-3620-4	VAR	3C	M	NPO	FW		CONSTDEF	OVERLAP	
15-001-101-003	NS-MISC	PS-2000-0.75	CNT	1B	M	ENG	SI		RELOCATE	OVERLAP	
25-029-001-002	NS-MISC	H-S31	HV	8B1	M	HVA	HVAC		RELOCATE	OVERLAP	
24-007-001-004	P-INSUL	M-DG1-1	DG	11A1	M	PSE	EDG		SECLOOSE	OVERLAP	
24-007-006-002	P-INSUL	M-DG1-2	DG	11B1	M	PSE	EDG		SECLOOSE	OVERLAP	
24-007-011-004	P-INSUL	M-DG1-3	DG	11C1	M	PSE	EDG		SECLOOSE	OVERLAP	
24-008-017-001	E-TEAJ	E-KD350-2	TB	14A	NAN	EE	EDG				
28-005-001-001	NS-CD	P-2677-6	VAR	3AA	NAN	PSE	FW				
28-005-084-004	NS-CD	P-3688-2	VAR	3L	NAN	PSE	FW				
30-001-037-001	N-MISC-1A	GENERIC	CNT	1A	P	NPO	MT				
01-006-001-003	NS-CD	M-AFWPP1-1	PPS	3Q1	P	NPO	AUXFW				
30-001-025-001	NS-CD	E-K6628-1	AUX	3C	X	GC	MT				
13-010-002-001	NS-CD	E-K9738-1	AUX	3AA	X	GC	CVCS				
29-003-006-001	NS-CD	E-MSAH	AUX	3X	X	QC	CI				
06-060-032-005	NS-CD	E-KK083-0.75	CNT	1B	X	QC	RCS				
06-014-003-003	NS-CD	E-KT461-3	CNT	1A	X	QC	RCS				
09-006-006-001	NS-CD	E-KX457-1	CNT	1A	X	QC	RCS				
29-021-005-003	NS-CD	E-KX505-0.75	CNT	1B	X	QC	CI				
09-007-002-004	NS-CD	E-K1752-1.25	CNT	1C	X	QC	RCS				
30-001-008-001	NS-CD	GENERIC	CNT	1A	X	GC	MT				
30-001-020-001	NS-CD	GENERIC	CNT	1A	X	GC	MT				
03-051-001-004	NS-CD	I-FT542	CNT	1C	X	QC	MNSTM				
03-029-001-002	NS-CD	I-LT501	CNT	1B	X	QC	MNSTM				
03-030-001-003	NS-CD	I-LT517	CNT	1C	X	QC	MNSTM				
03-042-001-001	NS-CD	I-LT539	CNT	1C	X	QC	MNSTM				
06-027-001-001	NS-CD	I-TE433A	CNT	1B	X	QC	RCS				
30-001-004-001	NS-CD	I-TUBING	CNT	1C	X	QC	MT				
06-059-026-002	NS-CD	I-4683-0.187	CNT	1B	X	GC	RCS				
06-001-001-009	NS-CD	M-CRDM	CNT	1C	X	QC	RCS				
20-064-007-001	NS-CD	P-2307-1	CNT	1A	X	GC	CCW				
20-071-001-001	NS-CD	P-2320-1.50	CNT	1A	X	GC	CCW				
12-001-001-001	NS-CD	PS-0048-3	CNT	1B	X	QC	CVCS				
24-007-005-004	NS-CD	E-KT114-2	EL	5A1	X	QC	EDG				
25-202-008-003	NS-CD	E-KT164-1.25	EL	6A4	X	QC	HVAC				
24-007-015-004	NS-CD	E-K2624-6	EL	10	X	QC	EDG				
25-185-002-001	NS-CD	E-K3888-1	EL	7A	X	QC	CI				
01-020-002-002	NS-CD	E-K7231+	EL	5A4	X	GC	AUXFW				
30-002-001-001	NS-CD	GENERIC	EL	5A4	X	GC	MT				
11-012-002-002	NS-CD	I-HCV142	EL	5A4	X	QC	CVCS				
04-002-003-001	NS-CD	E-BJF6	OA	28	X	QC	MNSTM				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=HOUSEKEEP

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
03-003-003-001	NS-CD	E-KT610-1	OA	28	X	QC	MNSTM				
01-012-002-006	NS-CD	E-K5755-0.75	OA	28	X	QC	AUXFW				
03-024-030-004	NS-CD	E-K5781-0.75	OA	28	X	QC	MNSTM				
03-024-030-002	NS-CD	E-K6505+	OA	28	X	QC	MNSTM				
03-028-023-002	NS-CD	E-K6557+	OA	28	X	QC	MNSTM				
03-001-001-003	NS-CD	I-PT514	OA	28	X	QC	MNSTM				
03-002-001-003	NS-CD	I-PT515	OA	28	X	QC	MNSTM				
03-004-001-002	NS-CD	I-PT524	OA	28	X	QC	MNSTM				
03-005-001-002	NS-CD	I-PT525	OA	28	X	QC	MNSTM				
06-006-002-003	NS-CD	E-KK308-1.25	PEN	3BB	X	QC	RCS				
01-012-005-002	NS-CD	E-KK793-0.75	PEN	3BB	X	QC	AUXFW				
05-016-005-005	NS-CD	E-KT026-1	PEN	3BB	X	GC	MNSTM				
05-004-005-001	NS-CD	E-KT027-2	PEN	3BB	X	GC	MNSTM				
25-202-008-004	NS-CD	E-KT174-1.25	PEN	3BB	X	QC	HVAC				
23-044-003-001	NS-CD	E-KT284-0.75	PEN	3BB	X	QC	SPRAY				
25-185-002-004	NS-CD	E-K3763-0.75	PEN	3BB	X	QC	CI				
25-185-002-003	NS-CD	E-K3880-1	PEN	3BB	X	QC	CI				
25-194-002-001	NS-CD	E-K4983-3	PEN	3BB	X	GC	CI				
01-009-002-007	NS-CD	E-K5962-3	PEN	3BB	X	GC	AUXFW				
03-019-007-003	NS-CD	E-K6110-1.50	PEN	3BB	X	QC	MNSTM				
31-003-006-001	NS-CD	E-K6294-1	PEN	3BB	X	GC	CI				
20-034-006-001	NS-CD	E-K6989-1	PEN	3BB	X	QC	CCW				
25-181-002-001	NS-CD	E-K7197-1.50	PEN	3BB	X	QC	CI				
31-005-004-003	NS-CD	I-FCV682	PEN	3BB	X	GC	CI				
25-191-002-001	NS-CD	M-FCV236	PEN	3BB	X	GC	CI				
17-001-008-003	NS-CD	P-2033-4	PEN	3BB	X	GC	SI				
20-003-005-001	NS-CD	E-K7025-1	PPS	3J3	X	QC	CCW				
15-008-003-001	NS-CD	E-K9240-1.25	PPS	3M	X	QC	SI				
25-203-004-010	NS-CD	E-KA110-1	TB	14D	X	QC	HVAC				
22-012-008-001	NS-CD	E-KD353-1	TB	14E	X	QC	ASW				
30-001-026-001	NS-T	E-K5893-1.25	AUX	3C	X	QC	MT				
06-014-003-001	NS-CD	E-KX391-2	AUX	3C	Y	QC	RCS				
25-201-008-004	NS-CD	E-KX207-1	CNT	1A	Y	ENG	HVAC				
28-005-126-002	NS-CD	M-HR	VAR	3C	Y	QC	FW				
20-044-009-001	NS-MISC	I-LC59+	HV	8B1	Y	ENG	CCW				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=INTERFERE

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
03-037-003-002	C-PLAT-1A	E-KX246-2.50	CNT	1A	A	CE	MNSTM	DEFLECT			
06-020-003-002	C-PLAT-1A	E-KX246-2.50	CNT	1A	A	CE	RCS	DEFLECT			
07-009-003-003	C-PLAT-1A	E-KX246-2.50	CNT	1A	A	CE	RCS	DEFLECT			
03-040-001-001	C-RSM-1C	I-LT529	CNT	1C	A	EMS	MNSTM	DEFLECT			
03-033-001-002	C-114F	I-FT512	CNT	1C	A	CE	MNSTM				
03-029-001-001	C-114F	I-LT501	CNT	1C	A	CE	MNSTM				
03-031-001-002	C-114F	I-LT518	CNT	1C	A	CE	MNSTM				
03-037-001-001	C-115F	I-FT523	CNT	1C	A	CE	MNSTM				
03-038-001-001	C-115F	I-LT527	CNT	1C	A	CE	MNSTM				
03-051-001-003	C-116G	I-FT542	CNT	1C	A	CE	MNSTM	DEFLECT			
03-039-001-001	C-116G	I-LT528	CNT	1C	A	CE	MNSTM	DEFLECT			
03-043-001-001	C-116G	I-LT537	CNT	1C	A	CE	MNSTM	DEFLECT			
03-044-001-001	C-116G	I-LT538	CNT	1C	A	CE	MNSTM	DEFLECT			
03-048-001-002	C-116G	I-LT547	CNT	1C	A	CE	MNSTM	DEFLECT			
03-049-001-003	C-116G	I-LT548	CNT	1C	A	CE	MNSTM	DEFLECT			
03-032-001-002	C-76F	I-LT519	CNT	1C	A	CE	MNSTM				
06-057-002-001	H-DUCT-6A2	E-K4976-0.75	EL	6A2	A	HVA	RCS	DEFLECT			
25-197-008-004	M-TANK	E-KK213-1.50	AUX	3R	A	EMS	HVAC	DEFLECT			
03-020-007-001	P-0225-28	E-K6457-1.25	PEN	3BB	A	ENG	MNSTM				
06-059-042-002	C-GRATING	E-KK068-0.75	CNT	1A	M	EE	RCS	DEFLECT	CLEARANCE	EXPEDIENT	
03-048-003-001	C-GRATING	E-KX103-1.50	CNT	1A	M	EE	MNSTM	RELSTRUCT	RELOCATE	OVERLAP	
03-045-003-001	C-GRATING	E-KX110-2	CNT	1A	M	EE	MNSTM	RELSTRUCT	RELOCATE	OVERLAP	
06-009-003-002	C-GRATING	E-KX161-2	CNT	1A	M	EE	RCS	RELSTRUCT	CLEARANCE	OVERLAP	
03-038-003-004	C-GRATING	E-KX195-1	CNT	1A	M	CE	MNSTM	DEFLECT	CLEARANCE	EXPEDIENT	
07-007-003-003	C-GRATING	E-KX195-1	CNT	1A	M	CE	RCS	DEFLECT	CLEARANCE	EXPEDIENT	
03-040-003-002	C-GRATING	E-KX197-1.25	CNT	1A	M	CE	MNSTM	DEFLECT	CLEARANCE	EXPEDIENT	
07-004-003-002	C-GRATING	E-KX197-1.25	CNT	1A	M	CE	RCS	DEFLECT	CLEARANCE	EXPEDIENT	
06-015-002-002	C-GRATING	E-KX292-1.25	CNT	1A	M	CE	RCS	DEFLECT	CLEARANCE	EXPEDIENT	
03-029-003-003	C-GRATING	E-KX390-1.50	CNT	1A	M	EE	MNSTM	RELSTRUCT	RELOCATE	EXPEDIENT	
03-047-003-002	C-GRATING	E-KX390-1.50	CNT	1A	M	CE	MNSTM	DEFLECT	CLEARANCE	EXPEDIENT	
06-027-002-001	C-GRATING	E-KX411-1.50	CNT	1A	M	CE	RCS	DEFLECT	CLEARANCE	EXPEDIENT	
06-006-002-001	C-GRATING	E-KX418-1.50	CNT	1A	M	CE	RCS	DEFLECT	CLEARANCE	EXPEDIENT	
06-006-002-002	C-GRATING	E-KX418-1.50	CNT	1A	M	CE	RCS	DEFLECT	CLEARANCE	EXPEDIENT	
09-003-004-001	C-GRATING	E-KX461-1	CNT	1A	M	CE	RCS		CLEARANCE	EXPEDIENT	
12-007-006-002	C-GRATING	E-KX551-1.50	CNT	1A	M	CE	CVCS	DEFLECT	CLEARANCE	EXPEDIENT	
09-004-002-003	C-GRATING	E-K1728-1.50	CNT	1A	M	CE	RCS	DEFLECT	CLEARANCE	EXPEDIENT	
18-003-008-002	C-GRATING	E-K1731-2.50	CNT	1A	M	CE	RHR	DEFLECT	CLEARANCE	EXPEDIENT	
25-155-004-002	C-GRATING	E-K1733-1.25	CNT	1A	M	CE	HVAC	DEFLECT	CLEARANCE	EXPEDIENT	
05-016-005-003	C-GRATING	E-K1741-2	CNT	1A	M	CE	MNSTM	DEFLECT	CLEARANCE	EXPEDIENT	
15-032-005-002	C-GRATING	E-K1741-2	CNT	1A	M	CE	SI	DEFLECT	CLEARANCE	EXPEDIENT	
25-147-004-001	C-GRATING	E-K1789-1.25	CNT	1A	M	CE	HVAC	DEFLECT	CLEARANCE	EXPEDIENT	
09-007-002-003	C-GRATING	E-K1790-1.25	CNT	1A	M	CE	RCS	DEFLECT	CLEARANCE	EXPEDIENT	
09-002-002-001	C-GRATING	E-K1961-2	CNT	1A	M	CE	RCS		CLEARANCE	EXPEDIENT	
30-001-033-001	C-GRATING	E-MISC	CNT	1A	M	CE	MT	DEFLECT	CLEARANCE	EXPEDIENT	
07-008-001-002	C-PLAT-1A	I-LT459	CNT	1A	M	CE	RCS	DEFLECT	CLEARANCE	EXPEDIENT	
07-009-001-002	C-PLAT-1A	I-LT460	CNT	1A	M	CE	RCS	DEFLECT	CLEARANCE	EXPEDIENT	
28-003-045-002	C-PLAT-1A	P-3160-2	VAR	1A	M	CE	FW	DEFLECT	CLEARANCE	EXPEDIENT	
06-025-002-004	C-PLAT-1B	E-KX400-2	CNT	1B	M	CE	RCS	DEFLECT	CLEARANCE	EXPEDIENT	
28-003-027-001	C-PLAT-1B	P-4357-1.50	VAR	1B	M	CE	FW		CLEARANCE	EXPEDIENT	
07-009-001-003	C-PLAT-1C	I-LT460	CNT	1C	M	CE	RCS	DEFLECT	CLEARANCE	EXPEDIENT	
07-010-001-001	C-PLAT-1C	I-LT461	CNT	1C	M	CE	RCS	DEFLECT	CLEARANCE	EXPEDIENT	
03-030-001-002	C-PLAT-1C	I-LT517	CNT	1C	M	CE	MNSTM		BRACE	NECESSARY	
03-049-001-004	C-PLAT-1C	I-PX11	CNT	1C	M	CE	MNSTM	DEFLECT	SUPPORT	NECESSARY	

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=INTERFERE

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
03-055-001-002	C-PLAT-1C	I-VALVE	CNT	1C	M	CE	MNSTM	DEFLECT	CLEARANCE	NECESSARY	
25-162-004-002	C-PLAT-14A	H-DUCT	TB	14A	M	CE	HVAC	DEFLECT	BRACE	EXPEDIENT	
01-003-011-001	C-PLAT-28	P-0576-3	OA	28	M	CE	AUXFW		CLEARANCE	EXPEDIENT	
30-001-083-001	C-PLAT-3BB	E-KT377-2	PEN	3BB	M	EE	MT		TMODIFY	OVERLAP	
02-001-004-003	C-PLAT-3BB	PA-0556-16	PEN	3BB	M	CE	AUXFW		CLEARANCE	EXPEDIENT	
03-043-003-001	C-STAIR-1A	E-KX177-0.75	CNT	1A	M	CE	MNSTM	DEFLECT	CLEARANCE	EXPEDIENT	
03-044-003-001	C-STAIR-1A	E-KX178-0.75	CNT	1A	M	CE	MNSTM	DEFLECT	CLEARANCE	EXPEDIENT	
25-181-001-001	C-103GE	M-FCV668	PEN	3BB	M	CE	CI	DEFLECT	BRACE	OVERLAP	
15-001-187-001	C-103GE	P-1181-0.75	PEN	3BB	M	CE	SI	DEFLECT	BRACE	OVERLAP	
20-038-006-002	C-26GE	P-4172-0.75	PEN	3BB	M	PSE	CCW	DEFLECT	TMODIFY	EXPEDIENT	
20-045-013-001	C-69G	P-2305-4	CNT	1B	M	CE	CCW	DEFLECT	CLEARANCE	OVERLAP	
20-045-008-001	C-71G	P-0137-4	CNT	1B	M	CE	CCW	DEFLECT	CLEARANCE	OVERLAP	
07-016-001-001	E-R-1C	I-POT116	CNT	1C	M	EE	RCS		RELOCATE	EXPEDIENT	
07-016-003-001	E-R-1C	I-POT117	CNT	1C	M	EE	RCS		RELOCATE	EXPEDIENT	
07-016-005-001	E-R-1C	I-POT118	CNT	1C	M	EE	RCS		RELOCATE	EXPEDIENT	
02-003-002-007	E-R-28	E-K5865-1.25	OA	28	M	EE	AUXFW		SUPPORT	OVERLAP	
28-003-009-001	E-RS-1A	P-3156-2	VAR	1A	M	EE	FW		CONSTDEF	EXPEDIENT	
01-015-002-003	E-RS-3BB	E-KT243-1.25	PEN	3BB	M	EE	AUXFW		RELOCATE	EXPEDIENT	
03-018-007-001	M-FCV25	M-FCV42	OA	28	M	EE	MNSTM	DEFLECT	CLEARANCE	NECESSARY	
28-004-064-007	P-SA-14D	P-3316-2	VAR	14D	M	ENG	FW		TMODIFY	OVERLAP	
17-001-022-001	P-USB-1A	P-1992-1.50	CNT	1A	M	PSE	SI	DEFLECT	SUPPORT	EXPEDIENT	
03-020-007-005	P-0225-28	E-K6464-1.25	PEN	3BB	M	ENG	MNSTM	ENVIRON	TMODIFY	OVERLAP	
03-047-001-002	P-1038-2	I-LT504	CNT	1B	M	ICE	MNSTM	DEFLECT	TMODIFY	EXPEDIENT	
23-015-002-001	P-1357-6	I-PT934	CNT	1A	M	ICE	SPRAY	DEFLECT	TMODIFY	OVERLAP	
18-001-009-002	P-1663-8	I-P1632	PPS	3B2	M	ICE	RHR	DEFLECT	TMODIFY	EXPEDIENT	
01-005-005-001	P-2475-0.75	P-0570-3	OA	28	M	PSE	AUXFW		CLEARANCE	OVERLAP	
05-008-001-001	P-3847-6	M-FCV763	CNT	1B	M	PSE	MNSTM	DEFLECT	CONSTDEF	EXPEDIENT	
06-005-027-001	P-4398-2	P-1158-3	CNT	1B	M	PSE	RCS		TMODIFY	NECESSARY	
06-006-002-005	P-4603-4	E-KK307-2	PEN	3BB	M	PSE	RCS	DEFLECT	SUPPORT	EXPEDIENT	
03-045-003-002	C-GRATING	E-KX179-0.75	CNT	1A	NAN	CE	MNSTM	RELSTRUCT			
03-042-003-002	C-GRATING	E-KX180-1.50	CNT	1A	NAN	CE	MNSTM	DEFLECT			
05-022-005-002	C-GRATING	E-K1742-1.50	CNT	1A	NAN	CE	MNSTM	DEFLECT			
20-044-023-001	C-PLAT-28	E-K9966-2	OA	28	NAN	CE	CCW				
25-155-004-003	C-RSM-1A	E-K1733-1.25	CNT	1A	NAN	CE	HVAC	RELSTRUCT			
29-013-004-001	E-R-1A	I-FCV258	CNT	1A	NAN	EE	CI				
03-037-001-002	E-R-1B	I-FT523	CNT	1B	NAN	ICE	MNSTM	DEFLECT			
03-038-001-002	E-R-1B	I-LT527	CNT	1B	NAN	ICE	MNSTM	DEFLECT			
28-004-034-002	E-R-14A	P-2670-4	VAR	14A	NAN	EE	FW				
28-004-029-002	E-R-14D	P-3301-2	VAR	14D	NAN	EE	FW				
06-060-010-010	E-R-3BB	E-KK384-2	PEN	3BB	NAN	EE	RCS	DEFLECT			
28-005-073-002	E-R-3C	P-3620-2	VAR	3C	NAN	EE	FW				
28-005-015-001	E-R-3C	P-3690-2	VAR	3C	NAN	EE	FW				
28-005-087-001	E-R-3C	P-3690-2	VAR	3C	NAN	EE	FW				
28-005-089-001	E-R-3C	P-3691-2	VAR	3C	NAN	EE	FW				
28-005-067-001	E-R-3L	P-3618-2	VAR	3L	NAN	EE	FW	DEFLECT			
28-005-051-002	E-R-3X	P-3612-4	VAR	3X	NAN	EE	FW				
28-005-051-003	E-R-3X	P-3612-4	VAR	3X	NAN	EE	FW				
28-005-114-001	E-R-3X	P-3612-4	VAR	3X	NAN	EE	FW				
25-197-008-005	H-DUCT-3P2	E-K9946-1.50	HV	3P2	NAN	HVA	HVAC	DEFLECT			
30-001-090-001	P-DRAIN-28	E-R-28	OA	28	NAN	PSE	MT	DEFLECT			
25-197-008-007	P-DRAIN-3P2	E-KK213-1.50	HV	3P2	NAN	PSE	HVAC	DEFLECT			
25-070-038-001	P-DRAIN-8B3	E-K6733-1.50	HV	8B3	NAN	PSE	HVAC	DEFLECT			
28-003-004-001	P-SA-1C	P-3457-1	VAR	1C	NAN	PSE	FW	DEFLECT			

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=INTERFERE

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-197-008-002	P-SPR-3BB	E-K9946-1.50	PEN	3BB	NAN	PSE	HVAC	DEFLECT			
28-005-082-002	P-SPR-3X	P-3601-2	VAR	3X	NAN	PSE	FW				
03-035-001-002	P-USB-1B	I-LT502	CNT	1B	NAN	PSE	MNSTM	DEFLECT			
01-020-002-005	P-USB-14A	E-K2666-1	TB	14A	NAN	PSE	AUXFW	DEFLECT			
28-006-026-001	P-0399-4	P-1704-4	VAR	31	NAN	PSE	FW	DEFLECT			
06-001-004-008	P-0527-0.75	I-FLUX MON	CNT	1B	NAN	PSE	RCS				
25-197-008-006	P-0593-4	E-K9960-1.50	HV	3P2	NAN	PSE	HVAC	DEFLECT			
25-197-008-003	P-0594-4	E-KK213-1.50	PEN	3BB	NAN	PSE	HVAC	DEFLECT			
05-001-001-002	P-1040-2.50	I-1051-0.375	CNT	1B	NAN	PSE	MNSTM	DEFLECT			
28-006-040-001	P-1862-8	P-3642-2	VAR	31	NAN	PSE	FW	DEFLECT			
25-185-002-005	P-3253-1.50	E-K3763-0.75	PEN	3BB	NAN	PSE	CI	DEFLECT			
25-180-002-001	P-3253-1.50	E-K7545-1.50	PEN	3BB	NAN	PSE	CI	DEFLECT			
28-005-005-006	P-4298-1.50	P-2678-4	VAR	3X	NAN	PSE	FW	DEFLECT			
25-140-004-001	C-PLAT-1C	E-K1729-1.25	CNT	1C	X	QC	HVAC	DEFLECT			
25-201-008-002	E-RS-1A	E-KX208-1	CNT	1A	Y	EE	HVAC				
28-004-070-001	P-1950-3	P-3314-2	VAR	14A	Y	OSE	FW	DEFLECT			

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=LOOSE

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-165-004-005	C-BLDG	H-DUCT	TB	14D	A	CE	HVAC				
13-009-001-002	C-COVER	M-BAT1-1	AUX	3S	A	CE	CVCS				I
13-010-001-006	C-COVER	M-BAT1-2	AUX	3S	A	CE	CVCS				I
24-001-024-002	C-COVER	P-2589-2	DG	11A1	A	EMS	EDG				
25-043-001-002	C-COVER	H-E1	HV	3P4	A	CE	HVAC				
25-046-001-003	C-COVER	H-E2	HV	3P3	A	CE	HVAC				
18-009-001-001	C-COVER	M-RHRHX1-1	PPS	3B1	A	CE	RHR				
18-020-001-001	C-COVER	M-RHRHX1-2	PPS	3B2	A	CE	RHR				
13-003-013-001	C-GRATING	E-K9440-2	AUX	3X	A	CE	CVCS				I
13-004-011-001	C-GRATING	E-K9441-2	AUX	3X	A	CE	CVCS				I
13-003-009-002	C-GRATING	M-BATPP1-1	AUX	3X	A	CE	CVCS				
13-003-010-001	C-GRATING	P-0071-2	AUX	3X	A	CE	CVCS				I
06-059-036-002	C-GRATING	I-RVLIS	CNT	1B	A	NPO	RCS				
28-005-015-002	C-GRATING	P-3690-2	VAR	3C	A	CE	FW				
13-004-007-002	C-HANDRAIL	M-BATPP1-2	AUX	3AA	A	CE	CVCS				I
06-001-002-001	C-HANDRAIL	M-CRDM	CNT	1C	A	CE	RCS				
09-015-006-001	C-HANDRAIL	P-2061-1	PEN	3BB	A	CE	RCS				
28-005-016-002	C-HANDRAIL	M-HR	VAR	3C	A	CE	FW				
25-092-001-002	C-MISC-14D	H-DUCT	TB	14D	A	NPO	HVAC				
28-005-005-010	C-SB	P-2678-4	VAR	3X	A	CE	FW				
32-001-025-012	E-COVER	E-R-3BB	PEN	3BB	A	EE	ELPS				
01-019-002-017	M-BOTTLE	E-K6993-4	AUX	3L	A	NPO	AUXFW	MECHFAIL			
06-060-021-002	M-BOTTLE	I-4686-0.187	CNT	1B	A	EMS	RCS	MECHFAIL			
28-006-065-001	M-BOTTLE	M-FW TANK	VAR	26	A	EMS	FW	MECHFAIL			I
07-009-001-004	M-FE	I-LT460+	CNT	1C	A	ICE	RCS				
30-001-039-001	M-STUD TENS	GENERIC	CNT	1C	A	NPO	MT				I
30-001-058-001	M-STUDS	GENERIC	CNT	1C	A	NPO	MT				
30-001-069-001	N-CABINET	GENERIC	EL	8C	A	NPO	MT				
25-170-001-001	N-LOCKER	H-S68	HV	13E	A	NPO	HVAC				
25-203-004-008	N-LOCKER	E-KA110-1	TB	14D	A	NPO	HVAC				
30-001-055-001	N-MISC-1C	GENERIC	CNT	1C	A	NPO	MT				
28-004-014-002	N-MISC-16A	P-3304-2	VAR	16A	A	NPO	FW				
25-146-009-001	N-MISC-17	E-K2770-1	TB	17	A	NPO	HVAC				
30-001-056-001	N-MISC-3R	GENERIC	AUX	3R	A	NPO	MT				
28-006-037-002	N-MISC-3R	M-HR	VAR	3R	A	NPO	FW				
30-001-041-001	N-TOOLS	GENERIC	CNT	1C	A	NPO	MT				I
25-092-001-009	C-BLDG	H-DUCT	TB	14D	M	NPO	HVAC		RELOCATE	EXPEDIENT	
25-171-004-003	C-BLDG	H-S67	TB	14D	M	CE	HVAC		TSHIELD	NECESSARY	
25-168-004-002	C-BLDG	H-S68	TB	14D	M	CE	HVAC		TSHIELD	NECESSARY	
25-165-004-003	C-BLDG	H-S69	TB	14D	M	CE	HVAC		TSHIELD	NECESSARY	
30-001-065-001	C-COVER	E-MISC	AUX	4B	M	CE	MT		SECLOOSE	EXPEDIENT	I
06-059-002-001	C-COVER	M-VALVE	CNT	1C	M	EMS	RCS		SECLOOSE	OVERLAP	
24-001-026-001	C-COVER	M-LCV88	DG	11A1	M	NPO	EDG		SECLOOSE	OVERLAP	
30-001-065-003	C-COVER	E-MISC	EL	6A5	M	CE	MT		SECLOOSE	EXPEDIENT	I
30-001-065-002	C-COVER	E-480VSWGR	EL	5A4	M	CE	MT		SECLOOSE	EXPEDIENT	I
20-003-003-003	C-COVER	E-K6977-4	PEN	3BB	M	CE	CCW		SECLOOSE	EXPEDIENT	
32-001-025-001	C-GRATING	E-GDB	EL	12B	M	CE	ELPS		SECLOOSE	EXPEDIENT	I
32-001-025-002	C-GRATING	E-HDBB	EL	12C	M	CE	ELPS		SECLOOSE	EXPEDIENT	
32-001-025-003	C-GRATING	E-R-12A	EL	12A	M	CE	ELPS		SECLOOSE	EXPEDIENT	
30-001-062-001	C-GRATING	M-8982A	PPS	3B1	M	CE	MT		SECLOOSE	EXPEDIENT	
30-001-062-002	C-GRATING	M-8982B	PPS	3B2	M	CE	MT		SECLOOSE	EXPEDIENT	
25-203-004-004	C-GRATING	E-KA110-1	TB	14D	M	CE	HVAC		SECLOOSE	EXPEDIENT	
30-001-022-002	C-HANDRAIL	GENERIC	CNT	1C	M	CE	MT		BRACE	EXPEDIENT	

TABLE 3-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=LOOSE

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
24-007-005-005	C-HANDRAIL	E-KT114-2	EL	6A5	M	CE	EDG		SECLOOSE	OVERLAP	
01-015-002-001	C-HANDRAIL	E-KT987-1.50	EL	6A5	M	CE	AUXFW		SECLOOSE	OVERLAP	
01-020-002-003	C-HANDRAIL	E-K7237-2	EL	6A5	M	CE	AUXFW		SECLOOSE	OVERLAP	
30-002-001-002	C-HANDRAIL	E-R-5A4	EL	5A4	M	CE	MT		CONSTDEF	OVERLAP	
07-012-003-001	C-HANDRAIL	E-TSAB	EL	5A1	M	CE	RCS		SECLOOSE	OVERLAP	
04-001-001-001	C-HANDRAIL	P-0593-4	OA	28	M	CE	MNSTM		SECLOOSE	EXPEDIENT	
25-068-029-001	C-HANDRAIL	H-DAMPER	PPS	3B1	M	CE	HVAC		SECLOOSE	EXPEDIENT	
25-068-030-001	C-HANDRAIL	H-DAMPER	PPS	3B1	M	CE	HVAC		SECLOOSE	EXPEDIENT	
30-001-047-001	C-PLAT-1A	GENERIC	CNT	1A	M	CE	MT		SECLOOSE	EXPEDIENT	I
28-005-001-005	C-PLAT-3AA	P-2677-6	VAR	3AA	M	CE	FW		SECLOOSE	EXPEDIENT	I
03-026-025-001	C-PLAT-7A	E-K5794-1	EL	7A	M	CE	MNSTM		SECLOOSE	OVERLAP	
30-005-000-001	M-BOTTLE	GENERIC	VAR	VAR	M	EMS	MT		SECLOOSE	NECESSARY	
28-007-018-001	M-BOTTLE	P-3297-2	VAR	14D	M	NPO	FW	MECHFAIL	RELOCATE	EXPEDIENT	
16-004-003-003	M-FE	E-KT980-1	AUX	3R	M	EMS	SI		SECLOOSE	EXPEDIENT	
11-007-005-001	M-FE	E-GNJA	EL	5A3	M	EMS	CVCS		SECLOOSE	NECESSARY	
11-007-005-002	M-FE	E-GNJA	EL	5A3	M	EMS	CVCS		SECLOOSE	NECESSARY	
01-012-002-002	M-FE	E-HNJB	EL	5A3	M	EMS	AUXFW	MECHFAIL	SECLOOSE	NECESSARY	
32-001-008-008	M-FE	E-4.16KVSWGR	EL	13A	M	EMS	ELPS		SECLOOSE	NECESSARY	
01-019-002-007	M-FE	E-K2665-1	TB	14A	M	EMS	AUXFW	MECHFAIL	SECLOOSE	EXPEDIENT	
30-001-023-001	M-HR	GENERIC	CNT	1C	M	EMS	MT	MECHFAIL	SECLOOSE	EXPEDIENT	
01-020-002-001	N-BATT CHG	E-FNJB	EL	6A1	M	NPO	AUXFW		SECLOOSE	OVERLAP	
32-001-008-006	N-BKR	E-4.16KVSWGR	EL	13A	M	NPO	ELPS		RELOCATE	NECESSARY	
32-001-009-006	N-BKR	E-4.16KVSWGR	EL	13B	M	NPO	ELPS		RELOCATE	NECESSARY	
32-001-010-005	N-BKR	E-4.16KVSWGR	EL	13C	M	NPO	ELPS		RELOCATE	NECESSARY	
32-004-002-001	N-CABINET	E-DC SWGR	EL	6A2	M	NPO	ELPS		SECLOOSE	EXPEDIENT	
30-007-010-001	N-CABINET	GENERIC	EL	10	M	NPO	MT		SECLOOSE	NECESSARY	
30-001-080-001	N-CASK	E-R-4A	AUX	4A	M	CE	MT		TSHIELD	EXPEDIENT	
28-004-051-003	N-MISC-14A	P-3293-2	VAR	14A	M	NPO	FW		RELOCATE	EXPEDIENT	
16-004-003-002	N-MISC-3R	E-KT980-1	AUX	3R	M	CE	SI		TSHIELD	EXPEDIENT	
30-001-049-001	N-MISC-7A	GENERIC	EL	7A	M	NPO	MT		SECLOOSE	EXPEDIENT	
32-009-001-001	N-MISC-8C	GENERIC	EL	8C	M	NPO	ELPS		SECLOOSE	EXPEDIENT	
30-001-070-001	N-SHIELD	GENERIC	EL	8C	M	CE	MT		BRACE	EXPEDIENT	
01-020-002-004	P-4434-1	E-K2666-1	TB	14A	M	PSE	AUXFW	DEFLECT	SUPPORT	EXPEDIENT	
20-003-003-004	C-COVER	E-K6977-4	PEN	3BB	NAN	EE	CCW				
23-050-008-001	C-HANDRAIL	I-9006A	CNT	1A	NAN	CE	SPRAY				
25-177-003-004	C-HANDRAIL	M-DG1-1	DG	11A2	NAN	CE	HVAC				
25-178-003-004	C-HANDRAIL	M-DG1-2	DG	11B2	NAN	CE	HVAC				
25-179-003-004	C-HANDRAIL	M-DG1-3	DG	11C2	NAN	CE	HVAC				
09-015-001-004	C-HANDRAIL	P-2999-4	PEN	3BB	NAN	CE	RCS				
24-008-005-001	E-COVER	E-K7250-1.25	PEN	3BB	NAN	EE	EDG				
06-001-004-005	E-PHONE	I-FLUX MON	CNT	1B	NAN	EMS	RCS				
06-060-028-001	E-PHONE	I-TE1328	CNT	1B	NAN	EMS	RCS				
06-047-009-001	E-PHONE	I-8091	CNT	1A	NAN	EMS	RCS				
30-001-060-001	E-PHONE	E-DC SWGR	EL	6A1	NAN	EMS	MT				
30-001-060-002	E-PHONE	E-DC SWGR	EL	6A2	NAN	EMS	MT				
32-001-008-007	E-PHONE	E-4.16KVSWGR	EL	13A	NAN	EMS	ELPS				
32-001-009-007	E-PHONE	E-4.16KVSWGR	EL	13B	NAN	EMS	ELPS				
32-001-010-006	E-PHONE	E-4.16KVSWGR	EL	13C	NAN	EMS	ELPS				
32-001-022-003	E-PHONE	E-480VSWGR	EL	5A1	NAN	EMS	ELPS				
32-001-023-003	E-PHONE	E-480VSWGR	EL	5A2	NAN	EMS	ELPS				
32-001-024-003	E-PHONE	E-480VSWGR	EL	5A3	NAN	EMS	ELPS				
32-001-032-004	N-CAN	E-125VBATTER	EL	6A1	NAN	CE	ELPS				
32-001-033-006	N-CAN	E-125VBATTER	EL	6A2	NAN	CE	ELPS				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=LOOSE

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
32-001-034-004	N-CAN	E-125VBATTER	EL	6A3	NAN	CE	ELPS				
28-004-064-001	C-PLAT-14A	P-3316-2	VAR	14A	P	NPO	FW				
28-004-064-002	C-PLAT-14A	P-3316-2	VAR	14A	P	NPO	FW				
24-001-153-001	C-COVER	I-LCV86	DG	11B1	X	QC	EDG				
24-001-044-001	C-COVER	I-LCV89	DG	11B2	X	GC	EDG				
24-001-135-001	C-COVER	M-LCV85	DG	11A2	X	GC	EDG				
24-001-152-001	C-COVER	M-LCV86	DG	11B2	X	QC	EDG				
24-001-169-001	C-COVER	M-LCV87	DG	11C2	X	GC	EDG				
24-001-043-001	C-COVER	M-LCV89	DG	11B2	X	GC	EDG				
24-001-060-001	C-COVER	M-LCV90	DG	11C2	X	GC	EDG				
24-001-133-001	C-COVER	P-2588-2	DG	11A1	X	QC	EDG				
24-001-024-001	C-COVER	P-2589-2	DG	11A1	X	QC	EDG				
24-001-150-001	C-COVER	P-2590-2	DG	11B1	X	QC	EDG				
24-001-041-001	C-COVER	P-2591-2	DG	11B2	X	QC	EDG				
24-001-167-001	C-COVER	P-2596-2	DG	11C1	X	QC	EDG				
24-001-058-001	C-COVER	P-2597-2	DG	11C1	X	QC	EDG				
06-059-027-002	C-GRATING	I-RVLIS	CNT	1B	X	GC	RCS				
06-060-022-002	C-GRATING	I-RVLIS	CNT	1B	X	GC	RCS				
06-060-021-003	C-GRATING	I-4686-0.187	CNT	1B	X	GC	RCS				
06-059-038-002	C-GRATING	M-RVLIS	CNT	1B	X	GC	RCS				
06-059-039-002	C-GRATING	M-RVLIS	CNT	1B	X	GC	RCS				
28-006-031-003	C-HANDRAIL	P-4552-2	VAR	3P2	X	GC	FW				
30-001-046-001	C-PLAT-1B	GENERIC	CNT	1B	X	QC	MT				I
28-004-032-001	N-FAN	M-HR	VAR	14A	X	GC	FW				
03-024-023-001	NS-CD	M-BOTTLE	OA	28	X	QC	MNSTM				
25-092-001-005	NS-CD	H-DUCT	TB	14D	X	GC	HVAC				
28-004-021-002	NS-MISC	M-HR	VAR	17	X	GC	FW				
28-004-083-003	H-FILTER	M-HR	VAR	14A	Y	NPO	FW				
06-060-010-002	N-BKR	E-KK368-3	EL	5A4	Y	NPO	RCS				
06-059-010-002	N-BKR	E-KK377-3	EL	5A4	Y	NPO	RCS				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=MECHFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
11-003-003-001	C-CRANE-3H2	M-CHGPP1-3	PPS	3H2	A	CE	CVCS				
11-003-004-001	C-CRANE-3H2	P-0047-3	PPS	3H2	A	CE	CVCS				
24-007-016-002	E-12KVSWGR	M-DG1-1	DG	11A1	A	EE	EDG	CIVILFAIL			
05-010-003-001	H-DUCT-1B	I-FCV761	CNT	1B	A	HVA	MNSTM				
05-016-003-001	H-DUCT-1B	I-FCV762	CNT	1B	A	HVA	MNSTM				
05-022-003-003	H-DUCT-1B	I-FCV763	CNT	1B	A	HVA	MNSTM				
03-033-001-003	H-DUCT-1B	I-FT512	CNT	1B	A	HVA	MNSTM				
03-034-001-002	H-DUCT-1B	I-FT513	CNT	1B	A	HVA	MNSTM				
03-036-001-002	H-DUCT-1B	I-FT522	CNT	1B	A	HVA	MNSTM				
03-037-001-003	H-DUCT-1B	I-FT523	CNT	1B	A	HVA	MNSTM				
03-046-001-001	H-DUCT-1B	I-FT532	CNT	1B	A	HVA	MNSTM				
03-045-001-001	H-DUCT-1B	I-FT533	CNT	1B	A	HVA	MNSTM				
03-051-001-005	H-DUCT-1B	I-FT542	CNT	1B	A	HVA	MNSTM				
03-052-001-001	H-DUCT-1B	I-FT543	CNT	1B	A	HVA	MNSTM				
03-029-001-004	H-DUCT-1B	I-LT501	CNT	1B	A	HVA	MNSTM				
03-035-001-005	H-DUCT-1B	I-LT502	CNT	1B	A	HVA	MNSTM				
03-041-001-001	H-DUCT-1B	I-LT503	CNT	1B	A	HVA	MNSTM				
03-047-001-005	H-DUCT-1B	I-LT504	CNT	1B	A	HVA	MNSTM				
03-030-001-005	H-DUCT-1B	I-LT517	CNT	1B	A	HVA	MNSTM				
03-031-001-003	H-DUCT-1B	I-LT518	CNT	1B	A	HVA	MNSTM				
03-032-001-003	H-DUCT-1B	I-LT519	CNT	1B	A	HVA	MNSTM				
03-038-001-005	H-DUCT-1B	I-LT527	CNT	1B	A	HVA	MNSTM				
03-039-001-002	H-DUCT-1B	I-LT528	CNT	1B	A	HVA	MNSTM				
03-040-001-003	H-DUCT-1B	I-LT529	CNT	1B	A	HVA	MNSTM				
03-043-001-002	H-DUCT-1B	I-LT537	CNT	1B	A	HVA	MNSTM				
03-044-001-002	H-DUCT-1B	I-LT538	CNT	1B	A	HVA	MNSTM				
03-042-001-002	H-DUCT-1B	I-LT539	CNT	1B	A	HVA	MNSTM				
03-048-001-003	H-DUCT-1B	I-LT547	CNT	1B	A	HVA	MNSTM				
03-049-001-005	H-DUCT-1B	I-LT548	CNT	1B	A	HVA	MNSTM				
03-050-001-003	H-DUCT-1B	I-LT549	CNT	1B	A	HVA	MNSTM				
05-021-002-001	H-DUCT-1B	M-FCV763	CNT	1B	A	HVA	MNSTM				
24-007-005-003	H-DUCT-11A1	M-DG1-1	DG	11A1	A	PSE	EDG				
24-007-010-003	H-DUCT-11B1	M-DG1-2	DG	11B1	A	PSE	EDG				
24-007-015-001	H-DUCT-11C1	M-DG1-3	DG	11C1	A	PSE	EDG				
25-177-003-001	H-FILTER	H-DUCT	DG	11A2	A	HVA	HVAC				
25-178-003-002	H-FILTER	H-DUCT	DG	11B2	A	HVA	HVAC				
25-179-003-001	H-FILTER	H-DUCT	DG	11C2	A	HVA	HVAC				
03-017-007-001	M-FCV25	M-FCV41	OA	28	A	PSE	MNSTM				
06-001-001-004	M-HOIST-1C	M-CRDM	CNT	1C	A	CE	RCS				
06-001-002-002	M-HOIST-1C	M-CRDM	CNT	1C	A	CE	RCS				
28-004-098-001	M-HOIST-14A	P-5021-2	VAR	14A	A	CE	FW				
28-005-040-002	M-HOIST-3AA	M-HR	VAR	3AA	A	CE	FW				
10-022-008-001	M-HOIST-3X	M-8380	AUX	3X	A	CE	CVCS				
10-020-006-001	M-HOIST-3X	M-8382A	AUX	3X	A	CE	CVCS				
10-019-006-001	M-HOIST-3X	M-8382B	AUX	3X	A	CE	CVCS				
10-020-002-001	M-HOIST-3X	M-8384A	AUX	3X	A	CE	CVCS				
10-019-002-001	M-HOIST-3X	M-8384B	AUX	3X	A	CE	CVCS				
10-021-004-001	M-HOIST-3X	M-8387A	AUX	3X	A	CE	CVCS				
10-022-003-001	M-HOIST-3X	M-8396A	AUX	3X	A	CE	CVCS				
10-022-005-001	M-HOIST-3X	M-8396B	AUX	3X	A	CE	CVCS				
28-006-028-002	M-TANK	P-4550-8	VAR	3P3	A	CE	FW				
28-006-029-001	M-TANK	P-4551-2	VAR	3P3	A	CE	FW				
06-059-026-001	M-5-10PATH	I-4683-0.187	CNT	1B	A	EMS	RCS				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=MECHFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
06-060-021-001	M-5-10PATH	I-4686-0.187	CNT	1B	A	EMS	RCS				
12-001-004-001	SQ	I-8148	CNT	1A	A	PSE	CVCS				
30-001-006-001	SQ	M-FCV1065	CNT	1A	A	PSE	MT				
30-001-007-001	SQ	M-FCV1066	CNT	1A	A	PSE	MT				
01-012-001-001	SQ	M-LCV110	OA	28	A	ENG	AUXFW				
01-013-001-001	SQ	M-LCV111	OA	28	A	ENG	AUXFW				
12-013-001-001	SQ	M-8152	PEN	3BB	A	ENG	CVCS				
15-001-007-001	SQ	M-8923A+	PEN	3BB	A	PSE	SI				
23-003-004-002	SQ	M-9001A	PEN	3BB	A	ENG	SPRAY				
18-005-001-002	C-CRANE-3B1	M-RHRPP1-1	PPS	3B1	M	CE	RHR		BRACE	EXPEDIENT	
18-016-001-003	C-CRANE-3B2	M-RHRPP1-2	PPS	3B2	M	CE	RHR		BRACE	EXPEDIENT	
17-001-001-001	C-CRANE-3H1	P-1973-6	PPS	3H1	M	CE	SI		BRACE	EXPEDIENT	
11-003-001-001	C-CRANE-3H2	P-0044-6	PPS	3H2	M	CE	CVCS		BRACE	EXPEDIENT	
16-004-003-005	C-CRANE-3R	E-KT980-1	AUX	3R	M	CE	SI		TSHIELD	EXPEDIENT	
24-007-016-001	C-DOOR	M-DG1-1	DG	11A1	M	CE	EDG	ENVIRON	BRACE	NECESSARY	
24-007-017-001	C-DOOR	M-DG1-2	DG	11B1	M	CE	EDG	ENVIRON	BRACE	NECESSARY	
24-007-018-001	C-DOOR	M-DG1-3	DG	11C1	M	CE	EDG	ENVIRON	BRACE	NECESSARY	
06-001-001-003	C-MISC-1C	M-CRDM	CNT	1C	M	CE	RCS		SECLOOSE	EXPEDIENT	
07-014-002-001	E-INCORE DR	E-KX498-0.75	CNT	1A	M	ICE	RCS		SUPPORT	EXPEDIENT	
30-001-072-001	E-MISC-8C	GENERIC	EL	8C	M	CE	MT		SECLOOSE	NECESSARY	
30-001-042-001	I-HUM DET	GENERIC	CNT	1A	M	ICE	MT		SECLOOSE	OVERLAP	I
01-020-002-007	M-FCV723	E-K2666-1	TB	14A	M	EE	AUXFW		TMODIFY	EXPEDIENT	
30-001-043-001	M-FE	GENERIC	CNT	1A	M	NPO	MT		CONSTDEF	NECESSARY	I
30-001-084-001	M-FE	E-DC SWGR	EL	6A1	M	EMS	MT		SECLOOSE	NECESSARY	
30-001-058-002	M-FE	E-MISC	EL	6A3	M	EMS	MT		SECLOOSE	NECESSARY	
06-001-001-006	M-HOIST-1C	M-CRDM	CNT	1C	M	CE	RCS		STOP	EXPEDIENT	
01-019-002-005	M-HOIST-14A	E-K2665-1	TB	14A	M	CE	AUXFW		STOP	EXPEDIENT	
30-001-086-001	M-HOIST-28	GENERIC	OA	28	M	CE	MT		SECLOOSE	NECESSARY	
13-010-001-004	M-HOIST-3AA	M-BAT1-2	AUX	3AA	M	CE	CVCS		STOP	EXPEDIENT	
13-012-001-001	M-HOIST-3AA	M-HCV105	AUX	3AA	M	CE	CVCS		STOP	EXPEDIENT	
13-002-001-001	M-HOIST-3AA	P-1558-2	AUX	3AA	M	CE	CVCS		STOP	EXPEDIENT	
28-005-039-002	M-HOIST-3AA	P-3608-2	VAR	3AA	M	NPO	FW		RELOCATE	EXPEDIENT	
20-004-001-003	M-HOIST-3J1	M-CCWPP1-1	PPS	3J1	M	CE	CCW		BRACE	EXPEDIENT	
25-042-002-001	M-HOIST-3P4	H-FILTER	HV	3P4	M	CE	HVAC	LOOSE	SECLOOSE	EXPEDIENT	
25-108-002-001	M-HOIST-7A	E-K7518-3	EL	7A	M	EMS	CI		STOP	EXPEDIENT	
30-002-001-003	M-HR	GENERIC	EL	5A4	M	EMS	MT		SECLOOSE	EXPEDIENT	
01-019-002-006	M-HR	E-K2665-1	TB	14A	M	EMS	AUXFW		SECLOOSE	EXPEDIENT	
06-059-027-001	M-5-10PATH	I-RVLIS	CNT	1B	M	EMS	RCS		SUPPORT	EXPEDIENT	
06-059-036-001	M-5-10PATH	I-RVLIS	CNT	1B	M	EMS	RCS		SUPPORT	NECESSARY	
06-060-022-001	M-5-10PATH	I-RVLIS	CNT	1B	M	EMS	RCS		SECLOOSE	EXPEDIENT	
06-059-038-001	M-5-10PATH	M-RVLIS	CNT	1B	M	EMS	RCS		SUPPORT	NECESSARY	
06-059-039-001	M-5-10PATH	P-RVLIS	CNT	1B	M	EMS	RCS		SUPPORT	NECESSARY	
25-171-004-001	H-DUCT	H-S67	TB	14D	NAN	HVA	HVAC				
28-005-005-003	M-FCV282	P-2678-4	VAR	3AA	NAN	EMS	FW				
20-062-004-002	M-HOIST-3C	P-2688-0.75	AUX	3C	NAN	CE	CCW				
20-061-004-002	M-HOIST-3C	P-2689-0.75	AUX	3C	NAN	CE	CCW				
28-007-004-002	M-PCV91	P-3722-6	VAR	3R	NAN	EMS	FW				
25-005-005-001	M-VALVE	H-DUCT	HV	3P1	NAN	EMS	HVAC				
28-005-010-001	M-8030	P-3159-2	VAR	1A	NAN	EMS	FW				
28-006-030-001	M-TANK	M-HR	VAR	3P3	Y	CE	FW				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=PIPEFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-102-010-001	P-DRAIN-3P2	H-MISC	HV	3P2	A	ENG	CI				
25-002-001-001	P-ULB-3P1	H-S1	HV	3P1	A	EMS	HVAC				
25-007-001-001	P-ULB-3P1	H-S2	HV	3P1	A	EMS	HVAC	ENVIRON			
01-006-001-002	P-USB-3Q1	M-AFWPP1-1	PPS	3Q1	A	PSE	AUXFW				
30-002-001-005	P-USB-5A4	GENERIC	EL	5A4	A	PSE	MT				
28-008-016-002	P-0706-4	M-HR	VAR	30A5	A	PSE	FW				
30-001-077-001	M-AUX-SUMPPP	GENERIC	AUX	2	M	EE	MT	ENVIRON	RELOCATE	EXPEDIENT	
01-020-001-002	M-TANK	M-AFWPP1-3	PPS	3Q2	M	PSE	AUXFW	ENVIRON	RELOCATE	EXPEDIENT	I
13-011-002-002	P-ULB-3AA	I-HCV104	AUX	3AA	M	PSE	CVCS		SUPPORT	OVERLAP	
13-012-002-001	P-ULB-3AA	I-HCV105	AUX	3AA	M	PSE	CVCS		SUPPORT	OVERLAP	
22-009-002-003	P-0677-16	P-0680-24	IS	30A5	M	PSE	ASW		SUPPORT	NECESSARY	
22-003-002-002	P-0677-16	P-0687-24	IS	30A5	M	PSE	ASW		SUPPORT	NECESSARY	
24-007-001-003	P-2182-22	M-DG1-1	DG	11A1	M	PSE	EDG		SUPPORT	OVERLAP	
24-007-006-001	P-2185-22	M-DG1-2	DG	11B1	M	PSE	EDG		SUPPORT	OVERLAP	
24-001-118-001	P-2188-22	E-K2522-1.25	DG	11C1	M	PSE	EDG		SUPPORT	OVERLAP	
24-007-011-003	P-2188-22	M-DG1-3	DG	11C1	M	PSE	EDG		SUPPORT	OVERLAP	
30-001-005-001	P-2995-4	GENERIC	CNT	1A	M	PSE	MT		SUPPORT	EXPEDIENT	
03-022-013-001	P-3103-2	I-PM100	OA	28	M	PSE	MNSTM		SUPPORT	EXPEDIENT	
03-004-002-001	P-3103-2	I-PM104	OA	28	M	PSE	MNSTM		SUPPORT	NECESSARY	
03-005-002-001	P-3103-2	I-PM108	OA	28	M	PSE	MNSTM		SUPPORT	NECESSARY	
03-006-002-002	P-3103-2	I-PM112	OA	28	M	PSE	MNSTM		SUPPORT	NECESSARY	
25-122-007-001	P-3256-2	H-CFC1-1	CNT	1C	M	PSE	CI		RELOCATE	EXPEDIENT	
25-123-002-001	P-3256-2	I-FCV066	CNT	1C	M	PSE	HVAC		RELOCATE	EXPEDIENT	
25-124-002-001	P-3256-2	I-FCV067	CNT	1C	M	PSE	HVAC		RELOCATE	EXPEDIENT	
25-125-002-001	P-3256-2	I-FCV068	CNT	1C	M	PSE	HVAC		RELOCATE	EXPEDIENT	
25-126-002-001	P-3256-2	I-FCV069	CNT	1C	M	PSE	HVAC		RELOCATE	EXPEDIENT	
25-127-002-002	P-3256-2	I-FCV070	CNT	1C	M	PSE	HVAC		RELOCATE	EXPEDIENT	
25-128-002-002	P-3256-2	I-FCV071	CNT	1C	M	PSE	HVAC		RELOCATE	EXPEDIENT	
03-053-002-001	P-3256-2	I-FE512	CNT	1C	M	PSE	MNSTM		RELOCATE	NECESSARY	
06-060-032-007	P-3819-0.75	E-KK082-0.75	CNT	1B	M	PSE	RCS		TMODIFY	OVERLAP	
02-001-003-001	P-DRAIN-1B	P-0556-16	CNT	1B	NAN	PSE	AUXFW				
02-001-004-001	P-DRAIN-1B	P-0557-16	CNT	1B	NAN	PSE	AUXFW				
25-041-016-001	P-DRAIN-3C	H-DUCT	AUX	3C	NAN	PSE	HVAC				
15-004-003-001	P-SPR-4A	E-K7234+	AUX	4A	NAN	PSE	SI				
03-054-001-001	P-USB-1B	P-0227-28	CNT	1B	NAN	PSE	MNSTM				
03-053-001-001	P-USB-1B	P-0228-28	CNT	1B	NAN	PSE	MNSTM				
02-001-001-001	P-USB-1B	P-0554-16	CNT	1B	NAN	PSE	AUXFW				
02-001-002-001	P-USB-1B	P-0555-16	CNT	1B	NAN	PSE	AUXFW				
28-004-059-004	P-USB-14A	M-HR	VAR	14A	NAN	PSE	FW				
28-004-057-002	P-USB-14A	M-VALVE	VAR	14A	NAN	PSE	FW				
25-092-001-003	P-USB-14D	H-DUCT	TB	14D	NAN	PSE	HVAC				
20-010-001-003	P-USB-14E	I-PI113	TB	14E	NAN	PSE	CCW				
22-006-007-001	P-USB-14E	I-PT5	TB	14E	NAN	PSE	ASW				
22-012-007-002	P-USB-14E	I-PT6	TB	14E	NAN	PSE	ASW				
20-014-001-001	P-USB-14E	M-CCWHX1-1	TB	14E	NAN	PSE	CCW				
20-014-001-002	P-USB-14E	M-CCWHX1-1	TB	14E	NAN	PSE	CCW				
20-015-001-002	P-USB-14E	M-CCWHX1-2	TB	14E	NAN	PSE	CCW				
20-015-001-003	P-USB-14E	M-CCWHX1-2	TB	14E	NAN	PSE	CCW				
20-016-001-002	P-USB-14E	P-0101-30	TB	14E	NAN	PSE	CCW				
20-017-001-002	P-USB-14E	P-0102-30	TB	14E	NAN	PSE	CCW				
28-008-018-003	P-USB-30A5	M-HR	VAR	30A5	NAN	PSE	FW				
28-008-017-005	P-USB-30A5	P-3737-2	VAR	30A5	NAN	PSE	FW				
28-008-025-002	P-USB-30A5	P-3737-2	VAR	30A5	NAN	EE	FW				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=PIPEFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
30-001-066-001	P-0971-2	P-ULB-3BB	PEN	3BB	X	QC	MT				
06-060-004-002	P-3819-0.75	I-4685-0.187	CNT	1B	Y	OSE	RCS				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=RELSTRUCT

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
30-001-036-001	C-PLAT-1A	E-R-1A	CNT	1A	A	EE	MT				
16-005-005-001	C-RSM-31	P-0221-18	AUX	31	A	PSE	SI				
23-001-001-001	C-RSM-31	P-0261-12	AUX	31	A	PSE	SPRAY				
21-002-001-001	C-RSM-31	P-0380-10	AUX	31	A	PSE	CCW				
21-002-010-001	C-RSM-31	P-1917-4	AUX	31	A	PSE	CCW				
21-002-003-001	C-RSM-31	P-4551-2	AUX	31	A	PSE	CCW				
28-006-112-001	M-TANK	P-2659-6	VAR	31	A	PSE	FW				
28-006-076-002	M-TANK	P-2682-12	VAR	31	A	PSE	FW				
18-005-001-003	C-RSM-3B1	M-RHRPP1-1	PPS	3B1	M	PSE	RHR		CONSTDEF	OVERLAP	
18-016-001-002	C-RSM-3B2	M-RHRPP1-2	PPS	3B2	M	PSE	RHR		CONSTDEF	OVERLAP	
20-072-005-001	C-RSM-1A	P-1701-1.50	CNT	1A	NAN	PSE	CCW				
06-059-016-003	C-RSM-3BB	I-4681-0.187	PEN	3BB	Y	EMS	RCS				
06-059-004-002	C-RSM-3BB	I-4682-0.187	PEN	3BB	Y	EMS	RCS				
06-059-026-003	C-RSM-3BB	I-4683-0.187	PEN	3BB	Y	EMS	RCS				
06-060-011-004	C-RSM-3BB	I-4684-0.187	PEN	3BB	Y	EMS	RCS				
06-060-004-004	C-RSM-3BB	I-4685-0.187	PEN	3BB	Y	EMS	RCS				
06-060-021-005	C-RSM-3BB	I-4686-0.187	PEN	3BB	Y	EMS	RCS				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=SPTFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
30-001-074-001	C-BOARD	GENERIC	EL	8C	A	NPO	MT				
24-007-001-006	C-DOOR	M-DG1-1	DG	11A1	A	CE	EDG				
24-006-001-001	C-DOOR	M-DG1-1	DG	11A2	A	CE	EDG				
24-007-010-002	C-DOOR	M-DG1-2	DG	11B1	A	CE	EDG				
24-006-021-002	C-DOOR	M-DG1-2	DG	11B2	A	CE	EDG				
24-007-015-002	C-DOOR	M-DG1-3	DG	11C1	A	CE	EDG				
24-006-041-002	C-DOOR	M-DG1-3	DG	11C2	A	CE	EDG				
02-003-002-003	C-DOOR	E-K6067-1.25	OA	28	A	CE	AUXFW				
25-092-001-006	C-DOOR	H-DUCT	TB	14D	A	CE	HVAC				
28-004-090-003	C-DOOR	M-VALVE	VAR	14A	A	CE	FW				
28-005-077-001	C-HANDRAIL	M-HR	VAR	3C	A	CE	FW				
28-005-129-001	C-HANDRAIL	M-HR	VAR	3C	A	CE	FW				
25-015-001-002	C-LADDER	H-DUCT	AUX	3R	A	CE	HVAC				
21-002-007-001	C-LADDER	I-TUBING	AUX	3R	A	CE	CCW				
17-001-058-001	C-LADDER	P-2641-4	AUX	3R	A	CE	SI				
09-015-004-001	C-LADDER	M-8853B	PEN	3BB	A	CE	RCS				
11-005-007-001	C-LADDER	P-0048-3	PEN	3BB	A	CE	CVCS				
11-001-007-001	C-LADDER	P-1474-3	PEN	3BB	A	CE	CVCS				
28-006-032-001	C-LADDER	M-HR	VAR	3P2	A	CE	FW				
28-006-121-002	C-LADDER	P-2659-6	VAR	3Q1	A	CE	FW				
28-006-031-004	C-LADDER	P-4552-2	VAR	3P2	A	CE	FW				
32-001-025-011	C-MISC-3BB	E-R-3BB	PEN	3BB	A	EE	ELPS				
28-005-079-002	C-SB	M-HR	VAR	3C	A	CE	FW				
28-005-041-001	C-SB	M-VALVE	VAR	S2	A	CE	FW				
28-005-043-001	C-SB	M-VALVE	VAR	S2	A	CE	FW				
28-005-005-002	C-SB	P-2678-4	VAR	S2	A	CE	FW				
28-005-042-001	C-SB	P-2680-4	VAR	S2	A	CE	FW				
28-005-056-001	C-SB	P-3609-4	VAR	S2	A	CE	FW				
28-005-049-001	C-SB	P-3611-4	VAR	S2	A	CE	FW				
28-005-051-001	C-SB	P-3612-4	VAR	S2	A	CE	FW				
28-005-056-002	C-SB	P-3615-4	VAR	S2	A	CE	FW				
28-005-124-002	C-SB	P-3619-4	VAR	S2	A	CE	FW				
28-005-130-001	C-SB	P-3622-2	VAR	3C	A	CE	FW				
28-005-084-006	C-SB	P-3688-2	VAR	3L	A	CE	FW				
28-005-086-001	C-SB	P-3689-4	VAR	3C	A	CE	FW				
28-005-087-002	C-SB	P-3690-2	VAR	3C	A	CE	FW				
18-001-013-001	C-STAIR-3B1	P-1663-8	PPS	3B1	A	CE	RHR				
20-027-007-001	E-ANTENNA	P-3168-2	CNT	1C	A	EE	CCW				
30-001-064-001	E-DET	GENERIC	EL	8C	A	EE	MT				
09-007-002-002	E-KX652	E-K1790-1.25	CNT	1A	A	EE	RCS				
30-001-068-001	E-PANEL	GENERIC	EL	8C	A	EE	MT				
17-024-004-001	E-R-1A	E-KX530-0.75	CNT	1A	A	EE	SI				
06-001-001-005	E-R-1C	M-CRDM	CNT	1C	A	EE	RCS				
30-001-088-001	E-R-28	GENERIC	OA	28	A	EE	MT				
30-001-082-001	E-SWGR	E-R-10	EL	10	A	EE	MT	MECHFAIL			
28-005-009-003	E-TL14	M-HR	VAR	3X	A	EE	FW				
30-001-087-001	E-TRANS	GENERIC	OA	28	A	EE	MT				
30-001-052-001	E-12KVSWGR	E-R-10	EL	10	A	EE	MT				
08-001-007-001	H-DUCT-1B	P-0014-4	CNT	1B	A	HVA	RCS				
12-001-003-001	H-DUCT-1B	P-0051-2	CNT	1B	A	HVA	CVCS				
10-007-001-001	H-DUCT-1B	P-1497-0.75	CNT	1B	A	HVA	CVCS				
28-003-024-003	H-DUCT-1B	P-3457-1	VAR	1B	A	HVA	FW				
28-003-047-001	H-DUCT-1B	P-3458-1	VAR	1B	A	HVA	FW				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=SPTFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-003-015-002	H-DUCT-1B	P-4356-1.50	VAR	1B	A	HVA	FW				
28-003-052-002	H-DUCT-1B	P-4358-1.50	VAR	1B	A	HVA	FW				
03-053-002-002	H-DUCT-1C	I-FE512+	CNT	1C	A	HVA	MNSTM				
03-054-002-001	H-DUCT-1C	I-FE512+	CNT	1C	A	HVA	MNSTM				
03-055-002-001	H-DUCT-1C	I-FE512+	CNT	1C	A	HVA	MNSTM				
30-001-051-001	H-DUCT-10	E-R-10	EL	10	A	HVA	MT				
28-004-004-016	H-DUCT-14A	P-2666-6	VAR	14A	A	EMS	FW				
25-039-004-001	H-DUCT-3X	E-K9314-2	AUX	3X	A	HVA	HVAC				
25-070-038-006	H-DUCT-8B3	E-K6730-1.50	HV	8B3	A	CE	HVAC				
25-070-038-007	H-DUCT-8B3	E-K6731-1.50	HV	8B3	A	CE	HVAC				
15-031-001-001	H-E15	M-8878D	CNT	1A	A	HVA	SI				
19-017-001-001	H-E15	M-9352A	CNT	1A	A	HVA	CI				
28-003-011-001	H-E15	P-3155-2	VAR	1A	A	HVA	FW				
07-006-002-002	H-E16	I-PM20	CNT	1A	A	HVA	RCS				
07-008-002-001	H-E16	I-PM22	CNT	1A	A	HVA	RCS				
03-035-002-002	H-E16	I-PM84	CNT	1A	A	HVA	MNSTM				
07-009-002-002	H-E16	I-PM89	CNT	1A	A	HVA	RCS				
07-012-002-002	H-E16	I-PM95	CNT	1A	A	HVA	RCS				
28-004-017-003	H-HVAC U-1	M-HR	VAR	14D	A	CE	FW				
25-203-004-007	H-HVAC UNIT	E-KA110-1	TB	14D	A	CE	HVAC				
25-204-004-001	H-S61	E-KA109-1	TB	14D	A	CE	HVAC	CIVILFAIL			
25-039-005-001	I-PANEL	E-K9156-0.75	AUX	3L	A	ICE	HVAC				
25-013-002-002	I-PANEL	E-HSAC+	AUX	3L	A	ICE	HVAC				
25-193-002-001	I-PANEL	E-K8496+	PEN	3BB	A	CE	CI				
30-001-099-003	I-PM199	I-H01	EL	5A4	A	ICE	MT				
30-001-099-001	I-PM30	I-H01	EL	5A4	A	ICE	MT				
20-081-019-001	I-RE19	M-SC55	PEN	3BB	A	EMS	CCW				
30-001-076-001	M-BOTTLE	GENERIC	OA	26	A	EMS	MT	MECHFAIL			I
30-007-028-001	M-BOTTLE	GENERIC	OA	28	A	NPO	MT	MECHFAIL			
20-040-066-001	M-GFFD HX	I-FIT1	PEN	3BB	A	EMS	CCW				
25-162-011-002	M-HR	H-DUCT	EL	6A5	A	EMS	HVAC				
13-003-009-003	M-TANK	M-BATPP1-1	AUX	3X	A	CE	CVCS				I
06-060-032-002	M-TANK	E-KK079-0.75	CNT	1B	A	EMS	RCS				
29-021-005-001	M-TANK	E-KX505-0.75	CNT	1B	A	EMS	CI				
29-022-005-002	M-TANK	E-KX525-0.75	CNT	1B	A	EMS	CI				
06-001-004-004	M-TANK	I-FLUX MON	CNT	1B	A	CE	RCS				
06-060-027-001	M-TANK	I-TE1327	CNT	1B	A	EMS	RCS				
06-060-028-003	M-TANK	I-TE1328	CNT	1B	A	EMS	RCS				
21-001-001-001	M-TANK	M-CST	HV	3P3	A	CE	CCW				
30-005-003-001	M-TANK	E-KK284+	PEN	3BB	A	CE	MT				
01-020-001-001	M-TANK	M-AFWPP1-3	PPS	3Q2	A	CE	AUXFW	ENVIRON			I
01-019-002-003	M-TANK	E-K2665-1	TB	14A	A	CE	AUXFW				
28-004-090-002	M-TANK	M-VALVE	VAR	14A	A	EMS	FW				
12-013-003-001	M-8152	E-K6266-1	PEN	3BB	A	EMS	CVCS				
12-003-006-001	M-9351A	I-8143	CNT	1B	A	PSE	CVCS				
32-001-033-005	N-CABINET	E-125VBATTER	EL	6A2	A	CE	ELPS				
10-013-004-001	P-DRAIN-1A	M-8142	CNT	1A	A	PSE	CVCS	PIPEFAIL			
28-004-039-004	P-SPR-14A	M-HR	VAR	14A	A	PSE	FW	PIPEFAIL			
28-004-061-001	P-SPR-14A	M-HR	VAR	14A	A	PSE	FW				
28-004-087-001	P-SPR-14A	M-HR	VAR	14A	A	PSE	FW	PIPEFAIL			
28-004-015-001	P-SPR-16A	M-HR	VAR	16A	A	EMS	FW	PIPEFAIL			
28-004-014-001	P-SPR-16A	P-3304-2	VAR	16A	A	EMS	FW	PIPEFAIL			
03-058-005-001	P-SPR-3BB	E-K5815-1	PEN	3BB	A	PSE	MNSTM	PIPEFAIL			

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=SPTFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
17-012-003-001	P-SPR-3BB	E-K6252-2.50	PEN	3BB	A.	PSE	SI	PIPEFAIL			
28-004-062-003	P-ULB-14A	P-3319-2	VAR	14A	A	PSE	FW	PIPEFAIL			
15-001-022-001	P-ULB-3BB	P-0735-8	PEN	3BB	A	PSE	SI	PIPEFAIL			
22-016-001-001	P-ULB-30A5	M-ASWG01-8	IS	30A5	A	EMS	ASW	PIPEFAIL			
22-017-001-001	P-ULB-30A5	M-ASWG01-9	IS	30A5	A	EMS	ASW	PIPEFAIL			
16-002-003-001	P-USB-3Q1	E-KT948-1	PPS	3Q1	A	PSE	SI				
25-029-001-003	P-USB-8B1	H-MISC	HV	8B1	A	EMS	HVAC	ENVIRON			
25-032-001-001	P-USB-8B1	H-MISC	HV	8B1	A	EMS	HVAC	ENVIRON			
25-200-002-001	P-USB-8B3	H-DAMPER	HV	8B3	A	PSE	HVAC				
28-008-018-001	P-0705-4	M-HR	VAR	30A5	A	PSE	FW	PIPEFAIL			
18-001-046-001	P-1521-2	P-1662-2	PEN	3BB	A	ENG	RHR	PIPEFAIL			
28-004-059-001	P-1892-2	M-HR	VAR	14A	A	PSE	FW	PIPEFAIL			
28-004-057-001	P-1897-6	M-VALVE	VAR	14A	A	PSE	FW	PIPEFAIL			
28-004-056-001	P-1897-6	P-2668-4	VAR	14A	A	PSE	FW	PIPEFAIL			
28-004-058-001	P-1897-6	P-3317-2	VAR	14A	A	PSE	FW	PIPEFAIL			
28-004-078-003	P-3034-4	P-3309-4	VAR	14A	A	PSE	FW				
10-013-003-005	P-3126-2	P-1500-0.75	CNT	1A	A	PSE	CVCS				
07-008-002-002	P-4397-2	I-PM22	CNT	1A	A	PSE	RCS	PIPEFAIL			
18-010-003-002	PS-ULB-3BB	E-K6474-3	PEN	3BB	A	PSE	RHR				
25-083-002-002	SQ	H-DUCT	HV	8B1	A	ENG	HVAC				
25-177-002-001	C-DOOR	H-DUCT	DG	11A2	M	CE	HVAC		CONSTDEF	EXPEDIENT	
25-177-003-002	C-DOOR	H-DUCT	DG	11A2	M	CE	HVAC		CONSTDEF	EXPEDIENT	
25-178-002-001	C-DOOR	H-DUCT	DG	11B2	M	CE	HVAC		CONSTDEF	EXPEDIENT	
25-178-003-001	C-DOOR	H-DUCT	DG	11B2	M	CE	HVAC		CONSTDEF	EXPEDIENT	
25-179-002-001	C-DOOR	H-DUCT	DG	11C2	M	CE	HVAC		CONSTDEF	EXPEDIENT	
25-179-003-002	C-DOOR	H-DUCT	DG	11C2	M	CE	HVAC		CONSTDEF	EXPEDIENT	
27-004-002-001	C-HANDRAIL	M-VALVE	AUX	3R	M	CE	CI		SECLOOSE	EXPEDIENT	
30-001-059-001	C-LADDER	GENERIC	CNT	1C	M	CE	MT		SECLOOSE	EXPEDIENT	
28-005-072-005	C-MR-3C	P-3619-4	VAR	3C	M	CE	FW		BRACE	EXPEDIENT	
20-044-018-001	E-ANTENNA	M-CCWTANK	HV	8B1	M	CE	CCW		BRACE	EXPEDIENT	
32-001-011-003	E-BUSDUCT	E-FDC	EL	12A	M	EE	ELPS		SUPPORT	NECESSARY	
32-001-025-010	E-BUSDUCT	E-GBD	EL	12B	M	EE	ELPS		SUPPORT	NECESSARY	
11-007-005-005	E-BUSDUCT	E-GDA	EL	12B	M	EE	CVCS		SUPPORT	NECESSARY	
32-001-011-001	E-BUSDUCT	E-GDC	EL	12B	M	EE	ELPS		SUPPORT	NECESSARY	
32-001-011-002	E-BUSDUCT	E-GDD	EL	12B	M	EE	ELPS		SUPPORT	NECESSARY	
24-009-005-001	E-BUSDUCT	E-K2674-3	EL	12B	M	EE	EDG		SUPPORT	NECESSARY	
30-001-067-001	E-CLOCK	GENERIC	EL	8C	M	EE	MT		RELOCATE	EXPEDIENT	
05-001-001-001	E-K1534-5	P-1040-2.50	CNT	1A	M	EE	MNSTM		RELOCATE	EXPEDIENT	
30-001-092-001	E-LT ARR	GENERIC	OA	28	M	EE	MT		BRACE	NECESSARY	
30-001-071-001	E-PANEL	GENERIC	EL	8C	M	EE	MT		SECLOOSE	EXPEDIENT	
11-005-010-001	E-R-3BB	I-HCV142	PEN	3BB	M	EE	CVCS		SECLOOSE	EXPEDIENT	
28-003-045-001	E-RNRP	P-3160-2	VAR	1C	M	EE	FW		SECLOOSE	NECESSARY	
03-038-001-003	E-TL17	I-LT527	CNT	1A	M	EE	MNSTM		BRACE	NECESSARY	
30-001-098-001	H-DUCT-1A	GENERIC	CNT	1A	M	CE	MT		SUPPORT	OVERLAP	
30-003-001-001	H-DUCT-1B	GENERIC	CNT	1B	M	HVA	MT		SECLOOSE	NECESSARY	
06-001-001-010	H-DUCT-1C	M-CRDM	CNT	1C	M	CE	RCS		SUPPORT	OVERLAP	
23-067-002-001	H-DUCT-3F	M-CSPP1-1	PPS	3F	M	CE	SPRAY		SUPPORT	OVERLAP	
23-068-002-001	H-DUCT-3F	M-CSPP1-2	PPS	3F	M	CE	SPRAY		SUPPORT	OVERLAP	
30-001-096-001	H-DUCT-5A4	E-480V SWGR	EL	5A4	M	CE	MT		SUPPORT	OVERLAP	
32-001-032-005	H-DUCT-6A1	E-125VBATTER	EL	6A1	M	CE	ELPS		SUPPORT	OVERLAP	
32-001-030-001	H-DUCT-6A3	E-BATT CHG	EL	6A3	M	CE	ELPS		SUPPORT	OVERLAP	
32-001-037-001	H-DUCT-6A3	E-PANEL	EL	6A3	M	CE	ELPS		SUPPORT	OVERLAP	
25-077-001-002	H-HTG COIL	H-S3I	HV	8B1	M	PSE	HVAC		SUPPORT	NECESSARY	

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=SPTFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-004-030-001	H-S46	M-HR	VAR	14D	M	CE	FW		BRACE	NECESSARY	
06-001-004-007	I-ELPP06	I-FLUX MON	CNT	1B	M	ICE	RCS		RELOCATE	NECESSARY	
03-026-022-001	I-PANEL	E-K6505-0.75	OA	28	M	CE	MNSTM		BRACE	OVERLAP	
03-028-023-001	I-PANEL	E-K6557-1	OA	28	M	CE	MNSTM		BRACE	OVERLAP	
30-001-099-002	I-XTR84	I-H01	EL	5A4	M	ICE	MT		SECLOOSE	EXPEDIENT	
06-001-004-003	M-BOTTLE	I-FLUX MON	CNT	1B	M	EMS	RCS		SECLOOSE	EXPEDIENT	
32-001-027-002	M-BOTTLE	E-DC SWGR	EL	6A2	M	EMS	ELPS		SECLOOSE	NECESSARY	
25-029-001-004	M-BOTTLE	H-S31	HV	8B1	M	CE	HVAC		SUPPORT	EXPEDIENT	
22-009-002-002	M-BOTTLE	P-0680-24	IS	30A5	M	EMS	ASW		SECLOOSE	EXPEDIENT	
22-003-002-003	M-BOTTLE	P-0687-24	IS	30A5	M	EMS	ASW		SECLOOSE	EXPEDIENT	
30-001-081-001	M-BOTTLE	GENERIC	OA	28	M	EMS	MT		SECLOOSE	EXPEDIENT	
20-082-001-001	M-BOTTLE	P-4172-0.75	PEN	3BB	M	CE	CCW		SUPPORT	EXPEDIENT	
20-082-005-001	M-BOTTLE	P-4173-0.75	PEN	3BB	M	CE	CCW		SUPPORT	EXPEDIENT	
28-004-004-011	M-DEMIN	P-2666-6	VAR	14A	M	EMS	FW		SUPPORT	EXPEDIENT	
20-081-001-001	M-SGBDTANK	P-4172-0.75	PEN	3BB	M	CE	CCW	CIVILFAIL	BRACE	NECESSARY	
20-081-009-001	M-SGBDTANK	P-4173-0.75	PEN	3BB	M	CE	CCW	CIVILFAIL	BRACE	NECESSARY	
20-063-003-002	M-TANK	I-CSP	AUX	3L	M	CE	CCW		BRACE	EXPEDIENT	
13-010-001-005	M-TANK	M-BAT1-2	AUX	3AA	M	CE	CVCS		BRACE	NECESSARY	
30-001-057-001	M-TANK	GENERIC	CNT	1A	M	CE	MT		SUPPORT	NECESSARY	
06-001-001-008	M-TANK	M-CRDM	CNT	1C	M	CE	RCS		BRACE	NECESSARY	
28-005-001-004	M-TANK	P-2677-6	VAR	3AA	M	CE	FW		SECLOOSE	EXPEDIENT	I
06-001-004-001	M-5-10PATH	I-FLUX MON	CNT	1B	M	EMS	RCS		SUPPORT	NECESSARY	
30-001-078-001	N-CABINET	E-R-4A	AUX	4A	M	CE	MT		SECLOOSE	EXPEDIENT	I
30-001-079-001	N-CABINET	E-R-4A	AUX	4A	M	CE	MT		SECLOOSE	EXPEDIENT	I
32-001-033-004	N-CABINET	E-125VBATTER	EL	6A2	M	CE	ELPS		SECLOOSE	EXPEDIENT	
11-014-002-001	NS-CD	E-K6101-1.25	PEN	3BB	M	ENG	CVCS		SUPPORT	OVERLAP	
24-007-001-005	P-DRAIN-11A1	M-DG1-1	DG	11A1	M	PSE	EDG	PIPEFAIL	SUPPORT	EXPEDIENT	
24-007-006-005	P-DRAIN-11B1	M-DG1-2	DG	11B1	M	PSE	EDG	PIPEFAIL	SUPPORT	EXPEDIENT	
24-007-011-005	P-DRAIN-11C1	M-DG1-3	DG	11C1	M	PSE	EDG	PIPEFAIL	SUPPORT	EXPEDIENT	
32-001-008-004	P-DRAIN-13A	E-4.16KVSWGR	EL	13A	M	PSE	ELPS	PIPEFAIL	RELOCATE	NECESSARY	
32-001-009-004	P-DRAIN-13B	E-4.16KVSWGR	EL	13B	M	PSE	ELPS	PIPEFAIL	SUPPORT	NECESSARY	
25-070-009-001	P-DRAIN-8B1	H-DAMPER	HV	8B1	M	PSE	HVAC	PIPEFAIL	SUPPORT	EXPEDIENT	
25-079-001-002	P-DRAIN-8B1	H-DAMPER	HV	8B1	M	PSE	HVAC	PIPEFAIL	SUPPORT	EXPEDIENT	
25-034-001-001	P-DRAIN-8B1	H-MISC	HV	8B1	M	PSE	HVAC	PIPEFAIL	SUPPORT	NECESSARY	
24-007-005-007	P-SPR-14A	E-KA303-1	TB	14A	M	PSE	EDG		SUPPORT	EXPEDIENT	
01-019-002-004	P-SPR-14A	E-K2665-1	TB	14A	M	PSE	AUXFW		SUPPORT	EXPEDIENT	
25-146-009-003	P-SPR-14A	E-K2770-1	TB	14A	M	PSE	HVAC		SUPPORT	EXPEDIENT	
25-146-009-004	P-SPR-14A	E-K2770-1	TB	14A	M	PSE	HVAC		SUPPORT	EXPEDIENT	
25-146-009-005	P-SPR-14A	E-K2770-1	TB	14A	M	PSE	HVAC		SUPPORT	EXPEDIENT	
25-146-009-006	P-SPR-14A	E-K2770-1	TB	14A	M	PSE	HVAC		SUPPORT	EXPEDIENT	
28-004-051-005	P-SPR-14A	P-3293-2	VAR	14A	M	PSE	FW	PIPEFAIL	RELOCATE	NECESSARY	
28-004-040-002	P-SPR-14A	P-3297-2	VAR	14A	M	PSE	FW	PIPEFAIL	SUPPORT	NECESSARY	
28-004-044-003	P-SPR-14A	P-5038-4	VAR	14A	M	PSE	FW	PIPEFAIL	RELOCATE	NECESSARY	
28-004-044-004	P-SPR-14A	P-5038-4	VAR	14A	M	PSE	FW	PIPEFAIL	RELOCATE	NECESSARY	
28-004-044-007	P-SPR-14A	P-5038-4	VAR	14A	M	PSE	FW	PIPEFAIL	RELOCATE	NECESSARY	
28-004-049-003	P-SPR-14A	P-5041-2	VAR	14A	M	PSE	FW	PIPEFAIL	RELOCATE	NECESSARY	
25-203-004-006	P-SPR-14D	E-KA110-1	TB	14D	M	PSE	HVAC	PIPEFAIL	SUPPORT	EXPEDIENT	
25-092-001-004	P-SPR-14D	H-DUCT	TB	14D	M	PSE	HVAC	PIPEFAIL	SUPPORT	EXPEDIENT	
25-165-004-001	P-SPR-14D	H-DUCT	TB	14D	M	PSE	HVAC		SUPPORT	NECESSARY	
22-012-008-003	P-SPR-14E	E-KD353-1	TB	14E	M	PSE	ASW		SUPPORT	EXPEDIENT	
20-014-001-003	P-SPR-14E	M-CCWHX	TB	14E	M	PSE	CCW		SUPPORT	NECESSARY	
10-024-006-002	P-SPR-3BB	E-JNK	PEN	3BB	M	PSE	CVCS		SUPPORT	EXPEDIENT	
10-024-006-003	P-SPR-3BB	E-JNK	PEN	3BB	M	PSE	CVCS		SUPPORT	EXPEDIENT	

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=SPTFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
06-027-002-002	P-SPR-3BB	E-KT064+	PEN	3BB	M	PSE	RCS		SUPPORT	NECESSARY	
25-185-002-002	P-SPR-3BB	E-K3888-1	PEN	3BB	M	PSE	CI	PIPEFAIL	SUPPORT	NECESSARY	
01-012-002-003	P-SPR-3BB	E-K5755+	PEN	3BB	M	PSE	AUXFW		SUPPORT	NECESSARY	
01-012-002-001	P-SPR-3BB	E-K5755-0.75	PEN	3BB	M	PSE	AUXFW		SUPPORT	NECESSARY	
15-009-005-001	P-SPR-3BB	E-K6341-3	PEN	3BB	M	PSE	SI		SUPPORT	EXPEDIENT	
20-003-001-001	P-SPR-3J3	M-CCWPP1-3	PPS	3J3	M	PSE	CCW	PIPEFAIL	SUPPORT	EXPEDIENT	
30-001-027-001	P-SPR-3Q1	GENERIC	PPS	3Q1	M	PSE	MT		SUPPORT	EXPEDIENT	
30-001-013-001	P-SPR-3Q2	M-AFWPP1-3	PPS	3Q2	M	PSE	MT	PIPEFAIL	SUPPORT	EXPEDIENT	
20-019-001-002	P-ULB-14A	P-0103-20	TB	14A	M	PSE	CCW	PIPEFAIL	SUPPORT	NECESSARY	
20-020-001-001	P-ULB-14A	P-0104-20	TB	14A	M	PSE	CCW	PIPEFAIL	SUPPORT	NECESSARY	
20-021-001-001	P-ULB-14A	P-2277-20	TB	14A	M	PSE	CCW	PIPEFAIL	SUPPORT	NECESSARY	
13-010-001-003	P-ULB-3AA	M-BAT1-2	AUX	3AA	M	PSE	CVCS	PIPEFAIL	CONSTDEF	OVERLAP	
25-079-002-001	P-ULB-8B1	H-S32	HV	8B1	M	PSE	HVAC	PIPEFAIL	SUPPORT	NECESSARY	
22-012-008-004	P-USB-14E	E-KD353-1	TB	14E	M	EMS	ASW	HOUSEKEEP	CONSTDEF	EXPEDIENT	
30-001-093-001	P-USB-28	GENERIC	OA	28	M	PSE	MT	PIPEFAIL	SUPPORT	EXPEDIENT	
23-024-006-001	P-USB-3F	M-SAT	PPS	3F	M	PSE	SPRAY		SUPPORT	EXPEDIENT	
21-003-003-002	P-USB-3X	E-K9894-3	AUX	3X	M	PSE	CCW	HOUSEKEEP	CONSTDEF	OVERLAP	
07-025-006-001	P-USB-7A	E-KT072+	EL	7A	M	PSE	RCS	PIPEFAIL	SUPPORT	EXPEDIENT	
17-025-006-001	P-USB-7A	E-KT072+	EL	7A	M	PSE	SI	PIPEFAIL	SUPPORT	EXPEDIENT	
25-105-001-002	P-USB-8B3	H-CR35	HV	8B3	M	PSE	CI	PIPEFAIL	SUPPORT	NECESSARY	
18-001-052-001	P-0224-8	P-0224-8	PEN	3BB	M	PSE	RHR	PIPEFAIL	CLEARANCE	EXPEDIENT	
23-001-009-001	P-0749-2	PS-0279-8	PEN	3BB	M	PSE	SPRAY		SECLOOSE	EXPEDIENT	
30-001-014-001	P-1040-2.5+	P-ULB-3BB	PEN	3BB	M	PSE	MT	PIPEFAIL	SUPPORT	NECESSARY	
07-015-001-001	P-1135-3	I-PT458A	CNT	1A	M	PSE	RCS		SUPPORT	EXPEDIENT	
02-003-002-004	P-1743-16	E-K5865-1.25	OA	28	M	PSE	AUXFW		RELOCATE	NECESSARY	
03-032-005-001	P-1870-1	I-LT516	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
03-030-001-004	P-1870-1	I-LT517	CNT	1B	M	PSE	MNSTM		SUPPORT	EXPEDIENT	
19-004-003-001	P-1870-1	I-PM127	CNT	1A	M	PSE	CI	PIPEFAIL	SUPPORT	EXPEDIENT	
19-014-005-001	P-1870-1	I-PM127	CNT	1A	M	PSE	CI	PIPEFAIL	SUPPORT	EXPEDIENT	
05-022-003-001	P-1870-1	I-PM162	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
05-022-004-001	P-1870-1	I-PM162	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
03-033-001-001	P-1870-1	I-PM44	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
03-033-002-001	P-1870-1	I-PM44	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
03-051-001-001	P-1870-1	I-PM47	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
03-051-002-001	P-1870-1	I-PM47	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
03-032-001-001	P-1870-1	I-PM48	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
03-032-002-001	P-1870-1	I-PM48	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
03-050-001-002	P-1870-1	I-PM51	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
03-050-002-001	P-1870-1	I-PM51	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
03-031-001-001	P-1870-1	I-PM52	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
03-031-002-001	P-1870-1	I-PM52	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
03-049-001-002	P-1870-1	I-PM55	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
03-049-002-001	P-1870-1	I-PM55	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
03-030-001-001	P-1870-1	I-PM56	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
03-030-002-001	P-1870-1	I-PM56	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
03-048-001-001	P-1870-1	I-PM59	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
03-048-002-001	P-1870-1	I-PM59	CNT	1A	M	PSE	MNSTM	PIPEFAIL	SUPPORT	EXPEDIENT	
30-001-016-001	P-2058-3	GENERIC	PEN	3BB	M	PSE	MT	PIPEFAIL	SUPPORT	EXPEDIENT	
03-001-002-001	P-3103-2	I-PM103	OA	28	M	PSE	MNSTM	PIPEFAIL	SUPPORT	NECESSARY	
03-002-002-001	P-3103-2	I-PM107	OA	28	M	PSE	MNSTM	PIPEFAIL	SUPPORT	NECESSARY	
03-003-002-001	P-3103-2	I-PM111	OA	28	M	PSE	MNSTM	PIPEFAIL	SUPPORT	NECESSARY	
20-016-001-003	P-3103-2	I-FT68	TB	14A	M	PSE	CCW	PIPEFAIL	TMODIFY	EXPEDIENT	
28-004-033-001	P-3103-2	P-2095-4	VAR	14A	M	PSE	FW	PIPEFAIL	SUPPORT	EXPEDIENT	

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=SPTFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
25-189-004-001	P-3126-2	P-4636-0.375	CNT	1A	M	PSE	CI		SUPPORT	NECESSARY	
21-004-003-004	P-3354-1.50	P-3006-4	PEN	3BB	M	PSE	CCW		SUPPORT	EXPEDIENT	
30-001-009-001	P-3456-1	GENERIC	CNT	1A	M	PSE	MT	PIPEFAIL	SUPPORT	EXPEDIENT	
28-003-024-001	P-3457-1+	GENERIC	VAR	1A	M	ENG	FW		SUPPORT	EXPEDIENT	
28-005-078-001	P-3622-2	M-HR	VAR	3C	M	EMS	FW		CONSTDEF	EXPEDIENT	
30-002-001-004	P-3684-2	GENERIC	EL	5A4	M	PSE	MT		SUPPORT	EXPEDIENT	
30-001-012-003	P-3900-1	GENERIC	CNT	1A	M	PSE	MT	PIPEFAIL	SUPPORT	EXPEDIENT	
30-001-018-001	P-3900-1	GENERIC	CNT	1A	M	PSE	MT	PIPEFAIL	SUPPORT	EXPEDIENT	
15-001-023-001	P-4082-1	M-8804B	PEN	3BB	M	PSE	SI		SUPPORT	EXPEDIENT	
30-001-011-002	P-4174-4	GENERIC	CNT	1A	M	PSE	MT	PIPEFAIL	SUPPORT	EXPEDIENT	
30-001-012-001	P-4174-4	GENERIC	CNT	1A	M	PSE	MT	PIPEFAIL	SUPPORT	EXPEDIENT	
06-060-032-004	P-4397-2	E-KK082-0.75	CNT	1B	M	PSE	RCS	PIPEFAIL	SUPPORT	OVERLAP	
30-001-017-001	P-4397-2	GENERIC	CNT	1B	M	PSE	MT	PIPEFAIL	SUPPORT	OVERLAP	
30-001-017-002	P-4397-2	GENERIC	CNT	1B	M	PSE	MT	PIPEFAIL	SUPPORT	OVERLAP	
03-047-001-001	P-4397-2	I-LT504	CNT	1B	M	PSE	MNSTM		SUPPORT	OVERLAP	
07-006-001-001	P-4397-2	I-PM20	CNT	1A	M	PSE	RCS	PIPEFAIL	SUPPORT	OVERLAP	
07-006-002-001	P-4397-2	I-PM20	CNT	1A	M	PSE	RCS	PIPEFAIL	SUPPORT	OVERLAP	
03-035-001-001	P-4397-2	I-PM84	CNT	1A	M	PSE	MNSTM		SUPPORT	OVERLAP	
03-035-002-001	P-4397-2	I-PM84	CNT	1A	M	PSE	MNSTM		SUPPORT	OVERLAP	
07-009-001-001	P-4397-2	I-PM89	CNT	1A	M	PSE	RCS	PIPEFAIL	SUPPORT	OVERLAP	
07-009-002-001	P-4397-2	I-PM89	CNT	1A	M	PSE	RCS	PIPEFAIL	SUPPORT	OVERLAP	
07-012-001-001	P-4397-2	I-PM95	CNT	1A	M	PSE	RCS	PIPEFAIL	SUPPORT	OVERLAP	
07-012-002-001	P-4397-2	I-PM95	CNT	1A	M	PSE	RCS	PIPEFAIL	SUPPORT	OVERLAP	
06-005-014-001	P-4397-2	P-0246-3	CNT	1B	M	PSE	RCS	PIPEFAIL	SUPPORT	OVERLAP	
15-001-101-001	P-4397-2	P-2000-0.75	CNT	1B	M	PSE	SI	PIPEFAIL	SUPPORT	OVERLAP	
21-004-010-004	C-CRANE-3R	P-2242-3	AUX	3R	NAN	CE	CCW				
21-004-010-002	C-HANDRAIL	P-2242-3	AUX	3R	NAN	CE	CCW				
25-201-008-001	C-HANDRAIL	E-KX208-1	CNT	1C	NAN	CE	HVAC				
28-005-049-002	C-HANDRAIL	P-3611-4	VAR	S2	NAN	CE	FW				
28-005-056-008	C-HANDRAIL	P-3615-4	VAR	S2	NAN	CE	FW				
25-131-004-001	C-LADDER	E-K1441-1	CNT	1C	NAN	CE	HVAC				
25-155-004-001	C-LADDER	E-K1954-1	CNT	1C	NAN	CE	HVAC				
28-006-121-001	C-LADDER	P-2659-6	VAR	3AA	NAN	CE	FW				
25-162-010-001	E-INVERTER	H-DUCT	EL	6A1	NAN	CE	HVAC				
01-019-002-016	E-PANEL	E-K6993-4	AUX	3L	NAN	ICE	AUXFW				
15-001-058-001	E-PANEL	P-0508-8	CNT	1B	NAN	CE	SI				
21-004-003-003	E-R-3BB	P-3006-4	PEN	3BB	NAN	EE	CCW				
28-006-022-002	E-R-3R	P-3640-2	VAR	3R	NAN	EE	FW				
20-052-002-001	E-RS-1A	P-0314-12	CNT	1A	NAN	EE	CCW				
01-001-002-001	E-T15	P-0562-8	PEN	3BB	NAN	EE	AUXFW				
06-025-002-001	H-DUCT-1A	E-KX141-2	CNT	1A	NAN	HVA	RCS				
07-013-002-001	H-DUCT-1A	E-KX141-2	CNT	1A	NAN	HVA	RCS				
07-010-003-001	H-DUCT-1A	E-KX145-1.50	CNT	1A	NAN	HVA	RCS				
03-030-003-001	H-DUCT-1A	E-KX152-1	CNT	1A	NAN	HVA	MNSTM				
03-038-003-003	H-DUCT-1A	E-KX152-1	CNT	1A	NAN	HVA	MNSTM				
15-021-004-001	H-DUCT-1A	E-KX155-2.50	CNT	1A	NAN	HVA	SI				
03-038-003-001	H-DUCT-1A	E-KX193-1.50	CNT	1A	NAN	HVA	MNSTM				
07-007-003-002	H-DUCT-1A	E-KX193-1.50	CNT	1A	NAN	HVA	RCS				
06-020-003-003	H-DUCT-1A	E-KX296-1	CNT	1A	NAN	HVA	RCS				
03-032-003-001	H-DUCT-1A	E-KX296-2.50	CNT	1A	NAN	HVA	MNSTM				
03-037-003-006	H-DUCT-1A	E-KX296-2.50	CNT	1A	NAN	HVA	MNSTM				
06-009-003-001	H-DUCT-1A	E-KX296-2.50	CNT	1A	NAN	HVA	RCS				
07-009-003-005	H-DUCT-1A	E-KX296-2.50	CNT	1A	NAN	HVA	RCS				

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=SPTFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
03-029-003-002	H-DUCT-1A	E-KX394-1	CNT	1A	NAN	HVA	MNSTM				
03-035-003-005	H-DUCT-1A	E-KX394-1	CNT	1A	NAN	HVA	MNSTM				
03-041-003-001	H-DUCT-1A	E-KX397-1	CNT	1A	NAN	HVA	MNSTM				
03-035-003-002	H-DUCT-1A	E-KX399-1	CNT	1A	NAN	HVA	MNSTM				
25-103-007-001	H-DUCT-1A	E-K1751-2	CNT	1A	NAN	HVA	CI				
05-016-005-002	H-DUCT-1A	E-K1880-1	CNT	1A	NAN	HVA	MNSTM				
20-039-020-001	H-DUCT-1A	P-2211-6	CNT	1A	NAN	HVA	CCW				
28-004-001-003	H-DUCT-3BB	P-2673-4	VAR	3BB	NAN	HVA	FW				
17-007-001-001	H-DUCT-3B2	E-K8792-1	PPS	3B2	NAN	HVA	SI				
25-055-005-001	H-DUCT-3P2	E-K8243-0.75	HV	3P2	NAN	HVA	HVAC				
01-008-002-001	I-FX510	E-K5985-2	OA	28	NAN	CE	AUXFW				
01-007-002-001	I-FX510+	E-K5985-2	OA	28	NAN	ICE	AUXFW				
28-005-009-001	I-PM129	M-HR	VAR	3X	NAN	CE	FW				
28-005-083-002	I-PM129	M-HR	VAR	3X	NAN	CE	FW				
28-004-005-001	I-PM40A	P-3302-2	VAR	14E	NAN	CE	FW				
03-037-003-004	I-TUBING	E-KX109-2	CNT	1A	NAN	ICE	MNSTM				
07-009-003-001	I-TUBING	E-KX109-2	CNT	1A	NAN	ICE	RCS				
07-013-002-003	I-TUBING	E-KX162-2	CNT	1A	NAN	ICE	RCS				
03-038-003-002	I-TUBING	E-KX193-1.50	CNT	1A	NAN	ICE	MNSTM				
07-009-003-006	I-TUBING	E-KX563-1.25	CNT	1A	NAN	ICE	RCS				
12-007-006-003	I-TUBING	E-KX590-1.50	CNT	1B	NAN	ICE	CVCS				
12-007-006-004	I-TUBING	E-KX590-1.50	CNT	1B	NAN	ICE	CVCS				
15-021-004-002	I-TUBING	E-KX633-2.50	CNT	1A	NAN	ICE	SI				
15-027-004-001	I-TUBING	E-KX713-1.50	CNT	1A	NAN	ICE	SI				
25-202-008-002	M-FE	E-KX209-1	CNT	1A	NAN	EMS	HVAC				
30-001-038-001	M-INCORE DR	GENERIC	CNT	1A	NAN	CE	MT				I
28-004-043-003	M-STATOR CL	M-HR	VAR	14A	NAN	EMS	FW				
13-004-007-001	M-TANK	M-BATPP1-2	AUX	3AA	NAN	EMS	CVCS	ENVIRON			I
25-079-002-002	M-TANK	H-S32	HV	8B1	NAN	CE	HVAC				
15-001-020-001	P-DRAIN-1A	M-8878A	CNT	1A	NAN	PSE	SI				
12-003-001-001	P-DRAIN-1B	P-0063-1	CNT	1B	NAN	PSE	CVCS				
03-056-001-001	P-DRAIN-1B	P-0225-28	CNT	1B	NAN	PSE	MNSTM				
25-204-004-004	P-DRAIN-14D	E-KD543-1	TB	14D	NAN	PSE	HVAC	PIPEFAIL			
20-015-001-004	P-DRAIN-14E	M-CCWHX1-2	TB	14E	NAN	PSE	CCW	PIPEFAIL			
25-196-008-002	P-DRAIN-3BB	E-K9898-0.75	PEN	3BB	NAN	PSE	HVAC	PIPEFAIL			
25-083-005-002	P-DRAIN-8B1	H-DUCT	HV	8B1	NAN	PSE	HVAC				
25-070-012-001	P-DRAIN-8B1	H-FILTER	HV	8B1	NAN	PSE	HVAC				
25-092-006-002	P-DRAIN-8B1	H-FILTER	HV	8B1	NAN	PSE	HVAC				
25-070-014-001	P-DRAIN-8B3	H-S35	HV	8B3	NAN	PSE	HVAC				
09-004-002-001	P-IAH-1A	E-K1726-2	CNT	1A	NAN	ICE	RCS				
09-007-002-001	P-IAH-1A	E-K1736-2	CNT	1A	NAN	ICE	RCS				
09-004-002-002	P-IAH-1A	E-K1868-0.75	CNT	1A	NAN	ICE	RCS				
28-008-001-001	P-IAH-30A5	P-2975-4	VAR	30A5	NAN	PSE	FW				
28-008-019-001	P-IAH-30A5	P-2975-4	VAR	30A5	NAN	PSE	FW	PIPEFAIL			
28-008-021-003	P-IAH-30A5	P-3736-2	VAR	30A5	NAN	PSE	FW				
28-008-014-001	P-IAH-30A5	P-3737-2	VAR	30A5	NAN	PSE	FW				
10-013-003-001	P-SA-1A	P-1500-0.75	CNT	1A	NAN	PSE	CVCS				
10-013-003-002	P-SA-1A	P-1500-0.75	CNT	1A	NAN	PSE	CVCS				
20-020-005-001	P-SA-3BB	P-3279-12	PEN	3BB	NAN	PSE	CCW	PIPEFAIL			
28-008-001-002	P-SA-30A5	P-2975-4	VAR	30A5	NAN	PSE	FW				
28-004-045-001	P-SPR-11D	P-5039-2	VAR	11D	NAN	PSE	FW	PIPEFAIL			
28-004-054-003	P-SPR-14A	P-2667-6	VAR	14A	NAN	PSE	FW	PIPEFAIL			
28-004-054-005	P-SPR-14A	P-2667-6	VAR	14A	NAN	PSE	FW	PIPEFAIL			

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=SPTFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-004-054-006	P-SPR-14A	P-2667-6	VAR	14A	NAN	PSE	FW	PIPEFAIL			
28-004-094-001	P-SPR-14A	P-2992-10	VAR	14A	NAN	PSE	FW				
28-004-064-005	P-SPR-14A	P-3316-2	VAR	14A	NAN	PSE	FW				
28-004-047-001	P-SPR-14A	P-5040-2	VAR	14A	NAN	PSE	FW				
28-004-049-002	P-SPR-14A	P-5041-2	VAR	14A	NAN	PSE	FW				
20-016-001-001	P-SPR-14E	P-0101-30	TB	14E	NAN	PSE	CCW	PIPEFAIL			
20-017-001-001	P-SPR-14E	P-0102-30	TB	14E	NAN	PSE	CCW	PIPEFAIL			
28-004-020-004	P-SPR-16A	P-3307-2	VAR	16A	NAN	PSE	FW				
25-201-008-008	P-SPR-3BB	E-KT168-2	PEN	3BB	NAN	PSE	HVAC				
05-036-005-001	P-SPR-3BB	E-K6287-3	PEN	3BB	NAN	PSE	MNSTM				
15-001-124-001	P-ULB-1A	M-8878A	CNT	1A	NAN	PSE	SI				
28-004-054-010	P-ULB-14A	P-2667-6	VAR	14A	NAN	PSE	FW	PIPEFAIL			
30-006-014-001	P-ULB-14E	E-KD360-1.25	TB	14E	NAN	OSE	MT	PIPEFAIL			
28-004-010-002	P-ULB-14E	P-2683-4	VAR	14E	NAN	PSE	FW	PIPEFAIL			
28-008-001-003	P-ULB-30A5	P-2975-4	VAR	30A5	NAN	PSE	FW				
25-083-003-001	P-ULB-8B1	H-DUCT	HV	8B1	NAN	PSE	HVAC				
25-073-005-001	P-ULB-8B3	E-KV129-2	HV	8B3	NAN	PSE	HVAC				
06-020-003-004	P-USB-1A	E-KX109-2	CNT	1A	NAN	ICE	RCS				
06-025-002-003	P-USB-1A	E-KX162-2	CNT	1A	NAN	ICE	RCS				
05-003-002-001	P-USB-1B	I-FCV760	CNT	1B	NAN	PSE	MNSTM				
05-009-002-001	P-USB-1B	I-FCV761	CNT	1B	NAN	PSE	MNSTM				
28-004-004-018	P-USB-14E	P-2666-6	VAR	14E	NAN	PSE	FW				
01-013-002-002	P-USB-28	E-K5757-0.75	OA	28	NAN	PSE	AUXFW				
28-005-110-001	P-USB-3AA	M-HR	VAR	3AA	NAN	PSE	FW	PIPEFAIL			
28-005-107-001	P-USB-3AA	P-3607-2	VAR	3AA	NAN	PSE	FW	PIPEFAIL			
01-009-002-003	P-USB-3BB	E-K6254-3	PEN	3BB	NAN	PSE	AUXFW				
01-010-002-004	P-USB-3BB	E-K6254-3	PEN	3BB	NAN	PSE	AUXFW				
28-005-082-001	P-USB-3X	P-3601-2	VAR	3X	NAN	PSE	FW	PIPEFAIL			
09-015-007-003	P-0119-8	P-2004-3	PEN	3BB	NAN	PSE	RCS				
01-010-002-002	P-1595-3	E-K6254-3	PEN	3BB	NAN	PSE	AUXFW				
21-004-003-001	P-1595-3	P-3006-4	PEN	3BB	NAN	PSE	CCW				
28-005-005-008	P-2110-1	P-2678-4	VAR	3X	NAN	PSE	FW	ENVIRON			
28-005-005-011	P-2119-4	P-2678-4	VAR	3X	NAN	PSE	FW	PIPEFAIL			
01-009-002-002	P-2742-1	E-K6254-3	PEN	3BB	NAN	PSE	AUXFW				
28-004-004-010	P-2896-3	P-2666-6	VAR	14A	NAN	PSE	FW				
28-004-076-002	P-3018-2	P-3313-2	VAR	14A	NAN	PSE	FW				
03-055-001-001	P-3210-10	P-0226-28	CNT	1B	NAN	PSE	MNSTM				
06-004-006-001	P-3816-0.75	M-8059C	CNT	1B	NAN	PSE	RCS				
06-004-005-001	P-3816-0.75	M-8060C	CNT	1B	NAN	PSE	RCS				
06-004-004-001	P-3816-0.75	M-8061C	CNT	1B	NAN	PSE	RCS				
23-013-004-001	P-4347-3	I-9001B	PEN	3BB	NAN	PSE	SPRAY				
23-009-002-001	P-4347-3	I-9003A	PEN	3BB	NAN	PSE	SPRAY				
23-020-002-001	P-4347-3	I-9003B	PEN	3BB	NAN	PSE	SPRAY				
23-020-002-003	P-4347-3	I-9003B	PEN	3BB	NAN	PSE	SPRAY				
23-003-004-001	P-4347-3	M-9001A	PEN	3BB	NAN	PSE	SPRAY				
23-003-004-004	P-4347-3	M-9001A	PEN	3BB	NAN	PSE	SPRAY				
15-001-100-001	P-4379-2	P-1999-0.75	CNT	1B	NAN	PSE	SI				
06-004-006-002	P-4397-2	M-8059C	CNT	1B	NAN	PSE	RCS				
06-004-005-002	P-4397-2	M-8060C	CNT	1B	NAN	PSE	RCS				
06-004-004-002	P-4397-2	M-8061C	CNT	1B	NAN	PSE	RCS				
25-030-001-001	P-5215-8	H-S1	OA	28	NAN	PSE	HVAC	ENVIRON			
10-015-017-001	PS-1A	E-KX154-2	CNT	1A	NAN	HVA	CVCS				
28-005-119-001	PS-3L	P-3617-2	VAR	3L	NAN	PSE	FW	PIPEFAIL			

TABLE 8-5.A
UNIT 1-INTERACTIONS SORTED BY PHENOMENA, RESOLUTION AND SOURCE

PHENOM=SPTFAIL

IDSNO	SOURCE	TARGET	AREA	FZ	RES	DISC	SYSTEM	SECPHEN	MODCODE	MODEVAL	INTRCOMP
28-006-128-001	E-RS-3Q2	E-K9401-4	VAR	3Q2	X	QC	FW				
12-007-006-001	P-SA-1A	E-KX551-1.50	CNT	1A	X	GC	CVCS	PIPEFAIL			
28-004-026-002	C-HANDRAIL	M-HR	VAR	14A	Y	CE	FW				
28-004-039-003	C-HANDRAIL	M-HR	VAR	14A	Y	CE	FW				
28-004-087-002	C-HANDRAIL	M-HR	VAR	14A	Y	CE	FW				
28-004-041-001	C-HANDRAIL	M-HR	VAR	14D	Y	CE	FW				
28-004-052-001	C-HANDRAIL	M-HR	VAR	14D	Y	CE	FW				
28-004-089-002	C-HANDRAIL	M-HR	VAR	14D	Y	CE	FW				
25-201-008-006	E-PANEL	E-KK323-3	EL	6A4	Y	OSE	HVAC	MECHFAIL			
28-004-079-002	H-DUCT-14A	M-VALVE	VAR	14A	Y	EMS	FW				
28-004-080-002	H-DUCT-14A	M-VALVE	VAR	14A	Y	EMS	FW				
28-004-078-001	H-DUCT-14A	P-3309-4	VAR	14A	Y	EMS	FW				
07-011-003-001	H-E15	E-TJJA	CNT	1A	Y	CE	RCS				
25-203-004-001	H-S61	E-KA110-1	TB	14D	Y	OSE	HVAC	CIVILFAIL			
25-092-001-008	H-S61	H-DUCT	TB	14D	Y	CE	HVAC				
29-003-006-002	I-PANEL	E-K9166-2	AUX	3L	Y	ICE	CI				
12-017-004-001	I-PANEL	E-K9175-2	AUX	3L	Y	ICE	CVCS				
25-013-002-001	I-PANEL	E-NSAC+	AUX	3L	Y	ICE	HVAC				
01-019-002-013	I-PANEL	E-K4006-0.75	TB	14A	Y	ICE	AUXFW				
01-019-002-015	I-PANEL	E-K4006-0.75	TB	14A	Y	ICE	AUXFW				
01-019-002-012	I-PANEL	E-K4012-0.75	TB	14A	Y	ICE	AUXFW				
01-019-002-014	I-PANEL	E-K4012-0.75	TB	14A	Y	ICE	AUXFW				
01-020-020-011	I-PANEL	E-K4015-0.75	TB	14A	Y	ICE	AUXFW				
01-020-020-013	I-PANEL	E-K4015-0.75	TB	14A	Y	ICE	AUXFW				
01-020-020-010	I-PANEL	E-K4020-0.75	TB	14A	Y	ICE	AUXFW				
01-020-020-012	I-PANEL	E-K4020-0.75	TB	14A	Y	ICE	AUXFW				
28-004-061-003	M-HX-14A	M-HR	VAR	14A	Y	PSE	FW				
28-004-056-002	M-HX-14A	P-2668-4	VAR	14A	Y	CE	FW				
28-004-062-001	M-HX-14A	P-3319-2	VAR	14A	Y	CE	FW				
04-004-003-001	M-TANK	E-K8317-1.50	AUX	3R	Y	EMS	MNSTM				
28-004-083-002	M-TANK	M-HR	VAR	14A	Y	EMS	FW				
28-004-082-002	M-TANK	P-3308-2	VAR	14A	Y	EMS	FW				
28-004-037-003	P-SPR-14A	M-HR	VAR	14A	Y	PSE	FW				
28-004-076-001	P-SPR-14A	P-3313-2	VAR	14A	Y	PSE	FW	PIPEFAIL			
25-095-001-001	P-USB-3P5	H-S3	HV	3P5	Y	OSE	CI	ENVIRON			
30-001-029-001	P-2975-4	GENERIC	IS	30A5	Y	ENG	MT	PIPEFAIL			

ATTACHMENT 5-D.2

TO THE PGandE

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

UNIT 2

DATA MANAGEMENT REPORTS:

INTERACTION DATA BASE

LISTING BY INTERACTION PHENOMENA

SUBSORTED BY RESOLUTION METHOD AND SOURCE

This attachment contains the results of sorting the SISIP data base by interaction phenomenon and resolution method. Data within each phenomenon and resolution method category are subsorted by source code.

ATTACHMENT 5-D.2
UNIT 2 SUMMARY OF RESOLUTION TYPES PER PHENOMENON

TABLE OF PHENOM BY RES

PHENOM FREQUENCY	RES A	M	NAN	P	X	TOTAL
CIVILFAIL	148	140	88	0	0	376
DEFLECT	47	177	128	0	0	352
ENVIRON	5	2	0	0	0	7
FIXTURE	35	48	103	0	2	188
HOUSEKEEP	0	3	1	0	26	30
INTERFERE	15	13	12	0	0	40
LOOSE	12	49	14	0	1	76
MECHFAIL	9	4	12	0	0	25
PIPEFAIL	9	28	5	0	0	42
RELSTRUCT	12	21	3	0	0	36
SPTFAIL	93	233	76	1	0	403
TOTAL	385	718	442	1	29	1575

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=CIVILFAIL

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B11-007-002-06	C-BLOCKWALL	E-K6950	CHEM. & VOL. CONTROL SYSTEM	AUX	4B	A	CE	CIVILFAIL			
B18-014-002-01	C-BLOCKWALL	E-K7033-2	RESIDUAL HEAT REMOVAL SYSTEM	AUX	4B	A	CE	CIVILFAIL			
B28-003-005-03	C-CATWALK	P-3640-2	FIREWATER SYSTEM	AUX	3N	A	CE	CIVILFAIL			
B30-001-029-03	C-CRANE-29	E-GENERIC	MULTIPLE TARGETS	OA	29	A	CE	CIVILFAIL			
B03-039-001-03	C-CRANE-9C	I-LT528	MAIN STEAM SYSTEM	CNT	9C	A	CE	CIVILFAIL			
B30-001-009-11	C-CRANE-9C	GENERIC	MULTIPLE TARGETS	CNT	9C	A	CE	CIVILFAIL			
B30-001-009-12	C-CRANE-9C	GENERIC	MULTIPLE TARGETS	CNT	9C	A	CE	CIVILFAIL			
B30-001-009-13	C-CRANE-9C	GENERIC	MULTIPLE TARGETS	CNT	9C	A	CE	CIVILFAIL			
B30-001-009-14	C-CRANE-9C	GENERIC	MULTIPLE TARGETS	CNT	9C	A	CE	CIVILFAIL			
B30-001-009-15	C-CRANE-9C	GENERIC	MULTIPLE TARGETS	CNT	9C	A	CE	CIVILFAIL			
B25-163-001-01	C-DOOR	H-DUCT-22A2	HVAC FOR VITAL EQUIP. COOLING	DG	22A2	A	CE	CIVILFAIL			
B25-163-002-01	C-DOOR	H-DUCT-22B2	HVAC FOR VITAL EQUIP. COOLING	DG	22B2	A	CE	CIVILFAIL			
B28-008-021-05	C-FB	P-5043-2	FIREWATER SYSTEM	DG	22C	A	CE	CIVILFAIL			
B30-001-022-01	C-FB	E-GENERIC	MULTIPLE TARGETS	DG	22C	A	CE	CIVILFAIL			
B30-001-022-02	C-FB	E-GENERIC	MULTIPLE TARGETS	DG	22C	A	CE	CIVILFAIL			
B30-001-020-01	C-FB	E-GENERIC	MULTIPLE TARGETS	EL	20	A	CE	CIVILFAIL			
B21-001-002-01	C-LADDER	M-CST	AUXILIARY FEEDWATER SYSTEM	OA	26	A	CE	CIVILFAIL			
B21-001-002-02	C-LADDER	M-CST	AUXILIARY FEEDWATER SYSTEM	OA	26	A	CE	CIVILFAIL			
B21-001-001-01	C-LADDER	P-1917-4	AUXILIARY FEEDWATER SYSTEM	OA	26	A	CE	CIVILFAIL			
B06-005-001-05	C-LADDER	M-CRDM	REACTOR COOLANT SYSTEM	CNT	9C	A	CE	CIVILFAIL			
B28-003-013-04	C-LADDER-3V3	P-4260-2	FIREWATER SYSTEM	HV	3V3	A	CE	CIVILFAIL			
B28-003-013-05	C-LADDER-3V8	P-4260-2	FIREWATER SYSTEM	HV	3V8	A	CE	CIVILFAIL			
B24-008-016-03	C-MR-22A1	M-DG 2-1	EMERG. DIESEL GENERATORS	DG	22A1	A	CE	CIVILFAIL			
B24-008-003-02	C-MR-22B1	M-DG 2-2	EMERG. DIESEL GENERATORS	DG	22B1	A	CE	CIVILFAIL			
B28-004-011-04	C-MR-3AA	PA-3608-2.50	FIREWATER SYSTEM	AUX	3AA	A	CE	CIVILFAIL			
B02-004-001-01	C-MR-3CC	M-FCV440	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	A	CE	CIVILFAIL			
B02-005-001-01	C-MR-3CC	M-FCV441	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	A	CE	CIVILFAIL			
B30-001-003-03	C-MR-3CC	M-FCV44	MULTIPLE TARGETS	PEN	3CC	A	CE	CIVILFAIL			
B11-003-001-01	C-MR-3I1	P-0043-6	CHEM. & VOL. CONTROL SYSTEM	PPS	3I1	A	CE	CIVILFAIL			
B20-044-003-01	C-MR-3L	P-1763-4	COMPONENT COOLING WATER SYSTEM	AUX	3L	A	CE	CIVILFAIL			
B01-005-001-01	C-MR-3T1	M-AFWPP 2-1	AUXILIARY FEEDWATER SYSTEM	PPS	3T1	A	CE	CIVILFAIL			
B01-002-013-03	C-MR-3T1	P-2079-1	AUXILIARY FEEDWATER SYSTEM	PPS	3T1	A	CE	CIVILFAIL			
B25-040-003-01	C-MR-3V3	H-E1	HVAC FOR VITAL EQUIP. COOLING	HV	3V3	A	CE	CIVILFAIL			
B25-018-011-01	C-MR-3V6	H-E4	HVAC FOR VITAL EQUIP. COOLING	HV	3V6	A	CE	CIVILFAIL			
B25-018-002-01	C-MR-3V7	H-E5	HVAC FOR VITAL EQUIP. COOLING	HV	3V7	A	CE	CIVILFAIL			
B25-021-001-02	C-MR-3V8	H-E6	HVAC FOR VITAL EQUIP. COOLING	HV	3V8	A	CE	CIVILFAIL			
B06-005-001-24	C-MR-9B	PA-RCS	REACTOR COOLANT SYSTEM	CNT	9B	A	CE	CIVILFAIL			
B20-020-001-01	C-PLAT-3D1	P-0124-12	COMPONENT COOLING WATER SYSTEM	PPS	3D1	A	CE	CIVILFAIL			
B20-020-003-01	C-PLAT-3D1	P-0128-1.50+	COMPONENT COOLING WATER SYSTEM	PPS	3D1	A	CE	CIVILFAIL			
B20-020-006-01	C-PLAT-3D1	P-0131-1.50	COMPONENT COOLING WATER SYSTEM	PPS	3D1	A	CE	CIVILFAIL			
B10-001-001-03	C-PLAT-3D1	P-0053-3	CHEM. & VOL. CONTROL SYSTEM	PPS	3D1	A	CE	CIVILFAIL			
B11-005-001-01	C-PLAT-3D1	P-1454-6	CHEM. & VOL. CONTROL SYSTEM	PPS	3D1	A	CE	CIVILFAIL			
B11-001-001-02	C-PLAT-3D1	P-1456-8	CHEM. & VOL. CONTROL SYSTEM	PPS	3D1	A	CE	CIVILFAIL			
B14-003-001-01	C-PLAT-3D1	P-1464-2	CHEM. & VOL. CONTROL SYSTEM	PPS	3D1	A	CE	CIVILFAIL			
B14-001-001-01	C-PLAT-3D1	P-1466-2	CHEM. & VOL. CONTROL SYSTEM	PPS	3D1	A	CE	CIVILFAIL			
B14-002-001-01	C-PLAT-3D1	P-1468-2	CHEM. & VOL. CONTROL SYSTEM	PPS	3D1	A	CE	CIVILFAIL			
B11-002-002-01	C-PLAT-3D1	P-1474-3	CHEM. & VOL. CONTROL SYSTEM	PPS	3D1	A	CE	CIVILFAIL			
B11-003-002-01	C-PLAT-3D1	P-1475-3	CHEM. & VOL. CONTROL SYSTEM	PPS	3D1	A	CE	CIVILFAIL			
B18-003-001-01	C-PLAT-3D1	M-RHRPP 2-1	RESIDUAL HEAT REMOVAL SYSTEM	PPS	3D1	A	CE	CIVILFAIL			
B15-001-003-01	C-PLAT-3D1	P-1971-8	SAFETY INJECTION SYSTEM	PPS	3D1	A	CE	CIVILFAIL			
B20-030-003-01	C-PLAT-3D2	P-0100-1.50	COMPONENT COOLING WATER SYSTEM	PPS	3D2	A	CE	CIVILFAIL			
B20-030-005-01	C-PLAT-3D2	P-0122-1.50	COMPONENT COOLING WATER SYSTEM	PPS	3D2	A	CE	CIVILFAIL			
B20-020-005-01	C-PLAT-3D2	P-0127-12	COMPONENT COOLING WATER SYSTEM	PPS	3D2	A	CE	CIVILFAIL			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=CIVILFAIL

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B11-001-001-01	C-PLAT-3D2	P-0041-4	CHEM. & VOL. CONTROL SYSTEM	PPS	3D2	A	CE	CIVILFAIL			
B11-004-001-01	C-PLAT-3D2	P-0044-4	CHEM. & VOL. CONTROL SYSTEM	PPS	3D2.	A	CE	CIVILFAIL			
B10-001-001-02	C-PLAT-3D2	P-0053-3	CHEM. & VOL. CONTROL SYSTEM	PPS	3D2	A	CE	CIVILFAIL			
B11-001-001-07	C-PLAT-3D2	P-1452-1	CHEM. & VOL. CONTROL SYSTEM	PPS	3D2	A	CE	CIVILFAIL			
B14-003-001-02	C-PLAT-3D2	P-1463-2	CHEM. & VOL. CONTROL SYSTEM	PPS	3D2	A	CE	CIVILFAIL			
B18-005-001-01	C-PLAT-3D2	M-RHRPP 2-2	RESIDUAL HEAT REMOVAL SYSTEM	PPS	3D2	A	CE	CIVILFAIL			
B17-001-005-01	C-PLAT-3D2	P-2578-1	SAFETY INJECTION SYSTEM	PPS	3D2	A	CE	CIVILFAIL			
B17-001-001-02	C-PLAT-3D2	P-2579-1	SAFETY INJECTION SYSTEM	PPS	3D2	A	CE	CIVILFAIL			
B17-002-001-01	C-PLAT-3D3	M-BIT	SAFETY INJECTION SYSTEM	AUX	3D3	A	CE	CIVILFAIL			
B17-001-001-01	C-PLAT-3D3	P-2032-6	SAFETY INJECTION SYSTEM	AUX	3D3	A	CE	CIVILFAIL			
B22-003-002-01	C-PLAT-30A3	E-K1011	AUX. SALTWATER SYSTEM	IS	30A3	A	CE	CIVILFAIL			
B22-004-002-01	C-PLAT-30A4	E-K1017	AUX. SALTWATER SYSTEM	IS	30A4	A	CE	CIVILFAIL			
B03-005-002-05	C-PLAT-9A	I-LT501	MAIN STEAM SYSTEM	CNT	9A	A	CE	CIVILFAIL			
B05-001-001-02	C-PLAT-9B	P-1012-2	MAIN STEAM SYSTEM	CNT	9B	A	CE	CIVILFAIL			
B08-001-001-01	C-PLAT-9B	P-0013-4	REACTOR COOLANT SYSTEM	CNT	9B	A	CE	CIVILFAIL			
B30-001-009-25	C-PLAT-9C	GENERIC	MULTIPLE TARGETS	CNT	9C	A	CE	CIVILFAIL			
B30-001-019-02	C-P10T-2	I-PM40A	MULTIPLE TARGETS	TB	19E	A	CE	CIVILFAIL			
B30-001-019-01	C-P11T-2	I-PM149	MULTIPLE TARGETS	TB	19E	A	CE	CIVILFAIL			
B20-008-001-03	C-P12T-2	M-CCWHX 2-1	COMPONENT COOLING WATER SYSTEM	TB	19E	A	CE	CIVILFAIL			
B01-006-002-01	C-P17T-2	E-K4000-0.75	AUXILIARY FEEDWATER SYSTEM	TB	19A	A	CE	CIVILFAIL			
B01-006-002-02	C-P18T-2	E-K4012-0.75	AUXILIARY FEEDWATER SYSTEM	TB	19A	A	CE	CIVILFAIL			
B30-001-019-03	C-P26T-2	E-GENERIC	MULTIPLE TARGETS	TB	19A	A	CE	CIVILFAIL			
B30-001-019-04	C-P27T-2	E-GENERIC	MULTIPLE TARGETS	TB	19A	A	CE	CIVILFAIL			
B30-001-019-05	C-P30T-2	E-GENERIC	MULTIPLE TARGETS	TB	19A	A	CE	CIVILFAIL			
B30-001-019-06	C-P31T-2	E-GENERIC	MULTIPLE TARGETS	TB	19A	A	CE	CIVILFAIL			
B01-002-003-07	C-SB	P-0476-4	AUXILIARY FEEDWATER SYSTEM	OA	29	A	CE	CIVILFAIL			
B01-003-003-05	C-SB	P-0573-4	AUXILIARY FEEDWATER SYSTEM	OA	29	A	CE	CIVILFAIL			
B20-023-001-01	C-SB	P-0081-20	COMPONENT COOLING WATER SYSTEM	PPS	3K3	A	CE	CIVILFAIL			
B20-032-001-01	C-SB	P-0082-20	COMPONENT COOLING WATER SYSTEM	PPS	3K3	A	CE	CIVILFAIL			
B20-007-001-01	C-SB	P-0095-30	COMPONENT COOLING WATER SYSTEM	PPS	3K3	A	CE	CIVILFAIL			
B20-011-001-01	C-SB	P-0096-30	COMPONENT COOLING WATER SYSTEM	PPS	3K3	A	CE	CIVILFAIL			
B20-063-001-01	C-SB	P-2129-2	COMPONENT COOLING WATER SYSTEM	PPS	3K3	A	CE	CIVILFAIL			
B20-063-002-01	C-SB	P-2131-2	COMPONENT COOLING WATER SYSTEM	PPS	3K3	A	CE	CIVILFAIL			
B20-058-001-01	C-SB	P-2282-20	COMPONENT COOLING WATER SYSTEM	PPS	3K3	A	CE	CIVILFAIL			
B20-055-001-01	C-SB	P-2286-3	COMPONENT COOLING WATER SYSTEM	PPS	3K3	A	CE	CIVILFAIL			
B20-055-005-01	C-SB	P-2290-3	COMPONENT COOLING WATER SYSTEM	PPS	3K3	A	CE	CIVILFAIL			
B13-007-001-01	C-SB	M-BAT 2-2	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	A	CE	CIVILFAIL			
B11-008-001-01	C-SB	M-CHGPP 2-3	CHEM. & VOL. CONTROL SYSTEM	PPS	3I2	A	CE	CIVILFAIL			
B28-004-003-01	C-SB	P-3602-2	FIREWATER SYSTEM	AUX	S4	A	CE	CIVILFAIL			
B28-004-003-02	C-SB	P-3602-2	FIREWATER SYSTEM	AUX	S4	A	CE	CIVILFAIL			
B04-001-001-04	C-SB	P-0593-4	MAIN STEAM SYSTEM	OA	29	A	CE	CIVILFAIL			
B03-003-001-02	C-SB	PS-0785-10	MAIN STEAM SYSTEM	PEN	3CC	A	CE	CIVILFAIL			
B30-001-029-04	C-SB	E-GENERIC	MULTIPLE TARGETS	OA	29	A	CE	CIVILFAIL			
B30-001-029-02	C-SB	GENERIC	MULTIPLE TARGETS	OA	29	A	CE	CIVILFAIL			
B06-027-001-01	C-SB	I-FT426	REACTOR COOLANT SYSTEM	CNT	9A	A	CE	CIVILFAIL			
B23-005-001-01	C-SB	M-CSPP 2-1	CONTAINMENT SPRAY SYSTEM	PPS	3G	A	CE	CIVILFAIL			
B23-006-001-01	C-SB	M-CSPP 2-2	CONTAINMENT SPRAY SYSTEM	PPS	3G	A	CE	CIVILFAIL			
B23-007-001-01	C-SB	M-SAT	CONTAINMENT SPRAY SYSTEM	PPS	3G	A	CE	CIVILFAIL			
B12-003-001-08	C-SHIELD-9B	P-0063-1	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	A	CE	CIVILFAIL			
B20-005-002-01	C-STAIR	E-K2662-1.50	COMPONENT COOLING WATER SYSTEM	EL	S7	A	CE	CIVILFAIL			
B32-011-001-03	C-STAIR	E-K2819-1.50	ELECTRIC POWER SYSTEM	EL	23E	A	CE	CIVILFAIL			
B32-011-002-02	C-STAIR	E-K2820-1.50	ELECTRIC POWER SYSTEM	EL	23E	A	CE	CIVILFAIL			
B32-011-003-03	C-STAIR	E-K2821-1.50	ELECTRIC POWER SYSTEM	EL	23E	A	CE	CIVILFAIL			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=CIVILFAIL

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B25-025-002-01	C-STAIR	E-K9798-2+	HVAC FOR VITAL EQUIP. COOLING	AUX	S2	A	CE	CIVILFAIL			
B25-157-002-04	C-STAIR	H-DUCT-S7	HVAC FOR VITAL EQUIP. COOLING	EL	S7	A	CE	CIVILFAIL			
B25-157-003-01	C-STAIR	H-DUCT-S7	HVAC FOR VITAL EQUIP. COOLING	EL	S7	A	CE	CIVILFAIL			
B18-001-015-02	C-STAIR-3D1	P-1663-8	RESIDUAL HEAT REMOVAL SYSTEM	PPS	3D1	A	CE	CIVILFAIL			
B32-003-007-05	C-WALL	E-K6944-4	ELECTRIC POWER SYSTEM	AUX	4B	A	CE	CIVILFAIL			
B32-003-007-04	C-WALL	E-K6962-4	ELECTRIC POWER SYSTEM	AUX	4B	A	CE	CIVILFAIL			
B25-151-005-01	C-WALL	H-DUCT-23A	HVAC FOR VITAL EQUIP. COOLING	EL	23A	A	CE	CIVILFAIL			
B25-154-003-01	C-WALL	H-DUCT-23B	HVAC FOR VITAL EQUIP. COOLING	EL	23B	A	CE	CIVILFAIL			
B25-157-003-02	C-WALL	H-DUCT-23C	HVAC FOR VITAL EQUIP. COOLING	EL	23C	A	CE	CIVILFAIL			
B25-158-001-01	C-WALL	H-S67	HVAC FOR VITAL EQUIP. COOLING	HV	24E	A	CE	CIVILFAIL			
B25-158-001-04	C-WALL	H-S67	HVAC FOR VITAL EQUIP. COOLING	HV	24E	A	CE	CIVILFAIL			
B25-155-001-01	C-WALL	H-S68	HVAC FOR VITAL EQUIP. COOLING	HV	24E	A	CE	CIVILFAIL			
B25-155-001-02	C-WALL	H-S68	HVAC FOR VITAL EQUIP. COOLING	HV	24E	A	CE	CIVILFAIL			
B25-152-001-01	C-WALL	H-S69	HVAC FOR VITAL EQUIP. COOLING	HV	24E	A	CE	CIVILFAIL			
B25-152-001-02	C-WALL	H-S69	HVAC FOR VITAL EQUIP. COOLING	HV	24E	A	CE	CIVILFAIL			
B30-001-001-01	C-WALL	GENERIC	MULTIPLE TARGETS	VAR	VRS	A	CE	CIVILFAIL			
B30-001-003-04	C-WALL	M-CCNPP	MULTIPLE TARGETS	PPS	3K	A	CE	CIVILFAIL			
B03-040-001-01	C-110F-2	I-PM45	MAIN STEAM SYSTEM	CNT	9A	A	CE	CIVILFAIL			
B03-041-001-01	C-110F-2	I-PM45	MAIN STEAM SYSTEM	CNT	9A	A	CE	CIVILFAIL			
B07-006-001-01	C-110F-2	I-PT455	REACTOR COOLANT SYSTEM	CNT	9A	A	CE	CIVILFAIL			
B15-003-006-01	C-110F-2	P-3845-6	SAFETY INJECTION SYSTEM	CNT	9A	A	CE	CIVILFAIL			
B28-004-038-01	C-16K-2	P-3620-2	FIREWATER SYSTEM	AUX	3C	A	CE	CIVILFAIL			
B28-004-038-02	C-16K-2	P-3620-2	FIREWATER SYSTEM	AUX	3C	A	CE	CIVILFAIL			
B28-003-013-03	C-2L-2	P-4260-2	FIREWATER SYSTEM	HV	3V3	A	CE	CIVILFAIL			
B12-003-001-04	C-29G-2	P-0063-1	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	A	CE	CIVILFAIL			
B06-031-001-02	C-29G-2	I-FT444	REACTOR COOLANT SYSTEM	CNT	9B	A	CE	CIVILFAIL			
B06-032-001-01	C-29G-2	I-FT445	REACTOR COOLANT SYSTEM	CNT	9B	A	CE	CIVILFAIL			
B06-033-001-01	C-29G-2	I-FT446	REACTOR COOLANT SYSTEM	CNT	9B	A	CE	CIVILFAIL			
B03-003-001-01	C-3GW-2	M-FCV23	MAIN STEAM SYSTEM	PEN	3CC	A	CE	CIVILFAIL			
B03-012-002-01	C-3GW-2	M-FCV44	MAIN STEAM SYSTEM	PEN	3CC	A	CE	CIVILFAIL			
B28-003-013-02	C-4L-2	P-4260-2	FIREWATER SYSTEM	OA	26	A	CE	CIVILFAIL			
B30-001-029-05	C-42FW-2	GENERIC	MULTIPLE TARGETS	OA	29	A	CE	CIVILFAIL			
B03-017-023-01	C-44FW-2	E-K5769-1	MAIN STEAM SYSTEM	OA	29	A	CE	CIVILFAIL			
B03-014-004-01	C-48FW-2	E-K5806-1	MAIN STEAM SYSTEM	OA	29	A	CE	CIVILFAIL			
B12-003-001-05	C-576-2	P-0063-1	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	A	CE	CIVILFAIL			
B01-002-003-02	C-62L-2	P-0476-4	AUXILIARY FEEDWATER SYSTEM	HV	3V2	A	CE	CIVILFAIL			
B01-003-003-02	C-62L-2	P-0573-4	AUXILIARY FEEDWATER SYSTEM	HV	3V2	A	CE	CIVILFAIL			
B04-001-001-01	C-62L-2	P-0593-4	MAIN STEAM SYSTEM	HV	3V2	A	CE	CIVILFAIL			
B25-040-040-07	C-7K-2	H-DUCT-3A	HVAC FOR VITAL EQUIP. COOLING	AUX	3A	A	CE	CIVILFAIL			
B03-011-001-04	C-8GW-2	M-FCV43	MAIN STEAM SYSTEM	PEN	3CC	A	CE	CIVILFAIL			
B03-011-002-01	C-8GW-2	M-FCV43	MAIN STEAM SYSTEM	PEN	3CC	A	CE	CIVILFAIL			
B30-001-003-07	C-80GE-2	E-K8790-1+	MULTIPLE TARGETS	AUX	3D3	A	EE	CIVILFAIL			
B22-001-001-01	C-BLOCKWALL	P-3681-6	AUX. SALTWATER SYSTEM	TB	19A	M	CE	CIVILFAIL		BRACE	OVERLAP
B22-002-001-01	C-BLOCKWALL	P-3682-6	AUX. SALTWATER SYSTEM	TB	19A	M	CE	CIVILFAIL		BRACE	OVERLAP
B01-007-002-02	C-BLOCKWALL	E-K6993-4+	AUXILIARY FEEDWATER SYSTEM	AUX	3L	M	CE	CIVILFAIL		BRACE	OVERLAP
B20-003-002-01	C-BLOCKWALL	E-K2690-1.50	COMPONENT COOLING WATER SYSTEM	EL	23B	M	CE	CIVILFAIL		BRACE	OVERLAP
B20-034-002-01	C-BLOCKWALL	E-K4788-2	COMPONENT COOLING WATER SYSTEM	TB	19A	M	CE	CIVILFAIL		CLEARANCE	EXPEDIENT
B24-007-018-01	C-BLOCKWALL	M-DG 2-1 FAN	EMERG. DIESEL GENERATORS	DG	22A2	M	CE	CIVILFAIL		BRACE	OVERLAP
B24-007-001-01	C-BLOCKWALL	M-DG 2-2 FAN	EMERG. DIESEL GENERATORS	DG	22B2	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-005-001-03	C-BLOCKWALL	E-BATTERY	ELECTRIC POWER SYSTEM	EL	6B1	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-005-002-01	C-BLOCKWALL	E-BATTERY	ELECTRIC POWER SYSTEM	EL	6B2	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-005-003-01	C-BLOCKWALL	E-BATTERY	ELECTRIC POWER SYSTEM	EL	6B3	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-001-011-04	C-BLOCKWALL	E-K2619+	ELECTRIC POWER SYSTEM	EL	23F	M	CE	CIVILFAIL		BRACE	OVERLAP

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=CIVILFAIL

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B32-011-003-01	C-BLOCKWALL	E-K2652-2	ELECTRIC POWER SYSTEM	EL	24D	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-011-002-01	C-BLOCKWALL	E-K2653-2	ELECTRIC POWER SYSTEM	EL	24D	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-011-001-01	C-BLOCKWALL	E-K2654-2	ELECTRIC POWER SYSTEM	EL	24D	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-001-008-03	C-BLOCKWALL	E-4.16KVSWGR	ELECTRIC POWER SYSTEM	EL	24A	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-001-009-03	C-BLOCKWALL	E-4.16KVSWGR	ELECTRIC POWER SYSTEM	EL	24B	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-001-010-03	C-BLOCKWALL	E-4.16KVSWGR	ELECTRIC POWER SYSTEM	EL	24C	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-003-004-02	C-BLOCKWALL	E-480VSWGR	ELECTRIC POWER SYSTEM	EL	5B1	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-003-005-02	C-BLOCKWALL	E-480VSWGR	ELECTRIC POWER SYSTEM	EL	5B2	M	CE	CIVILFAIL		BRACE	OVERLAP
B32-003-006-02	C-BLOCKWALL	E-480VSWGR	ELECTRIC POWER SYSTEM	EL	5B3	M	CE	CIVILFAIL		BRACE	OVERLAP
B28-007-004-02	C-BLOCKWALL	P-2683-4	FIREWATER SYSTEM	TB	19A	M	CE	CIVILFAIL		BRACE	OVERLAP
B28-007-004-03	C-BLOCKWALL	P-2683-4	FIREWATER SYSTEM	TB	19A	M	CE	CIVILFAIL		BRACE	OVERLAP
B28-008-006-01	C-BLOCKWALL	P-3948-2	FIREWATER SYSTEM	TB	19A	M	CE	CIVILFAIL		BRACE	OVERLAP
B28-008-007-04	C-BLOCKWALL	P-3949-2	FIREWATER SYSTEM	TB	19A	M	CE	CIVILFAIL		BRACE	OVERLAP
B28-008-003-01	C-BLOCKWALL	P-3950-2	FIREWATER SYSTEM	TB	19A	M	CE	CIVILFAIL		BRACE	OVERLAP
B28-008-009-03	C-BLOCKWALL	P-3988-10	FIREWATER SYSTEM	TB	19A	M	CE	CIVILFAIL		BRACE	OVERLAP
B28-008-023-04	C-BLOCKWALL	P-5045-2	FIREWATER SYSTEM	TB	25	M	CE	CIVILFAIL		BRACE	OVERLAP
B25-155-002-02	C-BLOCKWALL	E-K2649-1.50	HVAC FOR VITAL EQUIP. COOLING	EL	24D	M	CE	CIVILFAIL		BRACE	OVERLAP
B25-158-002-02	C-BLOCKWALL	E-LPH37	HVAC FOR VITAL EQUIP. COOLING	HV	24E	M	CE	CIVILFAIL		BRACE	OVERLAP
B25-144-001-01	C-BLOCKWALL	H-DUCT-19A	HVAC FOR VITAL EQUIP. COOLING	TB	19A	M	CE	CIVILFAIL		BRACE	OVERLAP
B25-144-001-02	C-BLOCKWALL	H-DUCT-19D	HVAC FOR VITAL EQUIP. COOLING	TB	19D	M	CE	CIVILFAIL		BRACE	OVERLAP
B25-151-004-01	C-BLOCKWALL	H-DUCT-24D	HVAC FOR VITAL EQUIP. COOLING	EL	24D	M	CE	CIVILFAIL		BRACE	OVERLAP
B25-154-002-01	C-BLOCKWALL	H-DUCT-24D	HVAC FOR VITAL EQUIP. COOLING	EL	24D	M	CE	CIVILFAIL		BRACE	OVERLAP
B25-157-002-03	C-BLOCKWALL	H-DUCT-24D	HVAC FOR VITAL EQUIP. COOLING	EL	24D	M	CE	CIVILFAIL		BRACE	OVERLAP
B25-158-001-03	C-BLOCKWALL	H-DUCT-24E	HVAC FOR VITAL EQUIP. COOLING	HV	24E	M	CE	CIVILFAIL		BRACE	OVERLAP
B30-001-023-04	C-BLOCKWALL	E-BJA300	MULTIPLE TARGETS	EL	23C	M	CE	CIVILFAIL		BRACE	OVERLAP
B30-001-023-05	C-BLOCKWALL	E-BJA302,303	MULTIPLE TARGETS	EL	23B	M	CE	CIVILFAIL		BRACE	OVERLAP
B30-001-023-06	C-BLOCKWALL	E-BJA304,305	MULTIPLE TARGETS	EL	23A	M	CE	CIVILFAIL		BRACE	OVERLAP
B30-001-008-02	C-BLOCKWALL	E-GENERIC	MULTIPLE TARGETS	HV	8B4	M	CE	CIVILFAIL		BRACE	OVERLAP
B25-144-001-05	C-CRANE-19D	H-DUCT-19D	HVAC FOR VITAL EQUIP. COOLING	TB	19D	M	CE	CIVILFAIL		BRACE	NECESSARY
B01-002-003-05	C-CRANE-29	P-0476-4	AUXILIARY FEEDWATER SYSTEM	OA	29	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B01-003-003-03	C-CRANE-29	P-0573-4	AUXILIARY FEEDWATER SYSTEM	OA	29	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B04-001-001-03	C-CRANE-29	P-0593-4	MAIN STEAM SYSTEM	OA	29	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B30-001-029-01	C-CRANE-29	GENERIC	MULTIPLE TARGETS	OA	29	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B30-001-009-16	C-CRANE-9C	GENERIC	MULTIPLE TARGETS	CNT	9C	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B24-008-016-04	C-DOOR	M-DG 2-1	EMERG. DIESEL GENERATORS	DG	22A1	M	CE	CIVILFAIL		SUPPORT	NECESSARY
B24-008-003-03	C-DOOR	M-DG 2-2	EMERG. DIESEL GENERATORS	DG	22B1	M	CE	CIVILFAIL		SUPPORT	NECESSARY
B28-008-009-01	C-DOOR	I-FS28	FIREWATER SYSTEM	TB	19A	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B28-008-007-01	C-ELEVATOR	P-3949-2	FIREWATER SYSTEM	TB	19D	M	CE	CIVILFAIL		TMODIFY	NECESSARY
B24-007-001-02	C-HANDRAIL	M-DG 2-2 FAN	EMERG. DIESEL GENERATORS	DG	22B2	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B06-046-002-02	C-HANDRAIL	E-K1855-1.25	REACTOR COOLANT SYSTEM	CNT	9C	M	CE	CIVILFAIL		CONSTDEF	EXPEDIENT
B06-044-002-01	C-HANDRAIL	E-K1915-1.25	REACTOR COOLANT SYSTEM	CNT	9C	M	CE	CIVILFAIL		CONSTDEF	EXPEDIENT
B20-008-001-02	C-MR-19E	I-TI895	COMPONENT COOLING WATER SYSTEM	TB	19E	M	CE	CIVILFAIL		BRACE	NECESSARY
B20-012-001-01	C-MR-19E	I-TI898	COMPONENT COOLING WATER SYSTEM	TB	19E	M	CE	CIVILFAIL		BRACE	NECESSARY
B10-020-001-01	C-MR-3L	M-SWHX	CHEM. & VOL. CONTROL SYSTEM	AUX	3L	M	CE	CIVILFAIL		BRACE	OVERLAP
B01-019-001-01	C-MR-3T2	I-PT434	AUXILIARY FEEDWATER SYSTEM	PPS	3T2	M	CE	CIVILFAIL		BRACE	NECESSARY
B01-006-001-01	C-MR-3T2	M-AFWPP 2-2	AUXILIARY FEEDWATER SYSTEM	PPS	3T2	M	CE	CIVILFAIL		BRACE	NECESSARY
B01-007-001-01	C-MR-3T2	M-AFWPP 2-3	AUXILIARY FEEDWATER SYSTEM	PPS	3T2	M	CE	CIVILFAIL		BRACE	NECESSARY
B30-001-009-03	C-MR-9C	GENERIC	MULTIPLE TARGETS	CNT	9C	M	HPO	CIVILFAIL		BRACE	NECESSARY
B25-144-001-03	C-PLAT-19D	H-DUCT-19D	HVAC FOR VITAL EQUIP. COOLING	TB	19D	M	CE	CIVILFAIL		BRACE	NECESSARY
B22-009-002-01	C-PLAT-19E	I-FCV602	AUX. SALTWATER SYSTEM	TB	19E	M	CE	CIVILFAIL		BRACE	NECESSARY
B22-010-002-01	C-PLAT-19E	I-FCV603	AUX. SALTWATER SYSTEM	TB	19E	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-017-001-01	C-PLAT-29	I-PCV19	MAIN STEAM SYSTEM	OA	29	M	ICE	CIVILFAIL		TSHIELD	EXPEDIENT
B03-018-001-01	C-PLAT-29	I-PCV20	MAIN STEAM SYSTEM	OA	29	M	ICE	CIVILFAIL		TSHIELD	EXPEDIENT

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=CIVILFAIL

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B13-008-001-01	C-PLAT-3AA	M-BAT 2-1	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	M	CE	CIVILFAIL		RELOCATE	EXPEDIENT
B13-014-001-01	C-PLAT-3AA	M-HCV105	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	M	CE	CIVILFAIL		RELOCATE	EXPEDIENT
B13-002-001-01	C-PLAT-3AA	P-1558-2	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	M	CE	CIVILFAIL		RELOCATE	EXPEDIENT
B05-005-002-04	C-PLAT-9B	I-FCV760	MAIN STEAM SYSTEM	CNT	9B	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B08-001-001-02	C-PLAT-9B	P-1169-0.75	REACTOR COOLANT SYSTEM	CNT	9B	M	CE	CIVILFAIL		BRACE	NECESSARY
B30-001-009-01	C-PLAT-9C	GENERIC	MULTIPLE TARGETS	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B30-001-009-02	C-PLAT-9C	GENERIC	MULTIPLE TARGETS	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B30-001-009-10	C-PLAT-9C	GENERIC	MULTIPLE TARGETS	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B28-008-013-04	C-P63T-2	PA-3955-2	FIREWATER SYSTEM	TB	19D	M	CE	CIVILFAIL		BRACE	NECESSARY
B28-008-016-06	C-P63T-2	PA-3961-2	FIREWATER SYSTEM	TB	19D	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-151-007-01	C-P63T-2	H-DUCT-19D	HVAC FOR VITAL EQUIP. COOLING	TB	19D	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-154-005-01	C-P63T-2	H-DUCT-19D	HVAC FOR VITAL EQUIP. COOLING	TB	19D	M	CE	CIVILFAIL		BRACE	NECESSARY
B20-008-001-04	C-P9T-2	M-CCWHX 2-1	COMPONENT COOLING WATER SYSTEM	TB	19E	M	CE	CIVILFAIL		BRACE	NECESSARY
B32-001-011-03	C-STAIR	E-K2130-4	ELECTRIC POWER SYSTEM	EL	20	M	CE	CIVILFAIL		BRACE	NECESSARY
B28-008-011-02	C-STAIR	P-3953-2	FIREWATER SYSTEM	TB	19A	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B28-008-011-03	C-STAIR	P-3953-2	FIREWATER SYSTEM	TB	19A	M	PSE	CIVILFAIL		BRACE	NECESSARY
B28-008-024-06	C-STAIR	P-3962-2	FIREWATER SYSTEM	TB	19A	M	CE	CIVILFAIL		BRACE	NECESSARY
B19-007-001-01	C-STAIR-9A	I-PI475	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9A	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B28-005-007-01	C-STAIR-9A	P-3155-2	FIREWATER SYSTEM	CNT	9A	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B05-007-002-02	C-STAIR-9A	I-FCV762	MAIN STEAM SYSTEM	CNT	9A	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B30-001-009-19	C-STAIR-9A	GENERIC	MULTIPLE TARGETS	CNT	9A	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B06-030-001-01	C-STAIR-9A	I-PM23	REACTOR COOLANT SYSTEM	CNT	9A	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B06-029-001-03	C-STAIR-9A	I-PM24	REACTOR COOLANT SYSTEM	CNT	9A	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B06-028-001-02	C-STAIR-9A	I-PM25	REACTOR COOLANT SYSTEM	CNT	9A	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B09-009-002-02	C-STAIR-9A	I-8034A	REACTOR COOLANT SYSTEM	CNT	9A	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B01-012-002-11	C-WALL	E-KT333-1	AUXILIARY FEEDWATER SYSTEM	AUX	4B	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B01-012-002-12	C-WALL	E-KT333-1	AUXILIARY FEEDWATER SYSTEM	AUX	4B	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B20-001-002-04	C-WALL	E-K7208-2	COMPONENT COOLING WATER SYSTEM	AUX	4B	M	CE	CIVILFAIL		BRACE	NECESSARY
B32-010-001-01	C-WALL	E-SSPS	ELECTRIC POWER SYSTEM	EL	8H	M	CE	CIVILFAIL	ENVIRON	TSHIELD	NECESSARY
B25-157-002-02	C-WALL	H-DUCT-24D	HVAC FOR VITAL EQUIP. COOLING	EL	24D	M	CE	CIVILFAIL		BRACE	NECESSARY
B04-006-002-01	C-WALL	E-K8620-1+	MAIN STEAM SYSTEM	AUX	4B	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B25-048-004-01	C-1L-2	E-K8237-0.75	HVAC FOR VITAL EQUIP. COOLING	HV	3V4	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-040-015-01	C-1L-2	H-DAMPER	HVAC FOR VITAL EQUIP. COOLING	HV	3V4	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-018-009-01	C-111L-2	H-DUCT-3V8	HVAC FOR VITAL EQUIP. COOLING	HV	3V8	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-035-004-02	C-112L-2	E-K8160-2	HVAC FOR VITAL EQUIP. COOLING	HV	3V2	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-035-004-03	C-112L-2	E-K8161-1.50	HVAC FOR VITAL EQUIP. COOLING	HV	3V2	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-033-001-01	C-114F-2	I-LT517	MAIN STEAM SYSTEM	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-034-001-01	C-114F-2	I-LT518	MAIN STEAM SYSTEM	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-038-001-01	C-115F-2	I-LT527	MAIN STEAM SYSTEM	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-039-001-01	C-115F-2	I-LT528	MAIN STEAM SYSTEM	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-047-001-01	C-116G-2	I-FT533	MAIN STEAM SYSTEM	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-051-001-01	C-116G-2	I-FT542	MAIN STEAM SYSTEM	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-043-001-01	C-116G-2	I-LT537	MAIN STEAM SYSTEM	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-044-001-01	C-116G-2	I-LT538	MAIN STEAM SYSTEM	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-045-001-01	C-116G-2	I-LT539	MAIN STEAM SYSTEM	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-048-001-01	C-116G-2	I-LT547	MAIN STEAM SYSTEM	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-049-001-01	C-116G-2	I-LT548	MAIN STEAM SYSTEM	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B15-003-007-04	C-120G-2	P-0509-8	SAFETY INJECTION SYSTEM	CNT	9A	M	CE	CIVILFAIL		BRACE	NECESSARY
B15-005-005-01	C-120G-2	P-1977-4	SAFETY INJECTION SYSTEM	CNT	9A	M	CE	CIVILFAIL		BRACE	NECESSARY
B17-001-009-03	C-120G-2	P-1992-1.50	SAFETY INJECTION SYSTEM	CNT	9A	M	CE	CIVILFAIL		BRACE	NECESSARY
B18-001-019-02	C-125G-2	P-0120-12	RESIDUAL HEAT REMOVAL SYSTEM	CNT	9A	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B25-018-011-02	C-15L-2+	H-E4	HVAC FOR VITAL EQUIP. COOLING	HV	3V6	M	CE	CIVILFAIL		SECLOOSE	EXPEDIENT
B28-004-034-03	C-16K-2	P-3619-4	FIREWATER SYSTEM	AUX	3C	M	CE	CIVILFAIL		TMODIFY	NECESSARY

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=CIVILFAIL

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B30-001-003-06	C-16K-2	E-KK391-0.75	MULTIPLE TARGETS	AUX	3C	M	EE	CIVILFAIL		TMODIFY	NECESSARY
B25-019-001-02	C-18L-2+	H-E5	HVAC FOR VITAL EQUIP. COOLING	HV	3V7	M	CE	CIVILFAIL		SECLOOSE	EXPEDIENT
B25-021-001-03	C-22L-2+IL	H-E6	HVAC FOR VITAL EQUIP. COOLING	HV	3V8	M	CE	CIVILFAIL		SECLOOSE	EXPEDIENT
B20-038-006-02	C-25GE-2	P-4172-0.75+	COMPONENT COOLING WATER SYSTEM	PEN	3CC	M	PSE	CIVILFAIL		TMODIFY	NECESSARY
B20-038-007-01	C-25GE-2	P-4172-0.75+	COMPONENT COOLING WATER SYSTEM	PEN	3CC	M	PSE	CIVILFAIL		TMODIFY	NECESSARY
B25-013-001-01	C-27F-2	M-RCV11	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9A	M	CE	CIVILFAIL		BRACE	NECESSARY
B15-003-003-02	C-27F-2	P-3856-2	SAFETY INJECTION SYSTEM	CNT	9A	M	CE	CIVILFAIL		BRACE	NECESSARY
B15-003-007-02	C-28G-2	P-3846-6	SAFETY INJECTION SYSTEM	CNT	9A	M	CE	CIVILFAIL		BRACE	EXPEDIENT
B03-004-001-01	C-3GW-2	PS-3918-3	MAIN STEAM SYSTEM	PEN	3CC	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-009-002-01	C-30FW-2	M-FCV41	MAIN STEAM SYSTEM	OA	29	M	CE	CIVILFAIL		BRACE	NECESSARY
B28-005-008-01	C-34F-2	PA-3157-2	FIREWATER SYSTEM	CNT	9C	M	CE	CIVILFAIL		BRACE	NECESSARY
B03-017-023-02	C-46FW-2	E-K5769-1	MAIN STEAM SYSTEM	OA	29	M	CE	CIVILFAIL		BRACE	NECESSARY
B06-005-001-25	C-72FG-2	PA-RCS	REACTOR COOLANT SYSTEM	CNT	9B	M	CE	CIVILFAIL		SUPPORT	EXPEDIENT
B30-001-009-21	C-73G-2	E-GENERIC	MULTIPLE TARGETS	CNT	9A	M	CE	CIVILFAIL		BRACE	NECESSARY
B30-001-003-02	C-74GW-2	E-GENERIC	MULTIPLE TARGETS	PEN	3CC	M	CE	CIVILFAIL		BRACE	NECESSARY
B30-001-003-01	C-74GW-2	I-GENERIC	MULTIPLE TARGETS	PEN	3CC	M	CE	CIVILFAIL		BRACE	NECESSARY
B07-011-001-06	C-82F-2	I-LT460	REACTOR COOLANT SYSTEM	CNT	9B	M	ICE	CIVILFAIL	DEFLECT	TMODIFY	NECESSARY
B01-002-003-03	C-99L-2	P-0476-4	AUXILIARY FEEDWATER SYSTEM	HV	3V2	M	CE	CIVILFAIL		BRACE	NECESSARY
B01-003-003-01	C-99L-2	P-0573-4	AUXILIARY FEEDWATER SYSTEM	HV	3V2	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-014-001-01	C-99L-2	M-RCV12	CNT ISOL. OF NON-VITAL SYSTEMS	HV	3V2	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-014-001-02	C-99L-2	M-RCV12	CNT ISOL. OF NON-VITAL SYSTEMS	HV	3V2	M	CE	CIVILFAIL		BRACE	NECESSARY
B25-098-002-01	C-99L-2	P-4391-4	CNT ISOL. OF NON-VITAL SYSTEMS	HV	3V2	M	CE	CIVILFAIL		BRACE	NECESSARY
B04-001-001-02	C-99L-2	P-0593-4	MAIN STEAM SYSTEM	HV	3V2	M	CE	CIVILFAIL		BRACE	NECESSARY
B06-005-001-26	C-CATWALK	M-CRDM	REACTOR COOLANT SYSTEM	CNT	9C	NAN		CIVILFAIL			
B28-008-023-03	C-CEILING	PA-5045-2	FIREWATER SYSTEM	TB	25	NAN		CIVILFAIL			
B03-043-001-02	C-CRANE-9C	I-GENERIC	MAIN STEAM SYSTEM	CNT	9C	NAN		CIVILFAIL			
B22-003-002-03	C-DOOR	E-K2106-4	AUX. SALTWATER SYSTEM	EL	20	NAN		CIVILFAIL			
B09-005-005-06	C-DOOR	E-KK205-1	REACTOR COOLANT SYSTEM	PEN	3CC	NAN		CIVILFAIL			
B06-005-001-29	C-HANDRAIL	M-CRDM	REACTOR COOLANT SYSTEM	CNT	9C	NAN		CIVILFAIL			
B09-007-004-02	C-LADDER	E-K1921-1	REACTOR COOLANT SYSTEM	CNT	9C	NAN		CIVILFAIL			
B18-007-002-01	C-LADDER	E-KX674-0.75	RESIDUAL HEAT REMOVAL SYSTEM	CNT	9C	NAN		CIVILFAIL	DEFLECT		
B22-005-002-01	C-MR-19E	I-PT5	AUX. SALTWATER SYSTEM	TB	19E	NAN		CIVILFAIL			
B22-006-002-01	C-MR-19E	I-PT6	AUX. SALTWATER SYSTEM	TB	19E	NAN		CIVILFAIL			
B25-040-033-03	C-MR-3C	H-DUCT-3C	HVAC FOR VITAL EQUIP. COOLING	AUX	3C	NAN		CIVILFAIL			
B03-011-001-01	C-MR-3CC	M-FCV43	MAIN STEAM SYSTEM	PEN	3CC	NAN		CIVILFAIL			
B18-002-001-04	C-MR-3D1	M-RHRPP 2-1	RESIDUAL HEAT REMOVAL SYSTEM	PPS	3D1	NAN		CIVILFAIL			
B18-004-001-03	C-MR-3D2	M-RHRPP 2-2	RESIDUAL HEAT REMOVAL SYSTEM	PPS	3D2	NAN		CIVILFAIL			
B25-040-030-02	C-MR-3G	H-DUCT-3G	HVAC FOR VITAL EQUIP. COOLING	PPS	3G	NAN		CIVILFAIL			
B25-040-033-02	C-MR-3G	H-DUCT-3G	HVAC FOR VITAL EQUIP. COOLING	PPS	3G	NAN		CIVILFAIL			
B04-007-001-01	C-MR-3T1	M-FCV15	MAIN STEAM SYSTEM	PPS	3T1	NAN		CIVILFAIL			
B25-040-001-02	C-MR-3V3	H-E1	HVAC FOR VITAL EQUIP. COOLING	HV	3V3	NAN		CIVILFAIL			
B25-040-004-02	C-MR-3V4	H-E2	HVAC FOR VITAL EQUIP. COOLING	HV	3V4	NAN		CIVILFAIL			
B30-001-007-01	C-MR-7B	E-GENERIC	MULTIPLE TARGETS	EL	7B	NAN		CIVILFAIL			
B17-001-008-01	C-MR-9B	P-1991-1.50	SAFETY INJECTION SYSTEM	CNT	9B	NAN		CIVILFAIL			
B03-045-001-03	C-MR-9C	I-LT539	MAIN STEAM SYSTEM	CNT	9C	NAN		CIVILFAIL			
B03-019-001-02	C-PLAT-3CC	M-PCV21	MAIN STEAM SYSTEM	PEN	3CC	NAN		CIVILFAIL			
B03-020-001-02	C-PLAT-3CC	M-PCV22	MAIN STEAM SYSTEM	PEN	3CC	NAN		CIVILFAIL			
B25-008-001-01	C-PLAT-3V8	I-RE28A+	CNT ISOL. OF NON-VITAL SYSTEMS	HV	3V8	NAN		CIVILFAIL			
B05-001-001-01	C-PLAT-9A	P-1040-2.50	MAIN STEAM SYSTEM	CNT	9A	NAN		CIVILFAIL			
B06-023-001-03	C-PLAT-9A	I-FT415	REACTOR COOLANT SYSTEM	CNT	9A	NAN		CIVILFAIL			
B06-024-001-02	C-PLAT-9A	I-FT416	REACTOR COOLANT SYSTEM	CNT	9A	NAN		CIVILFAIL			
B06-022-001-07	C-PLAT-9A	I-PM19	REACTOR COOLANT SYSTEM	CNT	9A	NAN		CIVILFAIL			
B09-002-002-01	C-PLAT-9C	E-K1752-1.25	REACTOR COOLANT SYSTEM	CNT	9C	NAN		CIVILFAIL			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=CIVILFAIL

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B25-154-005-02	C-P57T-2	H-DUCT-19D	HVAC FOR VITAL EQUIP. COOLING	TB	19D	NAN		CIVILFAIL			
B13-013-002-02	C-SB	I-HCV104	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	NAN		CIVILFAIL			
B13-019-001-02	C-SB	I-LT102	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	NAN		CIVILFAIL			
B28-004-049-01	C-SB	P-3690-2	FIREWATER SYSTEM	AUX	3C	NAN		CIVILFAIL			
B28-008-008-02	C-SB	P-3945-2	FIREWATER SYSTEM	TB	19A	NAN		CIVILFAIL			
B25-018-012-01	C-SB	H-DUCT-3W	HVAC FOR VITAL EQUIP. COOLING	AUX	3W	NAN		CIVILFAIL			
B25-018-017-01	C-SB	H-DUCT-3W	HVAC FOR VITAL EQUIP. COOLING	AUX	3W	NAN		CIVILFAIL			
B28-003-011-03	C-SHIELD-32	P-5051-4	FIREWATER SYSTEM	AUX	32	NAN		CIVILFAIL			
B16-006-001-01	C-SHIELD-32	I-LT920	SAFETY INJECTION SYSTEM	AUX	32	NAN		CIVILFAIL			
B12-003-001-09	C-SHIELD-9B	PS-0063-1	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	NAN		CIVILFAIL			
B30-001-009-24	C-SHIELD-9C	I-GENERIC	MULTIPLE TARGETS	CNT	9C	NAN		CIVILFAIL			
B28-008-015-02	C-STAIR	P-3957-4	FIREWATER SYSTEM	TB	19A	NAN		CIVILFAIL			
B28-008-016-07	C-STAIR	P-3961-2	FIREWATER SYSTEM	TB	19A	NAN		CIVILFAIL			
B12-001-002-01	C-STAIR-9A	P-0051-2	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	NAN		CIVILFAIL			
B06-005-001-04	C-STAIR-9C	M-CRDM	REACTOR COOLANT SYSTEM	CNT	9C	NAN		CIVILFAIL			
B22-008-004-02	C-WALL	E-K7200-2+	AUX. SALTWATER SYSTEM	AUX	4B	NAN		CIVILFAIL			
B32-003-007-02	C-WALL	E-K6934-4	ELECTRIC POWER SYSTEM	AUX	4B	NAN		CIVILFAIL			
B32-003-007-03	C-WALL	E-K6944-4	ELECTRIC POWER SYSTEM	AUX	4B	NAN		CIVILFAIL			
B25-154-003-02	C-WALL	H-DUCT-23B	HVAC FOR VITAL EQUIP. COOLING	EL	23B	NAN		CIVILFAIL			
B01-010-002-01	C-1GW-2	E-K6494-3	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	NAN		CIVILFAIL			
B23-004-004-02	C-101G-2	P-0271-10	CONTAINMENT SPRAY SYSTEM	CNT	9A	NAN		CIVILFAIL			
B15-003-006-03	C-110F-2	P-3845-6	SAFETY INJECTION SYSTEM	CNT	9A	NAN		CIVILFAIL			
B03-046-001-01	C-123G-2	I-FT532	MAIN STEAM SYSTEM	CNT	9C	NAN		CIVILFAIL			
B03-052-001-01	C-124G-2	I-FT543	MAIN STEAM SYSTEM	CNT	9C	NAN		CIVILFAIL			
B25-059-004-02	C-16K-2	E-K8838-1.25	HVAC FOR VITAL EQUIP. COOLING	AUX	3C	NAN		CIVILFAIL			
B03-019-001-01	C-19GW-2	M-PCV21	MAIN STEAM SYSTEM	PEN	3CC	NAN		CIVILFAIL			
B03-020-001-01	C-19GW-2	M-PCV22	MAIN STEAM SYSTEM	PEN	3CC	NAN		CIVILFAIL			
B03-013-004-02	C-2GW-2	E-K6543-1.50	MAIN STEAM SYSTEM	PEN	3CC	NAN		CIVILFAIL			
B15-003-011-01	C-29G-2	P-2002-0.75	SAFETY INJECTION SYSTEM	CNT	9B	NAN		CIVILFAIL			
B25-050-001-01	C-3L-2	H-DAMPER	HVAC FOR VITAL EQUIP. COOLING	HV	3V3	NAN		CIVILFAIL			
B30-001-009-04	C-35F-2	I-SG	MULTIPLE TARGETS	CNT	9C	NAN		CIVILFAIL			
B30-001-009-05	C-36F-2	I-SG	MULTIPLE TARGETS	CNT	9C	NAN		CIVILFAIL			
B30-001-009-06	C-37F-2	I-SG	MULTIPLE TARGETS	CNT	9C	NAN		CIVILFAIL			
B30-001-009-07	C-38F-2	I-SG	MULTIPLE TARGETS	CNT	9C	NAN		CIVILFAIL			
B30-001-009-08	C-39G-2	I-SG	MULTIPLE TARGETS	CNT	9C	NAN		CIVILFAIL			
B28-003-012-02	C-4L-2	P-5053-2	FIREWATER SYSTEM	HV	3V3	NAN		CIVILFAIL			
B25-049-001-01	C-4L-2	H-DAMPER	HVAC FOR VITAL EQUIP. COOLING	HV	3V3	NAN		CIVILFAIL			
B06-005-001-16	C-51FG-2	I-FLUX MON	REACTOR COOLANT SYSTEM	CNT	9B	NAN		CIVILFAIL			
B06-005-001-17	C-51FG-2	I-FLUX MON	REACTOR COOLANT SYSTEM	CNT	9B	NAN		CIVILFAIL			
B06-022-001-02	C-54F-2	I-FT414	REACTOR COOLANT SYSTEM	CNT	9B	NAN		CIVILFAIL			
B06-023-001-02	C-54F-2	I-FT415	REACTOR COOLANT SYSTEM	CNT	9B	NAN		CIVILFAIL			
B06-024-001-03	C-54F-2	I-FT416	REACTOR COOLANT SYSTEM	CNT	9B	NAN		CIVILFAIL			
B06-025-001-03	C-55F-2	I-FT424	REACTOR COOLANT SYSTEM	CNT	9B	NAN		CIVILFAIL			
B06-026-001-02	C-55F-2	I-FT425	REACTOR COOLANT SYSTEM	CNT	9B	NAN		CIVILFAIL			
B06-027-001-03	C-55F-2	I-FT426	REACTOR COOLANT SYSTEM	CNT	9B	NAN		CIVILFAIL			
B06-028-001-01	C-56F-2	I-FT434	REACTOR COOLANT SYSTEM	CNT	9B	NAN		CIVILFAIL			
B06-029-001-02	C-56G-2	I-FT435	REACTOR COOLANT SYSTEM	CNT	9B	NAN		CIVILFAIL			
B06-030-001-04	C-56G-2	I-FT436	REACTOR COOLANT SYSTEM	CNT	9B	NAN		CIVILFAIL			
B06-031-001-03	C-57G-2	I-FT444	REACTOR COOLANT SYSTEM	CNT	9B	NAN		CIVILFAIL			
B06-032-001-02	C-57G-2	I-FT445	REACTOR COOLANT SYSTEM	CNT	9B	NAN		CIVILFAIL			
B06-033-001-02	C-57G-2	I-FT446	REACTOR COOLANT SYSTEM	CNT	9B	NAN		CIVILFAIL			
B20-007-001-02	C-58GW-2	P-0095-30	COMPONENT COOLING WATER SYSTEM	TB	19A	NAN		CIVILFAIL			
B06-005-001-18	C-79FG-2	I-FLUX MON	REACTOR COOLANT SYSTEM	CNT	9B	NAN		CIVILFAIL			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=CIVILFAIL

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B03-011-001-05	C-8GW-2	M-FCV43	MAIN STEAM SYSTEM	PEN	3CC	NAN		CIVILFAIL			
B03-008-002-01	C-95G-2	I-LT504	MAIN STEAM SYSTEM	CNT	9A	NAN		CIVILFAIL			
B18-001-002-01	C-95G-2	I-PT406	RESIDUAL HEAT REMOVAL SYSTEM	CNT	9A	NAN		CIVILFAIL			
B18-001-001-03	C-95G-2	P-3095-0.75	RESIDUAL HEAT REMOVAL SYSTEM	CNT	9A	NAN		CIVILFAIL			
B18-001-001-02	C-95G-2	PA-3095-0.75	RESIDUAL HEAT REMOVAL SYSTEM	CNT	9A	NAN		CIVILFAIL			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=DEFLECT

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B28-003-013-10	C-LADDER-3V8	P-5052-2	FIREWATER SYSTEM	HV	3V8	A	CE	DEFLECT			
B11-002-001-01	C-MR-3I1	P-0042-6	CHEM. & VOL. CONTROL SYSTEM	PPS	3I1	A	CE	DEFLECT			
B11-005-001-02	C-MR-3I1	P-1454-6	CHEM. & VOL. CONTROL SYSTEM	PPS	3I1	A	PSE	DEFLECT	SPTFAIL		
B06-004-001-01	C-PLAT-9B	M-8072D	REACTOR COOLANT SYSTEM	CNT	9B	A	PSE	DEFLECT			
B28-003-001-02	C-SB	P-2990-4	FIREWATER SYSTEM	AUX	32	A	CE	DEFLECT	CIVILFAIL		
B23-004-001-04	C-100G-2	P-0325-80	CONTAINMENT SPRAY SYSTEM	CNT	9A	A	CE	DEFLECT			
B15-024-004-01	C-73G-2	E-DJDA	SAFETY INJECTION SYSTEM	CNT	9A	A	EE	DEFLECT			
B30-002-023-01	E-BUSDUCT	E-GENERIC	MULTIPLE TARGETS	EL	23A	A	EE	DEFLECT			
B12-012-004-01	E-DJA+	E-KX650-1.50	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	A	CE	DEFLECT			
B25-144-004-02	E-K0115+	H-DUCT-19A	HVAC FOR VITAL EQUIP. COOLING	TB	19A	A	EE	DEFLECT	SPTFAIL		
B28-005-005-03	E-K1534-5	P-2674-4	FIREWATER SYSTEM	CNT	9A	A	EE	DEFLECT			
B05-002-001-04	E-K1534-5	P-1041-2.50	MAIN STEAM SYSTEM	CNT	9A	A	EE	DEFLECT			
B06-043-001-01	E-K1672-1	P-USB-9C	REACTOR COOLANT SYSTEM	CNT	9C	A	EE	DEFLECT	INTERFERE		
B25-030-002-02	E-NSAA+	E-K8012-4	HVAC FOR VITAL EQUIP. COOLING	PPS	3T2	A	EE	DEFLECT			
B23-004-001-01	E-PJ	P-0270-10	CONTAINMENT SPRAY SYSTEM	CNT	9A	A	EE	DEFLECT			
B20-001-002-03	H-S22	E-K7208-2	COMPONENT COOLING WATER SYSTEM	AUX	4B	A	HVA	DEFLECT			
B23-002-005-02	I-FI27	P-0265-8	CONTAINMENT SPRAY SYSTEM	PEN	3CC	A	PSE	DEFLECT			
B13-017-002-01	M-FCV110B	E-K8756-1	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	A	PSE	DEFLECT			
B18-002-001-02	M-HOIST-3D1	M-RHRPP 2-1	RESIDUAL HEAT REMOVAL SYSTEM	PPS	3D1	A	CE	DEFLECT	MECHFAIL		
B28-008-019-02	M-HR	PA-3960-2	FIREWATER SYSTEM	TB	19A	A	EMS	DEFLECT			
B10-012-001-03	M-RCP 2-1	PA-0058-2	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	A	EMS	DEFLECT			
B28-008-001-04	P-SA-19A	P-3944-6	FIREWATER SYSTEM	TB	19A	A	PSE	DEFLECT			
B30-006-022-01	P-SPR-22C	E-GENERIC	MULTIPLE TARGETS	DG	22C	A	PSE	DEFLECT	SPTFAIL		
B20-001-002-10	P-ULB-19A	E-K4881-2+	COMPONENT COOLING WATER SYSTEM	TB	19A	A	PSE	DEFLECT			
B11-007-002-02	P-0096-30	E-K7047+	CHEM. & VOL. CONTROL SYSTEM	PPS	3K3	A	PSE	DEFLECT			
B15-002-004-01	P-0106-18	P-1981-4	SAFETY INJECTION SYSTEM	PEN	3CC	A	PSE	DEFLECT			
B22-008-004-07	P-0709-4	E-K1045-2	AUX. SALTWATER SYSTEM	IS	30A5	A	PSE	DEFLECT			
B01-017-002-01	P-1045-10	E-K9126-4	AUXILIARY FEEDWATER SYSTEM	PPS	3T1	A	PSE	DEFLECT			
B18-011-002-02	P-1046-6	E-K6384	RESIDUAL HEAT REMOVAL SYSTEM	PEN	3CC	A	PSE	DEFLECT			
B05-003-001-02	P-1167-4	I-1052-0.375	MAIN STEAM SYSTEM	CNT	9A	A	ICE	DEFLECT			
B05-004-001-02	P-1167-4	I-1052-0.375	MAIN STEAM SYSTEM	CNT	9A	A	ICE	DEFLECT			
B01-002-003-04	P-1743-16	P-0476-4	AUXILIARY FEEDWATER SYSTEM	OA	29	A	PSE	DEFLECT			
B15-001-005-01	P-2278-18	PS-0735-8	SAFETY INJECTION SYSTEM	PEN	3CC	A	PSE	DEFLECT			
B23-007-001-02	P-2808-0.75	M-SAT	CONTAINMENT SPRAY SYSTEM	PPS	3G	A	EMS	DEFLECT			
B11-007-002-03	P-3039-20	E-K7047+	CHEM. & VOL. CONTROL SYSTEM	PPS	3K3	A	PSE	DEFLECT			
B23-004-001-05	P-3090-2	P-0270-10	CONTAINMENT SPRAY SYSTEM	CNT	9A	A	PSE	DEFLECT			
B15-023-004-01	P-4272-0.75	E-KX653-2	SAFETY INJECTION SYSTEM	CNT	9A	A	PSE	DEFLECT			
B06-032-002-01	P-5150-0.75	E-KX111-0.75	REACTOR COOLANT SYSTEM	CNT	9A	A	PSE	DEFLECT			
B28-003-001-01	PS-0221-18	P-2990-4	FIREWATER SYSTEM	PPS	3T1	A	PSE	DEFLECT			
B03-024-001-01	PS-0227-28	I-PT524	MAIN STEAM SYSTEM	OA	29	A	PSE	DEFLECT	INTERFERE		
B20-045-008-02	PS-0238-6	P-2300-3	COMPONENT COOLING WATER SYSTEM	CNT	9B	A	PSE	DEFLECT			
B18-001-001-01	PS-0238-6	PA-0109-14	RESIDUAL HEAT REMOVAL SYSTEM	CNT	9B	A	PSE	DEFLECT			
B06-002-001-01	PS-1151-2	M-8063C	REACTOR COOLANT SYSTEM	CNT	9B	A	PSE	DEFLECT			
B06-002-002-02	PS-1151-2	M-8063C	REACTOR COOLANT SYSTEM	CNT	9B	A	PSE	DEFLECT			
B15-003-008-03	PS-1999-0.75	PS-1999-0.75	SAFETY INJECTION SYSTEM	CNT	9B	A	PSE	DEFLECT			
B24-008-016-11	PS-2192-1.50	M-DG 2-1	EMERG. DIESEL GENERATORS	DG	22A1	A	EMS	DEFLECT			
B10-009-002-01	PS-4624-1	I-FI170	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	A	EMS	DEFLECT			
B25-040-040-01	C-MR-3AA	H-DUCT-3AA	HVAC FOR VITAL EQUIP. COOLING	AUX	3AA	M	CE	DEFLECT		RELOCATE	OVERLAP
B25-040-040-04	C-MR-3AA	H-DUCT-3AA	HVAC FOR VITAL EQUIP. COOLING	AUX	3AA	M	CE	DEFLECT	LOOSE	RELOCATE	OVERLAP
B23-002-005-01	C-MR-3G	I-PI933D	CONTAINMENT SPRAY SYSTEM	PPS	3G	M	ICE	DEFLECT		TMODIFY	EXPEDIENT
B20-001-001-01	C-MR-3K1	M-CCWPP 2-1	COMPONENT COOLING WATER SYSTEM	PPS	3K1	M	CE	DEFLECT	CIVILFAIL	BRACE	EXPEDIENT
B20-003-001-01	C-MR-3K2	M-CCWPP 2-2	COMPONENT COOLING WATER SYSTEM	PPS	3K2	M	CE	DEFLECT	CIVILFAIL	BRACE	EXPEDIENT
B20-005-001-01	C-MR-3K3	M-CCWPP 2-3	COMPONENT COOLING WATER SYSTEM	PPS	3K3	M	CE	DEFLECT	CIVILFAIL	BRACE	EXPEDIENT

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=DEFLECT

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B20-039-003-03	C-MR-3L	P-0126-8	COMPONENT COOLING WATER SYSTEM	AUX	3L	M	CE	DEFLECT		BRACE	OVERLAP
B20-007-001-06	C-P12T-2	I-PI113	COMPONENT COOLING WATER SYSTEM	TB	19E	M	ICE	DEFLECT		TMODIFY	EXPEDIENT
B20-007-001-07	C-P12T-2	I-PI113	COMPONENT COOLING WATER SYSTEM	TB	19E	M	ICE	DEFLECT		TMODIFY	NECESSARY
B20-015-001-01	C-P9T-2	I-PS190	COMPONENT COOLING WATER SYSTEM	TB	19E	M	CE	DEFLECT		CLEARANCE	EXPEDIENT
B12-008-004-01	C-STAIR-9A	E-K1560-1.50	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	M	CE	DEFLECT		CLEARANCE	EXPEDIENT
B09-009-002-01	C-STAIR-9A	I-8034A	REACTOR COOLANT SYSTEM	CNT	9A	M	CE	DEFLECT		SUPPORT	NECESSARY
B18-001-019-01	C-125G-2	M-8703	RESIDUAL HEAT REMOVAL SYSTEM	CNT	9A	M	CE	DEFLECT	CIVILFAIL	BRACE	EXPEDIENT
B20-045-006-01	C-68G-2	P-3746-3	COMPONENT COOLING WATER SYSTEM	CNT	9B	M	CE	DEFLECT		CLEARANCE	NECESSARY
B20-045-021-01	C-70G-2	P-2343-3	COMPONENT COOLING WATER SYSTEM	CNT	9B	M	CE	DEFLECT		CLEARANCE	NECESSARY
B03-040-001-03	C-76F-2	I-LT529	MAIN STEAM SYSTEM	CNT	9C	M	CE	DEFLECT		CLEARANCE	NECESSARY
B19-004-001-02	C-82F-2	I-1674-0.375	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9B	M	ICE	DEFLECT		TMODIFY	NECESSARY
B07-011-001-03	C-85F-2	I-LT460	REACTOR COOLANT SYSTEM	CNT	9B	M	ICE	DEFLECT		TMODIFY	NECESSARY
B07-012-001-06	C-85F-2	I-LT461	REACTOR COOLANT SYSTEM	CNT	9B	M	ICE	DEFLECT		TMODIFY	NECESSARY
B19-004-001-01	E-DJAC	I-1674-0.375	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9B	M	ICE	DEFLECT		TMODIFY	NECESSARY
B16-001-001-01	E-DMCA	P-0221-18	SAFETY INJECTION SYSTEM	PEN	3CC	M	EE	DEFLECT		RELOCATE	EXPEDIENT
B20-059-002-01	E-KK216-1.50	P-0121-6	COMPONENT COOLING WATER SYSTEM	PEN	3CC	M	EE	DEFLECT		RELOCATE	EXPEDIENT
B16-008-002-01	E-KT899-2	E-KT510-1.25	SAFETY INJECTION SYSTEM	AUX	3AA	M	EE	DEFLECT		SUPPORT	OVERLAP
B07-001-003-01	E-KX479-1.50	P-0727-6	REACTOR COOLANT SYSTEM	CNT	9C	M	EE	DEFLECT		RELOCATE	EXPEDIENT
B07-001-002-01	E-KX480-1.50	P-0728-6	REACTOR COOLANT SYSTEM	CNT	9C	M	EE	DEFLECT		RELOCATE	EXPEDIENT
B07-001-001-01	E-KX481-1.50	P-0729-6	REACTOR COOLANT SYSTEM	CNT	9C	M	EE	DEFLECT		RELOCATE	EXPEDIENT
B10-010-002-03	E-KX785-0.75	I-F1C171	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	M	EE	DEFLECT		RELOCATE	EXPEDIENT
B06-005-001-12	E-KX886-1	I-FLUX MON	REACTOR COOLANT SYSTEM	CNT	9B	M	EE	DEFLECT		RELOCATE	EXPEDIENT
B20-045-008-03	E-K1533-5	PS-3745-3	COMPONENT COOLING WATER SYSTEM	CNT	9B	M	EE	DEFLECT		SUPPORT	EXPEDIENT
B17-001-011-01	E-K1533-5	I-FE927	SAFETY INJECTION SYSTEM	CNT	9A	M	EE	DEFLECT		SUPPORT	EXPEDIENT
B01-002-009-01	E-K6310	P-5071-3	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	M	EE	DEFLECT	INTERFERE	RELOCATE	EXPEDIENT
B25-107-001-02	E-R-8B4	H-S38	HVAC FOR VITAL EQUIP. COOLING	HV	8B4	M	EE	DEFLECT		SUPPORT	EXPEDIENT
B05-004-001-01	E-R-9A	P-1043-2.50	MAIN STEAM SYSTEM	CNT	9A	M	EE	DEFLECT	INTERFERE	RELOCATE	EXPEDIENT
B19-007-001-02	E-R-9B	I-1675-0.375	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9B	M	EE	DEFLECT		RELOCATE	EXPEDIENT
B19-008-001-02	E-R-9B	I-1676-0.375	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9B	M	EE	DEFLECT		RELOCATE	EXPEDIENT
B10-003-001-01	E-RS-3CC	P-0746-3	CHEM. & VOL. CONTROL SYSTEM	PEN	3CC	M	EE	DEFLECT		CLEARANCE	EXPEDIENT
B20-018-004-01	E-RS-9A	P-3171-2	COMPONENT COOLING WATER SYSTEM	CNT	9A	M	PSE	DEFLECT		CLEARANCE	EXPEDIENT
B20-054-001-02	H-DUCT-3L	P-3249-2+	COMPONENT COOLING WATER SYSTEM	AUX	3L	M	ENG	DEFLECT		TMODIFY	OVERLAP
B20-053-001-01	H-DUCT-3L	PA-2292-3	COMPONENT COOLING WATER SYSTEM	AUX	3L	M	CE	DEFLECT		TMODIFY	EXPEDIENT
B20-054-003-01	I-CSP	P-3266-2	COMPONENT COOLING WATER SYSTEM	AUX	3L	M	EMS	DEFLECT		CLEARANCE	EXPEDIENT
B25-040-040-05	M-HOIST-3AA	H-DUCT-3AA	HVAC FOR VITAL EQUIP. COOLING	AUX	3AA	M	EMS	DEFLECT		RELOCATE	OVERLAP
B25-040-040-09	M-HOIST-3AA	H-DUCT-3AA	HVAC FOR VITAL EQUIP. COOLING	AUX	3AA	M	EMS	DEFLECT		RELOCATE	OVERLAP
B20-022-004-01	M-HOIST-3I1	P-1925-2	COMPONENT COOLING WATER SYSTEM	PPS	3I1	M	EMS	DEFLECT		SECLOOSE	EXPEDIENT
B20-029-004-01	M-HOIST-3I1	P-3275-1	COMPONENT COOLING WATER SYSTEM	PPS	3I1	M	EMS	DEFLECT		SECLOOSE	EXPEDIENT
B11-006-001-02	M-HOIST-3I1	M-CHGPP 2-1	CHEM. & VOL. CONTROL SYSTEM	PPS	3I1	M	CE	DEFLECT		SECLOOSE	EXPEDIENT
B11-007-001-02	M-HOIST-3I1	M-CHGPP 2-2	CHEM. & VOL. CONTROL SYSTEM	PPS	3I1	M	CE	DEFLECT		SECLOOSE	EXPEDIENT
B11-008-001-03	M-HOIST-3I2	M-CHGPP 2-3	CHEM. & VOL. CONTROL SYSTEM	PPS	3I2	M	CE	DEFLECT		SECLOOSE	EXPEDIENT
B25-108-002-01	M-HOIST-7B	E-K7518-3	HVAC FOR VITAL EQUIP. COOLING	EL	7B	M	EMS	DEFLECT		STOP	EXPEDIENT
B20-040-003-01	M-HR	I-FI196	COMPONENT COOLING WATER SYSTEM	PEN	3CC	M	EMS	DEFLECT		STOP	EXPEDIENT
B28-004-035-01	M-HR	P-3622-2	FIREWATER SYSTEM	AUX	3C	M	EMS	DEFLECT		SUPPORT	EXPEDIENT
B28-008-003-05	M-HR	PA-3950-2	FIREWATER SYSTEM	TB	19A	M	EMS	DEFLECT		STOP	EXPEDIENT
B25-076-010-01	M-HR	I-SV102B+	HVAC FOR VITAL EQUIP. COOLING	AUX	3L	M	EMS	DEFLECT		STOP	NECESSARY
B30-005-000-01	M-HR	M-VALVE	MULTIPLE TARGETS	VAR	VRS	M	EMS	DEFLECT		STOP	EXPEDIENT
B30-006-000-02	M-HR	P-GENERIC	MULTIPLE TARGETS	VAR	VRS	M	PSE	DEFLECT		STOP	EXPEDIENT
B10-012-001-01	M-RCP 2-1	P-0058-2	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	M	PSE	DEFLECT		CONSTDEF	OVERLAP
B25-024-004-01	M-TANK	E-K9798-2	HVAC FOR VITAL EQUIP. COOLING	AUX	3AA	M	EE	DEFLECT	SPTFAIL	TMODIFY	EXPEDIENT
B20-038-006-04	M-TANKSGBD	P-4172-0.75	COMPONENT COOLING WATER SYSTEM	PEN	3CC	M	EMS	DEFLECT		TMODIFY	NECESSARY
B01-012-002-04	P-DRAIN-9A	E-KX140-2.50	AUXILIARY FEEDWATER SYSTEM	CNT	9A	M	PSE	DEFLECT	INTERFERE	SUPPORT	EXPEDIENT
B25-035-004-01	P-SA-3CC	E-K8160-2	HVAC FOR VITAL EQUIP. COOLING	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=DEFLECT

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B02-004-002-01	P-SPR-3CC	E-K6134-3	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B28-004-007-01	P-SPR-3CC	PA-3605-2	FIREWATER SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B20-007-002-01	P-SPR-3K3	P-3178-0.375	COMPONENT COOLING WATER SYSTEM	PPS	3K3	M	PSE	DEFLECT	CIVILFAIL	SUPPORT	EXPEDIENT
B28-003-003-04	P-SPR-3W	P-2989-4	FIREWATER SYSTEM	AUX	3W	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B25-034-004-01	P-ULB-3AA	E-K9800-2	HVAC FOR VITAL EQUIP. COOLING	AUX	3AA	M	PSE	DEFLECT	ENVIRON	SUPPORT	EXPEDIENT
B16-007-002-02	P-USB-3X	E-KT571-1.50	SAFETY INJECTION SYSTEM	AUX	3X	M	PSE	DEFLECT		CONSTDEF	OVERLAP
B10-015-001-02	P-USB-9B	P-0061-2	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B20-059-006-02	P-0152-12	P-2242-3	COMPONENT COOLING WATER SYSTEM	AUX	3U	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B13-020-001-01	P-0195-2	I-LT106	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	M	PSE	DEFLECT	SPTFAIL	SUPPORT	NECESSARY
B04-003-001-03	P-0208-3	PS-1045-10	MAIN STEAM SYSTEM	AUX	32	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B20-052-001-01	P-0381-4	E-K2679-2+	COMPONENT COOLING WATER SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B18-011-002-01	P-0381-4	E-K6384	RESIDUAL HEAT REMOVAL SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B18-018-002-01	P-0381-4	E-K6385	RESIDUAL HEAT REMOVAL SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B15-014-001-01	P-0381-4	I-8883	SAFETY INJECTION SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B01-002-013-05	P-0382-4	P-0567-2	AUXILIARY FEEDWATER SYSTEM	PPS	3T2	M	PSE	DEFLECT		TMODIFY	NECESSARY
B25-041-002-01	P-0465-4	E-K8042-4+	HVAC FOR VITAL EQUIP. COOLING	AUX	32	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B10-005-001-02	P-0532-4	P-0055-2	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B28-008-001-05	P-0579-8+	PS-3944-6	FIREWATER SYSTEM	TB	19A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B28-008-020-03	P-0580-8	P-5042-4	FIREWATER SYSTEM	TB	19A	M	PSE	DEFLECT		SUPPORT	NECESSARY
B28-008-001-06	P-0581-12	P-3944-6	FIREWATER SYSTEM	TB	19A	M	PSE	DEFLECT		SUPPORT	NECESSARY
B28-008-001-11	P-0581-12	P-3944-6	FIREWATER SYSTEM	TB	19A	M	PSE	DEFLECT		SUPPORT	NECESSARY
B28-008-003-03	P-0581-12	P-3950-2	FIREWATER SYSTEM	TB	19A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B01-002-013-06	P-0721-12	PS-0757-1.50	AUXILIARY FEEDWATER SYSTEM	PPS	3T1	M	PSE	DEFLECT		SUPPORT	NECESSARY
B24-002-032-02	P-0721-12	E-K2704-2+	EMERG. DIESEL GENERATORS	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B19-001-001-03	P-0891-1	I-1673-0.375	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B09-001-002-01	P-0891-1	PS-2754-3	REACTOR COOLANT SYSTEM	CNT	9C	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B17-004-002-01	P-0994-1	E-R-3D3	SAFETY INJECTION SYSTEM	AUX	3D3	M	PSE	DEFLECT	SPTFAIL	SUPPORT	OVERLAP
B20-045-019-02	P-1015-1	PS-2313-3	COMPONENT COOLING WATER SYSTEM	CNT	9B	M	PSE	DEFLECT		RELOCATE	OVERLAP
B20-027-006-01	P-1043-2.50	PS-0319-12	COMPONENT COOLING WATER SYSTEM	PEN	3CC	M	PSE	DEFLECT		TMODIFY	NECESSARY
B01-014-002-02	P-1046-6	E-K6204-3	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B20-038-006-01	P-1046-6	P-4172-0.75+	COMPONENT COOLING WATER SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B25-008-002-03	P-1046-6	E-KK216-1.50	CNT ISOL. OF NON-VITAL SYSTEMS	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B24-002-008-01	P-1046-6	E-2706-2	EMERG. DIESEL GENERATORS	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B24-002-008-02	P-1046-6	E-2706-2	EMERG. DIESEL GENERATORS	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B18-010-002-01	P-1046-6	I-HCV638	RESIDUAL HEAT REMOVAL SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B29-005-001-01	P-1135-3	PA-2993-4	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9A	M	PSE	DEFLECT		SUPPORT	OVERLAP
B29-004-001-01	P-1135-3	PA-3002-4	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9A	M	PSE	DEFLECT		SUPPORT	OVERLAP
B20-025-007-01	P-1246-10	P-3164-2	COMPONENT COOLING WATER SYSTEM	CNT	9A	M	PSE	DEFLECT		SUPPORT	NECESSARY
B20-025-006-01	P-1246-10	PS-0323-12	COMPONENT COOLING WATER SYSTEM	CNT	9A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B11-006-004-01	P-1474-3	E-K7050-1	CHEM. & VOL. CONTROL SYSTEM	PPS	3I1	M	EE	DEFLECT		TMODIFY	EXPEDIENT
B28-008-013-01	P-1742-8	P-3955-2	FIREWATER SYSTEM	TB	19A	M	PSE	DEFLECT		STOP	NECESSARY
B02-003-002-01	P-1743-16	E-K5839-2	AUXILIARY FEEDWATER SYSTEM	OA	29	M	PSE	DEFLECT	INTERFERE	RELOCATE	EXPEDIENT
B06-018-002-01	P-1750-6	E-KT260-3	REACTOR COOLANT SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B01-001-002-01	P-1750-8	PS-0562-8	AUXILIARY FEEDWATER SYSTEM	PPS	3T1	M	PSE	DEFLECT		SUPPORT	NECESSARY
B25-019-002-01	P-1750-8	E-K6261-3	HVAC FOR VITAL EQUIP. COOLING	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B25-144-001-06	P-1750-8	H-DUCT-19A	HVAC FOR VITAL EQUIP. COOLING	TB	19A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B25-029-006-01	P-1750-8	H-DUCT-3T2	HVAC FOR VITAL EQUIP. COOLING	PPS	3T2	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B18-001-017-01	P-1750-8	P-0985-12	RESIDUAL HEAT REMOVAL SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B16-007-002-01	P-1750-8	E-KT571-1.50	SAFETY INJECTION SYSTEM	AUX	3X	M	PSE	DEFLECT		SUPPORT	NECESSARY
B16-006-002-01	P-1750-8	E-K9416-4	SAFETY INJECTION SYSTEM	PPS	3T1	M	PSE	DEFLECT		SUPPORT	NECESSARY
B15-002-009-01	P-1750-8	PA-3850-4	SAFETY INJECTION SYSTEM	PEN	3CC	M	PSE	DEFLECT		TMODIFY	NECESSARY
B15-002-009-02	P-1750-8	PS-3850-4	SAFETY INJECTION SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B20-045-012-02	P-1901-1	I-FE96	COMPONENT COOLING WATER SYSTEM	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE.

PHENOM=DEFLECT

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B32-001-011-02	P-2149-3	E-K2469-2	ELECTRIC POWER SYSTEM	DG	22C	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B20-032-001-03	P-2369-18	I-FCV360	COMPONENT COOLING WATER SYSTEM	PEN	3CC	M	ICE	DEFLECT		TMODIFY	NECESSARY
B20-023-001-02	P-2399-16	I-FCV366	COMPONENT COOLING WATER SYSTEM	PEN	3CC	M	ICE	DEFLECT		TMODIFY	NECESSARY
B30-006-003-05	P-2416-1	GENERIC	MULTIPLE TARGETS	PPS	3T2	M	PSE	DEFLECT		SUPPORT	NECESSARY
B09-010-004-06	P-2445-2	E-K9100-1.25	REACTOR COOLANT SYSTEM	AUX	3L	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B24-008-016-06	P-2586-5	E-DG 2-1	EMERG. DIESEL GENERATORS	DG	22A1	M	PSE	DEFLECT		TMODIFY	OVERLAP
B20-034-002-02	P-2628-3	E-4788-2	COMPONENT COOLING WATER SYSTEM	TB	19A	M	PSE	DEFLECT	SPTFAIL	SUPPORT	NECESSARY
B20-045-001-01	P-2681-2	PA-0133-10	COMPONENT COOLING WATER SYSTEM	PEN	3CC	M	PSE	DEFLECT		TMODIFY	NECESSARY
B02-002-002-02	P-2772-4	E-K6246-3	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B09-010-004-07	P-2772-4	E-K9122-2	REACTOR COOLANT SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B09-010-004-05	P-2781-3	E-K9100-1.25	REACTOR COOLANT SYSTEM	AUX	3L	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B12-008-004-02	P-2886-0.75	E-KX152-1.25	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B03-007-002-01	P-2886-0.75	I-LT503	MAIN STEAM SYSTEM	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B06-030-002-01	P-2886-0.75	E-KX747-1.25	REACTOR COOLANT SYSTEM	CNT	9A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B12-003-001-02	P-3081-2	P-0063-1	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B25-031-006-01	P-3104-6	E-K5338-1	HVAC FOR VITAL EQUIP. COOLING	HV	3V1	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B25-081-004-01	P-3105-6	E-K9717-1.50	HVAC FOR VITAL EQUIP. COOLING	AUX	3AA	M	PSE	DEFLECT		SUPPORT	NECESSARY
B03-019-023-01	P-3105-6	E-K6556-3	MAIN STEAM SYSTEM	PEN	3CC	M	PSE	DEFLECT	INTERFERE	SUPPORT	NECESSARY
B09-012-001-01	P-3133-4	M-8045	REACTOR COOLANT SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B20-007-001-04	P-3135-1	PA-0095-30	COMPONENT COOLING WATER SYSTEM	TB	19E	M	PSE	DEFLECT		RELOCATE	NECESSARY
B20-025-006-02	P-3192-8	PS-0323-12	COMPONENT COOLING WATER SYSTEM	CNT	9A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B28-005-005-02	P-3209-12	P-2674-4	FIREWATER SYSTEM	CNT	9A	M	PSE	DEFLECT		SUPPORT	NECESSARY
B25-139-001-01	P-3210-10	I-FCV237	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9A	M	PSE	DEFLECT		SUPPORT	NECESSARY
B30-006-009-08	P-3210-10	I-GENERIC	MULTIPLE TARGETS	CNT	9A	M	PSE	DEFLECT		TMODIFY	NECESSARY
B10-012-001-04	P-3243-3	P-1479-2	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	M	PSE	DEFLECT	SPTFAIL	SUPPORT	EXPEDIENT
B10-016-001-03	P-3243-3	P-1499-0.75	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	M	PSE	DEFLECT		SUPPORT	NECESSARY
B15-003-003-03	P-3243-3	P-3856-2	SAFETY INJECTION SYSTEM	CNT	9A	M	PSE	DEFLECT	SPTFAIL	SUPPORT	EXPEDIENT
B20-025-004-02	P-3256-2	P-3163-2	COMPONENT COOLING WATER SYSTEM	CNT	9A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B20-025-004-01	P-3256-2	PA-3163-2	COMPONENT COOLING WATER SYSTEM	CNT	9C	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B01-002-005-02	P-3433-1.50+	I-FT50+	AUXILIARY FEEDWATER SYSTEM	OA	29	M	PSE	DEFLECT	INTERFERE	SUPPORT	NECESSARY
B09-005-005-05	P-3454-1.5	E-K1857-1	REACTOR COOLANT SYSTEM	CNT	9A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B19-015-001-01	P-3551-14	P-1684-0.375	CNT ISOL. OF NON-VITAL SYSTEMS	PPS	3D1	M	ICE	DEFLECT		TMODIFY	NECESSARY
B01-016-002-03	P-3706-10	ES-K8013-4+	AUXILIARY FEEDWATER SYSTEM	AUX	3X	M	PSE	DEFLECT		SUPPORT	NECESSARY
B13-009-002-01	P-3706-10	E-K9440-2	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	M	PSE	DEFLECT		SUPPORT	NECESSARY
B06-031-001-01	P-3819-0.50	I-FT444	REACTOR COOLANT SYSTEM	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B03-005-002-01	P-3989-0.75	I-LT501	MAIN STEAM SYSTEM	CNT	9B	M	PSE	DEFLECT		SUPPORT	NECESSARY
B19-002-002-01	P-4066-1	I-9354A	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9A	M	ICE	DEFLECT		TMODIFY	NECESSARY
B23-004-001-06	P-4072-3	P-0325-8	CONTAINMENT SPRAY SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B23-004-004-05	P-4072-3	P-0326-8	CONTAINMENT SPRAY SYSTEM	PEN	3CC	M	PSE	DEFLECT	SPTFAIL	SUPPORT	NECESSARY
B06-049-001-01	P-4249-0.75	I-L1S1320	REACTOR COOLANT SYSTEM	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B15-022-004-01	P-4271-0.75	E-KX184-1.50	SAFETY INJECTION SYSTEM	CNT	9A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B06-025-002-01	P-4272-0.75	E-KX168-1.25	REACTOR COOLANT SYSTEM	CNT	9A	M	EE	DEFLECT		TMODIFY	EXPEDIENT
B18-018-002-02	P-4303-1	E-K6384-1.25	RESIDUAL HEAT REMOVAL SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B23-004-001-07	P-4347-3	P-0325-8	CONTAINMENT SPRAY SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B23-004-004-04	P-4347-3	P-0326-8	CONTAINMENT SPRAY SYSTEM	PEN	3CC	M	PSE	DEFLECT	SPTFAIL	SUPPORT	NECESSARY
B10-005-001-01	P-4397-2	P-0055-2	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	M	PSE	DEFLECT		SUPPORT	OVERLAP
B10-010-002-01	P-4398-2	I-F1C171	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	M	PSE	DEFLECT		TMODIFY	NECESSARY
B15-003-009-01	P-4406-1	P-2000-0.75	SAFETY INJECTION SYSTEM	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B28-008-002-01	P-4554-4+	P-3951-2	FIREWATER SYSTEM	TB	19A	M	PSE	DEFLECT	SPTFAIL	SUPPORT	EXPEDIENT
B03-007-002-02	P-4625-1	I-LT503	MAIN STEAM SYSTEM	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B06-003-004-01	P-4625-1	I-FIC499C	REACTOR COOLANT SYSTEM	CNT	9B	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B17-007-002-01	PS-0118-8	E-K6355-2	SAFETY INJECTION SYSTEM	PEN	3CC	M	EE	DEFLECT		TMODIFY	EXPEDIENT
B03-025-001-01	PS-0227-28	I-PT525	MAIN STEAM SYSTEM	OA	29	M	EMS	DEFLECT	INTERFERE	TMODIFY	NECESSARY

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=DEFLECT

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B06-001-004-02	PS-0253-10	I-FIC499A	REACTOR COOLANT SYSTEM	CNT	9A	M	ICE	DEFLECT		TMODIFY	NECESSARY
B25-040-030-01	PS-0263-10	H-DUCT-3G	HVAC FOR VITAL EQUIP. COOLING	PPS	3G	M	HVA	DEFLECT		TMODIFY	EXPEDIENT
B23-004-001-02	PS-0270-10	PS-0270-10	CONTAINMENT SPRAY SYSTEM	CNT	9A	M	ENG	DEFLECT		TMODIFY	OVERLAP
B28-008-017-04	PS-0338-4	P-3958-2	FIREWATER SYSTEM	TB	19A	M	PSE	DEFLECT		SUPPORT	EXPEDIENT
B28-008-020-01	PS-0579-8	PS-5042-4	FIREWATER SYSTEM	TB	19A	M	PSE	DEFLECT		RELOCATE	EXPEDIENT
B17-001-007-02	PS-1016-3	PA-1016-3	SAFETY INJECTION SYSTEM	CNT	9A	M	PSE	DEFLECT		TMODIFY	EXPEDIENT
B10-003-001-02	PS-1042-2.50	P-0746-3	CHEM. & VOL. CONTROL SYSTEM	PEN	3CC	M	PSE	DEFLECT		SUPPORT	NECESSARY
B15-002-008-01	PS-1045-10	P-2641-4	SAFETY INJECTION SYSTEM	PPS	3T1	M	PSE	DEFLECT		RELOCATE	NECESSARY
B05-009-004-01	PS-1750-8	E-K6278-3	MAIN STEAM SYSTEM	PEN	3CC	M	PSE	DEFLECT	SPTFAIL	SUPPORT	NECESSARY
B28-005-005-05	PS-3256-2	P-2674-4	FIREWATER SYSTEM	CNT	9A	M	PSE	DEFLECT		CLEARANCE	NECESSARY
B18-002-001-03	SQ	M-RHRPP 2-1	RESIDUAL HEAT REMOVAL SYSTEM	PPS	3D1	M	PSE	DEFLECT		CONSTDEF	OVERLAP
B18-004-001-02	SQ	M-RHRPP 2-2	RESIDUAL HEAT REMOVAL SYSTEM	PPS	3D2	M	PSE	DEFLECT		CONSTDEF	OVERLAP
B25-040-040-02	C-MR-3AA	H-DUCT-3AA	HVAC FOR VITAL EQUIP. COOLING	AUX	3AA	NAN		DEFLECT			
B28-004-034-02	C-MR-3C	P-3619-4	FIREWATER SYSTEM	AUX	3C	NAN		DEFLECT			
B20-009-001-02	C-P9T-2	PA-0101-30	COMPONENT COOLING WATER SYSTEM	TB	19E	NAN		DEFLECT			
B20-059-002-04	C-SB	P-0121-6	COMPONENT COOLING WATER SYSTEM	PEN	3CC	NAN		DEFLECT	SPTFAIL		
B28-008-019-05	C-STAIR	P-3960-2	FIREWATER SYSTEM	TB	19A	NAN		DEFLECT	CIVILFAIL		
B12-002-001-04	C-66F-2	M-8076	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	NAN		DEFLECT			
B19-001-001-01	C-81F-2	I-1673-0.375	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9C	NAN		DEFLECT			
B12-004-005-01	E-BJK269	E-K1864-0.75	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	NAN		DEFLECT			
B11-007-002-07	E-BUSDUCT	E-K2667-3	CHEM. & VOL. CONTROL SYSTEM	EL	23B	NAN		DEFLECT			
B19-001-001-02	E-KR273-0.75	I-1673-0.375	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9C	NAN		DEFLECT			
B28-003-001-06	E-KS863-1.50	P-2990-4	FIREWATER SYSTEM	AUX	32	NAN		DEFLECT			
B07-012-001-07	E-KX-686	I-LT461	REACTOR COOLANT SYSTEM	CNT	9A	NAN		DEFLECT			
B06-034-002-02	E-KX120-3	E-KX275-2.50	REACTOR COOLANT SYSTEM	CNT	9A	NAN		DEFLECT	INTERFERE		
B07-011-001-05	E-KX165-1	I-LT460	REACTOR COOLANT SYSTEM	CNT	9A	NAN		DEFLECT			
B09-006-005-01	E-KX219-1.50	E-K1917-1	REACTOR COOLANT SYSTEM	CNT	9A	NAN		DEFLECT			
B09-007-004-01	E-KX219-1.50	E-K1921-1	REACTOR COOLANT SYSTEM	CNT	9A	NAN		DEFLECT			
B06-046-002-01	E-KX459-0.75	E-K1855-1.50	REACTOR COOLANT SYSTEM	CNT	9B	NAN		DEFLECT			
B06-022-001-03	E-KX699	I-FT414	REACTOR COOLANT SYSTEM	CNT	9A	NAN		DEFLECT			
B06-044-001-01	E-KX798-1	M-8078A	REACTOR COOLANT SYSTEM	CNT	9C	NAN		DEFLECT	INTERFERE		
B19-004-001-03	E-KX884-1	I-1674-0.375	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9C	NAN		DEFLECT			
B10-011-003-01	E-KX929-1	I-PT183	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	NAN		DEFLECT			
B12-005-005-01	E-KX937-0.75	E-KX537-0.75	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	NAN		DEFLECT			
B06-001-004-03	E-K1614-1.50	I-FIC499A	REACTOR COOLANT SYSTEM	CNT	9A	NAN		DEFLECT	INTERFERE		
B23-004-001-09	E-K1993-4	PS-0270-10	CONTAINMENT SPRAY SYSTEM	CNT	9A	NAN		DEFLECT			
B28-003-001-11	E-K3070+	PA-2990-4	FIREWATER SYSTEM	AUX	32	NAN		DEFLECT			
B20-020-003-03	E-K3809-1.50	P-0128-1.50	COMPONENT COOLING WATER SYSTEM	PEN	3CC	NAN		DEFLECT			
B01-004-005-02	E-K8012-4+	P-0567-2	AUXILIARY FEEDWATER SYSTEM	PPS	3T1	NAN		DEFLECT	INTERFERE		
B28-003-001-03	E-K8033	P-2990-4	FIREWATER SYSTEM	PPS	3T1	NAN		DEFLECT			
B07-005-002-04	E-PL27-1	I-PT458A	REACTOR COOLANT SYSTEM	CNT	9A	NAN		DEFLECT			
B07-012-001-04	E-R-9C	I-LT461	REACTOR COOLANT SYSTEM	CNT	9C	NAN		DEFLECT			
B20-024-001-03	E-RS-3CC	P-0104-20	COMPONENT COOLING WATER SYSTEM	PEN	3CC	NAN		DEFLECT			
B01-002-013-01	E-RS-3T1	P-0564-1.50	AUXILIARY FEEDWATER SYSTEM	PPS	3T1	NAN		DEFLECT			
B01-002-003-01	E-RS-3T1	P-0568-6	AUXILIARY FEEDWATER SYSTEM	PPS	3T1	NAN		DEFLECT			
B01-002-001-01	E-RS-3T1	PA-0558-8	AUXILIARY FEEDWATER SYSTEM	PPS	3T1	NAN		DEFLECT			
B15-002-008-02	E-RS-3T1	P-2641-4	SAFETY INJECTION SYSTEM	PPS	3T1	NAN		DEFLECT			
B15-005-003-01	E-RS-9A	P-2575-8	SAFETY INJECTION SYSTEM	CNT	9A	NAN		DEFLECT			
B15-022-004-03	ES-KX231-1	E-KX231-1	SAFETY INJECTION SYSTEM	CNT	9A	NAN		DEFLECT			
B09-010-004-03	H-DAMPER	E-K9127-3	REACTOR COOLANT SYSTEM	AUX	3L	NAN		DEFLECT			
B28-008-001-08	H-DUCT-19A	P-3944-6	FIREWATER SYSTEM	TB	19A	NAN		DEFLECT			
B30-003-020-01	H-DUCT-20	E-GENERIC	MULTIPLE TARGETS	EL	20	NAN		DEFLECT	SPTFAIL		
B20-005-002-02	H-DUCT-23A	E-K2626-4	COMPONENT COOLING WATER SYSTEM	EL	23A	NAN		DEFLECT			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=DEFLECT

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B20-053-001-05	H-DUCT-3L	PA-2292-3	COMPONENT COOLING WATER SYSTEM	AUX	3L	NAN		DEFLECT			
B28-003-013-08	H-DUCT-3V3	P-4260-2	FIREWATER SYSTEM	HV	3V3	NAN		DEFLECT			
B20-041-007-01	H-DUCT-3X	P-3268-2	COMPONENT COOLING WATER SYSTEM	AUX	3X	NAN		DEFLECT			
B25-105-004-01	H-DUCT-5B4	E-K7579-3	HVAC FOR VITAL EQUIP. COOLING	EL	5B4	NAN		DEFLECT			
B15-003-006-05	H-DUCT-9A	P-0508-8	SAFETY INJECTION SYSTEM	CNT	9A	NAN		DEFLECT			
B19-007-001-03	I-F1C171	I-1675-0.375	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9B	NAN		DEFLECT			
B19-008-001-01	I-F1C171	I-1676-0.375	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9B	NAN		DEFLECT			
B16-006-002-02	M-BATANK2-2	E-KT580-2	SAFETY INJECTION SYSTEM	AUX	3AA	NAN		DEFLECT			
B20-059-006-01	M-HR	PA-2242-3	COMPONENT COOLING WATER SYSTEM	AUX	32	NAN		DEFLECT			
B28-008-018-01	M-HR	PA-3959-2	FIREWATER SYSTEM	TB	19A	NAN		DEFLECT	SPTFAIL		
B30-006-000-01	M-HR	P-GENERIC	MULTIPLE TARGETS	VAR	VRS	NAN		DEFLECT			
B25-040-040-06	M-TANK	H-DUCT-3A	HVAC FOR VITAL EQUIP. COOLING	AUX	3A	NAN		DEFLECT			
B25-105-003-02	M-VALVE	H-CR38	HVAC FOR VITAL EQUIP. COOLING	HV	8B4	NAN		DEFLECT	MECHFAIL		
B12-009-004-01	M-8149A	E-K1976-1	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	NAN		DEFLECT			
B28-008-021-02	P-DRAIN-19A	P-5043-2	FIREWATER SYSTEM	TB	19A	NAN		DEFLECT			
B25-107-001-01	P-DRAIN-8B4	H-S38	HVAC FOR VITAL EQUIP. COOLING	HV	8B4	NAN		DEFLECT			
B28-004-004-01	P-SA-3CC	P-3603-4	FIREWATER SYSTEM	PEN	3CC	NAN		DEFLECT			
B25-013-006-02	P-SA-9A	E-K1711-0.75	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9A	NAN		DEFLECT			
B08-001-001-03	P-SA-9B	P-0013-4	REACTOR COOLANT SYSTEM	CNT	9B	NAN		DEFLECT			
B20-059-002-02	P-SPR-3CC	P-0121-6	COMPONENT COOLING WATER SYSTEM	PEN	3CC	NAN		DEFLECT	SPTFAIL		
B20-001-002-01	P-ULB-3K1	E-K7076	COMPONENT COOLING WATER SYSTEM	PPS	3K1	NAN		DEFLECT			
B11-006-002-01	P-ULB-3K3	E-K7057+	CHEM. & VOL. CONTROL SYSTEM	PPS	3K3	NAN		DEFLECT			
B05-015-004-01	P-ULB-3L	E-K9315-2	MAIN STEAM SYSTEM	AUX	3L	NAN		DEFLECT			
B13-008-001-03	P-USB-3AA	M-BAT 2-1	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	NAN		DEFLECT			
B09-006-005-03	P-USB-3CC	E-KK204-1	REACTOR COOLANT SYSTEM	PEN	3CC	NAN		DEFLECT			
B28-004-052-04	P-USB-3T1	P-3722-6	FIREWATER SYSTEM	PPS	3T1	NAN		DEFLECT			
B28-004-052-05	P-USB-3T1	P-3722-6	FIREWATER SYSTEM	PPS	3T1	NAN		DEFLECT			
B10-001-001-04	P-USB-3X	P-0052-3	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	NAN		DEFLECT			
B08-001-002-01	P-USB-9B	I-TE451	REACTOR COOLANT SYSTEM	CNT	9B	NAN		DEFLECT			
B13-020-001-03	P-0066-2	I-LT106	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	NAN		DEFLECT			
B20-038-001-02	P-0156-2.50	P-2402-2	COMPONENT COOLING WATER SYSTEM	PEN	3CC	NAN		DEFLECT			
B17-001-009-02	P-0223-1	P-1992-1.50	SAFETY INJECTION SYSTEM	CNT	9A	NAN		DEFLECT			
B01-002-013-02	P-0381-4	P-0564-1.50	AUXILIARY FEEDWATER SYSTEM	PPS	3T1	NAN		DEFLECT			
B28-003-001-08	P-0382-4	P-2990-4	FIREWATER SYSTEM	PPS	3T1	NAN		DEFLECT			
B15-036-002-01	P-0531-1	I-8880	SAFETY INJECTION SYSTEM	PEN	3CC	NAN		DEFLECT			
B17-001-002-01	P-0994-1	I-FT917	SAFETY INJECTION SYSTEM	AUX	3D3	NAN		DEFLECT	SPTFAIL		
B22-010-004-01	P-1046-6	E-K4847-2	AUX. SALTWATER SYSTEM	TB	19E	NAN		DEFLECT			
B20-001-002-07	P-1046-6	E-K4847-2	COMPONENT COOLING WATER SYSTEM	TB	19E	NAN		DEFLECT			
B07-005-002-03	P-1657-4	I-PT458A	REACTOR COOLANT SYSTEM	CNT	9A	NAN		DEFLECT			
B25-029-006-04	P-1705-4	H-DUCT-3V2	HVAC FOR VITAL EQUIP. COOLING	HV	3V2	NAN		DEFLECT			
B28-008-010-03	P-1742-8	P-3952-4	FIREWATER SYSTEM	TB	19A	NAN		DEFLECT			
B25-144-004-01	P-1742-8	H-DUCT-19A	HVAC FOR VITAL EQUIP. COOLING	TB	19A	NAN		DEFLECT			
B17-005-002-01	P-2032-6	I-8911	SAFETY INJECTION SYSTEM	AUX	3D3	NAN		DEFLECT			
B20-055-001-02	P-2058-3	P-2286-3	COMPONENT COOLING WATER SYSTEM	AUX	3C	NAN		DEFLECT			
B18-010-002-03	P-2067-2	I-HCV638	RESIDUAL HEAT REMOVAL SYSTEM	PEN	3CC	NAN		DEFLECT	SPTFAIL		
B18-016-002-01	P-2067-2	M-HCV637	RESIDUAL HEAT REMOVAL SYSTEM	PEN	3CC	NAN		DEFLECT	SPTFAIL		
B28-003-002-01	P-2124-4	P-0516-2	FIREWATER SYSTEM	AUX	32	NAN		DEFLECT			
B24-008-004-02	P-2173-5	E-DG 2-2	EMERG. DIESEL GENERATORS	DG	22B1	NAN		DEFLECT			
B28-003-001-10	P-2337-2	PA-2990-4	FIREWATER SYSTEM	AUX	33	NAN		DEFLECT			
B18-001-016-01	P-2357-2	P-1662-2	RESIDUAL HEAT REMOVAL SYSTEM	PEN	3CC	NAN		DEFLECT			
B29-003-004-02	P-2454-4	E-K8929-1.25	CNT ISOL. OF NON-VITAL SYSTEMS	AUX	3L	NAN		DEFLECT			
B28-003-001-04	P-2741-4	P-2990-4	FIREWATER SYSTEM	AUX	32	NAN		DEFLECT			
B28-003-001-16	P-2771-4	P-2990-4	FIREWATER SYSTEM	AUX	32	NAN		DEFLECT			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=DEFLECT

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B28-008-001-10	P-2772-4	P-3944-6	FIREWATER SYSTEM	TB	19A	NAN		DEFLECT			
B06-003-004-02	P-2886-0.75	I-FIC499C	REACTOR COOLANT SYSTEM	CNT	9B	NAN		DEFLECT			
B25-029-007-01	P-2989-4	H-DUCT-32	HVAC FOR VITAL EQUIP. COOLING	AUX	32	NAN		DEFLECT			
B28-003-001-14	P-2997-2	PA-2990-4	FIREWATER SYSTEM	AUX	33	NAN		DEFLECT			
B28-003-001-13	P-2997-2	PA-2990-4	FIREWATER SYSTEM	HV	3V2	NAN		DEFLECT			
B25-105-002-02	P-3117-8	E-K6845-1.5	HVAC FOR VITAL EQUIP. COOLING	TB	19A	NAN		DEFLECT			
B28-008-002-03	P-3135-1	P-3951-2	FIREWATER SYSTEM	TB	19A	NAN		DEFLECT			
B20-007-001-03	P-3403-2	I-PI113	COMPONENT COOLING WATER SYSTEM	TB	19E	NAN		DEFLECT			
B20-009-001-03	P-3405-2	PA-0101-30	COMPONENT COOLING WATER SYSTEM	TB	19E	NAN		DEFLECT			
B01-002-003-06	P-3427-1.50	P-0476-4	AUXILIARY FEEDWATER SYSTEM	OA	29	NAN		DEFLECT			
B03-026-001-01	P-3512-1	I-LT526	MAIN STEAM SYSTEM	CNT	9A	NAN		DEFLECT			
B22-002-001-04	P-3836-4	P-0680-24	AUX. SALTWATER SYSTEM	IS	30A5	NAN		DEFLECT	PIPEFAIL		
B03-011-001-02	P-3917-3	M-FCV43	MAIN STEAM SYSTEM	PEN	3CC	NAN		DEFLECT	INTERFERE		
B03-016-002-02	P-4072-3	I-FCV22	MAIN STEAM SYSTEM	PEN	3CC	NAN		DEFLECT			
B06-025-002-02	P-4272-0.75	E-KX168-1.25	REACTOR COOLANT SYSTEM	CNT	9A	NAN		DEFLECT			
B15-023-004-02	P-4272-0.75	E-KX653-2	SAFETY INJECTION SYSTEM	CNT	9A	NAN		DEFLECT			
B15-023-004-03	P-4272-0.75	E-KX653-2	SAFETY INJECTION SYSTEM	CNT	9A	NAN		DEFLECT			
B03-016-002-01	P-4347-3	I-FCV22	MAIN STEAM SYSTEM	PEN	3CC	NAN		DEFLECT			
B15-003-008-01	P-4356-1.50	PA-0253-10	SAFETY INJECTION SYSTEM	CNT	9B	NAN		DEFLECT			
B28-004-052-01	P-5110-4	PA-3722-6	FIREWATER SYSTEM	PPS	3T1	NAN		DEFLECT			
B03-010-001-01	PA-3426-1.50	M-FCV42	MAIN STEAM SYSTEM	OA	29	NAN		DEFLECT			
B25-040-040-03	PS-SA-3AA	H-DUCT-3AA	HVAC FOR VITAL EQUIP. COOLING	AUX	3AA	NAN		DEFLECT			
B03-026-002-01	PS-USB-3CC	E-KT612-1.50	MAIN STEAM SYSTEM	PEN	3CC	NAN		DEFLECT	INTERFERE		
B12-002-002-01	PS-0026-2	M-8152	CHEM. & VOL. CONTROL SYSTEM	PEN	3CC	NAN		DEFLECT			
B28-008-017-02	PS-0338-4	P-3958-2	FIREWATER SYSTEM	TB	19A	NAN		DEFLECT			
B04-003-001-02	PS-0760-3	P-1045-10	MAIN STEAM SYSTEM	PPS	3T1	NAN		DEFLECT			
B05-002-001-03	PS-1041-2.50	PA-1041-2.50	MAIN STEAM SYSTEM	PEN	3CC	NAN		DEFLECT			
B05-011-004-01	PS-1042-2.50	E-K6290-1.50	MAIN STEAM SYSTEM	PEN	3CC	NAN		DEFLECT			
B04-002-001-02	PS-1043-2.50	P-0594-4	MAIN STEAM SYSTEM	PEN	3CC	NAN		DEFLECT			
B25-029-006-03	PS-1600-2	H-DUCT-3V2	HVAC FOR VITAL EQUIP. COOLING	HV	3V2	NAN		DEFLECT			
B06-001-004-01	PS-1632-1	I-FIC499A	REACTOR COOLANT SYSTEM	CNT	9B	NAN		DEFLECT			
B10-004-001-01	PS-2314-3	PA-0054-2	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	NAN		DEFLECT			
B01-014-002-01	PS-2343-3	E-KX505-2.50	AUXILIARY FEEDWATER SYSTEM	CNT	9A	NAN		DEFLECT			
B07-001-004-01	PS-9B	P-3100-0.75	REACTOR COOLANT SYSTEM	CNT	9B	NAN		DEFLECT			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=ENVIRON

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B11-011-006-02	NS-T	E-KT594	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	A	ENG	ENVIRON			
B11-011-006-01	NS-T	E-KT595	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	A	ENG	ENVIRON			
B11-006-002-02	NS-T	E-K7050	CHEM. & VOL. CONTROL SYSTEM	PPS	3I1	A	EE	ENVIRON			
B13-015-004-01	NS-T	E-K9490-1.25	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	A	ENG	ENVIRON			
B23-013-002-01	NS-T	E-K8816-2	CONTAINMENT SPRAY SYSTEM	PPS	3G	A	ENG	ENVIRON			
B18-002-002-01	M-SPT	M-RHRPP 2-1	RESIDUAL HEAT REMOVAL SYSTEM	PPS	3D1	M	ENG	ENVIRON		RELOCATE	OVERLAP
B18-004-002-01	M-SPT	M-RHRPP 2-2	RESIDUAL HEAT REMOVAL SYSTEM.	PPS	3D2	M	ENG	ENVIRON		RELOCATE	OVERLAP

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=FIXTURE

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B24-002-008-05	E-LF-C02	E-K2242-0.75	EMERG. DIESEL GENERATORS	DG	22B1	A	EE	FIXTURE			
B24-002-032-01	E-LF-C02	E-K2241-0.75	EMERG. DIESEL GENERATORS	DG	22A1	A	EE	FIXTURE			
B30-002-009-01	E-LF-18	I-SG	MULTIPLE TARGETS	CNT	9C	A	EE	FIXTURE			
B01-002-008-02	E-LF-29	I-FT77	AUXILIARY FEEDWATER SYSTEM	OA	29	A	CE	FIXTURE			
B13-021-004-01	E-LF-3AA	E-ENHA	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	A	EE	FIXTURE			
B18-002-001-01	E-LF-3D1	M-RHRPP 2-1	RESIDUAL HEAT REMOVAL SYSTEM	PPS	3D1	A	EE	FIXTURE			
B18-004-001-01	E-LF-3D2	M-RHRPP 2-2	RESIDUAL HEAT REMOVAL SYSTEM	PPS	3D2	A	EE	FIXTURE			
B17-003-002-01	E-LF-3D3	E-R-3D3	SAFETY INJECTION SYSTEM	AUX	3D3	A	EE	FIXTURE			
B14-004-002-01	E-LF-3I1	E-8105	CHEM. & VOL. CONTROL SYSTEM	PPS	3I1	A	EE	FIXTURE			
B14-005-002-01	E-LF-3I1	E-8106	CHEM. & VOL. CONTROL SYSTEM	PPS	3I1	A	EE	FIXTURE			
B11-006-001-01	E-LF-3I1	M-CHGPP 2-1	CHEM. & VOL. CONTROL SYSTEM	PPS	3I1	A	EE	FIXTURE			
B11-007-001-01	E-LF-3I1	M-CHGPP 2-2	CHEM. & VOL. CONTROL SYSTEM	PPS	3I1	A	EE	FIXTURE			
B11-008-001-02	E-LF-3I2	M-CHGPP 2-3	CHEM. & VOL. CONTROL SYSTEM	PPS	3I2	A	EE	FIXTURE			
B20-007-003-01	E-LF-3K3	I-RE17A	COMPONENT COOLING WATER SYSTEM	PPS	3K3	A	EE	FIXTURE			
B20-011-003-01	E-LF-3K3	I-RE17B	COMPONENT COOLING WATER SYSTEM	PPS	3K3	A	EE	FIXTURE			
B28-003-007-01	E-LF-3W	P-1705-4	FIREWATER SYSTEM	AUX	3W	A	EE	FIXTURE			
B28-003-003-03	E-LF-3W	P-2989-4	FIREWATER SYSTEM	AUX	3W	A	EE	FIXTURE			
B04-001-001-06	E-LF-52	PA-0593-4	MAIN STEAM SYSTEM	OA	29	A	EE	FIXTURE			
B22-003-002-02	E-LF-9	E-KZ005	AUX. SALTWATER SYSTEM	IS	30A3	A	EE	FIXTURE			
B22-004-002-02	E-LF-9	E-KZ006	AUX. SALTWATER SYSTEM	IS	30A4	A	EE	FIXTURE			
B22-009-002-02	E-LF-9	I-FCV602	AUX. SALTWATER SYSTEM	TB	19E	A	EE	FIXTURE			
B01-002-010-01	E-LF-9	I-FT78	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	A	EE	FIXTURE			
B01-010-001-01	E-LF-9	M-LCV108	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	A	EE	FIXTURE			
B01-011-001-01	E-LF-9	M-LCV109	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	A	EE	FIXTURE			
B01-014-001-01	E-LF-9	M-LCV113	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	A	EE	FIXTURE			
B01-015-001-01	E-LF-9	M-LCV115	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	A	EE	FIXTURE			
B13-011-004-01	E-LF-9	E-TAB	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	A	EE	FIXTURE			
B32-004-001-01	E-LF-9	E-DCSWGR	ELECTRIC POWER SYSTEM	EL	6B1	A	EE	FIXTURE			
B32-004-002-01	E-LF-9	E-DCSWGR	ELECTRIC POWER SYSTEM	EL	6B2	A	EE	FIXTURE			
B32-004-004-02	E-LF-9	E-DCSWGR	ELECTRIC POWER SYSTEM	EL	6B3	A	EE	FIXTURE			
B28-008-017-01	E-LF-9	PA-3958-2	FIREWATER SYSTEM	TB	19A	A	EE	FIXTURE			
B03-032-001-01	E-LF-9	I-PT546	MAIN STEAM SYSTEM	PEN	3CC	A	EE	FIXTURE			
B30-002-019-01	E-LF-9	M-CCWHX	MULTIPLE TARGETS	TB	19E	A	EE	FIXTURE			
B22-010-002-02	E-LF-9,35	I-FCV603	AUX. SALTWATER SYSTEM	TB	19E	A	EE	FIXTURE			
B30-002-009-02	E-LF-9C	I-SG	MULTIPLE TARGETS	CNT	9C	A	EE	FIXTURE			
B32-003-005-04	E-LF-BOL	E-480VSWGR	ELECTRIC POWER SYSTEM	EL	5B2	M	EE	FIXTURE		SUPPORT	EXPEDIENT
B24-008-016-01	E-LF-15	M-DG 2-1	EMERG. DIESEL GENERATORS	DG	22A1	M	EE	FIXTURE		CHAIN	NECESSARY
B24-008-016-02	E-LF-15	M-DG 2-1	EMERG. DIESEL GENERATORS	DG	22A2	M	EE	FIXTURE		RELOCATE	NECESSARY
B24-008-003-09	E-LF-15	M-DG 2-2	EMERG. DIESEL GENERATORS	DG	22B2	M	EE	FIXTURE		RELOCATE	NECESSARY
B24-008-003-10	E-LF-15	M-DG 2-2	EMERG. DIESEL GENERATORS	DG	22B1	M	EE	FIXTURE		CHAIN	NECESSARY
B24-008-003-11	E-LF-15	M-DG 2-2	EMERG. DIESEL GENERATORS	DG	22B1	M	EE	FIXTURE		RELOCATE	NECESSARY
B28-008-007-02	E-LF-15	P-3949-2	FIREWATER SYSTEM	TB	19D	M	EE	FIXTURE		CHAIN	EXPEDIENT
B28-008-016-02	E-LF-15	PA-3961-2	FIREWATER SYSTEM	TB	19A	M	EE	FIXTURE		CHAIN	EXPEDIENT
B28-008-024-03	E-LF-15	PA-3962-2	FIREWATER SYSTEM	TB	19D	M	EE	FIXTURE		CHAIN	EXPEDIENT
B25-163-001-03	E-LF-15	H-DUCT-22A2	HVAC FOR VITAL EQUIP. COOLING	DG	22A2	M	EE	FIXTURE		CHAIN	NECESSARY
B25-163-002-02	E-LF-15	H-DUCT-22B2	HVAC FOR VITAL EQUIP. COOLING	DG	22B2	M	EE	FIXTURE		CHAIN	NECESSARY
B23-005-001-02	E-LF-3G	M-CSPP 2-1	CONTAINMENT SPRAY SYSTEM	PPS	3G	M	EE	FIXTURE		CHAIN	EXPEDIENT
B23-006-001-02	E-LF-3G	M-CSPP 2-2	CONTAINMENT SPRAY SYSTEM	PPS	3G	M	EE	FIXTURE		CHAIN	EXPEDIENT
B23-012-001-01	E-LF-3G	M-8892	CONTAINMENT SPRAY SYSTEM	PPS	3G	M	EE	FIXTURE		CHAIN	EXPEDIENT
B23-013-001-01	E-LF-3G	M-8894A	CONTAINMENT SPRAY SYSTEM	PPS	3G	M	EE	FIXTURE		CHAIN	EXPEDIENT
B23-014-001-01	E-LF-3G	M-8994B	CONTAINMENT SPRAY SYSTEM	PPS	3G	M	EE	FIXTURE		CHAIN	EXPEDIENT
B20-001-001-02	E-LF-3K1	M-CCWPP 2-1	COMPONENT COOLING WATER SYSTEM	PPS	3K1	M	EE	FIXTURE		CHAIN	EXPEDIENT
B20-003-001-02	E-LF-3K2	M-CCWPP 2-2	COMPONENT COOLING WATER SYSTEM	PPS	3K2	M	EE	FIXTURE		CHAIN	EXPEDIENT

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=FIXTURE

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B20-005-001-02	E-LF-3K3	M-CCWPP 2-3	COMPONENT COOLING WATER SYSTEM	PPS	3K3	M	EE	FIXTURE		CHAIN	EXPEDIENT
B11-009-002-01	E-LF-3X	E-LCV112B	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	M	EE	FIXTURE		CHAIN	EXPEDIENT
B11-010-002-01	E-LF-3X	E-LCV112C	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	M	EE	FIXTURE		CHAIN	EXPEDIENT
B13-018-002-01	E-LF-3X	E-8104	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	M	EE	FIXTURE		CHAIN	EXPEDIENT
B25-140-002-01	E-LF-8	I-FCV239	CNT ISOL. OF NON-VITAL SYSTEMS	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B25-140-003-01	E-LF-8	I-FCV240	CNT ISOL. OF NON-VITAL SYSTEMS	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B29-003-001-01	E-LF-8	I-FCV501	CNT ISOL. OF NON-VITAL SYSTEMS	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B31-003-002-01	E-LF-8	I-FCV584	CNT ISOL. OF NON-VITAL SYSTEMS	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B25-002-002-01	E-LF-8	I-FCV654	CNT ISOL. OF NON-VITAL SYSTEMS	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B19-003-002-01	E-LF-8	I-9354B	CNT ISOL. OF NON-VITAL SYSTEMS	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B11-012-002-01	E-LF-8	I-HCV142	CHEM. & VOL. CONTROL SYSTEM	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B32-005-001-01	E-LF-8	E-BATTERY	ELECTRIC POWER SYSTEM	EL	6B1	M	EE	FIXTURE		CHAIN	NECESSARY
B32-005-002-02	E-LF-8	E-BATTERY	ELECTRIC POWER SYSTEM	EL	6B2	M	EE	FIXTURE		CHAIN	NECESSARY
B32-005-003-03	E-LF-8	E-BATTERY	ELECTRIC POWER SYSTEM	EL	6B3	M	EE	FIXTURE		CHAIN	NECESSARY
B25-063-002-01	E-LF-8	H-DAMPER	HVAC FOR VITAL EQUIP. COOLING	AUX	3L	M	EE	FIXTURE		RELOCATE	NECESSARY
B25-030-001-02	E-LF-8	H-S1	HVAC FOR VITAL EQUIP. COOLING	HV	3V1	M	EE	FIXTURE		CHAIN	EXPEDIENT
B25-032-001-01	E-LF-8	H-S2	HVAC FOR VITAL EQUIP. COOLING	HV	3V1	M	EE	FIXTURE		CHAIN	EXPEDIENT
B25-077-001-01	E-LF-8	H-S33+	HVAC FOR VITAL EQUIP. COOLING	HV	3V1	M	EE	FIXTURE		CHAIN	EXPEDIENT
B25-040-021-01	E-LF-8	I-SV31	HVAC FOR VITAL EQUIP. COOLING	HV	3V2	M	EE	FIXTURE		CHAIN	EXPEDIENT
B30-002-007-01	E-LF-8	E-GENERIC	MULTIPLE TARGETS	EL	7B	M	EE	FIXTURE		CHAIN	EXPEDIENT
B09-015-001-02	E-LF-8	P-2061-1	REACTOR COOLANT SYSTEM	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B18-001-018-01	E-LF-8	I-FT640	RESIDUAL HEAT REMOVAL SYSTEM	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B18-010-002-02	E-LF-8	I-HCV638	RESIDUAL HEAT REMOVAL SYSTEM	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B18-001-015-01	E-LF-8	I-HCV670	RESIDUAL HEAT REMOVAL SYSTEM	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B16-008-002-03	E-LF-8	E-KT999-1	SAFETY INJECTION SYSTEM	EL	7B	M	EE	FIXTURE		RELOCATE	EXPEDIENT
B15-002-006-01	E-LF-8	I-FT922	SAFETY INJECTION SYSTEM	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B15-001-002-01	E-LF-8	I-PI938	SAFETY INJECTION SYSTEM	PPS	3N	M	EE	FIXTURE		CHAIN	EXPEDIENT
B15-001-004-01	E-LF-8	I-PI939	SAFETY INJECTION SYSTEM	PPS	3N	M	EE	FIXTURE		CHAIN	EXPEDIENT
B23-017-002-01	E-LF-8	I-PT936	CONTAINMENT SPRAY SYSTEM	PEN	3CC	M	EE	FIXTURE		CHAIN	EXPEDIENT
B25-141-002-03	E-LF-9	I-RCHMC	CNT ISOL. OF NON-VITAL SYSTEMS	PEN	3CC	M	EE	FIXTURE		RELOCATE	EXPEDIENT
B01-003-002-01	E-LF-BOL	I-PS421	AUXILIARY FEEDWATER SYSTEM	PPS	3T2	NAN		FIXTURE			
B25-160-003-01	E-LF-ND	H-DUCT-30A5	HVAC FOR VITAL EQUIP. COOLING	IS	30A5	NAN		FIXTURE			
B25-128-004-01	E-LF-SEA	E-K1739-0.75	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9A	NAN		FIXTURE			
B05-005-002-03	E-LF-SEA	I-FCV760	MAIN STEAM SYSTEM	CNT	9B	NAN		FIXTURE			
B05-007-002-01	E-LF-SEA	I-FCV762	MAIN STEAM SYSTEM	CNT	9B	NAN		FIXTURE			
B07-005-002-02	E-LF-SEA	I-LT462	REACTOR COOLANT SYSTEM	CNT	9A	NAN		FIXTURE			
B09-005-002-01	E-LF-SEA	I-PCV456	REACTOR COOLANT SYSTEM	CNT	9C	NAN		FIXTURE			
B30-002-007-02	E-LF-11	E-GENERIC	MULTIPLE TARGETS	EL	7B	NAN		FIXTURE			
B21-001-001-02	E-LF-26	M-CST	AUXILIARY FEEDWATER SYSTEM	OA	26	NAN		FIXTURE			
B13-013-001-02	E-LF-3AA	M-HCV104	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	NAN		FIXTURE			
B13-014-001-02	E-LF-3AA	M-HCV105	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	NAN		FIXTURE			
B13-002-001-03	E-LF-3AA	M-8456A	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	NAN		FIXTURE			
B13-001-001-01	E-LF-3AA	M-8456B	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	NAN		FIXTURE			
B13-002-001-02	E-LF-3AA	M-8456B	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	NAN		FIXTURE			
B20-020-003-02	E-LF-3D1	P-0128-1.50	COMPONENT COOLING WATER SYSTEM	PPS	3D1	NAN		FIXTURE			
B20-020-006-02	E-LF-3D1	P-0131-1.50	COMPONENT COOLING WATER SYSTEM	PPS	3D1	NAN		FIXTURE			
B20-030-003-02	E-LF-3D2	P-0100-1.50	COMPONENT COOLING WATER SYSTEM	PPS	3D2	NAN		FIXTURE			
B20-030-006-01	E-LF-3D2	P-0122-1.50	COMPONENT COOLING WATER SYSTEM	PPS	3D2	NAN		FIXTURE			
B11-011-001-01	E-LF-3D3	M-FCV128	CHEM. & VOL. CONTROL SYSTEM	AUX	3D3	NAN		FIXTURE			
B18-008-001-01	E-LF-3D3	M-8700A	RESIDUAL HEAT REMOVAL SYSTEM	AUX	3D3	NAN		FIXTURE			
B18-014-001-01	E-LF-3D3	M-8700B	RESIDUAL HEAT REMOVAL SYSTEM	AUX	3D3	NAN		FIXTURE			
B17-009-001-01	E-LF-3D3	M-8870B	SAFETY INJECTION SYSTEM	AUX	3D3	NAN		FIXTURE			
B19-016-001-01	E-LF-3I1	M-9353A	CNT ISOL. OF NON-VITAL SYSTEMS	PPS	3I1	NAN		FIXTURE			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=FIXTURE

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B19-018-001-01	E-LF-3I1	M-9353B	CNT ISOL. OF NON-VITAL SYSTEMS	PPS	3I1	NAN		FIXTURE			
B11-001-001-04	E-LF-3I1	M-8125	CHEM. & VOL. CONTROL SYSTEM	PPS	3I1	NAN		FIXTURE			
B11-001-001-05	E-LF-3I1	P-0041-4	CHEM. & VOL. CONTROL SYSTEM	PPS	3I1	NAN		FIXTURE			
B14-003-001-03	E-LF-3I1	P-1464-2	CHEM. & VOL. CONTROL SYSTEM	PPS	3I1	NAN		FIXTURE			
B15-001-003-02	E-LF-3I1	M-8804A	SAFETY INJECTION SYSTEM	PPS	3I1	NAN		FIXTURE			
B20-053-001-04	E-LF-3I2	P-2294-1.50	COMPONENT COOLING WATER SYSTEM	PPS	3I2	NAN		FIXTURE			
B20-053-004-02	E-LF-3I2	P-2295-1.50	COMPONENT COOLING WATER SYSTEM	PPS	3I2	NAN		FIXTURE			
B20-053-004-01	E-LF-3I2	P-2397-2	COMPONENT COOLING WATER SYSTEM	PPS	3I2	NAN		FIXTURE			
B20-039-003-02	E-LF-3L	I-FE146	COMPONENT COOLING WATER SYSTEM	AUX	3L	NAN		FIXTURE			
B20-035-003-01	E-LF-3L	M-LDHX 2-1	COMPONENT COOLING WATER SYSTEM	AUX	3L	NAN		FIXTURE			
B20-039-003-01	E-LF-3L	P-0126-8	COMPONENT COOLING WATER SYSTEM	AUX	3L	NAN		FIXTURE			
B20-053-001-02	E-LF-3L	P-2292-3	COMPONENT COOLING WATER SYSTEM	AUX	3L	NAN		FIXTURE			
B10-020-001-02	E-LF-3L	M-SWHX	CHEM. & VOL. CONTROL SYSTEM	AUX	3L	NAN		FIXTURE			
B10-016-002-05	E-LF-3L	P-0065-4	CHEM. & VOL. CONTROL SYSTEM	AUX	3L	NAN		FIXTURE			
B10-016-002-04	E-LF-3L	P-3636-4	CHEM. & VOL. CONTROL SYSTEM	AUX	3L	NAN		FIXTURE			
B20-028-003-02	E-LF-3N	P-0310-2	COMPONENT COOLING WATER SYSTEM	PPS	3N	NAN		FIXTURE			
B20-028-006-02	E-LF-3N	P-0311-2	COMPONENT COOLING WATER SYSTEM	PPS	3N	NAN		FIXTURE			
B20-019-001-01	E-LF-3N	P-0312-2	COMPONENT COOLING WATER SYSTEM	PPS	3N	NAN		FIXTURE			
B20-019-006-02	E-LF-3N	P-0313-2	COMPONENT COOLING WATER SYSTEM	PPS	3N	NAN		FIXTURE			
B20-028-001-01	E-LF-3N	P-1926-1	COMPONENT COOLING WATER SYSTEM	PPS	3N	NAN		FIXTURE			
B20-028-006-01	E-LF-3N	P-1927-1	COMPONENT COOLING WATER SYSTEM	PPS	3N	NAN		FIXTURE			
B20-019-001-02	E-LF-3N	P-1928-1	COMPONENT COOLING WATER SYSTEM	PPS	3N	NAN		FIXTURE			
B20-019-006-01	E-LF-3N	P-1929-1	COMPONENT COOLING WATER SYSTEM	PPS	3N	NAN		FIXTURE			
B20-028-003-01	E-LF-3N	P-2259-1	COMPONENT COOLING WATER SYSTEM	PPS	3N	NAN		FIXTURE			
B20-019-003-01	E-LF-3N	P-2260-1	COMPONENT COOLING WATER SYSTEM	PPS	3N	NAN		FIXTURE			
B20-028-007-01	E-LF-3N	P-2261-1	COMPONENT COOLING WATER SYSTEM	PPS	3N	NAN		FIXTURE			
B20-019-007-01	E-LF-3N	P-2276-1	COMPONENT COOLING WATER SYSTEM	PPS	3N	NAN		FIXTURE			
B28-003-013-06	E-LF-3V3	P-4260-2	FIREWATER SYSTEM	HV	3V3	NAN		FIXTURE			
B28-003-013-07	E-LF-3V3	P-4260-2	FIREWATER SYSTEM	HV	3V3	NAN		FIXTURE			
B28-003-013-09	E-LF-3V3	P-4260-2	FIREWATER SYSTEM	HV	3V3	NAN		FIXTURE			
B28-003-007-02	E-LF-3W	P-1705-4	FIREWATER SYSTEM	AUX	3W	NAN		FIXTURE			
B28-003-003-01	E-LF-3W	P-2989-4	FIREWATER SYSTEM	AUX	3W	NAN		FIXTURE			
B28-003-004-01	E-LF-3W	P-3639-2	FIREWATER SYSTEM	AUX	3W	NAN		FIXTURE			
B28-003-005-04	E-LF-3W	P-3640-2	FIREWATER SYSTEM	AUX	3W	NAN		FIXTURE			
B28-003-005-05	E-LF-3W	P-3640-2	FIREWATER SYSTEM	AUX	3W	NAN		FIXTURE			
B28-003-008-01	E-LF-3W	P-3643-2	FIREWATER SYSTEM	AUX	3W	NAN		FIXTURE			
B28-003-009-01	E-LF-3W	P-3644-2	FIREWATER SYSTEM	AUX	3W	NAN		FIXTURE			
B20-030-001-01	E-LF-3X	PA-0094-12	COMPONENT COOLING WATER SYSTEM	AUX	3X	NAN		FIXTURE			
B11-005-003-01	E-LF-3X	I-PT128	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	NAN		FIXTURE			
B11-005-003-02	E-LF-3X	I-PT128	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	NAN		FIXTURE			
B13-013-001-01	E-LF-3X	M-FCV110A	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	NAN		FIXTURE			
B13-017-001-01	E-LF-3X	M-FCV110B	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	NAN		FIXTURE			
B13-015-001-01	E-LF-3X	M-FCV111A	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	NAN		FIXTURE			
B13-016-001-01	E-LF-3X	M-FCV111B	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	NAN		FIXTURE			
B13-005-001-02	E-LF-3X	M-HCV104	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	NAN		FIXTURE			
B10-016-002-06	E-LF-3X	M-8373	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	NAN		FIXTURE			
B13-004-002-01	E-LF-3X	P-0073-2	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	NAN		FIXTURE			
B13-005-001-01	E-LF-3X	P-0736-2	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	NAN		FIXTURE			
B11-001-001-06	E-LF-3X	P-1452-1	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	NAN		FIXTURE			
B14-003-001-04	E-LF-3X	P-1463-2	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	NAN		FIXTURE			
B28-003-001-09	E-LF-32	P-2990-4	FIREWATER SYSTEM	AUX	32	NAN		FIXTURE			
B13-019-001-01	E-LF-5	I-LT102	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	NAN		FIXTURE			
B13-020-001-02	E-LF-5	I-LT106	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	NAN		FIXTURE			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=FIXTURE

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B10-008-003-01	E-LF-5	I-PT188	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	NAN		FIXTURE			
B12-003-001-06	E-LF-5	P-0063-1	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	NAN		FIXTURE			
B03-025-001-02	E-LF-5	I-PM108	MAIN STEAM SYSTEM	OA	29	NAN		FIXTURE			
B06-005-001-06	E-LF-50	I-FLUX MON	REACTOR COOLANT SYSTEM	CNT	9B	NAN		FIXTURE			
B06-005-001-11	E-LF-50	I-FLUX MON	REACTOR COOLANT SYSTEM	CNT	9B	NAN		FIXTURE			
B06-005-001-13	E-LF-50	I-FLUX MON	REACTOR COOLANT SYSTEM	CNT	9B	NAN		FIXTURE			
B06-005-001-14	E-LF-50	I-FLUX MON	REACTOR COOLANT SYSTEM	CNT	9B	NAN		FIXTURE			
B20-023-001-03	E-LF-8	M-FCV366	COMPONENT COOLING WATER SYSTEM	PEN	3CC	NAN		FIXTURE			
B25-032-002-01	E-LF-8	E-K8114-1.50	HVAC FOR VITAL EQUIP. COOLING	HV	3V1	NAN		FIXTURE			
B22-007-004-01	E-LF-9	E-K1091	AUX. SALTWATER SYSTEM	IS	30A5	NAN		FIXTURE			
B22-008-004-01	E-LF-9	E-K1093	AUX. SALTWATER SYSTEM	IS	30A5	NAN		FIXTURE			
B02-001-003-01	E-LF-9	PA-0557-16	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	NAN		FIXTURE			
B20-025-008-01	E-LF-9	I-FT70	COMPONENT COOLING WATER SYSTEM	PEN	3CC	NAN		FIXTURE			
B32-001-008-02	E-LF-9	E-4.16KVSWGR	ELECTRIC POWER SYSTEM	EL	24A	NAN		FIXTURE			
B32-001-009-02	E-LF-9	E-4.16KVSWGR	ELECTRIC POWER SYSTEM	EL	24B	NAN		FIXTURE			
B32-001-010-02	E-LF-9	E-4.16KVSWGR	ELECTRIC POWER SYSTEM	EL	24C	NAN		FIXTURE			
B32-003-004-01	E-LF-9	E-480VSWGR	ELECTRIC POWER SYSTEM	EL	5B1	NAN		FIXTURE			
B32-003-005-01	E-LF-9	E-480VSWGR	ELECTRIC POWER SYSTEM	EL	5B2	NAN		FIXTURE			
B32-003-006-01	E-LF-9	E-480VSWGR	ELECTRIC POWER SYSTEM	EL	5B3	NAN		FIXTURE			
B28-008-021-01	E-LF-9	P-5043-2	FIREWATER SYSTEM	DG	22C	NAN		FIXTURE			
B28-008-019-01	E-LF-9	PA-3960-2	FIREWATER SYSTEM	TB	19A	NAN		FIXTURE			
B25-043-001-01	E-LF-9	H-E2	HVAC FOR VITAL EQUIP. COOLING	HV	3V4	NAN		FIXTURE			
B25-077-001-03	E-LF-9	H-S33+	HVAC FOR VITAL EQUIP. COOLING	HV	8B2	NAN		FIXTURE			
B30-002-008-01	E-LF-9	H-GENERIC	MULTIPLE TARGETS	HV	8B4	NAN		FIXTURE			
B30-002-024-01	E-LF-9	H-567+	MULTIPLE TARGETS	HV	24E	NAN		FIXTURE			
B23-010-001-01	E-LF-9	M-9001A+	CONTAINMENT SPRAY SYSTEM	PEN	3CC	NAN		FIXTURE			
B23-011-001-01	E-LF-9	M-9001B+	CONTAINMENT SPRAY SYSTEM	PEN	3CC	NAN		FIXTURE			
B01-003-002-02	E-LF-BOL	I-PS421	AUXILIARY FEEDWATER SYSTEM	PPS	3T2	X	QC	FIXTURE			
B13-013-004-01	E-LF-3X	E-TAB	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	X	QC	FIXTURE			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=HOUSEKEEP

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B13-017-004-01	NS-CD	E-K9493-1	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	M	EE	HOUSEKEEP		CONSTDEF	OVERLAP
B09-005-005-01	NS-CD	E-K1857-1	REACTOR COOLANT SYSTEM	CNT	9C	M	EE	HOUSEKEEP		CONSTDEF	OVERLAP
B23-014-002-01	NS-CD	E-K8815-2	CONTAINMENT SPRAY SYSTEM	PPS	3G	M	EE	HOUSEKEEP		CONSTDEF	OVERLAP
B05-008-002-01	E-FIRESTOP	I-FCV763	MAIN STEAM SYSTEM	CNT	9B	NAN		HOUSEKEEP			
B09-010-004-01	E-BJK226	E-K9128	REACTOR COOLANT SYSTEM	AUX	3L	X	QC	HOUSEKEEP			
B05-013-004-01	E-BJK51	E-K9114	MAIN STEAM SYSTEM	AUX	3L	X	QC	HOUSEKEEP			
B01-016-002-01	NS-CD	E-BJK52	AUXILIARY FEEDWATER SYSTEM	AUX	3L	X	QC	HOUSEKEEP			
B11-011-006-04	NS-CD	E-KT595	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	X	QC	HOUSEKEEP			
B11-007-002-05	NS-CD	E-K6950+	CHEM. & VOL. CONTROL SYSTEM	AUX	4B	X	QC	HOUSEKEEP			
B11-007-002-04	NS-CD	E-K8813	CHEM. & VOL. CONTROL SYSTEM	PPS	3I1	X	QC	HOUSEKEEP			
B11-009-002-02	NS-CD	E-K9236	CHEM. & VOL. CONTROL SYSTEM	AUX	3L	X	QC	HOUSEKEEP			
B13-018-002-02	NS-CD	E-K9484	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	X	QC	HOUSEKEEP			
B11-007-002-01	NS-CD	E-R-3I1	CHEM. & VOL. CONTROL SYSTEM	PPS	3I1	X	QC	HOUSEKEEP			
B28-003-003-02	NS-CD	P-2989-4	FIREWATER SYSTEM	AUX	3W	X	GC	HOUSEKEEP			
B28-003-001-05	NS-CD	P-2990-4	FIREWATER SYSTEM	AUX	32	X	QC	HOUSEKEEP			
B28-003-001-07	NS-CD	P-2990-4	FIREWATER SYSTEM	AUX	32	X	QC	HOUSEKEEP			
B28-003-004-02	NS-CD	P-3639-2	FIREWATER SYSTEM	AUX	3W	X	GC	HOUSEKEEP			
B28-003-005-02	NS-CD	P-3640-2	FIREWATER SYSTEM	AUX	3W	X	GC	HOUSEKEEP			
B25-113-005-01	NS-CD	E-KV018+	HVAC FOR VITAL EQUIP. COOLING	HV	8B4	X	QC	HOUSEKEEP			
B25-161-002-01	NS-CD	E-K7242-3	HVAC FOR VITAL EQUIP. COOLING	PPS	3K1	X	QC	HOUSEKEEP			
B25-030-002-01	NS-CD	E-K8012-4	HVAC FOR VITAL EQUIP. COOLING	AUX	3X	X	QC	HOUSEKEEP			
B25-065-004-02	NS-CD	E-K9335	HVAC FOR VITAL EQUIP. COOLING	AUX	3L	X	QC	HOUSEKEEP			
B25-065-004-01	NS-CD	E-K9339	HVAC FOR VITAL EQUIP. COOLING	AUX	3L	X	QC	HOUSEKEEP			
B25-077-002-01	NS-CD	E-K9670+	HVAC FOR VITAL EQUIP. COOLING	HV	8B2	X	QC	HOUSEKEEP			
B25-082-004-01	NS-CD	E-K9967	HVAC FOR VITAL EQUIP. COOLING	HV	8B2	X	QC	HOUSEKEEP			
B18-014-002-02	NS-CD	E-K7033-2	RESIDUAL HEAT REMOVAL SYSTEM	AUX	4B	X	QC	HOUSEKEEP			
B15-021-002-01	NS-CD	E-K8821-2	SAFETY INJECTION SYSTEM	AUX	3D3	X	QC	HOUSEKEEP			
B15-011-002-01	NS-CD	E-K9110+	SAFETY INJECTION SYSTEM	AUX	3X	X	QC	HOUSEKEEP			
B15-021-002-02	NS-CD	E-K9170	SAFETY INJECTION SYSTEM	PPS	3D1	X	QC	HOUSEKEEP			
B15-013-002-01	NS-CD	E-K9172	SAFETY INJECTION SYSTEM	AUX	3L	X	QC	HOUSEKEEP			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=INTERFERE

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B28-003-001-12	C-GRATING	PA-2990-4	FIREWATER SYSTEM	HV	3V2	A	CE	INTERFERE			
B25-044-001-01	C-GRATING	I-E2	HVAC FOR VITAL EQUIP. COOLING	HV	3V4	A	CE	INTERFERE			
B06-022-001-06	C-SHIELD-9B	I-FT414	REACTOR COOLANT SYSTEM	CNT	9B	A	PSE	INTERFERE			
B06-029-001-01	C-SHIELD-9B	I-FT435	REACTOR COOLANT SYSTEM	CNT	9B	A	PSE	INTERFERE			
B06-026-001-03	C-SHIELD-9B	M-8061B	REACTOR COOLANT SYSTEM	CNT	9B	A	PSE	INTERFERE			
B06-032-001-03	C-SHIELD-9B	M-8061D	REACTOR COOLANT SYSTEM	CNT	9B	A	PSE	INTERFERE			
B17-001-004-01	C-WALL	I-PT947	SAFETY INJECTION SYSTEM	AUX	3D3	A	PSE	INTERFERE			
B01-003-003-04	C-42FW-2	P-0576-3	AUXILIARY FEEDWATER SYSTEM	OA	29	A	PSE	INTERFERE			
B12-008-004-03	E-DJA+	E-K1796-1.50	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	A	EE	INTERFERE			
B01-001-001-02	E-RS-3T1	P-0380-10	AUXILIARY FEEDWATER SYSTEM	PPS	3T1	A	EE	INTERFERE			
B20-046-002-01	P-3007-10	E-K6312-1.25	COMPONENT COOLING WATER SYSTEM	PEN	3CC	A	PSE	INTERFERE			
B28-004-045-01	P-3688-2	PS-2642-3	FIREWATER SYSTEM	AUX	3L	A	PSE	INTERFERE			
B18-001-012-01	PS-0119-8	PA-0119-8	RESIDUAL HEAT REMOVAL SYSTEM	PEN	3CC	A	ENG	INTERFERE			
B20-045-012-01	PS-2308-1	P-2304-4	COMPONENT COOLING WATER SYSTEM	CNT	9B	A	PSE	INTERFERE			
B15-003-007-05	PS-3847-6	PS-3847-6	SAFETY INJECTION SYSTEM	CNT	9B	A	ENG	INTERFERE			
B28-005-013-01	C-ANNULUS	P-3161-2	FIREWATER SYSTEM	CNT	9A	M	CE	INTERFERE		TMODIFY	OVERLAP
B15-003-004-01	C-ANNULUS	PA-3857-2	SAFETY INJECTION SYSTEM	CNT	9A	M	PSE	INTERFERE		CLEARANCE	EXPEDIENT
B15-003-005-03	C-GRATING	P-3858-2	SAFETY INJECTION SYSTEM	CNT	9A	M	CE	INTERFERE		CLEARANCE	NECESSARY
B23-004-001-03	C-GRATING	P-0270-10	CONTAINMENT SPRAY SYSTEM	CNT	9C	M	PSE	INTERFERE	DEFLECT	CLEARANCE	EXPEDIENT
B20-045-019-01	C-RSM-9B	PA-2313-3	COMPONENT COOLING WATER SYSTEM	CNT	9B	M	PSE	INTERFERE		CLEARANCE	OVERLAP
B03-006-002-03	C-114F-2	I-PX452	MAIN STEAM SYSTEM	CNT	9C	M	PSE	INTERFERE		CLEARANCE	NECESSARY
B20-045-006-02	C-69G-2	P-0136-4	COMPONENT COOLING WATER SYSTEM	CNT	9B	M	CE	INTERFERE		CLEARANCE	NECESSARY
B28-008-016-04	E-K3089-4	P-3961-2	FIREWATER SYSTEM	TB	19A	M	EE	INTERFERE		TMODIFY	EXPEDIENT
B20-037-001-01	E-RS-3U	P-0152-12	COMPONENT COOLING WATER SYSTEM	AUX	3U	M	EE	INTERFERE		CLEARANCE	EXPEDIENT
B06-033-001-03	P-0008-31	I-FT446	REACTOR COOLANT SYSTEM	CNT	9B	M	PSE	INTERFERE		TMODIFY	NECESSARY
B25-040-033-01	P-0261-12	H-DUCT-3G	HVAC FOR VITAL EQUIP. COOLING	PPS	3G	M	HVA	INTERFERE		SUPPORT	EXPEDIENT
B18-001-006-01	PS-0118-8	PA-0118-8	RESIDUAL HEAT REMOVAL SYSTEM	PEN	3CC	M	ENG	INTERFERE		CLEARANCE	OVERLAP
B20-045-010-01	PS-0253-10	P-2299-3	COMPONENT COOLING WATER SYSTEM	CNT	9B	M	PSE	INTERFERE		RELOCATE	EXPEDIENT
B28-008-024-04	C-BEAM	P-3962-2	FIREWATER SYSTEM	TB	19A	NAN		INTERFERE			
B18-009-002-01	C-CATWALK	E-K8571	RESIDUAL HEAT REMOVAL SYSTEM	AUX	3C	NAN		INTERFERE			
B10-008-001-01	C-GRATING	P-1495-0.75	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	NAN		INTERFERE			
B06-034-002-01	C-GRATING	E-KX275-2.50	REACTOR COOLANT SYSTEM	CNT	9A	NAN		INTERFERE			
B09-004-002-01	C-GRATING	E-K1790-1.25	REACTOR COOLANT SYSTEM	CNT	9A	NAN		INTERFERE			
B06-038-002-01	C-PLAT-9B	E-KX572-1	REACTOR COOLANT SYSTEM	CNT	9B	NAN		INTERFERE			
B06-025-001-01	C-SHIELD-9B	M-8061B	REACTOR COOLANT SYSTEM	CNT	9B	NAN		INTERFERE			
B32-003-007-01	C-WALL	E-K6962-4+	ELECTRIC POWER SYSTEM	AUX	4B	NAN		INTERFERE			
B12-012-004-02	E-DJCD	E-KX544-1.50	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	NAN		INTERFERE	DEFLECT		
B28-004-037-01	E-KS228-2+	P-3620-2+	FIREWATER SYSTEM	AUX	3C	NAN		INTERFERE			
B25-040-035-01	P-USB-3G	H-DUCT-3G	HVAC FOR VITAL EQUIP. COOLING	PPS	3G	NAN		INTERFERE			
B28-004-052-03	P-2805-2	P-3722-6	FIREWATER SYSTEM	PPS	3T1	NAN		INTERFERE			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=LOOSE

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B01-001-001-01	C-COVER	P-0380-10	AUXILIARY FEEDWATER SYSTEM	AUX	32	A	CE	LOOSE			
B25-109-002-02	C-COVER	E-K6843-2.50	HVAC FOR VITAL EQUIP. COOLING	HV	8B4	A	HVA	LOOSE			
B04-003-001-01	C-COVER	P-1045-10	MAIN STEAM SYSTEM	AUX	32	A	CE	LOOSE			
B01-004-005-01	C-COVER	P-0567-2+	AUXILIARY FEEDWATER SYSTEM	AUX	32	A	CE	LOOSE			
B01-014-002-03	C-GRATING	E-KT243-1.25	AUXILIARY FEEDWATER SYSTEM	TB	19A	A	CE	LOOSE			
B13-007-001-02	C-HATCH	M-BAT 2-2	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	A	CE	LOOSE			
B25-041-001-01	C-HATCH	H-E1	HVAC FOR VITAL EQUIP. COOLING	HV	3V3	A	CE	LOOSE			
B25-041-001-02	C-HATCH	H-E2	HVAC FOR VITAL EQUIP. COOLING	HV	3V3	A	CE	LOOSE			
B06-005-001-23	C-72FG-2	PA-RCS	REACTOR COOLANT SYSTEM	CNT	9B	A	CE	LOOSE			
B30-002-020-04	E-12KV SWGR	E-GENERIC	MULTIPLE TARGETS	EL	20	A	EE	LOOSE	SPTFAIL		
B25-018-020-02	H-LINKAGE	H-DAMPER	HVAC FOR VITAL EQUIP. COOLING	PPS	3T2	A	HVA	LOOSE	ENVIRON		
B07-005-002-01	M-INS SPT	I-LT462	REACTOR COOLANT SYSTEM	CNT	9C	A	EMS	LOOSE			
B24-001-019-01	C-COVER	M-LCV86	EMERG. DIESEL GENERATORS	DG	22A2	M	CE	LOOSE		SECLOOSE	OVERLAP
B24-001-034-01	C-COVER	M-LCV89	EMERG. DIESEL GENERATORS	DG	22A2	M	CE	LOOSE		SECLOOSE	OVERLAP
B30-001-023-01	C-GRATING	E-GENERIC	MULTIPLE TARGETS	EL	23A	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B30-001-023-02	C-GRATING	E-GENERIC	MULTIPLE TARGETS	EL	23B	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B30-001-009-23	C-GRATING	GENERIC	MULTIPLE TARGETS	CNT	9A	M	CE	LOOSE		SECLOOSE	OVERLAP
B24-007-018-02	C-HANDRAIL	M-DG 2-1 FAN	EMERG. DIESEL GENERATORS	DG	22A2	M	CE	LOOSE		SUPPORT	EXPEDIENT
B28-003-005-01	C-HANDRAIL	P-3640-2	FIREWATER SYSTEM	AUX	3W	M	CE	LOOSE		SUPPORT	EXPEDIENT
B30-001-023-03	C-HATCH	E-GENERIC	MULTIPLE TARGETS	EL	23B	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B25-019-001-01	C-18L-2+	H-E5	HVAC FOR VITAL EQUIP. COOLING	HV	3V7	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B25-021-001-01	C-22L-2+	H-E6	HVAC FOR VITAL EQUIP. COOLING	HV	3V8	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B20-018-002-01	C-35F-2	PA-0315-12	COMPONENT COOLING WATER SYSTEM	CNT	9C	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B28-005-013-02	C-35F-2	PA-3161-2	FIREWATER SYSTEM	CNT	9C	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B20-017-002-01	C-36F-2	PA-0316-12	COMPONENT COOLING WATER SYSTEM	CNT	9C	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B20-026-002-01	C-37F-2	PA-0317-12	COMPONENT COOLING WATER SYSTEM	CNT	9C	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B20-025-002-01	C-38F-2	PA-0318-12	COMPONENT COOLING WATER SYSTEM	CNT	9C	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B20-027-002-01	C-39G-2	PA-0314-12	COMPONENT COOLING WATER SYSTEM	CNT	9C	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B25-040-004-01	C-5L-2+	H-E2	HVAC FOR VITAL EQUIP. COOLING	HV	3V4	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B25-040-001-01	C-9L-2+	H-E1	HVAC FOR VITAL EQUIP. COOLING	HV	3V3	M	CE	LOOSE		SECLOOSE	EXPEDIENT
B30-002-009-06	E-BATTERY	I-SG	MULTIPLE TARGETS	CNT	9C	M	EE	LOOSE		RELOCATE	NECESSARY
B16-008-002-02	E-MISC-3AA	E-KT510-1.25	SAFETY INJECTION SYSTEM	AUX	3AA	M	EMS	LOOSE		RELOCATE	OVERLAP
B03-026-001-02	E-TL27	I-LT526	MAIN STEAM SYSTEM	CNT	9A	M	EE	LOOSE		SUPPORT	NECESSARY
B03-008-002-02	M-COVER	I-LT504	MAIN STEAM SYSTEM	CNT	9B	M	ICE	LOOSE		TMODIFY	EXPEDIENT
B01-012-002-01	M-FE	E-HNKA	AUXILIARY FEEDWATER SYSTEM	EL	6B2	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B32-004-001-02	M-FE	E-DCSWGR	ELECTRIC POWER SYSTEM	EL	6B1	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B32-004-002-02	M-FE	E-DCSWGR	ELECTRIC POWER SYSTEM	EL	6B2	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B32-004-004-01	M-FE	E-DCSWGR	ELECTRIC POWER SYSTEM	EL	6B3	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B32-001-008-04	M-FE	E-4.16KVSWGR	ELECTRIC POWER SYSTEM	EL	24A	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B32-003-005-03	M-FE	E-480VSWGR	ELECTRIC POWER SYSTEM	EL	5B2	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B25-059-004-01	M-FE	E-K8838-1.50	HVAC FOR VITAL EQUIP. COOLING	AUX	3C	M	EMS	LOOSE	MECHFAIL	SECLOOSE	EXPEDIENT
B25-144-005-02	M-FE	H-DUCT-6B5	HVAC FOR VITAL EQUIP. COOLING	EL	6B5	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B30-005-007-02	M-FE	E-GENERIC	MULTIPLE TARGETS	EL	7B	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B30-005-007-01	M-FE	E-K7366-3+	MULTIPLE TARGETS	EL	7B	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B30-005-009-01	M-FE	GENERIC	MULTIPLE TARGETS	CNT	9C	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B30-005-000-02	M-FE	GENERIC	MULTIPLE TARGETS	VAR	VRS	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B30-005-008-01	M-FE	H-GENERIC	MULTIPLE TARGETS	HV	8B4	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B30-005-024-01	M-FE	H-GENERIC	MULTIPLE TARGETS	HV	24E	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B07-010-001-01	M-FE	I-LT459	REACTOR COOLANT SYSTEM	CNT	9C	M	EMS	LOOSE	MECHFAIL	SECLOOSE	NECESSARY
B32-009-001-01	N-CABINET	I-VB2	ELECTRIC POWER SYSTEM	EL	8C	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B32-009-001-02	N-CABINET	I-VB5	ELECTRIC POWER SYSTEM	EL	8C	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B30-007-008-01	N-CABINET	I-POV2+	MULTIPLE TARGETS	EL	8C	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B32-001-008-01	N-EQUIP	E-4.16KVSWGR	ELECTRIC POWER SYSTEM	EL	24A	M	NPO	LOOSE		RELOCATE	EXPEDIENT

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=LOOSE

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B32-001-009-01	N-EQUIP	E-4.16KVSWGR	ELECTRIC POWER SYSTEM	EL	24B	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B32-001-010-01	N-EQUIP	E-4.16KVSWGR	ELECTRIC POWER SYSTEM	EL	24C	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B32-001-009-04	N-LOCKER	E-4.16KVSWGR	ELECTRIC POWER SYSTEM	EL	24B	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B25-155-002-01	N-LOCKER	E-LPG63	HVAC FOR VITAL EQUIP. COOLING	HV	24E	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B25-158-002-01	N-LOCKER	E-LPH37	HVAC FOR VITAL EQUIP. COOLING	HV	24E	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B25-151-002-01	N-LOCKER	H-GENERIC	HVAC FOR VITAL EQUIP. COOLING	HV	24E	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B25-158-001-02	N-LOCKER	H-S67	HVAC FOR VITAL EQUIP. COOLING	HV	24E	M	NPO	LOOSE		RELOCATE	EXPEDIENT
B20-055-001-03	N-MISC-3C	P-2286-3+	COMPONENT COOLING WATER SYSTEM	AUX	3C	M	NPO	LOOSE		TSHIELD	EXPEDIENT
B30-001-003-05	C-COVER	E-GENERIC	MULTIPLE TARGETS	PEN	3CC	NAN		LOOSE			
B30-001-009-09	C-CRANE-9C	I-SG	MULTIPLE TARGETS	CNT	9C	NAN		LOOSE			
B20-020-002-01	C-HATCH	M-RHRHX 2-1	COMPONENT COOLING WATER SYSTEM	AUX	3AA	NAN		LOOSE			
B20-030-002-01	C-HATCH	M-RHRHX 2-2	COMPONENT COOLING WATER SYSTEM	AUX	3AA	NAN		LOOSE			
B13-009-002-03	C-HATCH	E-K9440-2	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	NAN		LOOSE			
B09-010-004-02	C-HATCH	E-K9100-1.25	REACTOR COOLANT SYSTEM	AUX	3L	NAN		LOOSE			
B28-003-011-02	C-SB	P-4259-4	FIREWATER SYSTEM	HV	3V3	NAN		LOOSE			
B30-001-009-18	C-36F-2	I-PZR	MULTIPLE TARGETS	CNT	9C	NAN		LOOSE			
B30-001-009-17	C-38F-2	I-SG-2-2	MULTIPLE TARGETS	CNT	9C	NAN		LOOSE			
B06-005-001-27	C-72FG-2	PA-RCS	REACTOR COOLANT SYSTEM	CNT	9B	NAN		LOOSE			
B07-012-001-05	E-TELE	I-LT461	REACTOR COOLANT SYSTEM	CNT	9C	NAN		LOOSE			
B15-004-002-01	M-FE	P-3182-2	SAFETY INJECTION SYSTEM	AUX	3D3	NAN		LOOSE			
B15-004-001-01	M-FE	P-3241-2	SAFETY INJECTION SYSTEM	AUX	3D3	NAN		LOOSE			
B22-008-004-04	M-REFGR	E-K7242-3+	AUX. SALTWATER SYSTEM	AUX	4B	NAN		LOOSE			
B24-001-013-01	C-COVER	M-LCV85	EMERG. DIESEL GENERATORS	DG	22B2	X	QC	LOOSE			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=MECHFAIL

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B06-003-004-03	E-RCP 2-3	I-FIC499C	REACTOR COOLANT SYSTEM	CNT	9B	A	EMS	MECHFAIL			
B30-002-029-03	E-500KV	E-GENERIC	MULTIPLE TARGETS	OA	29	A	EE	MECHFAIL			
B30-003-009-04	H-CRDM	I-CRDMRIC	MULTIPLE TARGETS	CNT	9C	A	HVA	MECHFAIL			
B20-044-002-01	M-BAEVAP	M-BAEVAPHX	COMPONENT COOLING WATER SYSTEM	AUX	3L	A	EMS	MECHFAIL			
B02-005-002-01	M-FCV530	E-K6125-2.50	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	A	EMS	MECHFAIL			
B20-012-001-02	M-HOIST-19E	I-TI898	COMPONENT COOLING WATER SYSTEM	TB	19E	A	CE	MECHFAIL			
B18-004-001-04	M-HOIST-3D2	M-RHRPP 2-2	RESIDUAL HEAT REMOVAL SYSTEM	PPS	3D2	A	CE	MECHFAIL			
B06-005-001-01	M-HOIST-9C	M-CRDM	REACTOR COOLANT SYSTEM	CNT	9C	A	EMS	MECHFAIL			
B25-034-002-01	M-TCV5003	I-SV113	HVAC FOR VITAL EQUIP. COOLING	HV	3V1	A	EMS	MECHFAIL	ENVIRON		
B30-005-029-01	M-HOIST-29	E-GENERIC	MULTIPLE TARGETS	OA	29	M	EMS	MECHFAIL		STOP	EXPEDIENT
B03-043-001-03	M-HOIST-9C	I-GENERIC	MAIN STEAM SYSTEM	CNT	9C	M	EMS	MECHFAIL		SECLOOSE	EXPEDIENT
B06-005-001-19	M-5-10 PATH	PA-RCS	REACTOR COOLANT SYSTEM	CNT	9B	M	EMS	MECHFAIL		SUPPORT	NECESSARY
B18-013-001-01	M-8035	M-8703	RESIDUAL HEAT REMOVAL SYSTEM	CNT	9B	M	ICE	MECHFAIL		SUPPORT	EXPEDIENT
B30-005-009-06	M-CRANE-9C	GENERIC	MULTIPLE TARGETS	CNT	9C	NAN		MECHFAIL			
B20-011-001-03	M-HOIST-19E	I-PI111	COMPONENT COOLING WATER SYSTEM	TB	19E	NAN		MECHFAIL			
B20-008-001-01	M-HOIST-19E	I-TI895	COMPONENT COOLING WATER SYSTEM	TB	19E	NAN		MECHFAIL			
B20-007-001-05	M-HOIST-19E	M-CCWHX 2-1	COMPONENT COOLING WATER SYSTEM	TB	19E	NAN		MECHFAIL			
B24-008-016-10	M-HOIST-22A1	M-DG 2-1	EMERG. DIESEL GENERATORS	DG	22A1	NAN		MECHFAIL			
B24-008-003-06	M-HOIST-22B1	M-DG 2-2	EMERG. DIESEL GENERATORS	DG	22B1	NAN		MECHFAIL			
B28-004-011-03	M-HOIST-3AA	PA-3608-2+	FIREWATER SYSTEM	AUX	3AA	NAN		MECHFAIL			
B03-045-001-02	M-HOIST-9C	I-LT539	MAIN STEAM SYSTEM	CNT	9C	NAN		MECHFAIL			
B30-005-009-05	M-HOIST-9C	GENERIC	MULTIPLE TARGETS	CNT	9C	NAN		MECHFAIL			
B30-005-009-04	M-LCV130	E-GENERIC	MULTIPLE TARGETS	CNT	9A	NAN		MECHFAIL			
B28-004-001-01	M-PCV91	P-2677-6	FIREWATER SYSTEM	AUX	3W	NAN		MECHFAIL			
B30-005-009-07	M-8030	E-R-9A	MULTIPLE TARGETS	CNT	9C	NAN		MECHFAIL			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=PIPEFAIL

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B01-008-002-01	I-FS4	E-LCV106	AUXILIARY FEEDWATER SYSTEM	OA	29	A	PSE	PIPEFAIL			
B01-009-002-01	I-FS4	E-LCV107	AUXILIARY FEEDWATER SYSTEM	OA	29	A	PSE	PIPEFAIL			
B25-163-001-02	M-FILTER	H-DUCT-22A2	HVAC FOR VITAL EQUIP. COOLING	DG	22A2	A	PSE	PIPEFAIL	SPTFAIL		
B25-163-002-03	M-FILTER	H-DUCT-22B2	HVAC FOR VITAL EQUIP. COOLING	DG	22B2	A	PSE	PIPEFAIL			
B04-001-001-10	P-0826-2	P-2416-1	MAIN STEAM SYSTEM	PEN	3CC	A	PSE	PIPEFAIL			
B04-001-001-07	P-0922-2	P-2416-1	MAIN STEAM SYSTEM	PEN	3CC	A	PSE	PIPEFAIL			
B24-008-003-08	P-2173-5	M-DG 2-2	EMERG. DIESEL GENERATORS	DG	22B1	A	PSE	PIPEFAIL			
B24-008-017-01	P-2586-5	M-DG 2-1	EMERG. DIESEL GENERATORS	DG	22A1	A	PSE	PIPEFAIL			
B10-010-003-01	P-4398-2	I-PT186	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	A	PSE	PIPEFAIL			
B22-008-004-06	M-VAVLE	E-K7242-3+	AUX. SALTWATER SYSTEM	AUX	4B	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B24-005-039-01	P-DRAIN-21	PS-2191-1.50	EMERG. DIESEL GENERATORS	TB	21	M	PSE	PIPEFAIL	SPTFAIL	SUPPORT	EXPEDIENT
B24-004-002-01	P-DRAIN-22A2	PS-2187-22	EMERG. DIESEL GENERATORS	DG	22A2	M	PSE	PIPEFAIL	SPTFAIL	SUPPORT	NECESSARY
B32-005-001-02	P-DRAIN-6B1	E-BATTERY	ELECTRIC POWER SYSTEM	EL	6B1	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B32-005-002-03	P-DRAIN-6B2	E-BATTERY	ELECTRIC POWER SYSTEM	EL	6B2	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B32-005-003-04	P-DRAIN-6B3	E-BATTERY	ELECTRIC POWER SYSTEM	EL	6B3	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B25-079-001-01	P-DRAIN-8B2	H-S34	HVAC FOR VITAL EQUIP. COOLING	HV	8B2	M	PSE	PIPEFAIL	SPTFAIL	SUPPORT	NECESSARY
B15-025-004-01	P-SPR-9A	E-KX267-0.75	SAFETY INJECTION SYSTEM	CNT	9A	M	PSE	PIPEFAIL	DEFLECT	SUPPORT	EXPEDIENT
B20-059-002-03	P-USB-3CC	P-0121-6+	COMPONENT COOLING WATER SYSTEM	PEN	3CC	M	PSE	PIPEFAIL	DEFLECT	SUPPORT	EXPEDIENT
B07-012-001-01	P-USB-9B	I-LT461	REACTOR COOLANT SYSTEM	CNT	9B	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B22-007-001-03	P-0477-16	M-ASWGO	AUX. SALTWATER SYSTEM	IS	30A5	M	PSE	PIPEFAIL		SUPPORT	NECESSARY
B22-007-001-02	P-0943-16	M-ASWGO	AUX. SALTWATER SYSTEM	IS	30A5	M	PSE	PIPEFAIL		SUPPORT	NECESSARY
B22-003-002-04	P-0954-16	E-K1010-3+	AUX. SALTWATER SYSTEM	IS	30A5	M	PSE	PIPEFAIL		SUPPORT	NECESSARY
B04-001-001-05	P-1043-2.50	M-FCV129	MAIN STEAM SYSTEM	PEN	3CC	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B04-001-001-08	P-1046-6	P-2416-1	MAIN STEAM SYSTEM	PEN	3CC	M	PSE	PIPEFAIL		SUPPORT	NECESSARY
B03-033-001-03	P-1870-1	I-LT517	MAIN STEAM SYSTEM	CNT	9A	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B25-040-040-08	P-2119-4	H-DUCT-3A	HVAC FOR VITAL EQUIP. COOLING	AUX	3A	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B25-034-003-01	P-3103-2	I-SV113	HVAC FOR VITAL EQUIP. COOLING	HV	3V1	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B15-003-006-07	P-3184-8	P-3844-6	SAFETY INJECTION SYSTEM	CNT	9A	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B03-042-001-01	P-3256-2	I-FT523	MAIN STEAM SYSTEM	CNT	9C	M	PSE	PIPEFAIL		SUPPORT	NECESSARY
B04-001-001-09	P-3738-4	P-2416-1	MAIN STEAM SYSTEM	PEN	3CC	M	PSE	PIPEFAIL		SUPPORT	NECESSARY
B06-022-001-05	P-4368-1.25	I-FT414	REACTOR COOLANT SYSTEM	CNT	9A	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B06-003-004-04	P-4369-1.25	I-FIC499C	REACTOR COOLANT SYSTEM	CNT	9A	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B10-004-001-02	P-4397-2	P-0054-2	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B30-006-009-06	P-4397-2	GENERIC	MULTIPLE TARGETS	CNT	9B	M	PSE	PIPEFAIL		SUPPORT	OVERLAP
B30-006-009-04	P-4397-2	I-GENERIC	MULTIPLE TARGETS	CNT	9B	M	PSE	PIPEFAIL		SUPPORT	NECESSARY
B30-006-009-07	P-4398-2	GENERIC	MULTIPLE TARGETS	CNT	9B	M	PSE	PIPEFAIL		SUPPORT	OVERLAP
B01-002-008-01	PA-0555-16	I-FT77	AUXILIARY FEEDWATER SYSTEM	OA	29	M	PSE	PIPEFAIL		SUPPORT	EXPEDIENT
B04-002-001-01	I-FS5	M-VALVE	MAIN STEAM SYSTEM	PEN	3CC	NAN		PIPEFAIL			
B25-105-004-02	P-DRAIN-19A	E-K6846-1.50	HVAC FOR VITAL EQUIP. COOLING	TB	19A	NAN		PIPEFAIL	SPTFAIL		
B25-029-006-02	P-SPR-3T2	H-DUCT-3T2	HVAC FOR VITAL EQUIP. COOLING	PPS	3T2	NAN		PIPEFAIL			
B06-026-002-01	P-SPR-9A	E-KX165-1.25	REACTOR COOLANT SYSTEM	CNT	9A	NAN		PIPEFAIL			
B12-002-001-02	P-4397-2	P-0024-3	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	NAN		PIPEFAIL			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=RELSTRUCT

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B28-008-023-02	C-RSM-19A	P-5045-2	FIREWATER SYSTEM	TB	19A	A	ENG	RELSTRUCT	SPTFAIL		
B25-018-020-01	C-RSM-3T1	H-DUCT-3T1	HVAC FOR VITAL EQUIP. COOLING	PPS	3T1	A	ENG	RELSTRUCT			
B05-003-001-01	C-RSM-9A	I-1053-0.375	MAIN STEAM SYSTEM	CNT	9A	A	CE	RELSTRUCT			
B30-001-009-22	C-RSM-9A	E-GENERIC	MULTIPLE TARGETS	CNT	9A	A	ENG	RELSTRUCT			
B15-037-002-02	C-RSM-9A	E-KX526-0.75	SAFETY INJECTION SYSTEM	CNT	9A	A	ENG	RELSTRUCT			
B15-038-002-01	C-RSM-9A	E-KX529-0.75	SAFETY INJECTION SYSTEM	CNT	9A	A	ENG	RELSTRUCT			
B03-046-001-02	C-RSM-9C	I-FT532	MAIN STEAM SYSTEM	CNT	9C	A	ICE	RELSTRUCT			
B03-033-001-04	C-RSM-9C	I-LT517	MAIN STEAM SYSTEM	CNT	9C	A	ICE	RELSTRUCT			
B03-034-001-02	C-RSM-9C	I-LT518	MAIN STEAM SYSTEM	CNT	9C	A	ICE	RELSTRUCT			
B03-039-001-02	C-RSM-9C	I-LT528	MAIN STEAM SYSTEM	CNT	9C	A	ICE	RELSTRUCT			
B03-048-001-02	C-RSM-9C	I-LT547	MAIN STEAM SYSTEM	CNT	9C	A	ICE	RELSTRUCT			
B03-049-001-02	C-RSM-9C	I-LT548	MAIN STEAM SYSTEM	CNT	9C	A	ICE	RELSTRUCT			
B20-009-001-01	C-RSM-19E	PA-0101-30	COMPONENT COOLING WATER SYSTEM	TB	19E	M	PSE	RELSTRUCT	INTERFERE	TMODIFY	EXPEDIENT
B20-013-001-01	C-RSM-19E	PA-0102-30	COMPONENT COOLING WATER SYSTEM	TB	19E	M	PSE	RELSTRUCT	INTERFERE	TMODIFY	EXPEDIENT
B01-002-005-01	C-RSM-29	P-0569-3	AUXILIARY FEEDWATER SYSTEM	OA	29	M	CE	RELSTRUCT		CLEARANCE	OVERLAP
B01-002-010-02	C-RSM-3CC	I-FT78	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B25-013-006-01	C-RSM-9A	E-K1725-1.50	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B25-011-006-01	C-RSM-9A	E-K1761-1.50	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B25-015-004-01	C-RSM-9A	E-K1786-1.25	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B19-013-004-01	C-RSM-9A	E-K1982-1	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B25-128-004-02	C-RSM-9A	E-K1999-1	CNT ISOL. OF NON-VITAL SYSTEMS	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B10-014-002-01	C-RSM-9A	E-K1885-0.75	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	NECESSARY
B30-001-009-20	C-RSM-9A	E-BTX5E+	MULTIPLE TARGETS	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B15-024-004-02	C-RSM-9A	E-DJDA	SAFETY INJECTION SYSTEM	CNT	9A	M	EE	RELSTRUCT		TMODIFY	EXPEDIENT
B17-010-004-01	C-RSM-9A	E-K1450-1	SAFETY INJECTION SYSTEM	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B23-004-004-03	C-RSM-9A	M-9006B	CONTAINMENT SPRAY SYSTEM	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B23-004-001-08	C-RSM-9A	PA-0270-10	CONTAINMENT SPRAY SYSTEM	CNT	9A	M	ENG	RELSTRUCT		TMODIFY	OVERLAP
B03-037-001-01	C-RSM-9C	I-FT513	MAIN STEAM SYSTEM	CNT	9C	M	ICE	RELSTRUCT		TMODIFY	NECESSARY
B03-035-001-01	C-RSM-9C	I-LT519	MAIN STEAM SYSTEM	CNT	9C	M	CE	RELSTRUCT		TMODIFY	NECESSARY
B03-043-001-04	C-RSM-9C	I-LT537	MAIN STEAM SYSTEM	CNT	9C	M	ICE	RELSTRUCT		TMODIFY	NECESSARY
B03-044-001-02	C-RSM-9C	I-LT538	MAIN STEAM SYSTEM	CNT	9C	M	CE	RELSTRUCT		TMODIFY	NECESSARY
B03-045-001-04	C-RSM-9C	I-LT539	MAIN STEAM SYSTEM	CNT	9C	M	CE	RELSTRUCT		TMODIFY	NECESSARY
B03-035-001-04	C-114F-2	I-LT519	MAIN STEAM SYSTEM	CNT	9C	M	ICE	RELSTRUCT		TMODIFY	NECESSARY
B15-022-004-02	C-ANNULUS	E-KX678-1.50	SAFETY INJECTION SYSTEM	CNT	9A	NAN		RELSTRUCT			
B25-018-015-02	C-RSM-32	H-DUCT-32	HVAC FOR VITAL EQUIP. COOLING	AUX	32	NAN		RELSTRUCT			
B15-037-002-01	C-RSM-9A	E-KX526-0.75	SAFETY INJECTION SYSTEM	CNT	9A	NAN		RELSTRUCT			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=SPTFAIL

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC.	PHENOM	SECPHEN	MODCODE	MODEVAL
B20-032-001-02	C-DOOR	P-0082-20	COMPONENT COOLING WATER SYSTEM	PEN	3CC	A	CE	SPTFAIL			
B20-037-003-01	C-DOOR	P-0153-12	COMPONENT COOLING WATER SYSTEM	AUX	3U	A	CE	SPTFAIL			
B24-008-016-05	C-DOOR	M-DG 2-1	EMERG. DIESEL GENERATORS	DG	22A2	A	EMS	SPTFAIL			
B24-008-003-01	C-DOOR	M-DG 2-2	EMERG. DIESEL GENERATORS	DG	22B2	A	EMS	SPTFAIL			
B17-001-001-03	C-80GE-2	PS-2032-6	SAFETY INJECTION SYSTEM	AUX	3D3	A	PSE	SPTFAIL			
B15-003-009-03	E-BTX4	P-2000-0.75	SAFETY INJECTION SYSTEM	CNT	9B	A	EE	SPTFAIL			
B07-011-001-02	E-BTX6	I-LT460	REACTOR COOLANT SYSTEM	CNT	9A	A	EE	SPTFAIL			
B07-012-001-02	E-BTX6	I-LT461	REACTOR COOLANT SYSTEM	CNT	9A	A	EE	SPTFAIL			
B07-009-001-01	E-BTX6	I-PT474	REACTOR COOLANT SYSTEM	CNT	9A	A	EE	SPTFAIL			
B32-011-001-02	E-BUSDUCT	E-K2819-1.50	ELECTRIC POWER SYSTEM	EL	23E	A	EE	SPTFAIL			
B32-011-002-03	E-BUSDUCT	E-K2820-1.50	ELECTRIC POWER SYSTEM	EL	23E	A	EE	SPTFAIL			
B32-011-003-02	E-BUSDUCT	E-K2821-1.50	ELECTRIC POWER SYSTEM	EL	23E	A	EE	SPTFAIL			
B30-002-009-08	E-CRANE-9C	I-SG-2-1	MULTIPLE TARGETS	CNT	9C	A	CE	SPTFAIL			
B30-002-009-10	E-CRANE-9C	I-SG-2-1	MULTIPLE TARGETS	CNT	9C	A	CE	SPTFAIL			
B30-002-009-11	E-CRANE-9C	I-SG-2-1	MULTIPLE TARGETS	CNT	9C	A	CE	SPTFAIL			
B25-146-002-02	E-IC211	E-S46	HVAC FOR VITAL EQUIP. COOLING	EL	6B5	A	CE	SPTFAIL			
B28-005-005-04	E-K1534-5	PA-2674-4	FIREWATER SYSTEM	CNT	9A	A	EE	SPTFAIL			
B28-005-009-01	E-K1534-5	PA-4364-2	FIREWATER SYSTEM	CNT	9A	A	EE	SPTFAIL			
B07-010-001-02	E-K1910-4	I-LT459	REACTOR COOLANT SYSTEM	CNT	9A	A	EE	SPTFAIL			
B15-003-007-03	E-PJCA+	PS-3847-6	SAFETY INJECTION SYSTEM	CNT	9B	A	CE	SPTFAIL			
B32-010-001-02	E-PNAPC+	E-TRIP BKR	ELECTRIC POWER SYSTEM	EL	6B4	A	EE	SPTFAIL			
B25-146-002-03	E-PNPRC-2	E-S46+	HVAC FOR VITAL EQUIP. COOLING	EL	6B4	A	EE	SPTFAIL			
B28-008-013-02	E-R-19A	P-3955-2	FIREWATER SYSTEM	TB	19A	A	EE	SPTFAIL			
B06-046-002-03	E-R-9C	E-K1855-1.50	REACTOR COOLANT SYSTEM	CNT	9C	A	CE	SPTFAIL			
B32-011-001-04	E-RC	E-K7835-2.50	ELECTRIC POWER SYSTEM	EL	7B	A	EE	SPTFAIL			
B10-012-001-02	E-RCP 2-1	P-0058-2	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	A	EMS	SPTFAIL			
B15-003-008-04	E-RCP 2-1	P-0253-10	SAFETY INJECTION SYSTEM	CNT	9B	A	EMS	SPTFAIL			
B10-013-001-01	E-RCP 2-2	P-0059-2	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	A	EMS	SPTFAIL			
B10-011-001-01	E-RCP 2-4	P-1498-0.75	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	A	EMS	SPTFAIL			
B15-003-010-03	E-RCP2-3	PA-0255-10	SAFETY INJECTION SYSTEM	CNT	9B	A	EMS	SPTFAIL			
B25-144-001-04	E-RS-19A	H-DUCT-19A	HVAC FOR VITAL EQUIP. COOLING	TB	19A	A	EE	SPTFAIL			
B15-007-001-01	E-RS-3N	M-SIPP 2-1	SAFETY INJECTION SYSTEM	PPS	3N	A	EE	SPTFAIL			
B15-008-001-01	E-RS-3N	M-SIPP 2-2	SAFETY INJECTION SYSTEM	PPS	3N	A	EE	SPTFAIL			
B30-002-009-15	E-RS-9C	I-GENERIC	MULTIPLE TARGETS	CNT	9C	A	ICE	SPTFAIL			
B06-044-002-02	E-RS-9C	E-1915-1.50	REACTOR COOLANT SYSTEM	CNT	9C	A	CE	SPTFAIL			
B15-003-006-04	E-SP3I	P-0508-8	SAFETY INJECTION SYSTEM	CNT	9A	A	EE	SPTFAIL			
B01-007-001-02	E-TLE25	M-AFWPP 2-3	AUXILIARY FEEDWATER SYSTEM	PPS	3T2	A	EE	SPTFAIL			
B25-146-002-01	E-TYBU	E-S46	HVAC FOR VITAL EQUIP. COOLING	EL	6B5	A	EE	SPTFAIL			
B30-002-020-02	E-12KV SWGR	E-GENERIC	MULTIPLE TARGETS	EL	20	A	EE	SPTFAIL			
B30-002-020-03	E-4.16KV SWG	E-GENERIC	MULTIPLE TARGETS	EL	20	A	EE	SPTFAIL			
B01-012-002-07	E-480VSWGR	E-KT982-3	AUXILIARY FEEDWATER SYSTEM	EL	5B4	A	EE	SPTFAIL			
B30-002-029-01	E-500KV	E-GENERIC	MULTIPLE TARGETS	OA	29	A	EE	SPTFAIL			
B30-002-029-02	E-500KV	E-GENERIC	MULTIPLE TARGETS	OA	29	A	EE	SPTFAIL			
B30-002-019-02	GENERIC	E-CRPS	MULTIPLE TARGETS	TB	19D	A	EE	SPTFAIL	DEFLECT		
B20-054-001-01	H-DUCT-3L	I-CSPNL	COMPONENT COOLING WATER SYSTEM	AUX	3L	A	CE	SPTFAIL			
B05-001-001-03	H-DUCT-9A	P-1040-2.50	MAIN STEAM SYSTEM	CNT	9A	A	CE	SPTFAIL			
B05-002-001-02	H-DUCT-9A	P-1041-2.50	MAIN STEAM SYSTEM	CNT	9A	A	HVA	SPTFAIL			
B25-030-001-01	H-HTG-COIL	H-S1	HVAC FOR VITAL EQUIP. COOLING	HV	3V1	A	HVA	SPTFAIL	ENVIRON		
B25-077-001-02	H-HTG-COIL	H-S33+	HVAC FOR VITAL EQUIP. COOLING	HV	8B2	A	HVA	SPTFAIL	ENVIRON		
B03-019-016-01	H-S33	I-PCV21	MAIN STEAM SYSTEM	PEN	3CC	A	HVA	SPTFAIL			
B03-020-016-01	H-S33	I-PCV22	MAIN STEAM SYSTEM	PEN	3CC	A	HVA	SPTFAIL			
B25-157-002-05	H-S71	H-DUCT-24E	HVAC FOR VITAL EQUIP. COOLING	HV	24E	A	HVA	SPTFAIL			
B20-054-001-03	I-CSP2-1	P-3249-2+	COMPONENT COOLING WATER SYSTEM	AUX	3L	A	EMS	SPTFAIL			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=SPTFAIL

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B17-001-009-01	I-MISC-9B	P-1992-1.50	SAFETY INJECTION SYSTEM	CNT	9B	A	CE	SPTFAIL			
B01-012-002-02	I-PANEL	E-HNKA	AUXILIARY FEEDWATER SYSTEM	EL	6B2	A	EE	SPTFAIL			
B25-141-002-01	I-PANEL	E-KK757-1.50	CNT ISOL. OF NON-VITAL SYSTEMS	PEN	3CC	A	ICE	SPTFAIL			
B17-008-004-01	I-PM74	E-K8852	SAFETY INJECTION SYSTEM	AUX	3D3	A	ICE	SPTFAIL			
B20-053-001-06	I-PNBC	P-2292-3	COMPONENT COOLING WATER SYSTEM	AUX	3L	A	ICE	SPTFAIL			
B20-052-001-02	I-RNGFFD	P-2679-2 +	COMPONENT COOLING WATER SYSTEM	PEN	3CC	A	ICE	SPTFAIL			
B20-044-009-01	M-BATANK	P-1759-6+	COMPONENT COOLING WATER SYSTEM	AUX	3L	A	EMS	SPTFAIL			
B20-044-011-01	M-BATANK	P-1761-2+	COMPONENT COOLING WATER SYSTEM	AUX	3L	A	EMS	SPTFAIL			
B28-008-003-02	M-BOTTLE	P-3950-2	FIREWATER SYSTEM	TB	19A	A	NPO	SPTFAIL			
B24-002-038-01	M-COMPR 2-1	I-PI622	EMERG. DIESEL GENERATORS	DG	22A1	A	EMS	SPTFAIL			
B24-002-002-01	M-COMPR 2-2	I-PI600	EMERG. DIESEL GENERATORS	DG	22B1	A	EMS	SPTFAIL			
B24-003-002-01	M-COMPR 2-2	I-PI840	EMERG. DIESEL GENERATORS	DG	22B1	A	EMS	SPTFAIL			
B24-003-012-01	M-COMPR 2-2	I-PI841	EMERG. DIESEL GENERATORS	DG	22A1	A	EMS	SPTFAIL			
B30-005-009-08	M-CRANE-9C	GENERIC	MULTIPLE TARGETS	CNT	9C	A	EMS	SPTFAIL	MECHFAIL		
B20-052-001-03	M-FFDHX	P-2679-2	COMPONENT COOLING WATER SYSTEM	PEN	3CC	A	EMS	SPTFAIL			
B10-016-002-03	M-HOIST-3X	M-8380	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	A	CE	SPTFAIL			
B10-002-001-03	M-HOIST-3X	M-8382A	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	A	CE	SPTFAIL			
B10-001-001-01	M-HOIST-3X	M-8382B	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	A	CE	SPTFAIL			
B10-002-001-02	M-HOIST-3X	M-8384A	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	A	CE	SPTFAIL			
B10-001-001-05	M-HOIST-3X	M-8384B	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	A	CE	SPTFAIL			
B10-002-001-04	M-HOIST-3X	M-8387A	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	A	CE	SPTFAIL			
B10-016-002-01	M-HOIST-3X	M-8396A	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	A	CE	SPTFAIL			
B10-016-002-02	M-HOIST-3X	M-8396B	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	A	CE	SPTFAIL			
B06-004-004-01	M-HX-9B	I-FIC499D	REACTOR COOLANT SYSTEM	CNT	9B	A	EMS	SPTFAIL			
B06-005-001-15	M-INSSPT	I-FLUX MON	REACTOR COOLANT SYSTEM	CNT	9B	A	EMS	SPTFAIL			
B28-008-008-01	M-PANEL	PA-3945-2	FIREWATER SYSTEM	TB	19A	A	EMS	SPTFAIL			
B28-003-011-01	M-PWST	P-4259-4	FIREWATER SYSTEM	OA	26	A	CE	SPTFAIL			
B28-003-013-01	M-PWST	P-4260-2	FIREWATER SYSTEM	HV	3V3	A	CE	SPTFAIL			
B28-003-012-01	M-PWST	P-4261-2	FIREWATER SYSTEM	OA	26	A	CE	SPTFAIL			
B10-015-001-01	M-RCPHX2-4	PA-3755-0.75	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	A	EMS	SPTFAIL			
B06-005-001-02	M-REACT-MAN	M-CRDM	REACTOR COOLANT SYSTEM	CNT	9C	A	EMS	SPTFAIL			
B20-007-002-02	M-RE17A+	I-RE17A+	COMPONENT COOLING WATER SYSTEM	PPS	3K3	A	EMS	SPTFAIL			
B01-007-001-03	M-TANK	M-AFWPP 2-3	AUXILIARY FEEDWATER SYSTEM	AUX	3W	A	EMS	SPTFAIL	ENVIRON		
B21-001-001-03	M-TANK	M-CST	AUXILIARY FEEDWATER SYSTEM	OA	26	A	CE	SPTFAIL			
B06-018-002-02	M-TANK	E-KT260-3	REACTOR COOLANT SYSTEM	PEN	3CC	A	EMS	SPTFAIL			
B06-005-001-08	M-TANK	I-FLUX MON	REACTOR COOLANT SYSTEM	CNT	9B	A	CE	SPTFAIL			
B28-004-034-01	P-SPR-3C	P-3619-4	FIREWATER SYSTEM	AUX	3C	A	PSE	SPTFAIL			
B13-010-002-01	P-ULB-3X	E-K9441-2	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	A	PSE	SPTFAIL			
B20-038-006-03	P-1085-14	P-4172-0.75+	COMPONENT COOLING WATER SYSTEM	PEN	3CC	A	PSE	SPTFAIL			
B15-003-005-01	PS-4278-0.75	I-FE977	SAFETY INJECTION SYSTEM	CNT	9A	A	PSE	SPTFAIL			
B32-005-001-04	C-BASIN	E-BATTERY	ELECTRIC POWER SYSTEM	EL	6B1	M	CE	SPTFAIL		TSHIELD	EXPEDIENT
B32-005-003-05	C-BASIN	E-BATTERY	ELECTRIC POWER SYSTEM	EL	6B3	M	CE	SPTFAIL		TSHIELD	EXPEDIENT
B30-001-008-01	C-BOARD	I-GENERIC	MULTIPLE TARGETS	EL	8C	M	CE	SPTFAIL		SUPPORT	NECESSARY
B20-001-002-02	C-DOOR	E-K7208-2	COMPONENT COOLING WATER SYSTEM	AUX	4B	M	CE	SPTFAIL		SUPPORT	EXPEDIENT
B30-002-023-02	E-BUSDUCT	E-GENERIC	MULTIPLE TARGETS	EL	23B	M	EE	SPTFAIL		SUPPORT	NECESSARY
B30-002-009-03	E-CRANE-9C	GENERIC	MULTIPLE TARGETS	CNT	9C	M	CE	SPTFAIL		SUPPORT	NECESSARY
B30-002-009-04	E-CRANE-9C	I-SG	MULTIPLE TARGETS	CNT	9C	M	EE	SPTFAIL		SUPPORT	NECESSARY
B30-002-009-05	E-CRANE-9C	I-SG	MULTIPLE TARGETS	CNT	9C	M	EE	SPTFAIL		SUPPORT	EXPEDIENT
B30-002-009-07	E-CRANE-9C	I-SG-2-1	MULTIPLE TARGETS	CNT	9C	M	CE	SPTFAIL		SUPPORT	NECESSARY
B30-002-009-09	E-CRANE-9C	I-SG-2-1	MULTIPLE TARGETS	CNT	9C	M	CE	SPTFAIL		SUPPORT	NECESSARY
B12-002-001-01	E-DJAC	I-LCV459	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	M	EE	SPTFAIL		SUPPORT	EXPEDIENT
B11-004-002-03	E-KHT18-3	P-0047-3	CHEM. & VOL. CONTROL SYSTEM	PPS	3I2	M	EE	SPTFAIL		SUPPORT	EXPEDIENT
B17-010-001-01	E-KX123-2	M-8843	SAFETY INJECTION SYSTEM	CNT	9C	M	EE	SPTFAIL		SUPPORT	EXPEDIENT

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=SPTFAIL

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B30-002-009-14	E-KX940-0.75	I-GENERIC	MULTIPLE TARGETS	CNT	9A	M	EE	SPTFAIL		SUPPORT	EXPEDIENT
B28-005-005-01	E-K1531-5	P-2674-4	FIREWATER SYSTEM	CNT	9A	M	EE	SPTFAIL		SUPPORT	OVERLAP
B30-002-009-13	E-K1532-5+	E-GENERIC	MULTIPLE TARGETS	CNT	9A	M	EE	SPTFAIL		SUPPORT	OVERLAP
B30-002-009-12	E-K1532-5+	I-GENERIC	MULTIPLE TARGETS	CNT	9A	M	EE	SPTFAIL	DEFLECT	SUPPORT	OVERLAP
B07-012-001-08	E-K1971-0.75	I-LT461+	REACTOR COOLANT SYSTEM	CNT	9B	M	EE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-022-02	E-K2614-3	P-5044-2	FIREWATER SYSTEM	EL	23A	M	EE	SPTFAIL		TMODIFY	EXPEDIENT
B28-005-016-01	E-RNRP-A,B	PA-1361-2	FIREWATER SYSTEM	CNT	9C	M	CE	SPTFAIL		SUPPORT	EXPEDIENT
B23-004-004-01	E-RNRPA	P-0271-10	CONTAINMENT SPRAY SYSTEM	CNT	9C	M	EE	SPTFAIL		SUPPORT	EXPEDIENT
B15-003-006-06	E-TL26	P-0508-8	SAFETY INJECTION SYSTEM	CNT	9A	M	EE	SPTFAIL		SUPPORT	EXPEDIENT
B30-002-029-04	E-500KV	E-GENERIC	MULTIPLE TARGETS	OA	29	M	EE	SPTFAIL		BRACE	NECESSARY
B25-105-003-01	H-CHILLER	H-CR38	HVAC FOR VITAL EQUIP. COOLING	HV	8B4	M	HVA	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-023-01	H-DUCT-24E	P-5045-2	FIREWATER SYSTEM	HV	24E	M	HVA	SPTFAIL		SUPPORT	NECESSARY
B25-152-002-01	H-DUCT-24E	E-LPF36	HVAC FOR VITAL EQUIP. COOLING	HV	24E	M	HVA	SPTFAIL		SUPPORT	NECESSARY
B25-157-002-01	H-DUCT-24E	H-S67	HVAC FOR VITAL EQUIP. COOLING	HV	24E	M	HVA	SPTFAIL	DEFLECT	SUPPORT	NECESSARY
B04-006-001-01	H-DUCT-3CC	M-FCV95	MAIN STEAM SYSTEM	PEN	3CC	M	HVA	SPTFAIL		RELOCATE	OVERLAP
B09-005-005-04	H-DUCT-3CC	E-KK205-1	REACTOR COOLANT SYSTEM	PEN	3CC	M	HVA	SPTFAIL		TSHIELD	EXPEDIENT
B05-006-002-02	H-DUCT-9A	I-FCV761	MAIN STEAM SYSTEM	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-036-001-02	H-DUCT-9A	I-PM44	MAIN STEAM SYSTEM	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-036-001-03	H-DUCT-9A	I-PM44	MAIN STEAM SYSTEM	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-040-001-02	H-DUCT-9A	I-PM45	MAIN STEAM SYSTEM	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-041-001-02	H-DUCT-9A	I-PM45	MAIN STEAM SYSTEM	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-035-001-02	H-DUCT-9A	I-PM48	MAIN STEAM SYSTEM	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-035-001-03	H-DUCT-9A	I-PM48	MAIN STEAM SYSTEM	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-037-001-02	H-DUCT-9A	I-PM48	MAIN STEAM SYSTEM	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-037-001-03	H-DUCT-9A	I-PM48	MAIN STEAM SYSTEM	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-034-001-03	H-DUCT-9A	I-PM52	MAIN STEAM SYSTEM	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-039-001-04	H-DUCT-9A	I-PM53	MAIN STEAM SYSTEM	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-033-001-05	H-DUCT-9A	I-PM56	MAIN STEAM SYSTEM	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-038-001-03	H-DUCT-9A	I-PM57	MAIN STEAM SYSTEM	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B30-003-009-01	H-DUCT-9A	I-GENERIC	MULTIPLE TARGETS	CNT	9A	M	CE	SPTFAIL		SUPPORT	OVERLAP
B03-033-001-02	H-DUCT-9B	I-LT517	MAIN STEAM SYSTEM	CNT	9B	M	CE	SPTFAIL		SUPPORT	OVERLAP
B30-003-009-02	H-DUCT-9B	I-GENERIC	MULTIPLE TARGETS	CNT	9B	M	CE	SPTFAIL		SUPPORT	OVERLAP
B30-003-009-05	H-DUCT-9B	I-GENERIC	MULTIPLE TARGETS	CNT	9B	M	HVA	SPTFAIL		SUPPORT	OVERLAP
B06-005-001-21	H-DUCT-9B	PA-RCS	REACTOR COOLANT SYSTEM	CNT	9B	M	HVA	SPTFAIL		CONSTDEF	EXPEDIENT
B30-003-009-03	H-DUCT-9C	I-GENERIC	MULTIPLE TARGETS	CNT	9C	M	CE	SPTFAIL		SUPPORT	OVERLAP
B06-005-001-03	H-DUCT-9C	M-CRDM	REACTOR COOLANT SYSTEM	CNT	9C	M	HVA	SPTFAIL		SUPPORT	OVERLAP
B25-105-001-02	H-E36	E-CP37	HVAC FOR VITAL EQUIP. COOLING	HV	8B4	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B25-105-002-01	H-E36	E-CP37	HVAC FOR VITAL EQUIP. COOLING	HV	8B4	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B09-006-005-02	H-LSP91	E-KK204-1	REACTOR COOLANT SYSTEM	PEN	3CC	M	HVA	SPTFAIL		BRACE	NECESSARY
B09-005-005-03	H-LSP91	E-KK205-1	REACTOR COOLANT SYSTEM	PEN	3CC	M	HVA	SPTFAIL		BRACE	NECESSARY
B28-008-001-01	H-S51	P-3944-6	FIREWATER SYSTEM	TB	19A	M	HVA	SPTFAIL		BRACE	NECESSARY
B28-008-016-03	H-S61	P-3961-2	FIREWATER SYSTEM	TB	19D	M	CE	SPTFAIL	CIVILFAIL	BRACE	NECESSARY
B28-008-013-03	H-S64	P-3955-2	FIREWATER SYSTEM	TB	19D	M	CE	SPTFAIL		BRACE	NECESSARY
B25-152-001-03	H-S70	H-S69	HVAC FOR VITAL EQUIP. COOLING	HV	24E	M	HVA	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-007-03	H-S75	P-3949-2	FIREWATER SYSTEM	TB	19A	M	HVA	SPTFAIL		TMODIFY	NECESSARY
B30-004-008-01	I-CABINET	E-GENERIC	MULTIPLE TARGETS	EL	8C	M	ICE	SPTFAIL		SUPPORT	EXPEDIENT
B06-005-001-09	I-ELPP06	I-FLUX MON	REACTOR COOLANT SYSTEM	CNT	9B	M	ICE	SPTFAIL		RELOCATE	NECESSARY
B06-005-001-10	I-LI56	I-FLUX MON	REACTOR COOLANT SYSTEM	CNT	9B	M	ICE	SPTFAIL		SUPPORT	EXPEDIENT
B30-004-009-01	I-PM58+	GENERIC	MULTIPLE TARGETS	CNT	9A	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B11-011-006-03	I-VRS-PANEL	E-KT075	CHEM. & VOL. CONTROL SYSTEM	EL	5B1	M	ICE	SPTFAIL		BRACE	EXPEDIENT
B25-091-002-01	IS-SV103A+	I-SV103A+	HVAC FOR VITAL EQUIP. COOLING	AUX	3L	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B15-031-002-01	IS-8824	IS-8824	SAFETY INJECTION SYSTEM	CNT	9A	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B15-026-002-01	IS-8871	I-8871	SAFETY INJECTION SYSTEM	CNT	9A	M	ENG	SPTFAIL		SUPPORT	OVERLAP

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=SPTFAIL

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B30-005-029-02	M-BOTTLE	E-GENERIC	MULTIPLE TARGETS	OA	29	M	EMS	SPTFAIL		SUPPORT	OVERLAP
B17-001-009-04	M-HCV943	P-1992-1.50	SAFETY INJECTION SYSTEM	CNT	9A	M	EMS	SPTFAIL		SUPPORT	EXPEDIENT
B28-002-005-03	M-HR	P-3640-2	FIREWATER SYSTEM	AUX	3W	M	EMS	SPTFAIL		SUPPORT	EXPEDIENT
B28-005-008-02	M-HR	PA-3157-2	FIREWATER SYSTEM	CNT	9C	M	EMS	SPTFAIL		BRACE	EXPEDIENT
B28-005-016-02	M-HR	PA-3160-2	FIREWATER SYSTEM	CNT	9C	M	EMS	SPTFAIL		BRACE	EXPEDIENT
B28-005-013-03	M-HR	PA-3161-2	FIREWATER SYSTEM	CNT	9C	M	EMS	SPTFAIL		BRACE	EXPEDIENT
B28-008-011-01	M-HR	PA-3953-2	FIREWATER SYSTEM	TB	19A	M	EMS	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-016-01	M-HR	PA-3961-2	FIREWATER SYSTEM	TB	19D	M	EMS	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-024-01	M-HR	PA-3962-2	FIREWATER SYSTEM	TB	19D	M	EMS	SPTFAIL		SUPPORT	EXPEDIENT
B25-144-005-01	M-HR	H-DUCT-6B5	HVAC FOR VITAL EQUIP. COOLING	EL	6B5	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B30-006-005-02	M-HR	E-K8377-1.50	MULTIPLE TARGETS	EL	5B4	M	EMS	SPTFAIL		SUPPORT	NECESSARY
B06-001-003-01	M-INS SPT	P-0005-31	REACTOR COOLANT SYSTEM	CNT	9B	M	EMS	SPTFAIL		SUPPORT	EXPEDIENT
B06-002-003-01	M-INS SPT	P-0006-31	REACTOR COOLANT SYSTEM	CNT	9B	M	CE	SPTFAIL		SUPPORT	EXPEDIENT
B06-003-003-01	M-INS SPT	P-0007-31	REACTOR COOLANT SYSTEM	CNT	9B	M	CE	SPTFAIL		SUPPORT	EXPEDIENT
B06-004-003-01	M-INS SPT	P-0008-31	REACTOR COOLANT SYSTEM	CNT	9B	M	CE	SPTFAIL		SUPPORT	EXPEDIENT
B15-003-008-02	M-INS SPT	PS-1999-0.75	SAFETY INJECTION SYSTEM	CNT	9B	M	EMS	SPTFAIL		SUPPORT	EXPEDIENT
B30-005-009-02	M-OILTANK	GENERIC	MULTIPLE TARGETS	CNT	9C	M	EMS	SPTFAIL		SUPPORT	NECESSARY
B30-005-009-03	M-OILTANK	I-SG	MULTIPLE TARGETS	CNT	9C	M	EMS	SPTFAIL		SUPPORT	EXPEDIENT
B15-022-003-01	M-PRT	I-8879A	SAFETY INJECTION SYSTEM	CNT	9A	M	CE	SPTFAIL		SUPPORT	NECESSARY
B20-001-002-05	M-TANK	E-K7248-2+	COMPONENT COOLING WATER SYSTEM	AUX	4B	M	EMS	SPTFAIL		TSHIELD	EXPEDIENT
B13-008-001-02	M-TANK	M-BAT 2-1	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	M	EMS	SPTFAIL		SUPPORT	NECESSARY
B28-008-002-02	M-TANK	P-3951-2	FIREWATER SYSTEM	TB	19A	M	EMS	SPTFAIL		RELOCATE	OVERLAP
B03-013-004-01	M-TANK	E-K6542-1	MAIN STEAM SYSTEM	PEN	3CC	M	EMS	SPTFAIL		STOP	EXPEDIENT
B11-008-001-04	M-TANK-CHGPP	I-PI192C	CHEM. & VOL. CONTROL SYSTEM	PPS	3I2	M	EMS	SPTFAIL		SUPPORT	NECESSARY
B28-007-004-01	M-TANK-19A	PA-2683-4	FIREWATER SYSTEM	TB	19A	M	EMS	SPTFAIL		TMODIFY	EXPEDIENT
B20-054-002-01	M-TANK-3L	I-CSP 2-1	COMPONENT COOLING WATER SYSTEM	AUX	3L	M	CE	SPTFAIL		SUPPORT	NECESSARY
B06-005-001-20	M-5-10 PATH	PA-RCS	REACTOR COOLANT SYSTEM	CNT	9B	M	EMS	SPTFAIL		SUPPORT	NECESSARY
B06-005-001-28	M-5-10 PATH	PA-RCS	REACTOR COOLANT SYSTEM	CNT	9B	M	ICE	SPTFAIL		SUPPORT	NECESSARY
B32-005-003-02	N-CABINET	E-BATTERY	ELECTRIC POWER SYSTEM	EL	6B3	M	EE	SPTFAIL		SECLOOSE	NECESSARY
B24-008-016-09	P-CARDOX-22A	M-DG 2-1	EMERG. DIESEL GENERATORS	DG	22A1	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B24-008-003-05	P-CARDOX-22B	M-DG 2-2	EMERG. DIESEL GENERATORS	DG	22B1	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-082-004-02	P-CARDOX-7B	E-K7967-2	HVAC FOR VITAL EQUIP. COOLING	EL	7B	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B28-008-020-02	P-DRAIN-19A	P-5042-4	FIREWATER SYSTEM	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B24-008-016-08	P-DRAIN-22A1	M-DG 2-1	EMERG. DIESEL GENERATORS	DG	22A1	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B24-008-003-07	P-DRAIN-22B1	M-DG 2-2	EMERG. DIESEL GENERATORS	DG	22B1	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B25-124-001-01	P-DRAIN-8B4	H-DAMPER	HVAC FOR VITAL EQUIP. COOLING	HV	8B4	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B03-006-002-04	P-DRAIN-9A	I-LT502	MAIN STEAM SYSTEM	CNT	9A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B03-005-002-02	P-DRAIN-9B	I-LT501	MAIN STEAM SYSTEM	CNT	9B	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B03-005-002-03	P-DRAIN-9B	I-LT501	MAIN STEAM SYSTEM	CNT	9B	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B20-039-003-04	P-IAH-3CC	PA-0126-8	COMPONENT COOLING WATER SYSTEM	PEN	3CC	M	PSE	SPTFAIL	DEFLECT	SUPPORT	EXPEDIENT
B25-134-001-01	P-SA-3CC	M-FCV699	CNT ISOL. OF NON-VITAL SYSTEMS	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B11-012-005-01	P-SA-3CC	E-K6893-0.75	CHEM. & VOL. CONTROL SYSTEM	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-003-02	P-SA-3CC	I-PM72	MULTIPLE TARGETS	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B23-018-003-01	P-SA-3CC	E-KT208-1.50	CONTAINMENT SPRAY SYSTEM	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B09-010-004-04	P-SA-3L	E-K9100-1.25	REACTOR COOLANT SYSTEM	AUX	3L	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B24-008-004-01	P-SA-5B4	E-KT554-2	EMERG. DIESEL GENERATORS	EL	5B4	M	PSE	SPTFAIL		TMODIFY	EXPEDIENT
B30-006-005-01	P-SA-5B4	E-K6875-1+	MULTIPLE TARGETS	EL	5B4	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B05-005-002-01	P-SA-9B	I-FCV760	MAIN STEAM SYSTEM	CNT	9B	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B22-002-001-02	P-SPR-19A	PA-3682-6	AUX. SALTWATER SYSTEM	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-001-07	P-SPR-19A	P-3944-6	FIREWATER SYSTEM	TB	19A	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B28-008-017-03	P-SPR-19A	P-3958-2	FIREWATER SYSTEM	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-018-02	P-SPR-19A	P-3959-2	FIREWATER SYSTEM	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-016-05	P-SPR-19A	P-3961-2	FIREWATER SYSTEM	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=SPTFAIL

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B28-008-020-04	P-SPR-19A	P-5042-4	FIREWATER SYSTEM	TB	19A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B28-008-020-06	P-SPR-19A	P-5042-4	FIREWATER SYSTEM	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-022-01	P-SPR-19A	P-5044-2	FIREWATER SYSTEM	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-023-05	P-SPR-19A	P-5045-2	FIREWATER SYSTEM	TB	19A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B28-008-003-04	P-SPR-19A	PA-3950-2	FIREWATER SYSTEM	TB	19A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B28-008-012-01	P-SPR-19A	PA-3954-2	FIREWATER SYSTEM	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-019-01	P-SPR-19E	M-CCWHX	MULTIPLE TARGETS	TB	19E	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B28-008-021-04	P-SPR-22C	P-5043-2	FIREWATER SYSTEM	DG	22C	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-004-052-06	P-SPR-3AA	P-2677-6	FIREWATER SYSTEM	AUX	3AA	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-004-052-07	P-SPR-3AA	P-3722-6	FIREWATER SYSTEM	AUX	3AA	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-024-004-02	P-SPR-3AA	E-9798-2+	HVAC FOR VITAL EQUIP. COOLING	AUX	3AA	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-040-000-00	P-SPR-3AA	H-DUCT-3AA	HVAC FOR VITAL EQUIP. COOLING	AUX	3AA	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-003-04	P-SPR-3AA	GENERIC	MULTIPLE TARGETS	AUX	3AA	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B01-012-002-03	P-SPR-3CC	E-KT254-1	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B01-012-002-05	P-SPR-3CC	E-K7636-0.75	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B01-012-002-06	P-SPR-3CC	E-K7636-0.75	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B25-008-002-01	P-SPR-3CC	E-KK216-1.50	CNT ISOL. OF NON-VITAL SYSTEMS	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-008-002-02	P-SPR-3CC	E-KK216-1.50	CNT ISOL. OF NON-VITAL SYSTEMS	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B25-008-002-04	P-SPR-3CC	E-KK216-1.50	CNT ISOL. OF NON-VITAL SYSTEMS	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-009-002-02	P-SPR-3CC	E-KK217-1.50	CNT ISOL. OF NON-VITAL SYSTEMS	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B24-002-008-04	P-SPR-3CC	E-K2706-2+	EMERG. DIESEL GENERATORS	PEN	3CC	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B28-006-001-01	P-SPR-3CC	I-FCV633	FIREWATER SYSTEM	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B28-004-011-02	P-SPR-3CC	P-3603-4	FIREWATER SYSTEM	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B28-004-011-01	P-SPR-3CC	PA-3608-4	FIREWATER SYSTEM	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B03-030-001-01	P-SPR-3CC	I-PT544	MAIN STEAM SYSTEM	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B05-012-001-01	P-SPR-3CC	M-FCV160	MAIN STEAM SYSTEM	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-003-03	P-SPR-3CC	E-GENERIC	MULTIPLE TARGETS	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B25-076-013-01	P-SPR-3I1	H-DUCT-3I1	HVAC FOR VITAL EQUIP. COOLING	PPS	3I1	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B20-001-001-03	P-SPR-3K1	M-CCWPP 2-1	COMPONENT COOLING WATER SYSTEM	PPS	3K1	M	PSE	SPTFAIL	DEFLECT	RELOCATE	EXPEDIENT
B28-003-008-02	P-SPR-3W	P-3643-2	FIREWATER SYSTEM	AUX	3W	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-029-007-02	P-SPR-3W	H-DAMPER	HVAC FOR VITAL EQUIP. COOLING	AUX	3W	M	PSE	SPTFAIL		TMODIFY	NECESSARY
B13-009-002-02	P-SPR-3X	E-K9440-2	CHEM. & VOL. CONTROL SYSTEM	AUX	3X	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B01-012-002-09	P-SPR-4B	E-KT333-1	AUXILIARY FEEDWATER SYSTEM	AUX	4B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-040-040-10	P-SPR-4B	H-DUCT-4B	HVAC FOR VITAL EQUIP. COOLING	AUX	4B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-004-01	P-SPR-4B	E-GENERIC	MULTIPLE TARGETS	AUX	4B	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B25-076-003-01	P-SPR-8B2	H-S33	HVAC FOR VITAL EQUIP. COOLING	HV	8B2	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-076-003-02	P-SPR-8B2	H-S33	HVAC FOR VITAL EQUIP. COOLING	HV	8B2	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-008-02	P-SPR-8B4	E-GENERIC	MULTIPLE TARGETS	HV	8B4	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B28-008-001-03	P-USB-19A	P-3944-6	FIREWATER SYSTEM	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B24-007-001-03	P-USB-22B2	M-DG 2-2 FAN	EMERG. DIESEL GENERATORS	DG	22B2	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B13-019-002-01	P-USB-3AA	E-KT879-2.50	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	M	PSE	SPTFAIL		RELOCATE	NECESSARY
B22-007-001-01	P-USB-30A5	E-ASWGO	AUX. SALTWATER SYSTEM	IS	30A5	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B25-105-001-01	P-USB-8B4	H-CR37+	HVAC FOR VITAL EQUIP. COOLING	HV	8B4	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-008-01	P-USB-8B4	H-DUCT-8B4	MULTIPLE TARGETS	HV	8B4	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B05-005-002-02	P-USB-9B	I-FCV760	MAIN STEAM SYSTEM	CNT	9B	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B05-006-002-01	P-USB-9B	I-FCV761	MAIN STEAM SYSTEM	CNT	9B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B06-030-001-03	P-0233-1	I-FT436	REACTOR COOLANT SYSTEM	CNT	9B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B01-012-002-08	P-0510-2	E-K5836-2	AUXILIARY FEEDWATER SYSTEM	OA	29	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B20-030-005-02	P-0529-2	PA-0099-12	COMPONENT COOLING WATER SYSTEM	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B15-002-003-01	P-0529-2	I-FE918	SAFETY INJECTION SYSTEM	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B20-038-001-03	P-0726-4	P-2402-2	COMPONENT COOLING WATER SYSTEM	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	OVERLAP
B20-038-008-01	P-0726-4	P-2403-2	COMPONENT COOLING WATER SYSTEM	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B17-003-002-02	P-0994-1	E-R-3D3	SAFETY INJECTION SYSTEM	AUX	3D3	M	PSE	SPTFAIL		SUPPORT	OVERLAP

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=SPTFAIL

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B12-001-002-02	P-1007-2	P-0050-3	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B20-017-001-01	P-1040-2.50	P-3281-12	COMPONENT COOLING WATER SYSTEM	PEN	3CC	M	PSE	SPTFAIL	PIPEFAIL	CONSTDEF	OVERLAP
B20-018-006-01	P-1042-2.50	PA-0320-12	COMPONENT COOLING WATER SYSTEM	PEN	3CC	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	OVERLAP
B03-043-001-05	P-1869-1	I-LT537	MAIN STEAM SYSTEM	CNT	9B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B03-003-001-03	P-1869-1	PA-0226-28	MAIN STEAM SYSTEM	CNT	9C	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B30-006-009-01	P-1869-1	I-SG 2-3,4	MULTIPLE TARGETS	CNT	9C	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B03-005-002-04	P-1870-1	I-LT501	MAIN STEAM SYSTEM	CNT	9B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-009-02	P-1870-1	I-SG 2-1	MULTIPLE TARGETS	CNT	9C	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-001-02	P-2772-4	P-3944-6	FIREWATER SYSTEM	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B28-008-010-02	P-2772-4	PA-3952-4	FIREWATER SYSTEM	TB	19A	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B22-009-004-02	P-2987-3	E-KD352-2	AUX. SALTWATER SYSTEM	TB	19E	M	PSE	SPTFAIL	DEFLECT	SUPPORT	EXPEDIENT
B28-008-009-02	P-3018-2+	PA-3943-6	FIREWATER SYSTEM	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B12-003-001-03	P-3080-2	P-0063-1	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-029-02	P-3103-2	I-PM104+	MULTIPLE TARGETS	OA	29	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B30-006-029-03	P-3104-6	E-GENERIC	MULTIPLE TARGETS	OA	29	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B25-079-001-02	P-3105-6	H-S34	HVAC FOR VITAL EQUIP. COOLING	HV	8B2	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B20-001-002-08	P-3112-2.50	E-K4880-2+	COMPONENT COOLING WATER SYSTEM	TB	19A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B10-013-003-01	P-3122-2	P-1484-0.75	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B10-016-001-01	P-3126-2	M-8142	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B20-016-001-01	P-3135-1	I-FT69	COMPONENT COOLING WATER SYSTEM	TB	19A	M	PSE	SPTFAIL		RELOCATE	OVERLAP
B20-017-002-02	P-3196-8	PS-0316-12	COMPONENT COOLING WATER SYSTEM	CNT	9A	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B30-006-009-03	P-3196-8	I-PM138	MULTIPLE TARGETS	CNT	9A	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B30-006-009-09	P-3210-10	P-GENERIC	MULTIPLE TARGETS	CNT	9A	M	PSE	SPTFAIL	DEFLECT	SUPPORT	NECESSARY
B30-006-029-01	P-3228-3	I-PM104+	MULTIPLE TARGETS	OA	29	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B22-009-004-01	P-3354-1.50	E-KD352-2+	AUX. SALTWATER SYSTEM	TB	19E	M	PSE	SPTFAIL	DEFLECT	SUPPORT	EXPEDIENT
B23-004-004-06	P-3455-1.50	PS-0326-8	CONTAINMENT SPRAY SYSTEM	CNT	9A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B13-013-002-01	P-3478-2	I-HCV104	CHEM. & VOL. CONTROL SYSTEM	AUX	3AA	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B23-004-004-07	P-3512-1	PS-0326-8	CONTAINMENT SPRAY SYSTEM	CNT	9A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B10-016-001-02	P-3811-1	M-8142	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B06-030-001-02	P-3818-0.50	I-FT436	REACTOR COOLANT SYSTEM	CNT	9B	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B02-001-003-02	P-3874-2	PA-0557-16	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	NECESSARY
B20-001-002-09	P-4234-6	E-K4881-2	COMPONENT COOLING WATER SYSTEM	TB	19A	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B12-003-001-01	P-4260-0.75	P-0063-1	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	M	PSE	SPTFAIL		SUPPORT	OVERLAP
B03-036-001-01	P-4271-0.75	I-FT512	MAIN STEAM SYSTEM	CNT	9A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B06-022-001-04	P-4275-0.75	I-FT414	REACTOR COOLANT SYSTEM	CNT	9A	M	PSE	SPTFAIL	PIPEFAIL	SUPPORT	EXPEDIENT
B10-007-002-01	P-4303-1	I-FT115	CHEM. & VOL. CONTROL SYSTEM	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B10-006-002-01	P-4303-1	I-FT116	CHEM. & VOL. CONTROL SYSTEM	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B10-005-002-01	P-4303-1	I-FT143	CHEM. & VOL. CONTROL SYSTEM	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B10-004-002-01	P-4303-1	I-FT144	CHEM. & VOL. CONTROL SYSTEM	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-003-01	P-4303-1	I-PM123	MULTIPLE TARGETS	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B10-010-003-02	P-4370-1.25	I-PT186	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	M	PSE	SPTFAIL		SUPPORT	NECESSARY
B15-025-002-01	P-4371-1.25	I-8879D	SAFETY INJECTION SYSTEM	CNT	9A	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B12-002-001-03	P-4397-2	P-0024-3	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	M	PSE	SPTFAIL		SUPPORT	OVERLAP
B15-003-009-04	P-4397-2	P-2000-0.75	SAFETY INJECTION SYSTEM	CNT	9B	M	PSE	SPTFAIL		SUPPORT	OVERLAP
B15-003-009-02	P-4406-1	P-2000-0.75	SAFETY INJECTION SYSTEM	CNT	9B	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B01-002-006-02	PA-0227-28	I-FT50	AUXILIARY FEEDWATER SYSTEM	OA	29	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B01-002-006-01	PA-0228-28	I-FT50	AUXILIARY FEEDWATER SYSTEM	OA	29	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B30-006-029-04	PA-0583-28	GENERIC	MULTIPLE TARGETS	OA	29	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B01-008-001-01	PA-0584-28	M-LCV106	AUXILIARY FEEDWATER SYSTEM	OA	29	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B10-004-002-02	PA-0826-2	I-FT144	CHEM. & VOL. CONTROL SYSTEM	PEN	3CC	M	PSE	SPTFAIL		SUPPORT	EXPEDIENT
B06-022-001-01	PS-0005-31	I-FT414	REACTOR COOLANT SYSTEM	CNT	9B	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B06-023-001-01	PS-0005-31	I-FT415	REACTOR COOLANT SYSTEM	CNT	9B	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B06-024-001-01	PS-0005-31	I-FT416	REACTOR COOLANT SYSTEM	CNT	9B	M	ENG	SPTFAIL		SUPPORT	OVERLAP

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=SPTFAIL

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B06-025-001-02	PS-0006-31	I-FT424	REACTOR COOLANT SYSTEM	CNT	9B	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B06-026-001-01	PS-0006-31	I-FT425	REACTOR COOLANT SYSTEM	CNT	9B	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B06-027-001-02	PS-0006-31	I-FT426	REACTOR COOLANT SYSTEM	CNT	9B	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B15-003-010-02	PS-0007-31	P-0255-10	SAFETY INJECTION SYSTEM	CNT	9B	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B15-003-010-01	PS-0008-31	P-0255-10	SAFETY INJECTION SYSTEM	CNT	9B	M	ENG	SPTFAIL		SUPPORT	OVERLAP
B03-024-001-02	PS-0227-28	I-PT524	MAIN STEAM SYSTEM	OA	29	M	ENG	SPTFAIL		BRACE	OVERLAP
B03-021-001-01	PS-0228-28	I-PT514	MAIN STEAM SYSTEM	OA	29	M	ENG	SPTFAIL		BRACE	OVERLAP
B15-003-005-02	PS-4278-0.75	I-FE977	SAFETY INJECTION SYSTEM	CNT	9A	M	PSE	SPTFAIL		SUPPORT	OVERLAP
B01-012-002-10	C-DOOR	E-K5836-2	AUXILIARY FEEDWATER SYSTEM	OA	29	NAN		SPTFAIL			
B01-016-002-02	C-DOOR	E-K9477-2	AUXILIARY FEEDWATER SYSTEM	AUX	3AA	NAN		SPTFAIL			
B07-012-001-03	E-BTX4	I-LT461	REACTOR COOLANT SYSTEM	CNT	9A	NAN		SPTFAIL			
B07-011-001-04	E-BTX5	I-LT460	REACTOR COOLANT SYSTEM	CNT	9A	NAN		SPTFAIL			
B07-011-001-01	E-BTX6	I-LT460	REACTOR COOLANT SYSTEM	CNT	9A	NAN		SPTFAIL			
B32-001-011-01	E-CABINET	E-K2469-2	ELECTRIC POWER SYSTEM	DG	22C	NAN		SPTFAIL			
B28-008-019-04	E-EEDE-12+	PA-3960-2	FIREWATER SYSTEM	TB	19A	NAN		SPTFAIL			
B22-008-004-05	E-HTR	E-K7242-3	AUX. SALTWATER SYSTEM	AUX	4B	NAN		SPTFAIL			
B06-005-001-22	E-K1837-1	PA-RCS	REACTOR COOLANT SYSTEM	CNT	9B	NAN		SPTFAIL			
B06-005-001-30	E-MANIPCRANE	M-CRDM	REACTOR COOLANT SYSTEM	CNT	9C	NAN		SPTFAIL			
B30-002-009-16	E-R-9A	GENERIC	MULTIPLE TARGETS	CNT	9A	NAN		SPTFAIL			
B05-002-001-01	E-RS-9A	P-1041-2.50	MAIN STEAM SYSTEM	CNT	9A	NAN		SPTFAIL			
B09-004-002-02	E-SP3J	E-K1790-1.50	REACTOR COOLANT SYSTEM	CNT	9A	NAN		SPTFAIL			
B15-003-003-01	E-SP3J	P-3856-2	SAFETY INJECTION SYSTEM	CNT	9A	NAN		SPTFAIL			
B28-008-001-09	E-TBB	PA-39446	FIREWATER SYSTEM	TB	19E	NAN		SPTFAIL			
B06-034-002-03	E-TJJB	E-KX391-2	REACTOR COOLANT SYSTEM	CNT	9B	NAN		SPTFAIL			
B15-003-007-01	E-TJVC+	P-3846-6	SAFETY INJECTION SYSTEM	CNT	9B	NAN		SPTFAIL			
B01-002-013-04	E-TL25	P-0564-1.50	AUXILIARY FEEDWATER SYSTEM	PPS	3T1	NAN		SPTFAIL			
B30-002-020-01	E-480VSWGR	E-GENERIC	MULTIPLE TARGETS	EL	20	NAN		SPTFAIL			
B28-008-021-03	H-DUCT-22C	P-5043-2	FIREWATER SYSTEM	DG	22C	NAN		SPTFAIL			
B25-099-002-01	H-DUCT-3CC	E-K7545-1.50	CNT ISOL. OF NON-VITAL SYSTEMS	PEN	3CC	NAN		SPTFAIL			
B28-005-001-01	H-DUCT-3CC	P-2095-4	FIREWATER SYSTEM	PEN	3CC	NAN		SPTFAIL			
B03-038-001-02	H-DUCT-9A	I-LT527	MAIN STEAM SYSTEM	CNT	9B	NAN		SPTFAIL			
B03-006-002-01	H-IODINE	I-LT502	MAIN STEAM SYSTEM	CNT	9A	NAN		SPTFAIL			
B20-054-002-02	I-CSP1HX	I-CSP 2-1	COMPONENT COOLING WATER SYSTEM	AUX	3L	NAN		SPTFAIL			
B25-141-002-02	I-PANEL	I-RCHMC	CNT ISOL. OF NON-VITAL SYSTEMS	PEN	3CC	NAN		SPTFAIL			
B05-013-002-01	I-PANEL	I-FCV250	MAIN STEAM SYSTEM	PEN	3CC	NAN		SPTFAIL			
B09-006-005-04	I-PANEL	E-KK204-1	REACTOR COOLANT SYSTEM	PEN	3CC	NAN		SPTFAIL			
B03-026-002-02	I-PM124	E-KT673-1.50	MAIN STEAM SYSTEM	PEN	3CC	NAN		SPTFAIL			
B20-053-001-03	I-PM3	P-2292-3	COMPONENT COOLING WATER SYSTEM	AUX	3L	NAN		SPTFAIL			
B20-053-004-03	I-PM3	P-2293-3	COMPONENT COOLING WATER SYSTEM	AUX	3L	NAN		SPTFAIL			
B28-004-007-02	I-PM80	PA-3605-2	FIREWATER SYSTEM	PEN	3CC	NAN		SPTFAIL			
B25-144-004-03	I-XYM-498	H-DUCT-6B5	HVAC FOR VITAL EQUIP. COOLING	EL	6B5	NAN		SPTFAIL			
B22-002-001-03	M-BOTTLE	P-0680-24	AUX. SALTWATER SYSTEM	IS	30A5	NAN		SPTFAIL			
B22-001-001-02	M-BOTTLE	P-0687-24	AUX. SALTWATER SYSTEM	IS	30A5	NAN		SPTFAIL			
B24-002-008-03	M-HR	E-K2607-3	EMERG. DIESEL GENERATORS	EL	23C	NAN		SPTFAIL			
B28-004-003-03	M-HR	PA-3602-2	FIREWATER SYSTEM	AUX	3S	NAN		SPTFAIL			
B30-005-020-01	M-HR	E-GENERIC	MULTIPLE TARGETS	EL	20	NAN		SPTFAIL	DEFLECT		
B22-008-004-03	M-TANK	E-K7242-3	AUX. SALTWATER SYSTEM	AUX	4B	NAN		SPTFAIL			
B20-041-002-01	M-TANK	M-NSSSHX	COMPONENT COOLING WATER SYSTEM	AUX	3X	NAN		SPTFAIL			
B25-040-033-04	M-TANK	H-DUCT-3C	HVAC FOR VITAL EQUIP. COOLING	AUX	3C	NAN		SPTFAIL	DEFLECT		
B06-005-001-07	M-TANK	I-FLUX MON	REACTOR COOLANT SYSTEM	CNT	9B	NAN		SPTFAIL			
B32-001-011-05	P-DRAIN-23F	E-K2607+	ELECTRIC POWER SYSTEM	EL	23F	NAN		SPTFAIL	PIPEFAIL		
B02-002-002-01	P-DRAIN-3CC	E-K6495-3	AUXILIARY FEEDWATER SYSTEM	PEN	3CC	NAN		SPTFAIL	PIPEFAIL		
B28-008-020-05	P-IAH-19A	P-5042-4	FIREWATER SYSTEM	TB	19A	NAN		SPTFAIL			

UNIT 2 INTERACTIONS SORTED BY PHENOMENON, RESOLUTION TYPE AND SOURCE

PHENOM=SPTFAIL

IDSNO	SOURCE	TARGET	SYSTEM	AREA	FZ	RES	DISC	PHENOM	SECPHEN	MODCODE	MODEVAL
B28-008-004-01	P-SA-19A	P-3946-4	FIREWATER SYSTEM	TB	19A	NAN		SPTFAIL			
B28-008-010-01	P-SA-19A	P-3952-4	FIREWATER SYSTEM	TB	19A	NAN		SPTFAIL			
B24-008-016-07	P-SA-22A1	M-DG 2-1	EMERG. DIESEL GENERATORS	DG	22A1	NAN		SPTFAIL			
B24-008-003-04	P-SA-22B1	M-DG 2-2	EMERG. DIESEL GENERATORS	DG	22B1	NAN		SPTFAIL			
B20-055-005-02	P-SA-3CC	P-2290-3	COMPONENT COOLING WATER SYSTEM	PEN	3CC	NAN		SPTFAIL			
B20-038-001-01	P-SA-3CC	P-2402-2	COMPONENT COOLING WATER SYSTEM	PEN	3CC	NAN		SPTFAIL			
B23-020-002-01	P-SA-3CC	I-PT939	CONTAINMENT SPRAY SYSTEM	PEN	3CC	NAN		SPTFAIL			
B25-018-016-01	P-SA-3U	H-DUCT-3U	HVAC FOR VITAL EQUIP. COOLING	AUX	3U	NAN		SPTFAIL			
B28-008-015-01	P-SPR-19A	P-3957-4	FIREWATER SYSTEM	TB	19A	NAN		SPTFAIL			
B28-008-019-03	P-SPR-19A	P-3960-2	FIREWATER SYSTEM	TB	19A	NAN		SPTFAIL			
B28-008-024-02	P-SPR-19A	P-3962-2	FIREWATER SYSTEM	TB	19A	NAN		SPTFAIL			
B28-008-024-05	P-SPR-19A	P-3962-2	FIREWATER SYSTEM	TB	19A	NAN		SPTFAIL			
B05-015-004-02	P-SPR-3CC	E-K6272-3	MAIN STEAM SYSTEM	PEN	3CC	NAN		SPTFAIL			
B20-024-001-02	P-USB-19A	I-FT65	COMPONENT COOLING WATER SYSTEM	TB	19A	NAN		SPTFAIL			
B25-109-002-01	P-USB-19A	E-K7000-2+	HVAC FOR VITAL EQUIP. COOLING	TB	19A	NAN		SPTFAIL	PIPEFAIL		
B28-004-021-01	P-USB-3CC	P-3614-2	FIREWATER SYSTEM	PEN	3CC	NAN		SPTFAIL	DEFLECT		
B20-001-002-06	P-USB-4B	E-K7242-3	COMPONENT COOLING WATER SYSTEM	AUX	4B	NAN		SPTFAIL			
B03-006-002-02	P-0532-4	I-LT502	MAIN STEAM SYSTEM	CNT	9A	NAN		SPTFAIL			
B05-013-001-01	P-0726-4	M-FCV250	MAIN STEAM SYSTEM	PEN	3CC	NAN		SPTFAIL			
B17-001-009-05	P-1009-2	P-1992-1.50	SAFETY INJECTION SYSTEM	CNT	9B	NAN		SPTFAIL			
B15-029-002-01	P-1631-4	I-8884C	SAFETY INJECTION SYSTEM	CNT	9A	NAN		SPTFAIL			
B09-005-005-02	P-1673-0.375	E-K1857-1	REACTOR COOLANT SYSTEM	CNT	9C	NAN		SPTFAIL			
B10-010-002-02	P-1869-1	I-F1C171	CHEM. & VOL. CONTROL SYSTEM	CNT	9A	NAN		SPTFAIL			
B17-001-007-01	P-2523-0.50	P-1995-3	SAFETY INJECTION SYSTEM	CNT	9A	NAN		SPTFAIL			
B15-003-006-02	P-3184-8	P-3844-6	SAFETY INJECTION SYSTEM	CNT	9A	NAN		SPTFAIL			
B03-011-001-03	P-3824-1	M-FCV43	MAIN STEAM SYSTEM	PEN	3CC	NAN		SPTFAIL			
B20-055-005-03	P-4000-3	P-2290-3	COMPONENT COOLING WATER SYSTEM	AUX	3C	NAN		SPTFAIL	DEFLECT		
B12-003-001-07	P-4251-0.75	P-0063-1	CHEM. & VOL. CONTROL SYSTEM	CNT	9B	NAN		SPTFAIL			
B07-010-001-03	P-4397-2	I-LT459	REACTOR COOLANT SYSTEM	CNT	9B	NAN		SPTFAIL			
B30-006-009-05	P-4398-2	I-PM23+	MULTIPLE TARGETS	CNT	9A	NAN		SPTFAIL			
B06-002-004-01	P-4624-1	I-FIC499B	REACTOR COOLANT SYSTEM	CNT	9B	NAN		SPTFAIL			
B06-005-001-31	E-MANIPCRANE	M-CRDM	REACTOR COOLANT SYSTEM	CNT	9C	P	NPO	SPTFAIL			

ATTACHMENT 5-E.1

TO THE PGandE

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

UNIT 1

DATA MANAGEMENT REPORTS:

STATISTICAL SUMMARIES

This attachment contains the statistical summary sheets used to support the information contained in Chapters 8 and 9.

1. Statistical Summary of Resolution Method vs. Area
2. Statistical Summary of Resolution Method vs. System
3. Statistical Summary of Resolution Method vs. Interaction Phenomenan
4. Statistical Summary of Resolution Method vs. Area
5. Statistical Summary of Modification Basis vs. Area (Expedient, necessary, and overlap)
6. Statistical Summary of Modification Basis vs. System (Expedient, necessary, and overlap)
7. Statistical Summary of Modification Basis vs. Modification Method (expedient, necessary, and overlap)
8. Statistical Summary of Modification Basis vs. Interaction Phenomena

TABLE OF AREA BY RES

AREA FREQUENCY PERCENT	RES A	M	NAN	P	X	Y	TOTAL
AUX	46 2.09	35 1.59	42 1.91	0 0.00	4 0.18	5 0.23	132 6.01
CNT	153 6.96	165 7.51	148 6.73	1 0.05	30 1.36	7 0.32	504 22.93
DG	17 0.77	32 1.46	19 0.86	0 0.00	13 0.59	0 0.00	81 3.69
EL	33 1.50	69 3.14	51 2.32	0 0.00	7 0.32	3 0.14	163 7.42
HV	49 2.23	48 2.18	67 3.05	0 0.00	0 0.00	2 0.09	166 7.55
IS	6 0.27	4 0.18	2 0.09	0 0.00	0 0.00	1 0.05	13 0.59
OA	43 1.96	41 1.87	11 0.50	0 0.00	11 0.50	0 0.00	106 4.82
PEN	114 5.19	103 4.69	131 5.96	0 0.00	18 0.82	14 0.64	380 17.29
PPS	32 1.46	46 2.09	21 0.96	1 0.05	2 0.09	0 0.00	102 4.64
TB	27 1.23	41 1.87	32 1.46	0 0.00	4 0.18	19 0.86	123 5.60
VAR	126 5.73	59 2.68	173 7.87	2 0.09	5 0.23	63 2.87	428 19.47
TOTAL	646 29.39	643 29.25	697 31.71	4 0.18	94 4.28	114 5.19	2198 100.00

TABLE OF PHENOM BY RES

PHENOM RES

FREQUENCY PERCENT	A	M	NAN	P	X	Y	TOTAL
CIVILFAIL	190 8.64	100 4.55	12 0.55	0 0.00	0 0.00	1 0.05	303 13.79
DEFLECT	43 1.96	107 4.87	166 7.55	0 0.00	2 0.09	11 0.50	329 14.97
ENVIRON	20 0.91	8 0.36	1 0.05	0 0.00	0 0.00	1 0.05	30 1.36
FIXTURE	130 5.91	79 3.59	292 13.28	0 0.00	4 0.18	50 2.27	555 25.25
HOUSEKEEP	6 0.27	13 0.59	3 0.14	2 0.09	60 2.73	4 0.18	88 4.00
INTERFERE	19 0.86	63 2.87	37 1.68	0 0.00	1 0.05	2 0.09	122 5.55
LOOSE	36 1.64	50 2.27	21 0.96	2 0.09	24 1.09	3 0.14	136 6.19
MECHFAIL	62 2.82	33 1.50	7 0.32	0 0.00	0 0.00	1 0.05	103 4.69
PIPEFAIL	6 0.27	24 1.09	23 1.05	0 0.00	1 0.05	1 0.05	55 2.50
RELSTRUCT	8 0.36	2 0.09	1 0.05	0 0.00	0 0.00	6 0.27	17 0.77
SPTFAIL	126 5.73	164 7.46	134 6.10	0 0.00	2 0.09	34 1.55	460 20.93
TOTAL	646 29.39	643 29.25	697 31.71	4 0.18	94 4.28	114 5.19	2198 100.00

TABLE OF SYSTEM BY RES

SYSTEM FREQUENCY PERCENT	RES A	M	NAN	P	X	Y	TOTAL
ASW	13 0.59	8 0.36	6 0.27	0 0.00	1 0.05	0 0.00	28 1.27
AUXFW	26 1.18	29 1.32	44 2.00	1 0.05	5 0.23	9 0.41	114 5.19
CCW	27 1.23	43 1.96	65 2.96	0 0.00	4 0.18	1 0.05	140 6.37
CI	31 1.41	31 1.41	26 1.18	0 0.00	10 0.45	2 0.09	100 4.55
CVCS	61 2.78	39 1.77	25 1.14	0 0.00	4 0.18	1 0.05	130 5.91
EDG	14 0.64	30 1.36	13 0.59	0 0.00	15 0.68	2 0.09	74 3.37
ELPS	15 0.68	36 1.64	21 0.96	0 0.00	0 0.00	0 0.00	72 3.28
FW	126 5.73	58 2.64	173 7.87	2 0.09	5 0.23	63 2.87	427 19.43
HVAC	66 3.00	90 4.09	123 5.60	0 0.00	5 0.23	14 0.64	298 13.56
MNSTM	112 5.10	88 4.00	55 2.50	0 0.00	18 0.82	1 0.05	274 12.47
MT	46 2.09	69 3.14	25 1.14	1 0.05	8 0.36	1 0.05	150 6.82
RCS	70 3.18	69 3.14	68 3.09	0 0.00	15 0.68	19 0.86	241 10.96
RHR	12 0.55	16 0.73	4 0.18	0 0.00	0 0.00	1 0.05	33 1.50
SI	15 0.68	25 1.14	30 1.36	0 0.00	3 0.14	0 0.00	73 3.32
SPRAY	12 0.55	12 0.55	19 0.86	0 0.00	1 0.05	0 0.00	44 2.00
TOTAL	646 29.39	643 29.25	697 31.71	4 0.18	94 4.28	114 5.19	2198 100.00

TABLE OF AREA BY PHENOM

AREA PHENOM

FREQUENCY PERCENT	CIVILFAIL	DEFLECT	ENVIRON	FIXTURE	HOUSEKEEP	INTERFERE	LOOSE	MECHFAIL	PIPEFAIL	RELSTRUCT	SPTFAIL	TOTAL
AUX	9 0.41	9 0.41	4 0.18	43 1.96	7 0.32	1 0.05	13 0.59	14 0.64	5 0.23	5 0.23	22 1:00	132 6.01
CNT	11 0.50	107 4.87	9 0.41	51 2.32	26 1.18	73 3.32	22 1.00	45 2.05	17 0.77	2 0.09	141 6.41	504 22.93
DG	3 0.14	8 0.36	0 0.00	20 0.91	3 0.14	0 0.00	18 0.82	10 0.45	4 0.18	0 0.00	15 0.68	81 3.69
EL	26 1.18	5 0.23	0 0.00	48 2.18	7 0.32	1 0.05	38 1.73	5 0.23	1 0.05	0 0.00	32 1.46	163 7.42
HV	43 1.96	4 0.18	1 0.05	79 3.59	3 0.14	4 0.18	3 0.14	2 0.09	3 0.14	0 0.00	24 1.09	166 7.55
IS	2 0.09	0 0.00	0 0.00	4 0.18	0 0.00	0 0.00	0 0.00	0 0.00	2 0.09	0 0.00	5 0.23	13 0.59
OA	43 1.96	10 0.45	4 0.18	3 0.14	12 0.55	6 0.27	2 0.09	4 0.18	4 0.18	0 0.00	18 0.82	106 4.82
PEN	50 2.27	85 3.87	8 0.36	137 6.23	19 0.86	14 0.64	6 0.27	3 0.14	1 0.05	6 0.27	51 2.32	380 17.29
PPS	18 0.82	13 0.59	4 0.18	36 1.64	3 0.14	1 0.05	6 0.27	7 0.32	2 0.09	2 0.09	10 0.45	102 4.64
TB	23 1.05	17 0.77	0 0.00	17 0.77	3 0.14	2 0.09	12 0.55	4 0.18	10 0.45	0 0.00	35 1.59	123 5.60
VAR	75 3.41	71 3.23	0 0.00	117 5.32	5 0.23	20 0.91	16 0.73	9 0.41	6 0.27	2 0.09	107 4.87	428 19.47
TOTAL	303 13.79	329 14.97	30 1.36	555 25.25	88 4.00	122 5.55	136 6.19	103 4.69	55 2.50	17 0.77	460 20.93	2198 100.00

TABLE OF AREA BY MODEVAL

AREA FREQUENCY PERCENT	MODEVAL E	N	O	TOTAL
AUX	24 3.73	1 0.16	10 1.56	35 5.44
CNT	106 16.49	25 3.89	34 5.29	165 25.66
DG	12 1.87	8 1.24	12 1.87	32 4.98
EL	21 3.27	24 3.73	24 3.73	69 10.73
HV	43 6.69	4 0.62	1 0.16	48 7.47
IS	2 0.31	2 0.31	0 0.00	4 0.62
OA	16 2.49	16 2.49	9 1.40	41 6.38
PEN	73 11.35	17 2.64	13 2.02	103 16.02
PPS	37 5.75	3 0.47	6 0.93	46 7.15
TB	23 3.58	12 1.87	6 0.93	41 6.38
VAR	33 5.13	23 3.58	3 0.47	59 9.18
TOTAL	390 60.65	135 21.00	118 18.35	643 100.00

TABLE OF SYSTEM BY MODEVAL

SYSTEM / FREQUENCY PERCENT	MODEVAL EXPEDIENT	NECESSARY	OVERLAP	TOTAL
ASW	4 0.62	2 0.31	2 0.31	8 1.24
AUXFW	15 2.33	7 1.09	7 1.09	29 4.51
CCW	32 4.98	7 1.09	4 0.62	43 6.69
CI	25 3.89	5 0.78	1 0.16	31 4.82
CVCS	23 3.58	7 1.09	9 1.40	39 6.07
EDG	8 1.24	9 1.40	13 2.02	30 4.67
ELPS	9 1.40	15 2.33	12 1.87	36 5.60
FW	33 5.13	22 3.42	3 0.47	58 9.02
HVAC	72 11.20	13 2.02	5 0.78	90 14.00
MNSTM	48 7.47	20 3.11	20 3.11	88 13.69
MT	38 5.91	16 2.49	15 2.33	69 10.73
RCS	45 7.00	9 1.40	15 2.33	69 10.73
RHR	12 1.87	0 0.00	4 0.62	16 2.49
SI	19 2.95	1 0.16	5 0.78	25 3.89
SPRAY	7 1.09	2 0.31	3 0.47	12 1.87
TOTAL	390 60.65	135 21.00	118 18.35	643 100.00

TABLE OF MODCODE BY MODEVAL

MODCODE FREQUENCY PERCENT	MODEVAL EXPEDIENT	NECESSARY	OVERLAP	TOTAL
BRACE	27 4.20	31 4.82	23 3.58	81 12.60
CONSTDEF	13 2.02	1 0.16	10 1.56	24 3.73
CHAIN	62 9.64	6 0.93	0 0.00	68 10.58
CLEARANCE	35 5.44	2 0.31	4 0.62	41 6.38
RELOCATE	35 5.44	15 2.33	9 1.40	59 9.18
SECLOOSE	76 11.82	14 2.18	19 2.95	109 16.95
SUPPORT	109 16.95	51 7.93	40 6.22	200 31.10
STOP	8 1.24	3 0.47	3 0.47	14 2.18
TMODIFY	13 2.02	7 1.09	8 1.24	28 4.35
TSHIELD	12 1.87	5 0.78	2 0.31	19 2.95
TOTAL	390 60.65	135 21.00	118 18.35	643 100.00

TABLE OF PHENOM BY MODEVAL

PHENOM / FREQUENCY PERCENT	MODEVAL EXPEDIENT	NECESSARY	OVERLAP	TOTAL
CIVILFAIL	56 8.71	22 3.42	22 3.42	100 15.55
DEFLECT	67 10.42	24 3.73	16 2.49	107 16.64
ENVIRON	4 0.62	0 0.00	4 0.62	8 1.24
FIXTURE	66 10.26	9 1.40	4 0.62	79 12.29
HOUSEKEEP	0 0.00	0 0.00	13 2.02	13 2.02
INTERFERE	45 7.00	5 0.78	13 2.02	63 9.80
LOOSE	29 4.51	12 1.87	9 1.40	50 7.78
MECHFAIL	21 3.27	11 1.71	1 0.16	33 5.13
PIPEFAIL	11 1.71	6 0.93	7 1.09	24 3.73
RELSTRUCT	0 0.00	0 0.00	2 0.31	2 0.31
SPTFAIL	91 14.15	46 7.15	27 4.20	164 25.51
TOTAL	390 60.65	135 21.00	118 18.35	643 100.00

ATTACHMENT 5-E.2

TO THE PGandE

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

UNIT 2

DATA MANAGEMENT REPORTS:

STATISTICAL SUMMARIES

This attachment contains the statistical summary sheets used to support the information contained in Chapters 8 and 9.

1. Statistical Summary of Resolution Method vs. Area
2. Statistical Summary of Resolution Method vs. System
3. Statistical Summary of Resolution Method vs. Interaction Phenomenon
4. Statistical Summary of Resolution Method vs. Area
5. Statistical Summary of Modification Basis vs. Area (expedient, necessary, and overlap)
6. Statistical Summary of Modification Basis vs. System (expedient, necessary, and overlap)
7. Statistical Summary of Modification Basis vs. Modification Method (expedient, necessary, and overlap)
8. Statistical Summary of Modification Basis vs. Interaction Phenomena

ATTACHMENT 5-E.2
UNIT 2 SUMMARY OF RESOLUTION TYPES PER AREA

TABLE OF AREA BY RES

AREA FREQUENCY	RES A	M	NAN	P	X	TOTAL
AUX	54	70	101	0	20	245
CNT	98	248	142	1	0	489
DG	21	24	8	0	1	54
EL	27	66	19	0	0	112
HV	27	49	21	0	3	100
IS	5	4	6	0	0	15
OA	26	26	5	0	0	57
PEN	31	103	50	0	0	184
PPS	70	43	49	0	5	167
TB	25	82	40	0	0	147
VAR	1	3	1	0	0	5
TOTAL	385	718	442	1	29	1575

ATTACHMENT 5-E.2
UNIT 2 SUMMARY OF RESOLUTION TYPES PER SYSTEM

TABLE OF SYSTEM BY RES

SYSTEM FREQUENCY	RES A	M	NAN	P	X	TOTAL
ASW	7	12	13	0	0	32
AUXFW	34	34	15	0	2	85
CCW	38	74	56	0	0	168
CI	1	33	13	0	0	47
CVCS	55	52	50	0	7	164
EDG	13	26	6	0	1	46
ELPS	13	37	11	0	0	61
FW	32	78	64	0	5	179
HVAC	37	78	35	0	7	157
MNSTM	34	75	40	0	1	150
MT	42	75	24	0	0	141
RCS	32	61	70	1	1	165
RHR	11	16	12	0	1	40
SI	27	47	28	0	4	106
SPRAY	9	20	5	0	0	34
TOTAL	385	718	442	1	29	1575

ATTACHMENT 5-E.2
UNIT 2 SUMMARY OF RESOLUTION TYPES PER PHENOMENON

TABLE OF PHENOM BY RES

PHENOM FREQUENCY	RES A	M	NAN	P	X	TOTAL
CIVILFAIL	148	140	88	0	0	376
DEFLECT	47	177	128	0	0	352
ENVIRON	5	2	0	0	0	7
FIXTURE	35	48	103	0	2	188
HOUSEKEEP	0	3	1	0	26	30
INTERFERE	15	13	12	0	0	40
LOOSE	12	49	14	0	1	76
MECHFAIL	9	4	12	0	0	25
PIPEFAIL	9	28	5	0	0	42
RELSTRUCT	12	21	3	0	0	36
SPTFAIL	93	233	76	1	0	403
TOTAL	385	718	442	1	29	1575

ATTACHMENT 5-E.2
UNIT 2 SUMMARY OF PHENOMENON TYPES PER AREA

TABLE OF PHENOM BY AREA

PHENOM FREQUENCY	AREA AUX	CNT	DG	EL	HV	IS	OA	PEN	PPS	TB	VAR	TOTAL
CIVILFAIL	40	107	12	37	39	2	21	22	50	45	1	376
DEFLECT	54	122	5	6	9	2	7	64	45	35	3	352
ENVIRON	3	0	0	0	0	0	0	0	4	0	0	7
FIXTURE	49	13	10	16	12	5	4	25	46	8	0	188
HOUSEKEEP	20	2	0	0	3	0	0	0	5	0	0	30
INTERFERE	6	22	0	0	2	0	1	3	4	2	0	40
LOOSE	15	19	4	20	14	0	0	1	1	1	1	76
MECHFAIL	3	11	2	0	1	0	2	1	1	4	0	25
PIPEFAIL	2	14	5	3	2	3	3	7	1	2	0	42
RELSTRUCT	1	29	0	0	0	0	1	1	1	3	0	36
SPTFAIL	52	150	16	30	18	3	18	60	9	47	0	403
TOTAL	245	489	54	112	100	15	57	184	167	147	5	1575

ATTACHMENT 5-E.2
UNIT 2 SUMMARY OF MODIFICATION EVALUATION TYPES PER AREA

TABLE OF AREA BY MODEVAL

AREA FREQUENCY	MODEVAL	EXPEDIENT	NECESSARY	OVERLAP	TOTAL
AUX	175	38	17	15	70
CNT	241	116	74	58	248
DG	30	7	12	5	24
EL	46	23	22	21	66
HV	51	25	19	5	49
IS	11	1	3	0	4
OA	31	14	8	4	26
PEN	81	54	43	6	103
PPS	124	27	11	5	43
TB	65	38	31	13	82
VAR	2	2	1	0	3
TOTAL	.	345	241	132	718

ATTACHMENT 5-E.2
UNIT 2 SUMMARY OF MODIFICATION EVALUATION TYPES PER SYSTEM

TABLE OF SYSTEM BY MODEVAL

SYSTEM FREQUENCY	MODEVAL	EXPEDIENT	NECESSARY	OVERLAP	TOTAL
ASW	20	5	5	2	12
AUXFW	51	16	15	3	34
CCW	94	41	24	9	74
CI	14	15	11	7	33
CVCS	112	35	11	6	52
EDG	20	8	13	5	26
ELPS	24	13	11	13	37
FW	101	44	24	10	78
HVAC	79	39	24	15	78
MNSTM	75	26	32	17	75
MT	66	21	38	16	75
RCS	104	39	14	8	61
RHR	24	8	3	5	16
SI	59	23	12	12	47
SPRAY	14	12	4	4	20
TOTAL		345	241	132	718

ATTACHMENT 5-E.2
UNIT 2 SUMMARY OF MODIFICATION CODES PER EVALUATION

TABLE OF MODCODE BY MODEVAL

MODCODE FREQUENCY	MODEVAL	EXPEDIENT	NECESSARY	OVERLAP	TOTAL
	857	0	0	0	.
BRACE	0	21	64	42	127
CONSTDEF	0	3	0	8	11
CHAIN	0	34	7	0	41
CLEARANCE	0	9	7	3	19
RELOCATE	0	31	9	11	51
SECLOOSE	0	23	15	3	41
SUPPORT	0	193	102	51	346
STOP	0	7	2	0	9
TMODIFY	0	17	34	14	65
TSHIELD	0	7	1	0	8
TOTAL	.	345	241	132	718

ATTACHMENT 5-E.2
UNIT 2 SUMMARY OF PHENOMENON TYPES PER MODIFICATION EVAL

TABLE OF PHENOM BY MODEVAL

PHENOM FREQUENCY	MODEVAL	EXPEDIENT	NECESSARY	OVERLAP	TOTAL
CIVILFAIL	236	34	67	39	140
DEFLECT	175	96	63	18	177
ENVIRON	5	0	0	2	2
FIXTURE	140	37	11	0	48
HOUSEKEEP	27	0	0	3	3
INTERFERE	27	6	4	3	13
LOOSE	27	29	16	4	49
MECHFAIL	21	3	1	0	4
PIPEFAIL	14	17	9	2	28
RELSTRUCT	15	3	7	11	21
SPTFAIL	170	120	63	50	233
TOTAL	.	345	241	132	718

ATTACHMENT 6-A

TO THE PGandE

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

RESOLUTIONS TO INTERACTIONS:

SAMPLE OF 50 WALKDOWN TEAM RESOLUTIONS (NAN)

This attachment contains a representative selection of 50 Interaction Documentation Sheets (IDSs), distributed among the SISIP target systems and resolved by the Site Evaluation Team.

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-01-02-01

FIRE ZONE 3BB LOCATION Penetration Area FLOOR ELEVATION 100

LOCATION WITHIN FIRE ZONE:
ELEV. 100, Near Aux. Feed Pump 1-1

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-T15
Lighting Power Center 15

TARGET: TARGET CODE: P-0562-8
Line 562-8 Suction Pipe to Aux. Feed Pumps 1-2 & 1-3

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Power Center overturns (base width = 31", center of gravity location = 45"), impacts line 562.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Impact load insufficient to damage pipe, as power center deflects through a small angle (~10°) at contact point. Also, pipe of sufficient mass to withstand impact load. No action necessary.

M. G. Jones 6/10/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 9/2/80
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-13-02-02

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85

LOCATION WITHIN FIRE ZONE:
EL 113', East end of pipe rack.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-USB-28
SG-1-2 Inlet Line Drain before FCV-439. (3/4" line.)

TARGET: TARGET CODE: E-K5757-0.75
Conduit K 5757-1"

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Pipe supported by rod hangers. Supports fail and pipe impacts conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Pipe produces insufficient force to damage conduit. No action necessary
Pipe deflection limited by adjacent structural steel.

S. E. Traisman 6/30/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAA

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn
SIP PROJECT ENGINEER APPROVAL/DATE

0043Z/0010Z-2

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-15-02-02

FIRE ZONE 3BB LOCATION PENETRATION AREA FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
EL. 125; NEAR COL. R, AREA GE

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-3BB
Fluorescent light fixture, swivel base

TARGET: TARGET CODE: E-KK594-0.75
Conduit KK594

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Excessive lateral movement of fixture results in contact with conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
NAN. The light fixture has insufficient mass to damage conduit.

P. Anderson 06/08/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 06/24/81
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-19-02-16

FIRE ZONE 3L LOCATION AUXILIARY BUILDING FLOOR ELEVATION 85

LOCATION WITHIN FIRE ZONE:
BEHIND AUX BUILDING CONTROL ROOM. 2'-6" EAST OF COL T. Between 15.7 and 16.8

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-PANEL
Aux building control panel module in the N.W. corner

TARGET: TARGET CODE: E-6993-4
Conduits K6993-4" and K6998-4" encased within pyrocrete fireproof vault.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Source fails and impacts pyrocrete fireproof vault thereby damaging conduits. Source failure assumed to be overturning of Aux. Bldg. control panel module.
NAN

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Due to the geometry of interaction, overturning of source will result in a minor force which will not damage encased conduits.

S. Skochko 08/02/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NA

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/11/83
SIP PROJECT ENGINEER APPROVAL/DATE

0047Z/0010Z-73

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-35-03-04

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION

LOCATION WITHIN FIRE ZONE:
El. 115 @ Col 16

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: I-TUBING
Copper tubing.

TARGET: TARGET CODE: E-KX399-1
Conduit KX399-1"

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Tubing runs above conduit. Would impact conduit if it fell.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Tubing of insufficient mass to damage conduit. No action required.

J. F. Grant 9/16/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

M. G. Jones 10/13/80
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-42-03-01

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 117'

LOCATION WITHIN FIRE ZONE:
El.115' Az. 162°

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-ULB-1A
RHR line to Lp 3 & 4 (2 1/2" pipe, 4" of insul.)

TARGET: TARGET CODE: E-KX245-1
Conduit KX245-1"

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Vertical run of pipe is near conduit. There exists a 2-1/2" clearance.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
NAN. There exist sufficient clearance for piping support layout.

P. Anderson
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 6/20/81
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 05-22-05-02

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 117'

LOCATION WITHIN FIRE ZONE:
El. 117', Az. 210° Against Missile Wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-GRATING
Grating and Panel #51

TARGET: TARGET CODE: E-K1742-1.50
Conduit K1742-1 1/2"

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE
Movement of grating or panel could cause impact with conduit. There exists clearance of 1/2".

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
NAN. Grating and Panel are sufficiently supported for existing clearance.

P. Anderson 2/10/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. Cloud 6/20/81
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 05-36-05-01

FIRE ZONE 3-BB LOCATION Containment FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
ELEV. 100' Radially Outward 25' from Az 143°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-38B
2" Fire Protection Line

TARGET: TARGET CODE: E-K6287-3
Conduit K6287-3"

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
2' of 2" F.P. line with a threaded rod hanger is adjacent to target. Movement of F.P.line and failure of thd. hanger could cause impact - damage will be negligible because pipe is smaller than conduit and 2' of F.P. joins a well supported F.P. header.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
NAN. Field resolution.

R. L. Cloud 6/9/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

P. Anderson 6/24/81
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-04-05

FIRE ZONE 1B LOCATION Containment FLOOR ELEVATION 86'

LOCATION WITHIN FIRE ZONE:
Elev. 86, near RCDT.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-PHONE
Telephone Receiver.

TARGET: TARGET CODE: I-FLUX MON.
Flux Monitoring Tubes.

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Receiver falls from wall mounted phone, impacts bottom conduits.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Impact load insufficient to damage tubes. No action necessary.

M. G. Jones 3/17/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 4/1/82
SIP PROJECT ENGINEER APPROVAL/DATE

0043Z/0010Z-9

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-04-08

FIRE ZONE 1B LOCATION Containment FLOOR ELEVATION 81'-6"

LOCATION WITHIN FIRE ZONE:
Reactor Cavity Sump Pump Rm., Azimuth 270°, inside Crane Wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-0527-0.75
Bilateral supports (3) for line K2-527-3/4", Reactor Coolant Drn. Tk. N_2 sup.

TARGET: TARGET CODE: I-FLUX MON.
Neutron Flux Monitoring Tubes.

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE
Seismic motion causes flux tubes to be severed due to impact with bilateral supports for line K2-527-3/4". Clearance between flux tubes and supports is approximately 1/4".

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
NAN. Bilat supports and flux tubes are both well supported off the same wall. Therfore, seismic motion is limited to deflections of flux tubes between supports. Due to low accelerations and inertial forces of tubes, damage to the flux tubes is not credible.

S. Chestnut 7/19/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 8/11/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-04-06-01

FIRE ZONE 1B LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
Elev. 96, Loop 3 Cold Leg

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3816-0.75
3/4" leakoff line from 8073C, line 3816.

TARGET: TARGET CODE: M-8059C
Root Valves 8061C, 8060C, 8059C

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
3/4" pipe falls on root valves and attached tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
3/4" pipe welded stainless pipe. Adequate vertical support. No action necessary.

M. Jones 4/9/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 4/10/80
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-19-03-04

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
El.100' above PM.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-USB-1A
Stainless steel and copper tubing.

TARGET: TARGET CODE: E-KS681-1
Conduit KX681-1"

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Tubing runs next to conduit. Could impact conduit if support fails.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Tubing is of insufficient mass to damage conduit. No action necessary.

J. F. Grant 9/16/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

M. G. Jones 10/13/80
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-20-03-06

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
El.105 Col.13+ 8' North VLV 8703 DWG 57685

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-2576-8
Spring Can #40/28V Hanger Rod

TARGET: TARGET CODE: E-KX246-2.50
Conduit KX256-2 1/2

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Spring-can has rod movement that can strike conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Hanger rod has insufficient mass or rigidity to damage conduit. No action required.

J. F. Grant 9/10/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

M. G. Jones 10/13/80
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 09-04-02-02

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
El. 115 Nr. Col 14 and BTX 32.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: p-IAH-1A
Copper tubing.

TARGET: TARGET CODE: E-K1861-0.75
Conduit K1868-3/4"

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Tubing runs above conduit, could impact if support failed.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Tubing is of insufficient mass to damage conduit. No action necessary.

J. F. Grant 9/17/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

M. G. Jones 10/13/80
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 09-15-01-04

FIRE ZONE 3-BB LOCATION PENETRATION AREA FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
El. 106, near Containment Wall, 163°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-HANDRAIL
Platform railings.

TARGET: TARGET CODE: P-2999-4
Line 2999-4"; ECCS relief header.

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Railings fall, impact pipe.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Impact load insufficient to damage pipe. No action necessary.

M. G. Jones 7/16/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 9/2/80
SIP PROJECT ENGINEER APPROVAL/DATE

0043Z/0010Z-14

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 10-13-03-02

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
Elev. 91, 220°, near Missile Wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SA-1A
3/4" branch off of service Air Header.

TARGET: TARGET CODE: P-1500-0.75
Line 1500-3/4"

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
3/4" branch fails, falls on line 1500.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
3/4" branch well supported, small pipe. No action necessary.

M. G. Jones 4/8/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 4/10/80
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 10-22-10-01

FIRE ZONE 3L LOCATION AUXILIARY BLDG. FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 85, Seal Water HX Room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-3L
Overhead light fixtures (2), ball/socket mounted.

TARGET: TARGET CODE: M-SEALHX
Seal Water Heat Exchanger.

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Fixture falls, impacts HX and vent piping.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Impact load insufficient to damage heat exchanger or vent piping. No action necessary.

M. G. Jones 5/20/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 6/10/80
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 11-07-05-04

FIRE ZONE 3J2 LOCATION SAFETY RELATED PUMP ROOMS FLOOR ELEVATION 73'

LOCATION WITHIN FIRE ZONE:
Elev. 75, near CCWPP 1-2

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-0082-20
CCW - Return header BL82 K82-20.

TARGET: TARGET CODE: E-K6946+
K7057, K7058, K7059, K7061, K7095, K7048 and K7049.
(conduits)

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral movement of source pipes could crush conduits. There exist box supports with 1-1 1/2" horizontal clearances. There is also a flexible bellows in source line.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
NAN. the supports will provide sufficient restraint to the source pipe, protecting the conduits.

P. Anderson 6/8/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 6/24/81
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 12-03-01-01

FIRE ZONE 1B LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
Elev. 100. SG2.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-DRAIN-1B
2" Drain Line (header) to RC Drain Tank.

TARGET: TARGET CODE: P-0063-1

Line 63 (excess letdown.)

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Drain line falls, impacts line 63.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Source is welded stainless pipe with adequate vertical support. No action necessary.

M. G. Jones 4/9/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 4/10/80
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 13-04-07-01 Intercomp

FIRE ZONE 3-AA LOCATION AUXILIARY BLDG. FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
El. 100' Col 18 Bet. T and U.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-TANK
BA Batching Tank O-1, El. 115'.

TARGET: TARGET CODE: M-BATPP1-2
BA Transfer Pump 1-2 Motor, El. 100'.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Tank supports fail, tank ruptures and spills boric acid soln. onto BA transfer pump 1-2 motor below via drum hoist opening in El. 115' floor.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Quantity of liquid impacting motor insufficient to damage motor as motor is of drip proof const. and is protected by splash guard to protect it from auto spinklers. No action necessary.

S. E. Traisman 8/4/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/2/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 14-03-02-01

FIRE ZONE 3H1 LOCATION SAFETY RELATED PUMP ROOMS FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 85, Room Bet. Charging Pumps & BIT Room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-3H1
Overhead Light Fixture.

TARGET: TARGET CODE: I-8105
Valve 8105 Operator.

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Fixture falls, impacts valve operator and associated power & control cable.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Impact load insufficient to damage operator, cable, etc. No action necessary.

M. G. Jones 6/3/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 6/10/80
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 15-01-58-01

FIRE ZONE 1B LOCATION Containment FLOOR ELEVATION 117'

LOCATION WITHIN FIRE ZONE:
Elev. 117, at Crane Wall, 239°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-PANEL
Lighting Power Center #16.

TARGET: TARGET CODE: P-0508-8
Line 508-8";RHR supply.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Power Center overturns, impacts Line 508.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Impact load insufficient to damage line 508, as Power Center rotates less than 10° prior to impact. No action necessary.

M. G. Jones 3/3/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 3/16/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 15-35-04-01

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
Elev. 110, at Missile Barrier., 185°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-1631-4
Line 1631-4"; Drain Line to Containment Sump.

TARGET: TARGET CODE: E-KX630-0.75
Conduit KX-630-3/4".

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral deflection of line 1631 results in impact with conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Existence of lateral restraints both side of contact point result in insufficient deflection of line 1631 to damage conduit.
No action necessary.

M. G. Jones 8/19/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

R. L. Cloud 9/25/81
SIP PROJECT ENGINEER APPROVAL/DATE

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 16-04-03-04

FIRE ZONE 3R LOCATION Fuel Handling Bldg. FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
El. 135' Cols. 14 and U along Cask Decon. Area Wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-3R
Fuel Hdl. Bldg. ceiling light fixtures (incandescent).

TARGET: TARGET CODE: E-KT980-1
Conduit KT980-1".

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Light fixtures fall and impact conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Insufficient impact force as contact would be a glancing blow only. No action necessary.

S. E. Traisman 7/21/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/2/82
SIP PROJECT ENGINEER APPROVAL/DATE

0043Z/0010Z-23

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 16-05-01-01 Intercomp

FIRE ZONE 3-RR LOCATION Outside Areas FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
El. 115' at refueling water storage tank.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-28
Pole mounted outdoor light fixture #12.

TARGET: TARGET CODE: M-RWSTI-1
Refueling water storage tank 1-1.

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Light fixture falls onto tank.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Insufficient impact force to damage gunite encased tank. No action necessary.

S. E. Traisman 8/4/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/2/82
SIP PROJECT ENGINEER APPROVAL/DATE

0043Z/0010Z-24

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 19-14-06-01

FIRE ZONE 3BB LOCATION PENETRATION AREA FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
Elev. 112, 129°, 12 ft. from Containment Wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: PS-3BB
Pipe support Spring Can.

TARGET: TARGET CODE: E-K1985-1
Conduit K1985-1"

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral movement of Spring Can results in impact with conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Impact load insufficient to damage conduit. No action necessary.

M. G. Jones 6/8/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/17/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-03-03-04

FIRE ZONE 3-BB LOCATION PENETRATION AREA FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
El. 85' Col. 15.7 bet. J & L.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-COVER
Pull Box Covers (3/8" checker plate).

TARGET: TARGET CODE: E-K6977-4
Conduit K6977-4".

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Checker plate slides into conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Insufficient impact force to damage conduit. No action necessary.

S. E. Traisman 8/3/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/2/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-44-05-01

FIRE ZONE 3BB LOCATION Penetration Area FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
Elev.100, Intersection of Col 15.7 & A.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3108-2
Overhead 2" galvanized Line 3108.

TARGET: TARGET CODE: M-LCV69
LCV-69.

POSTULATED INTERACTION: PHENOMENA CODE: ENVIRON
Guillotine break of 2" line at fitting causes fluid to fall on LCV-69. Pipe will not fall as vertical support adequate and structural members are located between pipe and LCV-69.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Fluid impingement will not affect pressure boundary integrity of LCV-69. No action necessary.

M. G. Jones 5/7/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 5/15/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-44-23-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 140, 15^7, near SG1-3 release to atomosphere.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-28
Platform.

TARGET: TARGET CODE: E-K9966-2
Conduit K9966-2"

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE
Little clearance between K9966 and the platform.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
NAN. They are both well supported.

E. Denison 6/8/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 6/24/81
SIP PROJECT ENGINEER APPROVAL/DATE

0043Z/0010Z-30

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-65-03-01

FIRE ZONE 1B LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
El. 120', near RCP 1-2.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-TANK
Pressurizer (Insulated).

TARGET: TARGET CODE: M-2304-4
Line 2304-4" Return.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Thermal movements of return line could cause impact of support and pressurizer.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
NAN. The existing clearances are sufficient when taking into account the pressurizer insulation.

P. Anderson 6/18/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 6/26/81
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 21-04-10-04

FIRE ZONE 3R LOCATION FUEL HANDLING BLDG. FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
El. 135' Cols T and 12.9.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-CRANE-3R
Cable Reel Support for F.H.B. Crane.

TARGET: TARGET CODE: P-2242-3
Line 2242-3", from MU Water Support Transfer Pump to SFP 1-1.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Supports for FHB Crane Cable Reel Cables fail and assembly impacts pipe.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Support failure not credible due to low weight of cables.
No action necessary.

S. E. Traisman 7/21/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/2/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 21-04-10-06

FIRE ZONE 3Q LOCATION Fuel Handling Bldg. FLOOR ELEVATION

LOCATION WITHIN FIRE ZONE:
Elev. 108, in Spent Fuel Pit HX Room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-1932-1
Line 1932-1" & Line 308-2", Skimmer Pump Disch.

TARGET: TARGET CODE: P-2242-3
Line 2242-3"; Primary Water.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral movement of source lines results in source pipe or pipe support rods impacting line 2242.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Impact load insufficient to damage line 2242. No action necessary.

M. G. Jones 6/10/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/17/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 23-53-01-02

FIRE ZONE 3BB LOCATION PENETRATION AREA FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
ELEV. 130, MID ROOM

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-3BB
Overhead light fixtures (3)

TARGET: TARGET CODE: P-0265-8
Line 265-8"-containment spray header B

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Fixtures fall, impact pipe

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Impact load insufficient to damage pipe.

M. Jones 07/22/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAA

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 08/27/80
SIP PROJECT ENGINEER APPROVAL/DATE

0047Z/0010Z-74

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-06-41-01

FIRE ZONE 11-C-2 LOCATION Diesel Generator Rooms FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 85, Mid-room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-11C2
Overhead Light Fixtures (2).

TARGET: TARGET CODE: M-DG1-3
Radiator to Generator 1-3.

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Fixtures fall, impact radiator.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Impact load insufficient to damage radiator. No action necessary.

M. G. Jones
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 12/18/81
SIP PROJECT ENGINEER APPROVAL/DATE

0043Z/0010Z-51

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-08-05-01

FIRE ZONE 3BB LOCATION Penetration Area FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
El. 95' Cols. 15.7 Bet. J & L.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-COVER
Pull Box Covers (3/8" checker plate).

TARGET: TARGET CODE: E-K7250-1.25
Conduit K7250-1-1/4".

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Checker plate slides into conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Insufficient impact force to damage conduit. No action necessary.

S. E. Traisman 8/3/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/2/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-08-17-01

FIRE ZONE 14A LOCATION Turbine Bldg. FLOOR ELEVATION 104'

LOCATION WITHIN FIRE ZONE:
Area D 2'-0" west of Col G and 4'-0" north of Col 17.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-TEAJ
TEAJ (Cable Tray) runs North-South.

TARGET: TARGET CODE: E-KD350-2
Conduit KD350-2 (Grayband) & KD351-2 (Orangeband), plus other Class I conduits running up wall.

POSTULATED INTERACTION: PHENOMENA CODE: HOUSEKEEP
Last 7' of 12' cable tray is cantilevered due to missing support. Cable tray and/or supports fail and impact vertical conduits.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Not damaging to target conduits as conduits would receive at most a glancing blow. NAN. However, recommend cable tray support be added to cantilever section.

S. E. Traisman 2/24/84
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 3/6/84
SIP PROJECT ENGINEER APPROVAL/DATE

0043Z/0010Z-52

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-41-16-01

FIRE ZONE 3C LOCATION Auxiliary Bldg. FLOOR ELEVATION 73'

LOCATION WITHIN FIRE ZONE:
Elev. 73, near entrance to CCW Pump 1-3 Room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: I-TUBING
4" Pyrex glass pipe.

TARGET: TARGET CODE: H-DUCT
Duct to Charging Pump 1-1 Room.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Pyrex pipe fails or deflects into duct.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Impact of broken or deflected Pyrex pipe insufficient to damage duct. No action necessary.

M. G. Jones 5/13/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 5/15/80
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-70-10-01

FIRE ZONE 8B1 LOCATION HVAC Rooms FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 158, in Mechanical Room U-1.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-8B1
Light fixtures (3).

TARGET: TARGET CODE: H-DAMPER
Dampers 11 & 11A.

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Light fixtures fall, impact dampers.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Impact load insufficient to damage dampers. No action necessary.

M. G. Jones 12/10/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 9/26/80
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-70-38-02

FIRE ZONE 8B3 LOCATION HVAC Rooms FLOOR ELEVATION 163'

LOCATION WITHIN FIRE ZONE:
El. 163' Col Lines N and 16.8.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: H-DUCT-8B3
Rod Hanger for Vent Exh. Duct bet. FU-39 and E-35.

TARGET: TARGET CODE: E-K6727-1.50
Conduit K6727-1-1/2"

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Two rod hangers in contact with conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Duct has seismic supports in addition to rod hangers. Motion of duct would result in deformation of rod hanger without damage to conduit. No action necessary.

S. E. Traisman 7/2/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/2/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-162-10-01

FIRE ZONE 6A1,6A2,6A3 LOCATION _____ FLOOR ELEVATION _____

LOCATION WITHIN FIRE ZONE:
Elev. 123, 480V/DC Switchgear Rooms, Near North Wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-INVERTER
Nuclear Instrument Inverters, nos. 11,12 & 13.

TARGET: TARGET CODE: H-DUCT
Return duct from 480V/DC Switchgear Rooms.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Inverter's overturn, impact duct.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Angle θ sufficiently small to preclude large impact loads, which could damage ducts. No action necessary.

M. G. Jones 09/23/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 09/26/80
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-171-04-01

FIRE ZONE 14D LOCATION Turbine Bldg. FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 145, Northeast Corner.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: H-DUCT
Vent Fan on roof of instrument repair shop.

TARGET: TARGET CODE: H-567
Exhaust Stacks (from Fan S-67).

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Fan overturns, impacting stack.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Fan unit relatively low mass. Impact load insufficient to damage stack or its wire mesh cover.
No action necessary.

M. G. Jones 9/24/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 9/26/80
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-43-03

FIRE ZONE 14A LOCATION Turbine Bldg. FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 90, Northeast Corner.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-STATOR CL
Stator Cooling Package.

TARGET: TARGET CODE: M-HR
Valve to Hose Reel 90 T1-1.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Cooling package components fall, impact valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Cooling Package is located sufficiently distant from valve and is sufficiently restrained by supports and attached piping to preclude impact. No action necessary.

M. G. Jones 11/6/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 11/11/80
SIP PROJECT ENGINEER APPROVAL/DATE

0043Z/0010Z-45

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-05-05-03

FIRE ZONE 3AA LOCATION Auxiliary Rooms FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
Elev. 120, along North Wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FCV282
Valve Upperstructures of Valves FCV 282, 296, 281, 292.

TARGET: TARGET CODE: P-2678-4
Line 2678-4" - Firewater Header Unit 1.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Upperstructures fall, impact line 2678.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Impact load insufficient to damage line 2678. No action necessary.

M. G. Jones 9/9/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN.

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 9/22/80
SIP PROJECT ENGINEER APPROVAL/DATE

0043Z/0010Z-44

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-05-09-01

FIRE ZONE 3X LOCATION Auxiliary Bldg. FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
Elev. 104, at North Wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: I-PM129
Mechanical Panel 129

TARGET: TARGET CODE: M-HR
Valve to Hose Reel #105-A25-1

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Panels falls from wall, impacts valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Panel supported identically to Class I panels. Panels will not fall. No action necessary.

M. G. Jones 9/9/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 9/22/80
SIP PROJECT ENGINEER APPROVAL/DATE

0043Z/0010Z-43

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-05-10-01

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
EL 104' Azimuth 10°, above PRT.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-8030
Valve 8030 Operator off line S2-1135-3/4"

TARGET: TARGET CODE: P-3159-2
Line K3159-2. F.W. Supply to Hose Reel C1-1.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Unsupported valve upperstructure fails at valve body junction due to excessive deflection. Operator falls and impacts target line.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
NAN. Flex conduit to position switches mounted on source operator prevent the operator from falling on the direction of the firewater line. In addition, intervening structural steel precludes failed valve from falling towards target.

S. Chestnut 9/14/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/14/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-06-22-02

FIRE ZONE 3R LOCATION Fuel Handling Bldg. FLOOR ELEVATION 1'

LOCATION WITHIN FIRE ZONE:
Elev. 135, Inside Pipe Chase for HVAC Ducts.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-R-3R
Various 1",1-1/2", & 2" Conduits.

TARGET: TARGET CODE: P-3640-2

Line 3640-2";Unit 1 Firewater.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Conduit runs against line 3640.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Conduit Adequately supported and of sufficiently small size to preclude damage to line 3640. No action necessary.

M. G. Jones 10/15/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 10/17/80
SIP PROJECT ENGINEER APPROVAL/DATE

0043Z/0010Z-42

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-06-129-01

FIRE ZONE 3Q2 LOCATION SAFETY RELATED PUMP ROOMS FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
Elev. 100, (T-U 15- 15^7) 12" above the floor.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-MISC-3Q2
1 3/4" x 1 3/4" angle (cross brace) to 4" conduit running parallel to K9415.

TARGET: TARGET CODE: E-K9415-4
Conduit K9415-4"

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
The conduit and angle impact due to seismic movements.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
NAN. The angle has insufficient mass to damage the 4" conduit.

E. Denison 7/8/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

R. L. Cloud 7/14/81
SIP PROJECT ENGINEER APPROVAL/DATE

0043Z/0010Z-41

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-25-04

FIRE ZONE 12A LOCATION Electrical Rooms FLOOR ELEVATION 107'

LOCATION WITHIN FIRE ZONE:
El. 107' East End of "F" 4.16KV CSR (Col G bet. 3 & 4.)

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-WALL
Gypsum Board Firewall.

TARGET: TARGET CODE: E-R-12A
"F" Bus 4.16KV Cable Trays.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Wall fails and impacts target. However, gross failure of wall not postulated. Seismic damage to wall limited to localized cracking/minor deformation of wall, as it is tied in to turbine building structural steel.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
No action necessary, as damaging interaction not postulated.

S. E. Traisman 7/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/2/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-25-07

FIRE ZONE 12A LOCATION Electrical Rooms FLOOR ELEVATION 107'

LOCATION WITHIN FIRE ZONE:
Walls & Ceiling of "F" Bus 4.16KV CSR, Area A, El 107'.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-WALL
Structural Steel Fireproofing on beams and columns.

TARGET: TARGET CODE: E-R-12A
"F" Bus 4.16KV Cable Trays

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Fireproofing falls off structural steel and impacts Class I electrical components. However, typ. 7/8" thickness Pyrocrete fireproofing attached to structural steel with 3.4# diamond mesh . Seismic motion of Class 1 structural steel limited to small deflections, therefore damage to fireproofing would be limited to minor cracking. Gross failure of fireproofing not postulated.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
No action necessary, as damaging interaction not postulated.

S. E. Traisman 7/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/2/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-32-04

FIRE ZONE 6A1 LOCATION Electrical Rooms FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
El. 118', Battery Room 1-1

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: N-CAN
5 gallon Trash Can.

TARGET: TARGET CODE: E-125V BATTER
125V vital Battery 1-1.

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Trash can slides into battery.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Insufficient impact force to damage batteries. No action necessary.

S. E. Traisman 7/22/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/2/82
SIP PROJECT ENGINEER APPROVAL/DATE

ATTACHMENT 6-B

TO THE PGandE

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

RESOLUTIONS TO INTERACTIONS:

SAMPLE OF 50 ENGINEERING RESOLUTIONS (A)

This attachment contains a representative selection of 50 Interaction Documentation Sheets (IDS's), distributed among the SISIP target systems and resolved by engineering methods.

Revision dated 9/17/84

50 INTERACTIONS OLVED BY ANALYSIS

IDS NO.	SYSTEM/TARGET	PLANT AREA	SOURCE	RESOLUTION/COMMENTS
06-01-02-03	Reactor Coolant System/Control Rod Drive Mechanism (CRDM)	Containment	Lifting Cable for Reactor/CRDM Shield	Precluded by operational procedures.
08-01-03-01	Reactor Coolant System/ PCV 455A	Containment	Platform #128F	Seismically qualified by hand calculation.
03-37-01-01	Main Steam/Instr. Tubing	Containment	Platform #115F	Existing clearances qualified by hand calculation.
06-01-01-02	Reactor Coolant System/ Reactor Vessel & CRDM	Containment	Concrete Radiation Shields	Shield connections seismically qualified by hand calculation.
20-27-07-01	Component Cooling Water/Manual Valve on Line 3168-2"	Containment	Communications Antenna	Seismically qualified by hand calculation.
06-01-01-05	Reactor Coolant System/Reactor Vessel & CRDM	Containment	Polar Crane Power Cable	Seismically qualified by hand calculation.
05-22-05-03	Main Steam/Flex Conduit	Containment	Valve Support Tie Rod	No impact on target, by analysis.
20-40-66-01	Component Cooling Water/GFFD Heat Exchanger	Penetration Area	FIT-1 (GFFD Assembly)	Qualified by hand calculation.
12-03-06-01	Charging & Boration/ FCV-8143	Containment	Wall Mounted Air Accumulator	Support seismically qualified by hand calculation.
29-10-01-01	Containment Isolation/ FCV-255 Actuator	Containment	4" Firewater Pipe	Deflection analysis shows no impact.

50 INTERACTIONS OLVED BY ANALYSIS

IDS NO.	SYSTEM/TARGET	PLANT AREA	SOURCE	RESOLUTION/COMMENTS
07-08-02-02	Reactor Coolant System/Instr. Panel 22	Containment	2" Drain Line	Qualified by hand calculation.
30-01-40-01	Multiple/Numerous Class I Components	Containment	Snubber Hydraulic Fluid	Fluid shown not damaging by analysis.
01-19-02-03	Auxiliary Feedwater/ Conduit K2665 - 1"	Turbine Bldg.	Feedwater HTR Drain Tank 1-6	Support qualified by hand calculation. Deflection and temperature concerns also resolved by analysis.
20-14-01-04	Component Cooling Water/CCW Heat Exchanger 1-1	Turbine Bldg.	5 Platforms & Railings	Qualified by hand calculation.
25-15-01-01	HVAC for Vital Equipment/Exhaust Duct	Fuel Handling Bldg.	Spent Fuel Pool & Fuel Handling Bldg. Cranes	Previously qualified per Hosgri Report.
17-01-58-01	Safety Injection/Line 2641-4"	Fuel Handling Bldg.	Ladder w/ Personnel Cage	Qualified by hand calculation.
21-02-01-01	Component Cooling Water/Line 380-10" (Condensate Storage Tank to AFW PPS)	Fuel Handling Bldg.	Relative Structural Displacement	Relative displacement included in line analysis
01-19-02-01	Auxiliary Feedwater/ Numerous Class I Conduits	Auxiliary Bldg.	Plaster/Metal Stud Wall	Qualified by hand calculation.
13-03-09-02	Charging & Boration/ Boric Acid Transfer Pump 1-1 Motor	Auxiliary Bldg.	Equipment Hatch Grating	Qualified by hand calculation.

50 INTERACTIONS OLVED BY ANALYSIS

IDS NO.	SYSTEM/TARGET	PLANT AREA	SOURCE	RESOLUTION/COMMENTS
18-20-01-01	Residual Heat Removal/ RHR Heat Exchanger 1-2	Safety Related Pump Rooms	Concrete Hatch Cover	Qualified by hand calculation.
16-02-03-01	Safety Injection/ Conduit KT948	Safety Related Pump Rooms	Copper Line	Interaction not damaging by analysis.
01-12-10-01	Auxiliary Feedwater/ AUX FW Transformer TFW-1	Electrical Rooms	Battery Operated Lights	Qualified by hand calculation.
32-01-33-05	Electrical Power System/125 Volt Battery	Electrical Rooms	Test Equipment Storage Cabinet	Qualified by hand calculation.
07-06-01-02	Reactor Coolant System/Instr. Tubing to LT-457	Containment	Reactor Pit Access Stairway	Qualified by computer analysis.
30-02-01-05	Multiple/Numerous Conduits	Electrical Rooms	Fire Protection Piping	Qualified by hand calculation.
30-01-68-01	Multiple/Main Control Board	Control Room	Annuciator Window Frames	Seismically qualified by analysis
22-17-01-01	Auxiliary Saltwater/ ASW Pump Gate Operator 1-9	Intake Structure	Cast Iron Pipe	Interaction shown not to be damaging by analysis.
24-06-01-01	Diesel Generators/ DG 1-1 Radiator	Diesel Generators	Roll-up Doors (2)	Qualified by hand calculation.

50 INTERACTIONS OLVED BY ANALYSIS

IDS NO.	SYSTEM/TARGET	PLANT AREA	SOURCE	RESOLUTION/COMMENTS
24-07-16-02	Diesel Generators/ Diesel Generator 1-1	Diesel Generators	12KV Switchgear	Interaction shown not to occur by analysis of geometry.
24-07-05-03	Diesel Generators/ Diesel Generator 1-1	Diesel Generators	Booster Air Receiver	Qualified by hand calculation.
25-178-03-02	HVAC for Vital Equipment/DG Ventilation Duct	Diesel Generators	DG Air Filter	Qualified by hand calculation.
09-15-06-01	Reactor Coolant System/Line 2061-1"	Penetration Area	Platform Handrails (3)	Qualified by hand calculation.
11-01-07-01	Charging & Boration/ Line 1474-3"	Penetration Area	Access Ladder	Qualified by hand calculation.
03-40-03-03	Main Steam/Conduit KT351	Penetration Area	Plaform & Ladder	Qualified by hand calculation.
04-04-01-01	Main Steam/FCV-95 Power & Control Cable	Penetration Area	O/H Fluorescent Light Fixtures	Qualified by hand calculation.
25-193-02-01	Containment Isolation/ Conduits K8496-2" & K0497-2"	Penetration Area	Panel RCHMC & 3 Adjacent Panels	Interaction resolved by analysis.
20-81-19-01	Component Cooling Water/ 3/4" Stainless Steel Line	Penetration Area	RE-19 Shield Cask	Qualified by hand calculation.
15-01-22-01	Safety Injection/ Line 735	Penetration Area	OLERSPANNED Pipe-3"Φ	Qualified by hand calculation.

50 INTERACTIONS OLVED BY ANALYSIS

IDS NO.	SYSTEM/TARGET	PLANT AREA	SOURCE	RESOLUTION/COMMENTS
20-39-44-01	Component Cooling Water/Line 2679-2"	Penetration Area	Line 927-14"	Interaction shown not to occur, by analysis.
25-107-04-02	Containment Isolation/ SV-296	HVAC Rooms	Platform & Ladder	Qualified by hand calculation.
03-01-01-01	Main Steam/PT-514 Instr. Tap & Tubing	Outside Areas	Platforms (3), Grates, Railing and Cyclone Fence	Qualified by hand calculation.
30-01-54-02	Multiple/Numerous Conduits	Outside Areas	Platform 31FW & Handrails	Qualified by hand calculation.
30-01-87-01	Multiple/Misc. Components on Pipe Rack	Outside Areas	Phase A Main Transformer	Qualified by hand calculation.
30-01-88-01	Multiple Components on Pipe Rack	Outside Areas	500kV Transmission Lines	Qualified by hand calculation.
28-06-76-02	Firewater/Line 2682-12"	Fuel Handling	Relative Structural Motion	Relative displacement included in line analysis.
28-04-90-02	Firewater/Manual Valve G0219-6	Turbine Bldg.	Air Receiver Tanks	Qualified by hand calculation.
20-03-11-01	Firewater/Line 3155-2"	Containment	Iodine Removal Unit	Qualified by hand calculation.
28-05-05-02	Firewater/Line 2678-4"	Auxiliary Bldg.	Security Barrier	Qualified by hand calculation.
28-04-04-13	Firewater/Line 2666-6"	Turbine Bldg	Platform	Qualified by hand calculation.
25-102-06-01	Containment Isolation/ Cont. Pugre Exhaust Duct	HVAC Rooms	Platforms 112L	Qualified by hand calculation.

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-02-03

FIRE ZONE 1-C LOCATION Containment FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 143, over reactor pit.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-CABLE
Lifting cable to reactor/CRDM shield (2 places).

TARGET: TARGET CODE: M-CRDM
CRDM.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Cable, which is hanging loose swings into CRDM.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Secure the free end of each calble with a safety chain or other mechanism.

M. Jones 03/25/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Interaction connot occur when CRDM's must function. See rationale in IDS file No. 06-01-02-03.

A. Appleford 10/06/82
DISCIPLINE ENGINEER/DATE

B. Sarkar 10/27/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/83
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/28/84

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 08-01-03-01

FIRE ZONE 1-B LOCATION Containment FLOOR ELEVATION 115'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 118', near PZR and crane wall, azimuth 20°±.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-1B
Platform 128F.

TARGET: TARGET CODE: I-PCV455A
Valve PCV-455A.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Platform fails and falls onto valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of platform by simplified analysis.

S. E. Traisman 09/29/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The platform has been seismically qualified by analysis. See Calc. No. 08-01-03-01.

S. Gaballah 10/22/82
DISCIPLINE ENGINEER/DATE

B. Sarkar 10/27/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC, HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 12/10/82
SIP PROJECT ENGINEER APPROVAL/DATE

SG 8/15/84

[0031A/00847-41]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-37-01-01

FIRE ZONE 1-C LOCATION Containment FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 160', around steam generator 1-2.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-1C
Structural platform, railings and grates.

TARGET: TARGET CODE: I-FT523
Instrument tap and tubing from steam generator 1-2 to FT-523.

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE
Motion of steam generator and/or platform results in contact between instrument tap and platform.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify that existing clearance between platform and instrument tap is adequate to preclude contact. Provide additional clearance if/as required.

M. Jones 07/16/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Existing clearance is adequate by analysis. See resolution and Calculation sheets for platform qualification. See IDS file No. 03-30-01-02.

S. Hanusiak 01/21/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 01/22/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN.

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 11/01/82
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/14/84

[0031A/0084Z-3]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-01-02

FIRE ZONE 1-C LOCATION Containment FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 140, over reactor pit.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-SHIELD
Concrete radiation shields (7).

TARGET: TARGET CODE: M-CRDM
Reactor vessel and CRDM.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Concrete blocks overturn, fall into reactor pit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of concrete shields by simplified analysis.

M. Jones 03/03/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Concrete radiation shields have been seismically qualified by analysis. See calculation No. 06-01-01-02 and resolution sheet.

S. Gaballah 09/22/82
DISCIPLINE ENGINEER/DATE

B. Sarkar 09/23/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L W. Horn 10/25/82
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/15/84

[0031A/0084Z-13]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-27-07-01

FIRE ZONE 1-C LOCATION Containment FLOOR ELEVATION 140'-150.5'

LOCATION WITHIN FIRE ZONE:
2-3' from containment liner (inside) @ azimuth 222°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-ANTENNA
KR-994 (antenna)
(2 1/2" sch. 40) conduit 10.5' ft. tall mounted from 140' deck.

TARGET: TARGET CODE: P-3168-2
Manual valve on line K2-3168-2".
(Mtr. clr. return line on CFC-1-5).

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Source is 10.5' long. Distance between source and target is 7'. Source fails and impacts target.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify adequacy of support configuration of source component.
Note: This interaction a result of final SIP area walkdown.

S. Skochko 09/09/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Antenna KR-994 has been qualified to Class I seismic criteria per calc. no. 148C file 52.17. See DCN #DCI-E-C-5478 (original installation details).
No action necessary.

N. Barangan 09/27/83
DISCIPLINE ENGINEER/DATE

C. Kahl 09/27/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 09/09/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-01-05

FIRE ZONE 1-C LOCATION Containment FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Top of containment dome.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-R-1C
Power cable to polar crane drive.

TARGET: TARGET CODE: M-CROM
Reactor vessel and CRDM.

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Cable mount (Elev. 300) fails, cable falls on CRDM.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Insure integrity of power cable mounting, by simplified analysis. See Civil Calc. No. 06-01-01-05.

M. Jones 03/03/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Lights mounting have been seismically qualified by analysis. See Civil Calc. No. 06-01-01-01.

S. Gaballah 08/19/82
DISCIPLINE ENGINEER/DATE

B. Sarkar 09/22/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 05-22-05-03

FIRE ZONE 1-B LOCATION Containment FLOOR ELEVATION 112'-1-1/2"

LOCATION WITHIN FIRE ZONE:
Elev. 117, inside shield wall near STM GEN 1-4, azimuth 235°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FCV763
Tie rod supporting FCV 763.

TARGET: TARGET CODE: E-K1788-1
Flex conduit from conduit K1788 TO FCV 163, line 1048-2 1/2".

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Tie rod could impact flex conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Shield flex conduit from tie rod.

B. Smith 02/10/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Flex conduit will bahave like a parabolic curve from a fixed point. See DWG for more details. This concluded that the spring HG rod will not impact flex conduit. Therefore no action necessary.

C. R. VanNatta 06/14/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 06/14/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 07/08/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0014A/0079Z-13]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-40-66-01

FIRE ZONE 3-BB LOCATION Penetration Area FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
Azimuth 193°, 4' from containment wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: I-FIT1
FIT-1 (Gross Failed Fuel Detector assembly) and associated support struture.

TARGET: TARGET CODE: M-GFFD HX
Gross failed fuel detector heat exchanger (required for CCW pressure boundary integrity).

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL

(1) Bolts holding FIT-1 to support panel fail, FIT-1 falls onto target HX.

(2) Support panel for FIT-1 (constructed of 1" tube sections, unknown wall thickness) fails, panel and associated FIT fall onto target HX. Potential exists for breach of CCW pressure boundary.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify adequacy of connections for FIT-1 and FIT-1 support structure by engineering evaluation.

S. E. Traisman 06/29/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Adequacy of connections for FIT-1 support structure has been verified per Diablo Canyon Unit 1 Calculation No. M-466, Rev. 0, dated 09/29/83, FIT-1, (gross failed fuel detector assembly) and FIT-1 support structure are acceptable as is. No further action is required.

D. Esken
DISCIPLINE ENGINEER/DATE

E. Connell III
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

A.J.E. 8/21/84

[0034A/0085Z-24]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 12-03-06-01

FIRE ZONE 1-B LOCATION Containment FLOOR ELEVATION 112'-1-1/2"

LOCATION WITHIN FIRE ZONE:
Elev. 114, inside of missile wall, 110°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-9351A
BU air accumulator for 9351A & 9351B RCS sample valves - wall mounted via bolted brackets.

TARGET: TARGET CODE: I-8143
FCV-8143.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Mounting fails (accumulator), source impacts FCV-8143.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Check qualification of accumulator mount. Qualify as required. Also, check qualification of similar accumulators mounted elsewhere in the plant.

M. Jones 04/08/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The accumulator in question, and all similar accumulators, are seismically qualified by analysis. See RLCA Report No. 5.

DISCIPLINE ENGINEER/DATE

J. A. Ante 10/31/80
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

CHECKED AUG 09 1984
[0014A/0079Z-17]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 29-10-01-01

FIRE ZONE 1-A LOCATION Containment FLOOR ELEVATION 91'-0"

LOCATION WITHIN FIRE ZONE:
Elevation 115', at penetration 51, 182°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-1A
4" firewater pipe.

TARGET: TARGET CODE: I-FCV255
Actuator to FCV-255.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral deflection of 4" pipe results in impact with actuator.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify that pipe deflection will not damage actuator, (by analysis). Existing gap 3/16" - (pipe to actuator).

M. Jones 07/22/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
4" pipe qualified by analysis. See the attached RLCA Resolution Report No. 13. Impact will not occur.

P. H. Anderson 02/25/81
DISCIPLINE ENGINEER/DATE

J. A. Ante 07/03/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

SW

[0032A/0074Z-48]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 07-08-02-02

FIRE ZONE 1-A LOCATION Containment FLOOR ELEVATION 91'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 91.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE:
Drain line 4397-2.

SOURCE CODE: P-4397-2

TARGET:
Instrument panel 22.

TARGET CODE: I-PM22

POSTULATED INTERACTION:
Line 4397 could fall on panel.

PHENOMENA CODE: SPTFAIL & PIPEFAIL

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Analyze supports for drain line #4397.

T. de Uriarte 05/20/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Resolved by analysis. See RLCA Report No. 61.

DISCIPLINE ENGINEER/DATE

J. A. Ante 12/30/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 11/02/82
SIP PROJECT ENGINEER APPROVAL/DATE

[0012A/0073Z-11]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-40-01

FIRE ZONE 1-C LOCATION Containment FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 140', inside shield walls of each steam generator.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: PS-1C
Hydraulic snubber fluid to SG snubber.

TARGET: TARGET CODE: GENERIC
Misc. class 1 components below elevation 140'.

POSTULATED INTERACTION: PHENOMENA CODE: ENVIRON
Hydraulic fluid tank and/or tubing fail, resulting in fluid leaking out of compartment near steam generators and onto misc. class 1 components, some of which are at steam generator temp, resulting in fire.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of hydraulic fluid components or ensure that fluid will not damage class 1 components and that fire will not occur.

M. Jones 09/23/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The source snumbber fluid has a flash point of 550°F. The small volume (± 7 gals) leaking from tubing or tank would tend to vaporize at steam generator ambient temperatures above the flash point, before damaging miscellaneous Class I components. Furthermore, this will not occur since the fluid is non-flammable. This fluid is also silicone based and non-corrosive. Thus, since all safety related components inside the containment are environmentally qualified for 100% relative humidity, they are essentially waterproof and would not be compromised by spilled hydraulic fluid. They would also not be degraded in any way by contact with non-corrosive fluids.

E. Barna
DISCIPLINE ENGINEER/DATE

E. Connell III
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 03/23/83
SIP PROJECT ENGINEER APPROVAL/DATE
D.J.E. 8/28/84

[0034A/0085Z-27]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-19-02-03

FIRE ZONE 14-A LOCATION Turbine Building FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 103', near Cols. C and 8.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-TANK
FW HTR 1-6 drain tank.

TARGET: TARGET CODE: E-K2665-1
Conduit K2665-1".

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Tank failure/displacement damages conduit. Conduit could sustain heat damage from adjacent line.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of tank. Also show that conduit is not damaged by tank displacement or high temperature. Otherwise provide modification to prevent interaction.

S. E. Traisman 07/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Drain tank support has been seismically qualified by analysis. Seismic movement of tank and temperature of wiring have been evaluated. No modification is required. See Calc. No. 01-19-02-03.

S. Gaballah 06/15/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 06/21/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 06/21/83
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/8/84

[0039A/0101Z-13]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-14-01-04

FIRE ZONE 14-E LOCATION Turbine Building FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
CCW HX room, elevation 85'.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-14E
Overhead platforms and railings.

TARGET: TARGET CODE: M-CCWHX1-1
CCW HX 1-1

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Class II platforms and railings fail, fall on JX 1-1 and attached piping, nozzles, etc.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of platforms and railings by analysis.

R. L. Cloud 05/07/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Platforms/railings qualified by analysis. See Calc. No. 20-14-01-04 and resolution sheet.

S. Hanusiak 02/18/81
DISCIPLINE ENGINEER/DATE

V. J. Ghio
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

B.G. 8/6/84

[0010A/0078Z-28]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-15-01-01

FIRE ZONE 3-R LOCATION Aux./Fuel Handling FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 145', along north wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-CRANE-3R
Overhead spent fuel pool and building cranes.

TARGET: TARGET CODE: H-DUCT
Fuel handling building exhaust duct.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Cranes fall, impact duct.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of cranes by simplified analysis.

M. Jones 06/25/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Cranes have been qualified by analysis. See resolution sheet Hosgri Seismic Report page 4A-8 thru 4A-15A.

S. Hanusiak 08/14/80
DISCIPLINE ENGINEER/DATE

V. Ghio 08/15/80
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

S.G. 9/15/84

CHECKED AUG 0 9 1984

L. W. Horn 08/23/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 17-01-58-01

FIRE ZONE 3-RR LOCATION Aux./Fuel Handling FLOOR ELEVATION 115'-0"

LOCATION WITHIN FIRE ZONE:
Along RWST, south face, elev. 115'.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-LADDER
Condensate storage tank access ladder and personnel cage.

TARGET: TARGET CODE: P-2641-4
Line 2641-4".

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Ladder falls, impacts line 2641.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of ladder/cage assembly by simplified analysis.

M. Jones 06/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Ladder/cage qualified by analysis. See Calc. No. 17-01-58-01.

S. Hanusiak 08/08/81
DISCIPLINE ENGINEER/DATE

V. J. Ghio 08/08/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/14/84

[0022A/0077Z-12]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 21-02-01-01

FIRE ZONE 31 LOCATION Aux./Fuel Handling FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 100' col. line V and 10.7

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-RSM-31
CST. pipe vault structure, and auxiliary building structure

TARGET: TARGET CODE: P-0380-10
Line 380-10" CST supply to AFW Pumps

POSTULATED INTERACTION: PHENOMENA CODE: RELSTRUCT
Piping is anchored to CST, supported off of pipe vault structure between CST and auxiliary building, and supported off of auxiliary building structure. The three structures have different seismic responses. Relative motion between structures damages pipe.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify relative motions between the three structures does not damage piping.

S. E. Traisman 08/05/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Relative desplacements between structures have been included in the analysis of line 380.

DISCIPLINE ENGINEER/DATE

M. R. Tresler
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 1/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-19-02-01

FIRE ZONE 4-A LOCATION Auxiliary Building FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 85, Chem Lab area, cable spreading room NE, through door #147 and 146.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-WALL
Class II plaster/metal stud wall.

TARGET: TARGET CODE: E-K6958+
K6958, K6959, K6960, K6961, K6954, K6995, K6956, K6957, K7033 and K7034 conduits.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Class II wall could fall and impact targets.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Insure integrity of Class II wall.

Paul Anderson 06/05/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Wall qualified by analysis. See Calc. No. 01-19-02-01.

S. Hanusiak 09/21/81
DISCIPLINE ENGINEER/DATE

E. Wollak 09/24/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/03/83
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 7/27/84

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 13-03-09-02

FIRE ZONE 3-X LOCATION Auxiliary Building FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 105', col. 17.4 between T and U.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-GRATING
Equipment hatch grating.

TARGET: TARGET CODE: M-BATPP
BA transfer pump 1-1 motor.

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Hatch cover falls through opening and impacts target.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify Hosgri seismic event not capable of moving hatch cover out of its normal position.

S. E. Traisman 08/03/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Hatch cover has been seismically qualified. See resolution sheet and Calc. No. 13-03-09-02.

S. Gaballah 12/22/82
DISCIPLINE ENGINEER/DATE

S. Sarkar 12/22/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 02/03/83
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/14/84

[0012A/0073Z-14]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 18-20-01-01
Safety Related

FIRE ZONE 3-B-2 LOCATION Pump Rooms FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
El 112' in RHR HX Vault 1-2, 15.7 and R

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-COVER
Concrete Hatch Cover for RHR HX Vault

TARGET: TARGET CODE: M-RHRHX1-2
RHR HX 1-2

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Hatch Cover Falls Through Opening and Impacts RHR HX

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify HOSGRI Seismic Event not Capable of Moving Hatch Cover Out of its Normal Position

S.E. Traisman 7/28/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Concrete Hatch Cover has been Seismically Qualified by Analysis. See Calc. No., 18-20-01-01.

S. Gaballah 2/22/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 2/27/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 3/7/83
SIP PROJECT ENGINEER APPROVAL/DATE

S.G.
6/9/84

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 16-02-03-01

FIRE ZONE 3-Q-1 LOCATION Safety Related Pump Room FLOOR ELEVATION 110'

LOCATION WITHIN FIRE ZONE:
El, 110', above auxiliary FW pump 1-1

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-USB-3Q1
Temporary line (copper)

TARGET: TARGET CODE: E-KT948-1
Conduits KT948 - 1 "

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Temporary line is poorly supported and could fall, impacting conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Provide adequate restraint or remove line prior to operation.

P. Anderson 06/09/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Judgement made during field walkdown is that source, 1-1/2" copper line, cannot develop enough kinetic energy to damage target. (Ref. SIP manual, Appendix B, page B-17, L-14). Therefore no action necessary.

C. R. Van Natta 07/28/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 08/3/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0002A/0055Z-7]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-12-10-01

FIRE ZONE 5-A-1 LOCATION Electrical Rooms FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
El. 102' in Vital 480V Swgr Room 1F

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-BOL
8 Hr battery operated lighting unit

TARGET: TARGET CODE: E-TFW1
Aux FW Transformer TFW-1

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Lighting Unit Supports Fail, Unit Falls on to Transformer Case

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify Integrity of Battery Operated Lighting Unit Support

S.E. Traisman 07/27/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Lighting Support has been Seismically Qualified by Analysis.
See Calc. No. 30-01-73-01.

AKS 6/19/84

R. J. Swaim 11/23/82
DISCIPLINE ENGINEER/DATE

C. Bhatt 11/23/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/03/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-33-05

FIRE ZONE 6-A-2 LOCATION Electrical Rooms FLOOR ELEVATION 115'-0"

LOCATION WITHIN FIRE ZONE:
Elevation 118' north end of battery room 1-2.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: N-CABINET
Floor mounted test equipment storage cabinet.

TARGET: TARGET CODE: E-125V Batter
125V vital battery 1-2.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Cabinet overturns and shorts out/damages battery.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Secure cabinet to wall or floor and verify integrity of proposed anchorage method. Or remove cabinet form battery room.

S. E. Traisman
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Storage cabinet has been seismically qualified. See Calc. No. 32-01-33-05.

S. Gaballah 11/21/83
DISCIPLINE ENGINEER/DATE

J. McCall 11/28/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/14/84

[0012A/0073Z-50]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 07-06-01-02

FIRE ZONE 1-C LOCATION Containment FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Along ouside of pressurizer wall, near reactor pit.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-STAIR-1C
Portable reactor pit access stairway.

TARGET: TARGET CODE: I-LT457
Tubing to LT-457.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral movement of stairway structure results in impact with tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure by simplified analysis that sufficient clearance exists betweeen tubing and stairway structure.

M. Jones 05/12/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Source component was seismically qualified by analysis. See Calc. No. 07-06-01-02 and resolution sheet.

S. Gaballah 10/11/82
DISCIPLINE ENGINEER/DATE

B. Sarkar 10/12/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 12/10/82
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/15/84

[0031A/0084Z-32]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-02-01-05

FIRE ZONE 5-A-4 LOCATION Electrical Room FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 100, Col. 17^4 and L-N

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-USB-5A4
Fire protection piping from Hose Reel Station #8

TARGET: TARGET CODE: GENERIC
Conduits

POSTULATED INTERACTION: PHENOMENA CODE: PIPEFAIL
2" fire protection piping is overspanned and assumed to fall, hitting many conduits.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Show by simplified analysis that integrity of fire protection line is maintained.

P. Anderson 06/10/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Recommended Resolution OK. No action necessary. See RLCA #62.

C. R. Van Natta 08/11/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 08/11/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 06/12/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-68-01

FIRE ZONE 8-C LOCATION Control Room FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:

Elev. 145' on Main Control Board

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-PANEL

Control Room Annunciator Window Frames

TARGET: TARGET CODE: GENERIC

Main Control Board controls, switches, indicators

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL

Two screws holding frame come loose, frame swings out and down, hinge fails, frame with annunciator windows impacts control board. Note: For some frames, screws are not long enough and threads do not catch sufficiently.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Verify integrity of window frames by simplified analysis.

S.E. Traisman 07/28/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

The above source annunciator window frames are part of main control board which is Class 1E equipment and has been seismically qualified.

AGB 7/20/84

S.R. Wang 08/5/83
DISCIPLINE ENGINEER/DATE

S. Auer 08/05/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 09/19/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-06-01-01

FIRE ZONE 11-A-2 LOCATION Diesel Generator FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 85, East End of Room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-DOOR
Roll-Up Doors (2) Doors #105 & #106

TARGET: TARGET CODE: M-DG1-1
Raditor to Generator 1-1

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Door falls, impacts radiator

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of Door by analysis

M. Jones 06/25/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Door qualified by analysis See Calc. No. 24-06-01-01 and resolution sheet.

S. Hanusiak 04/02/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 4/2/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/01/82
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 7/21/82

(FINAL/0053Z/)

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-07-16-02 Intercomp

FIRE ZONE 11-A-1 LOCATION Diesel Generator FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
. Elevation 85, East End of Diesel Generator Room 1-1

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-12KVSWGR
12 KV Swgr in Fire Zone 10

TARGET: TARGET CODE: M-DG1-1
Diesel Generator 1-1

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL & CIVILFAIL
Seismic excitation of 12KV Swgr causes electrical faults within Swgr. Shorting/faults w/I Swgr cause Swgr cabinet to blow apart, rolling fire door in west wall of 12KV Swgr room is breached and swgr debris impacts diesel generator 1-1.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Determine energy release from a faulted 12KV Swgr. Determine if rolling fire door can be breached by that energy release. Determine if significant credible damage can occur to diesel generator. If necessary provide protection for diesel generator.

S. E. Traisman 08-05-82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
No action Necessary. Resolved by Analysis. See attached sheet for resolution.

AG-B
7/25/84

W. Schwartz/P. Chu 01/20/83
DISCIPLINE ENGINEER/DATE

G. Bhatt 01-20-83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 3/17/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0002A/0053Z-4]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-07-05-03

FIRE ZONE 11-A-1 LOCATION Diesel Generators FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 85, north end of gen. 1-1 room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: H-DUCT-11A1
Booster air receiver.

TARGET: TARGET CODE: M-DG1-1
Diesel generator 1-1.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Air receiver overturns, impacts generator.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Insure by analysis that air receiver will not overturn.

M. Jones 06/25/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Air receiver qualified by analysis. See RLCA Resolution Report No. 5.

DISCIPLINE ENGINEER/DATE

J. A. Ante
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

SW

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-178-03-02

FIRE ZONE 11-B-2 LOCATION Diesel Generators FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elevation 100', near diesel generator, 1-2 radiator.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: H-FILTER
Diesel generator. 1-2 air filter.

TARGET: TARGET CODE: H-DUCT
Diesel generator 1-2 ventilation duct, south.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Air filter falls, impacts duct.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of air filter by simplified analysis.

M. Jones 10/28/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Source qualified by analysis. See IDS No. 25-177-03-01.

DISCIPLINE ENGINEER/DATE

D. H. Hagstrom 03/09/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC [HVAC] I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/15/83
SIP PROJECT ENGINEER APPROVAL/DATE

AVG

[0013A/0081Z-56]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 09-15-06-01

FIRE ZONE 3-BB LOCATION Penetration Area FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 108, near containment wall, 161°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-HANDRAIL
Handrails (3) to platform.

TARGET: TARGET CODE: P-2061-1
Line 2061-1".

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Railings fall, impact line 2061.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of railings by simplified analysis.

J. Jones 07/15/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Handrails qualified by analysis. See Calc. No. 19-04-06-01.

S. Hanusiak 02/19/91
DISCIPLINE ENGINEER/DATE

E. P. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/23/82
SIP PROJECT ENGINEER APPROVAL/DATE

SG 7/28/84

[0011A/0072Z-30]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 11-01-07-01

FIRE ZONE 3-BB LOCATION Penetration Area FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 85, GE area, NE chamber by containment.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-LADDER
Ladder 24GE.

TARGET: TARGET CODE: P-1474-3
Line 1474-3".

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Ladder falls, impacts line 1474.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of ladder by simplified analysis.

M. Jones 05/21/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The ladder qualified by analysis. See Calc. No. 11-01-07-01.

S. Hanusiak 08/08/80
DISCIPLINE ENGINEER/DATE

V. J. Ghio 08/08/80
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

S.G
7/28/84

[0011A/0072Z-38]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-40-03-03

FIRE ZONE 3-BB LOCATION Penetration Area FLOOR ELEVATION 115'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 115', area GW.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-74GW
Platform 74GW and ladder.

TARGET: TARGET CODE: E-KT351-3
Conduit KT351-3".

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Platform and ladders fail and impact conduits.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of platforms and ladder.

G. Whorinskey 06/08/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Ladder qualified by analysis. See Calc. No. 03-07-02-02. Platform 74 GW qualified by analysis subject to modification. See resolution sheet and IDS files No. 03-07-01-01 & 06-60-10-05.

S. Hanusiak 08/21/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 09/03/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/23/82
SIP PROJECT ENGINEER APPROVAL/DATE

S.E. 7/28/84

[0011A/0072Z-12]

SHEET 1 OF 1

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 04-04-01-01

FIRE ZONE 3BB LOCATION Penetration Area FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
Elev. 115, Along East Wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-3BB
Overhead Light Fixtures (2)

TARGET: TARGET CODE: M-FCV25
Power and Control Cable to FCV-95

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Fixtures Fall, Impact Power and Control Cable.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure Integrity of Fixture Mounts, by Analysis.

M. G. Jones 6/11/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The Above Source Light Fixtures have been Field Inspected and Verified to be installed in accordance with PG&E Dwg. 050041, Detail 9 (Catagory X). This Fixture Type has been Qualified by Analysis Per Calculation 52.24.52.

R. J. Swaim
DISCIPLINE ENGINEER/DATE

C. Bhatt
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

KGB 12/84

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 8/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

0040Z/0010Z-12

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-193-02-01

FIRE ZONE 3-BB LOCATION Penetration Area FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 85, area GE GW, (H-K, 14-15).

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: I-PANFI
Panels, RCHMC (22" x 25" x 7') post loca CAP mon. panel (22" x 25" x 6-1/2"), post loca CASP control panel (22" x 25" x 6')) and post loca sampling panel (63" x 25" x 6-1/2').

TARGET: TARGET CODE: E-K8496+
K8496-2" and K8497-2" (Tee to K3757-2" and K3761).

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Panel RCHMC falls and K3757 and K3761 coming out of the panel top fail. Panels CAP, CASP, and sampler tip into RCHMC.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure that RCHMC does not fail. Also by analysis ensure that the other panels do not tip into RCHMC. Check qualification of panels.

E. Denison 07/08/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Panel RCHMC is constructed of coninuous heavy gage sheet metal with welded stiffener plates inside and resembles Class I construction. The base is constructed of channels - welded at corners - and panel is welded to the base with intermittant (3/16" filler, 2" @ 2-1/2" O.R.) welds all around. Base is held down with 4-1" (minimum) expansion anchors - one at each corner. The adjacent panels CASP and CAP are bolted together. Overturning of these panels - and the post loca sampling panel will tend to be in the weak direction - i.e.; out of the place of the paper (see sketch). Should the adjacent panels fall in the direction of RCHMC, there will be no damage, by virtue of close proximity and heavy construction of RCHMC. Interaction will not occur.

W. L. Walker 10/14/83
DISCIPLINE ENGINEER/DATE

D. Palmer 10/14/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

CHECKED AUG 13 1984

8/14/84

[0036A/00937-6]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-81-19-01

FIRE ZONE 3-BB LOCATION Penetration Areas FLOOR ELEVATION 115'-0"

LOCATION WITHIN FIRE ZONE:
Azimuth 130', 10' from containment wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: I-RE19
Shield cask for RE19, SG blowdown liquied monitor (cylinder 16" diameter) 12" height).

TARGET: TARGET CODE: M-SC55
3/4" SS Line - CCW supply to SC-55 (SG blowdown sample cooler)

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Bolts (4) attaching shield cask to support structure fail, cask falls forward and takes associated lines with it. One associated 3/4" SS line to shield cask impacts 3/4" target line and could pull target line away from sample cooler. Potential exists for breach of CCW pressure boundary.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify adequacy of RE-19 shield cask support configuration. Alternatively, provide local reroute of 3/4" line to shield cask so that interaction is eliminated.

S. E. Traisman 06/29/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Adequacy of RE19 shield cask support configuration has been verified per Diablo Canyon Unit 1 calculation No. M-467 Rev. 0 dated 09/29/83. RE-19 shield cask is acceptable as is.

DISCIPLINE ENGINEER/DATE

E. Connell III
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

A.J.E. 8/21/84

[0034A/0085Z-25]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 15-01-22-01

FIRE ZONE 3-BB LOCATION Penetration Area FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
Near wall 15.7, col. R, elev. 100

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-ULB-3BB
Overhead 3" pipe, rod supports 13 ft. OC, L1595 not insulated. 1/2" rods on U-Bolt, 1/2" hanger rod.

TARGET: TARGET CODE: P-0735-8
Line 735, SI pump suction.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
Rod supports fail - do not meet B31.1 spacing requirements.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Analyze span to verify integrity of supports and/or piping.

M. Jones 04/29/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Rod supported qualified by analysis, see attached Resolution Report No. 5

A. Ante 10/24/80
DISCIPLINE ENGINEER/DATE

A. Ante
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-39-44-01

FIRE ZONE 3-BR LOCATION Penetration Area FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 108', near azimuth 185', col. N & 15.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-0927-14
Line 927-14" RCS HL 4 to RHR PPS suction.

TARGET: TARGET CODE: P-2679-2
Line 2679-2" CCW to Gross Failed Fuel Detector.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Line 2679-2" is in contact with insulated source line. Excessive seismic or thermal movements of source line could damage target.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
By analysis, verify integrity of line 2679-2". Otherwise provide seismic stop to source pipe or locally reroute target line.

P. Anderson 06/17/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Source pipe qualified by analysis of seismic/thermal displacements. See RICA Resolution Report No. 38.

DISCIPLINE ENGINEER/DATE

G. B. Page 10/09/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

SW

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-107-04-02

FIRE ZONE 3-P-2 LOCATION HVAC Fan Rooms FLOOR ELEVATION 115'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 125, at containment wall, 51°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-99L
Platform 99L & associated ladders.

TARGET: TARGET CODE: I-SV296
SV-296.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Platform falls, impacts solenoid valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of platform/ladders by simplified analysis.

M. Jones 11/19/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Platform/ladder qualified by analysis. See resolution sheet and referenced Calcs. Nos. 04-03-01-03 and 25-107-04-02.

S. Hanusiak 03/16/81
DISCIPLINE ENGINEER/DATE

V. Ghio
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/23/82
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 3/7/84

[0008A/0069Z-38]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-01-01-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 119, near MS containment penetrations, loops 1&2.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-28
Overhead cyclone fence panels, platforms, grates, & railings.

TARGET: TARGET CODE: I-PT514
PT-514 instrument tap & tubing.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Sources fall, impact tap and tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of sources listed above by simplified analysis.

M. Jones 06/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The sources have been qualified by analysis. See resolution sheet, referenced Calc. No. 03-01-01-01 and referenced Calc. No. 30-01-54-07.

S. Hanusiak 01/23/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/23/82
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/6/84

[0009A/0070Z-4]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-54-02

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Pipe rack, area FW.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-31FW
Steel platform No 31FW, elev. 127'.

TARGET: TARGET CODE: E-R-28
Misc. Class I conduits.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Platforms and/or associated handrail come loose and fall on Class I conduits below.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of platforms and handrails by simplified analysis. Verify platform hold down clips are in place.

S. E. Traisman 07/13/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Platform and associated handrails have been seismically qualified by analysis. See resolution sheet and Calc. No. 30-01-54-02.

S. Gaballah 03/17/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 03/18/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 05/05/83
SIP PROJECT ENGINEER APPROVAL/DATE

SS 3/8/84

[0009A/0070Z-38]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-87-01

FIRE ZONE 28 LOCATION OUTSIDE AREAS FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elevation 85, outside Turbine Bldg. near pipe rack.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-TRANS
Unit 1 Main Transformer, Phase A

TARGET: TARGET CODE: GENERIC
Class 1 Components under Pipe Rack

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Transformer and attached insulator overturn, impact target components.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure that transformer will not overturn, by simplified analysis.

M. G. Jones 06/30/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Transformer construction and method of anchoring precludes overturning of transformer and attached insulator, the interaction is resolved by analysis. See calc. # 30-01-87-01.

KGB 6/20/84

J. Swaim 11/18/82
DISCIPLINE ENGINEER/DATE

G. C. Bhatt 11/18/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 05/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-88-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 85-130', near pipe rack.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-R-28
500 KV transmission lines, Phase A, and attached insulators on main transformer.

TARGET: TARGET CODE: GENERIC
Misc. Class 1, components on pipe rack.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Transmission lines fall, failing insulators, which impact target components.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify by analysis that trajectory of transmission line and/or insulators will not result in impact with pipe rack components.

M. Jones 06/30/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The 500 kV transmission line has been seismically qualified by analysis.
See Civil Calc. No. 30-01-88-01.

S. Gaballah 06/06/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 06/07/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/04/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0040A/0106Z-40]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-06-76-02

FIRE ZONE 31 LOCATION Various Areas FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 110' Col. V between 15 and 15.7.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-TANK
Firewater tank, pipe vault structure, and aux. bldg structure.

TARGET: TARGET CODE: P-2682-12
Line 2682-12", FW tank to FW pumps suction.

POSTULATED INTERACTION: PHENOMENA CODE: RELSTRUCT
Piping is anchored to firewater tank, supported off of pipe vault structure, and supported off of auxiliary bldg structure. The three structures have different seismic responses. Relative motion between structures damages piping.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify relative motion between the structures does not damage piping.

S. E. Traisman 08/04/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
As a rule for all seismic Class I piping, relative motins between pipes and Flex. equipment, pipe in different buildings is considered in the pipe stress analysis calculations. For the above identified target, SAM (Seismic Anchor motion) has been considered.

M. R. Tresler (D.C. Unit 1 Stress Group)
DISCIPLINE ENGINEER/DATE

K. M. Krause 06/08/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 10/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/04/83
SIP PROJECT ENGINEER APPROVAL/DATE

SW

0110Z/-15

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-90-02

FIRE ZONE 14-A LOCATION Various Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 97, near stairway.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-TANK

Plant air receivers 01 & 02.

TARGET: TARGET CODE: M-VALVE

6" manual valve, mark #G0219-6".

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAILL

Air receivers overturn, impact valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure by analysis that air receivers will not overturn.

M. Jones 11/13/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Air receivers will not overturn, by analysis. See RLCA Report 21.

T. P. Lee 04/04/83
DISCIPLINE ENGINEER/DATE

E. C. Connell III
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/22/83
SIP PROJECT ENGINEER APPROVAL/DATE

D.J.E. 8/28/84

[0039A/0101Z-34]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-03-11-01

FIRE ZONE 1-A LOCATION Containment FLOOR ELEVATION 91'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 91', at missile barrier, 270°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: H-E15
Iodine removal unit E-15.

TARGET: TARGET CODE: P-3155-2
Line 3155-2; (firewater line).

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Iodine removal unit mounting bolts fail in shear, resulting in unit sliding into line 3155.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install hold-down clamps to unit mounting skid to preclude movement of unit.

M. Jones 08/12/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Bolts qualified by analysis. See IDS No. 03-35-02-02.

A. V. Saquisaq
DISCIPLINE ENGINEER/DATE

D. Hagstrom
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC [HVAC] I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/10/82
SIP PROJECT ENGINEER APPROVAL/DATE

AVS

[0037A/0099Z-46]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-05-05-02

FIRE ZONE S-2 LOCATION Various Areas FLOOR ELEVATION 115'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 115' 18 line.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-SR
Unit separation security grating, elev. 115'.

TARGET: TARGET CODE: P-2678-4
Line 2078.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFATI
Grating impacts on line 2678.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Move grating or demonstrate via analysis that grating will not move in seismic event.

G. Whorinski 08/26/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Grating will not fall during seismic event. See resolution sheet and Calc. No. 28-05-05-02.

S. Hanusiak 12/28/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 06/02/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 12/10/82
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 9/10/84

[0036A/0093Z-61]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-04-13

FIRE ZONE 14-A LOCATION Various Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 100', along north wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-14A
Platform at elev. 104'.

TARGET: TARGET CODE: P-2666-6
Line 2666-6"; firewater header.

POSTULATED INTERACTION: PHENOMENA CODE: CIVIL.FAIL
Platform falls, impacts pipe.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of platform by simplified analysis.

M. Jones 11/06/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Source component has been seismically qualified by analysis. See resolution sheet calculation No. 28-04-04-13.

S. Hanusiak 04/20/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 04/21/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/23/82
SIP PROJECT ENGINEER APPROVAL/DATE

[0036A/0093Z-11] CHECKED AUG 13 1984 S.G. 8/16/84

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-102-06-01

FIRE ZONE 3-P-2 LOCATION HVAC Fan Rooms FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 106, containment purge exhaust fan E-3 room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-1126
Platform 1121.

TARGET: TARGET CODE: H-DUCT
40" containment purge exhaust duct.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Platform falls, impacts duct.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of platform by simplified analysis.

M. Jones 08/19/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Platform is qualified by analysis. See Claculation No. 25-102-06-01.

S. Hanusiak 06/02/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 06/03/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/23/82
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/8/84

[0039A/0101Z-5]

DIABLO CANYON NUCLEAR POWER PLANT

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

Please find attached a revision to the Seismically Induced Systems Interaction Program Final Report. Instructions for updating your report are as follows:

DELETE	INSERT
Attachment 7-A (in its entirety)	New Attachment 7-A

Dated 9/17/84

ATTACHMENT 7-B

TO THE PGandE

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

SCREENING OF MODIFICATIONS:

SAMPLE OF 50 EXPEDIENT MODIFICATIONS (E)

This attachment contains a representative selection of 50 Interaction Documentation Sheets (IDS's), resolved by modification and categorized as expedient. This screening information is provided at the request of the NRC. It represents the judgment of engineers regarding the categorization of the modification type (considered to be more cost effective than applying detailed analysis) that would show non-credibility of the interaction.

Attchment 7-A

Revision dated 9/17/84

50 INTERACTIONS RESOLVI ' EXPEDIENT MODIFICATION

IDS NO.	SYSTEM/TARGET	PLANT AREA	SOURCE	RESOLUTION/COMMENTS
01-19-02-02	Auxilary Feedwater/ Conduit K2665-1"	Turbine Bldg.	Stairway #1b	Added stiffener plates to stair connection.
01-20-02-07	Auxiliary Feedwater/ Conduit K2666-1"	Turbine Bldg.	Air Operator Chamber for FCV 723	Target conduit re-routed.
28-04-17-02	Firewater/Manual Valve for Hosereel 145-T43-1	Turbine Bldg.	Light Fixture	Positive connection provided for light.
28-07-18-01	Firewater/ Line K-3297-2"	Turbine Bldg.	Compressed Gas Bottles	Bottles relocated.
23-24-06-01	Containment Spray/ Spray Additive Tank 1-1 and Associated Piping	Safety Related Pump Rooms	Nitrogen Supply Lines	Added 3 supports to nitrogen lines.
20-03-01-01	Component Cooling Water/CCW Pump 1-3	Safety Related Pump Rooms	Sprinkler Line	Modified existing support.
25-68-30-01	HVAC for Vital Equipment/Damper to RHR Pump 1-2 Room Exhaust	Safety Related Pump Rooms	Overhead Handrails	Handrail properly secured with mounting bolts.
30-01-62-02	Multiple/Misc. Piping & Valves in RHR Recirc. Chamber	Safety Related Pump Rooms	Platform Grating	Grating clips installed.
01-06-01-01	Auxiliary Feedwater/ AUX FW Pump 1-1	Safety Related Pump Rooms	Pipe Support & 8" Pipe	Clearance provided to avoid impact.
16-04-03-03	Safety Injection/ Conduit KT980-1"	Auxiliary Bldg.	Fire Extinguisher	Quick-release strap provided for extinguisher.

50 INTERACTIONS RESOLVE BY EXPEDIENT MODIFICATION

IDS NO.	SYSTEM/TARGET	PLANT AREA	SOURCE	RESOLUTION/COMMENTS
03-28-01-01	Main Steam/Instr. Tubing to PCV-22	Penetration Area	Platform	Tubing re-routed.
18-01-23-02	Residual Heat Removal/Valve 8716A Power Cable	Penetration Area	Misc. Overhead Piping	1 pipe support added to prevent impact
11-05-10-01	Charging and Boration/ Tubing to HCV-142	Penetration Area	Conduit	Conduit support added.
28-05-56-03	Firewater/Line 3609-4"	Penetration Area	Adjacent Pipes/ Supports	4 supports added to source piping.
03-22-01-01	Main Steam/Instr. Tubing to PCV-19	Outside Areas	Platform Grating	Protective channel installed.
03-22-08-01	Main Steam/Conduit K5849-3"	Outside Areas	Steam Line (2")	2 pipe supports added.
01-03-11-01	Auxiliary Feedwater/ AFW Line 576-3" Drain Connection	Outside Areas	Grating Kickplates	Clearance Provided
25-70-09-01	HVAC for Vital Equipment/Damper Nos. 10 & 10A	HVAC Rooms	Copper Drain Pipe (3")	Replaced 1 pipe hanger.
28-04-04-11	Firewater/Line 2666-6"	Turbine Bldg	Demineralizer Tanks	Replace bolts/add expansion anchors.
25-42-02-01	HVAC for Vital Equipment/HEPA filters	HVAC Rooms	Hoist w/ Attached Chains	Source secured to tiedown bracket.

50 INTERACTIONS RESOLV' Y EXPEDIENT MODIFICATION

IDS NO.	SYSTEM/TARGET	PLANT AREA	SOURCE	RESOLUTION/COMMENTS
20-44-18-01	Component Cooling Water/CCW Surge Tank & Associated Piping	HVAC Rooms	Microwave Antenna	Added stiffener plates to antenna support.
07-25-06-01	Reactor Coolant System/Conduit KT072 & K5794	Electrical Rooms	Fire Protection Piping	Added 1 pipe support.
32-01-09-03	Electrical Power System/"G" Bus Vital 4.16KV Switchgear	Electrical Rooms	Light Fixture	Added brace to restrain light fixture.
30-01-99-02	Multiple/Conduit Associated with Hot Shutdown Panel	Electrical Rooms	Panel XTR-84	Additional bolts provided to panel base.
30-01-67-01	Multiple/Vertical Control Board #3	Control Room	Digital Clock	Clock relocated.
30-01-65-03	Multiple/Misc. Electrical Components & Conduits	Electrical rooms	Equipment Hatch Covers	Hatch covers secured.
24-07-01-05	Diesel Generators/ DG 1-1	Diesel Generators	Cardox and Drain System Piping	Added 11 pipe hangers.
24-07-01-01	Diesel Generators/ DG 1-1	Diesel Generators	Monorails (2) and Hoists	Hoists secured w/ monorail stops. (Monorail itself qualified by analysis.)
25-177-02-01	HVAC for Vital Equipment/DG 1-1 Vent. Duct	Diesel Generators	Roll-up Fire Door #105	Warning sign provided. (Door itself qualified by analysis.)
30-01-70-01	Multiple/Class I Control Boards	Control Room	Lead Shield for Rad. Calibration Device	Provided restraint for shield.

50 INTERACTIONS RESOLV' 1Y EXPEDIENT MODIFICATION

IDS NO.	SYSTEM/TARGET	PLANT AREA	SOURCE	RESOLUTION/COMMENTS
06-01-01-06	Reactor Coolant System/Reactor Vessel & CRDM	Containment	Cable feeder trolley for polar crane	Added hoist stop and cable restraint to trolley.
30-01-09-01	Multiple/Misc. Class I Components	Containment	Aux. Steam Line 3456-1"	Modified/added numerous hangers; rerouted portion of source line.
17-01-22-01	Safety injection/Line 1992	Containment	Nitrogen Supply Line	Modified existing support for source line.
10-02-01-01	Charging & Boration/ Seal Water Line 1479-2"	Containment	Air Supply Line	Added 2 bilat supports for source line.
06-01-04-03	Reactor Coolant System/Flux Monitor Tubing	Containment	Nitrogen Storage Bottle	Modified bottle restraint.
30-01-03-01	Multiple/Misc. Class I Components	Containment	Numerous Valve Handwheel Chains	Secured chains.
07-09-01-02	Reactor Coolant System/Tubing for LT-460	Containment	Grating	Clearance provided to avoid interaction.
15-32-05-02	Safety Injection/ Conduit K1741	Containment	Grating	Clearance provided to avoid interaction.
28-03-09-01	Firewater/Line 3156-2"	Containment	Unistrut Conduit Support	Unistrut cut to avoid interference.
17-01-05-01	Safety Injection/ Valve 8803A Power & Control Cable	Auxiliary Bldg.	1" Line	Added 1 pipe support.

50 INTERACTIONS RESOLVEI EXPEDIENT MODIFICATION

IDS NO.	SYSTEM/TARGET	PLANT AREA	SOURCE	RESOLUTION/COMMENTS
30-01-77-01	Multiple/Aux. Bldg. Sump	Auxiliary Bldg.	Package Boiler Fuel Oil	Sump pump auto-start switch removed to prevent interaction.
20-63-03-01	Component Cooling Water/CCW Tubing in Central Sample Panel	Auxiliary Bldg.	Light Fixture	Safety chain added.
20-63-03-02	Component Cooling Water/CCW Line in Central Sample Panel	Auxiliary Bldg.	Condensate Collection Tank	Tank braced to avoid interaction.
28-05-84-03	Firewater/Line 3688-2"	Auxiliary Bldg.	Rod Support to HVAC Duct	Rod support relocated.
28-04-11-03	Firewater/Valve to Hosereel FW-120-A37	Auxiliary Bldg.	Battery Operated Light	Light replaced by seismically qualified unit.
07-08-01-03	Reactor Coolant Sys/ LT 459 Tubing	Containment	Spring Hanger Can	Lowered spring can to avoid impact.
10-13-01-03	Charging & Boration/ Line 746-3" (RCP Seal Injection)	Penetration	Pipe Whip Restraint Plate	Corner of plate cut to provide clearance.
15-02-06-01	Safety Injection/ Instr. Tubes to FT922	Penetration	Light Fixture Conduit	Conduit re-routed.
03-58-05-02	Main Steam/Conduits KT062 & K5815	Outside Areas	Platform	Grating welded to platform.
05-08-01-01	Main Steam/FCV-763	Containment	Line 3847-6"	Insulation on source line reworked to provide clearance.

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-19-02-02

FIRE ZONE 14-A LOCATION Turbine Building FLOOR ELEVATION 104'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 118' in vicinity of stairwell 1B, Cols. C and 7.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-STAIR-14A
Stairway 1B - elev. 104' to 119'.

TARGET: TARGET CODE: E-K26665-1
Conduit K2665-1".

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Stairway fails, impacts conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of stairway by simplified analysis.

S. E. Traisman 07/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The stairway has been seismically qualified with modifications. See ART 394 and Calc. No. 01-19-02-02.

S. Gaballah 06/08/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 06/21/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 11/02/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/5/84

[0039A/0101Z-3]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-20-02-07

FIRE ZONE 14-A LOCATION Turbine Building FLOOR ELEVATION 104'

LOCATION WITHIN FIRE ZONE:
Elev. 116' col line 6 between C and D.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FCV723
Air operator chamber for FCV-723 (on cond. bypass around SW evap. line - 24").

TARGET: TARGET CODE: E-K2666-1
K2666-1" conduit.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Air operator chamber fails at connection to valve operator. Conduit cated 1-1/2" below chamber is damaged.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of air chamber by simplified analysis.

S. E. Traisman 07/20/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Reroute conduit K2666-1" underneath cross I-beam running between col. 5 and 6 at column line "C". Resolved by modification. See ART 423 for details.

AGB

N. Barangan 08/05/83
DISCIPLINE ENGINEER/DATE

C. Kahl 08/05/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 11/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn
SIP PROJECT ENGINEER APPROVAL/DATE

[0029A/0086Z-6]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-17-02

FIRE ZONE Outside 14-D LOCATION Various Areas FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 145', near elevator No. 1.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: F-LF-14D
Light fixtures (top of turbine building).

TARGET: TARGET CODE: M-HR
Hose reel 145-T43-1.

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Fixtures fall, impact hose reel.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of light fixtures.

M. Jones 11/13/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The above source light fixture has been field inspected and verified to be installed in accordance with PG&E DWG 050041, detail 14. Install chain connector & fixture hanger DCN DCO-FE-5552, Rev 1, sheet 5 of 9 detail B. Modification by ART 378 to prevent interaction.

AEB

R. J. Swaim 05/19/83
DISCIPLINE ENGINEER/DATE

G. C. Bhatt 05/19/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS ENG GC HVAC I&C PSE NPO NAN

S. F. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0033A/0083Z-19]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-07-18-01

FIRE ZONE 14-D LOCATION Various Areas FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Turbine building operating deck, colunms 4 and E, south side of stairwell.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-BOTTLE
Compressed gas bottles chained to stairwell handrail (property of I&C operating personnel).

TARGET: TARGET CODE: P-3297-2
Firewater line K-3297-2" to hosereel FW-145-T39-1.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Bottles secured by brackets and chains mounted off stairwell handrail. Seismic event causes bottles to slip underneath slack securing chain, bottles fall, nozzles break off, and bottle becomes a missile which impacts firewater piping in area.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
1. Provide more positive securing method for bottles. Verify its adequacy by engineering evaluation.
2. Relocate bottles out of area.
3. Post sign to indicate bottle nozzle caps are to remain on bottles (other than when in use)and/or modify procedures to reflect same.
Note: This interaction is a result of final SIP area walkdown.

S. E. Traisman 10/27/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Bottles have been relocated. See NPPR No. DCO-23-NO-P0025.

JWS 8/6/84

T. G. Hook 04/27/84
DISCIPLINE ENGINEER/DATE

J. D. Townsend 04/30/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE [NPO] NAN

S. Skochko 06/08/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 06/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0032A/0074Z-56]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 23-24-06-01

FIRE ZONE 3F LOCATION Saftey Related Pump FLOOR ELEVATION 73'

LOCATION WITHIN FIRE ZONE:
Elev. 73', along east wall near spray additive tank 1-1

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-USB-3F
2" and 1" N_2 Supply Line

TARGET: TARGET CODE: M-SAT
Spray Additive Tank 1-1 and associated piping

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Piping falls or deflect excessively due to lack of vertical support and impacts spray additive tank.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add vertical pipe support at 12" horizontal run of 2" N_2 supply pipe elevation 95'.

M. G. Jones 7/22/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added pipe support at vertical and horizontal. See generic DCN-DC1-EP-5061, Hgr. No. 049339 Sht. 267 and 268, and "as-built" condition on Hgr. Dwg. No. 049339 Sht. 118.

C. R. Van Natta 8/12/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 8/12/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 1/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

SW

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-03-01-01

FIRE ZONE 3-J-3 LOCATION Safety Related Pump FLOOR ELEVATION 73'-0"

LOCATION WITHIN FIRE ZONE:
CCW pump 1-3 room, elev. 73.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-3J3
1" branch from 2" fire water line, drawing # 693299, support #SPR-47.

TARGET: TARGET CODE: M-CCWPP1-3
CCW pump 1-3.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
Lateral support needed at end of branch to preclude overstress of threaded joint and subsequent failure of pipe which could fall on CCW pump 1-3. Note: The firewater line is design Class I.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add bracket to steel which holds support 83-6. This support should have been added when the firewater system was upgraded.

M. Jones 05/06/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modified support. See Generic DCN DC1-EP-5061. HGR DWG No. 049339-339/352R.

C. R. VanNatta 09/06/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 10-24-83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 10/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

SW

[0014A/0079Z-18]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-68-30-01

FIRE ZONE 3-B-1 LOCATION Safety Related Pump FLOOR ELEVATION 73'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 73, RHR Pumps 1-2 Room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C- HANDRAIL
Overhead Handrails (2)

TARGET: TARGET CODE: H-DAMPER
Damper to RHR Pump 1-2 Room Exhaust

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Handrails fall, impact damper.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of handrails by analysis. Tighten handrail mounting bolts.

M. Jones 06/25/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Handrails qualified by analysis also secured with mounting bolts per ART 068. (See file for IDS #25-68-29-01).

S. Hanusiak 01/30/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 02/4/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

M. Baker 08/02/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

SA 7/23/84

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-62-02

FIRE ZONE 3-B-2 LOCATION Safety Related Pump FLOOR ELEVATION 62'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 66' Protective Chamber for penetration 29-171°

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-GRATING
Steel Platform Grating

TARGET: TARGET CODE: M-8982B
Class I Piping, Valves in RHR Recirculating Water Chamber 1-2

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Grating not attached to platform, grating comes loose and impacts targets

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install hold-down clips to grating.

S. E. Traisman 07/27/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Install hold down clips as recommended. See ART. 429.

S. Gaballah 08/16/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 09/09/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. F. Traisman 11/2/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/5/84

[0020A/0059Z-17]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-06-01-01

FIRE ZONE 3-Q-1 LOCATION Safety Related Pump FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
Elev. 100, over auxiliary feedwater pump 1-1

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-2442-6
Pipe support (drawing No. 649272) to aux. steam pipe line 2442 and line 1862-8"

TARGET: TARGET CODE: M-AFWPP1-1
Auxiliary feedwater pump 1-1

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Pipe support contacts line 1862. Repeated contact due to thermal seismic and other movements results in leakage from line 1862 impinging on auxiliary feedwater pump 1-1.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Relocate pipe support away from line 1862.

M. Jones 06/24/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The angle of support 85S/30R was cut to provide adequate clearance.

C. R. Van Natta 08/16/84
DISCIPLINE ENGINEER/DATE

K. M. Krause 08/16/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE FE EMS ENG GC HVAC I&C [PSE] NPO NAN

G. Zaharoff 02/10/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0040A/0106Z-45]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 16-04-03-03

FIRE ZONE 3-R LOCATION Aux./Fuel Handling FLOOR ELEVATION 115'-0"

LOCATION WITHIN FIRE ZONE:
Elevation 115' Cols 11 and V.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FE
CO_2 fire ext. FE-F115-02-1.

TARGET: TARGET CODE: E-KT980-1
Conduit KT-980-1".

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Fire ext comes off hook, nozzle breaks off, and fire ext. becomes a missile which impacts conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Clamp fire ext in place with a quick release mechanism.

S. E. Traisman 07/21/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Quick release mechanism provided per ART 373. See IDS file 01-19-02-07 for modification package.

J. Haake 05/02/83
DISCIPLINE ENGINEER/DATE

J. Longworth 05/03.83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 06/12/84
SIP PROJECT ENGINEER APPROVAL/DATE

D.J.E. 8/28/84

[0039A/0101Z-9]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-28-01-01

FIRE ZONE 3-BR LOCATION Penetration Area FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 140', outside by main steam loops 3 & 4 relief valves.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-3BR
Platform & grating.

TARGET: TARGET CODE: I-PCV22
Instrument tubing to PCV-22.

POSTULATED INTERACTION: PHENOMENA CODE: DFFLECT
Lateral movement of platform results in tubing being compressed between platform and main steam loop 4 relief header.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Reroute tubing away from platform and main steam relief header.

M. Jones 06/10/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Tubing rerouted per ART 272.

F. M. Valeriano 07/10/80
DISCIPLINE ENGINEER/DATE

G. H. Moore 07/10/80
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE FE EMS ENG GC HVAC [I&C] PSE NPO NAN

S. E. Traisman 08/31/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/29/82
SIP PROJECT ENGINEER APPROVAL/DATE

[0039A/01017-41]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 18-01-23-02

FIRE ZONE 3-BB LOCATION Penetration Areas FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 100, near outer wall, Col 15.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-ULB-3BB
Overhead 1" and 1-1/2" lines (4604 & 1450) and 4" caustic line.

TARGET: TARGET CODE: I-8716A
Valve 8716A.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral movement of overhead pipe impacts power & control cable to valve 8716A motor operator.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add lateral support to lines (caustic, 4604 & 1450), to preclude deflection.

M. Jones 04/30/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Hanger drawing 049339-339/344R issued under Generic DCN DC1-EP-5061 will prevent all three pipes from interacting with valve 8716A motor operator and, thereby, resolves this interaction. Field verification shows that line 4604 is incorrectly identified as line 3354 and 1-1/2" size of line 1450 is incorrectly shown as 2".

C. R. VanNatta 08/25/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 08/25/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 10/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 05/01/84
SIP PROJECT ENGINEER APPROVAL/DATE

CHECKED AUG 09 1984

[0014A/0079Z-20] OK

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 11-05-10-01

FIRE ZONE 3-8B LOCATION Penetration Area FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 85, GE area, NE corner by containment.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-R-3BB
Overhead small conduit.

TARGET: TARGET CODE: I-HCV142
Tubing to HCV-142.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Conduit falls due to lack of support.
(9.5' between clips)

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add support clips to conduit as follows:
1. Over HCV-142 midway between existing support clips.
2. Over tubing as close to south wall of chamber as possible.

M. G. Jones
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Add conduit supports. See DCN no. DC1-EE-699.

ACB

R. Parodi 07/07/80
DISCIPLINE ENGINEER/DATE

R. Young 07/11/80
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS ENG GC HVAC I&C PSE NPO NAN

Mark Barker
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/19/08
SIP PROJECT ENGINEER APPROVAL/DATE

[0029A/0086Z-35]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-05-56-03

FIRE ZONE 3-BB LOCATION Various FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 95', mid room over mechanical panel 77.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3252-1.50
Lines 3252 & 3253, 1-1/2"; SCW lines.

TARGET: TARGET CODE: P-3609-4
4" firewater pipe, line 3609-4" (Unit 1).

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral deflection of lines 3252 & 3253 results in impact with 4" firewater pipe (3 contact points).

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add lateral restraints as required to lines 3252 & 3253 to preclude contact.

M. Jones 04/29/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added four (4) supports by Generic DCN DC1-EP-5061 HGR No. 049339, 339/332R, 339/334R, 339/336R & 339/341R. All Revision 1.

C. R. VanNatta 08/23/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 08/23/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 11/29/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 02/03/84
SIP PROJECT ENGINEER APPROVAL/DATE

CHECKED AUG 09 1984

[0014A/0079Z-67] CK

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-22-01-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 119'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 122, along outside wall of containment by MS loops 1,2.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-28
Platform grates.

TARGET: TARGET CODE: I-PCV19
Instrument tubing to PCV-19.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL & LOOSE

Grates slide into tubing due to failure of hold down clips.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install protection around tubing, possibly by using Uni-strut or Channel steel.

M. Jones 06/10/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Protective channel steel installed to protect tubing.
See ART 272 and memo dated 07/10/80.

DISCIPLINE ENGINEER/DATE

G. H. Moore
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 08/31/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/29/92
SIP PROJECT ENGINEER APPROVAL/DATE

SW

[0014A/0079Z-7]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-22-08-01

FIRE ZONE 28 LOCATION Outside Area FLOOR ELEVATION 109'-6"

LOCATION WITHIN FIRE ZONE:
Elev. 106, at turbine bldg. wall, near door 386 entrance to auxiliary bldg.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-USB-28
Approx. 2" diameter steam line to RO system.

TARGET: TARGET CODE: E-K5849-3
Conduit K5849-3".

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral motion coupled w/failure of fixed end rod hangers of source pipe results in impact with conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add bilateral pipe support to source pipe to reduce lateral motions. Add to beam between turbine & containment buildings, azimuth 270°. Keep lateral gaps at a minimum.

M. Jones 06/30/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Recommended rsolution - OK. See DCN DCI-EP-5061 - HGR. DWG. 049339 sheets 350 & 351, (339/350R & 351R).

C. R. VanNatta 10/10/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 10/10/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 11/29/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

SW

[0029A/0086Z-4]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-03-11-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 110, MS loop 2 area.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-28
Grating kick plate.

TARGET: TARGET CODE: P-0576-3
AFW line 576-3" drain connection.

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE
Grating slides into 1" drain connection causing kick plate to impact drain connection.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Cut kick plate away from drain connection to preclude contact.

M. Jones 06/11/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Grating kick plate cut away to provide clearance. See work request No. C-507 and interaction resolution sheet.

S. Hanusiak 02/18/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 02/19/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 01/26/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 03/07/83
SIP PROJECT ENGINEER APPROVAL/DATE

3/5/84

[0022A/0077Z-1]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-70-09-01

FIRE ZONE 8-B-1 LOCATION HVAC Fan Room FLOOR ELEVATION 154'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 158, in Mechanical Room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-DRAIN-8B1
3" Copper Drain Pipe

TARGET: TARGET CODE: H-DAMPER
Dampers 10 & 10A

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
Drain pipe falls on dampers due to failure of fixed-end rod supports and soldered connections.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Replace existing fixed-end rod hangers with clevis end rod hangers on 3" drain pipe.

M. G. Jones 12/10/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Pipe support added per Hanger Dwg. 049393 Sheet 135 in DCN-DC1-EP-3606
Referenced ART 164 and Resolution Report No. 22.

C. R. Van Natta 01/21/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 01/24/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 08/24/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/19/83
SIP PROJECT ENGINEER APPROVAL/DATE

SW

[0017A/0058Z-18]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-04-11

FIRE ZONE 14-A LOCATION Various Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 100' northeast corner.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-DENIM
Evaporator distillate demineralizers.

TARGET: TARGET CODE: P-2666-6
Line 2666-6"; firewater header.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Demineralizers overturn, impact line 2666.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure by anlysis that demineralizers will not overturn.

M. G. Jones 11/06/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Additional support provided for demineralizers to prvent overturning during seismic event. See DCN# DCI-EM-986 and calc. M-568

G. B. Page 04/27/81
DISCIPLINE ENGINEER/DATE

E. C. Connell III
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/18/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/19/83
SIP PROJECT ENGINEER APPROVAL/DATE

A.J.E. 8/24/84

[0034A/0085Z-34]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-42-02-01

FIRE ZONE 3P4 LOCATION HVAC Rooms FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
HEPA Filter Room, Elev. 115'

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-HOIST-3P4
Overhead 1/8 Ton Hoist and Attached Chains

TARGET: TARGET CODE: H-FILTER

HEPA Filters

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL

Chains impact filters due to movement of hoist on trolly.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Secure hoist to existing tie-down brackets located on north wall.

M.G. Jones 5/21/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Per work request No. C-474, source secured to tie-down bracket.

S. Hanusiak 2/19/81
DISCIPLINE ENGINEER/DATE

E. Wollak 3/9/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 2/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 2/16/83
SIP PROJECT ENGINEER APPROVAL/DATE

0040Z/0010Z-64

SG 7/21/84

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-44-18-01

FIRE ZONE Over Zones 8C & 8B1 LOCATION HVAC Rooms FLOOR ELEVATION 163'-0"

LOCATION WITHIN FIRE ZONE:
Roof of auxiliary building, elev. 171'.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-ANTENNA
Microwave antenna & support tower.

TARGET: TARGET CODE: M-CCWTANK
Microwave antenna & support tower.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Antenna & tower topple, impact CCW surge tank.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of antenna and support structure by analysis.

M. Jones 05/07/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Stiffener plates added to antenna. See Calc. No. 20-44-18-01 and ART No. 263.

S. Hanusiak 07/15/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 07/16/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 09/29/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/28/82
SIP PROJECT ENGINEER APPROVAL/DATE

S.G 8/7/84

[0037A/0099Z-48]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 07-25-06-01

FIRE ZONE 7-A LOCATION Electrical Rooms FLOOR ELEVATION 128'

LOCATION WITHIN FIRE ZONE:
Elev. 128', south of Rack #24

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-USB-7A
Fire Protection Piping (1-1/2" red)

TARGET: TARGET CODE: E-KT072+
KT072, K5794 (Conduit)

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
Fire protection piping could fail due to threaded joints and excessive span.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of piping either by analysis or by providing support modification.

Paul Anderson 06/04/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
SEE IDS No. 17-25-06-01

C. R. Van Natta 09/21/83
DISCIPLINE ENGINEER/DATE

J. Longworth 01/12/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 9/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/21/83
SIP PROJECT ENGINEER APPROVAL/DATE

SW

(FINAL/0057Z)

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-09-03

FIRE ZONE 13-B LOCATION Electrical Rooms FLOOR ELEVATION 119'

LOCATION WITHIN FIRE ZONE:
Elev. 127', "G" Bus 4.16kV Swgr Room, Area A

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-13B
Fluorescent Light Fixtures at North end of Swgr Room

TARGET: TARGET CODE: E-4.16KVSWGR
"G" Bus Vital 4.16kV Swgr

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Light fixtures fall and impact switchgear.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add lateral brace to restrain light fixtures (similar fix to what has been done for South bank of light fixtures in same room).

S.E. Traisman 07/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Add lateral brace to restrain the above lighting fixtures as per ART #432.

AGB
7/25/84

S. Wang 08/19/83
DISCIPLINE ENGINEER/DATE

G. C. Bhatt 08/19/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 01/19/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 01/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0021A/0067Z-5]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

55

POSTULATED INTERACTION NO.: 30-01-99-02

FIRE ZONE 5A4 LOCATION Electrical Equipment FLOOR ELEVATION 100

LOCATION WITHIN FIRE ZONE:
Adjacent to PM-199 (outside 480V Vital Swgr Rooms)
Area H, Cols H and 15.7

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: I-XTR-84

Panel XTR-84, Class IT Gen Stator Temp Data Logger -
South of H.S.D. Panel

TARGET: TARGET CODE: I-H01

Class I conduits associated with H.S.D Panel

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL

Panel fails and damages targets. Targets are various Class I conduits coming out of Hot Shutdown Panel as well as other Class I conduits in area.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Verify by analysis panel will not fail. If found to fail modify panel to preclude interaction.

S. Skochko 03/15/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Add bolts to base of XTR-84 per ART 442. Refer also to Civil Calc. 80-01-99-02.

S. Skochko 09/14/83
DISCIPLINE ENGINEER/DATE

J. Meierdierks 09/15/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE FE EMS ENG GC HVAC [I&C] PSE NPO NAN

S. E. Traisman 11/29/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0033A/0083Z-43]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-67-01

FIRE ZONE 8-C LOCATION Control Room FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 144', Main Control Board

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-CLOCK
Battery Operated Digital Clock over vertical board #3

TARGET: TARGET CODE: GENERIC

Vertical Board #3 Controls and Indicators

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Clock separates from mounting bracket and falls onto control board.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of clock mounting bracket by simplified analysis.

S.E. TRAISMAN 07/28/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Clock removed from area.

ACB
7/6/84

S. Wang 08/05/83
DISCIPLINE ENGINEER/DATE

S. Auer 08/05/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 01/19/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 01/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-65-03

FIRE ZONE 6-A-5 LOCATION Electrical Rooms FLOOR ELEVATION 115 & 120

LOCATION WITHIN FIRE ZONE:
Elev. 115' to 127'-4" col. 16.8 between H and J.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-COVER
Hatch covers in elevation 127'-4" floors.

TARGET: TARGET CODE: E-MISC
Class I electrical equipment and conuits at elev. 115'.

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Equipment hatch covers fall through opening and impact targets below.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify Hosgri seismic event not capable of moving hatch covers out of their normal position.

S. E. Traisman 07/27/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Hatch covers have been seismically qualified. Subject to modification per DCN DC1-EA-11688. See Calc. No. 30-01-65-03.

S. Gaballah 12/22/82
DISCIPLINE ENGINEER/DATE

B. Sarkar 12/22/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 01/19/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 3/14/84

[0022A/0077Z-26]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-07-01-05

FIRE ZONE 11-A-1 LOCATION Diesel Generator FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 85-95', Mid-room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-DRAIN-11A1
Cardox System and Building Drain System. Piping Overhead Diesel Engine 1-1 and associated equipment

TARGET: TARGET CODE: M-DG1-1
Diesel Engine 1-1 and associated equipment

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
Piping fails due to failure of rod hangers, threaded couplings, leaded connections to floor scuppers and overspanning of pipe.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of source piping an analysis and/or addition of pipe supports. Verify that drain piping deflections insufficient to impact target conduit/equipment.

M. G. Jones 05/12/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Resolved by DCN DC1-EP-3609 and Hanger Dwg. 049339, Sht. 152 though 163.

C. R. Van Natta 01/07/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 01/07/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 02/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 02/16/84
SIP PROJECT ENGINEER APPROVAL/DATE

GW

[0002A/0055Z-14]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-07-01-01

FIRE ZONE 11-A-1 LOCATION DIESEL GENERATOR FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 85, Mid-Room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE:
Overhead Monorail and Hoist (2)

SOURCE CODE: C-MR-11A1

TARGET:
Diesel Engine 1-1

TARGET CODE: M-DG1-1

POSTULATED INTERACTION:
Monorail and/or Hoist fall, impact Engine

PHENOMENA CODE: CIVILFAIL & MECHFAIL

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of Monorail by simplified Analysis. Secure Hoist to Monorail to preclude falling.

M. Jones 06/25/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The Hoist has been secured to Monorail per attached work request. It will be used exclusively in the event of Engine Breakdown, when Engine is not working anyway, therfore, needs no seismic qualification.
Also see file for IDS No. 24-06-06-04 for Monorail qualification Calc.

S. Hanusiak
DISCIPLINE ENGINEER/DATE

E. P. Wollak 09/25/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/31/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/28/82
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 7/21/84

(FINAL/0053Z/)

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-177-02-01

FIRE ZONE 11-A-2 LOCATION Diesel Generator FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 100, Near Diesel Generator 1-1 Radiator

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-DOOR
Roll-Up Fire Door #105

TARGET: TARGET CODE: H-DUCT
Diesel Generator 1-1 Ventilation Duct, North

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Door falls, impacts Duct.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of Roll-Up Door by simplified Analysis. Ensure that roll-up door is in full open position during operation of plant, possibly by Administrative Control.

M. Jones 10/28/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Door qualified by Analysis. See referenced Calc. No. 24-06-01-01. Also attached warning sign to door per ART 69.

S. Hanusiak 04/02/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 04/02/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 9/29/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/28/82
SIP PROJECT ENGINEER APPROVAL/DATE

SG 7/26/84

(FINAL/0053Z/)

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-70-01

FIRE ZONE 8-C LOCATION ELECTRICAL FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
EL 140' COL 15.7 BETWEEN L & K NEAR RAD MONITOR RACKS

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: N-SHIELD
Lead shield for radiation source calibration device.

TARGET: TARGET CODE: GENERIC
Class I control boards.

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Shield consists of a stack of lead shield rings (annular plates). Shield stack topples and shield rings roll into class I control boards.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Remove shield from control room prior to plant operation.

S. E. Traisman 07/28/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Provide lead shield block assembly as recommended by NPO. See ART No. 417 and Calc. no. 30-01-70-01.

S. Gaballah 09/26/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 10/04/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 7/26/84

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-01-06

FIRE ZONE 1-C LOCATION Containment FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 211', top of polar crane.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-HOIST-1C
Service hoist.

TARGET: TARGET CODE: M-CRDM
Reactor vessel & CRDM.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Hoist falls, impacts CRDM.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of hoist by anlysis. Secure hoist to monorail to prevent motion.

M. Jones 03/03/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Sources identified in technical review No. 9216-TR-0323, 0269 has been seismically qualified with modification per ART No. 413 and 351. See Calc. No. 06-01-01-06, Rev. 1.

S. Gaballah 03/10/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 03/10/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 11/29/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/23/84

[0031A/0084Z-18]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-09-01

FIRE ZONE 1-A LOCATION Containment FLOOR ELEVATION 117'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 128', along containment wall, 155°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3456-1
Line 3456-1", auxiliary steam line.

TARGET: TARGET CODE: GENERIC
Misc. Class I components.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL

Line 3456 not well supported in this area - could impact nearby Class I components if existing supports fail.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add additional pipe supports as required.

M. Jones 04/01/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Pipe supports modified per RLCA Resolution Report No. 2, Rev. A, except rod hanger at EL.128 was not modified. Modifications judged adequate.

DISCIPLINE ENGINEER/DATE

J. A. Ante 01/13/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

M. Jones 02/24/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

CHECKED AUG 09 1984

[0014A/0079Z-73] CK

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 17-01-22-01

FIRE ZONE 1-A LOCATION Containment FLOOR ELEVATION 91'-0"

LOCATION WITHIN FIRE ZONE:
Penetration 21, elev. 110.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-USB-1A
1" N_2 supply line.

TARGET: TARGET CODE: P-1992-1.5
1 - 1/2" line 1992 (loop 2 boron inj.).

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE & DEFLECT
1" N_2 line contacts line 1992.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add U-bolts to existing support near contact point to preclude movement of N_2 line.

M. Jones 04/16/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Pipe support modified per RLCA Resolution Report No. 4 and ART #135.

M. Jones 07/14/80
DISCIPLINE ENGINEER/DATE

J. A. Ante 07/14/80
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

M. Jones 02/23/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

[0032A/0074Z-33]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 10-02-01-01

FIRE ZONE 1-A LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
Elev. 100, overhead, near pressurizer rel. tank.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SA-1A
3" air supply line (service air header).

TARGET: TARGET CODE: P-1479-2
2" seal water line 1479.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral movement of source line could impact SW line.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add additional restraint at or near 90° elbow of source line to limit lateral deflection.

M. G. Jones 04/02/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Pipe supports were added per RLCA Resolution Report No. 6, Rev. A & ART #41 in approximate locations recommended.

P. H. Anderson 01/14/81
DISCIPLINE ENGINEER/DATE

J. A. Ante
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

M. G. Jones 02/25/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

[0029A/0086Z-5]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-04-03

FIRE ZONE 1-8 LOCATION Containment FLOOR ELEVATION 112'-1 1/2"

LOCATION WITHIN FIRE ZONE:
Elev. 112, in seal table room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-BOTTLE
Nitrogen storage bottle.

TARGET: TARGET CODE: I-FLUX MON
Incore flux monitoring tubes.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Bottle overturns, impacts tubes.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure that bottle mountings (chains) are adequate to support bottle.
Secure ends of chain to mounting bracket by bolting.

M. G. Jones 03/15/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
See calculation No. M-159 for resolution and field modification, ART 307.
Modified latches at ends of chain.

E. Barna 10/01/82
DISCIPLINE ENGINEER/DATE

E. Connell III
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 11/29/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE
D.J.E. 8/21/84

[0034A/0085Z-5].

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-03-01

FIRE ZONE 1-A LOCATION Containment FLOOR ELEVATION 91'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 115', near missile barrier.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-8033A
Valve handwheel chains to various valves, such as 8033 A & C.

TARGET: TARGET CODE: GENERIC

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Chains swing freely, could impact nearby Class I components.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Tie chains to missile barrier to preclude swinging of chain.

M. Jones 04/15/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Chains secured for 8033 A & C. See ART 013.

DISCIPLINE ENGINEER/DATE

E. C. Connell III
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

S. Harris 02/19/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 07/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

D.J.E 8/24/84

[0039A/0101Z-26]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 07-09-01-02

FIRE ZONE 1-A LOCATION Containment FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Approx. elev. 140.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-1A
Grating.

TARGET: TARGET CODE: I-LT460
Tubing for LT 460.

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE & DEFLECT
Grating moves and impacts tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Provide protection around tubing where it goes thru grating.

S. Harris
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Grating was cut and clearance provided per ART 029.

S. Hanusiak 01/16/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. Harris 02/18/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

S.G. 3/29/84

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 15-32-05-02

FIRE ZONE 1-A LOCATION Containment FLOOR ELEVATION 117'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 117', col. 7 at BTX12E, DWG 57687.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-GRATING
Floor grating.

TARGET: TARGET CODE: E-K1741-2
Conduit K1741-2".

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE & DEFLECT
Floor grating close to conduit and could impact if movement occurred.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Provide clearance between floor grating and conduit.

J. F. Grant 09/17/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
2" clearance provided between floor grating and conduit, per ART No. 033.

S. Hanusiak 01/16/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

M. Jones 02/17/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

[0031A/0084Z-48]

SG 8/15/84

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-03-09-01

FIRE ZONE 1-A LOCATION Various Areas FLOOR ELEVATION 127'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 137', at containment wall, 230°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-RS-1A
Uni-strut conduit support.

TARGET: TARGET CODE: P-3156-2
Line 3156-2"; firewater pipe.

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE
Unit-strut material contacts line 3156.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Cut 2" off of uni-strut material to provide clearance with line 3156.

M. Jones 08/05/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Work completed as recommended. See work request No. E-910, R-3. Resolved by modification.

AGB

A. G. Barta 02/12/82
DISCIPLINE ENGINEER/DATE

S. Auer 08/25/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [FE] EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/19/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

[0033A/0083Z-16]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 17-01-05-01

FIRE ZONE 3B3 LOCATION Auxiliary Building FLOOR ELEVATION 73'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 73', Bit Room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-0994-1
Overhead 1" Line #994

TARGET: TARGET CODE: I-8803A

Valve 8803A Power and Control Cable

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT

Lateral movement of overhead 1" Line impacts valve cable.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Install lateral restraint to Line 994 by removing rod hanger near valve 8803B and installing bracket from ceiling plate to Line 994. U-bolt pipe to bracket.

M.J. Jones 04/30/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Added support by Generic DCN-DC1-EP-5061-PRO-HGR. DWG. 049339-339/270R.

C. R. Van Natta 07/21/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 07/21/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-77-01 Intercomp

FIRE ZONE 2 LOCATION Aux./Fuel Handling FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 85', area FF.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-AUX-SUMPPP
Package boiler fuel oil line.

TARGET: TARGET CODE: GENFRIC
Auxiliary building sump.

POSTULATED INTERACTION: PHENOMENA CODE: PIPEFAIL & ENVIRON
1/2" unions on fuel oil line fail, 10,000 gallon fuel oil tank drains by gravity flow into package boiler room. Package boiler room sump pump starts automatically and appears to pump fuel oil to auxiliary building sump (not clear from P+ID). Fuel oil in auxiliary building sump introduces fire hazard in auxiliary building.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Determine if fuel oil is pumped into auxiliary building sump. If so, route package boiler room sump pump discharge to turbine building dump, if practicable. or, remove auto start feature from sump pump.

S. E. Traisman 08/04/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Resolved by modifications. See DCN DC1-SF-17685 and DC1-EF-5421-R2.

AGB

S. Kim 02/27/84
DISCIPLINE ENGINEER/DATE

C. Kahl 02/17/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS FNG GC HVAC I&C PSE NPO NAN

S. Chesnut 06/13/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 07/03/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-63-03-01

FIRE ZONE 3-L LOCATION Aux./Fuel Handling FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 91, at Central Sample Panel

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-3L
Light Fixture (chain supported fluorescent)

TARGET: TARGET CODE: I-CSP
CCW Tubing in central sample panel

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Light fixture falls, impacts tubing

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of light fixture.

M. Jones 5/05/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Safety chain added to light fixture. See DCN DCO-EE-5552, Rev. 1, Sheet 9 of 9, Det. 75. Also, see ART #377.

RJS

R. J. Swaim 05/17/83
DISCIPLINE ENGINEER/DATE

G. C. Bhatt 05/18/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 10/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

Lee Horn 10/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-63-03-02

FIRE ZONE 3-L LOCATION Aux./Fuel Handling FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Behind central sample panel
Auxiliary Bldg. columns N and 15.7/16.8

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-Tank
Condensate collection tank.

TARGET: TARGET CODE: I-CSP
CCW lines within central sample panel.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Condensate collection tank anchorage fails, tank overturns and impacts central sample panel. Damage to central sample panel support structure may result in gross deformati of anpossible breach of CCW pressure boundary.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify adequacy of condensate collection tank anchorage by engineering evaluation.

S. E. Traisman 06/29/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The tank anchorage has been seismically qualified with modification.
See Calc. No. 20-63-03-02, for modification, see DCN No. DC1-EC-11853.

S. Gaballah 09/08/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 09/09/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/3/84

[0004A/0062Z-50]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-05-84-03

FIRE ZONE 3-L LOCATION Various Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 95', at col. line 19.2, near ceiling.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: H-DUCT-31
Rod support to HVAC duct.

TARGET: TARGET CODE: P-3688-2
Line 3688-2"; firewater Unit 2.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Threaded rod rests on line 3688 - Duct vibration & seismic movement could result in a breach of the pipe wall.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
remove or relocate rod support.

M. Jones 09/09/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
1/2" Ø ventilation duct support rod has been relocated. See ART 260.

D. Hagstrom 12/17/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/18/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/23/83
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 9/10/84

[0037A/0099Z-22]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-11-03

FIRE ZONE 3-AA LOCATION Various Areas FLOOR ELEVATION 115'-0"

LOCATION WITHIN FIRE ZONE:
Auxiliary building area 'K', comumn ines 16½/N.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-BOL
Battery operated light.

TARGET: TARGET CODE: P-3608-2
Firewater line valve to hose reel FW-120-A37, line 3608-2".

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Battery operated light case can come out of its mounting pan and fall onto target firewater line valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Battery operated light case can aome out of its mounting pan and falls onto target firewater line valve.

N. Barangan 01/18/84
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Replace non-Class I battery operated light with a qualified Class I bol. Exchange this unit (support pan included) with the one located at stairway landing elev. 104'-0" area 'H', col 'H'/18, (see sheet 3 of 3). Resolved by modification. See ART 478 for modification details.

AGB

N. Barangan 01/20/84
DISCIPLINE ENGINEER/DATE

C. Kahl 01/23/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS ENG GC HVAC I&C PSE NPO NAN

S. Chesnut 05/16/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 07/03/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0033A/0083Z-18]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 07-08-01-03

FIRE ZONE 1-C LOCATION Containment FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Approximate elev. 165' - top of pressurizer.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-0021-8
Spring hanger can 48-4V on line 21-8" (8010A Disch. to PRT).

TARGET: TARGET CODE: I-LT459
LT 459 - tubing.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral movement of spring can impacts tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Lower spring can to clear tubing (approx. 2").

S. Harris 02/18/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Recommended resolution OK. See hanger DWG 049256, Sht. 8, Rev. 3, in DCN DC1-EP-5060.

C. R. VanNatta 02/25/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 02/25/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

M. Baker 08/01/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/20/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0016A/0074Z-21]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 10-13-01-03

FIRE ZONE 3-BB LOCATION Penetration Areas FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 110', GE area, 10' from containment, 134°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-1042-2.50
Class I supports 15-30 SI, 575-188R. Pipe rupture restraint to line 1042 (#1042-R1).

TARGET: TARGET CODE: P-0746-3
Line 746-3", RCP Seal Insection.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Pipe is located 1/4" from these supports & rupture restraint. Contact from seismic and operating dynamic loads will occur.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify that clearances are adequate to accomodate seismic & dynamic movements. Provide additional clearance if/as required.

M. Jones 05/20/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Trim corner to provide 1-1/2" clearance between plate & conflicting 3" line 746. See DCN DCO-EC-5486 SK #1-1042-R1 and item #1 of the telephone call form OPGE (piping) to SFHO (Civil) Chron #030561 dated 08/31/83.

M. Michail
DISCIPLINE ENGINEER/DATE

A. Appleford 09/16/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

G. Zaharoff 02/10/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

SG 8/23/84

[0038A/0100Z-1]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 15-02-06-01

FIRE ZONE 3-8B LOCATION Penetration Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Adjacent to panel PM-87 ≈ 4" from containment wall at azimuth 160°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: F-LF-BOL
Battery operated light fixture and its assoc. power conduit.

TARGET: TARGET CODE: I-FT922
Inst. tubes to FT-922 (SI pump discharge).

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Light fixture mounting fails fixture pulls its conduit off the wall and conduit damages adjacent target inst. tubes.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Reroute conduit to preclude interaction or replace existing light fixture with qualified (seismic Class I) fixture.
Note: This IDS is a result of SIP review of DCN DC1-EE-17081.

S. Skochko 01/18/84
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Reroute conduit as shown to preclude postulated interaction (see ART 478). ART 478 has been superceded by ART 532. Resolved by modification.

C. Wong 05/23/84
DISCIPLINE ENGINEER/DATE

S. Kim 05/27/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS ENG GC HVAC I&C PSE NPO NAN

S. Skochko 06/08/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 06/25/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0006A/0066Z-61]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-58-05-02

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 109'-4"

LOCATION WITHIN FIRE ZONE:
Outside elev. 120' area GW north wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-28
Platform and railings.

TARGET: TARGET CODE: E-ICT062 ± ___
Conduits KT062, K5815.

POSTULATED INTERACTION: PHENOMENA CODE: CIVIL FAIL
Platform fails and impacts conduits.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of platform and railings.

G. Whorinski 06/09/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The platform has been seismically qualified by analysis, subject to modification per DCN DC1-EC-1285. See Calc. No. 03-58-05-02.

S. Gaballah 03/16/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 03/16/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

M. Baker 06/28/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/05/83
SIP PROJECT ENGINEER APPROVAL/DATE

S.G 8/8/84

[0009A/0070Z-24]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 05-08-01-01

FIRE ZONE 1-B LOCATION Containment FLOOR ELEVATION 110'-0"

LOCATION WITHIN FIRE ZONE:
Azimuth 200° between steam generator 1-4 and crane wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3847-6
Line No. 3847-6".
(RHR pp 1-2 INJ. cold leg 4)

TARGET: TARGET CODE: M-FCV763
FCV-763 (operator), SG blowdown 1-4 isolation valve.

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE & DEFLECT
Insulation on line No. 3847 is in contact with FCV-763, relative movement could damage the operator on FCV-763.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Rework insulation on line 3847 as required to allow relative movement by providing 1" air gap between insulation and valve operator.
Note: This interaction is a result of final sip area walkdown.

S. L. Harris 09/28/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Insulation on line #3847 reworked to provide 1" clearance around the operator on FCV-763. (Per ART 453.)

C. R. VanNatta 10/10/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 10/10/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 11/29/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0032A/0074Z-13]

SW

DIABLO CANYON NUCLEAR POWER PLANT

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

Please find attached a revision to the Seismically Induced Systems Interaction Program Final Report. Instructions for updating your report are as follows:

DELETE	INSERT
Attachment 7-B (in its entirety)	New Attachment 7-B

Dated 9/17/84

ATTACHMENT 7-B

TO THE PGandE

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

SCREENING OF MODIFICATIONS:

100% SAMPLE OF REMAINING MODIFICATIONS (N)

This attachment contains all the SISIP modifications that have not been previously screened in the "Expedient" and "Overlapping" categories in accordance with the description contained in Chapter 9.

This information is provided at the request of the NRC. It represents the judgment of engineers regarding the type of modifications considered not to meet the screening criteria of Chapter 9.

Revision dated 9/17/84

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-12-02-01

FIRE ZONE 3-BB LOCATION Penetration Areas FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
Auxiliary building near 224° containment, elev. 113'.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-3BB
2-1/2" fire line.

TARGET: TARGET CODE: E-K5755-0.75
K5755.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Fire line falls due to being supported by rod hangers only.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Show by simplified analysis analysis that conduit will not be jeopardized.

G. Whorisky 05/08/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
See IDS No. 25-185-02-02.

C. R. VanNatta 04/27/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 08/04/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

M. Baker 06/28/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/23/83
SIP PROJECT ENGINEER APPROVAL/DATE

SW

[0033A/0083Z-15]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-12-02-02

FIRE ZONE 5-A-3 LOCATION Electrical Rooms FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 100', DC switchgear room 1-3.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FE
Fire extinguisher FE-A115 02-12.

TARGET: TARGET CODE: E-HNJB
HNJB (cable tray).

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE & MECHFAIL
Extinguisher could fall from its mounting and impact HNJB.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure stability of extinguisher by providing mechanism to keep canister on station mount.

P. Anderson 06/05/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
G.C. has been instructed to provide positive quick-release restraint to the fire extinguisher per ART 375.

DISCIPLINE ENGINEER/DATE

J. A. Longworth
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 11/02/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

A.J.E. 8/28/84

[0039A/0101Z-15]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-12-02-03

FIRE ZONE 3-BB LOCATION Penetration Areas FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 110', near col. J & 15.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-3BB
Fire protection piping.

TARGET: TARGET CODE: E-K5755+
K5755 and KK585.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Fire protection piping falls due to failure of fixed-end rod hangers.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Replace fixed-end rod hangers with clevis-end types.

P. Anderson 06/09/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
See IDs No. 25-185-02-02.

C. R. VanNatta 04/27/83
DISCIPLINE ENGINEER/DATE

J. A. Longworth 04/29/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

M. Baker 06/28/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/05/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0014A/0079Z-1]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-12-05-03

FIRE ZONE 3-Q-2 LOCATION Safety Related Pump FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 100, (T-U, 15-15^2), 11' above the floor

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-ULB-3Q2
2" copper line 1431 and 4" service air line. Both lines run 14" from the 15^2 wall.

TARGET: TARGET CODE: E-KK793-0.75
Conduit KK 793-3/4"

POSTULATED INTERACTION: PHENOMENA CODE: deflect
The two lines impact the conduit 1/4" away due to seismic movement.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Secure both lines to the existing support with U bolts. The support is 166" west of the U column line and 25" west of the wall between T and U.

E. Denison 07/08/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Add seismic stop by generic DCN-DC1-EP-5061-PRO HGR. DWG. 049339 sht. 331

C. R. Van Natta 07/29/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 07/29/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

Lee Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

GW

[0002A/0055Z-9]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 02-03-02-04

FIRE ZONE 28 LOCATION Outside Area FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
EL 105', 4' from containment wall, azimuth 20°

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-1743-16
Gland steam and air ejector to plant vent 16" line.

TARGET: TARGET CODE: E-K5865-1.25
Conduit K5865-1 1/4.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Pipe clamp for source line impacts conduit and damages conduit. Clearance is 0".

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Relocate pipe clamp hanger east approx. 3'-0" to next available support location.

S. E. Traisman 06/30/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Recommended resolution - OK. See DCN-DC1-EP-5062, HGR. DWG. 049306-7/5R, SHT #7.

C. R. VanNatta 07/21/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 07/21/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 11/02/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

Sw

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-01-01-02

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 105, under MS loop 1, near containment wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3433-1.50
Line 3433-1 1/2"; steam lead 1 drain.

TARGET: TARGET CODE: I-PT514
Instrument tubing to PT-514.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral movement of line 3433 results in impact with tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add lateral restraint to line 3433 to preclude contact.

M. Jones 06/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added & modified pipe supports. See pipe support Dwg. No. 44-4 Rev. 3 and hanger dwg. 049315 sht. 380 on generic DCN DC1-UP-5061-PRO & 049308 sht. 160 on generic DCN DC1-EP-5060.

C. R. VanNatta 05/13/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 05/13/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EM ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 10/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0029A/0086Z-1]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-01-02-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
ELEV. 85, under MS Loops 1,2 along containment wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3103-2
Line 3103 - 2"; fan heating coil trap drain header

TARGET: TARGET CODE: I-PM103
Mechanical panel 103 and attached tubing

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
Line 3103 falls on mechanical panel due to lack of vertical support and failure of threaded couplings.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install additional pipe supports as required to preclude falling of pipe.

M. Jones 06/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added and modified supports per ART 149 and Cloud Res. RPT. 20..

J. A. Ante 05/12/81
DISCIPLINE ENGINEER/DATE

S. Chitnis
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/24/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/08/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-02-01-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
ELEV. 105, under MS Loop 1, near containment

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3433-1.50
Line 3433 - 1-1/2"; steam lead 1 drain

TARGET: TARGET CODE: I-PT515
Instrument tubing to PT-515

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral movement of line 3433 results in impact with tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add lateral restraint to line 3433 to preclude contact.

M. G. Jones 06/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
See IDS #03-01-01-02.

C. R. Van Natta 05/13/83
DISCIPLINE ENGINEER/DATE

J. A. Longworth 05/13/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 10/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-02-02-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
ELEV. 85, under MS Loops 1,2 along containment wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3103-2
Line 3103-2"; fan heating coil trap drain header

TARGET: TARGET CODE: I-PM107
Mechanical panel 107 and attached tubing.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
Line 3103 falls on mechanical panel due to lack of vertical support and failure of threaded couplings.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install additional pipe supports as required to preclude falling of pipe.

M. G. Jones 06/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added supports - See IDS #03-01-02-01.

J. A. Ante 05/12/81
DISCIPLINE ENGINEER/DATE

S. Chitnis
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/24/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/08/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0021A/0061Z-31]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-03-01-01

FIRE ZONE 28 LOCATION Outside Area FLOOR ELEVATION 85'-0

LOCATION WITHIN FIRE ZONE:
Elev. 105, under MS loop 1, near containment wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3433-1.50
Line 3433-1 1/2"; steam lead 1 drain.

TARGET: TARGET CODE: I-PT516
Instrument tubing to PT-516.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral movement of line 3433 results in impact with tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add lateral restraint to line 3433 to preclude contact.

M. Jones 06/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
See IDS #03-01-01-02.

C. R. VanNatta 05/13/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 05/13/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 10/20/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0029A/0086Z-2]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-03-02-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 85, under MS Loops 1,2 along containment wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3103-2
Line 3103-2"; fan heating coil trap drain header

TARGET: TARGET CODE: I-PM111
,Mechanical panel 111 and attached tubing

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
Line 3103 falls on mechanical panel due to lack of vertical support and failure of threaded couplings.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install additional pipe supports as required to preclude falling of pipe.

M. Jones 06/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added supports - See IDS #03-01-02-01.

J. A. Ante 05/12/81
DISCIPLINE ENGINEER/DATE

S. Chitnis
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/24/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/08/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0021A/0061Z-32]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-04-02-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 85, under MS Lead 1,2 along containment wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3103-2
Line 3103-2"; fan heating coil trap drain header

TARGET: TARGET CODE: I-PM104
Mechanical panel 104 and attached tubing.

POSTULATED INTERACTION: PHENOMENA CODE: PIPEFAIL
Line 3103 falls on mechanical panel due to lack of vertical support and failure of threaded couplings.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install additional pipe supports as required to preclude falling of pipe.

M. G. Jones 06/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added supports - See IDS #03-01-02-01.

J. A. Ante 05/12/81
DISCIPLINE ENGINEER/DATE

S. Chitnis
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/24/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/08/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-05-02-01

FIRE ZONE 28-- LOCATION Outside Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 85, under MS Lead 1,2 along containment wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3103-2
Line 3103-2"; fan heating coil trap drain header

TARGET: TARGET CODE: I-PM108
Mechanical panel 108 and attached tubing

POSTULATED INTERACTION: PHENOMENA CODE: PIPEFAIL
Line 3103 falls on mechanical panel due to lack of vertical support and failure of threaded couplings.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install additional pipe supports as required to preclude falling of pipe.

M. Jones 06/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added supports - See IDS #03-01-02-01.

J. A. Ante 05/12/81
DISCIPLINE ENGINEER/DATE

S. Chitnis
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/24/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/08/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-06-02-02

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 85, under MS leads 1,2 along containment wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3103-2
Line 3103-2"; fan heating coil trap drain header

TARGET: TARGET CODE: I-PM112
Mechanical panel 112 and attached tubing

POSTULATED INTERACTION: PHENOMENA CODE: PIPEFAIL
Line 3103 falls on ;mechanical panel due to lack of vertical support and failure of threaded couplings.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install additional pipe supports as required to preclude falling of pipe.

M. G. Jones 06/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added and modified supports. See IDS No. 03-01-02-01.

J. A. Ante 05/12/81
DISCIPLINE ENGINEER/DATE

S. Chitnis
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/24/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/08/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-18-07-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION

LOCATION WITHIN FIRE ZONE:
Elev. 117', east end of pipe rack NR STM lead 1-2 MS.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FCV25
MSIV FCV-42 actuator.

TARGET: TARGET CODE: E-FCV42
Terminal box to MSIV FCV-42.

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERF/DEFLECT
Seismic motion of main STM line 1-2 could result in actuator for MSIV FCV-42 impacting terminal box support and damaging terminal box. Terminal box is rigidly supported to adjacent structural steel, while main steam is not (althogh it is snubbed in the immediate area). Existing clearance approx. 3/8"

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Cut away a portion of unistrut support for terminal box to provide 2" clear clearance between terminal box and actuator.

S. E. Traisman 06/30/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
As recommended above, cut away a portion of unistrut support for terminal box to provide 2" clearance between terminal box and actuator. See ART 329.

AGB

Peter P. Chu 11/17/82
DISCIPLINE ENGINEER/DATE

G. C. Bhatt 11/17/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [FE] EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 10/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-20-07-04

FIRE ZONE 3-8B LOCATION Penetration Areas FLOOR ELEVATION 115'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 115, below main steam FCV 22.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-4347-3
L4347-3"

TARGET: TARGET CODE: E-K6702-1
K6702.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
4347-3" swings due to being supported by clevis rod hangers. impacts K6702.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Demonstrate by simplified analysis that integrity of conduit will not be compromised..

G. Whorisky 05/08/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Rerouted the conduit per ART-222. See RLCA Resolution Report #33.

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0014A/0079Z-5]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-20-07-06

FIRE ZONE 3-BB LOCATION Penetration Areas FLOOR ELEVATION 115'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 115, Area GW FCV 22.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-4072-3
SGBO to SGBD demins L4072, 5' diameter.

TARGET: TARGET CODE: E-K6702-1
K6702.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Horizontal pipe, already touching vertical K6702, will swing through conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of the conduit or locally reroute K6702 along a nearby column.

E. Denison 06/08/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
See ART 222, Res. Rpt 33.

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0014A/0079Z-6]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-30-01-02

FIRE ZONE 1-C LOCATION Containment FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 160', around steam generator 1-1.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-1C
Kick plate and platform grating.

TARGET: TARGET CODE: I-LT517
Instrument tap & root valve to LT-517.

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE
Steam generator thermal and/or seismic movements could result in platform structure and kick plate impacting instrument tap and root valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
1. Provide additional clearance between platform, etc. and instrument tap.
2. Ensure integrity of platform, etc. by simplified analysis.

M. Jones 04/01/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Existing clearance is adequate by analysis also platform is seismically qualified subject to modification per DCN DC1-EC-3897. See Calc. No. 03-30-01-02.

S. Hanusiak 01/21/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 01/22/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

M. Baker 06/28/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

SG 8/8/84

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-38-01-03

FIRE ZONE 1-A LOCATION Containment FLOOR ELEVATION 117'

LOCATION WITHIN FIRE ZONE:
Elev. 121 at missile barrier, 16°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-TL17
lighting transformer TL-17.

TARGET: TARGET CODE: I-LT527
Instrument tubing to LT-527.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Transformer overturns, impacts tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure by analysis that transformer will not overturn.

M. G. Jones 12/03/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Bracing provided per ART 282 to prevent overturning. Resolved by modification.

ACB

A. G. Barta 01/18/82
DISCIPLINE ENGINEER/DATE

S. Auer 08/23/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 02/16/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-49-01-04

FIRE ZONE 1-C LOCATION Containment FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 160'-0" around steam generator 1-4.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-1C
Structural platform, railings and grates.

TARGET: TARGET CODE: I-PX11
Instrument tap and tubing from steam generator 1-4 to PX-11.

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE & DEFLECT
Motion of steam generator and/or platform results in contact between instrument tap and platform.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify that existing clearance between platform and instrument tap is adequate to preclude contact. Provide additional clearance if/as required.

M. Jones 07/16/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Existing clearance is adequate by analysis also - platform qualified by analysis. Subject to modification per DCN DC1-EC-5010. See Calc. No. 03-49-01-04 and resolution sheet.

S. Hanusiak 01/21/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 01/22/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

M. Baker 06/28/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 3/9/84

[0038A/01007-29]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-53-02-01

FIRE ZONE 1-C LOCATION Containment FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 140, 325°, along containment wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3256-2
1-1/2" line along containment wall, vertical run line 3256 (auxiliary steam line for tritium control).

TARGET: TARGET CODE: I-FE512
MS line 1-1 flow element FE 512.

POSTULATED INTERACTION: PHENOMENA CODE: PIPEFAIL
Pipe falls due to lack of vertical support, impacts FE 512.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install additional support or seismic stops to line 3256 to preclude falling.

M. Jones 04/01/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Refer to IDS 25-127-02-02.

C. R. VanNatta 05/13/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 05/13/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0014A/0079Z-11]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-55-01-02

FIRE ZONE 1C LOCATION Containment FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 180, top of steam generator 1-4.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-1C
Platform railing.

TARGET: TARGET CODE: I-VALVE
Root valve to N_2 connection to main steam loop 4.

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE & DEFLECT
Railing contacts root valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Cut railing away from root valve.

M. Jones 07/16/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Cut-out provided as recommended. See ART 278.

S. Hanusiak 02/03/81
DISCIPLINE ENGINEER/DATE

E. Wollak 02/19/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

M. Jones 04/28/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/16/84

[0031A/0084Z-12]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 05-28-03-01

FIRE ZONE 3-BB LOCATION Penetration Area FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 100", GF area, near penetration 37, 131°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: PS-1040-2.50
Tension rods to pipe whip restraint to line 1040, support node 648-R4.

TARGET: TARGET CODE: I-FCV250
Air supply tubing to valve FCV-250.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral movement of tension rods causes impact with tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add shield bracket to column 9 to protect tubing from impact.

M. Jones 05/20/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Instrument line rerouted per ART 272.

E. M. Valeriano
DISCIPLINE ENGINEER/DATE

G. H. Moore 07/10/80
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC [I&C] PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/29/82
SIP PROJECT ENGINEER APPROVAL/DATE

[00396/01017-42]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-01-07

FIRE ZONE IC LOCATION Containment FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elevation 211, top of polar crane

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: NS-CD
Misc. equipment (fire extinguishers, battery charger, etc.)

TARGET: TARGET CODE: M-CRDM
Reactor vessel and CRDM

POSTULATED INTERACTION: PHENOMENA CODE: HOUSEKEEP
Equipment falls from crane, impacts CRDM

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Remove equipment before start-up.

M.G. Jones 3/3/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Equipment removed as of 6/23/83.

DWS 8/8/84
DISCIPLINE ENGINEER/DATE

J.D. Townsend
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 11/29/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 1/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

DWS 6/20/84

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-01-08

FIRE ZONE 1-C LOCATION Containment FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Hydraulic fluid tank to dome service crane.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-TANK
Hydraulic fluid tank to dome service crane.

TARGET: TARGET CODE: M-CRDM
Reactor vessel & CRDM.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Tank overturns, falls from crane, impacts CRDM. Fluid spills onto CRDM resulting in fire.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of tank by analysis. Provide additional supports if/as required.

M. Jones 03/03/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
source component was seismically qualified by anlysis. Subject to modifications shown on DCN NO. SC1-EC-5349.

S. Gaballah 02/24/83
DISCIPLINE ENGINEER/DATE

B Sarkar 02/28/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

M. Baker 06/28/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/05/83
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/15/84

[0031A/0084Z-17]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-04-01

FIRE ZONE 1-B LOCATION Containment FLOOR ELEVATION 112'-1 1/2"

LOCATION WITHIN FIRE ZONE:
Elev. 112', in seal table room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-5-10PATH
5-path and 10-path drive assemblies over seal table.

TARGET: TARGET CODE: I-FLUX MON
Incore flux monitoring tubing.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Drive assemblies fall upon tubes.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of drive assembly mountings and the mounting of the individual drive assembly components by simplified analysis. Secure 10-path drive assembly trolley to the I-beam.

M. G. Jones 03/17/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modification provided per DCN #DCI-E-M-5332.

T. P. Lee 07/07/83
DISCIPLINE ENGINEER/DATE

E. Connell III 07/07/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 07/03/84
SIP PROJECT ENGINEER APPROVAL/DATE

D.J.E. 8/21/84

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-04-06

FIRE ZONE 1-B LOCATION Containment FLOOR ELEVATION 117'-0"

LOCATION WITHIN FIRE ZONE:
Incore seal table room, elev. 112', azimuth 270°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-72FG
Platform 72FG, elev. 125'.

TARGET: TARGET CODE: I-FLUX MON
Seal table.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Platform fails, falls onto target.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of platform by simplified analysis.

S. E. Traisman 09/29/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modification per ART No. 319 to be added to prevent postulated interaction. See resolution sheet and Calc. No. 06-01-04-06.

S. Gaballah 10/28/82
DISCIPLINE ENGINEER/DATE

B. Sarkar 10/28/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/24/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

S.G. 9/12/84

L. W. Horn 09/08/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-04-07

FIRE ZONE 1-B LOCATION Containment FLOOR ELEVATION 73'-0"

LOCATION WITHIN FIRE ZONE:
Bottom of reactor pit at elev. 64'.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: I-ELPP06
Loose parts pinger No. ELPP06 attached to flux monitoring tubes.

TARGET: TARGET CODE: I-FLUX MON
Incore flux monitoring tubes (part of RCS pressure boundary).

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Loose parts pinger mounted on a 39" x 4" x 3/4" stainless steel plate. Plate is supported off of two incore flux monitoring tubes. Seismic excitation of apparatus mounted on flux monitoring tubes damages flux monitoring tubes or apparatus mounting fails and impacts flux monitoring tubes.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify by analysis that the present configuration, (i.e.; loose parts pinger and stainless steel mounting plate mounted on two incore flux monitoring tubes) is qualified. Note: This IDS is being resolved via DC1-EM-13006 (06/23/83).

S. Sckochko 07/19/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
DC1-EM-13006-RO, requests that the loose parts pinger ELPP06 be removed from the flux monitoring tubes which precludes the interaction.

S. Skochko 08/18/83
DISCIPLINE ENGINEER/DATE

J. Meierdierks 08/18/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC [I&C] PSE NPO NAN

S. F. Traisman 11/02/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-05-27-01

FIRE ZONE 1-B LOCATION Containment FLOOR ELEVATION 104'-7"

LOCATION WITHIN FIRE ZONE:
Elev. 108, between SG1-4 and RCP.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-4398-2
3x3 angle bracket of pipe support SI/57R.

TARGET: TARGET CODE: P-1158-3
Line 1158-3"; loop 4 RTD return

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE
Thermal/seismic movement of line 1158 results in impact with pipe support. Existing pipe support to insulation of line 1158 - 3/8".

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify by analysis that impact will not occur or that impact is insufficient to damage line 1158.

M. Jones 02/24/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Relocated pipe & L 3"x3" x 3/8" -0'-8 3/4" LG per hanger DWG No. 049339 Sht. 96, Rev. 2 by DCN DC1-EP-3606.

C. R. VanNatta 01/10/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 01/25/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

M. Baker 06/28/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/30/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0032A/0074Z-15]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-27-02-02

FIRE ZONE 3-BB LOCATION Penetration Area FLOOR ELEVATION 115'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 115', area GW, SW corner and hand 15.6.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-3BB
Fire line 3" diameter.

TARGET: TARGET CODE: E-KT064+
KT064, K6454.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Fire line fails due to fixed end rod hangers.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Replace fixed end rod hangers with clevis hangers and include lateral supports as required.

B. Worinskey 06/08/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added pipe supports. See pipe support DWG No. SPR-723, Rev. 1 & 724, Rev 1 reflects "as-built" condition.

DISCIPLINE ENGINEER/DATE

J. Longworth 04/29/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

M. Baker 08/01/81
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/05/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0013A/0081Z-2]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-59-27-01

FIRE ZONE 1-B LOCATION Containment FLOOR ELEVATION 112'-1 1/2"

LOCATION WITHIN FIRE ZONE:
Elev. 112', in seal table room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-5-10PATH
5-path and 10-path drive assemblies over seal table.

TARGET: TARGET CODE: I-RVLIS
Sensor bellows.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Drive assemblies fail, fall upon bellows.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of drive assembly mountings and the mounting of the individual drive assembly components by simplified analysis. Secure 10-path drive assembly trolley to the I-beam.

M. G. Jones 03/10/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modification provided per DCN #DCI-E-M-5332. See IDS 06-01-04-01 for modification package.

T. P. Lee 07/07/83
DISCIPLINE ENGINEER/DATE

E. Connell III 07/07/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

D.J.E. 8/21/84

[0034A/0085Z-8]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-59-36-01

FIRE ZONE 1-B LOCATION Containment FLOOR ELEVATION 112'-1 1/2"

LOCATION WITHIN FIRE ZONE:
Elev. 112', in seal table room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: -- SOURCE CODE: M-5-10PATH
5-path and 10-path drive assemblies over seal table.

TARGET: -- TARGET CODE: I-RVLIS
3/8" tubing form seal table to 3/4" manual valve.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Drive assemblies fail, fall upon valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of drive assembly mountings and the mounting of the individual drive assembly components by simplified analysis. Secure 10-path drive assembly trolley to the I-beam.

M. G. Jones 03/10/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modification provided per DCN #DCI-E-M-5332. See IDS 06-01-04-01 for modification package.

T. P. Lee 07/07/83
DISCIPLINE ENGINEER/DATE

E. Connell III 07/07/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE
D.J.E. 8/21/84

[0034A/0085Z-10]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-59-38-01

FIRE ZONE 1-B LOCATION Containment FLOOR ELEVATION 112'-1 1/2"

LOCATION WITHIN FIRE ZONE:
Elev. 112', in seal table room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-5-10PATH
5-path and 10-path drive assemblies over seal table.

TARGET: TARGET CODE: M-RVLIS
3/4" manual valve.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Drive assemblies fail, fall upon valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of drive assembly mountings and the mounting of the individual drive assembly components by simplified analysis. Secure 10-path drive assembly trolley to the I-beam.

M. G. Jones 03/10/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modification provided per DCN #DCI-E-M-5332. See IDS 06-01-04-01 for modification package.

T. P. Lee 07/07/83
DISCIPLINE ENGINEER/DATE

E. Connell III 07/07/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

J.J.E. 8/28/84

[0039A/0101Z-18]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-60-22-01

FIRE ZONE 1-B LOCATION Containment FLOOR ELEVATION 112'-1 1/2"

LOCATION WITHIN FIRE ZONE:
Elev. 112', in seal table room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-5-10PATH
5-path and 10-path drive assemblies over seal table.

TARGET: TARGET CODE: I-RVLIS
Sensor bellows.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Drive assemblies fail, fall upon bellows.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of drive assembly mountings and the mounting of the individual drive assembly components by simplified analysis. Secure 10-path drive assembly trolley to the I-beam.

M. G. Jones 03/10/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modification provided per DCN #DCI-E-M-5332. See IDS 06-01-04-01 for modification package.

T. P. Lee 07/07/83
DISCIPLINE ENGINEER/DATE

E. Connell III 07/07/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE
D.J.E. 8/21/84

[0034A/0085Z-15]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 10-13-03-03

FIRE ZONE 1-A LOCATION Containment FLOOR ELEVATION 91'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 91, near containment wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SA-1A
3" service air header.

TARGET: TARGET CODE: P-1500-0.75
3/4" line 1500 seal water bypass return header.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
3" service air header moves horizonatally, impacts line 150 near snubber 22-142-S1.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add U-bolt clamps to supports 40-48R and 40-50R to preclude lateral movement of 3' service air header.

M. Jones 04/08/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Pipe supports added per RLCA Resolution Report No. 6 Rev. A & ART 10 except bilats added in lieu of anchors. One additional bilat added near contact point judged to be adequate. 02/25/82.

P. H. Anderson 01/14/81
DISCIPLINE ENGINEER/DATE

J. A. Ante
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

M. Jones 02/25/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

SW

[0040A/0106Z-54]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 10-13-03-07

FIRE ZONE 1-A LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
Elev. 101, 320°, near containment wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3209-12
Line 3209-12", CFC 103 drain to sump.

TARGET: TARGET CODE: P-1499-0.75
Line 1499-3/4"; seal water bypass return header.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral deflection of line 3209 results in impact with line 1499. Current clearance between pipes is approx. 1/8".

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Determine deflection of line 3209. Provide additional restraints if/as required.

M. G. Jones 02/25/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Line 1-S6-1499-3/4" has been rerouted.
Per DCN DC1-E-P-9043. As shown on attached Iso mark-ups. See HGR. 339/281R, Dwg. No. 049339 per generic DCN-DC1-5060-PRO.

B. Abella 03/22/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 03/22/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 10/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0040A/01067-55]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 10-15-01-01

FIRE ZONE 1-A LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
Azimuth 210°, adjacent to missile barrier.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-1043-2.5
Hanger support for line K-1043-2 1/2" (S. G. 1-4 blowdown).

TARGET: TARGET CODE: P-1490-0.75
S6-1490-3/4", RCP 4 seal 1 flow element In.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Existing clearance between target line and support attachment to line K-1043-2 1/2" is 1 1/4". Thermal growth of line K-1043-2 1/2" radially outward (longitudinal), coupled with seismic excitation causes line S6-1490-3/4 to be impacted by source hanger.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify by engineering evaluation that thermal growth coupled with seismic motion of line K-1043-2 1/2" does not exceed existing clearance. Alternatively, relocate source hanger to preclude interaction.

S. Chestnut 09/15/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modified pipe support per DCN DC1-EP-5060, HGR DWG. 049263-57N/136V, Rev. 5.

C. R. VanNatta 10/13/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 10/13/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 11/29/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

SW

[0040A/0106Z-56]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 11-07-05-01

FIRE ZONE 5-A-3 LOCATION Electrical Rooms FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
DC switchgear room 1-3, elev. 115'-0.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FE
Fire Station 250

TARGET: TARGET CODE: E-GNJA
GNJA (cable tray)

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Entire fire station could fall and impact tray.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure stability of mobile fire station or provide more distance to GNJA.

Edward Dennison 06/05/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Fire station 250 with fire extinguisher is for construction and will be removed per ART 373. See IDS 01-19-02-07 file for ART 373.

J. Haake 05/02/83
DISCIPLINE ENGINEER/DATE

J. Longworth 05/03/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE
D.J.E. 8/21/84

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 11-07-05-02

FIRE ZONE 5-A-3 LOCATION Electrical Rooms FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 115, DC switchgear room 1-3.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FF
Extinguisher on fire station 250.

TARGET: TARGET CODE: E-GNJA
GNJA (cable tray)

POSTULATED INTERACTION: PHENOMENA CODE: LOOSF
Extinguisher falls and impacts tray.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure stability of fire extinguisher by providing mechanism to keep cannister on the fire station mount.

F. Dennison 01/05/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Fire station 250 with fire extinguisher is for construction and will be removed per ART 373. See IDS 01-19-02-07 file for ART 373.

J. Haake 05/02/83
DISCIPLINE ENGINEER/DATE

J. Longworth 05/03/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

S. F. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 06/12/84
SIP PROJECT ENGINEER APPROVAL/DATE
A.J.S. 8/31/84

[0039A/0101Z-25]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 11-07-05-05

FIRE ZONE 12-B LOCATION Electrical Rooms FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
El. 112' east end of G bus 4 kv cable spr. room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-BUSDUCT
Distribution bus duct from standby startup transformer to vital 4.16 KV swgr.

TARGET: TARGET CODE: E-GDA
Cable tray GDA

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Failure of bus duct fixed end rod hangers causes bus duct to fall onto target. NOTE: bus duct running through 4KV swgr above has seismic supports.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add supports to bus duct as required to eliminate interaction.

S. E. Traisman 07/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Install additional support to bus duct per DCN #DCI-5-E-11493 Rev.0.

AGB
7/19/84

N. Barangan 07/13/83
DISCIPLINE ENGINEER/DATE

C. Kahl 07/15/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 12/20/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 13-10-01-05

FIRE ZONE 3-AA LOCATION Aux/Fuel Handling FLOOR ELEVATION 115'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 115', near BA storage tank 1-2.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-TANK
Boric acid batch tank.

TARGET: TARGET CODE: M-BAT1-2
Boric acid batch tank.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Batch tank overturns, impacts storage tank, etc.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure that batch tank will not overturn (by analysis).

M. Jones 12/17/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Support legs of tank and pedestal have to modified as shown in DCN DC1-SC-13454.
See Calc. No. 13-10-01-05.

N. Makam 07/28/83
DISCIPLINE ENGINEER/DATE

F. Morsy 07/28/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 01/19/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/15/84

[0031A/0084Z-47]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 15-15-02-03

FIRE ZONE 3-BB LOCATION Penetration Area FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
9' east of col-L, 15' north of 15[7], area GW.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-1750-8
Line K-1750-8", Aux. Steam Supply HDR.

TARGET: TARGET CODE: E-K6482-1.25
Conduit K6482-1 1/4 (orange) power to valve 8802A between SI PPS and RCS loops 1 and 2.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Source line is supported for dead weight loads with trapeze type hanger which provide little resistance to lateral loads. Lateral motion of line K-1750-8 results in impact with target conduit existing clearance is 3 1/4".

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify that the deflection of source line is less than existing clearance at interaction points. If necessary provide seismic stop to prevent source line from impacting target. Alternatively, locally reroute conduit and coord with IDS. No. 18-01-17-01.

S. Chesnut 02/22/84
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
DC1-SP-19828 (support 339-401R) was issued to resolve this interaction.
(IDS 18-01-17-03 was called out on both drawings, however by mistake)

E. G. Green 04/14/84
DISCIPLINE ENGINEER/DATE

K. M. Krause 04/16/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Skochko 06/01/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 06/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0040A/0106Z-61]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-14-01-03

FIRE ZONE 14-E LOCATION Turbine Bldg FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
CCW HX room, elev. 95.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-14E
Firewater system has not been upgraded to Class I in this room.

TARGET: TARGET CODE: M-CCWHX
CCW heat exchanger.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Firewater piping falls on CCW heat exchangers and associated pipe & instruments.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Upgrade firewater piping in this room to seismic Class I, if required.

M. Jones 05/07/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The firewater system has been analysed by ME-101. The list of HGRS were either added or modified per DWG 049339. Reference analysis FP-339.

R. Hare 12/02/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 12/02/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

CHECKED AUG 09 1984

[0014A/0079Z-23] OK

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-19-01-02

FIRE ZONE 14-A LOCATION Turbine Bldg. FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Chamber containing CCW headers, elev. 85.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-ULB-14A
Overhead 4" cast iron pipe, clamp coupled, rod supported.

TARGET: TARGET CODE: P-0103-20
24" CCW supply header, line 103.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
Cast iron pipe fails, falls on instrument taps to CCW header, shearing taps.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
1. Verify that guillotine break of (2) 3/4" taps (stainless tubing) does not compromise system operation.
OR
2. Add additional supports to cast iron line to preclude failure.

M. Jones 05/06/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
See IDS 20-20-01-01.

C. R. VanNatta 01/13/83
DISCIPLINE ENGINEER/DATE

J. A. Longworth 01/14/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

SW

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-20-01-01

FIRE ZONE 14-A LOCATION Turbine Building FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Chamber containing CCW headers, Elev. 85.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-ULB-14A
Overhead 4" cast iron pipe, clamp coupled, rod supported.

TARGET: TARGET CODE: P-0104-20
24" CCW supply header, 104.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
Cast iron pipe fails, falls on instrument taps to CCW header, shearing taps.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
1. Verify that guillotine break of (2) 3/4" taps (stainless tubing) does not compromise system operation.
-or-
2. Add additional supports to cast iron line to preclude failure.

M. Jones 05/06/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Add & modify supports per hanger Dwg. SK-339-239R by DCN DC1-EP-5336.

C. R. VanNatta 01/13/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 01/14/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

SW

[0039A/01017-36]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-21-01-01

FIRE ZONE 14-A LOCATION Turbine Building FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Chamber containing CCW headers. Elev. 85'.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-ULB-14A
Overhead 4" cast iron pipe, clamp coupled, rod supported.

TARGET: TARGET CODE: P-2277-20
24" CCW supply header, line 2277

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
Cast iron pipe falls on instrument taps to CCW header, shearing taps.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

1. Verify that guillotine break of (2) 3/4" taps (stainless tubing) does not compromise system operation.

-or-

2. Add additional supports to cast iron line to preclude failure.

M. Jones 05/06/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
See IDS. No. 20-20-01-01.

C. R. VanNatta 01/13/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 01/14/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 08/18/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

SW

[0039A/0101Z-37]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-81-01-01

FIRE ZONE 28 LOCATION Outside Area FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 140', near SG blowdown tank, col 12^9 and T.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-TANK
SG blowdown tank, steel platforms (Class II).

TARGET: TARGET CODE: P-2402-1
Line 2402-1" blue.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFATL
Class II tank tips over, Class II platforms fall, hitting line 2402.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
By analysis, ensure stability of tank and platforms.

P. Anderson 06/18/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
1. Platforms: No. 25GE to be removed, see DCN DC1-EC-5292.
No. 26GE is seismically qualified. See
Calc. No. 20-81-01-01.

2. Tank is seismically qualified, subject to modification per DC1-EC-5260.

S. Gaballah 12/18/82
DISCIPLINE ENGINEER/DATE

B. Sarkar 12/22/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/24/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/09/83
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 3/5/84

[0022A/00777-13]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-81-09-01

FIRE ZONE 28 LOCATION Outside Area FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 140', near SG blowdown tank 1-1, col. 12^9 and 7.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-TANK
SG blowdown tank, steel platforms (Class II).

TARGET: TARGET CODE: P-2043-1
Line 2403-1" blue.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Class II tank tips over, Class II platforms fall, hitting the target line 2403.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
By analysis, ensure stability of tank and platforms.

P. Anderson 06/18/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
1. Tank supports are seismically qualified, subject to modification per DCN No. DC1-EC-5260.
2. Platforms: No. 26GE has been seismically qualified per Calc. No. 20-81-01-01. 25 GE to be removed. See DCN No. DC1-EC-5292.

S. Gaballah 02/07/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 02/07/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/18/83
FIELD VERIFICATION BY WALKDOWN TEAM

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

SG 8/8/84

[0009A/0070Z-25]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 22-03-02-02

FIRE ZONE 30-A-5 LOCATION Intake Structure FLOOR ELEVATION -2'-1.25"

LOCATION WITHIN FIRE ZONE:
Elevation -2, mid-room near east wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-0677-16
Line 677-16"; screen wash supply to SCW HX, cast iron pipe

TARGET: TARGET CODE: P-0687-24
Line 687-24"; auxiliary saltwater pump 1-1 discharge

POSTULATED INTERACTION: PHENOMENA CODE: Pipefail
Line 677 falls, impacts line 687

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of line 677

M. Jones 10/29/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added pipe support per DCN-DC1-EP-5061-HGR. DWG. 049339-339/301R

C. R. Van Natta 10/10/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 10/10/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 06/15/84
SIP PROJECT ENGINEER APPROVAL/DATE

SW

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 22-09-02-03

FIRE ZONE 30-A-5 LOCATION Intake Structure FLOOR ELEVATION 2'-1.25"

LOCATION WITHIN FIRE ZONE:
Elevation -2, mid-room near east wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-0677-16
Line 677-16"; screen wash supply to SCW HX, cast iron pipe

TARGET: TARGET CODE: P-0687-24
Line 680-24"; auxiliary saltwater pump 1-2 discharge

POSTULATED INTERACTION: PHENOMENA CODE: Pipefail
Line 677 falls, impacts line 680

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of line 677, possibly by analysis

M. G. Jones 10/29/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
See IDS No. 22-03-02-02

C. R. Van Natta 10/10/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 10/10/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 23-50-01-02

FIRE ZONE 1-A LOCATION Containment FLOOR ELEVATION 117'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 130, near containment wall, 146°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-1A
Platform and ladder.

TARGET: TARGET CODE: P-0325-8
Line 325-8"; containment spray header A, drain connection.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral deflection of platform results in impact with drain connection.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add lateral brace to platform to reduce platform movement.
OR:
Verify that platform deflection is insufficient to cause contact.

M. Jones 07/22/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Lateral brace will be added and existing A307 bolts replaced with high strength bolts. See ART 292 and Calc. No. 23-50-01-02.

S. Hanusiak 01/28/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

M. Baker 08/02/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

S.G. 8/23/84

L. W. Horn 08/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0031A/0084Z-55]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-07-01-02

FIRE ZONE 11-A-1 LOCATION Diesel Generator FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 85', mid-room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-11A1
Overhead light fixtures (4).

TARGET: TARGET CODE: M-DG1-1
Diesel engine 1-1.

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Fixtures fall, impact engine and associated lube oil piping.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of fixture mount, possibly by analysis.

M. Jones 06/25/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Resolved by modification. See ART 455. Moved supports and fixtures to obtain necessary clearance.
AGB Note: This interaction has a common source with TDS 24-11-03-01 which was field verified during walkdown #63, 10/26/83 and 10/27/83.

S. R. Wang 08/10/83
DISCIPLINE ENGINEER/DATE

S. Auer 08/25/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [FE] EMS ENG GC HVAC I&C PSE NPO NAN

S. F. Traisman 07/13/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/01/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-07-06-03

FIRE ZONE 11-R-1 LOCATION Diesel Generator FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 85', mid-room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: F-LF-11R1
Overhead light fixtures (4).

TARGET: TARGET CODE: M-DGI-2
Diesel engine 1-2.

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Fixtures fall, impact engine and associated lube oil piping.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of fixture mount, possibly by analysis.

M. Jones 06/25/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Resolved by modification. See ART 455.
AGB Note: This interaction has a common source with TDS 24-12-03-01 which was field verified during walkdown No. 63. 10/26/83 - 10/27/83.

S. R. Wang 08/10/83
DISCIPLINE ENGINEER/DATE

S. Auer 08/25/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 07/13/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/01/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-07-16-01 Intercomp

FIRE ZONE 11-A-1 LOCATION Diesel Generator FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
· Elev. 85 DG Compartment

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-DOOR
Rolling Fire Doors between Diesel Engine Room and Radiator Room

TARGET: TARGET CODE: M-DG1-1
Diesel Generator 1-1

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL & ENVIRON
Closure of Rolling Fire Doors between Diesel - Gen Compartment (Fire Zone 11-A-1) and Radiator Compartment (Fire Zone 11-A-2) cuts off cooling air to Generator. Rolling Fire Doors held open by chains, open hooks, fusible links, and a weighted mechanical mechanism. Failure of any of these components will cause door(s) to close. Door closure not alarmed.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
(1) Verify integrity of chains, hooks, fusible links, and mechanism.
(2) Determine if Generator can tolerate one or both doors closed; if not, provide door closure annunciation in Control Room or modify rolling fire door door assemblies.

S. E. Traisman 08/05/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The postulated interaction has been investigated and modifications to the system have been issued under DCN. DC1-11899-A-0.

A. Vanek
DISCIPLINE ENGINEER/DATE

B. Sarkar 06/21/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 01/19/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

SG 8/5/84

[0002A/0053Z-10]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-07-17-01 Intercomp

FIRE ZONE 11-B-1 LOCATION Diesel Generator FLOOR ELEVATION 85-'0"

LOCATION WITHIN FIRE ZONE:
Eleve. 85 DG Compartment

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-Door
Rolling Fire Doors between Diesel Engine Room and Radiator Room

TARGET: TARGET CODE: M-DG1-2
Diesel Generator 1-2

POSTULATED INTERACTION: PHENOMENA CODE: Mechfail & Environ
Closre of Rolling Fire Doors between Diesel-Gen Compartment (Fire Zone 11-B-1) and Radiator Compartment (Fire Zone 11-B-2) cuts off cooling air to Generator. Rolling Fire Doors held open by chains, open hooks, fusible links, and a weighted mechanical mechanism. Failure of any of these components will cause door(s) to close. Door closure not alarmed.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
(1) Verify integrity of chains, hooks, fusible links, and mechanism
(2) Determine if Generator can tolerate one or both doors closed; if not, provide closure annunciation in Control Room or modify rolling fire door and door assemblies.

S. E. Traisman 08/05/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The postulated interaction has been investigated and modifications to the system have been issued under DCN DC1-11899-A-0.

A. Vanek
DISCIPLINE ENGINEER/DATE

B. Sarkar 06/21/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 01/19/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

Lee Horn 01/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0002A/0053Z-25]

SG 8/5/18 Y

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-07-18-01 Intercomp

FIRE ZONE 11-C-1 LOCATION Diesel Generator FLOOR ELEVATION 85-0

LOCATION WITHIN FIRE ZONE:
Elev. 85, DG Compartment

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-DOOR
Rolling Fire Doors Between Diesel Engine Room and Radiator Room

TARGET: TARGET CODE: M-DG1-3
Diesel Generator 1-3

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL & ENVIRON
Closure of Rolling Fire doors between Diesel-Gen. compartment (Fire Zone 11-C-1) and Radiator Compartment (Fire Zone 11-C-2) cuts off cooling air to Generator. Rolling Fire doors held open by chains, open hooks, fusible links, and a weighted mechanical mechanism. Failure of any of these components will cause door(s) to close. Door closure not alarmed.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
(1) Verify integrity of chains, hooks, fusible links, and mechanism.
(2) Determine if Generator can tolerate one or both doors closed; if not, provide door closre annunciation in Control Room or modify rolling Fire door assemblies.

S. E. Traisman 08/05/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The postulated interaction has been investigated and modifications to the system have been requested under DCN DC1-11899-A-0

A. Vanek
DISCIPLINE ENGINEER/DATE

B. Sarkar 06-21-83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 01/19/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

SG 8/5/84

[0002A/0053Z-9]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-09-05-01

FIRE ZONE 12-B LOCATION Electrical Rooms FLOOR ELEVATION 110'

LOCATION WITHIN FIRE ZONE:
EL 112' EAST END OF G BUS 4 KV CABLE SPR. ROOM

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-busduct
Distribution bus duct from standby startup transformer to vital 4.16KV SWGR.

TARGET: TARGET CODE: E-K2674-3
Conduit K2674-3"

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Failure of bus duct fixed end rod hangers causes bus duct to fall onto target. Note Bus duct running through 4KV SWGR. above has seismic supports.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add supports to bus duct as req'd to eliminate interaction.

S. E. Traisman 07/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Install additional support to bus duct per DCN #DC1-S-E-11493 Rev. 0.

KGB 7/19/84

N. Barangan 07/13/83
DISCIPLINE ENGINEER/DATE

C. Kahl 07/15/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 01/19/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-11-03-01

FIRE ZONE 11-A-1 LOCATION Diesel Generators FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 85-95, Near Diesel Engine 1-1

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-11A1
Overhead incandescent light fixtures

TARGET: TARGET CODE: M-AR1-1
Turbocharger air receiver 1-1 and associated piping, tubing and equipment

POSTULATED INTERACTION: PHENOMENA CODE: Fixture
Light fixtures fall, impact air receiver and associated turbocharger system components

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of light fixtures.

M. G. Jones 5/12/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
This postulated interaction was resolved by modifying the light fixture hook hangers per DCO-EE-5552 (See ART 378).
Additional interaction was identified and corrected by Field Verification Report of 8/24/83. Work was completed per ART 434 (8/25/83).

R. J. Swaim 07/07/83
DISCIPLINE ENGINEER/DATE

S. Auer 07/07/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 11/2/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 1/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-12-03-01

FIRE ZONE 11-B-1 LOCATION Diesel Generator FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 85-95, Near Diesel Engine 1-2

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-11B1
Overhead incandescent light fixtures

TARGET: TARGET CODE: M-AR 1-2
Turbocharger air receiver 1-2 and associated piping, tubing and equipment

POSTULATED INTERACTION: PHENOMENA CODE: Fixture
Light fixtures fall, impact air receiver and associated turbocharger system components

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of light fixtures, possibly by analysis

WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
This postulated interaction was resolved by modifying the light fixture hook hangers per DCO-EE-5552 (See ART 378).
Additional interaction was identified and corrected by Field Verification Report of 8/24/83. Work was completed per ART 434 (8/25/83). See IDS 24-11-03-01 for resolution.

ACB 7/25/84

R. J. Swaim 07/07/83
DISCIPLINE ENGINEER/DATE

S. Auer 07/07/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 11/12/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0018A/0057Z-4]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-13-03-01

FIRE ZONE 11-C-1 LOCATION Diesel Generator FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 85-95, Near Diesel Engine 1-3

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-11C1
Overhead incandescent light fixtures

TARGET: TARGET CODE: M-AR1-3
Turbocharger air receiver 1-3 & associated piping, tubing and equipment

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Light fixtures fall, impact air receiver and associated turbocharger system components.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of light fixtures, possibly by analysis.

M. Jones 5/12/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
This postulated interaction was resolved by modifying the light fixture hook hangers per DCO-EE-5552 (See Art-378). Additional interaction was identified and corrected by field verification report of 8/24/83. Work was completed per Art. 434 (8/25/83)

ASB
7/25/84

N. Barangan 10/12/83
DISCIPLINE ENGINEER/DATE

C. Kahl 10/12/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 11/02/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-34-01-01

FIRE ZONE 8B1 LOCATION HVAC Rooms FLOOR ELEVATION 150'-0"

LOCATION WITHIN FIRE ZONE:
Supply Fan Room, Elev. 150 Over Fan S-32

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-Drain-8B1
Overhead 3" cast iron drain line, threaded and poured lead joints.

TARGET: TARGET CODE: H-Misc.
Air actuator for fan louvers

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
Pipe fails, falls on actuator and associated linkage

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of cast iron pipe. Add two rod supports to add additional restraint.

M. G. Jones 5/13/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
OPEG-Piping field inspected the interaction and found that the 3" cast iron drain line had been re-routed by G. C. and will not interact air actuator. Therefore, no action necessary

C. R.Van Natta 08/04/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 08/04/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

(FINAL/0057Z)

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-79-02-01

FIRE ZONE 8-B-1 LOCATION HVAC Fan Room FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 151 Aux. Building Supply fan room, North of fan S-32

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-ULB-8B1
3" ± Aux. Steam line to Aux. Building heating coils runs E-W and vertically 3' Noth of fan S-32

TARGET: TARGET CODE: H-S32
Fan S-32 Damper Actuator

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
Fixed end rod hangers on source line fail, line deflects over and down and impacts fan damper actuator

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add bilateral supports to E-W run and vertical run of source line. Coordinating this IDS with 25-77-01-02.

S. E. Traisman 02/23/84
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added support 339-306R to resolve this interaction, per DCN DC1-SP-17832.

R. Hankins 04/24/84
DISCIPLINE ENGINEER/DATE

K. M. Krause 04/25/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. Chestnut 04/27/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 05/15/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0019A/0059Z-32]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-105-01-02

FIRE ZONE 8-B-3 LOCATION HVAC Fan Room FLOOR ELEVATION 154'-6"

LOCATION WITHIN FIRE ZONE:
Area H 10'-0" East of Col. N and above CR-35 & CR-36
In control room HVAC condenser room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-USB-8B3
Two 2" chilled water lines (to and from chiller "CH-2" Unit) runs north - south and 10'-0" East of Col. N.

TARGET: TARGET CODE: H-CR35
CR-35 and CR-36 (Cont. Room ventilation condenser units)

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
Fixed end rod hangers on source lines fail, lines fall onto 2" sprinkler line below U-bolt supports on SPR line and/or threaded connections on SPR line fail, source lines fall onto target condense units or deflect into small bore copper refrigerant lines associated with condenser units.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add bilats as required to restrain source lines.

C. R. Van Natta 2/23/84
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Add bilateral restraints per DCN DC1-SP-17912 (HGR. #339-300R), DCN DC1-SP-17913 (HGR #339-303R) & DCN DC1-SP-17914 (HGR. #339-305R).

R. Hare 04/25/84
DISCIPLINE ENGINEER/DATE

K. M. Krause 04/25/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. G Chestnut 04/27/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 05/15/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0020A/0059Z-35]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-112-06-01

FIRE ZONE 3-BB LOCATION Penetration Areas FLOOR ELEVATION 100'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 100', near col. 15 & K.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-0721-12
12" K721 Condensate Makeup & Rejection (blue line).

TARGET: TARGET CODE: E-K6243-1.25
T-K6243

POSTULATED INTERACTION: PHENOMENA CODE:
Where conduit crosses above 12" line there exists 1" vertical clearance. 12" line could move upward and crash the target conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Shim existing clevis-end rod hangers and ensure capacity of hanger to provide upward restraint. Alternatively provide vertical stop from ceiling.

Paul Anderson 06/09/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added vertical stop. See DWG. 049339-339/42R.

C. R. VanNatta 06/15/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 06/16/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 08/18/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/23/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0032A/0074Z-43]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-117-05-01

FIRE ZONE 1-A LOCATION Containment FLOOR ELEVATION 91'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 1167-4", RHR line to PRT.

55

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-1167-4
Line 1167-4", RHR line to PRT.

TARGET: TARGET CODE: I-FCV768
Air supply tubing to FCV-678.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral movement of line 1167 results in impact with tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Reroute tubing to FCV-678 away from line 1167. Provide minumum 12" clearance.

M. Jones 11/19/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Tubing rerouted to provide 6" clearance to pipe, which is adequate considering pipe support configuration of line 1167-4".

DISCIPLINE ENGINEER/DATE

F. Mori 07/19/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC [I&C] PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-162-03-02

FIRE ZONE 14-D LOCATION Turbine Building FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 160, along East Wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-14D
Turbine Bldg. catwalk along East Wall.

TARGET: TARGET CODE: H-FILTER
Filter box to DC/480V switchgear rooms.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Catwalk falls, impacts filter box.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure inegrity of catwalk by simplified analysis.

M. Jones 09/23/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Catwalk qualified by analysis. Subject to modification per DCN #DC1-E-A-15200.
See Calc. #25-162-03-02 and resolution sheet.

S. Hanusiak 02/18/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 03/19/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 05/15/84
SIP PROJECT ENGINEER APPROVAL/DATE

S.G
8/6/84

[0008A/0069Z-42]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-162-04-01

FIRE ZONE 14-A LOCATION Turbine Bldg. FLOOR ELEVATION 119'-0"
LOCATION WITHIN FIRE ZONE:
Elev. 133, near Col. Line 16 & G, southeast corner

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-1742-8
Line 1742-8" lube oil vent pipe

TARGET: TARGET CODE: H-DUCT
Supply duct to 480V/DC Switchgear rooms

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral deflection of line 1742 results in impact with duct existing pipe/ duct Gap approx. 4".

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure by analysis that pipe deflection is insufficient to impact duct. Add restraints to pipe if/as required.

M. Jones 09/23/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added pipe support-see Generic DCN-DC1-EP-5061 - Hgr. DWG. No. 049339-339/352R

C. R. Van Natta 08/30/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 08/30/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 11/02/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 02/03/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-165-04-01

FIRE ZONE 14-D LOCATION Turbine Building FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 145, northeast corner.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-14D
Line (4") from firewater header 2663-10" to temporary instrument repair shop.

TARGET: TARGET CODE: H-DUCT
Exhaust stack (from fan S-69).

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
4" line falls due to failure of fixed end supports, impacts stack. Span betweeen supports = 27 ft.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install vertical support to line (4") midway between 27 ft. span. Look into advisability of changing to clevis end on rod hangers.

M. Jones 09/24/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Resolved by hanger drawings 339/304R Rev. 1 and hanger drawing 339/302R Rev. 2.

C. R. VanNatta 07/21/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 07/21/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

CHECKED AUG 09 1984

[0014A/0079Z-43] OK

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-165-04-02

FIRE ZONE 14-D LOCATION Turbine Building FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 145, northeast corner.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-14D
Catwalk at northeast end of turbine building.

TARGET: TARGET CODE: H-S69
Exhaust stack (from fan S-69).

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Catwalk falls, impacts stack.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Insure integrity of catwalk by simplified analysis.

M. Jones 09/24/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Catwalk qualified by analysis, subject to modification per DCN #DC1-EA-15200. See resolution sheet and IDS file no. 25-162-03-02.

S. Hanusiak 08/10/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 12/28/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 05/15/84
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/14/84

[0035A/0065Z-40]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-165-04-03

FIRE ZONE 14-D LOCATION Turbine Building FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 145, northeast corner.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-BLDG.
Instrument repair shop structure.

TARGET: TARGET CODE: H-S69
Exhaust stack (from fan S-69).

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Structure slides or collapses, impacting exhaust stack.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of structure by analysis and/or modification of the structure floor mounting.

S. E. Traisman
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Protective barriers (3) have been installed per ART No. 459. See IDS file No. 25-171-04-03 and resolution sheet.

S. Hanusiak 06/18/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 06/19/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

SG 8/14/84

[0008A/0069Z-44]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-168-04-01

FIRE ZONE 14-D LOCATION Turbine Building FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 145, northeast corner.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-14D
Platform/ladder assembly & catwalk at northeast corner, turbine bldg.

TARGET: TARGET CODE: H-S68
Exhaust stack (from fan S-68).

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Platform/ladder and catwalk fall, impact stack.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Insure integrity of platform/ladder assembly & catwalk by simplified analysis.

M. Jones 09/24/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Sources qualified subject to modification per DCN #DC1-EA-15200. See resolution sheet and IDS file no. 25-162-03-02.

S, Hanusiak 02/18/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 02/19/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 05/15/84
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/6/84

[0006A/0065Z-41]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-168-04-02

FIRE ZONE 14-D LOCATION Turbine Building FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 145, northeast corner.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-BLDG.
Instrument repair shop structure.

TARGET: TARGET CODE: H-S68
Exhaust stack (from fan S-68).

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Structure slides or collapses, impacting exhaust stack.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of structure by analysis and/or modification of the structure floor mounting.

M. Jones 09/24/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Protection barriers (3) have been installed per ART No. 459. See IDS file No. 25-171-04-03 and resolution sheet.

S. Hanusiak 08/10/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 08/13/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

SG
8/6/84

[0008A/0069Z-46]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-171-04-03

FIRE ZONE 14-D LOCATION Turbine Building FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 145, northeast corner.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-BLDG.
Instrument repair shop structure.

TARGET: TARGET CODE: H-DUCT
Exhaust stack (from fan S-67).

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Structure slides or collapses, impacting exhaust stack.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of structure by analysis and/or modification of the structure floor mounting.

S. E. Traisman
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Protection barriers (3) have been installed per ART No. 459. See Calc. No. 25-171-04-03 and resolution sheet.

S. Hanusiak 06/18/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 06/19/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/6/84

[0008A/0069Z-47]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-185-02-02

FIRE ZONE 3AA LOCATION Auxiliary Bldg. FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
Elev. 110', Az. 236°, above Incore Instru. Chiller Pump #11

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-3AA
2" Fire Water Pipe (2" red)

TARGET: TARGET CODE: E-K3888-1
Conduit K3888-1"

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
Fire water pipe may fall and impact conduit due to failure of fixed end rod hangers and general lack of horizontal support.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Change fixed end rod hangers to clevis end rod hangers.

P. Anderson 6/4/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added pipe supports - see Pipe Support DWG. NO. SPR-731 Rev. 1, 732, Rev. 1, and 733 Rev. 1. Per reflects "As-built" condition.

C. R. Van Natta 04/27/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 08/04/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

M. Baker 08/02/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/23/83
SIP PROJECT ENGINEER APPROVAL/DATE

SW

[0018A/0057Z-19]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-189-04-01

FIRE ZONE 1-A LOCATION Containment FLOOR ELEVATION 91'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 99', at containment wall 112°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3126-2
Line 3126-2", CFC 1-4 drain line.

TARGET: TARGET CODE: P-4636-0.375
Tubing, line 4636-3/8".

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Lateral deflection of line 3126 results in impact with line 4636, due to failure of fixed end rod hanger.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Replace fixed-end rod hanger with bilateral support, at 117°, at containment wall.

M. Jones 02/25/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Recommended resolution - see hanger DWG 049339, sheet 123 Rev. 3 in DC1-EP-3606.

C. R. VanNatta 01/10/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 01/25/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

M. Baker 08/02/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/23/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0014A/0079Z-41]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-197-08-04

FIRE ZONE 3-R LOCATION Aux./Fuel Handling FLOOR ELEVATION 115'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 122' NR Ammonia Tank Cols. T and 15, in Fire Pump Room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-TANK
Ammonia tank and assoc. 1/2" and 3/4" lines.

TARGET: TARGET CODE: E-KK213-1.50
Conduit KK213 - 1/2" (H Bus)

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE & DEFLECT
Existing clearance between conduit and tank, 1/2" line, and 3/4" line is 0 to 1/4". Motion of tank and assoc. lines impact conduit.

NOTF: There are 3 potential interaction points.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify by simplified analysis that conduit is not damaged by motion of tank/lines.

S. E. Traisman 09/28/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Original resolution was to reroute conduit to provide a minimum of 6" clearance between conduit and tank & associated lines, (see ART 325). However, later field walkdown of interaction prior to implementation of ART 325 indicated that clearance per original resolution exists. Apparently installation was incomplete at time of original walkdown and resolution, and was adequately completed during normal course of construction. ART 325 cancelled-no further action required.

P. Chu 11/12/82
DISCIPLINE ENGINEER/DATE

E. C. Connell III
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/09/83
SIP PROJECT ENGINEER APPROVAL/DATE

A.J.E. 8/24/84

[0034A/0085Z-32]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-03-45-01

FIRE ZONE 1-C LOCATION Various Areas FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 140', at containment wall, 138°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-RNRP
RNRP - A, B, electrical data cabinets.

TARGET: TARGET CODE: P-3160-2
Line 3160-2"; fire protection pipe.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAJI
Cabinets overturn, impact line 3160.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure that cabinets will not overturn by analysis or modify support.

M. Jones
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Cabinets bolted to annulus steel per DCN DC1-SC-15194. Also refer to Civil Calc. No. 28-03-45-01. Resolved by modification.

A-13

P. Chu 10/07/82
DISCIPLINE ENGINEER/DATE

G. C. Bhatt 10/07/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 11/29/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-04-15

FIRE ZONE 14-A LOCATION Various Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 90, near vacuum pump.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-STAIR-1d
Stairway 1d.

TARGET: TARGET CODE: P-2666-6
Line 2666-6"; Unit 1 firewater header.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Stairway falls, impacts pipe.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of stairway by simplified analysis.

M. Jones 11/13/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Stairway qualified by analysis, subject to modification per DC1-EC-15863. See resolution sheet and Calc. No. 28-04-04-15, Rev. 1.

S. Hanusiak 04/06/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 04/06/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAM

S. Chesnut 05/14/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 06/05/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0036A/0093Z-12]

S.G. 9/11/84

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-17-04

FIRE ZONE 14-D LOCATION Various Areas FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 145, near elevator No. 1.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-14D
Overhead catwalk.

TARGET: TARGET CODE: M-HR
Valve to firewater hose reel 145-T43-1.

POSTULATED INTERACTION: PHENOMENA CODE: CIVJLFAIL
Catwalk falls, impacts valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of catwalk by simplified analysis.

M. Jones 11/13/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Catwalk qualified by analysis. Subject to modification per DCL-EA-15200. See resolution sheet and referenced Calc. no. 25-162-03-02.

S. Gaballah 09/26/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 10/04/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] FE EMS ENG GC HVAC I&C PSE NPO NAN

S. F. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 05/15/84
SIP PROJECT ENGINEER APPROVAL/DATE

SG 9/12/84

[0036A/0093Z-16]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-29-01

FIRE ZONE 14-A LOCATION Various Area FLOOR ELEVATION 119'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 132', at east wall, Col. 12.2.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SA-14A
8" service air line and 10" reboiler line.

TARGET: TARGET CODE: P-3301-2
Line 3301-2"; Unit 1 firewater.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral movement of 10" line results in impact with 8" line which in turn impacts line 3301.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add seismic stop to Col. 12.2 to preclude impact with line 3301. Maintain maximum pipe/seismic stop clearance of 1".

M. Jones 12/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modification provided per DCN DC1-EP-5061, HRG DWG No. 049339-339/353R, Rev. 1.

C. R. VanNatta 08/23/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 08/23/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0007A/0067Z-45]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-29-03

FIRE ZONE 14-D LOCATION Various Areas FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 145, at east wall, Col. 12.2.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-14D
Overhead catwalk (elev. 163').

TARGET: TARGET CODE: P-3301-2
Line 3301-2"; Unit 1 firewater.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Catwalk falls, impacts pipe.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of catwalk by simplified analysis.

M. Jones 12/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Catwalk qualified by analysis. Subject to modification per DC1-EA-15200. see resolution sheet, Rev. 1 and referenced Calc. No. 25-162-03-02.

S. Hanusiak 03/06/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 03/09/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

S.G. 9/11/84

L. W. Horn 08/20/82
SIP PROJECT ENGINEER APPROVAL/DATE

CHECKED AUG 09 1984
OK

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-30-01

FIRE ZONE 14-D LOCATION Various Areas FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 145, at east wall, Col. 12.2.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: H-S46
Turbine building cooling fan S-64.

TARGET: TARGET CODE: M-HR
Valve to firewater hose reel 145-T41-1.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Fan falls, impacts valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of fan by simplified analysis. Include fan motor mounting in the analysis.

M. Jones 12/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Fan support qualified by analysis. Subject to modification per DC1-EA-15200. See resolution sheet and referenced Calc. No. 25-162-03-02.

S. Gaballah 09/26/83
DISCIPLINE ENGINEER/DATE

B. Sarkar
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 05/15/84
SIP PROJECT ENGINEER APPROVAL/DATE

CHECKED AUG 09 1984 S.G. 7/11/84

[00360/00937-223]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-30-02

FIRE ZONE 14-D LOCATION Various Areas FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 145', at east wall, col. 12.2.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-140
Overhead catwalk (elev. 163).

TARGET: TARGET CODE: M-HR
Valve to firewater hose reel 145-T41-1.

POSTULATED INTERACTION: PHENOMENA CODE: CIVIL FAIL
Catwalk falls, impacts valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of catwalk by simplified analysis.

M. Jones 12/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Catwalk qualified by analysis. Subject to modification per DC1-EA-15200. See resolution sheet and referenced Calc. No. 25-162-03-02.

S. Gaballah 09/26/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 10/04/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAW

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 06/12/84
SIP PROJECT ENGINEER APPROVAL/DATE

S.G 9/10/89

[0036A/0093Z-23]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-40-02

FIRE ZONE 14-A LOCATION Various Area FLOOR ELEVATION 119'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 124-135' near stairway 2b.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-14A
1 1/2", 2", 3", 4", 6" sprinkler pipe.

TARGET: TARGET CODE: P-3297-2
Line 3297-2; Unit 1 firewater.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
Sprinkler pipe falls on line 3297 due to failure of mechanical/threaded couplings and fixed-end rod hangers, or sprinkler pipe deflects laterally, impacting line 3297.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add restraints to sprinkler pipe as needed to prevent all or part of the pipe from falling on line 3297.

M. Jones 12/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Pipe supports added to resolve interaction see hanger DWG 049339, sheets No. 283 thru 286 in generic DCN DC1-EP-5061.

C. R. VanNatta 03/22/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 03/22/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 11/02/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0007A/0067Z-46]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-40-03

FIRE ZONE 14-D LOCATION Various Areas FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 145', top of stairway 2b.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-14D
Overhead catwalk (elev. 163').

TARGET: TARGET CODE: P-3297-2
Line 3297-2"; Unit 1 firewater.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Catwalk falls, impacts pipe.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of catwalk by simplified analysis.

M. Jones 12/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Catwalk qualified by analysis. Subject to modification per DC1-EA-15200.
Resolution sheet and referenced Calc. No. 25-162-03-02.

S. Hanusiak 03/06/81
DISCIPLINE ENGINEER/DATE

F. P. Wollak 03/09/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SG 7/11/84

L. W. Horn
SIP PROJECT ENGINEER APPROVAL/DATE

CHECKED AUG 09 1984
OK

[0036A/0093Z-34]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-41-03

FIRE ZONE 14-D LOCATION Various Areas FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 145', top of stairway 2b.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-14D
Overhead catwalk (elev. 163').

TARGET: TARGET CODE: M-HR
Valve to firewater hose reel 14-5-T39-1.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Catwalk falls, impacts hose reel.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of catwalk by simplified analysis.

M. Jones 12/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Catwalk qualified by analysis. Subject to modification per DC1-EA-15200.
See resolution sheet and referenced Calc. No. 25-162-03-02.

S. Gaballah 09/26/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 10/04/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

S.G. 9/11/84

L. W. Horn
SIP PROJECT ENGINEER APPROVAL/DATE

CHECKED AUG 09 1984
OK

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-44-03

FIRE ZONE 14-A LOCATION Various FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 100', north wall, near diesel generators.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-14A
8" sprinkler header.

TARGET: TARGET CODE: P-5038-4
Line 5038-4"; Unit 1 firewater.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL

Threaded & mechanical couplings of 8" pipe fail, resulting in pipe falling on line 5038.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add additional restraints/supports to 8" header to preclude coupling failure, or by analysis prove acceptability.

M. Jones 11/06/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
8" sprinkler header piping to be modified. Restraints added per hanger DWG No. 049339 Sht. 250 thru 256B, DC1-EP-7270.

B. Abella 02/26/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 06/03/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

CHECKED AUG 09 1984
OK.

[0014A/0079Z-50]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-44-04

FIRE ZONE 14-A LOCATION Various FLOOR ELEVATION 104'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 110, at north wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-14A
6" sprinkler header.

TARGET: TARGET CODE: P-5038-4
Line 5038-4"; unit 1 firewater.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
6" pipe falls on line 5038 due to failure of threaded/mechanical fittings.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add additional restraints/supports to 6" pipe or verify acceptability of existing configuration by analysis.

M. Jones 11/20/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
6" sprinkler header piping to be modified. Restraints added per DRWG No. 049339 Sht. 257 thru 258, DC1-EP-7270.

B. Abella 02/26/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 06/03/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. F. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

SWS

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-44-06

FIRE ZONE 14-A LOCATION Various Areas FLOOR ELEVATION 119'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 130', at north wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-STAIR-14A
Stairway 3b (elev. 119' - 140').

TARGET: TARGET CODE: P-5038-4
Line 5038-4"; Unit 1 firewater.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Stairway falls, impacts pipe.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of stairway by simplified analysis.

M. Jones 12/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Stairway qualified by analysis, subject to modification per DC1-EC-15863. See attached resolution sheet and Calc. No. 28-04-44-06, Rev. 1.

S. Hanusiak 05/03/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 05/06/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 05/15/84
SIP PROJECT ENGINEER APPROVAL/DATE

SA 8/14/84

[0031A/0084Z-60]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-44-07

FIRE ZONE 14-A LOCATION Various FLOOR ELEVATION 119'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 119-130, at north wall, near stairway 3b.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-14A
6" sprinkler pipe.

TARGET: TARGET CODE: P-5038-4
Line 5038-4"; unit 1 firewater (Line No. 4262-4" has been voided & replaced by 5038-4").

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
6" pipe falls on line 5038 due to failure of threaded/mechanical fittings and fixed end rod hangers.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add restraints to 6" pipe to preclude impact with line 5038.

M. Jones 12/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
6" sprinkler header piping has been modified. Restraints added per hanger Dwg No. 049339 Sht. 259, 259A, 265, 265A, 265B, 265C, 265D, DC1-FP-7270.

B. Abella 02/.26/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 06/03/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/03/83
SIP PROJECT ENGINEER APPROVAL/DATE

SW

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-49-03

FIRE ZONE 14-A LOCATION Various FLOOR ELEVATION 119'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 119-130, at north wall, near stairway 3b.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-14A
6" sprinkler pipe.

TARGET: TARGET CODE: P-5041-2
Line 5041-2"; unit 1 firewater.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
6" pipe falls on line 5041 due to failure of threaded/mechanical fittings and fixed end rod hangers.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add restraints to 6" pipe to preclude impact with line 5041.

M. Jones 12/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
6" sprinkler header piping has been modified. Restraints added per hanger Dwg No. 049339 Sht. 266, 266A, & 266X; DC1-EP-7270.

B. Abella 02/26/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 06/03/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0039A/01017-40]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-51-05

FIRE ZONE 14-A LOCATION Various FLOOR ELEVATION 119'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 130 under stairway 3b at north wall.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-14A
8" sprinkler header.

TARGET: TARGET CODE: P-3293-2
Line 3293-2"; unit 1 firewater.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
8" pipe falls on line 3293 due to failure of threaded/mechanical fittings and fixed end rod hangers.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install bilateral support to 8" pipe over line 3293 to preclude 8" pipe falling on line 3293.

M. Jones 12/03/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Sprinkler header piping has been modified. Restraints added per hanger Dwg No. 049339 Sht. 260, 264; DC1-EP-7270.

B. Abella 02/26/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 06/03/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

SW

[0039A/0101Z-41]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-05-72-01

FIRE ZONE 3-C LOCATION Various Areas FLOOR ELEVATION 73'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 83', Col. line 18.6 & L, near ceiling.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-HOIST-3C
Monorail.

TARGET: TARGET CODE: P-3619-4
Line 3619-4"; firewater header.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Monorail support rests against line 3619.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Remove existing monorail support. Support monorail to wall (18.6).

M. Jones 09/10/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Bracing added. See resolution sheet and referenced DWG No. 512482.

S. Hanusiak 02/18/81
DISCIPLINE ENGINFER/DATE

E. P. Wollak 03/25/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

M. Baker 08/02/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SG 9/11/84

L. W. Horn 08/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0037A/0099Z-12]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-05-72-02

FIRE ZONE 3-C LOCATION Various Areas FLOOR ELEVATION 73'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 83. at north wall, 18.6 at K line 6424.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-CRANE-3C
Monorail MS 3-2.

TARGET: TARGET CODE: P-3619-4
Line 3619'4"; firewater header.

POSTULATED INTERACTION: PHENOMENA CODE: MFCHFAIL
Longitudinal movement of monorail results in impact with pipe.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Secure end of trolley to 18.6 wall near point of contact.

M. Jones 09/10/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Bracing added. See resolution sheet and referenced DWG No. 512482.

S. Hanusiak 03/25/81
DISCIPLINE ENGINEER/DATE

E. P. Wollak 03/25/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

M. Baker 08/02/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

S.G. 9/11/84

L. W. Horn 08/23/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0037A/0099Z-13]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-07-18-02

FIRE ZONE 14-D LOCATION Various Areas FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Turbine building operating deck, Cols. 3 and F.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-BLDG
Office building just east of firewater hose reel T-39 (7'-6" high, 12' wide, 30' long).

TARGET: TARGET CODE: P-3297-2
firewater line K-3297-2" to hose reel FW 145-T39-1.

POSTULATED INTERACTION: PHENOMENA CODE: CIVIL.FAIL
Anchorage of building to turbine deck fails, building slides into hose reel piping approx. 4' away. Alternatively, main wall and ceiling connnections fail, west wall of building falls onto target.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify adequacy of building anchorage and building connections by engineering evaluation.
Note: This interaction is a result of final SIP area walkdown.

S. E. Traisman 10/27/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Protective barrier provided per ART 469. See Calc. No. 28-07-18-02.

T. Farinelli 01/11/84
DISCIPLINE ENGINEER/DATE

F. A. Morsy 01/11/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

S.G. 9/12/84

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0037A/0099Z-44]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-01-01

FIRE ZONE 1-A 1-B 1-C LOCATION Containment FLOOR ELEVATION Various

LOCATION WITHIN FIRE ZONE:
All elevations in containment.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-1A
Structural platforms, grates, handrails, ladders, stairways, etc.

TARGET: TARGET CODE: GENERIC
Numerous Class I components.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Platforms, grates, etc. fall, impact Class I components.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of platforms, ladders, stairways, etc by simplified analysis. Ensure that all grates and handrails are secured to platforms and will not fall or deflect appreciably.

M. Jones 04/01/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Sources have been qualified by analysis and modifications as required. See ART 228, DCN DC1-EC-3409 and resolution sheet. Also see referenced Calc. No. 30-01-01-01.

S. Gaballah 11/11/82
DISCIPLINE ENGINEER/DATE

B. Sarkar 11/17/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 01/27/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/15/84

[0031A/0084Z-58]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-14-01

FIRE ZONE 3-BB LOCATION Penetration Areas FLOOR ELEVATION 115'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 115', GE area.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-1040-2.50+
4 steam generator blowdown lines (1040-1043), class E, are located near much CCW (various sizes) pipe and aux. FW pipe (4").

TARGET: TARGET CODE: P-ULB-3BB

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
Vertical, unrestrained pipe with flange within the span deflects or fails, falling upon the qualified pipe.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Analyze line 1042 to ensure integrity.
This analysis and any modifications will apply to lines 1040, 1041, 1043.

M. Jones 05/14/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added HGRs. See DWG 049264, HGR No. 595/11A by DC1-EP-5963, 58S/154R & 58S/158R by DC1-EP-5060 and 58S/155R, 58S/156R & 58S/157R by DC1-EP-5061.

C. R. VanNatta 07/19/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 07/19/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

S. E. Traisman 10/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

SaW

[0032A/0074Z-49]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-43-01

FIRE ZONE 1A, 1B, 1C LOCATION Containment FLOOR ELEVATION Various

LOCATION WITHIN FIRE ZONE:
Elev. 91, 117, 140, all areas.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FE
Portable hand-held fire extinguishers.

TARGET: TARGET CODE: GENERIC
Numerous Class I components.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Fire extinguishers fall from mounts, impact Class 1 components. Some could fall through compartments via stairways, etc.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Remove all fire extinguishers from containment prior to plant start-up.

M. Jones 03/02/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Remove all fire extinguishers from containment prior to plant start-up.

DCOS 8/8/84

DISCIPLINE ENGINEER/DATE

J. D. Townsend
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE [NPO] NAN

Not Required
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0012A/0073Z-39]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-54-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Pipe rack, area FW.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-30FW
Steel platform No. 30FW, elev. 100'.

TARGET: TARGET CODE: E-R-28
Misc. Class I conduits.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Platforms and/or associated handrails come loose and fall on Class I conduits below.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of platforms and handrails by simplified analysis. Verify platform hold down clips are in place.

S. E. Traisman 07/13/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Platform has been seismically qualified with modification per DCN#DCJ-EA-7793 and Calc. No. 30-01-54-01.

S. Gaballah 03/15/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 03/15/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/24/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/09/83
SIP PROJECT ENGINEER APPROVAL/DATE

S.C. 3/8/84

[0009A/0070Z-37]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-54-04

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Pipe rack, area FW.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-40FW
Steel platform No. 40FW, elev. 118'.

TARGET: TARGET CODE: E-R-28
Misc. Class I conduits.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Platform and/or associated handrails come loose and fall on Class I conduits below.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of platform and handrails by simplified analysis. Verify platform hold down clips are in place.

S. E. Traisman 07/13/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The platform and handrails have been seismically qualified by analysis with modification per DCN No. DC1-EA-7086. See Calc. No. 30-01-54-04 and referenced Calc. No. 03-03-03-02, Rev. 1.

S. Gaballah 02/22/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 03/01/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

G. Z. Zaharoff 02/08/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 06/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

S.G. 8/8/84

[0009A/0070Z-40]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-54-07

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Pipe rack, area FW.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-43FW
Steel platform No. 43FW.

TARGET: TARGET CODE: E-R-28
Misc. Class I conduits.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Platform and/or associated handrails comes loose and falls on Class I conduits below.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of platform and handrails by simplified analysis. Verify platform hold down clips are in place.

S. E. Traisman 07/13/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The platform was seismically qualified by analysis, subject to the modifications shown on DCN No. DC1-EA-7086. See resolution sheet and Calc. No. 30-01-54-07.

S. Gaballah 02/22/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 02/28/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

G. Z. Zaharoff 02/08/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SG 8/1/84

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0009A/0070Z-43]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-57-01

FIRE ZONE 1-A LOCATION Containment FLOOR ELEVATION 91'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 91-100, azimuth 0°.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-TANK
Pressurizer relief tank (PRT).

TARGET: TARGET CODE: GENERIC
Misc. Class I components, such as CCW piping. Misc instrumentation.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
PRT overturns or is displaced from it's rigid mounting, resulting in impact with misc. Class 1 components in the area.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure by analysis and/or support modifications, the integrity of the PRT mounting (concrete pad, anchor bolts, support saddle, etc.)

M. Jones 08/23/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modification added to prevent postulated interaction No. 30-01-57-01.
See Calc. and DCN No. DCI-E-C-1363.

S. Gaballah 10/12/82
DISCIPLINE ENGINEER/DATE

B. Sarkar 10/20/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

SS 8/14/84

[0031A/0084Z-66]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-58-02

FIRE ZONE 6-A-3 LOCATION Electrical Rooms FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
Elev. 115, vital DC switchgear room 1-3.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FE
15 lb CO_2 fire extinguisher FE A115-02-12.

TARGET: TARGET CODE: E-MISC
Class I electrical equipment in vital DC switchgear room.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Fire extinguisher comes off hook, falls, nozzle breaks off, and fire extinguisher becomes a missile which impacts equipment in room.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Secure fire extinguisher with a quick release clamping mechanism.

S. E. Traisman 07/22/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Quick release clamp provided per ART 375.

DISCIPLINE ENGINEER/DATE

J. A. Longworth 11/10/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 11/02/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

D.J.E. 8/28/84

[0034A/0085Z-28]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-72-01

FIRE ZONE 8-C LOCATION Electrical Equipment FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 140', control room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: F-MISC-8C
Class II control boards.

TARGET: TARGET CODE: GENERIC
Class I control boards.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Class II cabinets overturn and impact Class I cabinets.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of Class II control board in control room.

S. F. Traisman 07/28/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Class II control boards in control room have been seismically qualified per Civil Calc. No. 30-01-72-01. Resolved by modification. See ART 418.

S. Gaballah 08/01/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 08/02/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 01/19/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SG 9/12/84

L. W. Horn 01/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-84-01

FIRE ZONE 6-A-1 LOCATION Electrical Rooms FLOOR ELEVATION 115'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 115' vital DC switchgear room 1-1.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FF
15 LB CO_2 fire ext. FE A115-01-12.

TARGET: TARGET CODE: F-DC SWGR
Class I electrical equipment in vital DC Swgr room.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Fire extinguisher comes off hook, bottle falls, nozzle breaks off, fire extinguisher becomes a missile and impacts equipment in room.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Secure fire extinguisher with a quick release clamping mechanism.

S. F. Traisman 07/22/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
See ART 375 quick release clamp modification provided. Rubber spacers added on quick release clamping device (on FE A115-01-12) by ART No. 460.

S. L. Harris 11/05/83
DISCIPLINE ENGINEER/DATE

J. A. Longworth 11/05/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

G. Zaharoff 01/26/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 07/06/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0034A/0085Z-30]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-86-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 148, top level of pipe rack.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-HOIST-28
Service hoists & trolleys (2)

TARGET: TARGET CODE: GENERIC
Misc. Class 1 components.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Hoists and trolleys fail, fall upon Class 1 components on lower elevations.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of hoists and trolleys by simplified analysis.

M. Jones 06/30/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Cranes, hoists and trolleys have been secured & seismically qualified by analysis with modification per ART 421 and ART 388. See resolution sheet and Calc. No. 30-01-86-01.

S. Gaballah
DISCIPLINE ENGINEER/DATE

B. Sarkar 06/06/83
ENGR. GROUP. SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 11/29/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

SG 8/8/84

[0009A/0070Z-50]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-92-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 85', pipe rack area.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LT ARR
Main transformer "A" phase lighting arrestor.

TARGET: TARGET CODE: GENERIC
Various Class I mechanical and electrical components in/around pipe rack.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Seismic evet causes lighting arrestor insulator and/or support column to topple, damaging Class I piping valves, instruments, or electrical conduits in vicinity of pipe rack.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Determine failure mode (if any) of lighting arrestor structure during seismic event. Determine if failure of structure/insulator will impact any targets in vicinity. If so, ensure integrity of lighting arrestor structure.

S. E. Traisman 06/30/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The lighting arrestor has been seismically qualified with modifications. See DCN DC1-EC-11803.

A613

S. Gaballah 06/06/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 06/07/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE [EE] EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/85
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-95-01

FIRE ZONE 1-C LOCATION Containment Area FLOOR ELEVATION 140'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 140' over fuel transfer canal.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-102F
Platform 102F, elev. 140'.

TARGET: TARGET CODE: GENERIC
Fuel transfer canal.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Platform fails and impacts targets in vicinity.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of platform by simplified analysis.

S. E. Traisman 09/29/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modification to be added to prevent postulated interaction No. 30-01-93-01. See Calcs. 30-01-95-01 and ART No. 324.

S. Gaballah 11/15/82
DISCIPLINE ENGINEER/DATE

B. Sarkar 11/17/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [CE] EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

SG 8/9/84

[0030A/0087Z-4]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-03-01-01

FIRE ZONE 1-B LOCATION Containment FLOOR ELEVATION 91'-0"

LOCATION WITHIN FIRE ZONE:
Azimuth 230°, 42 Ø HVAC duct.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: H-DUCT-1B
Directional blades on 42" Ø duct termination.

TARGET: TARGET CODE: GENERIC
Misc. Class I instrumentation lines and/or glass containers for hydraulic fluid (Class I snubbers).

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
The directional blades are attached to 42" Ø supply duct termination. The attachment detail - sheet metal blade bent, one bolt with nut thru the duct. The HVAC ducting is Class II, Spec. E796. The blades are cracked in the vicinity of attachment. It is judged this is because of fatigue of sheet metal. There are 5 blades (maximum length = 42") on the outlet. Should the blade(s) become detached the above targets may be impacted. Fatigued blades may fail in seismic event and fall onto targets.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Remove existing blades (azimuth 230') and replace them with blades manufactured and attached similar to the blades on the others 42" Ø supply ducts in this area.

J. Dokladal 09/27/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Broken blades removed and replaced per recommendation. See ART 451.

J. Dokladal 10-07-83
DISCIPLINE ENGINEER/DATE

J. A. Longworth 10/15/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC [HVAC] I&C PSE NPO NAN

S. E. Traisman 11/29/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 11/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

AVS

[0013A/0081Z-57]

PAGE 1 OF 1

[illegible]

[illegible] LOC [illegible] GROUP ID [illegible] YEAR [illegible]

[illegible] is [illegible] specifically electrical equipment and mechanical rooms.

[illegible] DEFICIENCY CODE: [illegible]

[illegible]

[illegible] DEFICIENCY DESCRIPTION: [illegible]

[illegible] Equipment.

[illegible] DEFICIENCY CODE: [illegible]

[illegible]

Our fire extinguishers were observed in safety-related areas without [illegible] restraints allowing movement. Seismic event (or [illegible] jamming into [illegible]) could cause bottle to come off its support hook, [illegible] move the [illegible] off, and bottle becomes a missile which can damage [illegible] equipment.

[illegible] RESOLUTION BY [illegible] ACTION TAKEN:

[illegible] for replace administrative procedure for all CO_2 extinguishers. [illegible] standard inspection or due. For CO_2 extinguishers to ensure [illegible] installed. [illegible] of CO_2 extinguishers will have quick release [illegible] mechanisms.

This IDE is a result of final SIP area walkdown.

[illegible] 02/23/84
[illegible] ORIGINATOR/DATE

[illegible] BY RESPONSIBLE DISCIPLINE:

[illegible] action is provided for all extinguishers per DCN 80CT-[illegible] 1

02/28/84
[illegible] ORIGINATOR/DATE

[illegible] 02/28/84
SAGR GROUP SUPERVISOR/DATE

[illegible] TYPE RESOLUTION OF [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] 02/84
[illegible] BY NUCLEONAN TEAM
[illegible] ACTIONS (ONLY)

[illegible] 02/84
SIP PROJECT ENGINEER APPROVAL/DATE

[illegible] 3/24/84

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-05-00-01

FIRE ZONE Various LOCATION Various Areas FLOOR ELEVATION Various

LOCATION WITHIN FIRE ZONE:
Various locations within plant, especially electrical equipment and mechanical equipment rooms.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-BOTTLE
Portable CO_2 fire extinguishers.

TARGET: TARGET CODE: GENERIC
Various Class I Equipment.

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Numerous CO_2 fire extinguishers were observed in safety-related areas of the plant without quick release clamping devices. Seismic event (or personnel bumping into bottle) cause bottle to come off its support hook, bottle falls, nozzle shears off, and bottle becomes a missile which can damage Class I equipment.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Provide quick release clamping mechanism for all CO_2 extinguishers. Revise standard installation dwg. for CO_2 extinguishers to ensure any future installations of CO_2 extinguishers will have quick release clamping mechanisms.
Note: This IDS is a result of final SIP area walkdown.

S. E. Traisman 02/23/84
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Quick release mechanism is provided for all extinguishers per DCN #DCI-SM-17827, Rev. 1.

S. Chestnut 03/20/84
DISCIPLINE ENGINEER/DATE

M. Denicke 03/21/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

S. Skochdo 06/08/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 06/08/84
SIP PROJECT ENGINEER APPROVAL/DATE

D.J.E 8/24/84

[0034A/0085Z-46]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-07-10-01

FIRE ZONE 10 LOCATION Electrical Rooms FLOOR ELEVATION 73'-0"

LOCATION WITHIN FIRE ZONE:
NE corner of 12Kv cable spreading room, below 12Kv switchgear room, turbine building area A.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: N-CABINET
Electrical cabinets temporarily stored in NE corner of 12kV cable spreading room.

TARGET: TARGET CODE: GENERIC
Class I conduits (H Bus) running from ceiling of room out of the east wall.

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Class I conduits running through this room are enclosed in protective vaults (except for a part of the H Bus conduits in the NE corner of the room). Large electrical cabinets are stored (temporarily) in the vicinity of the exposed conduits. Seismic event causes cabinets to slide into conduits causing damage to conduits and/or supports.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Cordon off the area around the exposed Class I conduits to prevent storage of equipment in the area.
Note: This IDS is a result of the final SIP area walkdown of compartment 73-A-1.

S. E. Traisman 08/01/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
NPPR DCO -83-NO-P0016 issued to designate area as "non-storage area" per recommended resolution.

DWS 8/17/84

T. G. Hook 04/27/84
DISCIPLINE ENGINEER/DATE

J. Townsend 04/30/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE [NPO] NAN

S. Chesnut 05/14/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 06/14/84
SIP PROJECT ENGINEER APPROVAL/DATE

[0012A/0073Z-40]

SHEET 1 OF 1

[illegible] ELECTRONICS CO.
[illegible] NO. 1
[illegible] ELECTRICAL BATTERY BUSHING
[illegible] QUALITY ASSURANCE SHEET (QAS)

[illegible]

LOCATION [illegible] ROOM [illegible] FLOOR TO PATTERN [illegible]

[illegible] ZONE:
[illegible] end of [illegible] on [illegible] room.

[illegible] INSPECTORS COMMENTS

[illegible] BUSHING DOWN: B-[illegible]-13A
[illegible] for [illegible] building up, back [illegible] from [illegible] flat [illegible]

[illegible] PACKET CODE [illegible]
[illegible] 1 [illegible]

INTERACTION: [illegible] CHECKMEMO CODE SPITAL & [illegible]
[illegible] line with [illegible] connections are [illegible] materials of construction [illegible] meets [illegible] design.

RESOLUTION BY DISPOSITION TEAM:
[illegible] materials of [illegible] production for [illegible]. Verify integrity of [illegible] [illegible] products (if possible), or support as required to eliminate [illegible].

[illegible] 02/20/82
[illegible] DISPOSITOR/DATE

[illegible] BY RESPONSIBLE DISCIPLINE:
[illegible] conducting [illegible] replaced by a new welded [illegible] piece to eliminate [illegible] to [illegible] per [illegible].

[illegible] 03/05/83 N. M. [illegible] 07/17/83
[illegible] ENGINEER/DATE MAJOR. [illegible] SUPERVISOR/DATE

[illegible] FOR [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] 02/08/84 L. W. [illegible] 04/20/84
[illegible] BY [illegible] SIR PROJECT ENGINEER APPROVAL/DATE
[illegible] CONDITIONS ONLY)

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-08-04

FIRE ZONE 13-A LOCATION Electrical Room FLOOR ELEVATION 119'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 127' east end of 4.16 Kv Swgr. room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-DRAIN-13A
4" drainline for turbine building op. deck inst. room sprinkler system (drain line painted red).

TARGET: TARGET CODE: E-4.16KVSWGR
"F" bus vital 4.16Kv Swgr.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
4" drain line with threaded connections and unknown materials of construction fails and impacts switchgear below.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Determine materials of construction for drainline. Verify integrity of drain line by simplified analysis (if possible), or support as required to eliminate interaction.

S. E. Traisman 07/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
4" C.I. threaded coupling was replaced by a new welded spore piece to eliminate impact to switchgear per ART #352.

B. Abella 03/05/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 03/17/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C [PSE] NPO NAN

G. Zaharoff 02/08/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 04/20/84
SIP PROJECT ENGINEER APPROVAL/DATE

SW

SHEET 1 OF 1

[illegible] ELECTRIC CO.
[illegible] NO. 1
SECONDARY [illegible] SYSTEM INSPECTION (WORK)
INTERIM NUCLEAR STATION PROJECT (INS)

SECTION NO.: 12-[illegible]

LOCATION: Electrical Rooms FLOOR ELEVATION 12'-0"

AREA ZONE:
Area and of "2" bus 4.16 KV SWGR room.

TYPE OF INSPECTING CRAFT/CRITERIA

Switchgear (PE [illegible]-03-1)

PROJECT CODE: [illegible]

PROJECT CODE: [illegible] & [illegible]

4.16 KV SWGR.

DESCRIPTION: PHENOMENON CODE DESCRIPTION
Switchgear fails from mounting base, [illegible] breaks off and parts
[illegible] shear becomes a missile that impacts switchgear.

RESOLUTION BY MANUFACTURER TEAM:
Existing shear [illegible] with quick-release clamping mechanism

[illegible] 12/20/82
[illegible] ORIGINATOR/DATE

[illegible]TION BY RESPONSIBLE DISCIPLINE:
As per ARF 486 and 373. Provided mounting details to maintenance
[illegible]rated structural steel, and clamping mechanism.

[illegible] 02/28/84
[illegible] ENGINEER/DATE

R. Deputy 03/03/84
ENGR. MANAGER SUPERVISOR/DATE

RC [illegible] RESPONSIBLE FOR RESOLUTION: CE SE [illegible] ENG MC MPAC [illegible] PSC MPD MAG

[illegible] 03/04/84
[illegible] CERTIFICATION BY MANAGER TIAM
(FOR ACCEPTATIONS ONLY)

[illegible] W. Hoyt 03/14/84
SIP PROJECT ENGINEER APPROVAL/DATE

[illegible]03/84

"C03/A/0085I-85]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-08-08

FIRE ZONE 13-A LOCATION Electrical Rooms FLOOR ELEVATION 119'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 119, east end of "F" bus 4.16 KV SWGR room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FE
CO_2 fire extinguisher (FE T119-03-1).

TARGET: TARGET CODE: E-4.16 KVSWGR
F bus 4.16 KV SWGR.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Fire extinguisher falls from mounting hook, nozzle breaks off and portable extinguisher becomes a missile that impacts switchgear.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Clamp extinguisher to wall with quick-release clamping mechanism.

S. E. Traisman 07/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Resolved per ART 486 and 373. Provided mounting detail to accomodate pyrocreated structural steel, and clamping mechanism.

S. Chestnut 02/08/84
DISCIPLINE ENGINEER/DATE

M. Denicke 02/08/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

S. Skochko 06/08/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 06/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

A.J.E. 8/28/84

[0034A/0085Z-33]

SHEET 1 OF 1

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
OPERATIONAL ASSURANCE SYSTEMS INSPECTION PROGRAM
INTER-DISCIPLINE DOCUMENTATION SHEET (IDS)

ITEM NO : 11-C-1-22-04

LOCATION Electrical Rooms FLOOR ELEVATION 115'-0"

REQUIRE CODE: B-PRATA-126.

Piping for washing building or deck hose, room sprinkler system (drain line not req).

TARGET CODE: F-A.16(USWGR)

Use class 4 16kV Swgr.

INTERFERENCE SPECIAL & PREFERRED

Pipe line with threaded connections and unknown materials of construction and impacts switchgear below.

RESOLUTION BY WALKDOWN TEAM

Use materials of construction for drain line. Verify integrity of drain line simplification analysis (if possible), or support as required to eliminate interference.

Hasman 02/20/82
DRIGINATOR/DATE

RESOLUTION BY RESPONSIBLE DISCIPLINE:
Per 329-1276, 329-1389, 329-1398, 229-1858, 329-1278 were issued on 11/18/82 using this IDS, per ART 4495.

11/18/83
ENGINEER/DATE

R. M. Krause 11/18/83
SMMA. GROUP SUPERVISOR/DATE

DISC. RESPONSIBLE FOR RESOLUTION: CE PE PMS ENG CO MANC TEC [PSE] NPO SMMA

Ch. Wm. 04/27/84
PROJECT WALKDOWN TEAM
(FOR NON-DISCIPLINES ONLY)

L. S. Horn 05/15/84
SUP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-09-04

FIRE ZONE 13-B LOCATION Electrical Rooms FLOOR ELEVATION 119'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 127', east end of 4.16kV Swgr. room.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-DRAIN-13B.
4" drainline for turbine building or deck inst. room sprinkler system (drain line painted red).

TARGET: TARGET CODE: E-4.16KVSWGR
"G" bus vital 4.16kV Swgr.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL & PIPEFAIL
4" drain line with threaded connections and unknown materials of construction fails and impacts switchgear below.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Determine materials of construction for drain line. Verify integrity of drain line by simplified analysis (if possible), or support as required to eliminate interaction.

S. E. Traisman 07/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Supports 339-137R, 339-138R, 339-139R, 339-186R, 339-187R were issued on 11/18/83 to resolve this IDS, per ART #495.

F. Green 11/18/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 11/18/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE FE FMS ENG GC HVAC I&C [PSE] NPO NAN

S. G. Chesnut 04/27/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 05/15/84
SIP PROJECT ENGINEER APPROVAL/DATE

SHEET 1 OF 1

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SAFETY-RELATED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

INTERACTION NO.: 1-FC-2-02

LOCATION: Electrical Bus FLOOR ELEVATION 12'0"

FIRE ZONE:
Turb. Bldg. swgr. room, area 9.

TYPE OF INTERACTING COMPONENTS

SOURCE CODE: MARK 1

Circuit breaker, ground only

TARGET CODE: E-415 VARGAS

Unit 1
4-16KV swgr.

INTERACTION

Fire initiates from swgr.

INTERACTING CODE: LOOSE

RESOLUTION BY WALKDOWN TEAM:
Equipment in room to be protect rolling/sliding or vibrate out of room during operation

Tomlinson 07/20/82
TEAM ORIGINATOR/DATE

RESOLUTION BY RESPONSIBLE DISCIPLINE
Design Engr.

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE ME EMD RC NUMA REG PSE [illegible] MAN

[illegible] 07/20/82
DISCIPLINE ENGINEER/DATE

E. B. Tomlinson
EMDA GROUP SUPERVISOR/DATE

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

[illegible] 06/08/84
SEP PROJECT ENGINEER APPROVAL/DATE

L. W. [illegible] 08/13/84

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-10-05

FIRE ZONE 13-C LOCATION Electrical Rms FLOOR ELEVATION 119'-0"

LOCATION WITHIN FIRE ZONE:
Elev. 119', 4.16KV swgr. room, area A.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: N-BKR
Spare circuit breaker, ground buggy.

TARGET: TARGET CODE: E-4.16 KVSWGR
"H" bus 4-16KV swgr.

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Source rolls/slides into swgr.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Fasten equipment in room to prevent rolling/sliding or relocate out of room during plant operation.

S. E. Traisman 07/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
See resolution sheet.

DWS 8/9/84

DISCIPLINE ENGINEER/DATE

J. D. Townsend
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE [NPO] NAN

S. Skochko 06/08/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 06/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

SHEET ___ OF ___

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
ELECTRICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION IMPLEMENTATION SHEET (IIS)

TRACKING / INTERACTION NO.: 22-01-11-01

LOCATION Electrical Room FLOOR ELEVATION 107

FIRE ZONE:
EAST END OF 6 BUS 4KV CABLE SPR. RACK

A. INTERACTING COMPONENTS

SOURCE CODE: E-SUBSTAT
Main bus duct from auxiliary standup transformer to vital 4.16 kV

TARGET CODE: E-CDC
Cable tray CDC

INITIAL VISUAL INSPECTION: DISPOSITION CODE: SPTRATL
Fan on 4 of bus duct fixed and rod hangers cause duct to fall onto target.
Main bus duct running through 4KV SWGR above has seismic supports.

RESOLUTION BY WALKDOWN TEAM:
Add ports to bus duct as req'd to eliminate interaction.

Jim Van 07/20/82
WALKDOWN ENGINEER/DATE

ACTION BY RESPONSIBLE DISCIPLINE:
Add additional support to bus duct per ECN M001-S-E-11463 Rev. 0

DISCIPLINE RESPONSIBLE FOR RESOLUTION OF SEE EVS ENG BC MECH LEAD PSE WPO MGA

M. Sanchez 07/19/82
DISCIPL. ENGINEER/DATE

C. Kahl 07/19/83
SUPR. GROUP SUPERVISOR/DATE

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

S. E. Tom Jan 01/20/84

E. W. Horn 01/20/84
SUP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-11-01

FIRE ZONE 12-B LOCATION Electrical Rooms FLOOR ELEVATION 107'

LOCATION WITHIN FIRE ZONE:
EL 112' EAST END OF G BUS 4KV CABLE SPR. ROOM

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-BUSDUCT
Distribution bus duct from standby startup transformer to vital 4.16 KV SWGR.

TARGET: TARGET CODE: E-GDC
Cable tray GDC

POSTULATED INTERACTION:. PHENOMENA CODE: SPTFAIL
Failure of bus duct fixed end rod hangers causes duct to fall onto target.
Note: bus duct running through 4KV SWGR above has seismic supports.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add supports to bus duct as req'd to eliminate interaction.

S. E. Traisman 07/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Install additional support to bus duct per DCN #DC1-S-E-11493 Rev. 0

KGS
7/20/84

N. Barangan 07/13/83
DISCIPLINE ENGINEER/DATE

C. Kahl 07/15/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 01/19/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

SHEET ___1___ OF ___1___

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
ELECTRICALLY ENHANCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

PUBLISHED INTERACTION NO.: 32-01-11-02

TITLE: ___ LOCATION Electrical Room FLOOR ELEVATION 117'

SUBSYSTEM:
East END OF 3 BUS & 4 KV CABLE SPR. ROOM

SUBSYSTEM INTERACTING COMPONENTS

Conduit bus duct from a relay start up transformer to 4160 kv

XMRCE CODE: D-000001

SOURCE: Bus duct
TARGET CODE: I-001

HAZARD DESCRIPTION:
Loss of bus duct frame and/or insulators causes bus duct to fall onto cable. Note bus duct runs through a HV SWGR above has seismic supports.

HAZARD CLASSIFICATION: SAFETY

1. PRELIMINARY BY WALKDOWN TEAM:
Proceeds to duct as req'd to eliminate interaction.

2. FINAL CRITERIA BY RESPONSIBLE DISCIPLINE:
Additional support to bus duct per LCM & DCN-S-E-1149 Rev. 0.

3. FINAL CRITERIA/DATE
Finalized 07/20/92

4. VALIDATION BY RESPONSIBLE DISCIPLINE:

PROFESSIONAL ENGINEER/DATE: W. Barton 07/23/92
SWRK. GROUP SUPERVISOR/DATE: K. Kahl 07/23/92

DISCIPLINE RESPONSIBLE FOR DESCRIPTION: CE EE EMS MEC CE, MAND INS ESE MPO HPA

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)
S.E. Tait 07/17/94
SYP PROJECT ENGINEER APPROVAL/DATE: L.M. Horn 07/26/94

(DS12/FINAL:p.3)

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-11-02

FIRE ZONE 12-B LOCATION Electrical Rooms FLOOR ELEVATION 107'

LOCATION WITHIN FIRE ZONE:
EL 112' EAST END OF G BUS 4 KV CABLE SPR. ROOM

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-BUSDUCT
Distribution bus duct from standby start up transformer to vital 4.16 KV SWGR.

TARGET: TARGET CODE: E-GDO
Cable tray GDD

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Failure of bus duct fixed end rod hangers causes bus duct to fall onto target. Note Bus duct running through 4 KV SWGR above has seismic supports.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add supports to bus duct as req'd to eliminate interaction.

S.E. Traisman 07/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Install additional support to bus duct per DCN # DC1-S-E-11493 Rev. 0.

Acts 7/26/84

N. Barangan 07/13/83
DISCIPLINE ENGINEER/DATE

C. Kahl 07/15/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 01/19/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 01/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

PG. & E. GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
NUCLEAR POWER GENERATING SYSTEMS INSPECTION PROGRAM
INTERSECTION DOCUMENTATION SHEET (IDS)

TRACKED INTERSECTION NO.: 3-01-11-03

AREA: 3A LOCATION: Electrical Rooms FLOOR ELEVATION: 115'

FIRE ZONE:
NUMBER OF 2 HR & 3 HR FIRE BRR ROOM

1. 1" SEALED OPENING DIMENSIONS

1.1 1" to 3" duct from the penetration 1-2 to the room. 4.13 of S-620

SEALED CODE: E-DEBOUT

CTL:
Cable tray PDC:

TRAPPET CODE: DATED:

CONTROLLED DEFERRATION:
Deficient application of bus duct seals impact fireproof bus duct and cable tray. Violating clearance 3" x 5" duct isolation by non sandpaper.

PROCEDURE/DOCUMENT SOURCE:

1. PROPOSED DISPOSITION:
Provide equal support to bus duct to eliminate interpretation.

DCA NUMBER: DATE:
DESIGN ORGANIZATION/DATE

DISPOSITION BY RESPONSIBLE DISCIPLINE:
1. Additional supports to bus duct per DCN 00013-E-12029 Rev. 0.

N. Brown 07/10/84
DISCIPLINE ENGINEER/DATE

C. Kahn 07/10/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLVING NCI: EGS (DCC) (NOC) (NVOC) (PEP) VPO NRA

S.E. Trembley 07/20/84
FIELD VERIFICATION BY ENGINEERING FIRM
(FOR MODIFICATIONS ONLY)

S.W. Horn 07/20/84
EGS PROJECT ENGINEER APPROVAL/DATE

(012/PIMR:p.10)

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-11-03

FIRE ZONE 12-A LOCATION Electrical Rooms FLOOR ELEVATION 107'

LOCATION WITHIN FIRE ZONE:
EL 112' SE CORNER OF F BUS 4.16 KV CABLE SPR ROOM

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-BUSDUCT
Distribution bus duct from aux transformer 1-2 to vital 4.16 KV SWGR

TARGET: TARGET CODE: E-FDC
Cable tray FDC

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Seismic excitation of bus duct causes impact between bus duct and cable tray. Existing clearance 3". Bus duct supported by rod hangers.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add bilateral support to bus duct to eliminate interaction.

S.E. Traisman 07/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Install additional support to bus duct per DCN #DC1-S-E-11493 Rev. 0.

AGB
7/20/84

N. Barangan 07/13/83
DISCIPLINE ENGINEER/DATE

C. Kahl 07/15/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 01/19/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 01/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

INTERACTED INTERACTION NO.: 85-D-.-25-10

TYPE 2-G COMPTON Electrical Rooms BLOCK ELEVATION ___

1. NUCLEAR FIRE ZONE:
1. EAST END OF G 2.5 & W 0.5 BAY AROUND

2. DESCRIPTION OF INTERACTING COMPONENTS

Conduit/cable tray duct bank from standby electric transformer to diesel bldg by others.

PARTS CODE: 2-BUSDUCT

VERT
Cable tray DCE

INDEX CODE: E-DDD

POSTULATED INTERACTION:
Seismic excitation of the electrical duct bank between duct and vital cable tray.

PROCEDURE CODE: SPTRAI

VII. PTS RESOLUTION BY INDEPENDENT TEAM:
Full bilateral support to duct bank to eliminate impact.

IX. RESOLUTION BY RESPONSIBLE DISCIPLINE:
Seismic additional support to duct bank "Wall-to-Conduit Rev. 0.

A. Tomlinson 07/24/85
DISCIPLINE ENGINEER/DATE

B. Garrison 07/24/85
DISCIPLINE ENGINEER/DATE

C. Fuhr 07/26/85
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE DYN ENG CC MECH MAT SYS PIPE ___

S.E. Tomlinson 07/26/85
FIELD VERIFICATION BY INDEPENDENT TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 07/26/85
DCP PROJECT ENGINEER APPROVAL/DATE

DCS12/FINAL:p 12)

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-25-10

FIRE ZONE 12-B LOCATION Electrical Rooms FLOOR ELEVATION 107'

LOCATION WITHIN FIRE ZONE:
EL 112' EAST END OF G BUS 4 KV CABLE SPR. ROOM

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-BUSDUCT
Distribution bus duct from standby startup transformer to vital 4.16 KV SWGR.

TARGET: TARGET CODE: E-GBD
Cable tray GDB

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Seismic excitation of bus duct causes impact between bus duct and vital cable tray.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install bilateral support to bus duct to eliminate impact.

S.E. Traisman 07/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Install additional support to bus duct per DCN #DC1-S-E-11493 Rev. 0.

AGB
1/20/84

N. Barangan 07/13/83
DISCIPLINE ENGINEER/DATE

C. Kahl 07/15/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 07/20/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 01/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

SHEET 1 OF 1

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 2
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

STUDIED INTERACTION NO. 34-A1-17-02

ZONE 1 SUBZONE AUXILIARY Diesel Gen. FLOOR ELEVATION 121'

ACTION ITEMS FOR LOCKE:
Wall to Auxiliary Room 1-7 Gen. Bldg Area 4 Cols. X and 15.

DESCRIPTION OF INTERACTING SYSTEMS:

SYS: DG's exciter/rotor (DG 8 & 9 15-12). SOURCE CODE: P-DETAIL

TARGET: Class 1 electrical equipment in vital AC SCCC room 1-2. TARGET CODE: E-TO SWGR

POSTULATED INTERACTION: PREVENTIVE CODE: DIRECT
Fire exciter/rotor causes off-normal, stable fail, normally breaks off and fire extinguisher becomes a missile which could impact Class 1 electrical equipment in vital DC SCCC room 1-2

FOR RESOLUTION BY INDUSTRY TEAM:
Provide quick response alternative analysis for the DG's fire extinguisher.
Note: This interaction is a result of final SSE area walkdown.

E. [illegible] 10/22/89
DESIGNATOR/DATE

ACTION TAKEN BY RESPONSIBLE DESIGNATOR:
[illegible] alternative analysis provided per ANT 4[illegible].

B. Chastain 11/22/89
DISCIPLINE PROJECT ENGR/DATE

J. Goodworth 11/28/89
PLANT TECHNICAL DIRECTOR/DATE

DISCIPLINE ENGINEER FOR RESOLUTION: DE EE [illegible] CMS DG MECH ANC PSE NRC NMS

G. Zahnero 02/08/94
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. M. Hoff 05/24/94
SIP PROJECT ENGINEER APPROVAL/DATE

3340/0085Z-3A7

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-27-02

FIRE ZONE 6-A-2 LOCATION Electrical Rooms FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
Vital DC Swgr. Room 1-2, Aux. Bldg Ara H Cols. K and 15.7.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-BOTTLE
CO_2 fire extinguisher (FE A115.12-12).

TARGET: TARGET CODE: F-DC SWGR
Class I electrical equipment in vital DC SWGR room 1-2.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Fire extinguisher comes off hook, bottle fall, nozzle breaks off and fire extinguisher becomes a missile which could impact Class I electrical equipment in vital DC SWGR room 1-2.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Provide quick release clamping mechanism for the CO_2 fire extinguisher.
Note: This interaction is a result of final SIP area walkdown.

S. E. Traisman 10/27/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Quick release clamping mechanism provided per ART 461.

S. Chestnut 11/05/83
DISCIPLINE ENGINEER/DATE

J. Longworth 11/05/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE [EMS] ENG GC HVAC I&C PSE NPO NAN

G. Zaharoff 02/08/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 06/14/84
SIP PROJECT ENGINEER APPROVAL/DATE

DJC. 8/31/84

[0034A/0085Z-34]

R. LEWIS TAS - ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO.
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 12-01-31-01

A. TYPE: [illegible] COMPONENT: Electrical Panel PROCEDURE: [illegible]

NATION LOCATION: FIRE ZONE:
EL [illegible] INTERACTORS:

DESCRIPTION OF INTERACTOR & COMMENTS:

TYPE: Fluorescent light fixture MANUFACTURER: [illegible]

SUBJECT: 125 [illegible] battery [illegible] TYPE OF INTERACTOR: [illegible]

POSTULATED INTERACTION: Light fixture falls in battery [illegible] damaged battery. SAFETY CONSEQUENCE: STATUS:

IDEA: [illegible] RESOLUTION IN WALKDOWN TEAM: [illegible] Integrity of light fixture.

E.G. [illegible] DATE:
[illegible] WALKDOWN ORGANIZATION/TEAM

RESOLUTION BY RESPONSIBLE DISCIPLINE

[illegible]

DISCIPLINE RESPONSIBLE FOR RESOLUTION: [illegible] PSE MPO [illegible]

E.G. Swain 09/11/85
DISCIPL [illegible] ENGINEER/DATE

E.G. [illegible] 09/11/85
ENGR. GROUP SUPERVISOR/DATE

E.E. [illegible] [illegible]
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

[illegible] 09/05/85
SUP PROJECT ENGINEER APPROVAL/DATE

[0021A/0067Z-

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-32-01

FIRE ZONE 6-A-1 LOCATION Electrical Rooms FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
EL 118, ENTIRE ZONE

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-6A1
Fluorescent light fixtures

TARGET: TARGET CODE: E-125VBATTER
125 V Vital battery 1-1.

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Light fixture falls on batteries, shorts out/damages batteries.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of light fixtures.

S.E. Traisman 07/22/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

ACB 7/25/84

Install back-up support chain per ART 353.

R.J. Swaim 03/21/83
DISCIPLINE ENGINEER/DATE

G.C. Bhatt 03/21/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO. NAN

S.E. Traisman 08/18/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 09/09/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0021A/0067Z-3]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-33-01

FIRE ZONE 6-A-2 LOCATION Electrical Rooms FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
EL 118, ENTIRE ZONE

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-6A2
Fluorescent light fixtures.

TARGET: TARGET CODE: E-125VBATTER
125 V Vital battery 1-2.

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Light fixture falls on batteries, shorts out/damages batteries.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of light fixtures.

S.E. Traisman 07/22/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

ACB 7/25/84 Install back-up support chain per ART 353.

R.J. Swaim 03/21/83
DISCIPLINE ENGINEER/DATE

G.C. Bhatt 03/21/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 08/18/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 09/09/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0021A/0067Z-2]

[illegible]

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-34-01

FIRE ZONE 6-A-3 LOCATION Electrical Rooms FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
EL 118, ENTIRE ZONE

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-643
Fluorescent light fixtures.

TARGET: TARGET CODE: E-125VBATTER
125 V Vital Battery 1-3

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Light fixture falls on batteries, shorts out/damages batteries.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of light fixtures.

S.E. Traisman 07/22/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Install back-up support chain per ART 353.

ACB 7/25/84

R.J. Swaim 03/21/83
DISCIPLINE ENGINEER/DATE

G.C. Bhatt 03/21/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/18/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/09/83
SIP PROJECT ENGINEER APPROVAL/DATE

[0021A/0067Z-1]

SHEET 1 OF 1

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

INTERACTION NO.: 32-01-34-01

1-3 LOCATION Electrical Rooms FLOOR ELEVATION 115'

FIRE ZONE:
FIRE ZONE

TYPE OF INTERACTING COMPONENTS

Exit Light Fixtures SOURCE CODE: F-LF-643

Vital Battery 1-3 TARGET CODE: E-125VBATTER

INTERACTION: PHENOMENA CODE: FIXTURE
Fixture falls on batteries, shorts out/damages batteries.

RESOLUTION BY WALKDOWN TEAM:
Verify integrity of light fixtures.

WALKDOWN ORIGINATOR/DATE 02/22/82

RESOLUTION BY RESPONSIBLE DISCIPLINE:

Install back-up support chain per ARF 343.

ENGINEER/DATE 03/21/83 ENGR. GROUP SUPERVISOR/DATE G.C. Bhatt 03/21/83

RESPONSIBLE FOR RESOLUTION: CE EE EMS EMG GC HVAC IEC PSE MPO MPM

RESOLUTION BY WALKDOWN TEAM (ACTIONS ONLY) 00/18/83 SIP PROJECT ENGINEER APPROVAL/DATE L. W. Horn 09/09/83

ATTACHMENT 7-A

TO THE PG&E

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

SCREENING OF MODIFICATIONS:

SAMPLE OF 50 EXPEDIENT MODIFICATIONS (E)

This attachment contains a representative selection of 50 Interaction Documentation Sheets (IDSs), resolved by modification and categorized as expedient. This screening information is provided at the request of the NRC. It represents the judgement of engineers regarding the categorization of the modification type (considered to be more cost effective than applying detailed analysis) that would show non-credibility of the interaction.

50 INTERACTIONS RESOLVI ' EXPEDIENT MODIFICATION

IDS NO.	SYSTEM/TARGET	PLANT AREA	SOURCE	RESOLUTION/COMMENTS
01-19-02-02	Auxilary Feedwater/ Conduit K2665-1"	Turbine Bldg.	Stairway #1b	Added stiffener plates to stair connection.
01-20-02-07	Auxiliary Feedwater/ Conduit K2666-1"	Turbine Bldg.	Air Operator Chamber for FCV 723	Target conduit re-routed.
28-04-17-02	Firewater/Manual Valve for Hosereel 145-T43-1	Turbine Bldg.	Light Fixture	Positive connection provided for light.
28-07-18-01	Firewater/ Line K-3297-2"	Turbine Bldg.	Compressed Gas Bottles	Bottles relocated.
23-24-06-01	Containment Spray/ Spray Additive Tank 1-1 and Associated Piping	Safety Related Pump Rooms	Nitrogen Supply Lines	Added 3 supports to nitrogen lines.
20-03-01-01	Component Cooling Water/CCW Pump 1-3	Safety Related Pump Rooms	Sprinkler Line	Modified existing support.
25-68-30-01	HVAC for Vital Equipment/Damper to RHR Pump 1-2 Room Exhaust	Safety Related Pump Rooms	Overhead Handrails	Handrail properly secured with mounting bolts.
30-01-62-02	Multiple/Misc. Piping & Valves in RHR Recirc. Chamber	Safety Related Pump Rooms	Platform Grating	Grating clips installed.
01-06-01-01	Auxiliary Feedwater/ AUX FW Pump 1-1	Safety Related Pump Rooms	Pipe Support & 8" Pipe	Clearance provided to avoid impact.
16-04-03-03	Safety Injection/ Conduit KT980-1"	Auxiliary Bldg.	Fire Extinguisher	Quick-release strap provided for extinguisher.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10-15-05-01	Water Screen/Chemical Feeder	Outside	Steel Pipe (5 [illegible]	[illegible] type suppo[illegible]
		Water		
10-11-01	Auxiliary Equipment/ Chemical Feeder, 25gal-3" Design Connection.	Outside	Carbon Steel Rackmounted	Clearance provided
		Water		
25-20-[illegible]-01	HVAC For Small Equipment Room/Chemical Room: [illegible] 100	HVAC Rooms	Copper Tubing Pipe (3").	Restricted 1 pipe hanger
25-25-05-01	HVAC For Small Equipment Room/ Water Heater	HVAC Rooms	Hot Water Copper Pipe	Source see [illegible] Flange-[illegible] package
28-00-00-11	Irrigation/Fire [illegible] 2"	Outside Bldg	Galvanized Steel Tank	Resilence pollution, expansion tanks
25-[illegible]-01	[illegible]	[illegible]	[illegible]	[illegible]

50 INTERACTIONS RESOLVED BY EXPEDIENT MODIFICATION

IDS NO.	SYSTEM/TARGET	PLANT AREA	SOURCE	RESOLUTION/COMMENTS
03-28-01-01	Main Steam/Instr. Tubing to PCV-22	Penetration Area	Platform	Tubing re-routed.
18-01-23-02	Residual Heat Removal/Valve 8716A Power Cable	Penetration Area	Misc. Overhead Piping	1 pipe support added to prevent impact
11-05-10-01	Charging and Boration/ Tubing to HCV-142	Penetration Area	Conduit	Conduit support added.
28-05-56-03	Firewater/Line 3609-4"	Penetration Area	Adjacent Pipes/ Supports	4 supports added to source piping.
03-22-01-01	Main Steam/Instr. Tubing to PCV-19	Outside Areas	Platform Grating	Protective channel installed.
03-22-08-01	Main Steam/Conduit K5849-3"	Outside Areas	Steam Line (2")	2 pipe supports added.
01-03-11-01	Auxiliary Feedwater/ AFW Line 576-3" Drain Connection	Outside Areas	Grating Kickplates	Clearance Provided
25-70-09-01	HVAC for Vital Equipment/Damper Nos. 10 & 10A	HVAC Rooms	Copper Drain Pipe (3")	Replaced 1 pipe hanger.
28-04-04-11	Firewater/Line 2666-6"	Turbine Bldg	Demineralizer Tanks	Replace bolts/add expansion anchors.
25-42-02-01	HVAC for Vital Equipment/HEPA filters	HVAC Rooms	Hoist w/ Attached Chains	Source secured to tiedown bracket.

30-01-10	Philippines Class 1	Cebu	Mandaue	Mandaue Spring Co. Inc.	Mandaue Spring Co. Inc.
30-12-10	Mandaue Spring Co. Inc.	Cebu	Lapu-Lapu	Lapu-Lapu Industrial Park	Lapu-Lapu Industrial Park
30-10-01	Cebu Industrial Park	Cebu	Cebu City	Cebu City, Mandaue City	Cebu City, Mandaue City
30-11-02	Cebu Industrial Park	Cebu	Cebu City	Cebu City, Mandaue City	Cebu City, Mandaue City
30-05-03	Mandaue Spring Co. Inc.	Cebu	Mandaue	Mandaue Spring Co. Inc.	Mandaue Spring Co. Inc.
30-11-03	Mandaue Spring Co. Inc.	Cebu	Mandaue	Mandaue Spring Co. Inc.	Mandaue Spring Co. Inc.

50 INTERACTIONS RESOLVED BY EXPEDIENT MODIFICATION

IDS NO.	SYSTEM/TARGET	PLANT AREA	SOURCE	RESOLUTION/COMMENTS
20-44-18-01	Component Cooling Water/CCW Surge Tank & Associated Piping	HVAC Rooms	Microwave Antenna	Added stiffener plates to antenna support.
07-25-06-01	Reactor Coolant System/Conduit KT072 & K5794	Electrical Rooms	Fire Protection Piping	Added 1 pipe support.
32-01-09-03	Electrical Power System/"G" Bus Vital 4.16KV Switchgear	Electrical Rooms	Light Fixture	Added brace to restrain light fixture.
30-01-99-02	Multiple/Conduit Associated with Hot Shutdown Panel	Electrical Rooms	Panel XTR-84	Additional bolts provided to panel base.
30-01-67-01	Multiple/Vertical Control Board #3	Control Room	Digital Clock	Clock relocated.
30-01-65-03	Multiple/Misc. Electrical Components & Conduits	Electrical rooms	Equipment Hatch Covers	Hatch covers secured.
24-07-01-05	Diesel Generators/ DG 1-1	Diesel Generators	Cardox and Drain System Piping	Added 11 pipe hangers.
24-07-01-01	Diesel Generators/ DG 1-1	Diesel Generators	Monorails (2) and Hoists	Hoists secured w/ monorail stops. (Monorail itself qualified by analysis.)
25-177-02-01	HVAC for Vital Equipment/DG 1-1 Vent. Duct	Diesel Generators	Roll-up Fire Door #105	Warning sign provided. (Door itself qualified by analysis.)
30-01-70-01	Multiple/Class I Control Boards	Control Room	Lead Shield for Rad. Calibration Device	Provided restraint for shield.

30-01-03-03	Multiple/Misc. Class 1 Components	Containment	Numerous Valve Handwheel Chains	Secured closure
07-03-01-02	Reactor Coolant System/Tubing for LT-460	Containment	Grating	Clearance provided to avoid interaction.
15-32-05-02	Safety Injection/ Conduit K1741	Containment	Grating	Clearance provides to avoid interaction.
27-03-09-01	Firewater/Line 3156-2"	Containment	Unistrut Cantilevered Support	Unistrut cut to avoid interference.
17-01-05-01	Safety Injection/ Valve 9803A Power & Control Cable	Auxiliary Bldg.	1" Line	Added 1 pipe support.

50 INTERACTIONS RESOLV' 'BY EXPEDIENT MODIFICATION

IDS NO.	SYSTEM/TARGET	PLANT AREA	SOURCE	RESOLUTION/COMMENTS
06-01-01-06	Reactor Coolant System/Reactor Vessel & CRDM	Containment	Cable feeder. trolley for polar crane	Added hoist stop and cable restraint to trolley.
30-01-09-01	Multiple/Misc. Class I Components	Containment	Aux. Steam Line 3456-1"	Modified/added numerous hangers; rerouted portion of source line.
17-01-22-01	Safety injection/Line 1992	Containment	Nitrogen Supply Line	Modified existing support for source line.
10-02-01-01	Charging & Boration/ Seal Water Line 1479-2"	Containment	Air Supply Line	Added 2 bilat supports for source line.
06-01-04-03	Reactor Coolant System/Flux Monitor Tubing	Containment	Nitrogen Storage Bottle	Modified bottle restraint.
30-01-03-01	Multiple/Misc. Class I Components	Containment	Numerous Valve Handwheel Chains	Secured chains.
07-09-01-02	Reactor Coolant System/Tubing for LT-460	Containment	Grating	Clearance provided to avoid interaction.
15-32-05-02	Safety Injection/ Conduit K1741	Containment	Grating	Clearance provided to avoid interaction.
28-03-09-01	Firewater/Line 3156-2"	Containment	Unistrut Conduit Support	Unistrut cut to avoid interference.
17-01-05-01	Safety Injection/ Valve 8803A Power & Control Cable	Auxiliary Bldg.	1" Line	Added 1 pipe support.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]-04-01-03	Reactor Coolant Sys/ LT 459 Tubing	Containment	Spring Hanger Can	Lowered spring can to avoid impact.
10-13-01-03	Charging & Boration/ Line 7A5-3" (RCP Seal Injection)	Penetration	Pipe Whip Restraint Plate	Corner of plate cut to provide clearance.
15-02-06-01	Safety Injection/ Instr. Tubes to FT922	Penetration	Light Fixture Conduit	Conduit re-routed
03-58-06-02	Main Steam/Conduits K1062 & K5815	Outside Areas	Platform	Grating welded to platform.
05-08-01-01	Main Steam/FCV-763	Containment	Line 3047-5"	Insulation on source line removed to provide clearance.

50 INTERACTIONS RESOLVED - EXPEDIENT MODIFICATION

IDS NO.	SYSTEM/TARGET	PLANT AREA	SOURCE	RESOLUTION/COMMENTS
30-01-77-01	Multiple/Aux. Bldg. Sump	Auxiliary Bldg.	Package Boiler Fuel Oil	Sump pump auto-start switch removed to prevent interaction.
20-63-03-01	Component Cooling Water/CCW Tubing in Central Sample Panel	Auxiliary Bldg.	Light Fixture	Safety chain added.
20-63-03-02	Component Cooling Water/CCW Line in Central Sample Panel	Auxiliary Bldg.	Condensate Collection Tank	Tank braced to avoid interaction.
28-05-84-03	Firewater/Line 3688-2"	Auxiliary Bldg.	Rod Support to HVAC Duct	Rod support relocated.
28-04-11-03	Firewater/Valve to Hosereel FW-120-A37	Auxiliary Bldg.	Battery Operated Light	Light replaced by seismically qualified unit.
07-08-01-03	Reactor Coolant Sys/ LT 459 Tubing	Containment	Spring Hanger Can	Lowered spring can to avoid impact.
10-13-01-03	Charging & Boration/ Line 746-3" (RCP Seal Injection)	Penetration	Pipe Whip Restraint Plate	Corner of plate cut to provide clearance.
15-02-06-01	Safety Injection/ Instr. Tubes to FT922	Penetration	Light Fixture Conduit	Conduit re-routed.
03-58-05-02	Main Steam/Conduits KT062 & K5815	Outside Areas	Platform	Grating welded to platform.
05-08-01-01	Main Steam/FCV-763	Containment	Line 3847-6"	Insulation on source line reworked to provide clearance.

SHEET 1 OF 1

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMIC SYSTEMS INTERACTION PROGRAM
DOCUMENTATION SHEET (IDS)

-C -02

Turbine Building FLOOR ELEVATION 104'

Cycle 1, Cols. 0 and 7

WELDS

SOURCE CODE: C-STAIR-104

TARGET CODE: E-K2665-1

PHENOMENA CODE: CIVIL/FAIL

TERM:

simplified analysis.

DISPLINE:

qualified with modifications See

R. Sarkar
ENGR. GROUP SUPERVISOR/DATE

EC FMS ENG GC HVAC I&C PSE NPO MAN

L.W. Horn 1/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-19-02-02

FIRE ZONE 14-A LOCATION Turbine Building FLOOR ELEVATION 104'

LOCATION WITHIN FIRE ZONE:

Elev. 118' in vicinity of stairwell 1B, Cols. C and 7

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-STAIR-14A

Stairway 1B - Elev. 104' to 119'

TARGET: TARGET CODE: E-K2665-1

Conduit K2665-1"

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL

Stairway fails, impacts conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Verify integrity of stairway by simplified analysis.

S.E. Traisman 7/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

The stairway has been seismically qualified with modifications. See ART #394 and Calc. #01-19-02-02.

S. Gaballah
DISCIPLINE ENGINEER/DATE

B. Sarkar
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 1/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

SHEET 1 OF 1

GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SYSTEMS INTERACTION PROGRAM
INTERACTION SHEET (IDS)

IDS #

Turbine Building FLOOR ELEVATION 104'

TS

SOURCE CODE: PG-FCV722
(n) could bypass around SW ovsp

TARGET CODE: E-X2666-1

PHENOMENA CODE: MECHFAIL
Ejection
Tel

COMM:
by simplified analysis.

PLINE:
with cross I-beam running between
(See Art. 423)

C. Kahl 08/05/83
ENGR. GROUP SUPERVISOR/DATE

EE EMS EMC GC HVAC IEC PSE NPO MAN

L. W. Horn 1/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-20-02-07

FIRE ZONE 14-A LOCATION Turbine Building FLOOR ELEVATION 104'

LOCATION WITHIN FIRE ZONE:
El 116' Col Line 6 between C and D

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FCV723
Air Operator Chamber for FCV-723 (on cond. bypass around SW evap Line - 24")

TARGET: TARGET CODE: E-K2666-1
K2666-1" conduit

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Air operator chamber fails at connection to valve operator. Conduit located 1-1/2" below chamber, is damaged.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of Air Chamber by simplified analysis.

S. E. Traisman 07/20/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Re-route conduit K2666-1" underneath cross I-beam running between Col. 5 and 6 at Column Line "C". (See Art. 423)

N. Barangan
DISCIPLINE ENGINEER/DATE

C. Kahl 08/05/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 1/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

0040Z/0010Z-45

SHEET 1 OF 1

-IC GAS & ELECTRIC CO.
/AYOW PLANT, UNIT NO. 1
"E. SYSTEMS INTERACTION PROGRAM
CUMENTATION SHEET (IDS)

ZONE

ZONE BUILDING FLOOR ELEVATION IAD

. AGENTS

SOURCE CODE: C-LR-IAD
Line.)

TARGET CODE M-HR

PHENOMENA CODE: FIXTURE

TEAM:
LUTES.

DIRECTIVE:
s/B to prevent interaction

G. C. Bhatt
ENGR. GROUP SUPERVISOR/DATE

CC EE EMS ENG GC HVAC IEC PSE NPO MAN

L. W. Horn 01/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-17-02

FIRE ZONE 14D LOCATION TURBINE BUILDING FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
-- ELEV. 145, NEAR ELEVATOR

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-14D
Light fixtures (top of turbine bldg.)

TARGET: TARGET CODE: M-HR
Valve to hose reel 145-T43-1

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Fixtures fall impact valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of light fixtures.

M. G. Jones 11/13/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modification provided per Art. 378 to prevent interaction.

R. J. Swain
DISCIPLINE ENGINEER/DATE

G. C. Bhatt
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

SHEET 1 OF 1

[illegible] & ELECTRIC CO.
[illegible] PLANT, UNIT NO. 1
[illegible] SYSTEMS INTERACTION PROGRAM
[illegible] SHEET (IDS)

Building FLOOR ELEVATION 140

[illegible] A and C

SOURCE CODE: M-SCTTLE
[illegible] Manual (property of ICC

TARGET CODE: P-3291-2
[illegible] TW-1AE-T39-1

PHENOMENA CODE: SPTFAIL
[illegible] mounted off structural handrail.
[illegible] the upper-most black scaffolding chain,
[illegible] bottle becomes a missile which

[illegible] method for bottles. Verify its
[illegible] tion.

[illegible] cable cans are to remain on bottles
[illegible] or modify procedures to reflect same

[illegible]:
[illegible] No DCC-23-NO-P0025.

J. Vranicar 12/27/83
ENGR. GROUP SUPERVISOR/DATE

[illegible] EMS ENG CC HVAC ISC PSE NPO MAN

SIR PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-07-18-01

FIRE ZONE 14-D LOCATION Turbine Building FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Turbine Bldg. Operating Deck, Columns 4 and E
south side of stairwell

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-BOTTLE
Compressed gas bottles chained to stairwell handrail (property of I&C Operating Personnel)

TARGET: TARGET CODE: P-3297-2
Firewater Line K-3297-2" to horsereel FW-145-T39-1

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Bottles secured by brackets and chains mounted off stairwell handrail. Seismic event causes bottles to slip underneath slack securing chain, bottles fall, nozzles break off, and bottle becomes a missile which impacts firewater piping in area.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
1. Provide more positive securing method for bottles. Verify its adequacy by Engineering Evaluation.
2. Relocate bottles out of area.
3. Post sign to indicate bottle nozzle caps are to remain on bottles (other than when in use) and/or modify procedures to reflect same.

S.E. Traisman 10/27/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Bottles have been relocated. See NPPR No. DCO-23-NO-P0025.

T.G. Hook
DISCIPLINE ENGINEER/DATE

J. Vranicar 12/27/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

SHEET 1 OF 1

[illegible]S & ELECTRIC CO.
[illegible]W PLANT, UNIT NO. 1
[illegible]YSTEMS INTERACTION PROGRAM
[illegible]ERPRETATION SHEET (IDS)

[illegible]

[illegible] Rmo Room FLOOR ELEVATION 73'

[illegible]pray adjacent tank 1-1

[illegible]S

SOURCE CODE: F-U35-3[illegible]

TARGET CODE: M-SAT

[illegible]ricated piping

PHENOMENA CODE: SPTRUN

[illegible] due to lack of vertical support and

[illegible]:

[illegible]horizontal run of 2" N_2 supply
[illegible]

[illegible]:

[illegible]d horizontal runs. See generic
[illegible] 267 and 268, and "as-built"
[illegible] 116.

[illegible]M. Krause 8/12/83
ENGR. GROUP SUPERVISOR/DATE

E. [illegible] CMG QC HVAC ICC PSE NPO NAW

L.W. Horn 1/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 23-24-06-01

FIRE ZONE 3F LOCATION Safety Related Pump Rooms FLOOR ELEVATION 73'

LOCATION WITHIN FIRE ZONE:
Elev. 73', along east wall near spray additive tank 1-1

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-USB-3F
2" and 1" N_2 Supply Line

TARGET: TARGET CODE: M-SAT

Spray Additive Tank 1-1 and associated piping

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL

Piping falls or deflects excessively due to lack of vertical support and impacts spray additive tank.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Add vertical pipe support at 12" horizontal run of 2" N_2 supply pipe at elevation 95', as a minimum.

M.G. Jones 7/22/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Added 3 pipe supports at vertical and horizontal runs. See generic DCN-DC1-EP-5061, Hgr. No. 049339 Sht. 267 and 268, and "as-built" condition on Hgr. dwg. No. 049339 Sht. 118.

C.R. Van Natta 8/12/83
DISCIPLINE ENGINEER/DATE

K.M. Krause 8/12/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAM

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 1/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

0040Z/0010Z-58

SHEET 1 OF 1

G & E ELECTRIC CO.
PLANT, UNIT NO. 1
SYSTEMS INTERACTION PROGRAM
INSPECTION SHEET (ISS)

Project Name/Room FLOOR ELEVATION 75'

SOURCE CODE P-IPE-303

TARGET CODE: U-CNWPP1-3

CHECKERIN CODE: SPTRAIL

Trapeze
Joints
Pipe could

DCM-DC1-EP-E001 -

E.W. Krause 9/8/83
EMPP. GROUP SUPERVISOR/DATE

Y ESS QC HVAC I&C PSE NPO MAN

I.W. Horn 10/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-03-01-01

FIRE ZONE 3J3 LOCATION Safety Related Pump Rooms FLOOR ELEVATION 73'

LOCATION WITHIN FIRE ZONE:
CCW Pump 1-3 Room, Elev. 73

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-3J3
1" Branch from 2" Sprinkler Line

TARGET: TARGET CODE: M-CCWPP1-3
CCW Pump 1-3

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Lateral support needed at end of branch to preclude overstress of threaded joint and subsequent failure of pipe which could fall on CCW Pump 1-3.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add support to prevent interactions.

M.G. Jones 5/6/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modified existing support - See Generic DCN-DC1-EP-5061 - Hgr. Drwg. No. 049339-339/362R

C.R. Van Natta 9/6/83
DISCIPLINE ENGINEER/DATE

K.M. Krause 9/8/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 10/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 10/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

SHEET 1 OF 1

[illegible] ELECTRIC CO.
PLANT, UNIT NO. 1
[illegible] INTERDICTION PROGRAM
[illegible] SHEET (IDS)

[illegible] FLOOR ELEVATION 731

SOURCE CODE: CHARCOAL

TARGET CODE: [illegible]

PROCESSING CODE: LOOSE

[illegible] Crystal Bordras]

Date [illegible] 24-58-29-01 [illegible] secured

[illegible] Wolfe 2/4/81
INPO, SHOUP SUPERVISOR/DATE

[illegible] ERC QC HVAC IEC PSE WPO MAN

Lee Horn 8/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-68-30-01

FIRE ZONE 3B1 LOCATION Safety Related Pump Rooms FLOOR ELEVATION 73'

LOCATION WITHIN FIRE ZONE:
Elev. 73', RHR Pump 1-2 Room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-HANDRAIL

Overhead Handrails (2)

TARGET: TARGET CODE: H-DAMPER

Damper to RHR Pump 1-2 Room Exhaust

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE

Handrails fall, impact damper.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Ensure integrity of handrails by analysis. Tighten handrail mounting bolts.

M.G. Jones 6/25/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Handrails qualified by analysis (see Calc. No. 25-68-29-01) and secured with mounting bolts per ART #068.

S. Hanusiak 1/30/81
DISCIPLINE ENGINEER/DATE

E. Wollak 2/4/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

M. Baker 8/2/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 8/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

0040Z/0010Z-63

SHEET 1 OF 1

[illegible] & ELECTRIC CO.
[illegible], UNIT NO. 1
TEMS UNIT-CLOSE PROGRAM
[illegible] (TDS)

[illegible] FLOOR ELEVATION 607'

[illegible]

PAGE CODE [illegible]-PRIME

PROJECT CODE M 88228

[illegible] Number [illegible]-2

PRESERVING CODE LOOSE

[illegible]

[illegible]

[illegible]

D. [illegible]
D. M. GROUP SUPERVISOR/DATE

[illegible] GC MAC LEC PSE INO MAM

J. W. [illegible] 1/19/84
S/P PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-62-02

FIRE ZONE 3-B-2 LOCATION Safety Related Pump Rm FLOOR ELEVATION 62'

LOCATION WITHIN FIRE ZONE:
Elev. 66' Protective Chamber for Penetration 29-171°

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-GRATING
Steel Platform Grating

TARGET: TARGET CODE: M-8982B

Class I Piping, Valves in RHR Recirculating Water Chamber 1-2

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Grating not attached to platform, grating comes loose and impacts targets.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install hold-down clips to grating.

S.E. Traisman 7/27/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Grating clips installed per ART 429.

S. Gaballah
DISCIPLINE ENGINEER/DATE

B. Sarkar
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 11/2/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 1/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-06-01-01

FIRE ZONE 3-Q-1 LOCATION Safety Related Pump Rooms FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:

Elev. 100, over auxiliary feedwater pump 1-1

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-2442-6

Pipe support to aux. steam pipe line 2442 and line 1862-8"

TARGET: TARGET CODE: M-AFWPP1-1

Auxiliary feedwater pump 1-1

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT

Pipe support contacts line 1862. Repeated contact due to thermal and seismic and other movements results in leakage from line 1862 impinging on auxiliary feed pump 1-1.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Relocate pipe support away from line 1862.

M. Jones 6/24/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Support member cut to provide adequate clearance.

C.R. Van Natta
DISCIPLINE ENGINEER/DATE

K.M. Krause
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 16-04-03-03

FIRE ZONE 3-R LOCATION AUXILIARY BUILDING FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
EL 115' COLS 11 AND V

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FE
CO_2 Fire ext. FE-F115-02-1

TARGET: TARGET CODE: E-KT980-1
Conduit KT980-1"

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Fire ext comes off hook, nozzle breaks off, and fire ext. becomes a missile which impacts conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Clamp fire ext. in place with a quick release mechanism.

S. E. Traisman 07/21/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Quick release mechanism provided per Art. 373

J. Haake
DISCIPLINE ENGINEER/DATE

J. Longworth
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-28-01-01

FIRE ZONE 3BB LOCATION PENETRATION AREA FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
ELEV. 140, OUTSIDE BY MAIN STEAM LOOPS 3 & 4 RELIEF VALVES

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-3BB
Platform & Grating

TARGET: TARGET CODE: I-PCV22
Instrument tubing to PCV-22

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral movement of platform results in tubing being compressed between platform and main steam loop 4 relief header.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Reroute tubing away from platform and main steam relief header.

M. G. Jones 06/10/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Tubing rerouted per ART 272

DISCIPLINE ENGINEER/DATE

Not Required
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/31/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/29/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 18-01-23-02

FIRE ZONE 3BB LOCATION PENETRATION AREA FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
-- ELEV. 100, NEAR OUTER WALL, COL 15.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-3BB
Valve 8716A

TARGET: TARGET CODE: I-8716A
Overhead 1" and 1 1/2" lines (4604 & 1450) and 4" caustic line.

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Lateral movement of overhead pipe impacts power & control cable to valve 8716A motor operator.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add lateral support to lines (caustic, 4604 & 1450) to preclude deflection.

M. G. Jones 04/30/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Additional support per hanger drawing 049339-339/344R will prevent all three pipes fromer interacting with valve 8716A motor operator and, thereby, resoves this interaction.

C. R. VanNatta 08/25/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 08/25/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 10/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 11-05-10-01

FIRE ZONE 3BB LOCATION Penetration Area FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 85, GE Area, NE Corner by Containment

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-R-3BB
Overhead small conduit

TARGET: TARGET CODE: I-HCV142
Tubing to HCV-142

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Conduit falls due to lack of support.
(9.5' between clips)

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add support clips to conduit as follows:
1. Over HCV-142 midway between existing support clips.
2. Over tubing as close to south wall of chamber as possible.

M. G. Jones
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Add Conduit Supports. See DCN no DCI-EE-699.

R. Parodi 07/07/80
DISCIPLINE ENGINEER/DATE

R. Young 07/11/80
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

Mark Barker
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/19/8
SIP PROJECT ENGINEER APPROVAL/DATE

0040Z/0010Z-52

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-05-56-03

FIRE ZONE 3BB LOCATION PENETRATION AREA FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
ELEV. 95, MID ROOM OVER MECH. PANEL 77

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3252-1.50
Lines 3252 & 3253, 1-1/2"; SCW Lines

TARGET: TARGET CODE: P-3609-4
4" Firewater pipe, line 3609-4" (unit 1)

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral deflection of lines 3252 & 3253 results in impact with 4" firewater pipe (3 contact points).

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add lateral restraints as required to lines 3252 & 3253 to preclude contact.

M. G. Jones 04/29/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added 4 (four) supports by generic DCN-DC1-EP-5061 - HGR No. 049339 - 339/332 R, 339/334R, 339/336R & 339/341R.

C. R. VanNatta
DISCIPLINE ENGINEER/DATE

K. M. Krause
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 02/03/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-22-08-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
El. 106, at Turbine Bldg. wall, near door 386 entrance to Auxiliary Bldg.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-USB-28
2" Dia. Steam Line to Reverse Osmosis System

TARGET: TARGET CODE: E-K5849-3
Conduit K5849-3"

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral motion coupled w/failure of fixed end rod hangers of source pipe results in impact with conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add bilateral pipe support to source pipe to reduce lateral motion. Add to beam between turbine and containment buildings, Azimuth 270°. Keep lateral gaps at a minimum.

M. G. Jones 06/30/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Recommended resolution - OK. Add 2 Pipe Supports.
See DCN-DCI-EP-5061-HGR. DWG. 049339-339/350R & 351R.

C. R. Van Natta 10/10/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 10/10/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-22-01-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
El. 122, along outside wall of containment by MS Loops 1, 2

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-28
Platform grating

TARGET: TARGET CODE: M-PCV19
Instrument Tubing to PCV-19

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Grating slide into tubing due to failure of hold down clips.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install protection around tubing, possibly by using unistrut or channel steel.

M. G. Jones 06/10/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Channel steel installed to protect tubing.

DISCIPLINE ENGINEER/DATE

Not Required
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/31/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/29/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-03-11-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
El. 110, MS Loop 2 Area

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-Plat-28

Grating Kick Plate

TARGET: TARGET CODE: P-0576-3

AFW Line 576 - 3" Drain Connection

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE

Grating slides into 1" drain connection causing kick plate to impact drain connection.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Cut kick plate away from drain connection to preclude contact.

M. G. Jones 06/11/ 80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Grating kick plate cut away to provide clearance.
See work request No. C-507.

S. Hanusiak
DISCIPLINE ENGINEER/DATE

E. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 01/26/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 03/07/83
SIP PROJECT ENGINEER APPROVAL/DATE

0040Z/0010Z-46

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-70-09-01

FIRE ZONE 8B1 LOCATION HVAC Rooms FLOOR ELEVATION 154'

LOCATION WITHIN FIRE ZONE:
Elev. 158, in Mechanical Room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-DRAIN-8B1
3" Copper Drain Pipe

TARGET: TARGET CODE: H-DAMPER

Dampers 10 & 10A

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Drain pipe falls on dampers due to failure of fixed-end rod supports and soldered connections.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Replace existing fixed-end rod hangers with clevis end rod hangers on 3" drain pipe.

M.G. Jones 12/10/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Pipe support added per Hanger Dwg. 04939 Sht. 135 in DCN-DC1-EP-3606.

C.R. Van Natta
DISCIPLINE ENGINEER/DATE

K.M. Krause
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 8/24/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 9/19/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-04-11

FIRE ZONE 14A LOCATION TURBINE BUILDING FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
ELEV. 100, NORTHEAST CORNER

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-DENIM
Evaporator distillate demineralizers

TARGET: TARGET CODE: P-2666-6
Line 2666-6"; firewater header

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Demineralizers overturn, impact line 2666.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure by analysis that demineralizers will not overturn.

M. G. Jones 11/06/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Additional support provided for demineralizers to prevent overturning during seismic event. See DCN# DCI-EM-986.

G. B. Page
DISCIPLINE ENGINEER/DATE

R. M. Laverty
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/18/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/19/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-42-02-01

FIRE ZONE 3P4 LOCATION HVAC Rooms FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
HEPA Filter Room, Elev. 115'

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-HOIST-3P4

Overhead 1/8 Ton Hoist and Attached Chains

TARGET: TARGET CODE: H-FILTER

HEPA Filters

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL

Chains impact filters due to movement of hoist on trolly.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Secure hoist to existing tie-down brackets located on north wall.

M.G. Jones 5/21/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Per work request No. C-474, source secured to tie-down bracket.

S. Hanusiak 2/19/81
DISCIPLINE ENGINEER/DATE

E. Wollak 3/9/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 2/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 2/16/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-44-18-01

FIRE ZONE Over zones 8C & 8B1 LOCATION HVAC Rooms FLOOR ELEVATION 163'

LOCATION WITHIN FIRE ZONE:
Roof of Auxiliary Bldg., elev. 171'

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-ANTENNA

Microwave Antenna & Support Tower

TARGET: TARGET CODE: M-CCWTANK

CCW Surge Tank & Attached Nozzles Piping, etc.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Antenna & tower topple, impact CCW surge tank.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of antenna and support structure by analysis.

M.G. Jones 5/7/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Stiffener plates added to antenna. See Calc. No. 20-44-18-01 and ART No. 263.

S. Hanusiak
DISCIPLINE ENGINEER/DATE

E. Wollak 7/16/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 10/28/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 07-25-06-01

FIRE ZONE 7-A LOCATION Electrical Rooms FLOOR ELEVATION 128'

LOCATION WITHIN FIRE ZONE:
El. 128', south of Rack #24

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-USB-7A
Fire Protection Piping (1-1/2" red) small bore

TARGET: TARGET CODE: E-KT072+
KT072, K5794 (Conduit)

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Fire protection piping could fail due to threaded joints and excessive span.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of piping either by analysis or by providing support modification.

Paul Anderson 06/04/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Add support per Hanger Drawing 049339, Sht. 131 in DCN-DC1-EP-3606.

C. R. Van Natta 09/21/83
DISCIPLINE ENGINEER/DATE

J. Longworth 01/12/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/21/83
SIP PROJECT ENGINEER APPROVAL/DATE

0040Z/0010Z-50

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-09-03

FIRE ZONE 13-B LOCATION Electrical Rooms FLOOR ELEVATION 119'

LOCATION WITHIN FIRE ZONE:
Elev. 127', "G" Bus 4.16kV Swgr Room, Area A

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-13B
Fluorescent Light Fixtures at North end of Swgr Room

TARGET: TARGET CODE: E-4.16KVSWGR
"G" Bus Vital 4.16kV Swgr

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Light fixtures fall and impact switchgear.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add lateral brace to restrain light fixtures (similar fix to what has been done for South bank of light fixtures in same room).

S.E. Traisman 7/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Add lateral brace to restrain the above lighting fixtures as per ART #432.

S. Wang
DISCIPLINE ENGINEER/DATE

S. Auer
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 1/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-99-02

FIRE ZONE 5A4 LOCATION 100 FLOOR ELEVATION 100

LOCATION WITHIN FIRE ZONE:
Adjacent to PM-199 (outside 480V Vital Swgr Rooms)
Area H, Cols H and 15.7

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: I-XTR-84
Panel XTR-84, Class II Gen Stator Temp Data Logger - South of H.S.D. Panel

TARGET: TARGET CODE: I-H01
Class I conduits associated with H.S.D. Panel

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Panel fails and damages targets. Targets are various Class I conduits coming out of Hot Shutdown Panel as well as other Class I conduits in area.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify by analysis panel will not fail. If found to fail modify panel to preclude interaction.

S. Skochko 3/15/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Add bolts to base of XTR-84 per ART 442. Refer also to Calc. 80-01-99-02.

S. Skochko 9/14/83
DISCIPLINE ENGINEER/DATE

J. Meierdierks 9/15/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 11/29/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 1/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-67-01

FIRE ZONE 8-C LOCATION Control Room FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 144', Main Control Board

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-CLOCK
Battery Operated Digital Clock over vertical board #3

TARGET: TARGET CODE: GENERIC

Vertical Board #3 Controls and Indicators

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Clock separates from mounting bracket and falls onto control board.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of clock mounting bracket by simplified analysis.

S.E. TRAISMAN 7/28/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Clock removed from area.

S. Wang
DISCIPLINE ENGINEER/DATE

S. Auer
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 1/19/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 1/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-65-03

FIRE ZONE 6-A-5 LOCATION ELECTRICAL ROOMS FLOOR ELEVATION NUMEROUS

LOCATION WITHIN FIRE ZONE:
- EL. 85' TO 127'4" COL 16.3 BETWEEM H AND J

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-COVER
Hatch covers in elevation 100, 115', 127'4" floors

TARGET: TARGET CODE: E-MISC
Class I electrical equipment and conduits at EL. 85', 100', 115'

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Equipment hatch covers fall through opening and impact targets below.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify hosgri seismic event not capable of moving hatch covers out of their normal position.

S. E. Traisman 07/27/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Hatch covers has been seismically qualified. Subject to modification for DCN# DC1-EA-11688. See calc. no. 30-01-65-03.

S. Gaballah
DISCIPLINE ENGINEER/DATE

B. Sarkar
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

S. E. Traisman 01/19/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-07-01-05

FIRE ZONE 11-A-1 LOCATION Diesel Generator Rooms FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 85-95', Mid-room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-DRAIN-11A1

Cardon System and Building Drain System. Piping Over head
Diesel Engine 1-1

TARGET: TARGET CODE: M-DG1-1

Diesel Engine 1-1 and associated equipment

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL

Piping fails due to failure of rod hangers, threaded couplings, leaded connections to floor scuppers and overspanning of pipe.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Ensure integrity of source piping by analysis and/or addition of pipe supports. Verify that drain piping deflections insufficient to impact target conduit/equipment.

M.G. Jones 5/12/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

New supports added per DCN DC1-EP-3609 and Hanger Dwg. 049339, Sht. 152 thru 163.

C.R. Van Natta
DISCIPLINE ENGINEER/DATE

K.M. Krause
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 2/16/83
SIP PROJECT ENGINEER APPROVAL/DATE

0040Z/0010Z-62

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-07-01-01

FIRE ZONE 11-A-1 LOCATION Diesel Generator Rooms FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 85', Mid-room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-MR-11A1
Overhead Monorails and Hoist (2)

TARGET: TARGET CODE: M-DG1-1

Diesel Engine 1-1

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL

Monorails and/or hoist fall, impact engine.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Ensure integrity of monorail by simplified analysis, secure hoist to monorail to preclude falling.

M.G. Jones 6/25/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

The hoists have been secured to monorail for attached work request per work request #C-480. For qualification of monorails, see Calc. No. 24-07-06-04.

S. Hanusiak
DISCIPLINE ENGINEER/DATE

E. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 8/31/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 10/28/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-177-02-01

FIRE ZONE 11-A-2 LOCATION Diesel Generator Rms FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 100, near Diesel Generator 1-1 Radiator

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-DOOR
(S) Roll-up Fire Door

TARGET: TARGET CODE: H-DUCT

(T) Diesel Gen. 1-1 Ventilation Duct

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Door falls, impacts duct

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of roll-up door by simplified analysis. Ensure that roll-up door is in FULL open position during operation of plant.

M.G. Jones 10/28/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Attached warning sign to door per ART 069.

S. Hanusiak 4/2/81
DISCIPLINE ENGINEER/DATE

E.P. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 9/29/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 10/28/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-70-01

FIRE ZONE 8-C LOCATION CONTROL ROOM FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
EL 140' COL 15.7 BETWEEN L & K NEAR RAD MONITOR RACKS

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: N-SHIELD
Lead shield for radiation source calibration device.

TARGET: TARGET CODE: GENERIC
Class I control boards.

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Shield consists of a stack of lead shield rings (annular plates). Shield stack topples and shield rings roll into class I control boards.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Remove shield from control room prior to plant operation.

S. E. Traisman 07/28/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Provide lead shield block assembly as recommended by NPO. See ART No. 417 and calc. no. 30-01-70-01.

S. Gaballah
DISCIPLINE ENGINEER/DATE

B. Sarkar
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG. GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-01-06

FIRE ZONE 1C LOCATION CONTAINMENT FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
ELEV. 211, TOP OF POLAR CRANE

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-HOIST-1C
Polar crane cable feeder trolley

TARGET: TARGET CODE: M-CRDM
Reactor vessel & CRDM

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Source falls, impacts CRDM.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of source by analysis. Secure source to monorail to prevent motion.

M. G. Jones 03/03/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Source component has been seismically qualified subject to modification per ART 413.

S. Gaballah
DISCIPLINE ENGINEER/DATE

B. Sarkar
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 11/29/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-09-01

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 117'

LOCATION WITHIN FIRE ZONE:
Elev. 128, Along Containment Wall, 155°

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3456-1
Line 3456-1", Auxiliary Steam Line

TARGET: TARGET CODE: GENERIC

Misc. Class I components

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Line 3456 not well supported in this area -
could impact nearby Class I components if existing supports fail.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add additional pipe supports as required.

M.G. Jones 4/1/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Pipe Supports added or modified per RLCA Resolution Report No. 2, Rev. A,

DISCIPLINE ENGINEER/DATE

J.A. Ante
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

M.G. Jones 2/24/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 9/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 17-01-22-01

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
Penetration 21, Elev. 110

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-USB-1A
1" N2 Supply Line

TARGET: TARGET CODE: P-1992-1-50

1-1/2" Line 1992 (Loop 2 Boron Inj.)

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE
1" N_2 Line contacts Line 1992.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add U-bolts to existing support near contact point to preclude movement of N_2 Line.

M.G. Jones 4/16/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Pipe support modified per RLCA Resolution Report No. 4.

DISCIPLINE ENGINEER/DATE

J.A. Ante
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

M.G. Jones 2/22/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 9/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

0040Z/0010Z-56

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 10-02-01-01

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
Elev. 100, overhead, near pressurizer rel. tank.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SA-1A
3" Air Supply Line (Service Air Header)

TARGET: TARGET CODE: P-1479-2
2" Seal Water Line 1479

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral movement of source line could impact SW Line.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add additional restraint at or near 90° elbow of source line to limit lateral deflection.

M. G. Jones 04/2/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Pipe supports were added or modified per RLCA Resolution Report No. 6, Rev. A in approximate locations recommended.

DISCIPLINE ENGINEER/DATE

J.A. Ante
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

M. G. Jones 02/25/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

0040Z/0010Z-51

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-04-03

FIRE ZONE 1B LOCATION CONTAINMENT FLOOR ELEVATION 117'

LOCATION WITHIN FIRE ZONE:
ELEV. 112, IN SEAL TABLE ROOM

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-BOTTLE
Nitrogen storage bottle

TARGET: TARGET CODE: I-FLUX MON
Flux monitoring tubes

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Bottle overturns, impacts tubes.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure that bottle mountings (chains) are adequate to support bottle.
Secure ends of chain to mounting bracket by bolting.

M. G. Jones 03/17/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
See calculation No. M-159 for resolution and field modification, ART 307

E. Barna
DISCIPLINE ENGINEER/DATE

E. Connell
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-03-01

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
Elev. 115, near Missile Barrier

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-8033A
Handwheel Chains to various valves, such as 8033 A & C.

TARGET: TARGET CODE: GENERIC

Misc. Class I components

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECTS
Chains swing freely, could impact nearby Class I Components.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Tie chains to missile barrier to preclude swinging of chain.

M.G. Jones 4/15/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Chains secured per ART #013.

DISCIPLINE ENGINEER/DATE

G.B. Page
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. Harris 2/19/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 7/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 07-09-01-02

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Approx. Elev. 140

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-1A
Grating.

TARGET: TARGET CODE: I-LT460
Tubing for LT 460

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE
Grating moves and impacts tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Provide protection around tubing where it goes thru grating.

WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Grating was cut and clearance provided per Art. 029

S. Hanusiak
DISCIPLINE ENGINEER/DATE

E. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. Harris
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

0040Z/0010Z-49

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 15-32-05-02

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 117'

LOCATION WITHIN FIRE ZONE:
El. 117, Col 7 at BTX12E, Dwg 57687

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-GRATING

Floor Grating

TARGET: TARGET CODE: E-K1741-2

Conduit K1741-2"

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE
Floor grating close to conduit and could impact if movement occurred.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Provide clearance between floor grating and conduit.

J.F. Grant 9/17/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

2" clearance provided between floor grating and conduit, per ART #033.

S. Hanusiak
DISCIPLINE ENGINEER/DATE

E. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

M.G. Jones 2/17/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 9/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

0040Z/0010Z-53

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-03-09-01

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 117'

LOCATION WITHIN FIRE ZONE:
Elev. 137, at Containment Wall, 230° AZ.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-RS-1A

Uni-strut Conduit Support

TARGET: TARGET CODE: P-3156-2

Line 3156-2"; Firewater Pipe

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE
Uni-strut material contacts Line 3156.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Cut 2" off of uni-strut material to provide clearance with Line 3156.

M. G. Jones 8/5/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Work completed as recommended. See Work Request No. E-910.

A.G. Barta
DISCIPLINE ENGINEER/DATE

J.E. Herbst
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. Harris
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 9/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 17-01-05-01

FIRE ZONE 3B3 LOCATION Auxiliary Building FLOOR ELEVATION 73'

LOCATION WITHIN FIRE ZONE:
Elev. 73, Bit Room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-0994-1
Overhead 1" Line #994

TARGET: TARGET CODE: I-8803A

Valve 8803A Power and Control Cable

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral movement of overhead 1" Line impacts valve cable.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install lateral restraint to Line 994 by removing rod hanger near valve 8803B and installing bracket from ceiling plate to Line 994. U-bolt pipe to bracket.

M.G. Jones 4/30/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added support by Generic DCN-DC1-EP-5061-PRO-HGR. DWG. 049339-339/270R.

C.R. Van Natta
DISCIPLINE ENGINEER/DATE

K.M. Krause
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

0040Z/0010Z-54

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-77-01 Intercomp

FIRE ZONE 2 LOCATION Auxiliary Bldg. FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 85' Area FE

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-AUX-SUMPPP
Package Boiler Fuel Oil Line

TARGET: TARGET CODE: GENERIC

Auxiliary Building Sump

POSTULATED INTERACTION: PHENOMENA CODE: PIPEFAIL
1/2" unions of fuel oil line fail, 10,000 gal fuel oil tank drains by gravity flow into Package Boiler Room. Package Boiler Room sump pump starts automatically and appears to pump fuel oil to Auxiliary Building Sump (not clear from P&ID). Fuel oil in Auxiliary Building Sump introduces fire hazard in Auxiliary Building.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Determine if fuel oil is pumped into Auxiliary Building Sump. If so, route package boiler sump pump discharge to Turbine Building Sump, if practicable. Or, remove Auto Start feature from Sump Pump.

S.E. Traisman 8/4/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Auto start switch removed from sump pump. See DCN No. DC1-SE-17685.

S. Kim
DISCIPLINE ENGINEER/DATE

C. Kahl
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-63-03-01

FIRE ZONE 3L LOCATION Auxiliary Bldg. FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 91', at Central Sample Panel

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-3L
Light Fixture (chain supported fluorescent)

TARGET: TARGET CODE: I-CSP

CCW Tubing in central sample panel

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE

Light fixture falls, impacts tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Ensure integrity of light fixture.

M.G. Jones 5/5/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Safety chain added to light fixture. See DCN DCO-EE-5552, Rev. 1, Sheet 9 of 9, Det. 75. Also, see ART #377.

J. Swaim
DISCIPLINE ENGINEER/DATE

C. Bhatt
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 10/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 10/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-63-03-02

FIRE ZONE 3-L LOCATION Auxiliary Bldg. FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Behind central sample panel
Auxiliary Bldg. columns N and 15.7/16.8

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-Tank
Condensate collection tank.

TARGET: TARGET CODE: I-CSP
CCW lines within central sample panel.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL

Condensate collection tank anchorage fails, tank overturns and impacts central cample panel. Damage to central sample panel support structure may result in gross deformation of panel and possible breach of CCW pressure boundary.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Verify adequacy of condensate collection tank anchorage by engineering evaluation.

S.E. Traisman 6/29/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

The tank anchorage has been seismically qualified with modification.
See attached calculation #20-63-03-02, for modification, see DCN No. DC1-EC-11853.

S. Gaballah 9/8/83
DISCIPLINE ENGINEER/DATE

B. Sarkar 9/9/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-05-84-03

FIRE ZONE 3L LOCATION Auxiliary Bldg. FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 95, at Column Line 19.2, near ceiling.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: H-DUCT-3L

Rod Support to HVAC Duct

TARGET: TARGET CODE: P-3688-2

Line 3688-2"; Firewater Unit 2

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Threaded rod rests on Line 3688 - Duct Vibration
& Seismic movement could result in a breach of the pipe wall.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Remove or relocate rod support.

M.G. Jones 9/9/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
1/2" Ø ventilation duct support rod has been relocated

D. Hagstrom 12/3/81
DISCIPLINE ENGINEER/DATE

E. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 8/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 8/23/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-11-03

FIRE ZONE 3AA LOCATION Auxiliary Building FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
Auxiliary Bldg. Area 'K', Column Lines 16^8/N

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-BOL
Battery Operated Light

TARGET: TARGET CODE: P-3608-2
Firewater Line Valve to Hosereel FW-120-A37, Line 3603-2"

POSTULATED INTERACTION: PHENOMENA CODE: Fixture
Battery operated light case can come out of its mounting pan and falls onto target firewater line valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Replace non-Class 1 (BOL) Battery operated light with a qualified Class 1 BOL. Consider swapping it with one (Class 1) that is located in an area where there's no vital equipment (stairway hallway,...etc.)

NOTE: This IDS is a result of SIP Review of DCN DC1-EE-17081.

N. Barangan 1/18/84
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Replace non-Class 1 battery operated light with a qualified Class 1 battery operated light. Exchange this unit (support included) with the one located at stairway landing El. 104'-0" Area 'H' Col. 'H'/18.
See ART #478.

N. Barangan 1/20/84
DISCIPLINE ENGINEER/DATE

C. Kahl 1/23/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 07-08-01-03

FIRE ZONE 1-C LOCATION Containment FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:

Approximate elev. 165' - top of pressurizer

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-0021-8

Spring Hanger Can 48-4V on line 21-8" (8010A Disch. to PRT)

TARGET: TARGET CODE: I-LT459

LT 459 - Tubing

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT

Lateral movement of spring can impacts tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Lower spring can to clear tubing (approx. 2").

C.R. Van Natta
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Recommended resolution OK. See hanger Dwg. 049256, SHt. 8, Rev. 3, in DCN-DC1-EP-5060.

C.R. Van Natta 2/25/83
DISCIPLINE ENGINEER/DATE

K.M. Krause 2/25/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 10/20/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 10-13-01-03

FIRE ZONE 3BB LOCATION PENETRATION AREA FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
ELEV. 110, GE AREA, 10' FROM CONTAINMENT, 134°

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-1042-2.50
Pipe rupture restraint to Line 1042; Class I pipe supports.

TARGET: TARGET CODE: P-0746-3
Line 746-3", RCP seal injection

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Pipe is located 1/4" from these supports & rupture restraint. Contact from seismic and operating dynamic loads damage target line.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify that clearances are adequate to accomodate seismic & dynamic movements. Provide additional clearance if/as required.

M. G. Jones 05/20/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Trim corner to provide 1 1/2" clearance between plate & conflicting 3" line 746. See DCN-DCO-EC-5486, SK #1-1042-R1.

S. Hanusiak
DISCIPLINE ENGINEER/DATE

R. C. Rogge 09/16/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

G. Zarahoff 02/10/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 15-02-06-01

FIRE ZONE 3BB LOCATION Penetration Area FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:

Adjacent to panel PM-82 4' from containment wall at azimuth 160°

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-BOL

Battery operated light fixture and its associated power conduit.

TARGET: TARGET CODE: I-FT922

Inst. tubes to FT-922 (S.I. Pump Discharge)

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE

Light fixture mounting fails fixture pulls its conduit off the wall and conduit damages adjacent target inst. tubes.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Reroute conduit to preclude interaction or replace existing light fixture with qualified (seismic Class I) fixture.
Note: This IDS is a result of SIP review of DCN-DC1-EE-17081.

S. Skochko 1/18/84
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Reroute conduit to preclude postulated interaction. See Art 478.

N. Barangan 1/19/84
DISCIPLINE ENGINEER/DATE

C. Kahl 1/23/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-58-05-02

FIRE ZONE 28 LOCATION OUTSIDE AREAS FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
OUTSIDE, EL 120' AREA GW, NORTH WALL

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-28
Platform and railings

TARGET: TARGET CODE: E-ICT062±
Conduits KT062, K5815

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Platform fails and impacts conduits.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of platform and railings.

G. WHORINSKI 06/09/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The platform has been seismically qualified by analysis, subject to modification per DCN# DC1-EC-1285.

S. Gaballah
DISCIPLINE ENGINEER/DATE

B. Sarkar
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

M. Baker 06/28/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/05/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 05-08-01-01

FIRE ZONE 1B LOCATION CONTAINMENT FLOOR ELEVATION 110'

LOCATION WITHIN FIRE ZONE:
AZIMUTH 200° BETWEEN STEAM GENERATOR 1-4 AND CRANE WALL

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3847-6
Line No. 3847-6"
(RHR PP 1-2 INJ. Cold Leg 4)

TARGET: TARGET CODE: M-FCV763
FCV-763 (operator), SG Blowdown 1-4 Isolation Valve

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE
Insulation on Line No. 3847 is in contact with FCV-763, relative movement could damage the operator on FCV-763.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Rework insulation on line 3847 as required to allow relative movement by providing 1" air gap between insulation and valve operator.

S. L. Harris
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Insulation reworked to provide clearance. See Art 453

C. R. VanNatta
DISCIPLINE ENGINEER/DATE

K. M. Krause
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 11/29/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

ATTACHMENT 7-B

TO THE PGandE

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

SCREENING OF MODIFICATIONS:

100% SAMPLE OF REMAINING MODIFICATIONS (N)

This attachment contains all the SISIP modifications that have not been previously screened in the "Expedient" and "Overlapping" categories in accordance with the description contained in Chapter 9.

This information is provided at the request of the NRC. It represents the judgment of engineers regarding the type of modifications considered not to meet the screening criteria of Chapter 9.

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-12-02-01

FIRE ZONE 3BB LOCATION Penetration Area FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
Aux Bldg. near 224° @ containment EL. 113'

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-3BB
2-1/2" Fire Line

TARGET: TARGET CODE: E-K5755-0.75
CONDUIT K5755-3/4"

POSTULATED INTERACTION: PHENOMENA CODE: Sptfail
Fire line falls due to being supported by rod hangers.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Show by simplified analysis that conduit will not be jeopardized.

G. Whorinski 5/8/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added pipe supports. See pipe support DWG No. SPR-731 Rev.1, 732 Rev. 1 & 733 Rev. 1

C. R. Van Natta 4/27/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 8/4/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-12-02-02

FIRE ZONE 5A3 LOCATION Electrical Rooms FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
elev 100, DC Switchgear room 1-3

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FE
Fire Extinguisher FE-A115 02-12

TARGET: TARGET CODE: F-HNJB
HNJB (Cable Tray)

POSTULATED INTERACTION: PHENOMENA CODE: Loose
Extinguisher could fall from its mounting and impact HNJB

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure stability of extinguisher by providing mechanism to keep canister on station mount.

P. Anderson 6/5/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Quick release strap provided per ART 375.

J. Haake
DISCIPLINE ENGINEER/DATE

J. A. Longworth
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 11/02/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 1/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-12-02-03

FIRE ZONE 3BB LOCATION Penetration Area FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
EL. 110', near col. J & 15

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-3BB
Fire Protection Piping

TARGET: TARGET CODE: E-K5755+
Conduits K5755 and KK585

POSTULATED INTERACTION: PHENOMENA CODE: Sptfail
Fire protection piping falls due to failure of fixed-end rod hangers.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Replace fixed-end rod hangers with clevis-end types.

P. Anderson 6/9/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added pipe supports. See pipe support DWG No. SPR-731 Rev. 1, 732 Rev. 1 and 733 Rev. 1.

C. R. Van Natta 4/27/83
DISCIPLINE ENGINEER/DATE

J. A. Longworth 4/29/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/5/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 01-12-05-03

Safety Related

FIRE ZONE 3Q2 LOCATION Pump Rooms FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
Elev 100, (T-U, 15-15^2), 11' above the floor

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-ULB-B-3Q2
2" copper line 1431 and 4" service air line. Both lines run 14" from the 15^2 wall.

TARGET: TARGET CODE: E-KK793-0.75
CONDUIT KK 793-3/4"

POSTULATED INTERACTION: PHENOMENA CODE: deflect
The two lines impact the conduit 1/4" away due to seismic movement.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Secure both lines to the existing support with U bolts. The support is 166" west of the U column line and 25" west of the wall between T and U.

E. Denison 7/8/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Add seismic stop by generic DCN-DC1-EP-5061-PRO HGR. DWG. 049339 sht. 331

C. R. Van Natta 7/29/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 7/29/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 1/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 02-03-02-04

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
EL 105', 4' from containment wall, azimuth~20°

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-1743-16
Gland steam and air ejector to plant vent - 16" line.

TARGET: TARGET CODE: E-K5865-1.25
CONDUIT K5865 - 1-1/4"

POSTULATED INTERACTION: PHENOMENA CODE: Spt fail
Pipe clamp for source line impacts conduit and damages conduit.
Clearance is 0".

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Relocate pipe clamp hanger east approximately 3'-0" to next available support location.

S. E. Traisman 6/30/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Recommended resolution - OK. SEE DCN - DCI-EP-5062
HGR DWG. 049306-7/5R

C.R. VanNatta 7/21/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 7/21/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 1/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-01-01-02

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elevation 105, under MS LOOP1, near containment

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3433-150
Line 3433-1 1/2"; steam lead 1 drain

TARGET: TARGET CODE: I-PT514
Instrument tubing to PT-514

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral movement of line 3433 results in impact with tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add lateral restraint to line 3433 to preclude contact.

M.G. Jones 6/4/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Added/modified pipe supports per DCN Nos. DC1-EP-5061 and DC1-EP-5060.

C.R. Van Natta 5/13/83
DISCIPLINE ENGINEER/DATE

K.M. Krause
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 10/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

S.E. Traisman
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-01-02-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
ELEV. 85, under MS Loops 1,2

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3103-2
Line 3103 - 2"; fan heating coil trap drain header

TARGET: TARGET CODE: I-PM103
Mechanical panel 103 and attached tubing

POSTULATED INTERACTION: PHENOMENA CODE: Spt. Fail
Line 3103 falls on mechanical panel due to lack of vertical support and failure of threaded couplings.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install additional pipe supports as required to preclude falling of pipe.

M. Jones
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modify add supports per ART 149.

R. L. Cloud
DISCIPLINE ENGINEER/DATE

J. A. Ante
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

V. L. Killpack
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-02-01-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
ELEV. 105, under MS Loop1, near containment

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3433-1.50
Line 3433 - 1-1/2"; steam lead 1 drain

TARGET: TARGET CODE: I-PT515
Instrument tubing to PT-515

POSTULATED INTERACTION: PHENOMENA CODE: deflect
Lateral movement of line 3433 results in impact with tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add lateral restraint to line 3433 to preclude contact.

M. G. Jones 6/4/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added modified pipe supports. SEE PIPE SUPPORT DWG NO. 44-4 REV. 3 and HANGER DWG 049315 SHT. 380 ON GENERIC DCN-DCI-EP-5061-PRO & 049308 SHT 160 ON GENERIC DCN-DCI-EP-5060.

C. R. Van Natta 5/13/83
DISCIPLINE ENGINEER/DATE

J. A. Longworth 5/13/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-02-02-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
ELEV. 85, under MS Loops 1,2 along containment wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3103-2
Line 3103-2"; fan heating coil trap drain header .

TARGET: TARGET CODE: I-PM-107
Mechanical panel 107 and attached tubing.

POSTULATED INTERACTION: PHENOMENA CODE: Spt fail
Line 3103 falls on mechanical panel due to lack of vertical support and failure of threaded couplings.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install additional pipe supports as required to preclude falling of pipe.

M. G. Jones 06/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Add/Modify supports per ART 149.

DISCIPLINE ENGINEER/DATE

J. A. Ante
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/8/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-03-01-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 105, under MS Loop 1, near containment

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3433-1.50
Line 3433 - 1-1/2"; steam lead 1 drain

TARGET: TARGET CODE: T-PT516
Instrument tubing to PT-516

POSTULATED INTERACTION: PHENOMENA CODE: deflect
Lateral movement of line 3433 results in impact with tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add lateral restraint to line 3433 to preclude contact.

M. G. Jones 6/4/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added & modified pipe supports. SEE PIPE SUPPORTS DWG. NO. 44-4 REV. 3 and HANGER DWG. 049315 SHT 308 GENERIC DCN-DCI-EP.5061-PRO& 049308 SHT 160 ON GENERIC DCN-DCI-EP-5060.

C. R. Van Natta 5/13/83
DISCIPLINE ENGINEER/DATE

J. A. Longworth 5/13/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 10/20/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-03-02-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 85, under MS Loops 1,2 along containment wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3103-2
Line 3103-2"; fan heating coil trap drain header

TARGET: TARGET CODE: I-PMIII
,Mechanical panel 111 and attached tubing

POSTULATED INTERACTION: PHENOMENA CODE: Spt fail
Line 3103 falls on mechanical panel due to lack of vertical support and failure of threaded couplings.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install additional pipe supports as required to preclude falling of pipe.

M. G. Jones 6/4/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Add/modify supports per ART 149

DISCIPLINE ENGINEER/DATE

J. A. Ante
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NA

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/8/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-04-02-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 85, under MS Lead 1,2 along containment wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3103-2
Line 3103-2"; fan heating coil trap drain header

TARGET: TARGET CODE: I-PM104
Mechanical panel 104 and attached tubing.

POSTULATED INTERACTION: PHENOMENA CODE: Pipe fail
Line 3103 falls on mechanical panel due to lack of vertical support and failure of threaded couplings.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install additional pipe supports as required to preclude falling of pipe.

M. G. Jones 6/4/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Add/modify supports per ART 149

DISCIPLINE ENGINEER/DATE

J. A. Ante
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/8/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-05-02-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 85, under MS Lead 1,2 along containment wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3103-2
Line 3103-2"; fan heating coil trap drain header

TARGET: TARGET CODE: I-PM108
Mechanical panel 108 and attached tubing

POSTULATED INTERACTION: PHENOMENA CODE: Pipe fail
Line 3103 falls on mechanical panel due to lack of vertical support and failure of threaded couplings.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install additional pipe supports as required to preclude falling of pipe.

M. G. Jones 6/4/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Add/modify supports per ART 149

DISCIPLINE ENGINEER/DATE

J. A. Ante
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/8/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-06-02-02

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 85, under MS leads 1,2 along contmt. wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3103-2
Line 3103-2"; fan heating coil trap drain header

TARGET: TARGET CODE: I-PM112
Mechanical panel 112 and attached tubing

POSTULATED INTERACTION: PHENOMENA CODE: Pipe fail
Line 3103 falls on ;mechanical panel due to lack of vertical support and failure of threaded couplings.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install additonal pipe supports as required to preclude falling of pipe.

M. G. Jones 6/4/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Add/modify supports per ART 149

DISCIPLINE ENGINEER/DATE

J. A. Ante
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/8/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-18-07-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
EL. 117', East end of pipe rack NR stm lead 1-2

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FCV25
MSIV FCV-42 Actuator

TARGET: TARGET CODE: M-FCV42
Terminal box to MSIV FCV-42

POSTULATED INTERACTION: PHENOMENA CODE: interfere
Seismic motion of main stm line 1-2 could result in actuator for MSIV FCV-42 impacting terminal box support and damaging terminal box. Terminal box is rigidly supported to adjacent structural steel, while main steam is not (although it is snubbed in the immediate area), existing clearance approx. 3/8".

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Cut away a portion of unistrut support for terminal box to provide 2" clearance between terminal box and actuator.

S. E. Traisman 6/30/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
As recommended above, cut away a portion of unistrut support for terminal box to provide 2" clearance between terminal box and actuator.

P. Chu
DISCIPLINE ENGINEER/DATE

G. C. Bhatt
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-20-07-04

FIRE ZONE 3BB LOCATION Penetration Area FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
EL. 115, below main steam FCV22

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-4347-3
Line L4347-3"

TARGET: TARGET CODE: E-K6702-1
Conduit K6702-1"

POSTULATED INTERACTION: PHENOMENA CODE: deflect
4347-3" swings due to being supported by clevis rod hangers.
Impacts conduit K6702.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
By simplified analysis demonstrate that integrity of conduit will not be compromised.

G. Whorinski 5/8/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Conduit rerouted per ART 222

DISCIPLINE ENGINEER/DATE

J. A. Ante
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. A. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-20-07-06

FIRE ZONE 3BB LOCATION Penetration Area FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
Elev. 115, area 6W, near FCU22

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-4072-3
SGBD to SGBD Demins L4072, 5" diameter

TARGET: TARGET CODE: E-K6702-1
Conduit K6702-1"

POSTULATED INTERACTION: PHENOMENA CODE: deflect
Horizontal pipe, already touching vertical K6702, will swing and impact conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of the conduit or locally reroute K6702.

E. Denison 06/08/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Conduit rerouted per ART 222

DISCIPLINE ENGINEER/DATE

J. A. Ante
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-30-01-02

FIRE ZONE 1C LOCATION Containment FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 160, around steam generator 1-1

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-plat-1C
Kick plate and platform grating

TARGET: TARGET CODE: I-LT517
Instrument tap & root valve to LT-517

POSTULATED INTERACTION: PHENOMENA CODE: interfere
Steam generator thermal and/or seismic movements could result in platform structure and kick plate impacting instrument tap & root valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
1. Provide additional clearance between platform, etc. and instrument tap
2. Ensure integrity of platform, etc. by simplified analysis.

M. G. Jones 4/1/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Platform qualified by analysis, subject to modification per DCN # DC1-EC-3897. Adequate clearance for target provided per DCN reference drawings.

S. Gaballah
DISCIPLINE ENGINEER/DATE

B. Sarkar
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-38-01-03

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 117'

LOCATION WITHIN FIRE ZONE:
Elev. 121, at missile barrier, 16°

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-TL17
Lighting transformer TL-17

TARGET: TARGET CODE: I-LT 527
Instrument tubing to LT-527

POSTULATED INTERACTION: PHENOMENA CODE: Spt fail
Transformer overturns, impacts tubing

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure by analysis that transformer will not overturn.

M. G. Jones 12/3/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Bracing provided per ART 282 to prevent overturning

DISCIPLINE ENGINEER/DATE

A. G. Barta 1/18/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 02/16/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-49-01-04

FIRE ZONE 1C LOCATION Containment FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev 16°, around steam generator 1-4

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-Plat-1C
Structural platform, railings and grates.

TARGET: TARGET CODE: I-PX11
Instrument tap and tubing from steam generator 1-4 to PX-11.

POSTULATED INTERACTION: PHENOMENA CODE: interfere
Motion of steam generator and/or platform results in contact between instrument tap and platform.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify that existing clearance between platform and instrument tap is adequate to preclude contact. Provide additional clearance if/as required

M. G. Jones 7/16/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Platform qualified by analysis, subject to modification per DCN # DC1-EC-5010. Adequate clearance for target provided per DCN reference drawings.

S. Gaballah 11/18/82
DISCIPLINE ENGINEER/DATE

B. Sarkar 11/19/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-53-02-01

FIRE ZONE 1C LOCATION Containment FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
EL 140, 325°, along containment wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3256-2
1-1/2" line along containment wall, vertical run line 3256 (aux. steam line for tritium controls)

TARGET: TARGET CODE: I-FE512
MS line 1-1 flow element FE 512

POSTULATED INTERACTION: PHENOMENA CODE: Pipefail
Pipe falls due to lack of vertical support, impacts FE 512.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install additional support or seismic stops to line 3256 to preclude falling.

M. G. Jones 4/1/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Revised line 3256-2" per DCI-EP-11252 and added pipe supports per hanger DWG 049339 SHT 48 & 299 on Generic DCN-DCI-EP-5061.

C. R. Van Natta 5/13/83
DISCIPLINE ENGINEER/DATE

J. A. Longworth 5/13/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 1/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 03-55-01-02

FIRE ZONE 1C LOCATION Containment FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 180, top of steam generator 1-4

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-Plat-1C
Platform railing

TARGET: TARGET CODE: I-Valve
Root valve to N_2 connection to main steam loop 4

POSTULATED INTERACTION: PHENOMENA CODE: interfere
Railing contacts root valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Cut railing away from root valve.

M. G. Jones 7/16/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Cut-out provided as recommended. See ART 278.

S. Hanusiak
DISCIPLINE ENGINEER/DATE

E. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 05-28-03-01

FIRE ZONE 3BB LOCATION Penetration Area FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
Elev. 100, GE area, near penetration 37,131°

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-1040-2.50
Tension rods to pipe whip restraint to line 1040, support node 648-R4

TARGET: TARGET CODE: I-FCV250
Air supply tubing to valve FCV-250

POSTULATED INTERACTION: PHENOMENA CODE: deflect
Lateral movement of tension rods causes impact with tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add shield bracket to column 9 to protect tubing from impact.

M. G. Jones 5/20/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Instrument line rerouted to eliminate interaction.
See ART 272

DISCIPLINE ENGINEER/DATE

Not Required
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAW

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/29/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-01-07

FIRE ZONE IC LOCATION Containment FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elevation 211, top of polar crane

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: NS-CD
Misc. equipment (fire extinguishers, battery charger, etc.)

TARGET: TARGET CODE: M-CRDM
Reactor vessel and CRDM

POSTULATED INTERACTION: PHENOMENA CODE: HOUSEKEEP
Equipment falls from crane, impacts CRDM

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Remove equipment before start-up.

M.G. Jones 3/3/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Equipment removed as of 6/23/83.

DISCIPLINE ENGINEER/DATE

J.D. Townsend
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 11/29/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 1/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-01-08

FIRE ZONE 1C LOCATION Containment FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 211, top of polar crane

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-tank
Hydraulic fluid tank to dome service crane

TARGET: TARGET CODE: M-CRDM
Reactor vessel & CRDM

POSTULATED INTERACTION: PHENOMENA CODE: Spt fail
Tank overturns, falls from crane, impacts CRDM. Fluid spills onto CRDM, resulting in fire.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of tank by analysis. Provide additional supports if/as required.

M. G. Jones 3/3/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Source component was seismically qualified by analysis, subject to modifications shown on DCN No. DCI-EC-5349.

S. Gaballah
DISCIPLINE ENGINEER/DATE

B. Sarkar
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/5/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-04-01

FIRE ZONE 1B LOCATION CONTAINMENT FLOOR ELEVATION 117'

LOCATION WITHIN FIRE ZONE:

- Elev. 112', in Seal Table Room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-5-10 PATH

5-Path and 10-Path Drive Assemblies over Seal Table

TARGET: TARGET CODE: I-FLUXMON

Incore flux monitoring tubing

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL

Drive assemblies fall upon tubes.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Ensure integrity of drive assembly mountings and the mounting of the individual drive assembly components by simplified analysis. Secure 10-path drive assembly trolley to the I-Beam.

M. G. Jones
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Modification provided per DCN #DCI-E-M-5332

T. P. Lee
DISCIPLINE ENGINEER/DATE

E. Connell
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 02/24/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-04-06

FIRE ZONE 1-B LOCATION Containment FLOOR ELEVATION 117'

LOCATION WITHIN FIRE ZONE:
Incore Seal Table Room, El. 112'. Azimuth 270°

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE:
Platform 72FG, El. 125'

SOURCE CODE: C-72FG

TARGET:
Seal Table

TARGET CODE: I-FLUX

POSTULATED INTERACTION:
Platform fails, falls onto target.

PHENOMENA CODE: Civil fail

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of platform by simplified analysis.

S. E. Traisman 9/29/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modification to be added to prevent postulated interaction No. 06-01-04-06. See ART No. 319.
No. 319.

S. Gaballah
DISCIPLINE ENGINEER/DATE

B. Sarkar 10/28/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/24/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/8/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-01-04-07

FIRE ZONE 1B LOCATION Containment FLOOR ELEVATION 73

LOCATION WITHIN FIRE ZONE:
Bottom of reactor pit at El. 64

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: I-ELPP06
Loose Parts Pinger
No. ELPP06 Attached to Flux Monitoring Tubes.

TARGET: TARGET CODE: I-FLUX MON
Incore Flux Monitoring Tubes
(Part of RCS Pressure boundary)

POSTULATED INTERACTION: PHENOMENA CODE: Spt fail
Loose parts pinger mounted on a 39" x 4" x 3/4" stainless steel plate. Plate is supported off of two incore flux monitoring tubes. Seismic excitation of appartatus mounted on flux monitoring tubes damages flux monitoring tubes or apparatus mounting fails and impacts flux monitoring tubes.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify by analysis that the present configuration i.e. (loose parts pinger and stainless steel mounting plate mounted on two incore flux monitoring tubes) is qualified.

S. E Skochko 7/19/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The attached DCN, DCI-EM-13006-R0, requests that the loose parts pinger ELPP06 be removed from the flux monitoring tubes which precludes the interaction.

S. E. Skochko 8/18/83
DISCIPLINE ENGINEER/DATE

J. Meierdeker 8/18/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 1/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-05-27-01

FIRE ZONE 1B LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
Elev. 108, bet. SG 1-4 and RCP.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-4398-2
3 x 3 angle bracket of pipe support

TARGET: TARGET CODE: P-1158-3
Line 1158-3"; Loop 4 RTD return

POSTULATED INTERACTION: PHENOMENA CODE: interfere
Thermal/seismic movement of line 1158 results in impact with pipe support. Existing pipe support gap to insulation of line 1158 = 3/8".

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify by analysis that impact will not occur or that impact is insufficient to damage line 1158.

M. G. Jones 2/24/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Relocated pipe and L 3" x 3" x 3/8" per hanger DWG. No. 049339 Sht. 96 (DCI-EP-3606.)

C.R. VanNatta 01/10/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 1/25/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 8/30/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-27-02-02

FIRE ZONE 3BB LOCATION Penetration Area FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
El. 115, Area AW, GW corner @ H & 15.6

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-3BB
3" Fire Line

TARGET: TARGET CODE: E-KT064±
Conduits KT064, K6454

POSTULATED INTERACTION: PHENOMENA CODE: Spt fail
Fire Line fails due to failure of fixed end rod hangers

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Replace fixed end rod hangers with clevis hangers and include lateral supports as required.

G. Whorinski 6/8/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added pipe supports - see pipe support dwg. no. SPR-723 rev. 1 & 724 rev. 1.

C. R. VanNatta
DISCIPLINE ENGINEER/DATE

J. A. Longworth 4/29/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/5/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-59-27-01

FIRE ZONE 1B LOCATION Containment FLOOR ELEVATION 117'

LOCATION WITHIN FIRE ZONE:
Elev. 112, in seal table room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-5-10 PATH
5-Path and 10-Path drive assemblies over seal table

TARGET: TARGET CODE: I-RVLIS
Sensor Bellows

POSTULATED INTERACTION: PHENOMENA CODE: Mech fail
Drive assemblies fail, fall upon bellows.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of drive assembly mountings and the mounting of the individual drive assembly components by simplified analysis. Secure 10-Path Drive Assembly trolley to the I-beam.

M. G. Jones 3/10/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modification provided per DCN # DC1-E-M-5332.

T. P. Lee
DISCIPLINE ENGINEER/DATE

E. Connell
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-59-36-01

FIRE ZONE 1B LOCATION Containment FLOOR ELEVATION 117'

LOCATION WITHIN FIRE ZONE:
Elev. 112, in Seal Table Room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-5-10 PATH
5-Path and 10-Path Drive Assemblies over Seal Table

TARGET: TARGET CODE: I-RVLIS
3/8" Tubing form Seal Table to 3/4" Manual Valve.

POSTULATED INTERACTION: PHENOMENA CODE: Mech fail
Drive assemblies fail, fall upon tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of drive assembly mountings and the mounting of the individual drive assembly components by simplified analysis. Secure 10-Path Drive Assembly Trolley to the I-beam.

M. G. Jones 3/10/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modification provided per DCN # DC1-E-M-5332.

T. P. Lee
DISCIPLINE ENGINEER/DATE

E. Connell
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-59-38-01

FIRE ZONE 1B LOCATION Containment FLOOR ELEVATION 117'

LOCATION WITHIN FIRE ZONE:
Elevation 112, in seal table room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-5-10PATH
5-path and 10-path drive assemblies over seal table

TARGET: TARGET CODE: M-RVLIS
3/4" manual valve

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Drive assemblies fail, fall upon valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of drive assembly mountings and the mounting of the individual drive assembly components by simplified analysis. Secure 10-path drive assembly trolley to the I-Beam.

M.G. Jones 3/10/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Modification provided per DCN #DC1-EM-5332.

T.P. Lee
DISCIPLINE ENGINEER/DATE

E. Connell
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 06-60-22-01

FIRE ZONE 1B LOCATION Containment FLOOR ELEVATION 117'

LOCATION WITHIN FIRE ZONE:
Elevation 112', in seal table room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-5-10PATH
5-path and 10-path drive assemblies over seal table

TARGET: TARGET CODE: I-RVLIS

Sensor Bellows

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Drive assemblies fail, fall upon bellows.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of drive assembly mountings and the mounting of the individual drive assembly components by simplified analysis. Secure 10-path drive assembly trolley to the I-Beam.

M.G. Jones 3/10/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modification provided per DCN DC1-EM-53342.

T.P. Lee
DISCIPLINE ENGINEER/DATE

E. Connell
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 10-13-03-03

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
Elev. 91, near containment wall - 290°

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SA-1A
3" Service air header

TARGET: TARGET CODE: P-1500-0.75
3/4" Line 1500 seal water bypass return header.

POSTULATED INTERACTION: PHENOMENA CODE: deflect
3" service air header moves horizontally, impacts line 1500 near snubber 22-142-SL.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add U-bolt clamps to supports 40-48R and 40-50R to preclude lateral movement of 3' service air header.

M. G. Jones 4/8/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Pipe supports added per ART 041.

DISCIPLINE ENGINEER/DATE

J. A. Ante
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

M. G. Jones 2/25/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 10-13-03-07

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
Elev. 101, 320°, near containment wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3209-12
Line 3209-12", CFC 1-3 drain to sump

TARGET: TARGET CODE: P-1499-0.75
Line 1499-3/4"; seal water bypass return header

POSTULATED INTERACTION: PHENOMENA CODE: deflect
Lateral deflection of line 3209 results in impact with line 1499
Current clearance between pipes is approx. 1/8".

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Determine deflection of line 3209. Provide additional restraints if/as required.

M. G. Jones 4/8/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Line 1-S6-1499-3/4" to be rerouted.
Per DCN-DC1-E-P-9043

B. Abella 03/22/83
DISCIPLINE ENGINEER/DATE

K. M. Krause
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 10/14/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 10-15-01-01

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
Azimuth 210°, adjacent to missile barrier.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-1043-2.5
Hanger support for line K-1048-2 1/2" (S. G. 1-4 blowdown).

TARGET: TARGET CODE: P-1490-0.75
SG-1490-3/4", RCP 4 seal 1 flow element Ln

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Existing clearance between target line and support attachment to line K-1043-2 1/2" is 1 1/4". Thermal growth of line K-1043-2 1/2" radially outward (longitudinal), coupled with seismic excitation causes line SG-1490-3/4 to be impacted by source hanger.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify by engineering evaluation that thermal growth coupled with seismic motion of line K-1043-2 1/2" does not exceed existing clearance. Alternatively, relocate source hanger to preclude interaction.

S. Chesnut 9/15/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modified per DCN-DCI-EP-5060, HGR DWG. 049263-57N/136V.

C.R. Van Natta
DISCIPLINE ENGINEER/DATE

K.M. Krause
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 1/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 11-07-05-01

FIRE ZONE 5-A-3 LOCATION Electrical Rooms FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
DC switchgear room 1-2, elevation 115

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE:
Fire station 250

SOURCE CODE: M-FE

TARGET:
GNJA (cable tray)

TARGET CODE: E-GNJA

POSTULATED INTERACTION:
Entire fire station could fall and impact tray

PHENOMENA CODE: LOOSE

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure stability of mobile fire station or provide more distance to GNJA

E. Denison 06/05/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Temporary construction fire station is to be permanently mounted prior to plant operation. See ART 373.

J. Haake 11/10/82
DISCIPLINE ENGINEER/DATE

J. Longworth
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 11-07-05-02

FIRE ZONE 5A3 LOCATION Electrical Rooms FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
Elev. 100, DC switchgear room 1-2

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FE
Extinguisher on Fire Station 250

TARGET: TARGET CODE: E-GNJA
GNJA (cable tray)

POSTULATED INTERACTION: PHENOMENA CODE: loose
Extinguisher falls and impacts tray

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure stability of fire extinguisher by providing mechanism to keep cannister on the fire station mount.

E. Denison 6/5/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Install fire extinguisher currently on fire station 250 in permanent location on firewall next to north-west fire door. Install with hook and NFPA approved quick release strap per ART 373.

J. Haake
DISCIPLINE ENGINEER/DATE

J. Longworth
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 11-07-05-05

FIRE ZONE 12-B LOCATION Electrical Rooms FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
El. 112' east end of G bus 4 kv cable spr. room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-BUS DUCT
Distribution bus duct from standby startup transformer to vital 4.16 KV swgr.

TARGET: TARGET CODE: E-GDA
Cable tray GDA

POSTULATED INTERACTION: PHENOMENA CODE: Spt fail
Failure of bus duct fixed end rod hangers causes bus duct to fall onto target. NOTE: bus duct running through 4KV swgr above has seismic supports.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add supports to bus duct as required to eliminate interaction.

S. E. Traisman 7/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Install additional support to bus duct per DCN #DCI-5-E-11493 Rev.0.

N. Barangan 07/13/83
DISCIPLINE ENGINEER/DATE

C. Kahl 7/15/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 1/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 13-10-01-05

FIRE ZONE 3AA LOCATION Auxiliary Bldg FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
Elev. 115, near BA storage tank 1-2

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-TANK
Boric Acid batch tank

TARGET: TARGET CODE: M-BAT1-2
Boric Acid storage tank 1-2 and associated pipe and instruments.

POSTULATED INTERACTION: PHENOMENA CODE: Spt fail
Batch tank overturns, impacts storage tank, etc.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
ensure that batch tank will not overturn (by analysis).

M. G. Jones 12/17/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Support legs of tank and pedestal have to be modified as shown in DCN # DC1-SC-13454.

N. Makam
DISCIPLINE ENGINEER/DATE

F. Morsy
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 01/14/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 1/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 15-15-02-03

FIRE ZONE 3BB LOCATION Penetration Area FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
9' east of col-L, 15' north of 157, area GW

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-1750-8
Line K-1750-8", auxiliary steam supply HDR.

TARGET: TARGET CODE: E-K6432-1.235
Conduit K6482-1 1/2 (orange), power to valve 8802A between S1 PPS and RCS loops 1 and 2.

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Source line is supported for dead weight loads with trapeze type hngrs. which provide little resistance to lateral loads. Lateral motion of line K-1750-8 results in impact with target conduit. Existing clearance is 3 1/4".

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify that the deflection of source line is less than existing clearance at interaction points. If necessary provide seismic stop to prevent source line from impacting target. Alternatively, locally reroute conduit and coord with IDS No. 18-01-17-01.

S. Chesnut 2/22/84
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Conduit rerouted per ART #507.

C. Wong 3/19/84
DISCIPLINE ENGINEER/DATE

C. Kahl 3/19/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-14-01-03

FIRE ZONE 14E LOCATION Turbine Bldg. FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
CCW HX room, elevation 95

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-14E
Overhead sprinkler piping system

TARGET: TARGET CODE: M-CCWHX
CCW heat exchanger

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Sprinkler piping falls on CCW heat exchangers and associated pipes and instruments.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Upgrade sprinkler piping supports, if required, to prevent interaction.

M. G. Jones 05/07/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Numerous supports added/modified per DCN DC1-EP-3865.

R. Hare 12/2/83
DISCIPLINE ENGINEER/DATE

K.M. Krause 12/2/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-19-01-02

FIRE ZONE 14A LOCATION Turbine bldg FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Chamber containing CCW headers, elev. 85.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-ULB-14A
Overhead 4" cast iron pipe, clamp coupled, rod supported.

TARGET: TARGET CODE: P-0103-20
24" CCW supply header, line 103 inst. taps

POSTULATED INTERACTION: PHENOMENA CODE: Spt fail
Cast iron pipe fails, falls on instrument taps to CCW header, shearing taps.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
1. Verify that guillotine break of (2) 3/4" taps (stainless tubing) does not compromise system operation.
- OR -
2. Add additional supports to cast iron line to preclude failure.

M. G. Jones 5/6/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Add and modify supports per hanger dwg. sk-339-239R by DCN-DCI-EP-5336.

C. R. Van Natta 1/13/83
DISCIPLINE ENGINEER/DATE

J. A. Longworth 1/14/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 1/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-20-01-01

FIRE ZONE 14A LOCATION Turbine bldg FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Chamber containing CCW headers. Elev. 85

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-ULB
Overhead 4" cast iron pipe, clamp coupled, rod supported

TARGET: TARGET CODE: P-0104-20
24" CCW supply header, line 104 inst. taps.

POSTULATED INTERACTION: PHENOMENA CODE: Spt fail
Cast iron pipe fails, falls on instrument taps to CCW header, shearing taps.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
1. Verify that guillotine break of (2) 3/4" taps (stainless tubing) compromise system operation.
- OR -
2. Add additional supports to cast iron line to preclude failure.

M. G. Jones 5/6/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Add and modify supports per hanger dwg. SK-339-239R by DCN-DCI-EP-5336.

C. R. Van Natta 1/13/83
DISCIPLINE ENGINEER/DATE

J. A. Longworth 1/14/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 9/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-21-01-01

FIRE ZONE 14A LOCATION Turbine bldg FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Chamber containing CCW headers, El. 85'

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-ULB-14A
Overhead 4" cast iron pipe, clamp coupled, rod supported

TARGET: TARGET CODE: P-2277-20
24" CCW supply header, line 2277 inst. taps.

POSTULATED INTERACTION: PHENOMENA CODE: Spt fail
Cast iron pipe falls on instrument taps to CCW header, shearing taps.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
1. Verify that guillotine break of (2) 3/4" taps (stainless tubing) does not compromise system operation.
- OR -
2. Add additional supports to cast iron line to preclude failure.

M. G. Jones 5/6/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Add and modify supports per hanger dwg. SK-339-239R by DCN-DCI-EP-5336.

C. R. Van Natta 1/13/83
DISCIPLINE ENGINEER/DATE

J. A. Longworth 1/14/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 08/18/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 1/18/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-81-01-01

FIRE ZONE 28 LOCATION Outside area FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
El. 140', near SG Blowdn Tk, col 12^9 and T

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-TANK
SG Blowdn Tk, Steel platforms (Class II)

TARGET: TARGET CODE: P-2402-1
Line 2402-1" blue

POSTULATED INTERACTION: PHENOMENA CODE: Spt fail
Class II tank tips over, Class II platforms fall, hitting line 2402.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
By analysis, ensure stability of tank and platforms.

P. Anderson 6/18/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
1. Platforms: #25GE to be removed, see DCN # DC1-EC-5292.
#26GE is seismically qualified, see calc # 20-81-01-01.
2. Tank is seismically qualified, subject to modification per DC1-EC-5260.

S. Gaballah
DISCIPLINE ENGINEER/DATE

B. Sarkar
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/9/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 20-81-09-01

FIRE ZONE 28 LOCATION Outside area FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
El. 140', near SG Blowdn. Tk 1-1, col. 12[9] and 7

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-TANK
SG Blowdn TK, steel platforms (Class II)

TARGET: TARGET CODE: P-2043-1
Line 2403-1" Blue

POSTULATED INTERACTION: PHENOMENA CODE: Spt fail
Class II tank tips over, Class II platforms fall, hitting the target line 2403.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
By analysis, ensure stability of tank and platforms.

P. Anderson 6/18/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
1. Tank supports is seismically qualified, subject to modification per DCN No. DCI-EC-5260.
2. Platforms: #26GE has been seismically qualified per calc # 20-81-01-01
#25 GE to be removed
DCN No. DCI-EC-5292

S. Gaballah
DISCIPLINE ENGINEER/DATE

B. Sarkar
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 22-03-02-02

FIRE ZONE 30-A-5 LOCATION Intake Structure FLOOR ELEVATION -2'

LOCATION WITHIN FIRE ZONE:
Elevation -2, mid-room neae east wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-0677-16
Line 677-16"; screen wash supply to SCW HX, cast iron pipe

TARGET: TARGET CODE: P-0687-24
Line 687-24"; auxiliary saltwater pump 1-1 discharge.

POSTULATED INTERACTION: PHENOMENA CODE: PIPEFAIL
Line 677 falls, impacts line 687.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of line 677.

M.G. Jones 10/29/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added pipe support per DCN-DCI-EP-5061-HGR. DWG. 049339-339/301R.

C.R. Van Natta 10/10/83
DISCIPLINE ENGINEER/DATE

K.M. Krause 10/10/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 22-09-02-03

FIRE ZONE 30-A-5 LOCATION Intake structure FLOOR ELEVATION -2'

LOCATION WITHIN FIRE ZONE:
Elev. -2', Mid-room near east wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-0677-16
Line 677-16"; screen wash supply to SCW HX, cast iron pipe

TARGET: TARGET CODE: P-0680-24
Line 680-24", AUX SW pump 1-2 dschg.

POSTULATED INTERACTION: PHENOMENA CODE: Pipe fail
Line 677.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of Line 677, possibly by analysis.

M. G. Jones 10/29/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added pipe support per DCN-DCI-EP-5061 Hgr. Dwg. 049339-339/301R.

C. R. Van Natta 10/10/83
DISCIPLINE ENGINEER/DATE

K. M. Krause
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 23-50-01-02

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 117'

LOCATION WITHIN FIRE ZONE:
Elev. 130, near containment wall, 146°

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-1A
Platform and ladder

TARGET: TARGET CODE: P-0325-8
Line 325-8"; Containment spray header A, drain connection.

POSTULATED INTERACTION: PHENOMENA CODE: deflect
Lateral deflection of platform results in impact with drain connection.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add lateral brace to platform to reduce platform movement.
- OR -
Verify that platform deflection is insufficient to cause contact.

M. G. Jones 7/22/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Lateral brace will be added and existing A307 bolts replaced with high strength bolts. See ART 292.

S. Hanusiak
DISCIPLINE ENGINEER/DATE

E. P. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 8/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-07-01-02

FIRE ZONE 11-A-1 LOCATION DIESEL GENERATORS FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:

- Elev. 85, Mid-Room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-11A1
Overhead Light Fixtures (4)

TARGET: TARGET CODE: M-DG1-1
Diesel Engine 1-1

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE

Fixtures fall, impact engine and associated lube oil piping.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of fixture mount, possible by analysis. The above 4 source light fixtures have been verified to be installed in accordance with PGandE Dwg. 050041. Detail is with 2 light fixtures modified as shown DCN DCO-EE-5552R1. Detail is with the above modifications have been seismically qualified by civil calculation 52.25.42, REv. 3, dated 7/1/83.

M. G. Jones 06/25/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Similar to interaction 24-11-03-01 light fixture hook hangers modified per DCN #DCO-E-E-5552. See also ART 434.

N. Barangan
DISCIPLINE ENGINEER/DATE

C. Kahl
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

NOT REQUIRED
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-07-06-03

FIRE ZONE 11-B-1 LOCATION DIESEL GENERATORS FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:

Elev. 85', Mid-Room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-1181

Overhead Light Fixtures (4)

TARGET: TARGET CODE: M-DG1-2

Diesel Engine 1-2

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE

Fixtures fall, impact engine and associated lube oil piping.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

M. G. Jones 06/25/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Similar to interaction 24-12-03-01. Light fixture modified per DCN #DCO-E-E-5552. See also ART 434

N. Barangan
DISCIPLINE ENGINEER/DATE

C. Kahl
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

NOT REQUIRED
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-07-16-01

FIRE ZONE 11-A-1 LOCATION Diesel generators FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
- EL 85' DG COMPARTMENT

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-door
Rolling fire doors between diesel engine room and radiator room

TARGET: TARGET CODE: M-DG1-1
Diesel generator 1-1

POSTULATED INTERACTION: PHENOMENA CODE: Mech fail
Closure of rolling fire doors between diesel-gen compartment (fire zone 11-A-1) and radiator compartment (fire zone 11-A-2) cuts off cooling air to generator. Rolling fire doors held open by chains, open hooks, fusible links, and a weighted mechanical mechanism. Failure of any of these components will cause door (s) to close. Door closure not alarmed.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
(1) Verify integrity of chains, hooks, fusible links, and mechanism. Or
(2) Determine if generator can tolerate one or both doors closed; if not, provide door closure annunciation in control room or modify rolling fire door assemblies.

S. E. Traisman 8/5/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modification provided per DCN # DC1-EA-11899.

A. Vanek
DISCIPLINE ENGINEER/DATE

B. Sarkar 06/21/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 1/19/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 1/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-07-17-01

FIRE ZONE 11-B-1 LOCATION Diesel generators FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
EL 85' DG COMPARTMENT

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-door
Rolling fire doors between diesel engine room and radiator room

TARGET: TARGET CODE: M-DG1-2
Diesel generator 1-2

POSTULATED INTERACTION: PHENOMENA CODE: Mech fail
Closure of rolling fire doors between diesel-gen compartment (fire zone 11-B-1) and radiator compartment (fire zone 11-B-2) cuts off cooling air to generator. Rolling fire doors held open by chains, open hooks, fusible links, and a weighted mechanical mechanism. Failure of any of these components will cause door(s) to close. Door closure not alarmed.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
(1) Verify integrity of chains, hooks, fusible links, and mechanism. Or
(2) Determine if generator can tolerate one of both doors closed; if not, provide door closure annunciation in control room or modify rolling fire door assemblies.

S. E. Traisman 3/5/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modification provided per DCN # DC1-EA-11899.

A. Vanek
DISCIPLINE ENGINEER/DATE

B. Sarkar 06/21/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-07-18-01

FIRE ZONE 11-C-1 LOCATION Diesel generators FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
EL 85' DG COMPARTMENT

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-door
Rolling fire doors between diesel engine room and radiator room

TARGET: TARGET CODE: M-DG1-3
Diesel generator 1-3

POSTULATED INTERACTION: PHENOMENA CODE: Mech fail
Closure of rolling fire doors between diesel-gen compartment (fire zone 11-C-1) and radiator compartment (fire zone 11-C) cuts off cooling air to generator. Rolling fire doors held open by chains, open hooks, fusible links, and weighted mechanical mechanism. Failure of any of these components will cause door (s) to close. Door closure not alarmed.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
(1) Verify integrity of chains, hooks, fusible links, and mechanism. Or
(2) Determine if generator can tolerate one or both doors closed; if not, provide door closure annunciation in control room of modify rolling fire door assemblies.

S. E. Traisman
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

A. Vanek
DISCIPLINE ENGINEER/DATE

B. Sarkar 06/21/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-09-05-01

FIRE ZONE 12-B LOCATION Electrical Rooms FLOOR ELEVATION 110'

LOCATION WITHIN FIRE ZONE:
- EL 112' EAST END OF G BUS 4 KV CABLE SPR. ROOM

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-busduct
Distribution bus duct from standby startup transformer to vital 4.16KV SWGR.

TARGET: TARGET CODE: E-K2674-3
Conduct K2674-3"

POSTULATED INTERACTION: PHENOMENA CODE: Spt fail
Failure of bus duct fixed end rod hangers causes bus duct to fall onto target. Note Bus duct running through 4KV SWGR. above has seismic supports.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add supports to bus duct as req'd to eliminate interaction.

S. E. Traisman 07/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Install additional support to bus duct per DCN #DC1-S-E-11493 Rev. 0.

N. Barangan 7/13/83
DISCIPLINE ENGINEER/DATE

C. Kahl 7/15/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 01/19/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-11-03-01

FIRE ZONE 11-A-1 LOCATION Diesel generators FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
ELEV. 85-95, NEAR DIESEL ENGINE 1-1

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-11A1
Overhead incandescent Light fixtures

TARGET: TARGET CODE: M-AR1-1
Turbocharger air receiver 1-1 & associated piping, tubing & equipment

POSTULATED INTERACTION: PHENOMENA CODE: fixture
Light fixtures fall, impact air receiver & associated turbocharger system components.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of light fixtures.

M. G. Jones 05/12/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
This postulated interaction was resolved by modifying the Lt. fix. hook hangers per DCO-EE-5552 (see art-378).

Additional interaction was identified and corrected by field verification report of 8/24/83. Work was completed per ART-434 (8/25/83).

N. Barangan
DISCIPLINE ENGINEER/DATE

C. Kahl
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 11/02/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-12-03-01

FIRE ZONE 11-B-1 LOCATION Diesel generators FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
- ELEV. 85-95, NEAR DIESEL ENGINE 1-2

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-1181
Overhead incandescent light fixtures

TARGET: TARGET CODE: M-AR 1-2
Turbocharger air receiver 1-2 & associated piping, tubing & equipment.

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Light fixtures fall, impact air receiver & associated turbocharger system components.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of light fixtures, possible by analysis.

M. G. Jones 05/12/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
This postulated interaction was resolved by modifying the Lt. fix. hook hangers per DCO-EE-5552 (See ART-378).

Additional interaction was identified and corrected by field verification report of 8/24/83. Work was completed per ART-434 (8/25/83).

N. Barangan
DISCIPLINE ENGINEER/DATE

C. Kahl
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 11/02/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 24-13-03-01

FIRE ZONE 11-C-1 LOCATION Diesel Generators FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 85-95, near Diesel Engine 1-3

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-11C1
Overhead incandescent light fixtures

TARGET: TARGET CODE: M-ARI-3
Turbo Charger Air Receiver 1-3 &
associated piping, tubing & equipment

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Light fixtures fall, impact air receiver &
associated turbocharger system components.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of light fixtures.

M. G. Jones 5/12/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
This postulated interaction was resolved by modifying the light fixture hook hangers per DCO-EE-5552 (See Art. 378). Additional interaction has identified and corrected by Field Verification Report of 8/24/83. Work was completed per Art-434 (8/25/83).

N. Barangan
DISCIPLINE ENGINEER/DATE

C. Kahl
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-34-01-01

FIRE ZONE 8B1 LOCATION HVAC Rooms FLOOR ELEVATION 150'

LOCATION WITHIN FIRE ZONE:
Supply Fan Room, Elev. 150 Over Fan S-32

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-DRAIN-8B1
Overhead 3" cast iron drain line, threaded and poured lead joints.

TARGET: TARGET CODE: H-MISC
Air actuator for fan louvers.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Pipe fails, falls on actuator and associated linkage.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of cast iron pipe. Add two rod supports to add additional restraint.

M. G. Jones 5/13/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Source line re-routed.

C. Van Natta 8/4/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 8/14/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-79-02-01

FIRE ZONE 8-B-1 LOCATION HVAC FLOOR ELEVATION 151'

LOCATION WITHIN FIRE ZONE:

Auxiliary Bldg. Supply Fan Room, North of Fan S-32

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-ULB-8B1

3"± Aux. Steam Line to Aux. Bldg. Heating Coils runs E-W and Vertically 3' North of Fan S-32

TARGET: TARGET CODE: H-S32

Fan S-32 Damper Activator

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL

Fixed end rod hangers on source line fail, line deflects over and down and impacts fan dampers activator.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Add bilateral supports to E-W run and vertical run of source line. Coordinate this IDS with 25-77-01-02.

S.E. Traisman 2/23/84
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Support added per DCN #DCI-SP-17832

R. Hankins
DISCIPLINE ENGINEER/DATE

K. M. Krause
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 2/23/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-105-01-02

FIRE ZONE 8-B-3 LOCATION HVAC ROOMS FLOOR ELEVATION 163'-4"

LOCATION WITHIN FIRE ZONE:
10' East of Col. N and above CR-35 and CR-36 in Control Room HVAC Condenser Room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-USB-8B3
Two 2" Chilled Water Lines (to and from chiller "CH-2" unit) runs North-South and 10' East of Col. N.

TARGET: TARGET CODE: H-CR35

CR-35 and CR-36 (Cont. Room Ventilation Condenser Units)

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL

Fixed end rod hangers on source lines fail, lines fall onto 2" sprinkler line below. U-bolt supports on spr. line and/or threaded connections on spr line fail, source lines fall onto target condenser units or deflect into small bore copper refrigerant lines assoc. with condenser units.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add bilats as required to restrain source lines.
Ref. hgr. Nos. 339-300R SIP-472, 339-303R SIP-473, 339-305F SIP-474

C. R. VanNatta 02/23/84
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Supports added per DCN Nos DCI-SP-17912, 17913, and 17914

R. Hare
DISCIPLINE ENGINEER/DATE

K. M. Krause
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-112-06-01

FIRE ZONE 38B LOCATION Penetration Area FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
Elev. 100', near Column 15 & K

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-0721-12
12" K 721 Condensate Makeup & Rejection (blue line)

TARGET: TARGET CODE: E-K6243-1.25
Conduit K6243

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Where conduit crosses above 12" line, there exists 1" vertical clearance. 12" line could move upward and crush the target conduit.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Shim existing clevis-end rod hangers and ensure capacity of hanger to provide upward restraint. Alternatively provide vertical stop from ceiling.

P. Anderson 6/9/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added vertical stop - See Drawing 049339-339/42R.

C. R. Van Natta 7/15/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 7/16/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 8/23/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-117-05-01

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
Elev. 105, at containment wall, 146°

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-1167-4
Line 1167-4", RHR line to PRT

TARGET: TARGET CODE: I-FCV768
Air supply tubing to FCV-678

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral movement of Line 1167 results in impact with tubing.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Reroute tubing to FCV-678 away from Line 1167. Provide minimum 12" clearance.

M. G. Jones 11/19/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Tubing rerouted to provide 6" clearance to pipe, which is adequate considering pipe support configuration.

DISCIPLINE ENGINEER/DATE

Not Required
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 09/30/82
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-162-03-02

FIRE ZONE 14D LOCATION Turbine Building FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 160, along East Wall

IDENTIFICATION OF INTERACTING COMPONENTS: TASK 7196/7678

SOURCE: SOURCE CODE: C-PLAT-14D
Turbine Bldg. Catwalk along East Wall

TARGET: TARGET CODE: H-FILTER
Filter Box to DC/480V Switchgear Rooms

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Catwalk falls, impacts filter box.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of Catwalk by simplified analysis.

M. G. Jones 9/23/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Catwalk qualified by analysis, subject to modification per DCN # DCI-E-A-15200

S. Hanusiak
DISCIPLINE ENGINEER/DATE

E. P. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-162-04-01

FIRE ZONE 14A LOCATION Turbine Building FLOOR ELEVATION 119'

LOCATION WITHIN FIRE ZONE:
Elev. 133, near Column Line 16 & G, Southeast Corner

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-1742-8
Line 1742-8", Lube Oil Vent Pipe

TARGET: TARGET CODE: H-DUCT
Supply Duct to 480V/DC Switchgear Rooms

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT
Lateral deflection of Line 1742 results in impact with duct.
Existing pipe/duct gap ≃ 4".

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure by analysis that pipe deflection insufficient to impact duct.
Add restraints to pipe if/as required.

M. G. Jones 9/23/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Add pipe support - See generic DCN-DC1-EP-5061 - Hanger Drwg. No. 049339-339/352R.

C. R. Van Natta 8/30/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 8/30/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 02/03/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-165-04-01

FIRE ZONE 14D LOCATION Turbine Building FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 145, Northeast Corner

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-14D
Line (4") from Firewater Header 2663-10" to Temporary Instrument Repair Shop

TARGET: TARGET CODE: H-DUCT
Exhaust Stack (from Fan S-69)

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
4" line falls due to failure of fixed end supports, impacts stack.
Span between supports = 27 ft.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install vertical support to Line (4") midway between 27 ft. span.
Look into advisability of changing to clevis end on rod hangers.

WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added pipe supports per Hanger Dwgs for interaction 25-203-04-06. See Dwg. 049339

C. R. Van Natta 7/21/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 7/21/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-165-04-02

FIRE ZONE 14D LOCATION Turbine Building FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 145, Northeast Corner

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-14D
Catwalk at Northeast end of Turbine Building

TARGET: TARGET CODE: H-S69
Exhaust Stack (from Fan S-69)

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Catwalk falls, impacts stack.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of catwalk by simplified analysis.

M. G. Jones 9/24/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Catwalk qualified by analysis, subject to modification per DCN # DCI-EA-15200

DISCIPLINE ENGINEER/DATE

E. P. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-165-04-03

FIRE ZONE 14D LOCATION Turbine Building FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 145, Northeast Corner

IDENTIFICATION OF INTERACTING COMPONENTS: Task #7200/7682

SOURCE: SOURCE CODE: C-BLDG
Instrument Repair Shop Structure

TARGET: TARGET CODE: H-S69
Exhaust Stack (From Fan S-69)

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Structure slides or collapses, impacting exhaust stack.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of structure by analysis and/or modification of the structure floor mounting.

M. G. Jones 9/24/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Protective barriers (3) installed per ART 439.

DISCIPLINE ENGINEER/DATE

E. P. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-168-04-01

FIRE ZONE 14D LOCATION Turbine Building FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 145, Northeast Corner

IDENTIFICATION OF INTERACTING COMPONENTS: Task #7201/7683

SOURCE: SOURCE CODE: C-PLAT-14D
Platform/Ladder Assembly & Catwalk at Northeast Corner, Turbine Bldg.

TARGET: TARGET CODE: H-568
Exhaust Stack (From Fan S-68)

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Platform/Ladder and catwalk fall, impact stack.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of platform/ladder assembly & catwalk by simplified analysis.

M. G. Jones 9/24/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Sources qualified subject to modification per DCN #DCI-EA-15200

DISCIPLINE ENGINEER/DATE

E. P. Wollak 2/19/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-168-04-02

FIRE ZONE 14D LOCATION Turbine Building FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 145, Northeast Corner

IDENTIFICATION OF INTERACTING COMPONENTS Task 7202/7684

SOURCE: SOURCE CODE: C-BLDG
Instrument Repair Shop Structure

TARGET: TARGET CODE: H-S68
Exhaust Stack (From Fan S-68)

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Structure slides or collapses, impacting exhaust stack.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of structure by analysis and/or modification of the structure floor mounting.

M. G. Jones 9/24/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Protective barriers (3) installed per ART 459.

DISCIPLINE ENGINEER/DATE

E. P. Wollak 8/13/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-171-04-03

FIRE ZONE 14D LOCATION Turbine Building FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 145, Northeast Corner

IDENTIFICATION OF INTERACTING COMPONENTS: Task 7203/7685

SOURCE: SOURCE CODE: C-BLDG
Instrument Repair Shop Structure

TARGET: TARGET CODE: H-DUCT
Exhaust Stack (From Fan S-67)

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE
Structure slides or collapses, impacting exhaust stack.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of structure by analysis and/or modification of the structure floor mounting.

M. G. Jones 9/24/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Protective barriers (3) installed per ART 459.

DISCIPLINE ENGINEER/DATE

E. P. Wollak 6/19/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-185-02-02

FIRE ZONE 3AA LOCATION Auxiliary Bldg. FLOOR ELEVATION 100'

LOCATION WITHIN FIRE ZONE:
Elev. 110', Az. 236°, above Incore Instr. Chiller Pump #11

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-3AA
2" Fire Water Pipe (2" red)

TARGET: TARGET CODE: E-K3888-1
Conduit K3888 - 1"

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Fire water pipe may fall and impact conduit due to failure of fixed end rod hangers and general lack of horizontal support.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Change fixed end rod hangers to clevis end rod hangers.

P. Anderson 6/4/81
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Added pipe supports - see Pipe Support Dwg No. SPR-731 Rev. 1, 732 Rev. 1 & 733 Rev. 1.

C. R. Van Natta 4/27/83
DISCIPLINE ENGINEER/DATE

K. M. Krause
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 8/23/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-189-04-01

FIRE ZONE 1A LOCATION CONTAINMENT FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:

Elev. 99', at Containment Wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-3126-2

Line 3126-2", CFC 1-4 Drain Line

TARGET: TARGET CODE: P-4636-0.375

Tubing, Line 4636-3/8"

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL

Lateral deflection of line 3126 results in impact with line 4636, due to failure of fixed-end rod hanger.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Replace fixed-end rod hanger with bilateral support, at 177°, at containment wall.

M. G. Jones 02/25/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Recommended resolution - see hanger dwg. 049339, Sheet 123 in DC1-EP-3606.

C.R. VanNatta 01/10/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 01/25/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/23/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 25-197-08-04

FIRE ZONE 3-R LOCATION Fuel Handling Bldg. FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
Elev. 122' NR Ammonia Tank Cols. T and 15, in Fire Pump Room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-TANK
Ammonia Tank and Assoc. 1/2" and 3/4" Lines

TARGET: TARGET CODE: E-KK213-1.50
Conduit KK213 - 1-1/2" (H Bus)

POSTULATED INTERACTION: PHENOMENA CODE: INTERFERE
Existing clearance between conduit and tank, 1/2" Line, and 3/4" Line is 0 to 1/4". Motion of tank and assoc. lines impact conduit.

NOTE: There are 3 potential interaction points.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify by simplified analysis that conduit is not damaged by motion of tank/lines.

S. E. Traisman 9/28/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Reroute conduit to provide a minimum of 6" clearance between conduit and tank & associated lines. See ART 325.

P. Chu 11/12/82
DISCIPLINE ENGINEER/DATE

E. C. Connell
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 9/9/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-03-45-01

FIRE ZONE 1C LOCATION Containment FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 140, at Containment Wall, 138°

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-RNRP
RNRP - A, B, Electrical Data Cabinets

TARGET: TARGET CODE: P-3160-2
Line 3160-2"; Fire Protection Pipe

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Cabinets overturn, impact Line 3160.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure that cabinets will not overturn by analysis or modify support.

M. G. Jones 8/5/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Cabinets bolted to annulus steel per DCN #DCI-SC-15194.

P. Chu 10/7/82
DISCIPLINE ENGINEER/DATE

S. Auer
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 1/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-04-15

FIRE ZONE 14A LOCATION Turbine Building FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 90, near Vacuum Pump

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-STAIR-14A
Stairway 1d

TARGET: TARGET CODE: P-2666-6
Line 2666-6"; Unit 1 Firewater Header

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Stairway falls, impacts pipe.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of stairway by simplified analysis.

M. G. Jones 11/13/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Stairway qualified by analysis, subject to modification per DCI-EC-15863.

DISCIPLINE ENGINEER/DATE

E. P. Wollak 4/6/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-17-04

FIRE ZONE 14D LOCATION Turbine Building FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 145, near Elevator No. 1

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-14D
Overhead Catwalk

TARGET: TARGET CODE: M-HR
Valve to firewater Hose Reel 145-T43-1

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Catwalk falls, impacts valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of catwalk by simplified analysis.

M. G. Jones 11/13/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Catwalk qualified by analysis, subject to modificaion per DCI-EA-15200.

S. Hanusiak
DISCIPLINE ENGINEER/DATE

B. Sarkar
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-29-01

FIRE ZONE 14-A LOCATION Turbine Building FLOOR ELEVATION 119'

LOCATION WITHIN FIRE ZONE:

Elev. 132', at East Wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SA-14A

8" Service Air Line and 10" Reboiler Line

TARGET: TARGET CODE: P-3301-2

Line 3301-2", Firewater

POSTULATED INTERACTION: PHENOMENA CODE: DEFLECT

Lateral movement of 10: line results in impact with 8" line which in turn impacts line 3301.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Add seismic stop to Col. 12.2 to preclude impact with line 3301. Maintain maximum pipe/seismic stop clearance of 1".

M. G. Jones 12/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Modification provided per DCN DC1-EP-5061, Hrg. Dwg. No. 049339-339/353R.

C.R. VanNatta 08/23/83
DISCIPLINE ENGINEER/DATE

K. M. Krause 08/23/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-29-03

FIRE ZONE 14D LOCATION Turbine Building FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 145, at East Wall, Col. 12.2

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-14D
Overhead Catwalk (Elev. 163)

TARGET: TARGET CODE: P-3301-2
Line 3301-2"; Unit 1 Firewater

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Catwalk falls, impact pipe.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of catwalk by simplified analysis.

M. G. Jones 12/4/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Catwalk qualified by analysis, subject to modificaion per DCI-EA-15200.

DISCIPLINE ENGINEER/DATE

E. P. Wollak 3/9/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-30-01

FIRE ZONE 14D LOCATION Turbine Bldg. FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 145, at East Wall, Col. 12.2

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: H-S46
Turbine Building Cooling Fan S-64

TARGET: TARGET CODE: M-HR

Valve to Firewater Hose Reel 145-T41-1

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Fan falls, impacts valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of fan by simplified analysis. Include fan motor mounting in the analysis.

M. G. Jones 12/4/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Fan support qualified by analysis, subject to modification per DC1-EA-15200.

DISCIPLINE ENGINEER/DATE

D. H. Hagstrom
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 4/15/81
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-30-02

FIRE ZONE 14D LOCATION Turbine Bldg. FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 145, at East Wall Col. 12.2

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-140
Overhead Catwalk (Elev. 163)

TARGET: TARGET CODE: M-HR
Valve to Firewater Hose Reel 145-T41-1

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Catwalk falls, impacts valve.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of catwalk by simplified analysis.

M.G. Jones 12/4/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Catwalk qualified by analysis, subject to modification per DC1-EA-15200.

S. Hanusiak
DISCIPLINE ENGINEER/DATE

B. Sarkar
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-40-02

FIRE ZONE 14-A LOCATION TURBINE BUILDING FLOOR ELEVATION 119

LOCATION WITHIN FIRE ZONE:

Elev. 124-135' near Stairway 2D

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-14A

1 1/2", 2", 3", 4", 6" Sprinkler Pipe

TARGET: TARGET CODE: P-3297-2

Line 3297-2, Firewater

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL

Sprinker pipe falls on line 3297 due to failure of mechanical/threaded couplings and fixed-end rod hangers, or sprinkler pipe deflects laterally, impacting line 3297.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Add restraints to sprinkler pipe as needed to prevent all or part of the pipe from falling on line 3297.

M. G. Jones 12/04/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Pipe supports added to resolve interaction see hanger Dwg. 049339, Sht. 283, thru 286 in generic DCN-DC1-EP-5061.

C. R. VanNatta
DISCIPLINE ENGINEER/DATE

K. M. Krause
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-40-03

FIRE ZONE 14D LOCATION Turbine Bldg. FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 145, top of Stairway 2b

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-140
Overhead Catwalk (Elev. 163)

TARGET: TARGET CODE: P-3297-2
Line 3297-2"; Unit 1 Firewater

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Catwalk falls, impacts pipe.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of catwalk by simplified analysis.

M.G. Jones 12/4/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Catwalk qualified by analysis, subject to modification per DC1-EA-19200.

DISCIPLINE ENGINEER/DATE

E.P. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-41-03

FIRE ZONE 14D LOCATION Turbine Bldg. FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 145, top of Stairway 2b

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-140
Overhead Catwalk (Elev. 163)

TARGET: TARGET CODE: M-HR
Valve to Firewater Hose Reel 14-5-T39-1

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Catwalk falls, impacts hose reel.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of catwalk by simplified analysis.

M.G. Jones 12/4/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Catwalk qualified by analysis, subject to modification per DCI-EA-19200.

S. Hanusiak
DISCIPLINE ENGINEER/DATE

B. Sarkar
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-44-03

FIRE ZONE 14A LOCATION Turbine Bldg. FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 100, North Wall, near Diesel Generators

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-14A
8" Sprinkler Header

TARGET: TARGET CODE: P-5038-4
Line 5038-4"; Unit 1 Firewater

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Threaded & mechanical couplings of 8" pipe fail, resulting in pipe falling on Line 5038.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add additional restraints/supports to 8" header to preclude coupling failure, or by analysis prove acceptability.

M.G. Jones 11/6/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
8" sprinkler header piping to be modified as shown on.
See Hanger Drwg No. 049339 Sht 250 thru 256B, DC1-EP-7270.

B. Abella 02/26/83
DISCIPLINE ENGINEER/DATE

K.M. Krause
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-44-04

FIRE ZONE 14A LOCATION Turbine Bldg. FLOOR ELEVATION 104'

LOCATION WITHIN FIRE ZONE:
Elev. 110, at North Wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-14A
6" Sprinkler Header

TARGET: TARGET CODE: P-5038-4
Line 5038-4"; Unit 1 Firewater

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
6" pipe falls on Line 4262 due to failure of threaded/mechanical fittings. falling on Line 5038.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add additional restraints/supports to 6" pipe or verify acceptability of existing configuration by analysis.

M.G. Jones 11/20/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
6" sprinkler header piping to be modified as shown on Hanger Drwg No. 049339 Sht 257 thru 258, DC1-EP-7270.

DISCIPLINE ENGINEER/DATE

K.M. Krause 6/3/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-44-06

FIRE ZONE 14A LOCATION Turbine Bldg. FLOOR ELEVATION 119'

LOCATION WITHIN FIRE ZONE:
Elev. 130, at North Wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-STAIR-14A
Stairway 3b (Elevation 119-140)

TARGET: TARGET CODE: P-5038-4
Line 4262-4"; Unit 1 Firewater

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Stairway falls, impacts pipe.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of stairway by simplified analysis.

M.G. Jones 12/4/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Stairway qualified by analysis, subject to modification per DC1-EC-15863.

DISCIPLINE ENGINEER/DATE

E.P. Wollak 5/6/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-44-07

FIRE ZONE 14A LOCATION Turbine Bldg. FLOOR ELEVATION 119'

LOCATION WITHIN FIRE ZONE:
Elev. 119-130, at North Wall, near Stairway 3b

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-14A
6" Sprinkler Pipe

TARGET: TARGET CODE: P-5038-4
Line 5038-4"; Unit 1 Firewater
(This Line No. has been voided & replaced by 5038-4")

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
6" Pipe falls on Line 5038 due to failure of threaded/mechanical fittings and fixed end rod hangers.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add restraints to 6" pipe to preclude impact with Line 5038.

M.G. Jones 12/4/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
6" Sprinkler header piping to be modified as shown on.
See Hanger Dwg No. 049339 Sht 259, 259A, 265,265A, 265B, 265C, 265D, DC1-EP-7270.

B. Abella 02/26/83
DISCIPLINE ENGINEER/DATE

K.M. Krause 6/3/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-49-03

FIRE ZONE 14A LOCATION Turbine Bldg. FLOOR ELEVATION 119'

LOCATION WITHIN FIRE ZONE:
Elev. 119-130, at North Wall, near Stairway 3b

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-14A
6" Sprinkler Pipe

TARGET: TARGET CODE: P-5041-2
Line 5041-2"; Unit 1 Firewater

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
6" Pipe falls on Line 5041 due to failure of threaded/mechanical fittings and fixed end rod hangers.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add restraints to 6" pipe to preclude impact with Line 5041.

M.G. Jones 12/4/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
6" Sprinkler header piping to be modified as shown on.
Hanger Dwg No. 049339 Sht 266 & 266A, DC1-EP-7270.

B. Abella 02/26/83
DISCIPLINE ENGINEER/DATE

K.M. Krause 6/3/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-04-51-05

FIRE ZONE 14A LOCATION Turbine Bldg. FLOOR ELEVATION 119'

LOCATION WITHIN FIRE ZONE:
Elev. 130, under Stairway 3b at North Wall

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-SPR-14A
8" Sprinkler Header

TARGET: TARGET CODE: P-3293-2
Line 3293-2"; Unit 1 Firewater

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
8" Pipe falls on Line 3293 due to failure of mechanical/threaded connections and fixed-end rod hangers.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install bilateral support to 8" pipe over Line 3293 to preclude 8" pipe falling on Line 3293.

M.G. Jones 12/3/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Sprinkler header piping to be modified as shown on.
Hanger Dwg No. 049339 Sht 260, 264, DC1-EP-7270.

B. Abella 02/16/83
DISCIPLINE ENGINEER/DATE

K.M. Krause 6/3/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-05-72-01

FIRE ZONE 3C LOCATION Auxiliary Bldg. FLOOR ELEVATION 73'

LOCATION WITHIN FIRE ZONE:
Elev. 83, Column Line 18.6 & L, near Ceiling

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-HOIST
Monorail above

TARGET: TARGET CODE: P-3619-4
Line 3619-4"; Firewater Header

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Monorail support rests against Line 3619.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Remove existing monorail support. Support monorail to wall (18.6).

M.G. Jones 9/10/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Bracing added - see Dwg. No. 512482.

DISCIPLINE ENGINEER/DATE

E.P. Wollak
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 8/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-05-72-02

FIRE ZONE 3C LOCATION Auxiliary Bldg. FLOOR ELEVATION 73'

LOCATION WITHIN FIRE ZONE:
Elev. 83, at North Wall, 18.6 at K Line 6424

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-CRANE-3C
Monorail MS 3-2

TARGET: TARGET CODE: P-3619-4
Line 3619-4"; Firewater Header

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Longitudinal movement of monorail results in impact with pipe.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Secure end of trolley to 18.6 wall near point of contact.

M.G. Jones 9/10/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Bracing added - see Dwg. No. 512482.

DISCIPLINE ENGINEER/DATE

E.P. Wollak 3/25/81
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 8/23/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 28-07-18-02

FIRE ZONE 14D LOCATION Turbine Bldg. FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Turbine Building Operating Deck, Cols. 3 and F

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-Bldg.
Office Bldg just East of Firewater Hose Reel T-39
(7'-5" high, 12' wide, 030' long)

TARGET: TARGET CODE: D-3297-2
Firewater Line K-3297-2" to hosereel FW 145-T39-1.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Anchorage of building to Turbine deck fails, bldg. slides into hosereel piping approximately 4' away. Alternatively, main wall and ceiling connections fail, west wall of building falls onto target.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify adequacy of building anchorage and building connections by Engineering evaluation.

S.E. Traisman 10/27/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Protective barrier provided per ART 469.

T. Farinelli
DISCIPLINE ENGINEER/DATE

F.A. Morsy 1/11/84
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-01-01

FIRE ZONE 1A, 1B, 1C LOCATION Containment FLOOR ELEVATION Various

LOCATION WITHIN FIRE ZONE:
All elevations in Containment

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-PLAT-1A
Structural Platforms, Grates, Handrails, Ladders, Stairways, etc.

TARGET: TARGET CODE: GENERIC
Numerous Class I components.

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Platforms, grates, etc. fall, impact class I components.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of platforms, ladders, stairways, etc. by simplified analysis. Ensure that all grates and handrails are secured to platforms and will not fall or deflect appreciably.

M.G. Jones 4/1/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Sources qualified by analysis and modified as required.

DISCIPLINE ENGINEER/DATE

V.J. Ghio 3/26/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 4/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-14-01

FIRE ZONE 3BB LOCATION PENETRATION AREA FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:

- Elev. 115', GE Area

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-1040-2.5+

Blowdown Lines 1040, 1041, 1042, and 1043

TARGET: TARGET CODE: P-ULB-3BB

Numerous CCW Lines and a 4" Aux FW line

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL

Vertical, unrestrained pipe with flange within the span deflects or fails, falling upon qualified pipe.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Analyze line 1042 to ensure integrity. (This analysis and any modifications will apply to lines 1040, 1041, 1043.

M. G. Jones 05/14/80
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Added hgrs - see dwg. 049264, Hgr. No. 595/11A by DC1-EP-5063. 58S/154R, and 58S/158R by DC1-EP-5060 and 58S/155R, 58S/156R and 58S/157R by DC1-EP-5061.

C.R. VanNatta 07/19/83
DISCIPLINE ENGINEER/DATE

J. Longworth 07/19/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAW

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-43-01

FIRE ZONE 1A, 1B, 1C LOCATION Containment FLOOR ELEVATION Various

LOCATION WITHIN FIRE ZONE:
Elev. 91, 117, 140, all areas

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FE
Portable hand-held Fire Extinguishers

TARGET: TARGET CODE: GENERIC
Numerous Class I components.

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Fire extinguishers fall from mounts, impact Class 1 components. Some could fall through compartments via stairways, etc.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Remove all fire extinguishers from containment prior to plant start-up.

M.G. Jones 3/2/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Extinguishers removed per ART 314.

DISCIPLINE ENGINEER/DATE

J.D. Townsend
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO MAN

Not Required
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-54-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Pipe rack, Area FW

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-30FW
Steel Platform No. 30FW, El. 100',

TARGET: TARGET CODE: E-R-28
Misc. Class I conduits

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Platforms and/or associated handrails come loose and fall on Class I conduits below.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of platforms and handrails by simplified analysis. Verify platform hold down clips are in place.

S.E. Traisman 7/13/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Platform has been seismic qualified with modification.
See DCN DC1-EA-7793.

DISCIPLINE ENGINEER/DATE

B. Sarkar
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 9/9/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-54-04

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Pipe rack, Area FW

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-40FW
Steel Platform No. 40FW, El. 118'

TARGET: TARGET CODE: E-R-28
Misc. Class I conduits

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Platform and/or associated handrails come loose and fall on Class I conduits below.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of platform and handrails by simplified analysis. Verify platform hold down clips are in place.

S.E. Traisman 7/13/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The platform and handrails have been seismically qualified by analysis with modification. See DCN No. DC1-EA-7086, Sheet 4.
Added new braces.

DISCIPLINE ENGINEER/DATE

ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-54-07

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Pipe rack, Area FW

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-43FW
Steel Platform No. 43FW

TARGET: TARGET CODE: E-R-28
Misc. Class I conduits

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL
Platform and/or associated handrails come loose and fall on Class I conduits below.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of platform and handrails by simplified analysis. Verify platform hold down clips are in place.

WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The platform was seismically qualified by analysis, subject to the modifications show on DCN No. DC1-EA-7006.

DISCIPLINE ENGINEER/DATE

B. Sarkar
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-57-01

FIRE ZONE 1A LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
Elev. 91-100, Azimuth 0°

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-TANK
Pressurizer Relief Tank (PRT)

TARGET: TARGET CODE: GENERIC
Misc. Class 1 Components, such as CCW Piping, misc. instrumentation

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
PRT overturns or is displaced from it's rigid mounting, resulting in impact with misc. Class 1 components in the area.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure by analysis and/or support modifications, the integrity of the PRT mounting (concrete pad, anchor bolts, support saddle, etc.)

M.G. Jones 8/23/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modification added to prevent postulated interaction No. 30-01-57-01.
See DCN No. DC1-E-C-1363.

DISCIPLINE ENGINEER/DATE

B. Sarkar 10/20/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 10/25/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-58-02

FIRE ZONE 6-A-3 LOCATION Electrical Rooms FLOOR ELEVATION 110'

LOCATION WITHIN FIRE ZONE:
Elev. 113', Vital DC Switchgear Room 1-3

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FE
15 lb CO_2 Fire Extinguisher FE A115-02-12

TARGET: TARGET CODE: E-MISC
Class I Electrical Equipment in Vital DC Switchgear Room

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Fire extinguisher comes off hook, falls, nozzle breaks off, and fire extinguisher becomes a missile which impacts equipment in room.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Secure fire extinguisher with a quick release clamping mechanism.

S.E. Traisman 7/22/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Quick-release clamp provided per ART 375.

J. Haake
DISCIPLINE ENGINEER/DATE

J.A. Longworth 11/10/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO ~~MAN~~

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 1/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-72-01

FIRE ZONE 8-C LOCATION Control Room FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 140', Control Room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-MISC-8C
Class II Control Boards

TARGET: TARGET CODE: GENERIC
Class I Control Boards

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Class II cabinets overturn and impact Class I cabinets.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of Class II Control Board in Control Room.

S.E. Traisman 7/28/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Class II Control Boards in Control Room have been seismically qualified with modification ART 418.

DISCIPLINE ENGINEER/DATE

B. Sarkar
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 01/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-84-01

FIRE ZONE 6A1 LOCATION Electrical Equipment Rooms FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FE

15 LB CO_2 fire extinguisher
FE A115-01-12

TARGET: TARGET CODE: E-DC SWGR

Class 1 electrical equipment in vital DC Swgr Room

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL

Interaction postulated CO_2 fire extinguisher comes off its mounting hook, its nozzle breaks off and the bottle becomes a missile which could impact Class I electrical equipment in the vital dc switchgear room 1-1. A quick release clamping device has been installed per the IDS resolution, however, rubber spacers are missing from the clamping device, this allows unsatisfactory free play.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Install rubber washers to the fire extinguisher clamping device.

S. E. Traisman 07/22/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Quick release clamp modification provided per ART 375 and 460.

J. Haake
DISCIPLINE ENGINEER/DATE

J. A. Longworth
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-86-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 148, Top Level of Pipe Rack

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-HOIST-28
Service Hoists & Trolleys (2)

TARGET: TARGET CODE: GENERIC
Misc. Class 1 Components

POSTULATED INTERACTION: PHENOMENA CODE: MECHFAIL
Hoists and Trolleys fail, fall upon Class 1 components on lower elevations

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Ensure integrity of hoists and trolleys by simplified analysis.

M.G. Jones 6/30/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Cranes, hoists secured & seismically qualified by analysis with modification. See ART 421 and ART 380.

DISCIPLINE ENGINEER/DATE

B. Sarkar 06/06/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-92-01

FIRE ZONE 28 LOCATION Outside Areas FLOOR ELEVATION 85'

LOCATION WITHIN FIRE ZONE:
Elev. 85', Pipe Rack Area

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LT ARR
Main Transformer "A" Phase Lighting Arrestor

TARGET: TARGET CODE: GENERIC
Various Class I Mechanical and Electrical Components in/around Pipe Rack

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Seismic event causes lighting arrestor insulator and/or support column to topple, damaging Class I piping valves, instruments, or electrical conduits in vicinity of pipe rack.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Determine failure mode (if any) of lighting arrestor structure during seismic event. Determine if failure of structure/insulator will impact any targets in vicinity. If so, ensure integrity of lighting arrestor structure.

S.E. Traisman 6/30/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
The lighting arrestor has been seismically qualified with modifications. See DCN #DC1-EC-11803.

DISCIPLINE ENGINEER/DATE

G. C. Bhatt
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman 09/21/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 10/25/85
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-01-95-01

FIRE ZONE 1C LOCATION CONTAINMENT AREA FLOOR ELEVATION 140'

LOCATION WITHIN FIRE ZONE:
Elev. 140' over Fuel Transfer Canal

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: C-102F
Platform 102F, Elev. 140'

TARGET: TARGET CODE: GENERIC
Fuel Transfer Canal

POSTULATED INTERACTION: PHENOMENA CODE: CIVILFAIL

Platform fails and impacts targets in vicinity.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Verify integrity of platform by simplified analysis.

S. E. Traisman 09/29/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Modification to be added to prevent postulated interaction No. 30-01-93-01.
See calcs. 30-01-95-01 and ART No. 324.

S. Gaballah
DISCIPLINE ENGINEER/DATE

B. Sarkar 11/17/82
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 08/24/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-03-01-01

FIRE ZONE 1B LOCATION Containment FLOOR ELEVATION 91'

LOCATION WITHIN FIRE ZONE:
Azimuth 230°, 42 Ø HVAC Duct

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: H-DUCT-1B
Directional blades on 42" Ø duct termination

TARGET: TARGET CODE: GENERIC
Misc. Class I Instrumentation lines and/or glass containers for hydraulic fluid (Class I snubbers)

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
The directional blades are attached to 42" Ø supply duct termination. The attachment detail - sheet metal blade bent, one bolt with nut thru the duct. The HVAC ducting is Class II, Spec. E796. The blades are cracked in the vicinity of attachment. It is judged this is because of fatigue of sht. mtl. There are 5 blades (max. L = 42") on the outlet. Should the blade(s) become detached the above targets may be impacted. Fatigued blades may fail in seismic event and fall onto targets.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Remove existing blades (Azimuth 230') and replace them with blades manufactured and attached similar to the blades on the others 42" Ø suppy ducts in this area.

J. Dokladal
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Resolved per recommendation. See ART 451.

J. Dokladal
DISCIPLINE ENGINEER/DATE

J. Longworth 10/15/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 11/19/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-05-00-01

FIRE ZONE Various LOCATION Various FLOOR ELEVATION Various

LOCATION WITHIN FIRE ZONE:
Various locations in plant, especially electrical equipment and mechanical equipment rooms.

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-BOTTLE

Portable CO_2 Fire Extinguishers

TARGET: TARGET CODE: GENERIC

Various Class I Equipment

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE

Numerous CO_2 fire extinguishers were observed in safety-related areas of the plant without quick release clamping devices. Seismic event (or personnel bumping into bottle) cause bottle to come off its support hook, bottle falls, nozzle shears off, and bottle becomes a missile which can damage Class I equipment.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Provide quick release clamping mechanism for all CO_2 extinguishers. Revise standard installation dwg. for CO_2 extinguishers to ensure any future installations of CO_2 extinguishers will have quick release clamping mechanisms.

S.E. Traisman 2/23/84
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Quick release mechanism provided for all extinguishers per DCN #DCI-SM-17827

S. Chestnut
DISCIPLINE ENGINEER/DATE

M. Denicke
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 30-07-10-01

FIRE ZONE 10 LOCATION _____ FLOOR ELEVATION 73'

LOCATION WITHIN FIRE ZONE:
NE corner of 12kV Cable Spreading Room, below 12kV Switchgear Room, Turbine Bldg., Area A

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-MISC-10

Electrical cabinets temporarily stored in NE corner of 12kV Cable Spreading Room

TARGET: TARGET CODE: GENERIC

Class I Conduits (H Bus) running from ceiling of room out of the east wall

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE

Class I conduits running through this room are enclosed in protective vaults (except for a part of the H Bus conduits in the NE corner of the room). Large electrical cabinets are stored (temporarily) in the vicinity of the exposed conduits. Seismic event causes cabinets to slide into conduits causing damage to conduits and/or supports.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Cordon off the area around the exposed Class I conduits to prevent storage of equipment in the area.
Note: This IDS is a result of the final SIP area walkdown of compartment 73-A-1.

S.E. Traisman 8/1/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
NPPR #DCO-83-NO-P0016 issued to designate area as "non-storage area" per recommended resolution.

J. Vranicar
DISCIPLINE ENGINEER/DATE

J. Townsend
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NA

S.E. Traisman 8/1/83
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-08-04

FIRE ZONE 13-A LOCATION Electrical Rooms FLOOR ELEVATION 119

LOCATION WITHIN FIRE ZONE:
EL 127' EAST END OF 4.16 KV SWGR ROOM

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-drain-13A
4" drainline for turbine bldg op. deck inst. room sprinkler system (drain line painted red).

TARGET: TARGET CODE: E-4.16KWSWGR
"F" Bus vital 4.16KV SWGR

POSTULATED INTERACTION: PHENOMENA CODE: Spt fail
4" drain line with threaded connections and unknown materials of construction fails and impacts switchgear below.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Determine materials of construction for drainline. Verify integrity of drain line by simplified analysis (if possible), or support as req'd to eliminate interaction.

S. E. Traisman 07/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Modification provided per ART #352.

B. Abella
DISCIPLINE ENGINEER/DATE

K. M. Krause 03/17/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-08-08

FIRE ZONE 13-A LOCATION Electrical Rooms FLOOR ELEVATION 119'

LOCATION WITHIN FIRE ZONE:
EL 119' EAST END OF "F" BUS 4.16 KV SWGR ROOM

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-FE
Co_2 Fire extinguisher (FE T119-03-1)

TARGET: TARGET CODE: E-4.16 KVSWGR
F Bus 4.16 KV SWGR

POSTULATED INTERACTION: PHENOMENA CODE: Mech fail
Fire extinguisher falls from mounting hook, nozzle breaks off and portable extinguisher becomes a missile that impacts switchgear.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Clamp extinguisher to wall with quick-release clamping mechanism.

S. E. Traisman 7/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Resolved per ART 486.

S. Chestnut
DISCIPLINE ENGINEER/DATE

M. Denicke
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

0047Z/0010Z-50

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-09-04

FIRE ZONE 13-B LOCATION ELECTRICAL ROOMS FLOOR ELEVATION 119'

LOCATION WITHIN FIRE ZONE:
Elev. 127', East End of 4.16kV Swgr. Room

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: P-drain-13B
4" Drainline for Turbine Building or Deck Inst.
Room Sprinkler System (Drain Line Painted Red)

TARGET: TARGET CODE: E-4.16KVSWGR

"G" Bus Vital 4.16kV Swgr.

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL

4" Drain line with threaded connections and unknown materials of construction fails and impacts switchgear below.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Determine materials of construction for drain line. Verify integrity of drain line by simplified analysis (if possible), or support as req'd. to eliminate interaction.

S. E. Traisman 07/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Modification provided per DCN # DCI-E-P-5061

E. Green
DISCIPLINE ENGINEER/DATE

K. M. Krause 11/18/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAM

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-10-05

FIRE ZONE 13-C LOCATION ELECTRICAL ROOMS FLOOR ELEVATION 119'

LOCATION WITHIN FIRE ZONE:

Elev. 119', 4.16kV Switchgear Room, Area A

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: N-BKR

Spare Circuit Breaker, Ground Buggy

TARGET: TARGET CODE: E-4.16KVSWGR

"H" Bust 4.16kV Switchgear

POSTULATED INTERACTION: PHENOMENA CODE: LOOSE

Source rolls/slides into switchgear

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:

Fasten equipment in room to prevent rolling/sliding or relocate out of room during plant operation.

S. E. Traisman 07/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Equipment relocated to a designated laydown area. See NPPR #DCI-83-NO-P0020

J. Vranicar
DISCIPLINE ENGINEER/DATE

J. D. Townsend
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-11-01

FIRE ZONE 12-B LOCATION Electrical Rooms FLOOR ELEVATION 107'

LOCATION WITHIN FIRE ZONE:
EL 112' EAST END OF G BUS 4KV CABLE SPR. ROOM

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: F-busduct
Distribution bus duct from standby startup transformer to vital 4.16 KV SWGR.

TARGET: TARGET CODE: E-GDC
Cable tray GDC

POSTULATED INTERACTION: PHENOMENA CODE: Spt fail
Failure of bus duct fixed end rod hangers causes duct to fall onto target.
Note: bus duct running through 4KV SWGR above has seismic supports.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add supports to bus duct as req'd to eliminate interaction.

S. E. Traisman 07/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Install additional support to bus duct per DCN #DC1-S-E-11493 Rev. 0

N. Barangan
DISCIPLINE ENGINEER/DATE

C. Kahl 07/15/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S. E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L. W. Horn 01/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-11-02

FIRE ZONE 12-B LOCATION Electrical Rooms FLOOR ELEVATION 107'

LOCATION WITHIN FIRE ZONE:
EL 112' EAST END OF G BUS 4 KV CABLE SPR. ROOM

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-BUSDUCT
Distribution bus duct from standby start up transformer to vital 4.16 KV SWGR.

TARGET: TARGET CODE: E-GDO
Cable tray GDD

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Failure of bus duct fixed end rod hangers causes bus duct to fall onto target. Note Bus duct running through 4 KV SWGR above has seismic supports.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add supports to bus duct as req'd to eliminate interaction.

S.E. Traisman 7/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Install additional support to bus duct per DCN # DC1-S-E-11493 Rev. 0.

N. Barangan 7/13/83
DISCIPLINE ENGINEER/DATE

C. Kahl 7/15/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 1/19/84
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 1/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-11-03

FIRE ZONE 12-A LOCATION Electrical Rooms FLOOR ELEVATION 107'

LOCATION WITHIN FIRE ZONE:
EL 112' SE CORNER OF F BUS 4.16 KV CABLE SPR ROOM

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-BUSDUCT
Distribution bus duct from aux transformer 1-2 to vital 4.16 KV SWGR

TARGET: TARGET CODE: E-FDC
Cable tray FDC

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Seismic excitation of bus duct causes impact between bus duct and cable tray. Existing clearance 3". Bus duct supported by rod hangers.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Add bilateral support to bus duct to eliminate interaction.

S.E. Traisman 7/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Install additional support to bus duct per DCN #DC1-S-E-11493 Rev. 0.

N. Barangan
DISCIPLINE ENGINEER/DATE

C. Kahl 7/15/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 1/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-25-10

FIRE ZONE 12-B LOCATION Electrical Rooms FLOOR ELEVATION 107'

LOCATION WITHIN FIRE ZONE:
EL 112' EAST END OF G BUS 4 KV CABLE SPR. ROOM

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-BUSDUCT
Distribution bus duct from standby startup transformer to vital 4.16 KV SWGR.

TARGET: TARGET CODE: E-GBD
Cable tray GDB

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Seismic excitation of bus duct causes impact between bus duct and vital cable tray.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Install bilateral support to bus duct to eliminate impact.

S.E. Traisman 7/20/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Install additional support to bus duct per DCN #DC1-S-E-11493 Rev. 0.

N. Barangan 7/13/83
DISCIPLINE ENGINEER/DATE

C. Kahl 7/15/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman 7/20/82
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 1/26/84
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-27-02

FIRE ZONE 6-A-2 LOCATION Electrical Rooms FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
Vital DC SWGR. ROOM 1-2, AUX BLDG AREA H COLS K AND 15.7

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: M-BOTTLE
Co_2 Fire extinguisher FE A115.12-12

TARGET: TARGET CODE: E-DC SWGR
Class I electrical equipment in vital DC SWGR room 1-2

POSTULATED INTERACTION: PHENOMENA CODE: SPTFAIL
Fire extinguisher comes off hook, bottle falls, nozzle breaks off and fire ext. becomes a missile which could impact Class I electrical equipment in vital DC SWGR room 1-2.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Provide quick release clamping mechanism for the CO_2 fire extinguisher.

S.E. Traisman 10/27/83
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:
Quick release clamping mechanism provided per ART 461.

S. Chesnut 11/5/83
DISCIPLINE ENGINEER/DATE

J. Longworth 11/5/83
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-32-01

FIRE ZONE 6-A-1 LOCATION Electrical Rooms FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
EL 118, ENTIRE ZONE

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-6A1
Fluorescent light fixtures

TARGET: TARGET CODE: E-125VBATTER
125 V Vital battery 1-1.

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Light fixture falls on batteries, shorts out/damages batteries.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of light fixtures.

S.E. Traisman 7/22/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Install back-up support chain per ART 353.

R.J. Swaim 3/21/83
DISCIPLINE ENGINEER/DATE

G.C. Bhatt
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NAN

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 9/9/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-33-01

FIRE ZONE 6-A-2 LOCATION Electrical Rooms FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
EL 118, ENTIRE ZONE

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-6A2
Fluorescent light fixtures.

TARGET: TARGET CODE: E-125VBATTER
125 V Vital battery 1-2.

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Light fixture falls on batteries, shorts out/damages batteries.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of light fixtures.

S.E. Traisman 7/22/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Install back-up support chain per ART 353.

R.J. Swaim 3/21/83
DISCIPLINE ENGINEER/DATE

G.C. Bhatt
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO NA

S.E. Traisman
FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

L.W. Horn 9/9/83
SIP PROJECT ENGINEER APPROVAL/DATE

PACIFIC GAS & ELECTRIC CO.
DIABLO CANYON PLANT, UNIT NO. 1
SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM
INTERACTION DOCUMENTATION SHEET (IDS)

POSTULATED INTERACTION NO.: 32-01-34-01

FIRE ZONE 6-A-3 LOCATION Electrical Rooms FLOOR ELEVATION 115'

LOCATION WITHIN FIRE ZONE:
EL 118, ENTIRE ZONE

IDENTIFICATION OF INTERACTING COMPONENTS

SOURCE: SOURCE CODE: E-LF-643
Fluorescent light fixtures.

TARGET: TARGET CODE: E-125VBATTER
125 V Vital Battery 1-3

POSTULATED INTERACTION: PHENOMENA CODE: FIXTURE
Light fixture falls on batteries, shorts out/damages batteries.

RECOMMENDED RESOLUTION BY WALKDOWN TEAM:
Verify integrity of light fixtures.

S.E. Traisman 7/22/82
WALKDOWN TEAM ORIGINATOR/DATE

FINAL RESOLUTION BY RESPONSIBLE DISCIPLINE:

Install back-up support chain per ART 353.

R.J. Swaim 3/21/83
DISCIPLINE ENGINEER/DATE

G.C. Bhatt
ENGR. GROUP SUPERVISOR/DATE

DISCIPLINE RESPONSIBLE FOR RESOLUTION: CE EE EMS ENG GC HVAC I&C PSE NPO N

FIELD VERIFICATION BY WALKDOWN TEAM
(FOR MODIFICATIONS ONLY)

SIP PROJECT ENGINEER APPROVAL/DATE

ATTACHMENT 8

TO THE PGandE

SEISMICALLY INDUCED SYSTEMS INTERACTION PROGRAM

FINAL REPORT

PLANT MODIFICATION FOLLOWER

This attachment contains the forms of Engineering Procedure 3.6 ON, which relate to design considerations for SISIP.

NO:__-____-__ R_

Procedure 3.6 ON
Attachment C
Page 1 of 2

PLANT MODIFICATION FOLLOWER

DESCRIPTION OF CHANGE:

REASON FOR CHANGE:

CHANGE REQUESTED BY: _____ DATE: _____

REQUEST AUTHORIZED BY: _____ DATE: _____

CADD 821081 06-08-82 JDP

3-2/14/84

NO: __ __-__ __ __-__ R __

DESIGN ACTIVITIES

ITEM	DEPT	BY	DATE	ITEM	DEPT	BY	DATE
DCN☐ ART☐:				MAT'L REQ'S:			
DWG LIST:				SAFETY EVAL:			
REQ'D DWGS:				SUPPORTING DOC:			

APPROVED (GP LDR) _____/_____ APPROVED (PE) _____/_____

APPROVAL FOR DESIGN IF OTHER THAN ENGINEERING

FORMAL DELEGATION OF AUTHORITY ☐ REF _____

VERBAL AUTHORIZATION ☐ BY (GP LDR) _____

PROJECT COORD (GO) TRANSMITTED TO POWER PLANT ENGINEER _____

PLANT STAFF ACTIVITIES

	BY	DATE		BY	DATE
REC BY PPE:			ALARA EVAL:		
IMP TO SAFETY: YES/NO			TECH SPEC REVIEW:		
ENVIRONMENTAL QUALITY EVAL:			PSRC RECOMMENDS APPROVAL ☐YES ☐NO:		

REASON FOR REJECTION: _____

PLANT MANAGER APPROVAL _____ DATE _____

INSTALLATION ASSIGNED TO ☐PLANT STAFF ☐ GC: BY _____ DATE _____

PROJECT CONTROL (DC) TRANSMITTED TO INSTALLER: BY _____ DATE _____

INSTALLING ORGANIZATION ACTIVITIES

	BY	DATE		BY	DATE
RECEIVED:			INSTALLATION COMPLETE:		
PRELIM SIP WALKDOWN:			START UP/POST INST TESTS COMP:		
AS-BUILTS ATTACHED:					

PLANT STAFF ACCEPTANCE ACTIVITIES

	BY	DATE		BY	DATE
RECEIVED:			PROJ ENG NOTIFIED:		
FINAL SIP WALKDOWN			ACCEPTED PLANT SUPERINTENDANT:		

PLANT MANAGER FINAL APPROVAL _____ DATE _____

PROJECT CONTROL (DC) TRANSMITTAL TO PROJECT COORD GO: _____ DATE _____

ENGINEERING CLOSE-OUT ACTIVITIES

ALL DESIGN DOCUMENTS ISSUED FOR OPERATION: _____ PROJ ENGINEER _____ DATE

RMS PURGED BY: _____ DATE RMS INDEXED BY: _____ DATE

DESIGN ORGANIZATION TO ADDRESS EACH ITEM WITHIN ITS PURVIEW. IF APPLICABLE, ATTACH DOCUMENTATION OF ACTION TAKEN.

ALARA: _____

Shielding: _____

Environmental Quality: _____

Fire Protection: _____

Unacceptable Components: _____

Simulator: _____

System Interaction: _____

Communications: _____

Environmental Qualification: _____

Seismic Qualification: _____

Design Review: _____

Licensing Commitments: _____

Inservice Inspection (ASME Sect. XI): _____

Control of Heavy Loads: _____

Tech. Specs.: _____

Containment Flooding: _____

Hot Pipe Considerations: _____

High and Medium Energy Line Break: _____

Control Room Design Review: _____

Multi–Unit Impact: _____

Aluminum (H_2) in Containment: _____

Security (Physical): _____

Q–List Revision: _____

NPRDS: _____

Personnel Safety: _____

Masonry Block Walls: _____

Core Drilling Impact: _____

Containment Penetrations: _____

Redundant/Separation Requirements: _____

SAFETY EVALUATION

The Plant Staff Review Committee is required to review all design changes for conformance with 10CFR50.59. The following information is quoted directly from the plant procedures:

"Each proposed design change for equipment important to safety, shall, as a part of the documentation, contain a written safety evaluation."

* Important to Safety is defined as:

1. All changes to items designated as "Q" in the Diablo Canyon Q-list.

2. All changes to Fire Protection System components.

3. Any change which is itself not safety-related, but which could affect functioning of safety-related equipment. For example, a change to the supports for the Auxiliary Steam Line which runs through the Auxiliary Feedwater Pump Room.

4. A change which could result in a change to equipment, analyzed accidents, etc., as described in FSAR.

5. Any change which could result in a change to the Technical Specifications, Process Control Program, off-site dose calculation procedure, or environmental radiation monitoring program.

6. All changes to systems designed to contain radioactive materials including gaseous and liquid radioactive wate, sampling systems, etc., which are "described in the FSAR."

This evaluation should summarize and contain statements as applicable as to whether or not the change will result in:

i) a change as defined above

ii) a change to the Environmental Quality, or

iii) an unreviewed safety question, as defined in 10CFR50.59.

10CFR50.59, paragraph (a)(2), states: "A proposed change, test or experiment shall be deemed to involve an unreviewed safety question (i) if the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report may be increased; or (ii) if a possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report may be created; or (iii) if the margin of safety as defined in the basis for any Technical Specification is reduced."

Further clarification is provided in the NRC Office of Inspection and Enforcement Circular No. 80-18, "10CFR50.59 Safety Evaluations for changes to radioactive Waste Treatment System," dated August 22, 1980;

"An important part of the "unreviewed safety question" determination is the evaluation of analysis of the safety hazards are identified, and (2) corrective actions are taken to eliminate, mitigate, or control the hazards to an acceptance level. All realistic failure modes and/or malfunctions must be considered and protection provided commensurate with the potential consequences. All applicable regulatory requirements, including Technical Specifications, must be complied with so that the proposed change shall not represent an "unreviewed safety question." Also, the margin of safety as defined in the bases of the Technical Specifications shall not be reduced by the proposed change."

Important to Environmental Quality is defined as:

A proposed change, test or experiment shall be deemed to involve an unreviewed environmental question if:

- It concerns a matter which may result in significant increase in any adverse environmental impact previously evaluated in the final environmental statement (FES) as modified by Staff's testimony to the Atomic Safety and Licensing Board, supplements to the FES, environmental impact appraisals, or in any decisions of the Atomic Safety and Licensing Board;

- It results in a significant change in effluents or power level (in accordance with 10 CFR Part 51.1 (b)(2) or

- It creates a significant environmental effect not previously reviewed and evaluated in the documents specified above.

Evaluation of important to Environmental Quality is essentially identical to an unreviewed safety question 10CFR50.59. The requirement is contained in Appendix B to the Diablo Canyon license. The Engineering Department should be sensitive to changes which affect the above definition and provide any information available to them as part of their safety evaluation.

* Engineering design, specification and procurement activities as reflected in the Q-list use the term "Important to Safety" as synonomous with "Safety Related."

PG&E

PACIFIC GAS AND ELECTRIC CO.
ENGINEERING DEPARTMENT
SAM NO. _____
PRIORITY NO. _____

NUCLEAR POWER PLANT
DESIGN CHANGE
_____
(PLANT)

DATE: _____
NO. _____
SHEET 1 OF _____

REQUEST

To: _____ From: _____

Structure or System: _____

Component: _____

Description of Change: _____

Reason for Change: _____

Estimated Cost: _____

Effect on Project Schedule: ☐ None ☐ Other (Explain) _____

Construction Status: ☐ Not Started ☐ Partially Complete ☐ Completed

List of Attachments: _____

Requested by: _____

APPROVAL

Requested Change is:

☐ Approved per delegation of authority by _____ per telecon with _____ on _____

☐ Approved ☐ Advance as-built information required

☐ Noted, document change not required

☐ Rejected (explain) _____

Safety-Related Work: ☐ Yes ☐ No

Additional documents attached: ☐ Yes ☐ No

DCN required to close an NCR ☐ Yes ☐ No

Is this DCN the result of the Verification Program? ☐ Yes ☐ No

NCR No. _____

Reviewed By: _____ Date _____
Discipline Engineer

Approved By: _____ Date _____
Group Leader/Supervisor

Nuclear Project Engineer Review. Signature _____ Date _____

RECEIVED ENGINEERING	RECEIVED DESIGN DRAFTING	RECEIVED A/E-CONSULTANT	REVISIONS COMPLETED	REVISIONS APPROVED
By _____ Apvd _____	By _____	By _____	By _____	By _____
Date _____ Date _____	Date _____	Date _____	Date _____	Date _____

Form 69-003, Rev. 1

PACIFIC GAS AND ELECTRIC CO.
NUCLEAR PROJECTS DEPARTMENT

Date _____

ART No. _____

SAN No. _____

Sheet 1 of ____.

Procedure 3.6 ON
Attachment 'H'
Page 1 of 1

SYSTEM INTERACTION PROGRAM
ACTION REQUEST TRANSMITTAL

Diablo Canyon Unit ___

To: _____ From: _____

Description of Action: _____

Postulated Interaction No. _____

Completion of Work ☐ is ☐ is not required prior to receipt of Operating License. If not, when? _____

Estimated Field Costs: _____

Work Status: ☐ Not Started ☐ Partially Complete ☐ Complete

Work Package Documentation Required ☐

Non-Design Documents Affected or Referenced: _____

Requested By: _____ Date

Reviewed By: _____ Date

Approved By: _____ SI Project Engineer Date

☐ Diablo Canyon Project Engineer Signature _____

Work Completed _____ Date _____

RETURN TO PROJECT COORDINATION SECTION

jma 4/30/83