

April 9, 1999

Mr. J. E. Cross  
President  
Generation Group  
Duquesne Light Company  
Post Office Box 4  
Shippingport, Pennsylvania

SUBJECT: PLANT PERFORMANCE REVIEW - BEAVER VALLEY POWER STATION

On February 25, 1999, the NRC staff completed a Plant Performance Review (PPR) of Beaver Valley Power Station. The staff conducts these reviews for all operating nuclear power plants to develop an integrated understanding of safety performance. The results are used by NRC management to facilitate planning and allocation of inspection resources. PPRs provide NRC management with a current summary of licensee performance and serve as inputs to the NRC's senior management meeting (SMM) reviews. PPRs examine information since the last assessment of licensee performance to evaluate long term trends, but emphasize the last six months to ensure that the assessments reflect current performance. The PPR for Beaver Valley Power Station involved the participation of all technical divisions in a detailed evaluation of inspection results and safety performance information for the period April 1998 through January 15, 1999, and a review of long term performance trends since your last Systematic Assessment of Licensee Performance (SALP). The NRC's last SALP was provided in a letter of May 4, 1998, and was discussed in a public meeting on May 19, 1998.

As discussed in the NRC's Administrative Letter 98-07 of October 2, 1998, the PPR provides an assessment of licensee performance during an interim period that the NRC has suspended its SALP program. The NRC suspended its SALP program to complete a review of its processes for assessing performance at nuclear power plants. At the end of the review period, the NRC will decide whether to resume the SALP program or terminate it in favor of an improved process.

In April 1998, both units were in extended shutdowns. Unit 1 was restarted on August 11, but tripped from 24 percent reactor power due to feedwater control problems. Unit 1 was back on line on August 15, and operated at full power through the end of the period. On January 23, shortly after the assessment period ended, operators manually tripped Unit 1 due to a condenser vacuum problem. Unit 2 was restarted on September 23, and manually shut down on November 1, due to an inoperable station battery. Unit 2 was restarted on November 4. The unit operated at full power through the end of the assessment period.

Early in 1998, plant management voluntarily placed both units in the extended shutdowns to address process and program weaknesses, including site-wide deficiencies in knowledge of technical specifications and the licensing bases. Emphasis on problem identification and resolution caused longstanding marginal personnel and equipment performance issues to be addressed. Extensive training was conducted, and procedures were reviewed to ensure technical specification compliance. Additionally, plant management addressed high head safety

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injection gas binding issues and repaired several sticking safety related check valves. Station management continued to emphasize initiatives, such as engineering principles training, to correct process and personnel performance inconsistencies, and establish a higher sustained level of performance.

Overall Duquesne Light Company (DLC) performance was acceptable at Beaver Valley, shutdown and operating activities were conducted safely at both units. Improvements were noted in the operations and engineering areas. Station management developed comprehensive restart action plans and properly implemented them for each unit. Station personnel used the condition report program actively to identify problems and pursue resolution and overall investigation quality improved. However, several condition report program challenges existed: partially effective human performance problem corrective actions; a high percentage of incomplete investigations, which were subsequently rejected properly by the corrective action review board; and the increased, although properly prioritized, backlogs in the engineering and maintenance departments. The quality assurance organization provided critical, independent, and comprehensive oversight assessments in the maintenance and engineering areas.

Operator performance during routine activities improved. A number of human performance, problem solving, and communications issues occurred during the extended shutdowns. Corrective actions resulted in operators exhibiting an increased attention to detail and a questioning attitude toward day-to-day activities. Site-wide knowledge and implementation of technical specification requirements improved. Cognitive errors and poor procedures resulted in two Unit 1 reactor trips. Licenced operators demonstrated safe decision making by manually tripping Unit 1 during a recent degrading condenser vacuum problem. Although DLC reviewed and upgraded higher order procedures, the lower order procedure backlog remained a challenge. We plan to perform the normal core inspection program with emphasis on the operations procedure change backlog and corrective action backlog, particularly in engineering and maintenance.

In general, station personnel conducted maintenance and surveillance activities well, resulting in good overall plant material condition. Work instructions, troubleshooting activities, and maintenance planning improved. However, human performance problems, work control deficiencies, and preventive maintenance scheduling difficulties resulted in more than the planned out-of-service times for safety related systems. The overall work backlog and control room deficiencies were reduced with appropriate prioritization. Late in the period incomplete non-routine procedures contributed to two degraded equipment conditions including: meteorological monitoring instrumentation which decreased the ability to assess site release pathway and the Unit 1 circulating water chlorination system which resulted in condenser fouling, and eventually led to a manual reactor trip. The maintenance procedure change backlog remained a challenge. We plan to perform the normal core inspection program with emphasis on the quality of non-routine maintenance procedures. In addition, an initiative inspection in the area of on-line maintenance activity planning and implementation is planned.

The engineering department provided good support to resolve equipment concerns and maintain the design basis. Engineers prepared modifications that resolved longstanding gas entrainment concerns in several accident mitigation systems and, in support of unit restart,



developed comprehensive operability assessments which addressed design deficiencies. The maintenance rule program was properly implemented. Engineering used risk insights to prioritize work, but the backlog slowly increased and remained high. Comprehensive and well written design documents accompanied the high head safety injection and support system modifications and included proper changes to the updated final safety analysis report (UFSAR.) The engineering staff continued to identify original design deficiencies through programs like the UFSAR verification project, demonstrating a continued questioning attitude. Resolution of deficient conditions has improved and has increased the reliability of several important safety systems. After identifying slow resolution of several issues, DLC took actions to improve the timeliness of corrective actions, including increased management oversight, and training in root cause determination and engineering fundamentals. Corrective actions to resolve longstanding non-conservative technical specification discrepancies were effective. We plan to perform the normal core inspection program with emphasis on the UFSAR verification project. In addition, an initiative inspection in the area of resolution of longstanding system design and performance problems is planned.

Overall effective performance of the Plant Support organizations continued. The licensee continued to effectively implement programs with respect to: maintaining occupational exposures as low as reasonably achievable (ALARA); personnel dosimetry; contamination control; radwaste and transportation; and radworker and radiation protection technician training. However, occasional lapses in radiation worker practices were observed during the Unit 2 steam generator outage. During the extended shutdowns occupational exposure showed a downward trend; however, coordination problems between work control, outage planning, and health physics continued. The radiological environmental monitoring program was effectively maintained and implemented. The plant security program continued to be implemented effectively. Emergency preparedness program improvement was demonstrated in exercise performance, assessment, and problem resolution. The fire protection program has been generally effective; however, there were examples of untimely corrective actions. We plan to perform the normal core inspection program. In addition, an initiative inspection in the area of work control and outage ALARA preparation is planned.

Enclosure 1 contains a historical listing of plant issues, referred to as the Plant Issues Matrix (PIM), that were considered during this PPR process to arrive at an integrated view of licensee performance trends. The PIM includes items summarized from inspection reports or other docketed correspondence between the NRC and DLC. The NRC does not attempt to document all aspects of licensee programs and performance that may be functioning appropriately. Rather, the NRC only documents issues that the NRC believes warrant management attention or represent noteworthy aspects of performance. In addition, the PPR may also have considered some predecisional and draft material that does not appear in the attached PIM, including observations from events and inspections that had occurred since the last NRC inspection report was issued, but had not yet received full review and consideration. This material will be placed in the Public Document Room as part of the normal issuance of NRC inspection reports and other correspondence.

This letter advises you of our planned inspection effort resulting from the Beaver Valley Power Station PPR review. It is provided to minimize the resource impact on your staff and to allow for

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scheduling conflicts and personnel availability to be resolved in advance of inspector arrival onsite. Enclosure 2 details our inspection plan for the next 10 months. The rationale or basis for each inspection outside the core inspection program is provided so that you are aware of the reason for emphasis in these program areas. Resident inspections are not listed due to their ongoing and continuous nature.

Because of the anticipated changes to the inspection program and other initiatives, this inspection schedule is subject to revision. Any changes to the schedule listed will be promptly discussed with your staff. If you have any questions, please contact Mr. Wayne Schmidt or Mr. Peter Eselgroth of my staff at (610) 337-5234.

Sincerely,

**Original Signed By:**

Richard V. Crlenjak, Deputy Director  
Division of Reactor Projects

Docket Nos. 50-334, 50-412  
License Nos. DPR-66, NPF-73

Enclosures: 1. Plant Issues Matrix  
2. Inspection Plan

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# United States Nuclear Regulatory Commission PLANT ISSUE MATRIX

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Region 1  
BEAVER VALLEY

By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
01/06/1999	1998009	Pri: OPS Sec:	NRC	POS	Pri: 1A Sec: 2A Ter:	The review of selected operation procedures associated with the Unit 2 charging and high head safety injection systems, including those for venting and operations surveillance, testing of the charging pump, identified no safety issues. Similarly, no negative issues were observed in the verification of applicable valve lineups against plant configuration.
12/26/1998	1998010	Pri: OPS Sec:	Licensee	POS	Pri: 3A Sec: 2B Ter:	Operators performed the primary component cooling water pump surveillance test accurately and in conformance with procedures. Due to high pump vibrations, the procedure could not be completed satisfactorily. Operators exited the procedure and restored the system correctly.
12/26/1998	1998010	Pri: OPS Sec:	Licensee	POS	Pri: 3A Sec: 5B Ter:	On November 19, a containment entry team successfully stopped a secondary side leak of the "B" steam generator blowdown sample line. The blowdown plan was well developed and executed. The prejob and containment entry briefings were very detailed and included lessons learned from previous containment entries.
12/26/1998	1998010	Pri: OPS Sec:	Licensee	STR	Pri: 3A Sec: 1A Ter: 5A	Operators were alert and demonstrated questioning attitudes during routine plant activities. Careful scrutiny of planned work activities prior to authorization precluded conditions not permitted by technical specifications and potential reactor plant transients. Discrepancies were promptly acted on and entered into the station's corrective action program.
11/16/1998	1998008	Pri: OPS Sec:	NRC	NEG	Pri: 1A Sec: 5A Ter: 1C	The team concluded that while the self assessment program satisfied administrative requirements, the operation's self assessments reviewed did not consistently provide management with worthwhile operator performance insights or recommend improvements.
11/16/1998	1998008	Pri: OPS Sec:	NRC	POS	Pri: 1A Sec: 3A Ter:	Operator actions observed during this inspection were all conducted in a safe and controlled manner. Operations personnel consistently adhered to management standards and expectations regarding communications, and control board awareness. Three-part communications, peer and self-checking were routinely used by the operators. Shift turnovers were effective in ensuring the operators were well informed of plant conditions, and that important plant status information was conveyed to the oncoming shift. Non-licensed operators did an excellent job taking plant logs and addressing plant deficiencies during the shift rounds. Log keeping practices were consistent with the administrative requirements.
11/16/1998	1998008	Pri: OPS Sec:	NRC	POS	Pri: 1A Sec: 3A Ter:	The team concluded that overall procedure adherence/usage was excellent. The quality of the procedures reviewed was adequate. Operators were aware of management's expectations for procedure compliance. A large backlog of recommended procedure revisions exists. The large backlog of recommended procedure revisions indicated the need for a more focused effort to incorporate these changes to enhance the overall quality of operation's procedures.
11/16/1998	1998008	Pri: OPS Sec:	NRC	POS	Pri: 1A Sec: 3A Ter: 5C	The present process for monitoring the status of equipment/components was appropriate. Operations shift personnel employed rigorous controls on entering a Technical Specification Limiting Condition for Operation. TRS control room staff was well informed of ongoing activities in the plant. The shift management provided appropriate oversight of shift activities and pre-evolution briefs were well organized. Additionally, the team concluded that the Bases for Continued Operation for Unit 2 were completed in a manner consistent with NRC guidance.
11/16/1998	1998008	Pri: OPS Sec:	NRC	POS	Pri: 1A Sec: 3B Ter:	A review of 1998 cycle requalification training records indicated that licensed operators for both units were up-to-date with their required annual requalification training and were completing their requalification training in a timely manner.



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By Primary Functional Area

Region I  
BEAVER VALLEY

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
11/16/1998	1998008	Pri: OPS Sec:	NRC	POS	Pri: 1C Sec: 2B Ter: 3B	The safety tagging requirements established for maintenance activities were appropriate. The recent change to a computer based clearance tagging process was noted as an enhancement. The implementation of the safety and configuration tagging administrative requirements by plant operators was effective.
11/14/1998	1998006	Pri: OPS Sec:	Licensee	POS	Pri: 1B Sec: 2A Ter: 5C	On November 1, Unit 2 operators performed a technical specification required shutdown due to an inoperable station battery. The shutdown was performed in a controlled manner and communications during reactivity changes were clear. The lessons learned critique following the forced outage was productive and identified several recommendations to improve the organization's ability to respond to degraded in-plant conditions. (Section O1 2)
11/14/1998	1998006	Pri: OP3 Sec:	Self	POS	Pri: 2A Sec: 5B Ter: 5C	In response to a loss of annunciator panel "A-9" on October 15, the Unit 1 control room Assistant Nuclear Shift Supervisor developed and implemented a comprehensive plan to verify safety significant plant parameters.
11/14/1998	1998006	Pri: OPS Sec:	NRC	POS	Pri: 5B Sec: 3A Ter:	The Management Review Team effectively assessed equipment condition and proposed repair actions for the multiple equipment problems experienced on Unit 1, October 15. System engineering and maintenance participation contributed to effective problem solving. Previous action to correct the reactor coolant system flow spiking was slow and ineffective.
11/14/1998	9812090040	Pri: OPS Sec:	NRC	LIC	Pri: 5C Sec: 3C Ter:	Submission of the license amendment request for a one time extension of the Unit 2 fast bus transfer surveillance test was not timely in that it would have required an expedited review by the NRC staff to meet the requested completion date. The subject test was not a new requirement and the potential need for the amendment was previously known by the licensee. The untimely submittal represents a continued weakness in planning and scheduling of TS surveillance tests and amendment requests.
10/03/1998	1998005	Pri: OPS Sec:	Licensee	POS	Pri: 1A Sec: Ter:	On September 2, Unit 2 experienced a loss of charging flow for 3 minutes. Control room operators responded promptly and identified a probable cause.
10/03/1998	1998005	Pri: OPS Sec:	NRC	POS	Pri: 1B Sec: 3A Ter:	The Unit 2 reactor startup was safely performed. Emergent problems were addressed safely and comprehensively. Operator performance was generally good and employed the stop, think, act, and review (STAR) principle. An exception to the good human performance contributed to a turbine/generator trip while bringing the unit on line.
10/03/1998	1998005	Pri: OPS Sec:	NRC	POS	Pri: 5C Sec: 1C Ter:	Lessons learned from the Unit 1 startup were appropriately developed and implemented prior to the Unit 2 restart. The successful transfer from the bypass to the main feedwater regulating valves was a notable example of an implemented improvement.
10/03/1998	1998005	Pri: OPS Sec:	NRC	STR	Pri: 5C Sec: 1C Ter:	The licensee developed and implemented a Unit 2 Restart Action Plan to provide assurance that known conditions adverse to quality were corrected and that personnel, processes, and equipment were ready for unit restart. The corrective actions were comprehensive to address the root causes for the extended forced unit outages.

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Region I  
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By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
10/03/1998	1998005-01	Pri: OPS Sec:	Licensee	NCV	Pri: 4A Sec: 5A Ter:	Quality Services Unit personnel identified a long-standing plant design discrepancy. While addressing this issue, engineers identified an unreviewed safety question affecting the Unit 1 River Water and Unit 2 Service Water systems. Interim compensatory actions were implemented and determined to be appropriate. Long-term corrective actions included processing an UFSAR change to correct the existing UFSAR description discrepancies. Reference LER 50-334/98-24. (Violation of 10CFR50, Appendix B, Criterion III, "Design Control," Enforcement discretion per VII.B.3 of the Enforcement Policy.)
01/06/1999	1998009	Pri: MAINT Sec:	NRC	NEG	Pri: 2A Sec: Ter:	In the area of Corrective Maintenance, the current backlog of open Unit 2 Maintenance Work Requests (129) for the charging high head safety injection (HHSI) systems was significant. However, a sampling of open Maintenance Work Requests identified no system operability concerns.
01/06/1999	1998009	Pri: MAINT Sec:	NRC	POS	Pri: 2A Sec: 2B Ter:	Within the scope of review, the supporting systems, including ac and dc power, service air, and component cooling water, were capable of providing the resources necessary for the proper operation of the chemical volume control and high head safety injection systems. The preventive maintenance (PM) procedures related to these systems were generally acceptable and the PM activities consistent with approved procedures.
01/06/1999	1998009	Pri: MAINT Sec:	NRC	POS	Pri: 2A Sec: 2B Ter:	The review of selected system test procedures and test results and discussions with responsible IST test engineers indicated that the testing of the charging and high head safety injection systems was acceptable. Procedures were comprehensive and properly implemented.
12/26/1998	1998010	Pri: MAINT Sec:	Licensee	NEG	Pri: 3A Sec: 2B Ter: 1C	On two occasions, poor work planning, including inadequate identification of clearance boundaries, posed challenges to the operations staff. The planning deficiencies could have resulted in reactor plant transients and conditions not permitted by technical specifications.
12/26/1998	1998010	Pri: MAINT Sec:	NRC	POS	Pri: 3A Sec: 1A Ter:	Four surveillance tests were performed safely and in accordance with proper procedures. Good communication was observed.
12/26/1998	1998010	Pri: MAINT Sec:	NRC	POS	Pri: 3A Sec: 3C Ter: 2B	Six routine maintenance activities were performed safely and in accordance with proper procedures. Peer checking, supervisor and contractor oversight, and communications with control room operators were good. Improvements were noted in minimization of Limiting Condition of Operation durations.
12/18/1998	1998-29-00	Pri: MAINT Sec: OPS	Licensee	LER	Pri: Sec: Ter:	During the performance of a Quality Services Unit Audit, a review of calibration and maintenance records identified a concern regarding the dates for certification calibration of wind speed and wind direction sensors. The BVPs Units 1 and 2 TS 3.3.4, Table 4.3-5, require that a channel calibration be performed on the wind speed and wind direction sensors on a "SA" (at least once per 184 days) frequency. The purchase order for the vendor that performs the meteorological system calibrations only requires that wind sensors are tested/calibrated in a wind tunnel and that they are replaced during the performance of each maintenance surveillance. The operating sensors were being replaced during a maintenance surveillance after approximately 4 months of operation. The vendor would, at times, leave extra wind sensors in storage at the plant site which had been adequately calibrated. However, because there was no frequency requirement specified for a sensor prior to installation, sensors were installed on the meteorological tower that had been in storage and been calibrated more than 6 months prior to installation, rather than with sensors that had been recently calibrated.



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Region I  
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By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
11/16/1998	1998008	Pri: MAINT Sec:	NRC	NEG	Pri: 2A Sec: 3C Ter:	The efforts to reduce the fairly sizeable corrective maintenance backlog have not been fully effective. Station management established an aggressive non-outage corrective maintenance backlog goal, which continues to challenge a not yet mature 12-week work management process. A selective sampling of two important safety systems identified appropriate prioritization of open MWRs and no adverse individual or cumulative effects of the backlogged preventive and corrective MWRs. Planned and completed MWRs reviewed were properly documented and post-maintenance testing was appropriate to the work performed.
11/16/1998	1998008	Pri: MAINT Sec:	NRC	POS	Pri: 2A Sec: 4B Ter:	Material condition and housekeeping at both units were generally good. Corrective and preventive maintenance practices were appropriately defined and systems performance monitoring for those systems within the scope of the Maintenance Rule was appropriate.
11/16/1998	1998008	Pri: MAINT Sec:	NRC	POS	Pri: 3A Sec: 2B Ter:	Surveillance and maintenance activities observed by the team were properly performed with good procedural adherence, proper planning and execution, good self-checking, and appropriate supervisory oversight.
11/16/1998	1998008	Pri: MAINT Sec:	NRC	POS	Pri: 3B Sec: 2B Ter: 3C	The training department personnel implemented an adequate maintenance training program, and appropriately maintained individual training records. Maintenance technicians received the appropriate levels of training for performing selected activities.
11/16/1998	1998008	Pri: MAINT Sec:	NRC	POS	Pri: 3C Sec: 5C Ter:	First-line supervisor oversight of field activities was observed to be good and maintenance management oversight and direction appropriate. Quality Assurance audits were critical and a sampling review of the responses to adverse findings were determined appropriate and timely.
11/16/1998	1998008	Pri: MAINT Sec:	NRC	POS	Pri: 5A Sec: 1C Ter:	The programs for the identification and disposition of control room deficiencies and operator work-arounds was adequate. The licensee has recently created a multi-disciplined Control Room Operator Deficiency team to help reduce the number of deficiencies. The team concluded that deficiencies were being properly identified for inclusion into these programs.
11/14/1998	1998006	Pri: MAINT Sec:	NRC	NEG	Pri: 1A Sec: 3A Ter:	The "A" train of supplemental leak collection and release system remained inoperable for over 48 hours in part due to poor communication between the operating crew and the system engineer, and demonstrated operator weaknesses in evaluating degraded conditions.
11/14/1998	1998006	Pri: MAINT Sec:	NRC	POS	Pri: 3A Sec: 3B Ter:	Maintenance repair work activities on the main steam pressure, loop 2, channel 2 pressure bi-stable and the "A-9" Annunciator Panel fuse replacement were performed promptly and effectively in a technically sound manner. Minor discrepancies were identified in the maintenance work request and in the fuse failure root cause determination.
10/03/1998	1998005	Pri: MAINT Sec:	NRC	NEG	Pri: 3A Sec: 5B Ter:	The out-of-service times for two components (quench spray pump and system station service transformer) were prolonged due to maintenance activities which were not properly planned or coordinated. The safety related equipment was unavailable for a longer time period beyond that necessary to complete the work.

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10/03/1998	1998005	Pri: MAINT Sec:	NRC	POS	Pri: 3A Sec: 1A Ter:	Operating personnel generally demonstrated good command and control of surveillance testing. The preevolution briefings for the high head safety injection and auxiliary feedwater full flow tests were comprehensive and discrete test abort criteria were established.
10/03/1998	1998005	Pri: MAINT Sec:	NRC	POS	Pri: 3A Sec: 3B Ter: 1A	Maintenance work observed (including emergency diesel generator circuit breaker repair) was professional and thorough. Troubleshooting was accurate and complete. Command and control and necessary precautions were implemented well. Good self-checking by a maintenance technician prevented a potential oil spill in the emergency diesel generator cubicle. Good contingency planning on the direct current circuit breaker repair resulted in a well executed work activity.
10/03/1998	1998005-02	Pri: MAINT Sec:	Licensee	NCV	Pri: 1C Sec: 3B Ter: 5C	Significant deficiencies in TS surveillance testing program resulted in over 50 LERs in the last 18 months. Long-standing problems resulted from broad knowledge deficiencies regarding TSs, a nonconservative philosophy regarding TS interpretation, and poor TS quality. Corrective actions and root cause assessments were comprehensive. The issues were discovered and appropriately resolved in response to a July 1997 escalated enforcement action. (Multiple TS Violations: Enforcement Discretion per VII B.4 of the Enforcement Policy.) Reference LERS 334/97-26, 27, 28, 29, 30, 34, 37, 40, 43, 334/98-01, 03, 04, 05, 06, 07, 08 & 08-01, 09, 10, 11 & 11-01, 13, 14 & 14-01, 15, 17, 18 & 18-01, 19, 20 & 20-01, 23, 25, 26 & 26-01, 27 LER 412/97-04 & 04-01 & 04-02, 05, 09, 98-01, 02, 03, 04, 07 & 07-01 & 07-02.
10/03/1998	1998005	Pri: MAINT Sec: OPS	NRC	NEG	Pri: 3A Sec: 5A Ter:	On September 2, Unit 2 experienced a loss of charging flow for 3 minutes. Maintenance supervision did not aggressively pursue operator concerns and the loss of flow reoccurred 3 hours after the initial event. It was determined that maintenance technicians had stood on a swing arm check valve in the path causing the loss of flow.
01/06/1999	1998009	Pri: ENG Sec:	NRC	NEG	Pri: 4A Sec: 5A Ter: 3A	The qualified life calculation for the Unit 2 charging/high head safety injection pump motor did not include margin for the post-accident temperature profile, as stated in NUREG 0588 and IEEE standard 323, prior to its use in the calculation, and did not take into account pump operation at high flow, as indicated in the Westinghouse qualification document cited in the calculation. However, because the calculated qualified service life was well above the expected duty cycle for these pumps, the discrepancies had no safety impact on the qualification status of the motors.
01/06/1999	1998009	Pri: ENG Sec:	NRC	POS	Pri: 3A Sec: 5B Ter: 4C	The Corrective Action Review Board review of Condition Reports (CRs) provided positive insights in the problem identification, cause analysis, and corrective action process. Good synergism existed among the board members in their consideration of the CRs and the identified corrective actions.
01/06/1999	1998009	Pri: ENG Sec:	NRC	POS	Pri: 3A Sec: 5B Ter: 5A	The Quality Assurance (QA) organization was actively involved in plant activities and had developed a top 10 list of plant focus issues. The QA plan and verification of technical specification (TS) testing requirements was well laid out. The review performed by QA, the Operating Experience Group, and Systems Engineering indicated good self assessment efforts by the disciplines involved.
01/06/1999	1998009	Pri: ENG Sec:	NRC	POS	Pri: 4A Sec: 4B Ter:	The Design Change Packages and Temporary Evaluation Reviews related to the Charging and High Head Safety Injection systems, including their associated Safety Evaluations and calculations, were typically well written, properly addressed the bases for change, and correctly evaluated the safety impact. The documents reviewed also showed an improving trend in clarity and referencing of supporting material.
01/06/1999	1998009	Pri: ENG Sec:	NRC	POS	Pri: 4A Sec: 4C Ter: 5A	Design Basis Documents for the High Head Safety Injection (HHSI) and Supporting Systems were comprehensive and well written, current, and in use by Engineering. The Updated Final Safety Analysis Report (UFSAR) Verification Project had been useful in identifying and correcting HHSI related discrepancies, both in the UFSAR and associated documents. Discrepancies were being properly handled and entered into the plant Corrective Action Program.



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By Primary Functional Area

Region I  
BEAVER VALLEY

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
01/06/1999	1998009-01	Pri: ENG Sec:	NRC	VIO IV	Pri: 4A Sec: 5A Ter: 3A	The Unit 2 dc voltage drop calculation incorrectly assumed that, during steps 2 to 6 of the diesel generator loading sequence, the voltage for closing several circuit breakers that supply power to major 4 kV safety-related loads was based on normal battery charger output voltage. This assumption did not recognize that during that period, because of the high load demand, the battery charger would operate at limiting condition and would, therefore, be unable to provide normal output voltage. Although subsequent evaluations by the licensee indicated that conservatism was available in the cable length and operating temperature, the failure to correctly analyze the performance of the battery charger under calculated bus loading conditions and to properly verify the adequacy of the calculation assumptions resulted in a violation (10CFR50, Appendix B, "Design Control").
01/06/1999	1998009-02	Pri: ENG Sec:	NRC	NCV	Pri: 4B Sec: 2A Ter: 2B	Engineering failed to recognize the need for circuit breaker refurbishment and did not take action to address this need until the manufacturer recommended refurbishment periods had expired by several years and breaker failures to actuate as expected had begun to occur. Also, testing of some 480V and 4160V air circuit breakers did not reflect the minimum calculated voltage for those breakers. As a result of the failures, they conducted thorough evaluations, took acceptable actions to reasonably assure the operability of the breakers, and revised the applicable test procedures to envelope calculated voltages at the breaker operating coils (Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," Enforcement Discretion per VII.B.1 of the NRC Enforcement Policy).
11/14/1993	1998005-01	Pri: ENG Sec:	Licensee	NCV	Pri: 2A Sec: Ter:	Procurement engineers identified and corrected a deficiency associated with non-safety related material in the 'A' quench spray pump. Reference LER 50-412/98-10 (Noncited violation of TS 3.6.2.1, Enforcement Discretion per VII.B.1 of the Enforcement Policy.)
11/14/1998	1998006-02	Pri: ENG Sec:	Licensee	NCV	Pri: 4B Sec: 5B Ter:	Engineers conducted a detailed review of Unit 2 safety related logic testing as requested in NRC GL 96-01. Ten separate logic testing discrepancies were identified and resolved. Correction of these deficient conditions improved the reliability of several important safety systems. Violation of 10CFR50, Appendix B, Criterion XI, "Test Control," Enforcement Discretion per VII.B.3 of the Enforcement Policy.
11/14/1998	1998006-03	Pri: ENG Sec:	Licensee	NCV	Pri: 5A Sec: 5C Ter:	The licensee identified and corrected several long-standing design issues. The discoveries demonstrate a continued questioning attitude. (Non-Cited Violation of 10CFR50, Appendix B, Criterion III, "Design Control," Enforcement Discretion per VII.B.1 of the Enforcement Policy.)
11/14/1998	1998006	Pri: ENG Sec: OPS	Licensee	POS	Pri: 4B Sec: 5A Ter:	Enhanced individual cell voltage monitoring due to station battery degradation was good and led to prompt identification of an inoperable battery condition.
10/03/1998	1998005	Pri: ENG Sec:	NRC	POS	Pri: 4B Sec: 4C Ter: 2B	System engineers demonstrated comprehensive system knowledge and performance monitoring techniques regarding 480 volt breakers and station flood seals. Recommendations to preclude additional functional failures and work with industry experts to develop improved maintenance and monitoring practices were excellent. The Maintenance Rule Steering Committee properly evaluated performance for these systems and established appropriate performance goals.
10/03/1998	9810290011	Pri: ENG Sec:	NRC	LIC	Pri: 4A Sec: Ter:	The description of changes, tests, and experiments performed under the provisions of 10 CFR 50.59 described in the annual report, were sufficiently detailed to determine that the conclusions regarding these changes were reasonable. The changes have been properly incorporated in the Unit 1 and Unit 2 UFSARs.

# United States Nuclear Regulatory Commission

## PLANT ISSUE MATRIX

By Primary Functional Area

Region 1  
BEAVER VALLEY

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
12/26/1998	1998010	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: 2B Ter:	The environmental laboratory continued to implement effective Quality Assurance and Quality Control programs for the radiological environmental monitoring program samples, and continued to provide effective validation of analytical results. The programs were capable of ensuring independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample media.
12/26/1998	1998010	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: 3A Ter: 4B	Housekeeping, control of combustible materials, and the material condition of the fire protection equipment installed in the plants were excellent.
12/26/1998	1998010	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: 3A Ter: 5C	Fire barrier penetration seals in both units were in good condition. The fire barrier penetration seal reviewed conformed to the design configuration that had been tested for a 3-hour rating.
12/26/1998	1998010	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: 4E Ter:	Overall, the licensee effectively maintained and implemented the radiological environmental monitoring program in accordance with regulatory requirements.
12/26/1998	1998010	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: 4B Ter:	The licensee effectively maintained and implemented a meteorological monitoring program in accordance with regulatory requirements.
12/26/1998	1998010	Pri: PLTSUP Sec:	NRC	POS	Pri: 5A Sec: 1C Ter: 3A	The Quality Services Unit (QSU) has done an excellent job identifying areas for improvement in the fire protection program through their program audits. The QSU is ahead of the industry in that they started reviewing post-fire safe shutdown procedures and methodologies in 1995.
12/26/1998	1998010	Pri: PLTSUP Sec:	NRC	POS	Pri: 5A Sec: 5B Ter:	Audits were of sufficient depth to assess the implementation of the radiological environmental monitoring program and meteorological monitoring program.
12/26/1998	1998010-01	Pri: PLTSUP Sec:	NRC	IF	Pri: 5C Sec: 4B Ter:	Corrective actions for some fire protection program audit identified deficiencies (particularly safe shutdown analysis actions not being properly implemented in the post-fire shutdown procedures) had not been completed for a significant time period. The Nuclear Engineering Department review of post-fire shutdown procedures against the fire protection design basis had not been started at the end of the inspection, nor had the plan for conducting the review been finalized and approved.
12/26/1998	1998010-02	Pri: PLTSUP Sec:	Licensee	NCV	Pri: 4A Sec: 5A Ter: 1C	An electrical engineer identified a deficiency in the fire protection safe shutdown analysis which affected a boration flowpath. Corrective actions were appropriate. (Reference LER 50-412/98-05. Non-cited violation of license condition 2.F. Enforcement discretion per VII.B.1 of the Enforcement Policy.)



# United States Nuclear Regulatory Commission

## PLANT ISSUE MATRIX

By Primary Functional Area

Page: 8 of 9  
Region 1  
BEAVER VALLEY

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
11/14/1998	1998006	Pri: PLTSUP Sec:	NRC	POS	Pri: 3A Sec: Ter:	An effective program for the collection, processing, transport and disposition of radioactive materials and radwaste has been established. All reviewed shipments were determined to be in accordance with applicable regulations. Waste processing conducted in accordance with the Process Control Program was found to meet the standards for waste form and classification.
11/14/1998	1998006	Pri: PLTSUP Sec:	NRC	POS	Pri: 3A Sec: Ter:	Effective radiological controls were established and implemented during the clean out of various sumps and tanks located in the radiologically controlled areas.
11/14/1998	1998006	Pri: PLTSUP Sec:	NRC	POS	Pri: 3B Sec: Ter:	The program for the training of HAZMAT employees handling radioactive materials was effectively established and implemented. All personnel involved in these activities were determined to be knowledgeable of the regulations.
11/14/1998	1998006	Pri: PLTSUP Sec:	NRC	POS	Pri: 3B Sec: Ter:	An effective program for the review of the Process Control Program and related radwaste and transportation activities, including those activities performed by vendors has been established, including an effective corrective actions tracking and resolution process as demonstrated by the scope and quality of audits and surveillances performed.
10/07/1998	1998007	Pri: PLTSUP Sec:	NRC	POS	Pri: 3A Sec: 3B Ter:	The licensee's critique process was good. Post-exercise facility debriefs were generally candid. At the formal critique, the licensee identified numerous issues, in addition to those identified by the NRC. Overall, the critique was balanced with positive and negative findings and was appropriately self-critical.
10/07/1998	1998007	Pri: PLTSUP Sec:	NRC	STR	Pri: 1C Sec: 3A Ter:	Overall licensee performance during this exercise was good as the emergency response organization demonstrated that it could implement the emergency plan. Facilities were activated in a prompt manner. Classifications and notifications were accurate and timely. Protective action recommendations were appropriate. Briefings and command and control in the technical support center and emergency operations facility were good. Minor communication problems in the operations support center and radiological operations center were observed. Some minor issues were observed regarding dose assessment, but overall performance in that area was good.
10/03/1998	1998005	Pri: PLTSUP Sec:	NRC	NEG	Pri: 3A Sec: 5A Ter:	Effective radioactive contamination controls were implemented for steam generator inspections, but isolated instances of workers waiting in a supine position, in posted contaminated areas, were observed. This reflected lack of worker sensitivity to the potential for personnel contamination and attention to ongoing activities.
10/03/1998	1998005	Pri: PLTSUP Sec:	NRC	POS	Pri: 3A Sec: Ter:	Effective radiological controls were established and implemented for the Unit 2 steam generator inspections, including very good oversight of radiological work activities and implementation of appropriate occupational radiation exposure minimization techniques.

# United States Nuclear Regulatory Commission PLANT ISSUE MATRIX

Date: 04/16/1999  
Time: 08:14:36

Region I  
BEAVER VALLEY

By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
10/03/1998	1998005	Pri: MAINT Sec:	NRC	POS	Pri: 3A Sec: 1A Ter:	Operating personnel generally demonstrated good command and control of surveillance testing. The preevolution briefings for the high head safety injection and auxiliary feedwater full flow tests were comprehensive and discrete test abort criteria were established.
10/03/1998	1998005	Pri: MAINT Sec:	NRC	POS	Pri: 3A Sec: 3B Ter: 1A	Maintenance work observed (including emergency diesel generator circuit breaker repair) was professional and thorough. Troubleshooting was accurate and complete. Comm and control and necessary precautions were implemented well. Good self-checking by a maintenance technician prevented a potential oil spill in the emergency diesel generator cubicle. Good contingency planning on the direct current circuit breaker repair resulted in a well executed work activity.
10/03/1998	1998005-02	Pri: MAINT Sec:	Licensee	NCV	Pri: 1C Sec: 3B Ter: 5C	Significant deficiencies in TS surveillance testing program resulted in over 50 LERs in the last 18 months. Long-standing problems resulted from broad knowledge deficiencies regarding TSs, a nonconservative philosophy regarding TS interpretation, and poor TS quality. Corrective actions and root cause assessments were comprehensive. The issues were discovered and appropriately resolved in response to a July 1997 escalated enforcement action. (Multiple TS Violations: Enforcement Discretion per VII B.4 of the Enforcement Policy.) Reference LERS 334/97-26, 27, 28, 29, 30, 34, 37, 40, 43, 334/98-01, 03, 04, 05, 06, 07, 08 & 08-01, 09, 10, 11 & 11-01, 13, 14 & 14-01, 15, 17, 18 & 18-01, 19, 20 & 20-01, 23, 25, 26 & 26-01, 27 LER 412/97-04 & 04-01 & 04-02, 05, 09, 98-01, 02, 03, 04, 07 & 07-01 & 07-02.
10/03/1998	1998005	Pri: MAINT Sec: OPS	NRC	NEG	Pri: 3A Sec: 5A Ter:	On September 4, Unit 2 experienced a loss of charging flow for 3 minutes. Maintenance supervision did not aggressively pursue operator concerns and the loss of flow reoccurred 3 hours after the initial event. It was determined that maintenance technicians had stood on a swing arm check valve in the path causing the loss of flow.
01/06/1999	1998009	Pri: ENG Sec:	NRC	NEG	Pri: 4A Sec: 5A Ter: 3A	The qualified life calculation for the Unit 2 charging/high head safety injection pump motor did not include margin for the post-accident temperature profile, as stated in NUREG 0588 and IEEE standard 323, prior to its use in the calculation, and did not take into account pump operation at high flow, as indicated in the Westinghouse qualification document cited in the calculation. However, because the calculated qualified service life was well above the expected duty cycle for these pumps, the discrepancies had no safety impact on the qualification status of the motors.
01/06/1999	1998009	Pri: ENG Sec:	NRC	POS	Pri: 3A Sec: 5B Ter: 4C	The Corrective Action Review Board review of Condition Reports (CRs) provided positive insights in the problem identification, cause analysis, and corrective action process. Good synergism existed among the board members in their consideration of the CRs and the identified corrective actions.
01/06/1999	1998009	Pri: ENG Sec:	NRC	POS	Pri: 3A Sec: 5B Ter: 5A	The Quality Assurance (QA) organization was actively involved in plant activities and had developed a top 10 list of plant focus issues. The QA plan and verification of technical specification (TS) testing requirements was well laid out. The review performed by QA, the Operating Experience Group, and Systems Engineering indicated good self assessment efforts by the disciplines involved.
01/06/1999	1998009	Pri: ENG Sec:	NRC	POS	Pri: 4A Sec: 4B Ter:	The Design Change Packages and Temporary Evaluation Reviews related to the Charging and High Head Safety Injection systems, including their associated Safety Evaluations and calculations, were typically well written, properly addressed the bases for change, and correctly evaluated the safety impact. The documents reviewed also showed an improving trend in clarity and referencing of supporting material.
01/06/1999	1998009	Pri: ENG Sec:	NRC	POS	Pri: 4A Sec: 4C Ter: 5A	Design Basis Documents for the High Head Safety Injection (HHSI) and Supporting Systems were comprehensive and well written, current, and in use by Engineering. The Updated Final Safety Analysis Report (UFSAR) Verification Project had been useful in identifying and correcting HHSI related discrepancies, both in the UFSAR and associated documents. Discrepancies were being properly handled and entered into the plant Corrective Action Program.



# United States Nuclear Regulatory Commission PLANT ISSUE MATRIX

Date: 04/06/1999  
Time: 08:14:36

Region I  
BEAVER VALLEY

By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
01/06/1999	1998009-01	Pri: ENG	NRC	VIO IV	Pri: 4A	The Unit 2 dc voltage drop calculation incorrectly assumed that, during steps 2 to 6 of the diesel generator loading sequence, the voltage for closing several circuit breakers that supply power to major 4 kV safety-related loads was based on normal battery charger output voltage. This assumption did not recognize that during that period, because of the high load demand, the battery charger would operate at limiting condition and would, therefore, be unable to provide normal output voltage. Although subsequent evaluations by the licensee indicated that conservatism was available in the cable length air-j operating temperature, the failure to correctly analyze the performance of the battery charger under calculated bus loading conditions and to properly verify the adequacy of the calculation assumptions resulted in a violation (10CFR50, Appendix B, "Design Control").
		Sec:			Sec: 5A	
					Ter: 3A	
01/06/1999	1998009-02	Pri: ENG	NRC	NCV	Pri: 4B	Engineering failed to recognize the need for circuit breaker refurbishment and did not take action to address this need until the manufacturer recommended refurbishment periods had expired by several years and breaker failures to activate as expected had begun to occur. Also, testing of some 480V and 4160V air circuit breakers did not reflect the minimum calculated voltage for those breakers. As a result of the failures, they conducted thorough evaluations, took acceptable actions to reasonably assure the operability of the breakers, and revised the applicable test procedures to envelope calculated voltages at the breaker operating coils (Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," Enforcement Discretion per VII B.1 of the NRC Enforcement Policy).
		Sec:			Sec: 2A	
					Ter: 2B	
11/14/1998	1998006-01	Pri: ENG	Licensee	NCV	Pri: 2A	Procurement engineers identified and corrected a deficiency associated with non-safety related material in the 'A' quench spray pump. Reference LER 50-412/98-10 (Noncited violation of TS 3.6.2.1, Enforcement Discretion per VII B.1 of the Enforcement Policy.)
		Sec:			Sec:	
					Ter:	
11/14/1998	1998006-02	Pri: ENG	Licensee	NCV	Pri: 4B	Engineers conducted a detailed review of Unit 2 safety related logic testing as requested in NRC GL 96-01. Ten separate logic testing discrepancies were identified and resolved. Correction of these deficient conditions improved the reliability of several important safety systems. Violation of 10CFR50, Appendix B, Criterion XI, "Test Control," Enforcement Discretion per VII B.3 of the Enforcement Policy.
		Sec:			Sec: 5B	
					Ter:	
11/14/1998	1998006-03	Pri: ENG	Licensee	NCV	Pri: 5A	The licensee identified and corrected several long-standing design issues. The discoveries demonstrate a continued questioning attitude. (Non-Cited Violation of 10CFR50, Appendix B, Criterion III, "Design Control," Enforcement Discretion per VII B.1 of the Enforcement Policy.)
		Sec:			Sec: 5C	
					Ter:	
11/14/1998	1998006	Pri: ENG	Licensee	POS	Pri: 4B	Enhanced individual cell voltage monitoring due to station battery degradation was good and led to prompt identification of an inoperable battery condition.
		Sec: OPS			Sec: 5A	
					Ter:	
10/03/1998	1998005	Pri: ENG	NRC	POS	Pri: 4B	System engineers demonstrated comprehensive system knowledge and performance monitoring techniques regarding 480 volt breakers and station flood seals. Recommendations to preclude additional functional failures and work with industry experts to develop improved maintenance and monitoring practices were excellent. The Maintenance Rule Steering Committee properly evaluated performance for these systems and established appropriate performance goals.
		Sec:			Sec: 4C	
					Ter: 2B	
10/03/1998	9810290011	Pri: ENG	NRC	LIC	Pri: 4A	The description of changes, tests, and experiments performed under the provisions of 10 CFR 50.59 described in the annual report, were sufficiently detailed to determine that the conclusions regarding these changes were reasonable. The changes have been properly incorporated in the Unit 1 and Unit 2 UFSARs.
		Sec:			Sec:	
					Ter:	

# United States Nuclear Regulatory Commission PLANT ISSUE MATRIX

Date: 04/06/1999  
Time: 08:14:36

Region 1  
SAVER VALLEY

By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
12/26/1998	1998010	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: 2B Ter:	The environmental laboratory continued to implement effective Quality Assurance and Quality Control programs for the radiological environmental monitoring program samples, and continued to provide effective validation of analytical results. The programs were capable of ensuring independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample media.
12/26/1998	1998010	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: 3A Ter: 4B	Housekeeping, control of combustible materials, and the material condition of the fire protection equipment installed in the plants were excellent.
12/26/1998	1998010	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: 3A Ter: 5C	Fire barrier penetration seals in both units were in good condition. The fire barrier penetration seal reviewed conformed to the design configuration that had been tested for a 3-hour rating.
12/26/1998	1998010	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: 4B Ter:	Overall, the licensee effectively maintained and implemented the radiological environmental monitoring program in accordance with regulatory requirements.
12/26/1998	1998010	Pri: PLTSUP Sec:	NRC	POS	Pri: 1C Sec: 4B Ter:	The licensee effectively maintained and implemented a meteorological monitoring program in accordance with regulatory requirements.
12/26/1978	1998010	Pri: PLTSUP Sec:	NRC	POS	Pri: 5A Sec: 1C Ter: 3A	The Quality Services Unit (QSU) has done an excellent job identifying areas for improvement in the fire protection program through their program audits. The QSU is ahead of the industry in that they started reviewing post-fire safe shutdown procedures and methodologies in 1995.
12/26/1998	1998010	Pri: PLTSUP Sec:	NRC	POS	Pri: 5A Sec: 5B Ter:	Audits were of sufficient depth to assess the implementation of the radiological environmental monitoring program and meteorological monitoring program.
12/26/1998	1998010-01	Pri: PLTSUP Sec:	NRC	IFI	Pri: 5C Sec: 4B Ter:	Corrective actions for some fire protection program audit identified deficiencies (particularly safe shutdown analysis actions not being properly implemented in the post-fire shutdown procedures) had not been completed for a significant time period. The Nuclear Engineering Department review of post-fire shutdown procedures against the fire protection design basis had not been started at the end of the inspection, nor had the plan for conducting the review been finalized and approved.
12/26/1998	1998010-02	Pri: PLTSUP Sec:	Licensee	NCV	Pri: 4A Sec: 5A Ter: 1C	An electrical engineer identified a deficiency in the fire protection safe shutdown analysis which affected a boration flowpath. Corrective actions were appropriate. (Reference LER 50-412/98-05. Non-cited violation of license condition 2.F. Enforcement discretion per VII.B.1 of the Enforcement Policy.)



# United States Nuclear Regulatory Commission

## PLANT ISSUE MATRIX

By Primary Functional Area

Date	Source	Functional Area	ID	Type	Template Codes	Item Description
11/14/1998	1998006	Pri: PLTSUP Sec:	NRC	POS	Pri: 3A Sec: Ter:	An effective program for the collection, processing, transport and disposition of radioactive materials and radwaste has been established. All reviewed shipments were determined to be in accordance with applicable regulations. Waste processing conducted in accordance with the Process Control Program was found to meet the standards for waste form and classification.
11/14/1998	1998006	Pri: PLTSUP Sec:	NRC	POS	Pri: 3A Sec: Ter:	Effective radiological controls were established and implemented during the clean out of various sumps and tanks located in the radiologically controlled areas.
11/14/1998	1998006	Pri: PLTSUP Sec:	NRC	POS	Pri: 3B Sec: Ter:	The program for the training of HAZMAT employees handling radioactive materials was effectively established and implemented. All personnel involved in these activities were determined to be knowledgeable of the regulations.
11/14/1998	1998006	Pri: PLTSUP Sec:	NRC	POS	Pri: 3B Sec: Ter:	An effective program for the review of the Process Control Program and related radwaste and transportation activities, including those activities performed by vendors has been established, including an effective corrective actions tracking and resolution process as demonstrated by the scope and quality of audits and surveillances performed.
10/07/1998	1998007	Pri: PLTSUP Sec:	NRC	POS	Pri: 3A Sec: 3B Ter:	The licensee's critique process was good. Post-exercise facility debriefs were generally candid. At the formal critique, the licensee identified numerous issues, in addition to those identified by the NRC. Overall, the critique was balanced with positive and negative findings and was appropriately self-critical.
10/07/1998	1998007	Pri: PLTSUP Sec:	NRC	STR	Pri: 1C Sec: 3A Ter:	Overall licensee performance during this exercise was good as the emergency response organization demonstrated that it could implement the emergency plan. Facilities were activated in a prompt manner. Classifications and notifications were accurate and timely. Protective action recommendations were appropriate. Briefings and command and control in the technical support center and emergency operations facility were good. Minor communications problems in the operations support center and radiological operations center were observed. Some minor issues were observed regarding dose assessment, but overall performance in that area was good.
10/03/1998	1998005	Pri: PLTSUP Sec:	NRC	NEG	Pri: 3A Sec: 5A Ter:	Effective radioactive contamination controls were implemented for steam generator inspections, but isolated instances of workers waiting in a supine position, in posted contaminated areas, were observed. This reflected lack of worker sensitivity to the potential for personnel contamination and attention to ongoing activities.
10/03/1998	1998005	Pri: PLTSUP Sec:	NRC	POS	Pri: 3A Sec: Ter:	Effective radiological controls were established and implemented for the Unit 2 steam generator inspections, including very good oversight of radiological work activities and implementation of appropriate occupational radiation exposure minimization techniques.

# United States Nuclear Regulatory Commission PLANT ISSUE MATRIX

By Primary Functional Area

## Legend

**Type Codes:**

BU	Bulletin
CDR	Construction
DEV	Deviation
EEL	Escalated Enforcement Item
IFI	Inspector follow-up item
LER	Licensee Event Report
LIC	Licensing Issue
MISC	Miscellaneous
MV	Minor Violation
NCV	Non-Cited Violation
NEG	Negative
NOED	Notice of Enforcement Discretion
NON	Notice of Non-Conformance
P21	Part 21
POS	Positive
SGI	Safeguard Event Report
STR	Strength
URI	Unresolved item
VIO	Violation
WK	Weakness

**Templats Codes:**

1A	Normal Operations
1B	Operations During Transients
1C	Programs and Processes
2A	Equipment Condition
2B	Programs and Processes
3A	Work Performance
3B	KSA
3C	Work Environment
4A	Design
4B	Engineering Support
4C	Programs and Processes
5A	Identification
5B	Analysis
5C	Resolution

**ID Codes:**

NRC	NRC
Self	Self-Revealed
Licensee	Licensee

**Functional Areas:**

OPS	Operations
MAINT	Maintenance
ENG	Engineering
PLTSUP	Plant Support
OTHER	Other

EELs are apparent violations of NRC Requirements that are being considered for escalated enforcement action in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Action" (Enforcement Policy), NUREG-1600. However, the NRC has not reached its final enforcement decision on the issues identified by the EELs and the PIM entries may be modified when the final decisions are made.

URIs are unresolved items about which more information is required to determine whether the issue in question is an acceptable item, a deviation, a nonconformance, or a violation. A URI may also be a potential violation that is not likely to be considered for escalated enforcement action. However, the NRC has not reached its final conclusions on the issues, and the PIM entries may be modified when the final conclusions are made.



# BEAVER VALLEY I & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
9/15/98 387	Positive	IR 98-04	N	1-OPS	5A 5C	The licensee developed and implemented a Unit 1 Restart Action Plan (RAP) to provide assurance that known conditions adverse to quality were corrected and that personnel, processes, and equipment were ready for unit restart. Corrective actions to address weaknesses in Technical Specification compliance were comprehensive. The RAP and its implementation were appropriate to address the root causes for the extended forced unit outage.
9/15/98 386	Positive	IR 98-04	L	1-OPS	5A 5C	The post trip critique and event response team report identified several important causes and corrective actions for the trip. The inspectors identified several information gathering/assessment deficiencies, including the lack of recommended actions to improve steam generator level control during subsequent feedwater regulating valve transfer evolutions. Plant management took appropriate actions to address these concerns prior to authorizing plant restart. Operating crew seminars, conducted prior to unit restart, effectively focussed on crew awareness and communications.
9/15/98 385	Negative	IR 98-04	S	1-OPS	3A 3B	On August 11, Unit 1 tripped from 2.4% reactor power due to a steam generator (SG) level transient experienced while transferring feedwater flow control from the bypass feedwater regulating valve (FRV) to the main FRV. Prior to the trip, operators did not fully discuss and recognize the effects of placing a failed steam flow instrument in trip, which enabled the reactor to trip at a higher SG water level. Operators responded properly to the reactor trip.
9/15/98 384	Positive	IR 98-04	N	1-OPS	1A 3A	Command and control prior to and during the August 11, Unit 1 reactor startup were good. The prestartup containment walkdown as well as the preevolution briefing for startup were comprehensive. Maintenance personnel responded promptly and effectively coordinated with operations personnel to resolve concerns regarding instrument indications.
8/5/98 370.6	LER	IR 98-03 LER 1-97-23	L	1-OPS	2A	TS 3.0.3 Entry Drive to Two Analog Rod Position Indicator (ARPI) Channels Inoperable.
8/5/98 370.3	LER	IR 98-03 LER 1-97-22	L	1-OPS	3B	Engineered Safety Feature Actuation of the P-12 Interlock Due to Decreasing Water Temperature.
8/5/98 370	NCV Positive LER	IR 98-03 NCV 98-03-03 LER 1-97-12-01, 02	L	1-OPS	5C	During review of a previous event, the licensee identified three instances during which TS required shutdown margin determinations were not performed. The identification of this issue and subsequent corrective actions were good. Corrective actions for a previous violation associated with configuration control for a Unit 1 pressurizer power operated relief valve (PORV) were properly implemented to preclude recurrence of a similar event. (Noncited Violation of TS 4.1.1.1.a; Enforcement Discretion per VII.B.1 of the Enforcement Policy)

# BEAVER VALLEY I & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
8/5/98 369	Negative	IR 98-03	N	1-OPS	1C	Implementation of several TS amendments, and communication of approved changes to the UFSAR for use by the station's staff were poor.
8/5/98 368	NCV Negative	IR 98-03 NCV 98-03-02	L	1-OPS	3A 5C	On April 7, 1998, a Unit 2 quench spray (QS) pump experienced a significant water hammer event. Several process barriers failed including the corrective actions for similar previous events, system restoration procedures, planning, and scheduling. The final barrier failed when operations personnel did not fully resolve valid safety concerns prior to performing a surveillance test during which the water hammer occurred. Although the QS system was not damaged, this condition represented a failure of the licensee corrective action program. The event critique and Multi-discipline Analysis Team (MDAT) assessments were excellent. The MDAT recommended comprehensive corrective actions to address this event. (Noncited Violation of 10 CFR 50, Appendix B, Criterion XVI; Enforcement Discretion per VII.B.1 of the Enforcement Policy)
8/5/98 367	Positive	IR 98-03	N	1-OPS	1C	The controls instituted for the TS 3.0.6 amendment, including procedure changes and training, were sufficient and in place prior to implementation.
8/5/98 366	Positive	IR 98-03	N	1-OPS	1C 5C	The licensee review of alarm response procedures generally identified all Technical Specification (TS) related issues and improved operator awareness of TS 3.0.3 entry conditions. The alarm response procedures were adequate for proper operator response.
8/5/98 365	VIO Negative	IR 98-03 VIO 98-03-01	N	1-OPS	3A 5C	The licensee experienced an increase in the number of personnel performance problems. The partial stop work order issued by the plant manager was important to focus workers on proper attention to detail. Although some improvement was noted, human performance errors continued after the stop work order was lifted. The errors resulted in additional out-of-service time for safety related equipment, and failure of operations personnel to be aware of plant conditions including inoperability of safety related equipment. (Violation of TS 6.8.1a)
4/25/98 359	Positive	IR 98-02	N	1-OPS	1C 3A 5C	Corrective actions to previously identified configuration control deficiencies were effective. The number of component misposition events was dramatically reduced. Operator adherence to procedures and identification of procedure deficiencies improved.
4/25/98 358	Positive	IR 98-02	N	1-OPS	5C	The licensee developed a comprehensive Restart Action Plan by which the organization could implement corrective actions for known material, process, and performance deficiencies which had led to the current forced outages on both units. Appropriate independent oversight was established and senior management maintained both units in a safe condition pending plant readiness for transition to the four established plant restart milestones.



# BEAVER VALLEY I & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
4/25/98 357	Positive	IR 98-02	N	1-OPS	1C 3B	A two day training course was conducted for over 400 station personnel to improve knowledge and understanding of technical specification compliance. The training plan was excellent and provided a wide range of examples which were specifically selected to enhance training effectiveness across the varied background of the attendees. A major strength of the training was the broad scope of people trained. Training effectiveness was evaluated through highly challenging written examinations.
4/25/98 356.5	Positive	IR 98-02	N	1-OPS	1C 5A	Operations personnel performed a thorough and conscientious review of operations procedures and the procedure change backlog for technical specification (TS) implications. Over thirty procedure deficiencies which had the potential to place the units in a condition not permitted by TS were identified and appropriate corrective action initiated. Noteworthy strengths were the broad scope of procedures reviewed, individual training conducted prior to the reviews, and the involvement of the various station departments.
3/21/98 349	NCV Negative	IR 98-01 NCV 98-01-01	S	1-OPS	1C 3A	Poor procedure quality and failure of operators to identify the procedural deficiencies resulted in an unexpected feedwater isolation valve closure while feeding the steam generators to wet layup conditions. (Noncited Violation of TS 6.8.1.a; Enforcement Discretion per VII.B.1 of the Enforcement Policy)
3/21/98 348	Positive	IR 98-01	L	1-OPS	1A 3A	Good operator attention to reactor vessel level and supporting parameters during depressurization of the reactor coolant system (RCS) resulted in quick identification and appropriate venting of a nitrogen gas bubble in the reactor vessel.
2/07/98 345	VIO	IR 97-11 VIO 97-11-02	N	1-OPS	3A 1B 3B	Unit 1 operators demonstrated a good questioning attitude and identified a problem with the feedwater flow instruments during startup activities on January 21. Operations and maintenance resolution of the issue was adequate. However, failure to document TS 3.03 and 3.3.1.1 LCO action entries/exits was a violation. Although the Nuclear Shift Supervisor (NSS) was aware of the TS LCO applicability and implemented the applicable TS LCOs, this event demonstrated continued logkeeping problems and weaknesses in shift turnover during periods of increased control room activity. (Violation of TS 6.8.1.a)

# BEAVER VALLEY 1 & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
2/07/98 344	NCV Negative	IR 97-11 NCV 97-11-03	N	1-OPS	3C 1A 1C	Operations staff worked large amounts of overtime during the past year, but hours were carefully tracked to manage the use of overtime. Overtime deviation authorizations were generally properly processed in accordance with procedures. Low shift staffing levels were being addressed by the licensee, but continued to be a problem, due in part to the long period of time required for training and licensing new operators. Management of overtime and workload continued to challenge the licensee, compounded by the extended outages of the past year. However, no safety related events occurred that were attributed to fatigue or excessive workload. (Noncited Violation of TS 6.2.2.f, Enforcement Discretion per VII.B.1 of the Enforcement Policy)
2/07/98 336	NCV Negative LER	IR 97-11 NCV 97-11-05 LER 1-97-42	L	1-OPS	3B 2B	Inadequate TS interpretations resulted in failure to perform axial flux difference monitor surveillance as required by TS. Good identification during corrective action to 1997 violation. (Noncited Violation of TS 4.2.1.1.a.2, Enforcement Discretion per VII.B.4 of the Enforcement Policy)
2/07/98 335	NCV Negative LER	IR 97-11 NCV 97-11-04 LER 1-97-41	L	1-OPS	3C 1A 3B	No documentation existed to show that power was removed from two RCS loop isolation valve motor operators within one hour of loop isolation as required by TS. Good identification during corrective action to 1997 violation. (Noncited Violation of TS 3.4.1.4.2, Enforcement Discretion per VII.B.4 of the Enforcement Policy)
12/27/97 305	Positive	IR 97-09	N	1-OPS	1A 3A	During the continuing refueling outage for Unit 1 and the Unit 2 shutdown on December 16, 1997, the inspectors observed good control of shutdown safety parameters and awareness of safety equipment availability. The Operations staff identified and stopped two improperly scheduled work activities that would have potentially impacted safety.
11/15/97 304.2	Negative	IR 97-08	N	1-OPS	3A 5A	Operators' failure to question the acceptability of charging pump gas accumulation data and lack of system engineering guidance was a weakness.
11/15/97 295	Positive	IR 97-08	L	1-OPS	3A 5A	Operators demonstrated a strong questioning attitude in identifying a longstanding discrepancy in the auxiliary feedwater surveillance test.
11/15/97 294	NCV Negative	IR 97-08 NCV 97-08-01	L	1-OPS	3A 3C 1A	Rod cluster control assembly (RCCA) R-19 was mispositioned during insert change-outs due to inadequate position verification by contractor personnel and inadequate supervisory oversight of the evolution by DLC staff. The licensee root cause analysis for the RCCA mispositioning was thorough and reasonable corrective actions were taken to prevent recurrence. (Noncited Violation of TS 6.8.1.a, Enforcement Discretion per VII.B.1 of the Enforcement Policy)



# BEAVER VALLEY I & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
10/04/97 293	NCV Negative	IR 97-07 IR 97-08 NCV 97-08-02 URI 97-07-01	L	1-OPS	1C	Inspectors identified some programmatic weaknesses in the implementation of the Retired Equipment Program. Some equipment was re-tagged as "retired in place" without recognizing that it was required for use in emergency operating procedures and abnormal operating procedures. This was an unresolved item pending completion of NRC review. The unresolved item (97-07-01) was closed by an NCV. Tagging the Unit 1 containment iodine fans and the steam generator blowdown tank out-of-service, even though the equipment was required in some emergency response procedures, was an isolated instance due to inadequate review and implementation of the Retired Equipment Program. (Noncited Violation of TS 6.8.1.a; Enforcement Discretion per VII.B.1 of the Enforcement Policy)
10/04/97 292	Positive	IR 97-07	N	1-OPS	1C	Self-assessments were generally of good quality and were self-critical. However, the self-assessment process demonstrated a weakness in that several station departments were not meeting management's expectations for adhering to established self-assessment schedules. Evaluations of industry operating experience information were thorough and technically accurate. The Nuclear Safety Review Board demonstrated a strong questioning attitude. The Offsite Review Committee also functioned well.
10/04/97 290	Strength	IR 97-07	N	1-OPS	5A 5B	Overall QSU involvement in oversight activities was good, and audits were of high quality. QSU's use of outside people (e.g. other utilities) to gain further industry perspective during the performance of audits was considered a strength.
10/04/97 289	Positive	IR 97-07	N	1-OPS	5B 5C	Knowledge and use (initiation) of the Condition Report (CR) system was mixed. There were instances where CRs were warranted but were not initiated or were delayed, indicating that the licensee was not making full use of the CR system. CR evaluations, root cause determinations, and corrective actions were good overall. Two CRs were not fully evaluated in a timely fashion, and the licensee subsequently initiated additional actions to achieve resolution. Monthly CR trending information receives attention from senior station management.
10/04/97 288	Positive	IR 97-07	N	1-OPS	5A	Quality Services Unit (QSU) Operations Program audit and surveillance activities were generally effective in evaluating operations performance, identifying weaknesses, and follow-up corrective action verifications. Some exceptions were noted in that several negative NRC findings were not similarly identified through QSU activities. QSU management initiated appropriate action to ensure these findings are addressed through future surveillance and audit activities. Operations management's use of QSU for independent assessments of suspected problem areas was a strength.

# BEAVER VALLEY 1 & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
10/04/97 274	Positive	IR 97-07	N	1-OPS	1C	The "IR12 Pre-Outage Safety Review" conducted by ISEG, Unit 1 Operations, and Outage Management Department was thorough and provided reasonable recommendations for enhancing safety posture.
10/04/97 272	Negative	IR 97-07	N	1-OPS	1C 3B	The proper method to perform a flush of the "A" boron recovery degassifier subsystem was not fully understood by work planning management, operations department, and system engineering personnel. Concerns raised by operators and the inspectors were eventually addressed by the use of a temporary operating procedure for the flush.
10/04/97 270	Positive	IR 97-07	N	1-OPS	1B	On October 2, a failed comparator circuit card caused a Unit 2 pressurizer power operated relief valve to open, inducing a plant pressure transient. Operator's promptly assessed plant conditions and took action to limit the plant transient.
9/15/98 391	Positive	IR 98-04	N	2-MAINT	3A	Maintenance on safety related check valves to correct a motion binding issue was properly performed and supervised.
9/15/98 389	ViO Negative	IR 98-04 VIO 98-04-01	N	2-MAINT	3A	Human performance errors continued to impact plant operations. Maintenance personnel failed to adhere to procedures for configuration control and work control when attempting to resolve excessive packing leakage on the Unit 1 turbine driven auxiliary feedwater pump. These actions delayed pump restoration by twenty-two hours. (Violation of TS 6.8.1a)
9/15/98 388	Positive	IR 98-04	N	2-MAINT	3B 4A 5A 5C	A design change to modify the Unit 1 480 Volt emergency bus under voltage relay scheme was implemented correctly. The maintenance personnel performing the work were knowledgeable and appropriately briefed. Missing motor control center panel fasteners were identified by the maintenance crew and properly dispositioned by the site staff. The infrequently performed test or evolution briefing was professional, notwithstanding two minor deficiencies.
8/5/98 374	NCV Positive LER	IR 98-03 NCV 98-03-04 LER 1-98-12	L	2-MAINT	5A 5B 5C	Maintenance and engineering personnel identified that high energy line break actuation system capacitor replacements, performed five years ago, resulted in the system being non-seismically qualified. Identification of this issue demonstrated a good questioning attitude and corrective actions were properly implemented in a timely manner. (Noncited Violation of 10 CFR 50, Appendix B, Criterion III; Enforcement Discretion per VII.B.1 of the Enforcement Policy)
8/5/98 373	Negative	IR 98-03	N	2-MAINT	3A 4C	Evaluation, scheduling, and management oversight of Unit 2 periodic inservice test (IST) program requirements from February through May was poor.
8/5/98 372	Negative	IR 98-03	N	2-MAINT	2B 5A	Posting and control of equipment deficiency tags continued to be poor.



# BEAVER VALLEY 1 & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
8/5/98 371	Negative	IR 98-03	N	2- MAINT	3A 3C	Surveillances were generally conducted safely. In some cases marginal procedure quality challenged operators and equipment. One example of operator inconsistent use of available indications resulted in a violation of procedure.
4/25/98 363	NCV Negative	IR 98-02 NCV 98-02-02	N	2- MAINT	5A 5C	Licensee identification and corrective actions to address a degraded floor penetration flood seal which caused the auxiliary feedwater (AFW) system to be outside its design basis were slow. Subsequent corrective actions including required reports to the NRC were good. However, while the licensee event report was detailed, it did not properly address the issue of AFW system operability. (Noncited Violation of 10 CFR 50, Appendix B, Criterion XVI; Enforcement Discretion per VII.B.1 of the Enforcement Policy)
4/25/98 362	Negative	IR 98-02	N	2- MAINT	1C 5A	The Quality Services Unit provided thorough and objective evaluations of maintenance performance; however, maintenance self-assessment was weak. A program for periodic maintenance self-assessment was not established, and maintenance self-assessments tended to be reactive to self-evident issues. No program for periodic trending of Condition Reports was established.
4/25/98 361	NCV Negative	IR 98-02 NCV 98-02-01	L	2- MAINT	1A 3A	Inadequate procedural instructions resulted in a Unit 2 reactor trip signal during reactor trip breaker surveillance testing. In addition, technicians demonstrated poor communications when they failed to inform the control room operators that one of the test acceptance criteria was not met. (Noncited Violation of TS 6.8.1.a; Enforcement Discretion per VII.B.1 of the Enforcement Policy)
4/25/98 360	Weakness s	IR 98-02	N	2- MAINT	2B	Various planning and scheduling weaknesses were identified. Three separate tracking mechanisms, which did not fully agree with one another, were used to schedule surveillances due to lack of confidence in their individual accuracy. Emergency diesel generator 2-1 restoration was delayed because the post-maintenance testing requirements were not established. Emergency Response Facility maintenance was canceled because procedures for equipment clearance were not available. A new work control center was established and six work week manager positions were created to help improve the planning and scheduling process.
3/21/98 353.5	Negative	IR 98-01	N	2- MAINT	2B 3A	The 18 month overhaul of the Unit 2-2 emergency diesel generator (EDG) was ineffectively planned. Conflicts with the clearance, multiple conflicting tasks working concurrently, and other scheduling problems resulted in extended outage time for the EDG and additional risk of injury for workers. In addition, failure to plan the post maintenance testing prior to beginning PORVs repairs delayed the system restoration.

# BEAVER VALLEY 1 & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
3/21/98 353	NCV	IR 98-01	N	2-	5C	The TS surveillance review team conducted a thorough and detailed review of the TS surveillance requirements and associated surveillance procedures to ensure that surveillance requirements were satisfied. Licensee actions to identify and resolve problems were comprehensive and technically correct. The full TS surveillance review team project was not implemented in a timely manner. Untimely implementation and a larger than anticipated problem resulted in the licensees requesting a commitment date extension from the NRC. Independent evaluation of the surveillance review team's activities did not identify any discrepancies in their program or its implementation. (Enforcement Discretion per VII B.4 of the Enforcement Policy)
	Positive	NCV 98-01-02		MAINT	2B	
					3B	
3/21/98 352	Negative	IR 98-01	N	2-	2B	The inability to plan and work maintenance activities according to schedule contributed to the need for additional resources, increased operator burden, and increased equipment out-of-service time. The poor planning and control of operational post maintenance testing created an unnecessary operational burden on the control room staff, as well as the potential to restore equipment to service with inadequate post-maintenance testing.
				MAINT		
3/21/98 351	Negative	IR 98-01	N	2-	2A	Most equipment deficiencies were identified by Material Deficiency Tags; however, the inspectors noted an error rate in tag control of about 1/3, based on a random sample of 64 tags in the field. The high error rate had the potential to mask equipment deficiencies or adverse trends.
				MAINT	2B	
3/21/98 350	Weakness	IR 98-01	L	2-	2B	Senior management acknowledged the broad scope and significance of TS surveillance testing problems. The long-standing problems were primarily caused by poor TS quality, a non-conservative philosophy regarding TS interpretation, and broad knowledge deficiencies regarding TS.
				MAINT	3B	
2/07/98 347	NCV	IR 97-11	L	2-	3B	On January 30, 1998, Unit 1 operators declared both trains of the Reactor Plant Component Cooling Water system and the River Water system inoperable due to failure to test system valves as required by technical specifications (TS). Previous interpretation of the TS was too narrowly focused, as it did not address all system valves which service safety related components. This issue was licensee identified through corrective actions to address previous escalated enforcement action. The licensee was unable to complete the TS surveillance requirements or to justify a basis for enforcement discretion to permit additional time to complete the required testing. Operators safely performed a TS required shutdown on January 31. (Noncited violation of TS 4.7.3.1.b (c) and 4.7.4.1.b (c); Enforcement Discretion per VII B.4 of the Enforcement Policy)
	Negative	NCV 97-11-01		MAINT	1C	
					3A	



# BEAVER VALLEY 1 & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
2/07/98 346	Weakness s	IR 97-11	L	2- MAINT	3B 1C 3A	The TS surveillance test program review team identified numerous instances where existing procedures did not properly implement TS surveillance test requirements. The review project began slowly due to resource limitations. Additional staffing since November 1997, has improved both the speed and comprehensiveness of reviews. Over thirty potential testing deficiencies were identified this report period and properly resolved. Several of the identified discrepancies required the units to enter TS Limiting Conditions of Operation (LCO) shutdown action statements, which operators properly implemented. Unit 1 shut down on January 31, due to missed TS required surveillance tests and remained shut down at the close of the period to resolve additional testing issues. The management decision to maintain the unit shut down pending resolution of additional testing issues was appropriate.
2/07/98 343	NCV Negative	IR 97-11 NCV 97-11-06	S	2- MAINT	1C 3A	The procedural guidance/management control to ensure important instrumentation (including feedwater flow instrumentation) is returned to service was a weakness. The corrective actions comprehensively addressed the weakness. Maintenance response to the identified problem with the feedwater flow transmitter was adequate. (Noncited Violation of TS 3.3.1.1; Enforcement Discretion per VII.B.1 of the Enforcement Policy)
2/07/98 342	NCV Negative	IR 97-11 NCV 97-11-07	L	2- MAINT	3A 3B	On January 27, 1998, technicians used incorrect input values when calibrating Unit 1 power range neutron flux instrumentation which affects the overtemperature-delta temperature reactor protection system trip setpoint. This error remained undetected prior to restoring the equipment to operation. The inspectors concluded that post-maintenance reviews by Maintenance and Operations Department personnel, prior to restoring equipment to an operable status were inadequate. (Noncited Violation of TS 6.8.1.a; Enforcement Discretion per VII.B.1 of the Enforcement Policy)
2/07/98 341	VIO Weakness s	IR 97-11 VIO 97-11-08	N	2- MAINT	3C 3A 3B	Electricians demonstrated appropriate care when handling the station battery cells. However, work instruction detail was inadequate, supplemental work instructions were not properly controlled, and a fire barrier was not properly controlled. Electricians failed to properly reattach an intercell connector following battery cell replacement. Prompt action in response to smoke emanating from the battery during a full capacity discharge test prevented significant battery damage. (Violation of TS 6.8.1.a)
12/27/97 309	Negative	IR 97-09	N	2- MAINT	1C	Some inconsistencies were noted in the guidance provided to operators and maintenance staff regarding emergency work.

# BEAVER VALLEY 1 & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
12/27/97 308	Positive	IR 97-09	N	2- MAINT	1B 2A	The licensee responded appropriately to a valve linkage failure on a turbine plant component cooling water control valve and noted good coordination between operators, system engineering, and maintenance staff. The prompt response eliminated a potential challenge to safe plant operation. In addition, failure to repair the degraded linkage during earlier opportunities indicated a weakness in the work control process that unnecessarily challenged operators when the linkage subsequently failed.
11/15/97 296	Negative	IR 97-08	L	2- MAINT	3A 2B	Poor work practices resulted in a fuel filter leak during EDG testing and a thrust bearing failure during post maintenance testing on an auxiliary feedwater pump. The licensee appropriately dispositioned the failures in accordance with the Maintenance Rule.
10/04/97 291	VIO	IR 97-07 VIO 97-07-02	N	2- MAINT	1C	Failure to obtain NRC approval prior to shifting Procurement QC responsibilities from the QSU to the Procurement Department was a reduction in quality assurance program commitments (Violation of 10 CFR 50.54(a)(3))
10/04/97 280	Positive	IR 97-07	N	2- MAINT	3A 3C	Maintenance and engineering personnel effectively coordinated their efforts to successfully replace the Unit 2 "C" high head safety injection pump rotor assembly.
10/04/98 276	Positive	IR 97-07	S	2- MAINT	3A	Technicians and operators closely coordinated troubleshooting and repair activities for the failed comparator card, which caused a Unit 2 pressurizer power operated relief valve to open. Causal assessment was technically sound and repairs were promptly completed.
9/15/98 393	Positive	IR 98-04	N	3-ENG	4B 4C	System and Performance Engineering Department personnel developed a systematic and comprehensive process to evaluate system status and readiness. System engineers were knowledgeable and consistent in their implementation of the required system health reviews, providing appropriate recommendations to station management regarding readiness for Unit 1 restart. Insights gained during the system health reviews were shared with appropriate departments for implementation.
9/15/98 392	NCV Positive LER	IR 98-04 NCV 98-04-02 LER 1-98-22- 00, -01	N	3-ENG	5A 5B 5C	The licensee identified binding issues associated with thirty Unit 2 check valves. Causal analysis for this issue during the last refueling outage was incomplete, which contributed to several additional failures occurring during this outage. Although the valves affected multiple safety systems, the safety significance was low due to redundant, diverse isolation valves for each check valve affected. Licensee investigation, root cause analysis, quality controls and corrective action during this period were comprehensive. (Noncited Violation of 10 CFR 50, Appendix B, Criterion XVI; Enforcement Discretion per VII.B.1 of the Enforcement Policy)



# BEAVER VALLEY I & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
8/5/98 379	NCV Positive LER	EA 98-359 IR 98-03 NCV 98-03-07 LERs 1-96-04-00, 01, 02, 03, 04; 1-97-01-00, 01, 02, 03, 04, 05; 1-97-03-00, 01; 1-97-31	L	3-ENG	5A 5C	The licensee conducted a comprehensive review of testing of safety related logic circuits for Unit 1, in response to NRC Generic Letter 96-01. Identified deficiencies were tested successfully, procedures were revised to include the testing, and the conditions were properly reported. (Noncited Violation of several TS surveillance requirements, Enforcement Discretion per VII.B.3 of the Enforcement Policy)
8/5/98 378	VIO Negative	IR 98-03 VIO 98-03-06	N	3-ENG	2B 4C	The normal practice of venting the high head safety injection pumps prior to surveillance testing without the assurance that adverse conditions will be detected and corrected was a violation. Previous corrective actions to address this issue were comprehensive. (Violation of 10 CFR 50, Appendix B, Criterion XI)
8/5/98 376	Positive	IR 98-03	N	3-ENG	1C 4C	The licensee's staff exhibited an appropriate questioning attitude resulting in the identification of many questions regarding interpretation of TS requirements and the adequacy of plant procedures to meet them. Risk insights were generally integrated into the backlog prioritization process as evidenced by about 80 percent of the identified top risk significant backlog items being less than two years old. However, risk insights were not fully utilized for design change requests and pending design change packages. These items constituted the majority of the risk significant backlog items greater than two years old.

# BEAVER VALLEY I & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
8/5/98 375	NCV Positive	IR 98-03 IR 98-04 EEI 98-03-05 NCV 98-04-03	L	3-ENG	4C 5A 5B 5C	In response to an NRC violation, the licensee identified over twenty additional instances where the station TS were not sufficient to ensure the station would operate with in the existing UFSAR accident analysis. These discrepancies affected the reactor protection system, engineered safety features, and various safety related system requirements. Licensee actions from approximately 1990 to 1997 were inadequate, in that station design was not properly maintained, conditions adverse to quality were not corrected, and TS were not properly maintained. In response to an NRC violation, the licensee performed an extent of condition review which identified numerous design issues for which the TSs were non-conservative. Appropriate corrective actions including interim administrative controls, development of TS amendment requests, and process revisions to ensure the facility is operated within its design basis were established. Interdepartmental coordination and the quality of engineering work to resolve the issues were excellent. The safety significance of the design issues was low and the licensee correctly determined that Unit 1 could restart prior receiving TS amendment approval from the NRC for the subject issues. (Noncited Violation of 10 CFR 50, Appendix B, Criterion III and Criterion XVI; Enforcement Discretion per VII.B.1 of the Enforcement Policy)
4/25/98 364	NCV Positive	IR 98-02 NCV 98-02-03	L	3-ENG	4B 4C	Operators demonstrated a good questioning attitude upon noting air blowing through a shakspace seal membrane. Engineers provided good support to operations in evaluating and correcting a missing shakspace flood/fire seal which placed the auxiliary feedwater system outside of its design basis. This was the third degraded flood seal issue identified in the past fifteen months and highlighted the need for a station-wide flood barrier inspection program. Corrective actions were appropriate. (Noncited Violation of 10 CFR 50, Appendix B, Criterion III; Enforcement Discretion per VII.B.1 of the Enforcement Policy)
3/21/98 355	VIO	IR 98-01 VIO 98-01-05	N	3-ENG	4B 4A	Engineers failed to fully evaluate all potential failure modes prior to installation of a modification to the Unit 2 emergency diesel generator (EDG) ground overcurrent trip isolation feature which was an example of inadequate design control and a violation. Specifically, the failure mode analysis for this design change was too narrowly focused in that failures of the quality assurance category 2 ground switch and resistor were not fully evaluated. The failure mode analysis also did not identify or evaluate an additional failure mode which had the potential to damage the EDG during surveillance testing if a fault occurred on the 4 kV line. (Violation of 10 CFR 50, Appendix B, Criterion III)
3/21/98 354.5	NCV Positive	IR 98-01 NCV 98-01-04	L	3-ENG	1C 3B	The TS surveillance review team identified that the Unit 2 emergency diesel generator ground switch was not tested as required by TS. This was attributed to inadequate implementation of TS requirements into surveillance procedures. (Noncited Violation of TS 4.7.3.1.b (c) and 4.7.4.1.b (c); Enforcement Discretion per VII.B.4 of the Enforcement Policy)



# BEAVER VALLEY 1 & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
3/21/98 354	VIO	IR 98-01 VIO 98-01-03	N	3-ENG	4C 4A	The licensee recognized a TS deficiency regarding degraded voltage relay setpoints in 1993 and administratively controlled the setpoints through revisions to the maintenance surveillance procedures. The procedure revisions were inadequate and a TS amendment request to change the relay setpoints had not been submitted. The failure to adequately address a known TS deficiency in a timely manner was a Violation. (Violation of 10 CFR 50, Appendix B, Criterion XVI)
2/12/98 347.8	NCV Positive	EA 98-72 IR 98-80 NCV 98-80-01 LER 2-97-11	L	3-ENG	4A	DLC engineers determined that the Unit 2 secondary process racks failed to meet Class 1E/non-Class 1E electrical separation requirements resulting in several safety related components including the EDGs and boration flowpaths being inoperable. This original design deficiency was identified through review of extent of condition reviews and industry operating experience. Engineering evaluation and corrective actions were comprehensive. NRC enforcement discretion was exercised and no violation issued, in recognition of self identification and correction through voluntary initiatives of an old design issue. (Noncited Violation of 10 CFR 50, Appendix B, Criterion III; Enforcement Discretion per VII.B.3 of the Enforcement Policy)
2/12/98 347.5	Positive	IR 98-80	L	3-ENG	4A	Over the past year the engineering staff has aggressively identified significant old design deficiencies. This is an indication of the engineering staff's strong technical knowledge and aggressive pursuit of issues in the Beaver Valley design basis.
2/12/98 347.4	VIO	IR 98-80 EA 98-120 VIO 98-80-03	N	3-ENG	4B	In general, safety evaluations for facility modifications were of good quality and performed in accordance with the requirements of 10 CFR 50.59 and with applicable plant procedures. However, some safety evaluations exhibited some weakness in that they were narrowly focused and of limited scope. Also, a violation was identified in the 50.59 safety evaluation area for an inadequate 50.59 safety evaluation associated with the storage of propane next to the auxiliary intake structure. (Violation of 10 CFR 50.59)
2/12/98 347.3	VIO	IR 98-80 EA 98-121 VIO 98-80-04	N	3-ENG	4B	DLC inappropriately processed a change to a temporary operating procedure by mischaracterizing the change as a non-intent change and failing to perform a required 10 CFR 50.59 safety evaluation. Upon identification of this deficiency, DLC completed an acceptable 10 CFR 50.59 safety evaluation. Also, DLC responded promptly and appropriately to an additional NRC concern related to conducting proper independent reviews of procedure changes. (Violation of 10 CFR 50.59)

# BEAVER VALLEY 1 & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
2/12/98 347.2	VIO	IR 98-80 VIO 98-60-02	N	3-ENG	2A 5C	DLC's overall response to a known long-standing RHR valve deficiency was untimely and inadequate. Station personnel were aware of significant internal bypass leakage through an RHR valve, the primary controller for reactor coolant system temperature while in the shutdown condition. However, the deficiency was documented in January 1995, and since then, the root cause of the degraded valve had not been identified or corrected. Also, the bases for operability or basis for continued operation (BCO) had not been completed. In addition, the valve was not characterized as an operator work-around in the Unit 1 control room log. (Violation of 10 CFR 50, Appendix B, Criterion XVI)
2/11/98 347.1	Licensing Negative	2/9/98, 2/11/98, 4/15/98 letters	N	3-ENG	4B 3A	However, the submittal to revise emergency diesel generator (EDG) undervoltage setpoints to eliminate undesired EDG starts was not submitted in a timely manner. The licensee had been aware of a condition for several years in which emergency bus voltage transients had been causing unnecessary EDG starts but rather than submit a license amendment to change the setpoints and thereby correct the condition, the licensee had made this a work around and designated the EDG starts as an expected condition
2/07/98 340	Positive	IR 97-11	N	3-ENG	4B	The temporary modification to jumper out a degraded cell from the 2-1 station battery was technically sound and properly evaluated. Engineers demonstrated a good working knowledge of the supporting engineering calculations. The subsequent management decision to replace six battery cells demonstrated an appropriate safety perspective. Post-maintenance testing following replacement of six battery cells was generally good. An exception was that individual cell voltage acceptance criteria to support battery operability following restoration from the discharge capacity test was not specified.
2/07/98 339	NCV Positive	IR 97-11 NCV 97-11-09	L	3-ENG	4A 5C	Engineers determined that several assumptions previously used for various design basis accident control room and exclusion area boundary radiological dose assessments were non-conservative. Licensee assessment of the issue including extent of condition reviews was comprehensive. However, communications between radiation engineers and design engineers were inconsistent which delayed issue resolution and design change implementation by several weeks. The licensee identified three associated unreviewed safety questions and promptly submitted associated regulatory documents for NRC review and approval. Safety evaluations and Nuclear Safety Review Board assessment of the issues were excellent. (Noncited Violation of 10 CFR 50 Appendix B, Criterion III; Enforcement Discretion per VII.B.1 of the Enforcement Policy)



# BEAVER VALLEY I & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
2/07/98 322	NCV Negative LER	IR 97-11 LER 2-97-06 NCV 97-11-10	L	3-ENG	4B 3A 3B	Reliance on personnel knowledge and communications in lieu of formal procedural controls to address a known TS deficiency, the response time for the 4.16 Kv loss of voltage trip feeder function, was poor. The resulting TS violation did not represent a significant safety event, but was considered a weakness in addressing a long time known deficiency. (Noncited Violation of TS 3.3.2.1; Enforcement Discretion per VII.B.1 of the Enforcement Policy)
1/27/97 312	ED Positive LER	IR 97-09 LER 2-97-08 EA 98-138 NCV 97-11-11	L	3-ENG	5A 3A 4B	The operator's strong attention to detail and the engineers' rigorous questioning attitude led to the discovery of deficiencies in the Unit 2 control room emergency ventilation system. The licensee's full assessment of the design and licensing basis and corrective actions was not yet completed (URI 97-09-02). The excellent questioning attitude by the operator and engineers that led to the identification of the control room emergency ventilation system design deficiency and comprehensive corrective actions in addressing the deficiency were the basis for the NRC exercise of enforcement discretion (Noncited Violation of 10 CFR 50, Appendix B, Criterion III; Enforcement Discretion per VII.B.3 of the Enforcement Policy).
12/27/97 311	NCV Positive	IR 97-09 LER 1-97-35 NCV 97-09-01	L	3-ENG	4C 4B	Engineers demonstrated an excellent questioning attitude in identifying a non-conforming safety related small bore piping deficiency. Over 200 supports and anchors did not meet Code requirements due to inadequate original construction design specification. Extent of condition reviews, findings, causal assessment, and corrective actions were comprehensive. Communication of this potentially generic issue to the industry demonstrated a sound safety perspective. (Noncited Violation of 10 CFR 50, Appendix A, Criterion 15; Enforcement Discretion per VII.B.1 of the Enforcement Policy)
11/15/97 304	Positive	IR 97-08	N	3-ENG	4C	The licensee's inservice inspection program plan for Unit 1, with relief requests, was satisfactorily maintained and implemented. The non-destructive examination personnel were properly qualified and certified, examination procedures were adequate to assure valid examinations, and deficiencies were appropriately evaluated and resolved.
11/15/97 299	Positive	IR 97-08 URI 97-08-03	L	3-ENG	4C	The licensee's team evaluating the gas binding events for the Unit 2 High Head Safety Injection (HHSI) pumps uncovered weaknesses in the original engineering analysis performed to establish venting frequencies. Strong questioning by licensee management and team members led to these findings. The venting frequency established in 1988 to ensure minimal gas accumulation in the suction lines was inadequate to prevent gas binding of the Unit 2 HHSI pumps. The inadequate corrective actions to preclude gas binding of the pumps were addressed in NRC Inspection Report 50-334 and 412/97-07. Further, the inspectors determined, venting of the HHSI pump suction lines immediately prior to TS surveillances may be a violation of NRC requirements pertaining to test validity and is unresolved.

# BEAVER VALLEY 1 & 2 PLANT ISSUES MATRIX

Date	Type	S	ID	SFA	Code	Item Description
11/15/97 298	Positive	IR 97-08	L	3-ENG	4B	Engineers determined that under certain conditions the voltage supplied to the Unit 1 nuclear instrumentation system power supplies had the potential to adversely affect the reactor trip system protective action functions. Engineers' performance during assessment of this issue and extent of condition reviews was conservative and demonstrated a strong questioning attitude. Corrective actions, including design change implementation, were timely and technically sound.
11/15/97 297	Negative	IR 97-08	N	3-ENG	5B 5C	The licensee's review and corrective actions adequately addressed the inadvertent actuation of the Control Room Emergency Breathing Air Pressurization System (CREBAPS) on October 6, 1996. The CREBAPS Focused Design Review conducted in response to the event was a thorough evaluation of the system and provided good recommendations for resolving the long-standing problems. However, the long-term action to eliminate the spurious activation of this engineered safety features system has not been implemented yet, showing a slow response on the licensee's part to resolve the longstanding operator work-around.
10/04/98 287	NCV Negative	IR 97-07 NCV 97-07-05	L	3-ENG	4C	The licensee failed to properly evaluate and approve several revisions to the station's heavy load lift program between 1983 and 1990. The Operation Safety Committee review process was inconsistent and controls to retain safety evaluations for changes to approved lift paths as described in the Updated Final Safety Analysis Report were inadequate. Licensee evaluation of this issue was comprehensive and corrective actions were well focused. (Noncited Violation of 10 CFR 50.59; Enforcement Discretion per VII.B.1 of the Enforcement Policy)
10/04/97 285	Negative LER	IR 97-07 LER 1-97-32	N	3-ENG	5C	The engineering evaluation for an unexpected start of emergency diesel generator 1-2 during a fast bus transfer test was reasonable based on the existing plant configuration, bus loading, and EDG undervoltage setpoints. There were no adverse safety consequences to the inadvertent EDG start, but it presented an unnecessary challenge to the EDG. Considering the long history of inadvertent Unit 1 EDG starts under certain plant conditions, the licensee has been slow to resolve the issue.
10/04/97 284	Negative	IR 97-07	N	3-ENG	5B 5C	Licensee management's initiative to perform an in-depth team analysis of the HHSI events was good, overall. The team focused primarily on replacing the failed pump, but was only minimally effective in reviewing the majority of the issues related to causal analysis and long term corrective actions.



# BEAVER VALLEY 1 & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
10/04/97 283	VIO SL-III	EA 97-517 IR 97-07 IR 97-08 EEI 97-07-03	N	3-ENG	5C	On August 28, 1997, the licensee experienced gas binding of the Unit 2 "C" high head safety injection pump due to inadequate venting of the charging lines. Failure to take effective corrective action to preclude repetition of gas binding events between 1993 and 1997 was an apparent violation. Two weeks after the gas binding event, the pump failed to meet TS differential pressure performance requirements and was subsequently replaced. The repeated gas binding events were the most likely cause for the pump's degraded performance. (Violation of 10 CFR 50, Appendix B, Criterion XVI)
10/04/97 282	Positive	IR 97-07	N	3-ENG	3A 4B	Engineers properly evaluated an industry concern regarding moisture intrusion into inadequate Core Cooling Monitor (ICCM) thermocouples. The evaluation was thorough and closely integrated industry and vendor information. The information was clearly presented to the Nuclear Safety Review Board which supported a timely management decision regarding proposed maintenance. The decision to continue operating with the ICCM system in its current analyzed condition was appropriate.
10/04/97 281	Negative	IR 97-07	N	3-ENG	4B	The licensee was slow to initiate a formal operability determination for a degraded condition in the Unit 2 digital rod position indication (DRPI) system. However, the inspectors determined that the licensee verified that the TS for DRPI were met during this period.
9/15/98 402	Positive	IR 98-04	N	4-PS	3A	Audits of the security program were comprehensive in scope and depth, audit findings were reported to the appropriate level of management, and the program was properly administered. In addition, a review of the documentation applicable to the self-assessment program indicated that the program was effectively implemented to identify and resolve potential weaknesses.
9/15/98 401	Positive	IR 98-04	N	4-PS	3C	Management support was adequate to ensure effective implementation of the security program, and was evidenced by adequate staffing levels and the allocations of resources to support programmatic needs.
9/15/98 399	Positive	IR 98-04	N	4-PS	2A	Security facilities and equipment in the areas of protected area assessment aids, protected area detection aids, personnel search equipment, and illumination and surveillance hardware were well maintained and reliable.
9/15/98 398	Positive	IR 98-04	N	4-PS	3A	Security and fire yards activities were conducted in a manner that protected public health and safety in the areas of access authorization, alarm stations, communications, and protected area access control of personnel and packages.
9/15/98 396	Positive	IR 98-04	N	4-PS	3C	The program for identifying and tracking hot spots, and shielding to reduce occupational exposures was effectively implemented. The Unit 1 refueling outage in 1997 (1R12) was completed with the lowest total dose in unit history.

# BEAVER VALLEY I & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
9/15/98 395	Positive	IR 98-04	N	4-PS	2B	The program for the control of contaminated materials and equipment was effective. The licensee appropriately identified and maintained records of spills and other occurrences as required under 10 CFR 50.75(g)(1).
8/5/98 381	Positive	IR 98-03	N	4-PS	3A 3C	Radiological controls in the containment were effectively established, implemented, and maintained, and radiological work involving the Unit 1 PORV was effectively monitored and controlled.
8/5/98 380	Positive	IR 98-03	N	4-PS	2C 3B	The licensee established and implemented effective radiological protection programs with respect to (1) maintenance and calibration of radiological survey instruments; (2) control and leak testing of instrument calibration sources and inventory maintenance; and, (3) training of radiation protection technicians.
3/21/98 356	Positive	IR 98-01	N	4-PS	3A	The programs for internal and external dosimetry and respiratory protection were effectively implemented. Control of radiological work, especially in the pressurizer cubicle at Unit 2, was also effective.
2/07/98 338	Negative	IR 97-11	N	4-PS	4A	Assessment aids, in general, had good picture quality and excellent zone overlap. However, due to long fields of view in several zones, the alarm station operator's ability to properly assess the cause of an alarm would be limited if it were not for the alarm station operator's usage of the video capture system was installed to enhance the effectiveness of the assessment program.
2/07/98 337	Positive	IR 97-11	N	4-PS	2A	The amount of radiologically contaminated area within the protected area was significantly reduced during 1997 (currently less than 1 percent). This performance improved equipment accessibility to operations and maintenance personnel.
12/27/97 321	Positive	IR 97-09	N	4-PS	1C	The licensee's Quality Services audit of the emergency preparedness program met all regulatory requirements of 10 CFR 50.54(t) and the audit and its attendant report were much improved over the calendar year 1996 audit and report.
12/27/97 320	Positive	IR 97-09	N	4-PS	1C	The Emergency Preparedness (EP) organization has not been weakened by the changes that have occurred since the last EP program inspection. The licensee's conversion to a team-oriented response was an improvement over the previous response and its implementation was properly conducted. The authorization of an additional staff position in the EP program to strengthen the EP organization's ability to maintain the onsite and offsite EP programs was a positive indication.
12/27/97 319	Positive	IR 97-09	N	4-PS	1C	The training program for the emergency response organization met all regulatory requirements and was implemented well.



# BEAVER VALLEY 1 & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
12/27/97 318	Negative	IR 97-09	N	4-PS	1C	The licensee's process for performing 10 CFR 50.54(q) evaluations for the latest emergency plan revision was weak. Several questionable changes were made to the latest revision of the plan and some procedures. The correct procedure for performing these evaluations is an improvement over the previous procedure. The licensee took prompt action to re-evaluate the questionable changes.
12/27/97 317	VIO	IR 97-09 VIO 97-09-03	N	4-PS	1C	The licensee's emergency facilities were generally well-maintained. The failure to regularly test the off-line commercial phone lines at the Alternate EOF is a violation of Section IV.E.9.a-d of Appendix E to 10 CFR 50 since these lines would be relied upon if the Alternate EOF was activated. (Violation of 10 CFR 50, Appendix E, Section IV.E.9)
12/27/97 315	Positive	IR 97-09	N	4-PS	1C	ALARA program audits and surveillances conducted in support of the refueling outage were of appropriate scope and technical depth.
12/27/97 314	Positive	IR 97-09	N	4-PS	1C 2A	Radiological housekeeping at both units has continued to show improvement, especially in the Unit 1 containment.
12/27/97 313	Positive	IR 97-09	N	4-PS	1C	The program for maintaining occupational exposures as low as reasonably achievable (ALARA) was generally effective. Improvements in work planning and the integration of ALARA controls into work packages was evident, especially during the Unit 1 refueling outage (1R12).
11/15/97 303	Positive	IR 97-08	N	4-PS	1C	Good quality control and quality assurance programs were established for radioactive effluent control.
11/15/97 302	Positive	IR 97-08	N	4-PS	1C	The ventilation system surveillance program for radioactive effluent control was well-implemented.
11/15/97 301	VIO	IR 97-08 VIO 97-08-05	N	4-PS	1C	Overall, the radioactive liquid and gaseous effluent control programs were good. The Radiation Monitoring System (RMS) reliability was adequate; however, a violation pertaining to RMS calibration practice was noted. (Violation of TS 6.8.1a)
11/15/97 300	VIO	IR 97-08 VIO 97-08-04	N	4-PS	1C 3A	The program for control of radiological work during the Unit 1 refueling outage was generally effective; however, one violation of NRC requirements was identified regarding radiation worker knowledge of radiation levels in their work and transit areas. (Violation of TS 6.8.1a)

# BEAVER VALLEY 1 & 2 PLANT ISSUES MATRIX

Date	Type	Source	ID	SFA	Code	Item Description
10/04/97 286	Positive	IR 97-07	N	4-PS	1C	Emergency Preparedness drills provided satisfactory training for the emergency response organization. There was a good focus on orienting new staff to their duties and responsibilities and developing a smooth information flow path within the emergency response organization, and familiarizing staff with the communications and assessment equipment in the emergency response facilities. The post-drill facility and controller critiques were generally thorough and there was good participation from all levels of the staff. Strengths were identified for reinforcement and weaknesses were noted for further evaluation and improvement.



ABBREVIATIONS USED IN PIM TABLE

AFV	Auxiliary Feedwater
ALARA	As Low As Reasonably Achievable
ARPI	Analog Rod Position Indication
BFO	Basis for Continued Operation
BVPS	Beaver Valley Power Station
CIV	Containment Isolation Valve
CR	Condition Report
CREBAPS	Control Room Emergency Breathing Air Pressurization System
DLC	Duquesne Light Company
EDG	Emergency Diesel Generator
EOF	Emergency Operations Facility
EP	Emergency Preparedness
ESF	Engineered Safety Features
ESFAS	Engineered Safeguard Features Actuation Signal
GL	Generic Letter
HHSI	High Head Safety Injection
ICCM	Inadequate Core Cooling Monitor
ISEG	Independent Safety Evaluation Group
NRC	Nuclear Regulatory Commission
PORV	Power Operated Relief Valve
OSU	Quality Services Unit
R12	Refueling Outage 12
RCCA	Rod Cluster Control Assembly
RFO	Refueling Outage
RHR	Residual Heat Removal
RMS	Radiation Monitoring System
RWST	Refueling Water Storage Tank
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item

GENERAL DESCRIPTION OF PIM TABLE COLUMNS

<b>Date</b>	The actual date of an event or significant issue for those items that have a clear date of occurrence (mainly LERs), the date the source of the information was issued (such as for EALs), or the last date of the inspection period (for IRs).
<b>Type</b>	The categorization of the item or finding - see the Type / Findings Type Code table, below.
<b>Source</b>	The document that describes the findings: LER for Licensee Event Reports, EAL for Enforcement Action Letters, or IR for NRC Inspection Reports.
<b>ID</b>	Identification of who discovered issue: N for NRC; L for Licensee; or S for Self Identifying (events).
<b>SFA</b>	SALP Functional Area Codes: OPS for Operations; MAINT for Maintenance; ENG for Engineering; and PS for Plant Support.
<b>Code</b>	Template Code - see table below.
<b>Item Description</b>	Details of NRC findings on LERs that have safety significance (as stated in IRs), findings described in IR Executive Summaries, and amplifying information contained in EALs.

TYPE / FINDINGS CODES

<b>ED</b>	Enforcement Discretion - No Civil Penalty
<b>Strength</b>	Overall Strong Licensee Performance
<b>Weakness</b>	Overall Weak Licensee Performance
<b>EEI *</b>	Escalated Enforcement Item - Waiting Final NRC Action
<b>VIO</b>	Violation Level I, II, III, or IV
<b>NCV</b>	Non-Cited Violation
<b>DEV</b>	Deviation from Licensee Commitment to NRC
<b>Positive</b>	Individual Good Inspection Finding
<b>Negative</b>	Individual Poor Inspection Finding
<b>LER</b>	Licensee Event Report to the NRC
<b>URI **</b>	Unresolved Item from Inspection Report
<b>Licensing</b>	Licensing Issue from NRR
<b>MISC</b>	Miscellaneous - Emergency Preparedness Finding (EP), Declared Emergency, Nonconformance issue, etc. The type of all MISC findings are to be put in the item Description column.

TEMPLATE CODES

<b>1</b>	Operational Performance: A - Normal Operations; B - Operations During Transients; and C - Programs and Processes
<b>2</b>	Material Condition: A - Equipment Condition or B - Programs and Processes
<b>3</b>	Human Performance: A - Work Performance; B - Knowledge, Skills, and Abilities / Training; C - Work Environment
<b>4</b>	Engineering/Design: A - Design; B - Engineering Support; C - Programs and Processes
<b>5</b>	Problem Identification and Resolution: A - Identification; B - Analysis; and C - Resolution

NOTES:

\* EEIs are apparent violations of NRC requirements that are being considered for escalated enforcement action in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Action" (Enforcement Policy), NUREG-1600. However, the NRC has not reached its final enforcement decision on the issues identified by the EEIs and the PIM entries may be modified when the final decisions are made. Before the NRC makes its enforcement decision, the licensee will be provided with an opportunity to either (1) respond to the apparent violation or (2) request a predecisional enforcement conference.

\*\* URIs are unresolved items about which more information is required to determine whether the issue in question is an acceptable item, a deviation, a nonconformance, or a violation. However, the NRC has not reached its final conclusions on the issues, and



the Form entries may be modified when the final conclusions are made.

Enclosure 2

**INSPECTION PLAN FOR APRIL 1999 THROUGH JANUARY 2000**

Inspection	Program Area/Title	Planned Dates	Type Inspection
TI 2515-141	Review of Year 2000 Computer Readiness	5/17/99	Temporary Instruction
IP 84750	Radioactive Waste Treatment, and Effluent and Environmental Monitoring - Effluents	6/7/99	Core inspection
IP83728	Maintaining Occupational Exposures ALARA	6/7/99	Regional Initiative
IP 37550	Resolution of Longstanding System Design and Performance Problem	7/12/99	Regional initiative
IP 71001	Licensed Operator Requalification Program Evaluation	7/26/99	Core inspection
IP 40500	Effectiveness of Licensee Controls in Identifying, Resolving, and Preventing Problems: (focus on backlog in engineering and maintenance)	8/2/99	Core inspection
IP 82701	Operational Status of the Emergency Preparedness Program	8/2/99	Core inspection
IP 83750	Occupational Radiation Exposure	11/1/99	Core Inspection

Legend: IP - Inspection Procedure  
 TI - Temporary Instruction  
 Core Inspection - Minimum NRC Inspection Program (mandatory at all plants)  
 Regional Initiative - Additional Inspection Effort Planned by Region I