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Mel Carnahan, Governor • Stephen M. Mahfood, Director

# DEPARTMENT OF NATURAL RESOURCES

DIVISION OF ENVIRONMENTAL QUALITY  
P.O. Box 176 Jefferson City, MO 65102-0176

OCT 4 1999

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RETURN RECEIPT REQUESTED

OCT 12 1999

**RCAP**

Mr. Patrick T. Hoopes  
Assistant Area Manager  
Office of Technical Management  
U.S. Department of Energy  
P.O. Box 410202  
Kansas City, MO 64141-0202

RE: Missouri Hazardous Waste Management Facility Post-Closure Final Permit,  
U.S. Department of Energy, Kansas City Plant, EPA ID# MO9890010524

Dear Mr. Hoopes:

This letter is to inform you of the Missouri Department of Natural Resources' (MDNR) decision to issue a Post-Closure Permit to the U.S. Department of Energy (DOE), Kansas City Plant (KCP), for the state regulated hazardous waste surface impoundments (lagoons) and the underground tank farm. This decision is based upon staff recommendations following a careful review of the issues involved and completion of the public participation process.

During the public comment period, comments were received from DOE and the MDNR's Federal Facilities Section. The Department's response to all comments has been entitled "Response to Public Comments Concerning Draft Post-Closure Permit #MO9890010524," and is enclosed. A copy of additions (shadowed) and deletions (strikeouts) to the draft permit has also been enclosed to aid in identifying the changes to the draft permit.

The permittees, U.S. Department of Energy, and Allied Signal FM&T may appeal the final decision to the Hazardous Waste Management Commission in accordance with the procedures outlined in Section 260.395.11, RSMo. Any appeal issues that are outside those raised during the public comment period shall not be considered by the commission. However, the commission will consider appeals of new provisions in the



R00153049

RCRA RECORDS CENTER

A143



Mr. Patrick T. Hoopes

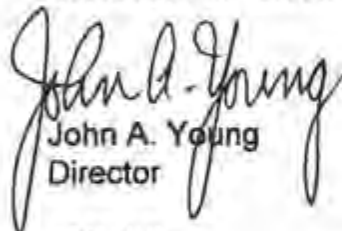
Page 2

final permit that were not present in the draft permit. Enclosed is the final Missouri Hazardous Waste Management Facility Post-Closure Permit, which contains specific items in the Schedule of Compliance that the U.S. DOE will be required to meet in order to operate under this permit. The EPA Part II Permit is also enclosed.

If you have any questions concerning this letter or the enclosed documents, please contact Mr. Donald L. Dicks, Environmental Engineer, at (573) 751-3553. Thank you for your diligence in this process.

Sincerely,

DIVISION OF ENVIRONMENTAL QUALITY



John A. Young  
Director

JAY:ddl

Enclosures

- c: The Honorable Christopher S. Bond, U.S. Senator, Washington, DC, and  
Kansas City District Office
- The Honorable John C. Ashcroft, U.S. Senator, Washington, DC, and  
Kansas City District Office
- The Honorable Karen McCarthy, U.S. Representative, Washington, DC, and  
Kansas City District Office
- The Honorable Harry Wiggins, Missouri State Senator, 10th Senatorial District
- The Honorable Lloyd Daniel, Missouri State Representative, 42nd District
- The Honorable Thomas Hoppe, Missouri State Representative, 46th District
- The Honorable Kay Waldo Barnes, Mayor, City of Kansas City, Missouri
- The Honorable Katheryn Shields, Jackson County Executive
- Mr. Daniel J. Bradbury, Kansas City Public Library
- Mr. Kenneth S. Ritchey, U.S. EPA Region VII
- Ms. Patricia Murrow, Environmental Engineer, U.S. EPA Region VII
- MDNR, Kansas City Regional Office



Mel Carnahan, Governor • Stephen M. Mahfood, Director

# DEPARTMENT OF NATURAL RESOURCES

DIVISION OF ENVIRONMENTAL QUALITY

P.O. Box 176 Jefferson City, MO 65102-0176

## MISSOURI HAZARDOUS WASTE MANAGEMENT FACILITY PERMIT PART I PERMIT NUMBER: MO9890010524

### PERMITTEE

#### FACILITY OWNER

U.S. Department of Energy  
P.O. Box 410202  
Kansas City, MO 64141-0202

#### FACILITY OPERATOR

Allied Signal FM&T  
2000 East Bannister Road  
Kansas City, MO 64131-3095

#### FACILITY LOCATION

2000 East Bannister Road  
Kansas City, Missouri  
T28N, R33W Jackson County  
North Latitude - 38°57'30"  
West Longitude - 94°34'12"

#### FACILITY DESCRIPTION

The U.S. Department of Energy (DOE), Kansas City Plant (KCP), is part of the 300 acre federal complex located 13 miles south of downtown Kansas City, Missouri. The federal complex is bordered on the east by the Blue River and Blue River Road, on the south by Bannister Road and Indian Creek, on the west by Troost Avenue, and on the north by a wooded bluff and Legacy Park. The KCP occupies 136 acres of the complex, and shares the complex with the General Services Administration (GSA), the United States Marine Corps, the Federal Aviation Administration (FAA), and the Internal Revenue Service (IRS). Some of the complex is in the 100-year floodplain; however, a completed flood protection project provides protection against the 500-year flood event.

The federal complex is zoned for heavy industry. Adjoining property is zoned for residential use and some commercial tracts. There are also public use recreation areas along the east and north sides of the complex. The KCP contains about 3.2 million square feet of buildings.

The facility currently manufactures electrical, mechanical, plastic, and other non-nuclear components of nuclear weapons. The facility stores on-site acids, alkalines, solvents, acid and alkaline contaminated solid waste, solid debris waste, waste oil, wastewater treatment sludges, and toxic metals. These wastes are stored on-site under generator storage requirements until their disposal at off-site RCRA-permitted facilities or are treated at the KCP's Industrial Wastewater Pretreatment Facility (IWPF). The facility currently has five areas of generator container storage of hazardous waste.

Some industrial radioactive sources are used on-site. The KCP incorporates small amounts of radioactive materials in products, and uses conventional, sealed sources which are used for instrument calibration, radiography, and laboratory equipment. These processes have intermittently generated mixed waste that has been managed and shipped off-site. There is one area for container storage of mixed waste.

The KCP has three former regulated units that are under post-closure. These include two former lagoons that have been closed by removing contaminated sediment, backfilling with uncontaminated soil, and covering with a clay cap, topsoil, and vegetation. The third unit was an underground tank farm that consisted of 28 tanks and associated underground piping which stored fuels, coolants, and solvents. Closure of the tank farm removed all tanks, associated piping, and about fifteen feet of soil, concrete supports, and unloading stations. Uncontaminated soil was backfilled, then the area was covered with a clay cap, topsoil, and vegetation. Groundwater contamination resulting from the operation of these units is subject to remediation under the post-closure care portion of this Permit.

On June 23, 1989, the DOE and EPA entered into a Corrective Action Administrative Order on Consent, U.S. EPA Docket Number VII-89-H-0026 pursuant to the authority of Section 3008(h) of RCRA. The Consent Order initially listed 35 solid waste management units (SWMUs), including the three units in the previous paragraph, which were defined as possible release sites. Since the signing of the Consent Order, eight additional sites have been identified. Many of these SWMUs have been grouped together due to their geographic proximity and contamination type.

All interim status regulated hazardous waste management units have been closed, and certification of closure received. Certification has been accepted on the Red-X lot container storage and the Tank Farm tank and container storage units. The remaining regulated units certifications are currently being reviewed.

PERMITTED ACTIVITY

This Permit requires post-closure care of three Resource Conservation and Recovery Act (RCRA) hazardous waste management units: the North Lagoon, South Lagoon, and Underground Tank Farm. It also addresses the continuing implementation of RCRA corrective action requirements, including site-wide groundwater monitoring and remediation to address releases from other Solid Waste Management Units and Areas of Concern.

EFFECTIVE DATES OF PERMIT: October 6, 1999 to October 6, 2009

October 6, 1999  
Date

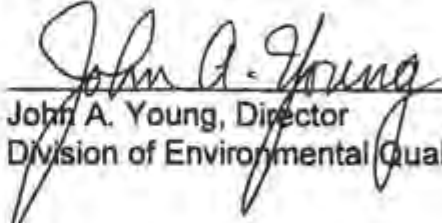
  
\_\_\_\_\_  
John A. Young, Director  
Division of Environmental Quality

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## INTRODUCTION

After public notice, according to 10 CSR 25-8.010 and 40 CFR Part 124, and review of the Department of Energy (DOE), Kansas City Plant (KCP) RCRA Part B Application, the Missouri Department of Natural Resources (hereafter referred to as the Department) has determined that the application substantially conforms with the provisions of the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this act), Section 260.350, et seq., RSMo. Following Section 260.375.13, RSMo, the Department hereby approves the application and issues Permit Number MO9890010524 to the Department of Energy, as the facility owner and to Allied Signal FM&T as the operator (hereafter referred to jointly as the Permittee) for the operation of the hazardous waste management facility and post-closure care as set forth in the application (note the Permittee notified the Department by letter on January 21, 1998, that they no longer need storage for hazardous waste other than generator status). This Permit also addresses corrective action requirements for solid waste management units and other requirements of the Hazardous and Solid Waste Amendments (HSWA) of 1984 as administered and enforced by the Department. Applicable regulations are found in 40 CFR Parts 124, 260 through 264, 268, and 270, as specified in this Permit. Part I of this Permit is issued under state authority, and Part II is issued under federal authority. Part I shall remain in effect even if Part II is terminated or has expired.

The Permit application that was submitted by the Permittee and received by the Department on July 8, 1992, along with subsequent submittals, replacements, and revisions dated October 31, 1995, January 12, 1996, and December 6, 1996, will hereafter be referred to as the "approved Permit application." The approved Permit application, along with all of the additional documents to be submitted under Schedule of Compliance Item I., are defined as the "consolidated Permit application."

Post-closure operation of this hazardous waste management facility and HSWA corrective action shall be in accordance with the provisions of this Permit, the Missouri Hazardous Waste Management Law (Sections 260.350 through 260.434, RSMo), the rules and regulations promulgated thereunder [Code of State Regulations, Title 10, Division 25 (10 CSR 25)] as effective on the date of this Permit, the approved Permit application which is incorporated into the conditions of this Permit, and any other conditions, changes, or additions to the engineering plans, specifications and operating procedures as specified in this Permit. The conditions specified in this Permit supersede any conflicting information in the approved Permit application. Where conflicts arise between Permit applications, the latest revision shall control.

Any inaccuracies found in information submitted may be grounds for the termination, revocation and reissuance, or modification of this Permit in accordance with 40 CFR Part 270 Subpart D, incorporated by reference in 10 CSR 25-7.270(1) and modified in 10 CSR 25-7.270(2)(D), and for potential enforcement action. The Permittee shall inform the Department of any deviation from, or changes in, the information in the application which would affect the Permittee's ability to comply with the applicable regulations or Permit conditions.

When the Department receives any information (such as inspection results, information from the Permittee, or requests from the Permittee), it may decide whether cause exists to modify, revoke and reissue, or terminate a facility's Permit. All such changes to the Permit will be in accordance with 10 CSR 25-7.270(2)(D), 10 CSR 25-8, and 40 CFR Part 270 Subpart D, incorporated by reference in 10 CSR 25-7.270(1).

The Permittee is required to comply with all applicable environmental laws and regulations enforced by the Missouri Department of Natural Resources. These environmental laws and regulations are administered by the Air Pollution Control Program, the Hazardous Waste Program, the Land Reclamation Program, the Public Drinking Water Program, the Solid Waste Management Program, and the Water Pollution Control Program. The local Air Quality Section, Kansas City Health Department, also administers air compliance measures. Noncompliance with these environmental laws and regulations may, in certain circumstances, result in the suspension or revocation of this Permit and may subject the Permit holder to civil and criminal liability.

This Permit for post-closure and corrective action activities is issued only to the Permittee named above. This Permit is issued for a period of ten years and expires at midnight on October 6, 2009. This Permit is subject to review and modification by the Department in accordance with Section 260.395.12, RSMo.

The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby.

All citations to federal regulations throughout this Permit are for the sake of convenient reference. The federal regulations are adopted by reference in 10 CSR 25. In the instances where state regulations are more stringent, the appropriate state reference is given and shall apply.

Any appeals of the issuance or denial of the Permit or specific Permit conditions based on state authority shall be filed in accordance with Section 260.395.11, RSMo. The appeal shall be filed with the Missouri Hazardous Waste Management Commission within 30 days from the date of this Permit.

40 CFR §264.101(a), as incorporated by reference in 10 CSR 25-7.264(1), requires all owners or operators of facilities seeking a Permit for the treatment, storage, or disposal of hazardous waste to institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or hazardous constituents from any solid waste management unit, regardless of the time at which waste was placed in such unit.

40 CFR §264.101(b), as incorporated by reference in 10 CSR 25-7.264(1), requires that Permits issued under the Hazardous Waste Management Law contain a schedule of compliance for corrective action (where corrective action cannot be completed prior to Permit issuance) and assurances of financial responsibility for completing such corrective action.

40 CFR §264.101(c), as incorporated by reference in 10 CSR 25-7.264(1), requires that corrective action be taken by the facility owner or operator beyond the facility property boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates that, despite the owner/operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such action. Further, 40 CFR §264.101(c), as incorporated by reference in 10 CSR 25-7.264(1), stipulates that the owner/operator is not relieved of any responsibility to cleanup a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis. In addition, assurances of financial responsibility for completing such corrective action must be provided.

40 CFR §270.32(b)(2), as incorporated by reference in 10 CSR 25-7.270(1), and Section 260.395, RSMo, requires that each Permit issued under that section contain terms and conditions as the Department determines necessary to protect human health and the environment.

On July 6, 1999, Missouri received final authorization for revisions to its hazardous waste management program, including the corrective action portion of the HSWA Codification Rule (July 15, 1985, 50 FR 28702) which had been previously adopted by the state. Thus, the corrective action requirements implemented by the state in lieu of

U.S. Department of Energy, KCP  
Permit - Part I  
MO9890010524  
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EPA are incorporated into Part I of this Permit and are under state authority. Authority for other HSWA requirements for which the state is not authorized is retained by EPA under Part II of the Permit.

## DEFINITIONS

For purposes of this Permit, terms used herein shall have the same meaning as those in RCRA and 40 CFR Parts 124, 260, 261, 264, 268, and 270, and Section 260.360, RSMo, unless this Permit specifically provides otherwise. Where terms are not defined in RCRA, the regulations, the Permit, or EPA guidance or publications, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

"Area of Concern (AOC)" means any area where an actual or potential release of hazardous waste or hazardous constituents which is not from a solid waste management unit and is determined by the Department to pose a current or potential threat to human health or the environment. Investigation and/or remediation of Area(s) of Concern may be required pursuant to Section 260.395, RSMo, and 40 CFR 270.32(b)(2), as incorporated by reference in 10 CSR 25-7.270(1).

"Director" means the Director of the Missouri Department of Natural Resources.

"Facility" means:

All contiguous land, and structures, other appurtenances and improvements on the land, used for treating storing or disposing hazardous waste.

All contiguous property under the control of the owner/operator, for the purpose of implementing corrective action under 40 CFR 264.101, as incorporated by reference in 10 CSR 25-7.264(1) and as specified in Special Permit Conditions I. through XXII. of this Permit.

"Hazardous constituent" means any chemical compound listed in 40 CFR Part 261 Appendix VIII as incorporated in 10 CSR 25-4.261.

"Hazardous waste" means any waste, or combination of wastes as defined by or listed in 10 CSR 25-4 or 10 CSR 25-11, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible, illness; or which may pose a threat to the health of humans or other living organisms.

"Release" means any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous wastes (including hazardous constituents) into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents).

"Solid Waste Management Unit (SWMU)" means any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

"Stabilization" means actions to control or abate threats to human health and/or the environment from releases at RCRA facilities and/or to prevent or minimize the further spread of contamination while long-term remedies are pursued.

## SCHEDULE OF COMPLIANCE

- I. The Permittee shall comply with the most recent Modification to Appendices F and G of the EPA Order on Consent for the schedule of deliverables under current ongoing corrective action. Note: This includes the 95th Terrace RFI Report Revision, due October 1, 1999.
  - A. The Permittee shall submit a CMS Work Plan for the 95th Terrace Site (SWMU 42) within 75 days of written approval of the 95th Terrace RFI Report Revision.
- II. Within 60 days after the effective date of Permit issuance, the Permittee shall:
  - A. Submit two copies of the consolidated Permit application to the Department.
  - B. Submit a certification signed by the Permittee that the Permittee has read this Permit in its entirety and understands all Permit conditions contained herein.
  - C. Submit a check or money order to the Department's Hazardous Waste Program payable to the State of Missouri for any outstanding engineering review costs.
  - D. Submit a check or money order to the Department's Hazardous Waste Program payable to the State of Missouri for \$1,000 for each year the Permit is to be in effect beyond the first year. This Permit is effective for ten years. Since the Permittee has submitted a check for \$1,000 with the Permit application, the remaining balance to be submitted by the Permittee is \$9,000 for this ten-year Permit.
  - E. Submit a copy of the Contingency Plan distribution list verifying the requirements of General Permit Condition III. A.
- III. Within 120 days after the effective date of Permit issuance, the Permittee shall:
  - A. Submit data from further evaluation on the Southeast Parking Lot, SWMU 29, as required by Special Permit Condition VIII. A.

- IV. Within 180 days after the effective date of Permit issuance, the Permittee shall submit a long term soil and groundwater plan addressing containment, removing "hot spots", and institutional controls site-wide approach as referenced in Special Permit Condition XIII. CMI Workplan, Part B, C, D, and G.
- V. The Permittee shall comply with the schedule for corrective action activities as specified in this Permit and as summarized in Table IV attached hereto.
- VI. The Permittee shall comply, as necessary, with the schedule(s) for contingent corrective action activities as specified in the Special Permit Conditions Section of this Permit.



STANDARD PERMIT CONDITIONS

- i. The Permittee shall comply with the requirements set forth in the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this act), Section 260.350, 40 CFR Part 264 Subpart F, 40 CFR 270.30, 40 CFR 270.40, 40 CFR 270.42, and 40 CFR 270.51 as incorporated and modified in 10 CSR 25-7 and 10 CSR 25-8.

## GENERAL PERMIT CONDITIONS

### I. General Requirements

The Permittee shall comply with the requirements set forth in 40 CFR Part 264 Subpart B-General Facility Standards, 40 CFR Part 264 Subpart C-Preparedness and Prevention, 40 CFR Part 264 Subpart D-Contingency Plan and Emergency Procedures, and 40 CFR Part 270 as incorporated in 10 CSR 25-7 and 10 CSR 25-8.

### II. Preparedness and Prevention [40 CFR Part 264 Subpart C]

The Permittee shall comply with Section G., Preparedness and Prevention, contained in Volume 1; and Section 3.3 Local Organizations of the Emergency Plan in Appendix B of Volume 2; of the approved Permit application; in order to fulfill the requirements of 40 CFR Part 264 Subpart C. Should state or local authorities decline to enter into such arrangements, the Permittee shall document the refusal in the operating record.

### III. Contingency Plan and Emergency Procedures [40 CFR Part 264 Subpart D]

The Permittee's Contingency Plan and emergency procedures shall comply with Section H. Contingency Plan and Emergency Procedures contained in Volume 1, and Appendix B, KCP Spill Control Plan/Emergency Plan in Volume 2, of the approved Permit application and all conditions of this Permit.

- A. Copies of the Contingency Plan [40 CFR 264.53]. A copy of the approved Contingency Plan and all revisions of this plan shall be kept with the local site representative and/or at the facility, and the Contingency Plan and all revisions must be submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams or organizations that may be called to provide emergency services. The facility shall provide a copy of the Emergency Plan within 60 days of the effective date of this Permit to three or four hospitals that are in geographic proximity to the KCP; that have adequate treatment capabilities for the type of medical emergencies likely to occur at the KCP; and that would be used in the event of a life-threatening emergency. The facility shall

submit a copy of the distribution list to the Department indicating those organizations who receive copies of the Emergency Plan within 60 days of the effective date of this Permit.

IV. Notification of an Emergency Situation (Chapter 260.505.4, RSMo)

The Permittee shall at the earliest practical moment upon discovery of an emergency involving the hazardous waste under their control, notify the Department's emergency response hotline at (573) 634-2436 and the National Response Center (800) 424-8802.

V. Reporting Requirements [40 CFR 270.30 (l) (9)]

A biennial report shall be submitted covering facility activities by March 1 during even numbered calendar years, as required by 40 CFR 264.75.

## SPECIAL PERMIT CONDITIONS

### I. Post-Closure [40 CFR Part 264 Subpart G]

The Permittee shall comply with all applicable requirements of 40 CFR Part 264 Subpart G, as incorporated by reference in 10 CSR 25-7.264(1), and all provisions of this Permit.

#### A. Post-Closure Care [40 CFR 264.117]

Post-closure care of the hazardous waste management units begin after completion of closure and continue for 30 years after that date unless otherwise specified by the Department. This facility, therefore, has a post-closure care period which shall last until September 22, 2019. Post-closure care shall be extended, at a minimum, until such time as the groundwater protection standard maximum concentration limits or alternate concentration limits, as applicable, are met for a period of three consecutive years under the groundwater monitoring and corrective action program described in the Special Permit Conditions section of this Permit. Care during this period must consist of maintenance, monitoring, and reporting in accordance with 40 CFR Part 264 Subparts F and N, as incorporated by reference in 10 CSR 25-7.264.

The Permittee may submit a request to the Department to shorten the post-closure care period. Adequate justification for shortening the post-closure care period must accompany any such request. If the Department finds that a shorter post-closure care period is sufficient to protect human health and the environment, shortening of the post-closure care period shall be handled in accordance with the applicable Permit modification procedures under 40 CFR Parts 124 and 270.

Post-closure use of the property shall be restricted by the Permittee to prevent disturbance of the integrity of the final cover on the closed surface impoundments and to prevent damage to the monitoring systems. The Department may approve a use of the property that disturbs the integrity of the final cover if it is necessary for the proposed use of the property and will not increase the potential hazard to human health or the environment, or if it is necessary to reduce a threat to human health or the environment.

B. Post-Closure Plan and Amendments [40 CFR 264.118]

Post-closure care shall be in accordance with the plan contained in Section I of the approved Permit application and all conditions of this Permit. The Post-closure Care Plan may be amended at any time during the post-closure care period. The Permittee must submit a written request to the Department for a Permit modification to authorize a change in the approved Post-closure Care Plan. Amendments are subject to the applicable Permit modification requirements of 40 CFR Part 270 Subpart D, 10 CSR 25-7.270(2)(D), and 10 CSR 25-8. Written requests for amendments must be submitted at least 60 days prior to the proposed change in site operations, or not later than 60 days after an unexpected event which has affected the plan. The Department may request modifications to the plan if changes in site operations affect the approved plan. The Permittee must submit the modified plan no later than 60 days after a Departmental request for modification of the plan. Any modifications requested by the Department will be approved, disapproved, or modified in accordance with the procedures in 40 CFR Parts 124 and 270 and 10 CSR 25-8.

C. Future Removal of Hazardous Wastes [40 CFR 264.119(c)]

If the Permittee wishes to remove hazardous wastes, hazardous waste residues, contaminated soils or contaminated sludges from beneath the former regulated units, the Permittee must request a modification to this Permit in accordance with the applicable requirements in 40 CFR Parts 124 and 270. The request for a modification must include a demonstration that the action will not increase the potential hazard to human health or the environment, or the action is necessary to reduce the threat to human health or the environment. In addition, a demonstration must be made indicating that the action will satisfy the criteria of 40 CFR 264.117(c). By removing contaminants, the Permittee may become a generator of hazardous waste and must manage any removed material in accordance with all applicable requirements.

D. Certification of Completion of Post-Closure Care [40 CFR 264.120]

No later than 60 days after completion of the post-closure care period, the Permittee shall submit to the Department, by registered mail, a certificate that the post-closure care period was completed in accordance with the approved Post-Closure Care Plan. For this Permit, the post-closure care certification is due by November 21, 2019, unless otherwise amended. The certification must be signed by the Permittee and an independent professional engineer registered in the state of Missouri, and documentation supporting the certification must be furnished to the Department prior to the Permittee's release from the financial assurance requirements for post-closure care under 40 CFR 264.145(i).

II. Groundwater Monitoring and Corrective Action Program - Former Lagoons and Underground Tank Farm [40 CFR 264.90 - 264.100]

A. Groundwater Protection Standard, Hazardous Constituents, and Concentration Limits [40 CFR 264.92, 264.93, and 264.94]

The Groundwater Protection Standard (GPS) establishes the maximum concentration limits for hazardous constituents in the groundwater at and beyond the point of compliance during the compliance period. The hazardous constituents, maximum concentration limits, and maximum analytical detection limits specified in Tables I and IA of this Permit constitute the GPS for the Permittee's closed lagoons, underground tank farm, solid waste management units (SWMUs), and areas of concern. The hazardous constituents listed in Tables I and IA have been detected in the groundwater beneath and beyond the subject units and are reasonably expected to be in or derived from wastes managed at the facility.

1. The maximum concentration limits for the GPS hazardous constituents listed on Table I and Table IA for the Blue River groundwater flow system (BRGFS) and the Indian Creek groundwater flow system (ICGFS) respectively, are based on protection of human health and the environment and were derived from several different sources as explained by the footnotes to Table I and Table IA.

2. The GPS maximum concentration limit for some hazardous constituents is below the lowest, reasonably achievable detection limit (due to limitations in current analytical technology) for particular hazardous constituents. In these cases, the GPS maximum concentration limit has been set at the corresponding GPS maximum detection limit.
3. The allowable GPS maximum detection limit shall never be greater than the GPS maximum concentration limit. If the GPS maximum detection limit for specific GPS parameters cannot be achieved due to matrix interferences or other reasonable analytical limitations (provided that appropriate supporting documentation is provided), the affected sample and associated chemical analyses will be exempted from this requirement. Such an exemption does not, however, in any way relieve the Permittee from complying with the GPS maximum concentration limits.
4. The Department reserves the right, based on future advances in analytical technology, to modify this Permit to require the Permittee to achieve analytical detection limits for the hazardous constituents covered by Special Permit Condition II.A.2. which allows for an adequate comparison with appropriate health- or environmental protection-based concentration limit(s).

TABLE I - GROUNDWATER PROTECTION STANDARD  
 FOR THE BLUE RIVER GROUNDWATER FLOW SYSTEM

Hazardous Constituent	Maximum Concentration Limit (ug/l)	Maximum Detection Limit (ug/l)*
Acetone	3700 (c)	10.0
Benzene	5 (a), (b)	2.0
2-butanone (MEK)	1900 (c)	5.0
Carbon disulfide	1000 (c)	5.0
Chlorobenzene	100 (a), (b)	0.7
Chloroethene	2 (a), (b)	1.8
Chloroform	100 (a)	0.5
1,2-dichlorobenzene	600 (a)	1.0
1,1-dichloroethane	400 (a), (b)	0.7
1,2-dichloroethane	5 (a), (b)	0.5
1,1-dichloroethene	7 (a), (b)	1.3
1,2-dichloroethene	70 (a)	0.5
4-Methyl-2-pentanone (MIBK)	2900 (c)	5.0
Tetrachloroethene	5 (a), (b)	0.5
Toluene	1000 (a), (b)	2.0
1,1,1-trichloroethane	200 (a), (b)	0.5
1,1,2-trichloroethane	5 (a), (b)	0.5
Trichloroethene	5 (a), (b)	1.2

\*The lower of practical quantitation limits (PQLs) contained in the latest version of the EPA publication entitled: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846) or method specific detection limits routinely achieved by Permittee's laboratory.

- (a) Denotes limits derived from state (10 CSR 60 Chapter 4) and federal public drinking water regulations.
- (b) Denotes limits derived from Missouri Water Quality Standards (10 CSR 20-7.031) for protection of groundwater.
- (c) Denotes limits derived from risk-based concentration values for tap water as contained on the EPA Region III Risk-Based Concentration Table dated October 22, 1997.



TABLE IA - GROUNDWATER PROTECTION STANDARD  
 FOR THE INDIAN CREEK GROUNDWATER FLOW SYSTEM

Hazardous Constituent	Maximum Concentration Limit (ug/l)	Maximum Detection Limit (ug/l)*
Benzene	5 (a), (b)	2.0
Chlorobenzene	100 (a), (b)	0.7
Chloroethene	2 (a), (b)	1.8
1,2-dichlorobenzene	600 (a)	1.0
1,1-dichloroethane	810 (a), (b)	0.7
1,2-dichloroethane	5 (a), (b)	0.5
1,1-dichloroethene	7 (a), (b)	1.3
1,2-dichloroethene (total)	70 (a)	0.5
Ethylbenzene	700 (a), (b)	2.0
4-Methyl-2-pentanone (MIBK)	2900 (c)	5.0
Polychlorinated biphenyls	0.5 (a), (d), (e)	0.5
1,1,1-trichloroethane	200 (a), (b)	0.5
1,1,2-trichlo-1,2,2-trifluoroethane	59,000 (c)	5.0
Tetrachloroethene	5 (a), (b)	0.5
Toluene	1000 (a), (b)	2.0
Trichloroethene	5 (a), (b)	1.2
Xylenes (total)	10,000 (a)	7.0

\*The lower of practical quantitation limits (PQLs) contained in the latest version of the EPA publication entitled: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846) or method specific detection limits routinely achieved by Permittee's laboratory.

- (a) Denotes limits derived from state (10 CSR 60 Chapter 4) and federal public drinking water regulations.
- (b) Denotes limits derived from Missouri Water Quality Standards (10 CSR 20-7.031) for protection of groundwater.
- (c) Denotes limits derived from risk-based concentration values for tap water as contained on the EPA Region III Risk-Based Concentration Table dated October 22, 1997.

- (d) The Department reserves the right, based on future advances in analytical technology, to modify this Permit to require the Permittee to achieve analytical detection limits for the hazardous constituents covered by Special Permit Condition II.A. which allows for adequate comparison with appropriate health- or environmental protection-based concentration limit(s).
- (e) Health and/or environmental-based levels are lower than the ability of current analytical technology to routinely attain detection limits at or below such levels. These constituents and their health- and/or environmental-based criteria are listed below.

<u>Constituent</u>	<u>MCL (ug/L)</u>	<u>Source</u>
Polychlorinated biphenyls	0.000045	(b)

5. The Permittee may make a demonstration to the Department, at any time during the term of this Permit, for establishment of Alternate Concentration Limits (ACLs) in lieu of the GPS maximum concentration limits contained herein. Any such demonstration shall ensure that any and all ACLs proposed in lieu of the GPS maximum concentration limits are protective of human health and the environment in accordance with the requirements of 40 CFR 264.94(b). In proposing an ACL(s), the Permittee shall consider and formally address the factors listed in 40 CFR 264.94(b)(1) and (2). Any ACLs approved by the Department shall require a Permit modification in accordance with 40 CFR 270.42.
6. The Permittee shall propose modifications of the GPS to include any additional hazardous constituent(s) (40 CFR Part 261, Appendix VIII) in the groundwater which is/are identified during future sampling and analysis, if such constituents may be attributed to past operation of the regulated unit(s) and/or the degradation of hazardous constituents known to be present in the groundwater. The Appendix IX (40 CFR Part 264) groundwater sampling and analysis requirements contained in Special Permit Condition II.E.6. shall be used as the basis for determining if the addition of hazardous constituents to the GPS is

necessary. Note that pesticides/herbicides and dioxins and furans are deleted from Appendix IX sampling required in Special Permit Condition II.E.6.

Any addition of hazardous constituents to the GPS as a result of the above determination shall require a Class 1 Permit modification with prior Director approval. Any other changes to the GPS list of hazardous constituents shall require a permit modification in accordance with 40 CFR 270.42.

B. Point of Compliance [40 CFR 264.95]

The point of compliance is the location at and beyond which groundwater protection standards must be achieved. Due to the presence of two separate groundwater flow systems at the facility, the complex nature of the site, various sources of contamination, and effects created by footing drains, leaking water lines, and numerous recovery wells, the groundwater does not flow across one single down gradient boundary for the entire site. The point of compliance is defined as a vertical surface that extends perpendicularly downward at the limit of the waste management area which extends into the uppermost aquifer underlying the regulated units. This definition is based upon the nature of the contaminants managed at the former regulated units and the existing data from the current sampling and monitoring at the site which shows contaminants in groundwater in a direction(s) other than that dictated by the direction(s) of local groundwater flow. In the case of multiple regulated units and SWMUs, an imaginary line circumscribing the regulated units may be used, or a line of wells on the leading edge of the contaminated groundwater plume. Interceptor well 108 monitors groundwater passing the point of compliance for the BRGFS. Wells monitoring the groundwater passing the point of compliance for the ICGFS include well numbers 195U, 195L, 196U, 196L, 197U, 197L, 198U, 198L, 73U, 73L, 202U, and 202L. The Final Decision for the Tank Farm (SWMU Number 1) done under the Administrative Order of Consent, identified extraction wells KC87-61, KC87-62, and KC87-63 as compliance points. Groundwater contamination at and

beyond the point of compliance which exceeds the GPS maximum concentration limits shall be subject to corrective action pursuant to 40 CFR 264.100. See Figure 2.

C. Compliance Period [40 CFR 264.96]

The compliance period for the closed underground tank farm, which is in the ICGFS, shall be equal to the active life of the former waste management area, which is 44 years.

The compliance period for the closed impoundment area, which is in the BRGFS, shall be equal to the active life of the former North Lagoon, which is 23 years. The compliance period for each shall begin on the effective date of this Permit.

If the GPS maximum concentration limits are being exceeded at the end of the compliance period at or beyond the point of compliance, the Permittee's groundwater corrective action program shall continue until the Permittee demonstrates that these limits have not been exceeded at and beyond the point of compliance for a period of three consecutive years.

D. General Groundwater Monitoring Requirements [40 CFR 264.97]

The Permittee shall comply with that portion of 40 CFR 264.97 applicable to monitoring programs conducted in accordance with 40 CFR 264.100 and the following additional requirements.

1. The Permittee's groundwater monitoring systems shall be designed, installed, operated, and maintained during the compliance period in a manner which ensures:
  - a. Detection and/or delineation of the horizontal and vertical extent of groundwater contamination at and beyond the point of compliance (including beyond the facility property boundary);

- b. Determination of representative concentrations of hazardous constituents and/or contaminant plume indicator parameters in the groundwater; and
  - c. The Permittee's ability to determine the effectiveness of any groundwater corrective action activities in terms of contaminant removal, destruction, and/or containment.
2. The number, location, and depth of the Permittee's monitoring wells shall be sufficient to define the horizontal and vertical extent of groundwater contamination beneath the Permittee's property and beyond the facility property boundary. If, at any time during the compliance period, the Permittee or the Department determines that the existing monitoring system fails to define the horizontal and vertical extent of groundwater contamination, the Permittee shall submit, within 30 days of such determination by the Permittee or written notification by the Department, a proposal for the installation of additional monitoring wells to define such extent. The addition of new monitoring wells shall require a Class 2 permit modification in accordance with 40 CFR 270.42. Procedures cited in the Groundwater Sampling and Analysis Plan (SAP) dated November, 1996 found in Appendix D of Volume 3 of the approved Permit application shall be followed in the sampling and analysis of samples from any new wells required under this Permit.

At such time as the Department determines that the Permittee has adequately redefined the horizontal and/or vertical extent of groundwater contamination, the wells defining such extent shall be incorporated into and designated for continued monitoring in the Permittee's SAP. The Department will notify the Permittee in writing when it makes the determination. Within 30 days of this notification, the Permittee shall submit appropriate SAP revisions to the Department's Hazardous Waste Program.

3. Any new groundwater monitoring well(s) installed by the Permittee to meet the requirements of this Permit shall be designed and constructed in accordance with the requirements of 40 CFR 264.97, 10 CSR 23-Chapter 4, Monitoring Well Construction Code of the Missouri Well Construction Rules and/or well-specific plans and specifications approved by the Department.
  - a. The Permittee shall submit to the Department's Hazardous Waste Program, a copy of the well certification report form and the resulting certification acceptance required by 10 CSR 23-4.020 for any new monitoring wells installed pursuant to this Permit. This information shall be reported as part of the Semi-Annual Groundwater Corrective Action Reports required by Special Permit Condition II.F.
  - b. Any change in the number of wells being monitored shall require a Class 2 Permit modification in accordance with 40 CFR 270.42. The Permittee may elect to submit an annual modification to incorporate changes in the number of monitoring wells in lieu of a modification for each individual change.
4. Plugging and abandonment of any groundwater monitoring well(s) operated by the Permittee pursuant to the requirements of this Permit shall meet the requirements of 10 CSR 23-4.080.
  - a. The Permittee shall submit to the Department's Hazardous Waste Program, a copy of the well registration report form and resulting registration acceptance required by 10 CSR 23-4.080 for any monitoring wells plugged pursuant to this Permit. This information shall be reported as part of the Semi-Annual Groundwater Corrective Action Reports required by Special Permit Condition II.F.

- b. At such time as the Permittee's well registration has been accepted by the Department's Division of Geology and Land Survey (DGLS), the plugged wells shall be removed from the Permittee's Groundwater SAP. Within 30 days of DGLS' registration acceptance, the Permittee shall submit appropriate SAP revisions to the Department's Hazardous Waste Program.
  - c. Any change in the number of wells being monitored shall require a Class 2 Permit modification in accordance with 40 CFR 270.42. The Permittee may elect to submit an annual modification to incorporate changes in the number of monitoring wells in lieu of a modification for each individual change.
5. The Permittee shall contact the Department at least five working days prior to conducting any field work associated with the construction or modification of the groundwater monitoring system required by this Permit. The Department will then have the option of observing any portion of the system's construction or modification. This notification requirement applies to major work such as new wells, retrofitting of existing wells, or abandonment of wells. It does not apply to minor repairs, maintenance, or modification.
6. The Permittee shall revise and resubmit for MDNR approval the SAP contained in the approved Permit application within 60 days of the effective date of this Permit to reflect the requirements contained in this Permit. All SAP procedures and techniques used in groundwater sampling, analysis, and measurement of groundwater-related parameters shall be designed to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264(1), and this Permit. The Permittee's sampling, analysis, and measurement protocols shall ensure the representative nature of all analysis and measurement results.

1. The Permittee's corrective action program for the regulated units shall consist of groundwater and surface water monitoring in accordance with Special Permit Conditions I. and II. Further site investigation, evaluation, and/or implementation of remedial alternatives to address site-wide groundwater contamination shall be performed in accordance with Special Permit Conditions VII. through XII. The corrective action program shall address any groundwater contamination that has migrated off site. Substantial integration of the corrective action monitoring program for the closed regulated units with the site-wide program is required due to:
  - a. The need for further site characterization to adequately support decisions regarding evaluation and/or implementation of groundwater remedial alternatives;
  - b. The inability to differentiate groundwater contamination related to releases from the closed lagoons and underground tank farm versus that potentially related to nearby SWMUs/AOCs which are subject to corrective action in accordance with 40 CFR 264.101; and
  - c. The desirability of implementing a holistic, site-wide approach to groundwater investigation, monitoring, and remediation given the foregoing circumstances.
2. The Permittee shall perform groundwater sampling/analysis and field measurement of groundwater-related parameters according to the schedule presented in Table II.
  - a. Sampling and analysis in accordance with this schedule shall begin during the next regularly scheduled sampling event following approval of the revised SAP required by Special Permit Condition II.D.6. Given the potential lag time between the effective date of this Permit and approval



of the revised SAP required by Special Permit Condition II.D.6, the Permittee shall continue sampling and analysis in accordance with the groundwater section contained within the Permittee's approved Permit Application and as outlined in this Permit until such time as the revised SAP is approved.

- b. Wells monitored to ensure adequate delineation of the horizontal and vertical extent of groundwater contamination (hereafter referred to as perimeter wells) shall be sampled and the samples analyzed on a semi-annual basis in accordance with Table II following approval of the revised SAP as required by Special Permit Condition II.D.6., provided that the horizontal and vertical extent of groundwater contamination remains adequately defined. If not, quarterly sampling and analysis of new perimeter wells shall be required in accordance with Special Permit Condition II.E.2.e.
- c. Specific perimeter wells to be monitored shall be specified in the Permittee's revised SAP required by Special Permit Condition II.D.6.
- d. Installation of additional perimeter wells during the compliance period may be necessary to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264(1), and this Permit. If any such wells are installed, they shall be subject to the monitoring requirements contained in Table II.
- e. Installation of new monitoring wells following the issuance of this Permit which are used for the purpose of delineation of the extent of groundwater contamination shall be subject to quarterly sampling and analysis for a period of time which is sufficient to establish contaminant trends in such wells.

Thereafter, the monitoring frequency may be modified to reflect long-term monitoring strategy and usage of such wells.

- f. Any future changes to the list of perimeter wells established in the Permittee's revised SAP shall require a permit modification in accordance with 40 CFR 270.42, and shall be approved in writing by the Department. The Permittee may elect to submit an annual modification to incorporate changes in the number of monitoring wells in lieu of a modification for each individual change. Within 30 days of receipt of the Department's approval, the Permittee shall submit additional SAP revisions to incorporate the approved changes.
3. Wells monitored to assess the effectiveness of the Permittee's corrective action program (hereafter referred to as effectiveness wells) shall be sampled and the samples analyzed on a semi-annual basis in accordance with Table II.
    - a. Specific effectiveness wells to be monitored shall be specified in the Permittee's revised SAP which is required by Special Permit Condition II.D.6.
    - b. Installation of additional effectiveness wells during the compliance period may be necessary to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264(1), and this Permit. If any such wells are installed, they shall be subject to the monitoring requirements contained in Table II.
    - c. Any future changes to the list of effectiveness wells established in the Permittee's revised SAP shall require a permit modification in accordance with 40 CFR 270.42, and shall be approved in writing by the Department. The Permittee may elect to submit

an annual modification in lieu of a modification for each individual change. Within 30 days of receipt of Department approval, the Permittee shall submit additional SAP revisions to incorporate the approved changes.

4. Only single sample analyses (as opposed to replicates) are required for the parameters listed in Table II, with the exception of duplicate samples taken for Quality Assurance/Quality Control (QA/QC) purposes.
5. Field parameter values measured and reported by the Permittee shall be representative of stabilized well conditions.
  - a. Downwell measurement of NAPL thickness, static water level and total well depth shall be taken prior to well purging.
  - b. Specific conductance, pH and temperature measurements reported to the Department shall be those taken immediately following well purging in accordance with the approved SAP.

Additional field parameter measurements such as those taken to verify the adequacy of well purging shall be recorded in the field logbook.
6. Every five years as per Table II, the Permittee shall sample and analyze groundwater from three historically contaminated wells for all parameters, excluding pesticides/herbicides and dioxins and furans, contained in Appendix IX of 40 CFR Part 264.
  - a. The wells sampled to meet this requirement shall be left to the discretion of the Permittee; however, the choice of wells shall include one well containing low levels of dissolved phase contamination, one well containing moderate levels of dissolved phase

contamination, and one well demonstrating the presence of free phase contamination, if applicable. The sample to be analyzed from the free phase contaminated well shall be the groundwater (aqueous phase) obtained from this well, not the non-aqueous phase liquid.

- b. This sampling and analysis is required to determine if additional hazardous constituents (40 CFR Part 261, Appendix VIII) and/or contamination indicator parameters are present in the groundwater which may be attributable to a release(s) from the closed lagoons and underground tank farm, and/or degradation of currently known hazardous constituents.
- c. If hazardous constituents and/or contamination indicator parameters are identified in the groundwater which are not currently specified in the GPS, the Permittee may resample the groundwater in accordance with 40 CFR 264.99(g). If the Permittee's subsequent groundwater analyses confirm the presence of additional hazardous constituents or contamination indicator parameters, then the Permittee shall propose a Class 1 Permit modification with prior Director approval to add the confirmed hazardous constituents or contamination indicator parameters to the GPS (Table I) and the monitoring program specified in Table II.

TABLE II  
 Groundwater Corrective Action Monitoring,  
 Sampling, Analysis, and Parameter Measurement Schedule

Parameters	Type*	Maximum Detection Limit (ug/l)	Frequency
Appendix IX (1)	HC	PQLs per SW-846**	Every 5 years
Volatiles (2)	HC	Per Table 1	*** (see note)
Metals (3)	HC	Per Table 1	*** (see note)
PCBs (4)	HC	Per Table 1	*** (see note)
NAPL Thickness	FM	Not Applicable	**** (see note)
pH	FM	Not Applicable	*** (see note)
Specific Conductance	FM	Not Applicable	*** (see note)
Static Groundwater Elevation (5)	FM	Not applicable	**** (see note)
Temperature	FM	Not Applicable	*** (see note)
Total Well Depth	FM	Not Applicable	****Annually

(1) Appendix IX (40 CFR Part 264) scan on three wells only.

(2) EPA SW-846 Method 8260 or equivalent.

(3) EPA SW-846 Method 7000 series or equivalent.

(4) EPA SW-846 Method 8080 or equivalent.

(5) Potentiometric measurements shall be obtained quarterly from all monitoring wells at the facility, including those which are not being sampled regularly.

\* HC = Hazardous Constituent FM = Field Measurement

\*\* The EPA approved SW-846 version at the time of sampling.

- \*\*\* Semiannual for primary (effectiveness) wells as per Section 5.8, which are highlighted in Table 5.1 Volume 3 of the approved Permit application, and annual for all other established wells. New wells shall be sampled quarterly as per Special Permit Condition II.E.2.e.
- \*\*\*\* NAPL detection and thickness measurements shall be made at the time of sampling (prior to well purging) and prior to manual removal of NAPL from any well. Static groundwater elevations and total well depth measurements shall be made prior to well purging.

F. Groundwater-Related Reporting Requirements.

The Permittee shall submit to the Department, on a semi-annual basis for the preceding calendar half-year (i.e., January through June and July through December), Semi-Annual Groundwater Corrective Action Reports, including all raw analytical data from the Permittee's semi-annual groundwater sampling events. The reports shall include groundwater analysis results, field parameter measurement results, copies of field sampling and well inspection log sheets, well repair documentation, QA/QC data, statistical analysis of groundwater data, field investigation results, volume of groundwater extracted, and other relevant groundwater-related information. The Semi-Annual Reports shall also discuss any exceedances of the Groundwater Protection Standard and limits in the State Operating Permit. The Permittee's Semi-Annual Groundwater Corrective Action Reports shall be submitted to the Department by March 1 and September 1 of each calendar year for the preceding calendar half-year. Each September 1 Semi-Annual Report shall be raw data with comments on exceedances, while the March 1 Semi-Annual Report will include a comprehensive evaluation and be called the Annual Groundwater Corrective Action Report.

The Permittee shall prepare and submit, on an annual basis, a comprehensive evaluation of the facility-wide groundwater monitoring program for the preceding calendar year (i.e., January through December). The Permittee's Annual Groundwater Corrective Action Reports shall be submitted to the Department by March 1 of each calendar year for the preceding calendar year.

1. These reports shall contain a narrative discussion of the nature and evolution of the Permittee's facility-wide groundwater monitoring program as well as conclusions concerning the overall adequacy of the program as related to its intended purpose, including any interim measures/stabilization actions. Any conclusions concerning inadequacies in the Permittee's groundwater monitoring program shall be accompanied by a discussion of proposed remedies. Specific details concerning any proposed remedies should be further developed outside of the scope of these reports and/or as otherwise specified in this Permit.
2. The Permittee's Annual Groundwater Corrective Action Reports shall comprehensively address all of the technical requirements of 40 CFR Part 264 Subpart F and this Permit. The Permittee shall summarize relevant groundwater monitoring information and shall present this information in the form of narrative discussions, groundwater flow calculations, and/or diagrammatic illustrations (e.g., tabular groundwater and statistical data summaries, hydrogeologic and potentiometric contour maps/cross-sections, chemical parameter trend graphs, calculated rate(s) of contaminant migration, contaminant isoconcentration maps/cross-sections, fence/isometric diagrams, groundwater flow nets, etc.), as appropriate.
3. The Permittee's Annual Groundwater Corrective Action Reports shall evaluate the effectiveness of the groundwater corrective action program, including, but not limited to, the following:
  - a. The rate and direction of groundwater movement in underlying aquifers and potential effects on any corrective action measures being designed or implemented at the facility for removal, containment or control of the groundwater contaminant plume(s);
  - b. The horizontal and vertical extent and concentrations of hazardous constituents (Table I) in groundwater

throughout the contaminant plume(s) as evaluated from the data obtained through the Permittee's groundwater monitoring program;

- c. Any surface and/or subsurface well integrity problems and their potential or actual influence on the groundwater data or efficiency of the groundwater corrective action program;
- d. The quantity of free NAPLs if present and groundwater extracted from the subsurface during either stabilization activities or as part of the groundwater corrective action program. This information should be reported both as a total amount and per well or extraction location, and shall be used in conjunction with dissolved phase contaminant concentration information to estimate quantities of contaminants removed;
- e. The conclusions and summary, including statistical evaluation, of analytical results from surface water monitoring conducted during the report period; and
- f. Information related to extraction of groundwater, installation, and operation of the on-site groundwater treatment plant and discharge of treated or untreated groundwater to surface water or a publicly-owned treatment works, including the following:
  - (1) Groundwater extraction rates, volumes and pressures to determine if plugging of the well screens and/or the surrounding geologic strata is occurring;
  - (2) Concentrations of the groundwater monitoring parameters (Table I) in the groundwater treatment system influent and treated effluent to determine if substantial removal of contaminants is being achieved by the



groundwater treatment system, and whether the levels of treatment meet all applicable federal, state, and local requirements; and

- (3) Any groundwater treatment plant operation and maintenance problems in terms of their potential or actual influence on effluent monitoring and treatment plant efficiency.

4. The Permittee shall submit to the Department, in the Annual Groundwater Corrective Action Reports, detailed boring logs for new exploratory borings and/or detailed as-built monitoring well diagrams for any new monitoring wells installed during the corresponding reporting period and the monitoring well-related information specified in Special Permit Conditions II.D.3. and 4.

III. Surface Water Monitoring Program [10 CSR 25-7.264(2)(F)4.]

- A. The Permittee shall implement a surface water monitoring program in accordance with the requirements of 10 CSR 25-7.264(2)(F)(4) throughout the post-closure care period or until such time as the Permittee makes a successful demonstration for exemption from these requirements.
  1. The Permittee's surface water monitoring program shall be incorporated directly into and be submitted as part of the revised SAP required by Special Permit Condition II.D.6.
  2. The Permittee's surface water sampling and analysis methods for chemical indicator parameters and hazardous constituents shall be consistent with those specified in Table II for groundwater.
  3. The Permittee's surface water monitoring program shall use the locations identified and parameters described in Section 7 Surface Water Monitoring Program of the October 1995 version of the approved Permit Application to establish values for and accurately measure biological activity. The Permittee may propose changes in the Surface

Water Monitoring Program in the SAP that is due within 60 days of the effective date of the Permit. After the Department approves such changes, they may be implemented.

4. The Permittee shall submit a more comprehensive surface water monitoring program for Outfall 002 to the Department and EPA. This monitoring shall sample for volatiles and PCB's in the water, and for PCB's attached to any sediment coming out of the concrete box culvert. Monitoring frequency shall be on a weekly basis until sufficient data is gathered to determine if contaminants are, or are not coming out of the culvert.
  5. The surface water monitoring program, with exception to requirements in number 4 above, shall be conducted concurrently with the first semi-annual groundwater sampling event performed under this Permit once the revised SAP has been approved.
  6. Reporting of data/information collected as part of the surface water monitoring program shall be sufficient to ensure that the requirements of 10 CSR 25-7.264(2)(F)(4) are met, and shall be included in the Semi-Annual Groundwater Corrective Action Reports required by Special Permit Condition II.F. Analysis of the data/information shall be done for each comprehensive evaluation that is required in the Annual Groundwater Corrective Action Report.
- B. The Permittee may, at any time during the post-closure care period, make a demonstration to the Department for a surface water monitoring exemption. This demonstration shall be certified by an independent geologist or professional engineer registered in the State of Missouri, as described in 10 CSR 25-7.264(2)(F)4. A successful demonstration for such an exemption would, at a minimum, have to adequately address the elements of 40 CFR 264.94(b) as applied to potentially affected surface water bodies. Departmental approval of the Permittee's surface water monitoring exemption shall necessitate a Permit modification in accordance with 40 CFR 270.42.

IV. Identification of Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs)

A. On June 23, 1989, the United States Department of Energy and United States Environmental Protection Agency entered into an Administrative Order on Consent (hereafter referred to as the Consent Order), Docket No. VII-89-0026-H, pursuant to the authority of Section 3008 (h) of RCRA. Appendix D of the Consent Order listed the SWMUs for which further investigation was required. Under the conditions of the Consent Order, the Permittee was required to complete a RCRA Facility Investigation (RFI) and Corrective Measures Study (CMS) at these SWMUs. The Permittee has fully or partially completed corrective action at 33 SWMUs at the time of Permit issuance. The general location of the individual SWMUs is illustrated on Figure 1.

B. Several SWMU's were identified by the EPA as requiring no further corrective action. Appendix E of the Consent Order lists some of these. Additional SWMU's are identified for no further action in a Confirmation Study submitted to EPA in June, 1989, and in an RFI for Miscellaneous Contaminated Soils dated April 8, 1993, and are enumerated as follows:

SWMU 15: New 002 Storm Sewer Outfall

SWMU 18: North Lot for soil

SWMU 19: Building 16 Underground Pit

SWMU 22: East of Oil Storage Tanks, Underground Tank Farm, and Bldg. 15, extending to the Lagoons

SWMU 23: PCBs and Hydraulic Oil Spills in open area east of Department 182 Barrel Lot

SWMU 24: Wastewater dumping west of Building 16

SWMU 25: Spill of cutting oil and coolants near lot 187-L outside diked area

- SWMU 26: Spill of caustic wastewater north of manufacturing support building
- SWMU 27: Dumping of PCB contaminated wastewater west of lagoons
- SWMU 28: Spill of plating acid from truck (east half of barrel lot)
- SWMU 29: Southeast Parking Lot; however additional field characterization reported in "Additional Field Investigation Report Southeast Parking Lot Area-Funnel and Gate Passive Groundwater Treatment Systems", dated May, 1997, recommended ongoing monitoring using existing wells and supplementing them with additional wells at key locations. The leading edge of the contaminated groundwater plume appears to be moving underneath this area, even though the contamination source could be a different SWMU. Further evaluation is required, see Special Permit Condition VII.A.

C. RCRA Facility Investigations (i.e., RFI Work Plans and associated reports) were completed and approved by EPA at the following SWMUs:

- SWMU 1: Underground Tank Farm (approved 07-11-95)
- SWMU 2: TCE Still Location (approved 10-30-94)
- SWMU 3: Waste Transfer Spill Area (approved 10-30-94)
- SWMU 4: Classified Waste Trenches (approved 10-30-94)
- RCRA 5: North Lagoon (approved 12-03-93)
- SWMU 6: Old Ponds (approved 12-03-93)
- SWMU 7: North Lagoon Trench Area (approved 12-03-93)
- SWMU 8: Outfall 001 Raceway (approved 06-16-94)
- SWMU 9: Bldg. 57 Acid & Alkaline Tank (approved 10-25-93)
- SWMU 10: Waste Oil Tank under Plating (approved 10-25-93)
- SWMU 11: Substation 18 N. of Plating (approved 10-25-93)
- SWMU 12: Department 26 Outside (approved 10-25-93)
- RCRA 13: South Lagoon (approved 11-30-92)
- SWMU 14: Old 002 Outfall (approved 03-20-90)

- SWMU 16: Sales Building (approved 10-30-94)
- SWMU 17: Bldg. 54 (approved 10-08-93)
- SWMU 18: North Lot (approved 12-14-92)
- SWMU 19: Bldg. 16 Underground Pit (approved 12-14-92)
- SWMU 20: Abandoned Fuel Lines (approved 12-14-92)
- SWMU 21: Fuel Oil Tank Unloading Area (approved 12-14-92)
- SWMU 29: Southeast Lot (approved 6-23-89)
- SWMU 30: Department 27 - Outside (approved 10-30-94)
- SWMU 31: Department 26 - Inside (approved 07-06-95)
- SWMU 32: Department 27 - Inside (approved 11-30-92)
- SWMU 33: Oil House (approved 10-30-94)
- SWMU 35: East Boilerhouse (approved 3-1-97)
- SWMU 36: Maintenance Vehicle Repair Shop (approved 10-08-93)
- SWMU 37: Abandoned Sump (approved 10-30-94)
- SWMU 38: Reported Buried Drum Site (approved 10-30-94)
- SWMU 39: Department 95 (approved 10-30-95)
- SWMU 40: Former Chip Handling Building (approved 10-30-94)
- SWMU 41: Department 20 Degreaser Pit (approved 10-30-94)
- SWMU 43: Test Cells (approved 10-08-93)

D. Corrective Measures Studies have been completed and are either under review or have been approved by EPA at the following SWMUs:

- SWMU 1: Underground Tank Farm (approved 07-28-92)  
(Note: In the Final Decision, Statement of Basis, 2/18/92, wells KC87-61, KC87-62, and KC87-63 are both compliance points and extraction wells)
- SWMU 2: TCE Still Location (Multiple Sites CMS)
- SWMU 3: Waste Transfer Spill Area (Multiple Sites CMS)
- SWMU 4: Classified Waste Trenches (approved 06-08-95)
- RCRA 5: North Lagoon (approved 08-12-94)
- SWMU 6: Old Ponds (approved 08-12-94)
- SWMU 7: North Lagoon Trench Area (approved 08-12-94)
- SWMU 8: Outfall 001 Raceway (approved 08-12-94)
- SWMU 9: Building 57 Acid and Alkaline Tanks (Multiple Sites CMS)
- SWMU 10: Waste Oil Tank Under North End of Plating Building (Multiple Sites CMS)

- SWMU 11: Substation 18 N. of Plating Bldg. (Multiple Sites CMS)
- SWMU 12: Department 26 Outside (Multiple Sites CMS)
- SWMU 14: Old 002 Outfall (approved 07-30-91)
- SWMU 16: Sales Building (Multiple Sites CMS)
- SWMU 17: Building 54 (Multiple Sites CMS)
- SWMU 18: North Lot (approved 11-30-94) for soil
- SWMU 18: North Lot (Multiple Sites CMS) for groundwater
- SWMU 19: Bldg. 16 Underground Pit (approved 11-30-94)
- SWMU 20: Abandoned Fuel Lines (approved 11-30-94)
- SWMU 21: Fuel Oil Tank Unloading Area (approved 11-30-94)
- SWMU 31: Department 26 (Multiple Sites CMS)
- SWMU 32: Department 27 Inside (Multiple Sites CMS)
- SWMU 33: Oil House (Multiple Sites CMS)
- SWMU 35: East Boilerhouse (IM Report approval 3-20-97)
- SWMU 36: Maintenance Vehicle Repair Shop Sump (Multiple Sites CMS)
- SWMU 37: Abandoned Sump (Multiple Sites CMS)
- SWMU 39: Department 95 (Multiple Sites CMS)
- SWMU 40: Former Chip Handling Building (Multiple Sites CMS)
- SWMU 41: Department 20 Degreaser Pit (Multiple Sites CMS)

E. Soil, surface water, and groundwater contamination discovered during the RFI were evaluated to determine if contamination from a particular SWMU posed any threat to human health and the environment. It has been determined that remediation is not required at this time to protect human health and the environment at the following SWMUs:

- SWMU 13: South Lagoon
- SWMU 14: Old 002 Outfall
- SWMU 15: New 002 Outfall
- SWMU 18: North Lot
- SWMU 19: Building 16 Underground Pits (PCBs)
- SWMU 30: Department 27 - outside
- SWMU 34: Sanitary Sewer Pump Station
- SWMU 38: Reported Buried Drum Site

F. Based upon MDNR's acceptance of EPA's approval of the various Corrective Measures Studies and Interim Measures Reports, it has

been determined that further corrective action is needed at the following SWMUs to protect human health and the environment:

- SWMU 1: Underground Tank Farm (P/C)
- SWMU 2: TCE Still Location (1), (2)
- SWMU 3: Waste Transfer Spill Area (2)
- SWMU 4: Classified Waste Trenches (2)
- RCRA 5: North Lagoon (RCRA Regulated Unit) (P/C)
- SWMU 6: Old Pond (CMI approved)
- SWMU 7: North Lagoon Trench Area (CMI approved)
- SWMU 8: Outfall 001 Raceway (CMI approved)
- SWMU 9: Bldg. 57 Acid & Alkaline Tanks (2)
- SWMU 10: Waste Oil Tank under Plating Bldg. (2)
- SWMU 11: Substation 18 North of Plating Bldg. (2)
- SWMU 12: Department 26 outside (2)
- SWMU 16: Sales Building (1), (2)
- SWMU 17: Building 54 (1), (2)
- SWMU 20: Abandoned Fuel Lines (Institutional Control, CMI approved)
- SWMU 21: Fuel oil tank unloading area (Institutional Control, CMI approved)
- SWMU 29: Southeast Parking Lot
- SWMU 31: Department 26 inside (1), (2)
- SWMU 32: Department 27 Inside (1), (2)
- SWMU 33: Oil House (1), (2)
- SWMU 35: East Boiler House
- SWMU 36: Maintenance Vehicle Repair Shop (1), (2)
- SWMU 37: Abandoned Sump (2)
- SWMU 39: Department 95 (1), (2)
- SWMU 40: Former Chip Handling Building (1), (2)
- SWMU 41: Department 20 Degreaser Pit (1), (2)
- SWMU 42: 95th Terrace (RFI not approved), (3)
- SWMU 43: Test Cells (1), (Remediation in 1998)

- (1) Contamination under a building, pavement, or asphalt, which shall not be removed or altered unless alternative measures to protect human health and environment have been provided to and approved by the Department.

- (2) Soil contamination above the saturated zone addressed by institutional controls and land use restrictions, as per the Final Decision on the Multiple Sites CMS, finalized in July 1998, by EPA.
- (3) A more comprehensive surface water monitoring plan at Outfall 002 shall be submitted to the Department and EPA within 60 days of the effective date of this Permit, as per Special Permit Condition III.A.4.

(P/C) Post-Closure Permit Requirements

In the event any new information becomes available indicating human health and the environment may be adversely impacted, the Permittee may be required to reevaluate any report previously approved by EPA to determine the need for further corrective actions for the aforementioned SWMUs and any newly identified SWMUs/AOCs and/or any release(s) from previously identified SWMUs/AOCs, including off-site release(s), as specified in Special Permit Conditions IV. and V.

The Permittee shall notify the Department prior to any future construction or excavation activities which disturb existing contamination at any SWMUs or other areas subject to institutional controls. The objective of this requirement will ensure that any necessary precautions are taken when disturbing and/or exposing any contaminated environmental media at the facility. Future construction, excavation activities, or land use changes may necessitate further evaluation of site conditions at SWMUs with residual levels of contamination above corresponding regulatory thresholds at that time.

V. Notification Requirements for and Assessment of Newly-Identified SWMU(s) and Areas of Concern (AOCs)

- A. The Permittee shall notify the Department and EPA in writing of any SWMU(s) or AOC(s), identified subsequent to the issuance of this Permit no later than fifteen (15) calendar days after discovery, or after discovery should have been made.



- B. The Department may require a SWMU/AOC Assessment Work Plan for conducting an investigation of the newly-identified SWMU(s) or AOC(s). Within thirty (30) calendar days after receipt of the Department's request for a SWMU/AOC Assessment Work Plan, the Permittee shall submit a SWMU/AOC Assessment Work Plan which shall include a discussion of past waste management practices at the unit, as well as a sampling and analysis program for groundwater, land, surface and subsurface strata, surface water and/or air, as necessary to determine whether a release of hazardous waste, including hazardous constituents from such unit(s) has occurred, or is occurring. The sampling and analysis program shall be capable of yielding representative samples and shall include monitoring parameters sufficient to assess the release of hazardous waste and/or hazardous constituents from the newly-identified SWMU(s)/AOC(s) to the environment. The SWMU/AOC Assessment Work Plan shall specify any data to be collected to provide for a complete SWMU/AOC Assessment Report, as specified below.
- C. The SWMU/AOC Assessment Work Plan will be reviewed in accordance with the procedures set forth in Special Permit Condition XVIII., Review and Approval Procedures. The Permittee shall initiate implementation of the plan according to the schedule contained therein, after it is approved by the Department, and shall complete implementation in accordance with the schedule contained in the approved plan.
- D. The Permittee shall submit a SWMU/AOC Assessment Report to the Department and EPA according to the schedule specified in the approved SWMU/AOC Assessment Work Plan. The SWMU/AOC Assessment Report shall present and discuss the information obtained from implementation of the approved SWMU/AOC Assessment Work Plan. At a minimum, the SWMU/AOC Assessment Report shall provide the following information for each newly-identified SWMU/AOC:
1. The location of the newly-identified SWMU/AOC in relation to other SWMU(s)/AOC(s);
  2. The type and function of the unit;

3. The general dimensions, capacities, and structural description of the unit;
4. The period during which the unit was operated;
5. The physical and chemical properties of all wastes that have been or are being managed at the SWMU/AOC, to the extent available;
6. The results of any sampling and analysis conducted;
7. Past and present operating practices;
8. Previous uses of area occupied by the SWMU/AOC;
9. Amounts of waste handled; and
10. Drainage areas and/or drainage patterns near the SWMU(s)/AOC(s).

The SWMU/AOC Assessment Report will be reviewed in accordance with the procedures set forth in the Review and Approval Procedures. Based on the findings of this report, the Department will determine the need for further investigations, including stabilization, a RCRA Facility Investigation (RFI) and/or a Corrective Measures Study (CMS), at specific unit(s) identified in the SWMU/AOC Assessment Report.

If the Department determines that additional investigations are needed, the Department may require the Permittee to prepare and submit for approval a Work Plan for such investigations. This Work Plan for additional investigations will be reviewed in accordance with the procedures set forth in the Review and Approval Procedures, Special Permit Condition XVIII. The Permittee shall initiate implementation of the plan within 60 days of receipt of Departmental approval and shall complete implementation in accordance with the schedule contained in the plan.

VI. Notification Requirements for and Assessment of Newly-Identified Releases from Previously-Identified SWMUs and AOCs

- A. The Permittee shall notify the Department and EPA, in writing, of any newly-identified release(s) of hazardous waste, including hazardous constituents, from previously-identified SWMUs and AOCs discovered during the course of groundwater monitoring, field investigation, environmental auditing, or other activities undertaken after issuance of this Permit, no later than 15 days after discovery, or after discovery should have been made.
- B. The Department may require a Newly-Identified Release Work Plan for conducting an investigation of the new-identified release(s). Within 30 days after receipt of notice that the Department requires a Newly-Identified Release Work Plan, the Permittee shall submit a Newly-Identified Release Work Plan which shall include a discussion of the waste/chemical management practices related to the release; a sampling and analysis program for groundwater, land surface and subsurface strata, surface water or air, as necessary to determine whether the release poses a threat to human health or the environment; and a proposed Newly-Identified Release Work Plan. The sampling and analysis program shall be capable of yielding representative samples and shall include monitoring parameters sufficient to assess the release of hazardous waste and/or hazardous constituents to the environment. The Newly-Identified Release Work Plan shall specify any data to be collected to provide for a complete Newly-Identified Release Report, as specified below.
- C. The Newly-Identified Release Work Plan will be reviewed in accordance with the procedures set forth in the Review and Approval Procedures, Special Permit Condition XVIII. Upon approval thereof by the Department, the Permittee shall initiate implementation of the plan within sixty (60) days of Departmental approval and shall complete implementation in accordance with the schedule contained in the plan.
- D. The Permittee shall submit a Newly-Identified Release Report to the Department and EPA according to the schedule specified in the

approved Newly-Identified Release Work Plan. The Newly-Identified Release Report shall present and discuss the information obtained during implementation of the approved Newly-Identified Release Work Plan. At a minimum, the report shall provide the following information for each newly-identified release:

1. The location of the newly-identified release in relation to any other SWMU(s)/AOC(s);
  2. The general dimensions of the release;
  3. The period during which the release is suspected to have occurred;
  4. The physical and chemical properties of all wastes that comprise the release;
  5. The results of any sampling and analyses conducted;
  6. Past and present operating practices near and at the location of the release;
  7. Previous uses of the area(s) occupied near and at the location of the release;
  8. Amounts of waste handled near and at the location of the release; and
  9. Drainage areas and/or discharge patterns near and at the location of the release.
- E. The Newly-Identified Release Report will be reviewed in accordance with the procedures set forth in Special Permit Condition XVIII., Review and Approval Procedures. Based on the findings of the report and any other available information, the Department will determine the need for further investigation, including stabilization, an RFI, and/or a CMS.

VII. Interim/Stabilization Measures

- A. If the Permittee becomes aware of a situation that may require interim/stabilization measures (ISMs) to protect human health and the environment, the Permittee shall notify the Department and EPA within 24 hours of the time the Permittee becomes aware, or should have become aware of the situation.
- B. If during the course of any activities initiated under this Permit, the Permittee or the Department determines that a release or potential release of hazardous waste, including hazardous constituents, poses a threat to human health or the environment, the Department may require ISMs to slow or stop the further spread of contamination until final corrective action measures can be implemented. The Department will determine the specific action(s) that shall be taken to implement ISMs, including potential Permit modifications, and the schedule for implementing the stabilization requirements and will inform the Permittee of decisions regarding the action(s) in writing. This requirement shall not preclude the Permittee from responding to an emergency situation without direction of the Department.
- C. If, at any time, the Permittee determines or should have known that the stabilization program is not effectively limiting or stopping the further spread of contamination, the Permittee shall notify the Department and EPA in writing no later than ten (10) days after such a determination is made. The Department may require that the stabilization program be revised to make it effective in limiting or stopping the spread of contamination, or that final corrective action measures are required to remediate the contaminated media.
- D. In cases where releases present minimal exposure concerns and/or the remedial solution is straightforward, the Permittee may propose ISMs for review and approval by the Department. These ISMs shall be consistent with and may supplement and/or satisfy the requirements for a final remedy(s) in specific areas.

VIII. RCRA Facility Investigation (RFI) Work Plan

- A. Pursuant to the requirements of the Consent Order, several RFI Work Plans have been submitted and approved by EPA, as described in Special Permit Condition IV.C.

Based upon the findings of additional field characterization reported in "Additional Field Investigation Report Southeast Parking Lot Area-Funnel and Gate Passive Groundwater Treatment Systems", dated May, 1997, the Permittee must further evaluate the Southeast Parking Lot, SWMU 29, to establish the rate of migration and extent of groundwater contamination, and submit the evaluation to the Department and EPA in the form of a revised Phase I RFI Report. The Department recognizes that SWMU 29 is listed as no further action, and that the source of the groundwater contamination is likely under the Main Manufacturing Building, but since the plume appears to be moving and is under SWMU 29, it is where the evaluation must take place. This report shall be submitted to the Department within 120 days of the effective date of this Permit. The Department will determine, based on review of the RFI Report, if a Phase II RFI Workplan on the Southeast Parking Lot, SWMU 29, should be submitted.

- B. If the Department determines that further investigations are needed for newly and/or previously identified SWMUs/AOCs pursuant to Special Permit Conditions IV. and V., the Permittee shall be notified of this determination in writing. The Department may require the Permittee to prepare and submit an RFI Work Plan for such investigations. If an RFI Work Plan is required, the Permittee shall submit it within 60 days of receipt of the notice. The RFI Work Plan shall contain provisions which are designed to meet the following objectives:
1. Full characterization of the nature, vertical and horizontal extent, and rate of migration of releases of hazardous waste and/or hazardous constituents from a newly identified SWMU/AOC or groups of SWMUs/AOCs or newly identified release(s) at the facility and the actual or potential receptors of such releases; and

2. Collection of any other pertinent data which may be utilized to substantiate future corrective action decisions.
- C. The content of the RFI Work Plan shall be appropriate for site-specific conditions and shall be consistent with and address all applicable investigation elements described in the most recent version of the RCRA Facility Investigation Guidance; EPA 530/SW-89-031. At a minimum, the RFI Work Plan shall detail all proposed activities and procedures to be conducted at the facility, a description of current conditions, the schedule for implementing and completing such investigations, and for submission of reports (including the final RFI Report), the qualifications of personnel performing or directing the investigations, including contractor personnel, and the overall management of the RFI.
  - D. The RFI Work Plan shall include a Quality Assurance Project Plan (QAPP). The QAPP shall present the policies, organization, objectives, functional activities, and specific quality assurance and quality control activities designed to achieve the data quality goals of the RFI. It shall include the RFI objectives, sampling procedures, analytical methods, field and laboratory quality control samples, chain-of-custody procedures and data review, validation and reporting procedures.
  - E. The Permittee shall prepare and maintain a health and safety plan during the project that assures the RFI activities are conducted in a manner that is protective of human health and the environment.
  - F. Due to the complexity of defining the extent of contamination, the Permittee may be required to use a phased approach which requires the submittal of supplemental RFI Work Plans.
  - G. The RFI Work Plan(s) will be reviewed in accordance with the procedures set forth in the Review and Approval Procedures. The Permittee shall initiate implementation of the plan(s) within 60 days of Departmental approval and shall complete implementation in accordance with the schedules contained in the plan(s).

IX. RCRA Facility Investigation (RFI) Report

- A. The Permittee shall submit any RFI Report required by this Permit to the Department and EPA in accordance with the schedule contained in the corresponding approved RFI Work Plan. The RFI Report shall present all information gathered under the approved RFI Work Plan along with a brief facility description and map showing the property boundary and all SWMUs/AOCs. The information presented in the RFI Report shall be presented in a form that is consistent with Section 5 of the most recent version of the EPA publication entitled, RCRA Facility Investigation Guidance: EPA 530/SW-89-031.
- B. The RFI Report shall provide an interpretation of the RFI information gathered, supported with adequate documentation, to enable the Department to determine whether additional stabilization and/or corrective measures may be necessary. The RFI Report shall describe the procedures, methods, and results of all investigations of SWMUs/AOCs and associated releases, including, but not limited to, the following, as appropriate:
1. Characterization of the nature, concentration(s), horizontal and vertical extent, and direction/rate of movement of releases from SWMUs/AOCs at the facility;
  2. Characterization of the environmental setting of the facility, including:
    - a. Hydrogeological conditions;
    - b. Climatological conditions;
    - c. Soil and bedrock characteristics;
    - d. Surface water and sediment quality; and
    - e. Air quality and meteorological conditions.



3. Characterization of SWMUs/AOCs from which releases have been or may be occurring, including unit and waste characteristics;
4. Descriptions of human and environmental receptors and associated risks to the receptors, which are, may have been, or based on site-specific circumstances, could be exposed to release(s) from SWMUs/AOCs;
5. Assessment of potential risks to the human and environmental receptors (e.g., Baseline Risk Assessment) exposed to release(s) from SWMUs/AOCs.
6. Extrapolations of future contaminant movement including description of contaminant fate and transport mechanisms and pathways for human and environmental exposure.
7. Laboratory, bench-scale, pilot-scale and/or appropriate tests or studies to determine the feasibility or effectiveness of treatment technologies or other technologies that may be appropriate in implementing remedies at the facility;
8. Statistical analyses to aid in the interpretation of data.
9. Results of any stabilization measures previously implemented.
10. A plan for groundwater monitoring from the time of RFI approval until such time as this Permit is modified to implement a final remedy. This plan shall specify the wells to be monitored, the frequency of monitoring, and the analytical parameters. Groundwater monitoring shall be conducted in accordance with Special Permit Condition II.E.
11. Evaluation of data quality which may affect the nature and scope of a Corrective Measures Study Work Plan as well as the evaluation of corrective measure alternatives thereunder (e.g., identification of any potential bias in the RFI data, and documentation of its precision, accuracy, representativeness, completeness, comparability, validation, etc.).

- C. The RFI Report will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Special Permit Condition XIX. After review of the RFI Report, if the Department determines that the objectives of the RFI have not been met, the Department may require additional investigation. Upon approval of the RFI Report by the Department, the Department shall advise the Permittee as to the next step in the corrective action process which may include submittal of a CMS Work Plan pursuant to Special Permit Condition X.

X. Corrective Measures Study (CMS) Work Plan

- A. If the Department determines that a release(s) of hazardous waste and/or hazardous constituents from newly and/or previously-identified SWMUs/AOCs pursuant to Special Permit Conditions V. and VI., or additional findings from the SE Parking Lot (SWMU 29) may present a threat to human health or the environment, the Department may require the Permittee to prepare and submit a CMS Work Plan and will notify the Permittee in writing of this decision. This notice will identify the hazardous constituent(s) of concern and may specify remedial alternatives to be evaluated by the Permittee during the CMS.
- B. The Permittee shall submit a CMS Work Plan for 95th Terrace Site (SWMU 42) to the Department and EPA for approval within 75 days of written approval of the 95th Terrace RFI Report Revision.
- C. The Department may require the Permittee to identify and evaluate, as part of the CMS, one or more specific potential remedies for removal, containment, and treatment of hazardous waste, including hazardous constituents in contaminated media based on the objectives established for the corrective action. These remedies may include a specific technology or combination of technologies that, in the Department's judgment, may be capable of achieving standards for protection of human health and the environment.
- D. The Permittee shall submit a CMS Work Plan to the Department and EPA within 45 days of notification of the requirement to conduct a CMS. The CMS Work Plan shall be consistent with

guidance contained in the EPA document entitled: RCRA Corrective Action Plan (Final), May 1994, OSWER Directive 9902.3-2A. At a minimum, the CMS Work Plan and any other CMS Work Plan required by this Permit shall provide the following information as appropriate:

1. A description of the general approach to investigating and evaluating potential remedies;
  2. A definition of the specific objectives of the study;
  3. A description of the remedies which will be studied;
  4. A description of those potential remedies which were preliminarily considered, but were dropped from further consideration, including the rationale for elimination;
  5. The specific plans for evaluating remedies to ensure compliance with remedy standards;
  6. The schedules for conducting the study and submitting a CMS Report;
  7. The proposed format for the presentation of information; and
  8. Laboratory, bench-scale, pilot-scale, and/or appropriate tests or studies to determine the feasibility or effectiveness of treatment technologies or other technologies that may be appropriate in implementing remedies at the facility.
- E. The Department will review any CMS Work Plan required by this Permit in accordance with the procedures set forth in Review and Approval Procedures, Special Permit Condition XIX. The Permittee shall initiate implementation of the plan within 60 days of receipt of Departmental approval and shall complete implementation in accordance with the schedule contained in the plan.

XI. Corrective Measures Study (CMS) Report

- A. The Permittee shall submit a CMS Report to the Department and the EPA according to the schedule contained in the approved CMS Work Plan. The CMS Report shall present all information gathered under the approved CMS Work Plan and shall be consistent with guidance contained in the EPA document entitled, RCRA Corrective Action Plan (Final), May 1994, OSWER Directive 9902.3-2A. The CMS report shall summarize the results of the investigations for each remedy studied and of any bench-scale or pilot tests conducted. The CMS reports shall include, but not be limited to, the following information:
1. Evaluation of performance, reliability, ease of implementation, and potential impacts of each remedy studied, including safety impacts, cross media impacts, and control of exposure to any residual contamination;
  2. Assessment of the effectiveness of each remedy in achieving adequate control of sources and cleanup of the hazardous waste or hazardous constituents released from the SWMU(s)/AOC(s);
  3. Assessment of the time required to begin and complete each remedy;
  4. Estimation of the costs of implementing each remedy;
  5. Recommendation of remedy and rationale for selection; and
  6. Assessment of institutional requirements, such as state or local Permit requirements, or other environmental or public health requirements which may substantially affect implementation of the remedy.
- B. The CMS report shall contain adequate information to support the Department in the remedy approval decision-making process.

- C. The CMS report will be reviewed in accordance with the procedures set forth in Review and Approval Procedures, Special Permit Condition XIX. Upon approval thereof by the Department, the Department will approve a final remedy as specified in Special Permit Condition XII.

XII. Final Remedy Approval

Following the approval of the CMS Final Report or equivalent, the Department will prepare a Statement of Basis (SB) summarizing the corrective measures alternatives that were evaluated by the Permittee, including justification for the proposed final remedy selected by the Department.

Following preparation of the SB by the Department, a Permit modification will be initiated pursuant to 40 CFR 270.41 or 270.42(c), as applicable, to implement the final remedy.

Upon completion of the public participation activities associated with the permit modification to implement the proposed final remedy, the Department will approve a final remedy that will: 1) be protective of human health and the environment; 2) control and/or eliminate the source(s) of contaminants so as to reduce or eliminate, to the maximum extent practicable, further contaminant releases, exposures or migration that might pose a threat to human health and the environment; and 3) meet all applicable federal, state, and local laws and regulations.

Any previous final remedies from the EPA 3008(h) Corrective Action Order on Consent shall continue until the Permittee can demonstrate that clean up goals in the areas affected by that remedy have been achieved.

XIII. Corrective Measures Implementation (CMI) Work Plan

- A. Within 90 calendar days of approval of a final remedy covering specific SWMUs/AOCs, the Permittee shall submit a Corrective Measures Implementation (CMI) Work Plan to the Department and EPA to provide the information pertaining to the design and implementation of the corrective measure(s) in the approved final remedy. The Permittee may propose a schedule for submitting the

CMI Work Plan in their CMS Report, basing it upon the final remedy approval. The CMI Work Plan shall cover the SWMUs addressed by each approved CMS Report so embodied in each approved final remedy.

The CMI Work Plan shall outline the objectives of the corrective measures and shall contain a description of the design, construction, operation, monitoring, quality assurance, and maintenance requirements; an amended cost estimate to more accurately define costs for design, construction, and monitoring; a detailed schedule for design, construction, and monitoring; and management procedures for hazardous wastes and/or hazardous constituents recovered as a result of implementing the corrective measures. The CMI Work Plan shall provide plans for remedy implementation consistent with all applicable components of the CMI as specified in the document entitled, RCRA Corrective Action Plan (Final), May 1994, OSWER Directive 9902.3-2A, and consistent with the objectives specified in the approved Multiple Sites CMS Report. Following is a summary:

1. TCE Still Area, which consists of: TCE Still Location, SWMU 2; Waste Transfer Spill Area, SWMU 3; Classified Waste Trenches, SWMU 4; Sales Building, SWMU 16; Oil House, SWMU 33; Department 95, SWMU 39; Abandoned Sump, SWMU 37; Former Chip Handling Building, SWMU 40; and Department 20 Degreaser Pit, SWMU 41.

These SWMUs require further corrective action for soil contamination below buildings or paved areas. The approved corrective measures consist of institutional controls and containment to limit access to contaminated soil, and land use restrictions. Any future construction or maintenance activities that involve excavation of contaminated soils, or removal or alteration of buildings or paved areas covering these areas, shall come under the Excavated Soil Management Procedures discussed in Special Permit Condition XIX.B., or if not related to urgent maintenance of utilities, shall require a work plan to be submitted to and approved by the Department.

The Permittee is currently implementing an interim measure at SWMU 37, has removed the waste within the sump, and has submitted an Interim Measures Report (February, 1998) to EPA and the Department for review.

2. Plating Building Area, which consists of: Building 57 Acid and Alkaline Tanks, SWMU 9; Waste Oil Tank Under North End of Plating Building, SWMU 10; Substation 18 North of Plating Building, SWMU 11; and Department 26 Outside, SWMU 12. SWMUs 9, 10, 11, and 12 have polychlorinated biphenyls (PCBs), total petroleum hydrocarbons (TPH), and volatile organic compounds (VOCs) contamination. Institutional controls and containment, and land use restrictions also apply to these SWMUs to limit access to contaminated soil. Any future construction or maintenance activities that involve excavation of contaminated soils, or removal of paved areas covering these areas, shall come under the Excavated Soil Management Procedures discussed in Special Permit Condition XIX., Review and Approval Procedures. Those situations not related to maintenance of utilities, shall require a work plan to be submitted to and approved by the Department.
3. Department 26 Inside, SWMU 31. Analysis of samples indicate the presence of PCBs and TPH in the soil beneath the various structures and pavement in this area. The requirements under Special Permit Condition XIII.A.2. regarding institutional controls and land use restrictions also apply.
4. Department 27 Inside, SWMU 32. This area contains several pits, where PCB fluid was reported to have leaked. Sampling data from 1991, 1992, and the RFI conducted at the SWMU in 1994 and 1995, showed that chemicals of concern did not exceed the proposed soil cleanup levels based on industrial exposures. The requirements under Special Permit Condition XIII.A.2. regarding institutional controls and land use restrictions apply.

5. Maintenance Vehicle Repair Shop, which consists of: Building 54, SWMU 17; Maintenance Vehicle Repair Shop Sump, SWMU 36; and the Test Cell Area, SWMU 43.

SWMU 17 has VOCs in the groundwater, and SVOCs in the soils. SWMU 36 has VOCs, petroleum hydrocarbons, and PCBs in the surrounding soils. The requirements under Special Permit Condition XIII.A.2. regarding institutional controls and land use restrictions also apply.

SWMU 43 is addressed in Special Permit Condition VII. Based on the results of the Interim Measures Report, dated February 1999, summarizing the work to be done, institutional controls and land use restrictions may apply if remaining contamination is above background levels.

- B. Within 180 days of the effective date of this Permit, the Permittee shall submit a plan for the implementation of institutional controls for the entire KCP facility covered by this Permit. The institutional controls will provide that any real property at the KCP facility shall not be used in any manner that would interfere with or adversely affect the integrity or protectiveness of the corrective action measures to be implemented. The institutional controls will include, but not be limited to, the following land use restrictions:
  1. Public access to all contaminated soil shall be prevented by appropriate means such as fences and other security measures.
  2. Any future construction or maintenance activities involving excavation of contaminated soil shall include internal Permittee controls consistent with Occupational Safety and Health Administration (OSHA) requirements regarding appropriate worker exposure protection and shall provide for the management of the soil according to federal, state, and local regulations.
  3. Buildings, structures, and pavement that currently cover contaminated soil shall not be removed or altered unless the Permittee has provided for alternative corrective measures



to protect human health and the environment, and has the prior approval of the Department. An exception to this is repair and maintenance of utilities provided for by the Excavated Soil Management Procedures found in Special Permit Condition XIX. Review and Approval Procedures. Alterations that are subject to this provision are limited to those that result in exposing presently covered soils.

4. Groundwater from the KCP shall not be used as a water supply for any purpose.
  5. Unless previously approved by MDNR, the areas with institutional controls may not be used for any purpose other than industrial use. Industrial uses are those that result only in exposure of adult workers in industrial, construction, and maintenance activities consistent with the exposure assumptions in DOE's CMS for the Multiple Sites (Administrative Record No. 93).
- C. The institutional control implementation plan shall provide for the incorporation of the land use restrictions and conditions listed in Special Permit Condition XIII.B., above, into the current DOE KCP security and internal land use permitting system.
- D. The institutional control implementation plan shall also provide for the continuation of appropriate institutional controls in the event of a permit transfer, a transfer of custody or control between Federal Agencies, or the conveyance of any interest in real property that is currently part of the KCP facility, including but not limited to, fee interests, leasehold interests, and mortgage interests. The plan shall provide for an access easement, land-use restriction easement, and restrictive covenants to be filed and recorded in the Recorder's Office of Jackson County, State of Missouri, and to be written to run with the land and be enforceable under Missouri law.
1. The Permittee will submit proposed drafts of the access easement, land-use restriction easement, and restrictive covenants and propose a schedule for the filing and recording of each.

2. The easements and restrictive covenants shall be drafted so as to retain or grant the access easement rights and the right to enforce the land use restriction to the United States, on behalf of DOE and its representatives and to the State of Missouri and its representatives. The EPA shall be a third party beneficiary of the rights and benefits conveyed to the grantees in the easements and restrictive covenants, including the right to enforce the easements and restrictive covenants. The State of Missouri may opt to be a third party beneficiary or a grantee of the easements and restrictive covenants.
3. The easements shall be free and clear of all prior liens and encumbrances (except as approved by the Department), and be acceptable under the U.S. Attorney General's Title Regulations promulgated pursuant to 40 U.S.C. 255.
4. The land use restriction easement and restrictive covenant shall include, but not be limited to the restrictions and conditions stated in Special Permit Condition XIII.B. above, and any others necessary to implement, ensure non-interference with, or ensure the protectiveness of the corrective measures provided for in this Permit.
5. The access easement shall include a grant of a right of access to the real property for the purpose of conducting any activity related to the corrective measures provided for in this Permit. In order to comply with DOE's security requirements, the MDNR representatives shall be U.S. citizens, be accompanied by a DOE or DOE contractor escort, and if entering any exclusion area, shall have a DOE Q access authorization. This shall include, but not be limited to the following activities:
  - a. Monitoring the work.
  - b. Verification of data or information submitted to MDNR and EPA.

- c. Conducting investigations relating to contamination at, near, or migrating from the facility.
  - d. Obtaining samples.
  - e. Assessing the need for, planning, or implementing additional response actions at the facility.
  - f. Implementing work pursuant to conditions set forth in a final remedy, the AOC, or this Permit.
  - g. Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by DOE or its agents.
  - h. Assessing DOE's compliance with the AOC or this Permit.
  - i. Determining whether any property at the KCP is being used in a manner that is prohibited or restricted.
- E. The CMI Work Plan will be reviewed in accordance with the procedures set forth in Special Permit Condition XIX. Review and Approval Procedures. The Permittee shall initiate implementation of the plan within 30 days of Departmental approval and shall complete implementation in accordance with the schedules contained in the plan.
- F. The Iron Treatment Wall demonstration in the Northeast Area (Blue River Groundwater Flow System) shall be monitored for effectiveness in passive groundwater treatment, for the contaminants listed in Table I, Special Permit Condition II. The Permittee shall submit a separate operation and maintenance (O&M) plan for Department review and approval, within 60 days of completion of the installation, or within 60 days of the effective date of this Permit, whichever is later. The operation of the treatment wall pursuant to the associated O&M plan shall be for a period of not less than ten years from the date of completion of installation of the treatment wall, or until the Permittee demonstrates that the wall

is not effective in meeting the GPS. During this period, the interceptor trench and the recovery wells for the groundwater pump and treat system shall be maintained in operational condition, as a backup system, should the passive Iron Treatment Wall system prove ineffective in meeting GPS.

- G. The Permittee shall utilize the current groundwater pump and treat system to contain the contamination and remove the "hot spots" within the plume. The Permittee shall continue to investigate innovative treatment technologies with respect to their application to areas of high contaminant concentrations in groundwater with the objective of meeting the GPS and/or other regulations on cleanup. These efforts shall be reported annually as part of the March 1 Annual Groundwater Corrective Action Report, required in Special Permit Condition II.F. In the event that the buildings are removed from over the Indian Creek Groundwater Flow System, the Permittee shall meet the requirements of Special Permit Condition XIII.B.3.

XIV. Corrective Measures Implementation (CMI) Report and Certification of Completion of Corrective Measures

- A. Within 60 calendar days of completion of all corrective measures implementation activities, the Permittee shall submit a Corrective Measures Implementation (CMI) Report to the Department and EPA. The CMI Report shall contain a summary of corrective measures activities conducted at the facility; a detailed description of any long-term operation and maintenance and/or monitoring program associated with the on-going corrective measures.

To verify completion of corrective measures at the SWMUs, the Permittee shall demonstrate in the CMI Report that groundwater and contaminant levels do not exceed GPS maximum concentration limits specified on Tables I and IA in Special Permit Condition II.A. The Permittee's groundwater corrective action program for the SWMUs shall continue until the Permittee demonstrates that these limits have not been exceeded for a period of 3 consecutive years at and beyond the point of compliance.

The CMI Report will be reviewed and approved in accordance with the procedures set forth in Special Permit Condition XIX. Review and Approval Procedures.

- B. Where remediation is projected to occur over a long period of time (i.e., is not complete at the time of construction completion), the Permittee shall submit a Corrective Measures Construction Completion Report to document construction of the final remedy. The Department will not formally approve the Corrective Measures Construction Completion Report, but will acknowledge receipt and provide comments as needed.

For SWMUs requiring extended time periods for implementation of the remedy, the Permittee shall summarize the progress of the remedy implementation and provide data obtained during remedy implementation in the Annual Groundwater Corrective Action Reports required in Special Permit Condition II.F. Any short-term completion of corrective action activities (interim measures) at individual SWMUs shall also be summarized in the Semi-Annual Groundwater Corrective Action Reports.

- C. Certification shall always be tied to Department approval of the CMI Report. Within 60 calendar days of Departmental approval of the CMI Report documenting completion of all corrective action pursuant to Special Permit Condition XIV., the Permittee shall submit to the Department and EPA, by registered mail, a written certification stating that the approved final remedy has been completed in accordance with the approved CMS Report and CMI Work Plan. The certification shall be signed by the Permittee and an independent professional engineer registered in the state of Missouri.

XV. Deed Notation and/or Deed Restriction Requirements

- A. Within 60 calendar days after the effective date of Permit issuance, the Permittee shall submit to the Department for approval, a draft notice that will be filed with the Recorder of Deeds for Jackson County, Missouri, and a survey plat for any regulated unit for which levels of contamination in the subsurface soils and/or groundwater exceed background concentrations and/or other applicable

regulatory thresholds at that time. The survey plat shall indicate the location and dimensions of each regulated unit with respect to permanently surveyed benchmarks. This plat shall be prepared and certified by a professional land surveyor.

- B. Within 60 calendar days after the effective date of Permit issuance, the Permittee shall submit to the Department for approval, a draft notice that will be filed with the Recorder of Deeds for Jackson County, Missouri, that contains two figures or maps drawn to scale, illustrating the approximate boundaries of each SWMU for which levels of contamination in the subsurface soils and/or groundwater exceed background concentrations and/or other regulatory thresholds at that time. One figure shall illustrate the soils contamination, and the other shall illustrate the groundwater contamination. Type, location, and concentrations of hazardous waste and/or hazardous constituents shall be noted on the figures. Both figures shall indicate the location and dimensions of each SWMU with respect to identifiable landmarks and permanently surveyed benchmarks.
- C. Within 60 calendar days of the Department approval of the draft notices described in Special Permit Condition XV.A. and XV.B. above, the Permittee shall :
1. Record, in accordance with state law, a notation and/or restriction on the deed to the facility property, or on some other instrument which is normally examined during title search, that will in perpetuity notify any potential purchaser of the property that:
    - a. The land has been used to manage hazardous waste and/or hazardous constituents; and
    - b. The record of type, location, and concentration of hazardous wastes and/or hazardous constituents remaining in the subsurface soils and/or groundwater have been filed with the local zoning authority, or the authority with jurisdiction over local land use, and with the Department.

- D. Within 120 calendar days of the Department approval of the draft notices (within 60 days of recording the notices), the Permittee shall provide a notarized statement certifying that the notation and/or restriction specified in paragraph C.1 of this section has been recorded, including a copy of the document in which the notation has been placed, to the Department.
- E. At least 60 days prior to conveyance, or transfer of custody or control, of any real property at the KCP located within areas subject to corrective action or institutional controls under this Permit, the Permittee shall submit and record an access easement, and a land use restriction easement to the Recorder of Deeds for Jackson County, Missouri. Refer to Special Permit Condition XIII. CMI Work Plan, part D.
1. The land use restriction easement shall grant the right to enforce the land use restrictions listed in Special Permit Condition XIII. CMI Work Plan, part D., and those that are otherwise necessary to implement, ensure non-interference with, or ensure the protectiveness of the corrective action measures provided for in the CMI Work Plan, the final remedy, or this Permit.
- F. Institutional controls, access restrictions, and stringent security measures are currently in use as an interim measure at the KCP, DOE shall continue to investigate innovative technologies to address the soil contamination and may be required to implement additional remedies. Prior to conveyance of any property at the KCP, or transfer of custody or control of any real property at the KCP, that is currently under control of the Permittee, the Department may require modification or revocation and reissuance of this Permit to change the name of the permittee and incorporate such other requirements as necessary to continue the institutional controls and restrictions, as well as ongoing remediation and corrective action.
- G. The Permittee may as a result of ongoing remediation efforts, or future innovative technologies, that reduces the concentration of the contaminants to the GPS, and/or soil levels to acceptable

concentrations for residential use, record a new notation on the deed of the property, stating that the use of the affected area may be residential, thus superseding the restriction on the use. The Permittee shall accomplish this by requesting a Class 2 Permit modification.

XVI. Funding and Financial Assurance for Corrective Action

- A. It is the expectation of the Department and Permittee that all obligations and commitments established in this Permit will be fully funded by the Permittee. The Permittee shall take all necessary steps, and use its best efforts, to obtain timely funding to meet its obligations under this Permit, including but not limited to the submission of timely budget requests. However, nothing herein shall affect Permittee's authority over its budget and funding level submissions. Additionally, any requirement for the payment or obligation of funds by Permittee established by the terms of this Permit shall be subject to the availability of appropriated funds, and no provision herein shall be interpreted to require the obligation or payment of funds in violation of the Anti-Deficiency Act, 31 U.S.C. Section 1341, as amended. In instances where Permittee is precluded from meeting its commitments hereunder due solely to the restrictions of the Act, and Permittee has otherwise taken all necessary steps and made diligent efforts to obtain the funds necessary to meet its commitments hereunder, any scheduled dates for activities that cannot be performed for such reason shall be appropriately adjusted.
- B. The Permittee shall submit to the Department an annual funding report demonstrating requests for funding sufficient to fulfill the Permittee's obligations under this Permit. This funding report shall be submitted annually, on or before each anniversary of the effective date of this Permit.
- C. Within 120 days of the effective date of this Permit, the Permittee shall provide all necessary documentation to demonstrate they have requested funds sufficient for the continued implementation of existing final remedies at the facility.



- D. Within 90 days after this Permit has been modified to include any new or additional remedies, the Permittee shall provide all necessary documentation to demonstrate a request for an increase of funds sufficient to support all corrective action activities required under this Permit. The funding request shall be based on ongoing remedies at the facility, and on the cost estimates contained in the CMS Reports for the additional remedies. If, in order to perform a selected remedy, the Permittee is required, through appropriate channels, to submit a funding request to the U. S. Congress, the Permittee shall notify the Department of such requirement within 30 days after this Permit has been modified to include such selected remedy.
- E. If the cost estimates contained in the CMS Report, or ongoing implementation costs increase, the Permittee shall, in the next annual funding report under Paragraph B. above, demonstrate that the cost increase has been reflected in the Permittee's budget requests.
- F. If appropriate funds are not available to fulfill the Permittee's obligations under this Permit, the Department reserves the right to initiate any action to enforce the terms of this Permit.

XVII. Quarterly Progress Reports

- A. The Permittee shall submit to the Department and EPA signed quarterly progress reports summarizing all permitted corrective action activities undertaken during each calendar quarter. Each quarterly progress report shall be due within 60 days following the last day of each reporting period (i.e., March 1, June 1, September 1, and December 1). Those quarterly progress reports falling on March 1 and September 1 may be combined with the Annual/Semi-Annual Groundwater Corrective Action Reports required by Special Permit Condition II.F.

The first quarterly progress report shall be due within 60 days of the end of the calendar quarter in which this Permit becomes effective. The quarterly progress reports shall continue to be submitted until such time as the Permittee's corrective action

activities are complete. The quarterly progress reports shall include the following information for the time period being reported:

1. A description of the work completed;
  2. Summaries of all findings, including summaries of laboratory data;
  3. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;
  4. Projected work for the next reporting period; and
  5. Any instances of noncompliance with the corrective action requirements of this Permit not required to be reported elsewhere in this Permit.
- B. Detailed technical information shall be submitted as part of the Annual/Semi-Annual Groundwater Corrective Action Reports required by Special Permit Condition II.F. and/or other reports (i.e., IM, RFI, CMS, etc.) required by this Permit. This detailed information need not be reproduced as part of the Permittee's quarterly progress reports.
- C. Copies of other reports (e.g., inspection reports), information or data shall be made available to the Department and EPA upon request.

XVIII. Supplemental Data

All raw data, such as laboratory reports, drilling logs, bench-scale or pilot-scale data, and other supporting information gathered or generated during activities undertaken pursuant to this Permit shall be maintained by the Permittee during the term of this Permit, including the term of any reissued Permits.

XIX. Review and Approval Procedures

- A. Following submission of any plan or report pertaining to corrective action activities (excluding the Annual/Semi-Annual Groundwater Corrective Action Report, quarterly progress reports, and Corrective Measures Construction Completion Reports), the Department will review and either approve or disapprove the plan or report in writing.

If the Department does not approve the plan or report, the Department will notify the Permittee in writing of the plan's or report's deficiencies and specify a due date for submittal of a revised plan or report.

If the Department does not approve the revised plan or report, the Department may modify the plan or report and notify the Permittee of the modifications. The plan or report as modified by the Department shall be the approved plan or report.

If the Permittee disagrees with any Department-initiated plan or report modifications, and a mutually acceptable resolution of such modifications can not be informally reached, any appeal of the Department-initiated modifications shall be filed in accordance with Section 260.395.11, RSMo, and 10 CSR 25-8.

- B. To facilitate the Permittee's repair and maintenance of utilities on site that may be in a contaminated area, Excavated Soil Management Procedures shall be followed, subject to the following conditions:
1. Pre-excavation soil sampling/analysis shall be done along the area of repair/excavation prior to submitting the request to the Department for approval.
  2. A plan view map showing the location(s) and depth(s) of the necessary repair, location(s) and depth(s) of any pre-excavation samples, and the location(s) of any known hazardous waste site (regulated units) or Solid Waste Management Units (SWMU's) and/or releases from such units which could be impacted by the proposed excavation/construction activities and any information

relevant to disturbance of areas with known contamination, shall be submitted with the request to the Department. This map and the sample results shall be legible and clear.

3. The Departmental approval shall be followed for each individual utility project, and is not a blanket approval for management of excavated soils associated with other activities. The Permittee shall consult the Department if an activity is questionable.
4. The Permittee's pre-excavation soil sampling/analysis and subsequent excavation activities could lead to discovery of additional SWMUs/ AOC's. Any SWMUs/AOCs and/or new releases from known SWMUs/AOCs discovered must be reported to the Department and EPA in accordance with Special Permit Conditions V. and VI. as applicable.
5. When contaminated soil is approved for backfill into the excavation, the Permittee shall place a clean layer of soil at grade on top of the soil that is backfilled. The clean soil layer shall be a minimum of four (4) inches thick and be free of contamination above background levels (i.e., below the method detection limits for VOCs). Any contaminated soil which is not used as backfill must be managed and disposed of in accordance with all applicable local, state, and federal requirements. In the event any excavated material is shown to be hazardous waste, land disposal restrictions in 40 CFR Part 268 must be met prior to placing material back in/on the ground (unless placement is for stockpiling, prior to transportation off-site).
6. Excavated Soil Management requests shall be submitted to the Department at least 15 working days prior to performing the work. When possible, requests should be grouped together and consolidated.
7. The Department shall notify the Permittee by phone if the request is approved. The Permittee shall then confirm the Department's verbal approval by letter within 7 working days.

XX. Planned Activities

- A. The Permittee shall comply with the schedule for the planned activities other than groundwater monitoring, surface water monitoring, and corrective action as specified in this Permit and as summarized on Table III attached hereto.
- B. The Permittee shall comply with the schedule for planned groundwater monitoring, surface water monitoring, and corrective action activities as specified in this Permit and as summarized on Table IV attached hereto.

XXI. Contingent Activities

- A. The Permittee shall comply, as necessary, with the schedule(s) for contingent activities as specified in the Standard and General Permit Conditions of this Permit.
- B. The Permittee shall comply, as necessary, with the schedule(s) for contingent corrective action activities as specified in the Special Permit Conditions of this Permit.

XXII. Submittal of Required Information

- A. The Permittee shall submit three copies of all reports, documents, or plans/specifications required under the terms of this Permit to:  
  
Chief, Permits Section  
Missouri Department of Natural Resources  
Hazardous Waste Program  
P.O. Box 176  
Jefferson City, MO 65102
- B. The Permittee shall submit two copies of all reports, documents, or plans/specifications required under the terms of this Permit to:  
  
Chief, RCRA Corrective Action & Permits Branch  
U.S. Environmental Protection Agency Region VII  
Air, RCRA and Toxics Division  
901 N. 5th Street  
Kansas City, KS 66101

### FACILITY SUBMISSION SUMMARY

Table III Summary of the planned submittal requirements (other than those specified on Table IV) pursuant to this Permit.

SUBMITTAL REQUIREMENTS	DUE DATE	PAGE NO.
Certification that Permittee has read and understands this Permit.	Within 60 calendar days of effective date of Permit.	Page 12
Submit two copies of the entire approved Permit application to the Department.	Within 60 calendar days of effective date of permit.	Page 12
Submit a check or money order to the Department's Hazardous Waste Program payable to the State of Missouri for any outstanding engineering costs.	Within 60 calendar days of effective date of Permit.	Page 12
Submit a copy of the Contingency Plan distribution list.	Within 60 calendar days of effective date of Permit.	Page 12
Check or money order for \$9,000 and all outstanding engineering review costs.	Within 60 calendar days of effective date of Permit.	Page 12

Table IV Summary of the planned groundwater monitoring, surface water monitoring, and corrective action submittal requirements pursuant to the special conditions of this Permit.

SUBMITTAL REQUIREMENTS	DUE DATE	SPECIAL PERMIT CONDITION
Revise and resubmit the Groundwater SAP.	Within 60 calendar days of the effective date of this Permit.	II.(D)(6)
Annual/Semi-Annual Groundwater Corrective Action Reports	By March 1 and September 1 of each calendar year.	II.(F)
Surface Water Monitoring Program incorporated into revised Groundwater SAP.	Within 60 calendar days of the effective date of this Permit.	III.
Submit data from further evaluation on the Southeast Parking Lot	Within 120 calendar days of the effective date of this Permit.	VIII.
RFI Work Plan	Within 60 calendar days of notice by the Department that an RFI Work Plan is required.	VIII.
RFI Report	According to the schedule in the approved RFI Work Plan.	IX.
Submit a CMS Work Plan for the 95th Terrace Site (SWMU 42)	Within 75 calendar days of the written approval of the 95th Terrace RFI Report Revision.	X.

SUBMITTAL REQUIREMENTS	DUE DATE	SPECIAL PERMIT CONDITION
CMS Work Plan	Within 45 calendar days of notice by the Department that a CMS is required.	X.
CMS Report	According to the schedule in the approved CMS Work Plan.	XI.
CMI Work Plan	Within 90 calendar days of the effective date of Permit modification to include an approved final remedy.	XIII.
Long term site-wide soil and groundwater plan addressing containment, hot spots, and institutional controls	Within 180 calendar days of the effective date of this Permit.	XIII. Parts B, C, D, and G
CM Implementation	According to schedule in approved CMI Work Plan.	XIII.
Corrective Measures Construction Completion Report	Within 60 days of completion of final remedy construction.	XIV.B
Corrective Measures Implementation (CMI) Report	When the Permittee believes that the corrective measure completion criteria have been satisfied.	XIV.A.
Certification of Completion of Corrective Measures	Within 60 calendar days of Department approval of the CMI Report.	XIV.C.

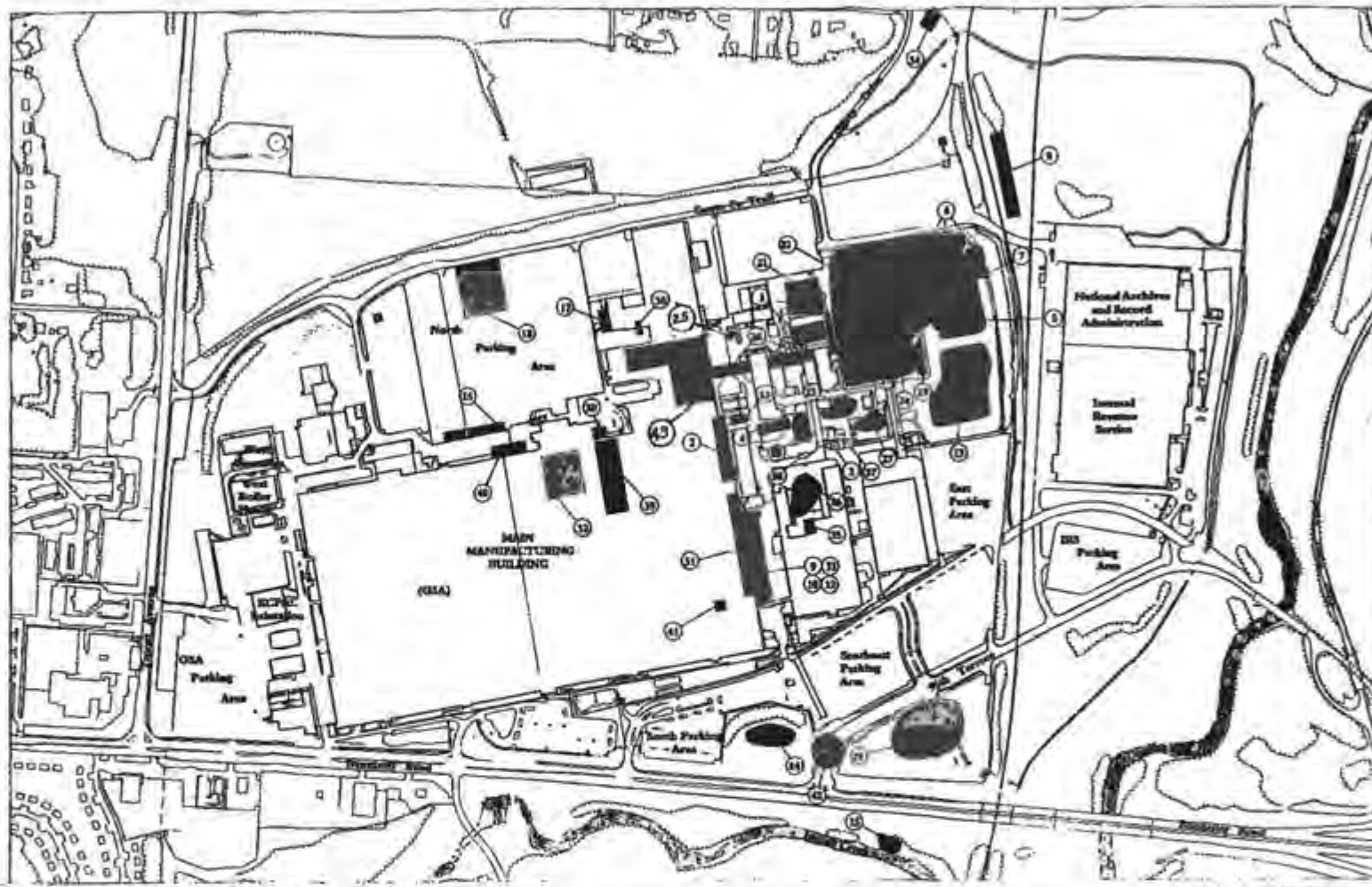


SUBMITTAL REQUIREMENTS	DUE DATE	SPECIAL PERMIT CONDITION
Deed Notation and/or Deed Restriction Requirements	Submit draft notices within 60 calendar days of the effective date of this Permit; record notices and/or restrictions within 60 days of Department approval; and provide notarized certification within 60 days of recording.	XV.
Funding Documentation for Current Remedies	Within 120 calendar days of the effective date of this Permit, the Permittee shall provide documentation to demonstrate they have requested funding for the continued implementation of existing final remedies.	XVI.
Annual Funding Report	On or before each anniversary of the effective date of this Permit.	XVI.
Funding Documentation for New or Additional Remedies	Within 90 calendar days of a Permit modification for any new or additional remedies.	XVI.
Quarterly Progress Reports	By March 1, June 1, September 1, and December 1 of each calendar year.	XVII.

**LEGEND**

- 1 SWMU UNDERGROUND TANK FARM
- 2 SWMU VCS STILL LOCATION
- 3 SWMU WASTE TRANSFER SPILL AREA
- 4 SWMU CLASSIFIED WASTE TRENCHES
- 5 PCRA NORTH LAGOON
- 6 SWMU OLD POND
- 7 SWMU NORTH LAGOON TRENCH AREA
- 8 SWMU OUTFALL #01 RACEWAY
- 9 SWMU BLDG. 57 ACID & ALKALINE TANKS
- 10 SWMU WASTE OIL TANK UNDER PLATING BLDG.
- 11 SWMU SUBSTATION 18 N. OF PLATING BLDG.
- 12 SWMU DEPARTMENT 26 OUTSIDE
- 16 SWMU SALES BUILDING
- 17 SWMU BUILDING 34
- 20 SWMU ABANDONED FUEL LINES
- 21 SWMU FUEL OIL TANK UNLOADING AREA
- 22 SWMU DEPARTMENT 24 - INSIDE
- 23 SWMU DEPARTMENT 27 - INSIDE
- 24 SWMU OIL HOLES
- 25 SWMU EAST BOB SERVICE
- 26 SWMU MAINT. VEHICLE REPAIR SHOP SUMP
- 27 SWMU ABANDONED SUMP
- 28 SWMU DEPARTMENT 26
- 40 SWMU FORMER CHIP HANDLING BUILDING
- 41 SWMU DEPT. 20 DISGRASSER PIT
- 42 SWMU 96A TERRACE
- 43 SWMU TEST CELLS

- 13 PCRA SOUTH LAGOON
- 14 SWMU OLD #61 OUTFALL
- 15 SWMU NEW #61 OUTFALL
- 18 SWMU NORTH LOT
- 19 SWMU BUILDING 14 UNDERGROUND PITS (PCBs)
- 21 SWMU EAST OF OIL STORAGE TANKS, UNDERGROUND TANK FARM, AND BLDG. 14, EXTENDING TO THE LAGOONS
- 23 SWMU PCBs AND HYDRAULIC OIL SPILLS IN OPEN AREA EAST OF DEPARTMENT 181 BARREL LOT
- 24 SWMU WASTEWATER DUMPING WEST OF BUILDING 14
- 25 SWMU SPILL OF CUTTING OIL AND COOLANTS NEAR LOT 181-1, OUTSIDE DUMP AREA
- 26 SWMU SPILL OF CALSING WASTEWATER NORTH OF MANUFACTURING SUPPORT BUILDING
- 27 SWMU DUMPING OF PCB CONTAMINATED WASTEWATER WEST OF LAGOONS
- 28 SWMU SPILL OF PLATING ACID FROM TRUCK (EAST HALF OF BARREL LOT)
- 29 SWMU SOUTHEAST PARKING LOT
- 30 SWMU DEPARTMENT 27 - OUTSIDE
- 34 SWMU SANITARY SEWER PUMP STATION
- 35 SWMU REPORTED BURIED DRUM SITE



**FIGURE 1. Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs)**



**PART II**  
**EPA AUTHORIZATION UNDER THE HAZARDOUS AND**  
**SOLID WASTE AMENDMENTS OF 1984**

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Pursuant to Section 227 of the Hazardous and Solid Waste Amendments of 1984 (hereafter referred to as "HSWA"), the United States Environmental Protection Agency (hereafter referred to as "EPA") is granted authority to issue or deny Permits or those portions of Permits affected by the requirements established by HSWA. By this authority and pursuant to Sections 3002(b), 3004(d), and 3005 of the Resource Conservation and Recovery Act ("RCRA") as amended by HSWA, 42 USC §§6922(b), 6924(d), and 6925, EPA hereby grants to Allied Signal FM&T, the facility operator and to the Department of Energy, as the facility owner (hereinafter collectively referred to as the "Permittee"), EPA ID Number MO9890010524, permission to perform activities required by HSWA at their facility located at 2000 East Bannister Road, Kansas City, Missouri, North Latitude 38° 57' 30", West Longitude 94° 34' 12", in accordance with the conditions of Part II of this Permit.

Part II of this Permit addresses other HSWA requirements as administered and enforced by EPA. Applicable regulations are found in 40 CFR Parts 260 through 264, 268, 270, and 124, as specified in Part II of this Permit.

All regulations cited in Part II of this Permit refer to regulations in effect on the date of this Permit issuance. With the exception of regulations in existence at the time of Permit issuance and referenced in Part II of this Permit, the only other RCRA regulations applicable to this facility during the life of Part II of this Permit will be self-implementing regulations.

The Regional Administrator has delegated authority to perform all actions necessary to issue, deny, modify, or revoke and reissue Permits for owners and operators of hazardous waste treatment, storage, and disposal facilities pursuant to Section 3005 of RCRA to the Director of Region VII, Air, RCRA and Toxics Division (hereafter referred to as "Director") or the Director's designated representative, by delegation No. R7-8-6; January 1, 1995.

Part II of this Permit is based on the assumption that the information applicable to Part II of the Permit, in the Permit application submitted by the Permittee and received by the Missouri Department of Natural Resources on July 8, 1992, along with subsequent revisions received on October 31, 1995, January 12, 1996, and December 6, 1996, is accurate and that the facility will be operated as specified in the application.

Any inaccuracies found in the application or other submitted information may be grounds for the termination, revocation and reissuance, or modification of Part II of this Permit in accordance with 40 CFR §§ 270.41, 270.42, and 270.43, or for enforcement action. The Permittee must inform EPA of any deviation from or changes in the application that would affect the Permittee's ability to comply with Part II of this Permit.



Part II of this Permit shall become effective at 12:01 AM on October 6, 1999 and shall remain in effect until October 6, 2009 unless revoked and reissued, terminated or continued in accordance with 40 CFR §§270.41, 270.43, and 270.51. It shall remain in effect even if Part I is terminated or has expired.

Done at Kansas City, Kansas, this 6 day of October, 1999.


  
William A. Spratin  
Director  
Air, RCRA and Toxics Division



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A. DEFINITIONS

For purposes of Part II of this Permit, terms used herein shall have the same meaning as those in RCRA and 40 CFR Parts 124, 260, 261, 264, 268, and 270, unless this Permit specifically provides otherwise. Where terms are not defined in RCRA, the regulations, the Permit or EPA guidances or publications, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

"Hazardous waste" means any solid waste as defined in 40 CFR §261.2 which also meets any of the criteria of a hazardous waste as listed in 40 CFR §261.3.

B. STANDARD CONDITIONS

B.1. Submittal of Permit Requirements

- a. Failure to submit the information required in Part II of this Permit, or falsification of any submitted information, is subject to enforcement and/or termination of Part II of this Permit.
- b. The Permittee shall ensure that all plans, reports, notifications, and other submissions to the Director required in Part II of this Permit are signed and certified in accordance with 40 CFR §§270.11 and 270.30(k).
- c. Extensions of the due dates specified in Part II of this Permit may be granted by the Director in accordance with the Permit modification procedures set forth in 40 CFR §270.42.
- d. Unless otherwise specified, two copies of these plans, reports, notifications or other submissions shall be submitted to the EPA and sent by certified mail or hand delivered to:

U.S. Environmental Protection Agency  
Region VII  
Air, RCRA and Toxics Division  
901 N. 5th Street  
Kansas City, KS 66101



In addition, one copy of these plans, reports, notifications or other submissions shall be submitted to:

Missouri Department of Natural Resources  
Hazardous Waste Program  
P.O. Box 176  
Jefferson City, MO 65102

**B.2. Permit Modification, Revocation and Reissuance, and Termination**

- a. Part II of this Permit may be modified, revoked and reissued, or terminated for cause, as specified in 40 CFR §§270.30(f), 270.41, 270.42, and 270.43.
- b. If the Director determines that further actions beyond those required in Part II of this Permit, or changes to the requirements set forth herein, are warranted, the Director may modify Part II of this Permit in accordance with 40 CFR §270.41.
- c. Pursuant to the provisions of 40 CFR §270.42, the Permittee may request a modification of Part II of this Permit at any time.
- d. Modifications to Part II of this Permit do not constitute a reissuance of the Permit. The filing of a request for a Permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee, does not stay the applicability or enforceability of any condition in Part II of this Permit.

**B.3. Permit Renewal**

- a. Part II of this Permit may be renewed as specified in 40 CFR §270.30(b). Review of any application for a Permit renewal shall consider improvements on the state of control and measurement technology, as well as changes in applicable regulations.
- b. If the Permittee wishes or is required to continue an activity regulated by Part II of this Permit after the expiration date of Part II of this Permit, the Permittee shall submit a complete application for a new Permit prior to the expiration of Part II of this Permit. Such application must be submitted at least 180 calendar days prior to Permit expiration unless permission for a later submission date has been granted by the Director.

**B.4. Transfer of Permits**

Part II of this Permit is not transferable to any person or entity until such a time as this Permit has been modified or revoked and reissued to identify the proposed



new owner or operator of the facility (hereafter referred to as "New Permittee") and to incorporate such other requirements as may be necessary, all in accordance with the procedures set forth in 40 CFR Part 270 Subpart D. At least 90 calendar days prior to the anticipated date of transfer, the New Permittee shall submit to the Director: 1) a revised Permit application; and 2) a copy of the written agreement between the Permittee and the New Permittee, containing the specific date for transfer of the Permit responsibilities described herein. The Permittee and the New Permittee shall also comply with the financial requirements as more specifically set forth in 40 CFR §270.40 and 40 CFR Part 264 Subpart H. It shall be the Permittee's responsibility to notify the New Permittee in writing of the requirements of 40 CFR Parts 264 and 270 and Part II of this Permit.

**B.5. Severability**

The provisions of Part II of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby.

**B.6. Appeal of a Permit**

Part II of this Permit may be appealed pursuant to the provisions of 40 CFR §124.19(a), which provides as follows:

Within 30 calendar days after a RCRA final Permit decision has been issued under 40 CFR §124.15, any person who filed comments on that draft Permit or participated in the public hearing may petition the Environmental Appeals Board, in writing, to review any condition of the Permit decision. Any person who failed to file comments or failed to participate in the public hearing on the draft Permit may petition for administrative review only to the extent of the changes from the draft to the final Permit decision. The 30-day period within which a person may request review under this section begins with the service of notice of the Regional Administrator's action unless a later date is specified in that notice. The petition shall include a statement of the reasons supporting that review, including a demonstration that any issues being raised were raised during the public comment period (including any public hearing) to the extent required by these regulations and when appropriate, a showing that the condition in question is based on:

- (1) A finding of fact or conclusion of law which is clearly erroneous;  
or
- (2) An exercise of discretion or an important policy consideration which the Environmental Appeals Board should, in its discretion, review.



B.7. Duty to Comply

The Permittee shall comply with all conditions in Part II of this Permit, except to the extent and for the duration such noncompliance is authorized by an emergency Permit (see 40 CFR §270.61). Any noncompliance with Part II of this Permit, other than noncompliance authorized by an emergency Permit, constitutes a violation of RCRA and Part II of this Permit and is grounds for enforcement action; for Permit termination, revocation and reissuance, or modification; or for denial of a Permit renewal application.

B.8. Need to Halt or Reduce Activity Not a Defense

In any enforcement action, it shall not be a defense for the Permittee to establish that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of Part II of this Permit.

B.9. Duty to Mitigate

In the event of noncompliance with Part II of this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

B.10. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of Part II of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of Part II of this Permit.

B.11. Duty to Provide Information

The Permittee shall furnish to the Director, within a time specified by the Director, any relevant information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating Part II of this Permit, or to determine compliance with Part II of this Permit. The Permittee shall also furnish to the Director, upon request, copies of records required to be kept by Part II of this Permit.





B.12. Inspection and Entry

Pursuant to 40 CFR §270.30(i), the Permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of Part II of this Permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of Part II of this Permit;
- c. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under Part II of this Permit; and
- d. Sample or monitor, at reasonable times, for the purpose of assuring compliance with Part II of this Permit or as otherwise authorized by RCRA, any substances or parameters at any location.

B.13. Monitoring and Records

- a. The Permittee shall retain all records required by Part II of this Permit, the certification required by 40 CFR §264.73(b)(9), and records of all data used to complete the application for Part II of this Permit, for a period of at least three years from the date of the sample, measurement, report, record, certification, or application. This period may be extended by request of the Director at any time and is automatically extended during the course of any unresolved enforcement action regarding this facility.
- b. Pursuant to 40 CFR §270.30(j)(3), records of monitoring information shall specify:
  - (1) The dates, exact place, and times of sampling or measurements;
  - (2) The individuals who performed the sampling or measurements;
  - (3) The dates analyses were performed;
  - (4) The individuals who performed the analyses;
  - (5) The analytical techniques or methods used; and
  - (6) The results of such analyses.



B.14. Reporting Planned Changes

The Permittee shall give a 20 calendar day advanced notice to the Director of any physical alterations or additions to the portions of the facility subject to Part II of this Permit, except for those alterations or additions for which notice is required by Part I of this Permit.

B.15. Reporting Noncompliance

- a. The Permittee shall give a 20 calendar day advanced notice to the Director of any planned changes in the permitted facility or activities required by Part II of this Permit which may result in noncompliance with the requirements of Part II of this Permit.
- b. The Permittee shall report to the Director any noncompliance with Part II of this Permit which may endanger health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. The report shall include the following:
  - (1) Information concerning release of any hazardous waste and/or hazardous constituent that may cause an endangerment to public drinking water supplies; and
  - (2) Any information of a release or discharge of hazardous waste and/or a hazardous constituent, or of a fire or explosion from the hazardous waste management facility, which could threaten the environment or human health outside the facility.
- c. The description of the occurrence and its cause shall include:
  - (1) Name, address, and telephone number of the owner or operator;
  - (2) Name, address, and telephone number of the facility;
  - (3) Date, time, and type of incident;
  - (4) Name and quantity of materials involved;
  - (5) The extent of injuries, if any;
  - (6) An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and
  - (7) Estimated quantity and disposition of recovered material that resulted from the incident.





Mel Carnahan, Governor • Stephen M. Mahood, Director

## DEPARTMENT OF NATURAL RESOURCES

DIVISION OF ENVIRONMENTAL QUALITY

P.O. Box 176 Jefferson City, MO 65102-0176

OCT 4 1999

**REC'D**

CERTIFIED MAIL - Z 290 181 308  
RETURN RECEIPT REQUESTED

**OCT 12 1999**

**RCAP**

Mr. Patrick T. Hoopes  
Assistant Area Manager  
Office of Technical Management  
U.S. Department of Energy  
P.O. Box 410202  
Kansas City, MO 64141-0202

RE: Missouri Hazardous Waste Management Facility Post-Closure Final Permit,  
U.S. Department of Energy, Kansas City Plant, EPA ID# MO9890010524

Dear Mr. Hoopes:

This letter is to inform you of the Missouri Department of Natural Resources' (MDNR) decision to issue a Post-Closure Permit to the U.S. Department of Energy (DOE), Kansas City Plant (KCP), for the state regulated hazardous waste surface impoundments (lagoons) and the underground tank farm. This decision is based upon staff recommendations following a careful review of the issues involved and completion of the public participation process.

During the public comment period, comments were received from DOE and the MDNR's Federal Facilities Section. The Department's response to all comments has been entitled "Response to Public Comments Concerning Draft Post-Closure Permit #MO9890010524," and is enclosed. A copy of additions (shadowed) and deletions (strikeouts) to the draft permit has also been enclosed to aid in identifying the changes to the draft permit.

The permittees, U.S. Department of Energy, and Allied Signal FM&T may appeal the final decision to the Hazardous Waste Management Commission in accordance with the procedures outlined in Section 260.395.11, RSMo. Any appeal issues that are outside those raised during the public comment period shall not be considered by the commission. However, the commission will consider appeals of new provisions in the

Mr. Patrick T. Hoopes  
Page 2

final permit that were not present in the draft permit. Enclosed is the final Missouri Hazardous Waste Management Facility Post-Closure Permit, which contains specific items in the Schedule of Compliance that the U.S. DOE will be required to meet in order to operate under this permit. The EPA Part II Permit is also enclosed.

If you have any questions concerning this letter or the enclosed documents, please contact Mr. Donald L. Dicks, Environmental Engineer, at (573) 751-3553. Thank you for your diligence in this process.

Sincerely,

DIVISION OF ENVIRONMENTAL QUALITY



John A. Young  
Director

JAY:ddl

Enclosures

- c: The Honorable Christopher S. Bond, U.S. Senator, Washington, DC, and  
Kansas City District Office
- The Honorable John C. Ashcroft, U.S. Senator, Washington, DC, and  
Kansas City District Office
- The Honorable Karen McCarthy, U.S. Representative, Washington, DC, and  
Kansas City District Office
- The Honorable Harry Wiggins, Missouri State Senator, 10th Senatorial District
- The Honorable Lloyd Daniel, Missouri State Representative, 42nd District
- The Honorable Thomas Hoppe, Missouri State Representative, 46th District
- The Honorable Kay Waldo Barnes, Mayor, City of Kansas City, Missouri
- The Honorable Katheryn Shields, Jackson County Executive
- Mr. Daniel J. Bradbury, Kansas City Public Library
- Mr. Kenneth S. Ritchey, U.S. EPA Region VII
- Ms. Patricia Murrow, Environmental Engineer, U.S. EPA Region VII
- MDNR, Kansas City Regional Office

- d. A written notice shall also be provided within five calendar days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period(s) of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and, if not, the time the Permittee anticipates that noncompliance will continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Director may waive the five-day written notice requirement in favor of a written report within 15 calendar days.

B.16. Other Information

Whenever the Permittee becomes aware of the failure to submit any facts in the Permit application relevant to Part II of this Permit or the submittal of incorrect information in the Permit application, or in any report to the Director, the Permittee shall promptly submit such facts or information.

B.17 Incorporations to the Permit

Any plans and schedules required by the conditions of Part II of this Permit are, upon approval of the Director, enforceable under Part II of this Permit. Any noncompliance with such approved plans and schedules shall constitute noncompliance with Part II of this Permit.

C. FACILITY-SPECIFIC CONDITIONS

C.1. Land Disposal Restrictions

- a. The Permittee must comply with all regulations implementing the land disposal restrictions required in 40 CFR Part 268. The Permittee also must comply with regulations implementing the land disposal restrictions that are promulgated after the effective date of Part II of this Permit, as these requirements are self-implementing provisions of HSWA. The Permittee is not subject to the land disposal restrictions if the applicable treatment standard is met, the waste is exempt under 40 CFR §268.1(c), the waste is subject to a variance, or any other exemption in 40 CFR Part 268 applies.
- b. If allowed in the State RCRA Permit (Part I), the Permittee may store wastes to which the land disposal restriction applies for up to one year unless EPA can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal as provided in 40 CFR §268.50(b). For storage of hazardous waste to which the land disposal prohibition applies beyond one year, however, the Permittee shall bear the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal as provided in 40 CFR §268.50(c).





#### D. FACILITY SUBMISSION SUMMARY

Table 1. Summary of possible reporting requirements pursuant to this Permit.

CONDITIONAL REQUIREMENTS	DUE DATE	PERMIT CONDITION
Permit Renewal	180 calendar days prior to Part II Permit expiration.	B.3.b.
Provisions for Part II Permit Transfer	90 calendar days prior to date of Part II Permit transfer.	B.4.
Report Planned Changes	20 calendar days prior to making any physical alterations to any portion of the facility subject to Part II of this Permit, except when notice is required by Part I of this Permit.	B.14.
Report Noncompliance	20 calendar days prior to making any changes which will result in noncompliance with Part II of this Permit.	B.15.a.
Written Notice of Noncompliance	Within 5 calendar days of Permittee's awareness of the circumstance.	B.15.d.



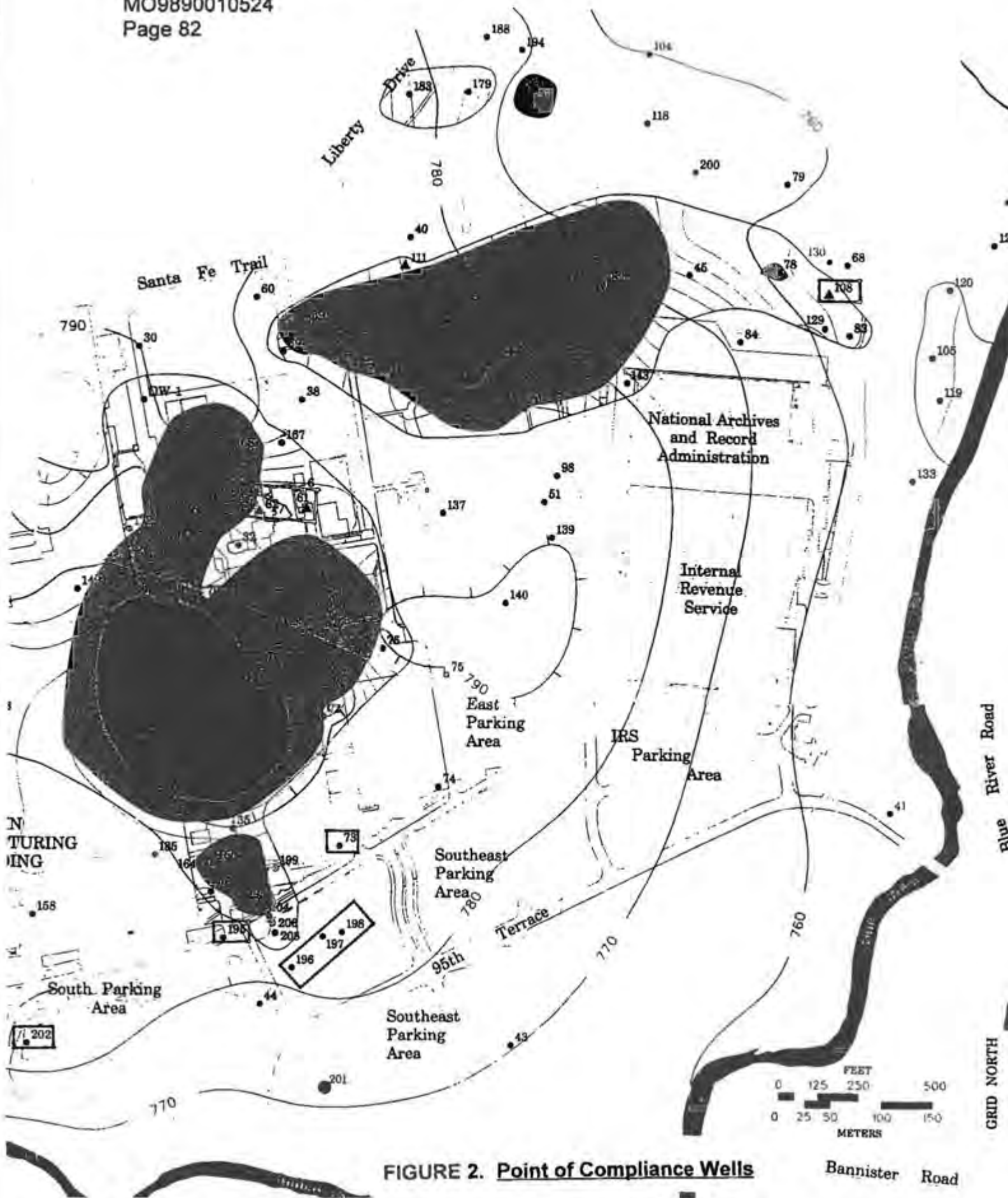


FIGURE 2. Point of Compliance Wells

Bannister Road



MISSOURI DEPARTMENT OF NATURAL RESOURCES (MDNR)

RESPONSE TO PUBLIC COMMENTS CONCERNING  
DRAFT POST-CLOSURE PERMIT #MO9890010524

FOR  
U.S. DEPARTMENT OF ENERGY  
KANSAS CITY PLANT

The following public comments were received during the comment period for the Draft Post-Closure Permit (hereafter referred to as the Permit) which began on October 6, 1998, and ended on November 19, 1998. Comments were submitted by the U.S. Department of Energy and the MDNR Federal Facilities Section.

GENERAL COMMENTS

- 1) Special Permit Conditions Sections VIII, IX, X, XI, and XIII: Many of the requirements of these sections were adopted from EPA guidance documents, (e.g., RCRA Corrective Action Plan). These and similar documents referenced in the permit should be used as "guidance" and specific requirements and tasks should be chosen on a case-by-case basis. In many places in the draft permit, no flexibility appears. In addition, many permit conditions are unduly restrictive with respect to corrective action requirements and will add considerable time and expense to the corrective action work. In DOE's view, wording similar to that in the RCRA 3008(h) Consent Order should be used i.e., "the corrective action work shall be consistent with the RCRA Corrective Action Plan". Such a change will permit MDNR as well as the Kansas City Plant to choose those requirements that are the most effective.

**MDNR RESPONSE:** The MDNR disagrees with the statement that the Permit allows no flexibility in the selection of the approach and methodology of the corrective action process. The steps set forth in the Permit allow for reasonable and systematic approaches to be taken on a site-specific basis, in selecting remediation methods to fit the needs of an individual unit or area, based on the factual information generated by the investigations performed previously, and the additional studies required to fill in any missing information or data. Flexibility does exist to allow the Permittee and the MDNR to pursue effective remedies through the steps defined in the Permit. It is MDNR's intention that the language in the Permit be specific enough to provide guidance to the Permittee on what needs to be in a deliverable, in order to avoid the necessity of the Permittee preparing and the MDNR reviewing the same document two or three times, when appropriate communication before the first preparation of the submittal could result in it being acceptable the first time. This would save both the Permittee

and MDNR time and money, while reducing the time required to implement the selected remedies. Please note the response to specific comments 40, 44, 46, and 48. Additional flexibility has been added by adding the words "as appropriate" to the list of requirements for RFI Report and the CMS Work Plan, as well as the option for the Permittee to "propose a schedule" for an Assessment Work Plan and a CMI Work Plan as a result of these comments.

2) The draft permit does not incorporate the provisions found in Section 6 entitled "Corrective Action Provisions" (copy attached) of DOE's 1996 RCRA Post Closure Permit Application. Items included in this Section include the following: an expanded Definitions Section; Notification Provisions for New Release Sites; Document Review Provisions; Reporting Requirements; Funding; Time Extensions; Force Majeure; Access/Security provisions; and Schedules. These provisions are important to the effective implementation of the permit. DOE requests that MDNR add these provisions into the Special Conditions Section of the permit.

**MDNR RESPONSE:** In the Introduction of the Permit, in the second paragraph, the various submittals, replacements, and revisions are referred to as the "approved Permit application." The approved Permit application, along with the additional documents required under the Schedule of Compliance, are defined as the "consolidated Permit application." Then in the third paragraph, a sentence states, "The conditions specified in this Permit supersede any conflicting information in the approved Permit application." Therefore, any additional information such as the definitions and parts that do not conflict with the Permit, are considered applicable.

In areas where there are differences, like in the time to provide notification or submit a deliverable required by the Department, the conditions specified in the Permit supersede, and shall apply. As was discussed in our meeting held on November 13, 1998, prior to the close of the public comment period, MDNR explained our position that turn around time requirements placed on the Department do not apply, and will not be specified in the Permit, due to staff being assigned to multiple projects. The Department makes every effort to review submittals in a timely manner.

Under access, one of the Standard Permit Conditions mentioned in the Draft Post-Closure Permit is 40 CFR Part 270.30. 40 CFR 270.30(l) covers inspection and entry. The regulatory agency's representative shall be allowed to enter at reasonable times. There is no requirement for 24 hours advance notice to a facility, as this applies to unannounced inspections. The Department has always worked cooperatively with DOE in scheduling trips for other purposes, and has always accommodated the escort and security clearance requirements. Please note response to Comment 57, that the wording regarding being a U.S. citizen, the escort, and "Q access authorization" was added to Special Permit Condition XIII.D.5 in response to this concern.

3) New EPA regulations on Closure and Post-Closure of Hazardous Waste Management Facilities (October 22, 1998; FR 56709-56735) specify RCRA Part B post-closure permit information submission requirements for facilities that receive post-closure permits. The only items that are indicated for a post-closure permit are as follows:

- A general description of the facility;
- A description of security procedures and equipment;
- A copy of the general inspection schedule;
- Justification for any request for waiver of preparedness and prevention requirements;
- Facility location information;
- A copy of the post-closure plan;
- Documentation that required post-closure notices have been filed;
- A topographic map; and
- Groundwater monitoring data and information demonstrating groundwater system design, site characterization information and information regarding SWMUs at the site.

While MDNR is not bound by these federal regulations, DOE believes that these information requirements are appropriate for a permit such as this and recommends that the information required to be submitted should be limited to that described by EPA.

**MDNR RESPONSE:** Please note in the referenced Federal Register, under IV. State Authorization, that 40 CFR 271.21(e)(2) requires States that have final authorization to modify their programs when EPA promulgates Federal standards that are more stringent, but States are not required to modify their programs for changes that are less stringent. The current State Regulations, 10 CSR 25, incorporates by reference 40 CFR Part 264, July 1, 1997. Should the state elect to adopt the less stringent Federal standards, the process would take at least two years. Currently the state is still under the former regulations, which are more stringent. In the case where conflicting rules exist, the more stringent state requirements, shall control. Please note MDNR has included only the items in the Permit, like Preparedness and Prevention, and the Contingency Plan, that are viewed as necessary. No changes were made to the Permit in response to this comment.

4) Schedules of the type found in Appendices F and G of the Order on Consent should be incorporated into the Sampling and Analysis Plan (see Special Permit Condition II.D.2) in lieu of the schedules and submittal timeframes currently in the Draft Permit. This would allow the flexibility of making mutually-agreed to changes in such schedules and timeframes on an annual basis.



**MDNR RESPONSE:** Appendices F and G apply to the deliverables under corrective action and remediation efforts for the facility. The Sampling and Analysis Plan (SAP) in the Permit, pertains to groundwater corrective action monitoring and surface water monitoring. It is not appropriate to place scheduled deliverables in the SAP. The times and schedules established in the Permit are typical for other facilities that are under a Permit and are a reasonable expectation for a Permittee to meet. If the Permittee needs an extension, and has reasonable cause for such a request (like bad weather, or technical difficulty such as machinery failure, etc.), the Department is generally receptive to granting such an extension. As is consistent with EPA's action under the current order, if needed remedial activity is being delayed or put off for no cause, MDNR may require time lines to be changed. This was the case in moving up the date of finalizing the Remedial Plan and installation of extraction wells for the Southeast Parking Lot Compliance Wells, in the Revised Schedule, dated December 1998. No changes were made in the Permit in response to this comment.

5) It is also noted that in many Sections of the Special Conditions, the Section numbers appear to be off by one number.

**MDNR RESPONSE:** MDNR agrees and has made the necessary changes in the Permit.

#### SPECIFIC COMMENTS

##### Facility Description

1) Page 2, 1st paragraph: There are presently five areas of container storage not four as indicated in the Draft Permit. These areas are the Oil House, Ball Container Room, Mixing Crib, Industrial Wastewater Pretreatment Facility (IWPF) and the Paper Mill. The text in this section should be changed to reflect this.

**MDNR RESPONSE:** MDNR has made this change to the Permit.

2) Page 2, last paragraph: All hazardous waste storage lots have been closed with certifications sent to MDNR on September 23, 1998. It is requested that the text be updated to reflect this fact.

**MDNR RESPONSE:** The MDNR has no objection to this change. The Permit has been modified to reflect that the closure certifications have been submitted for approval.

## Introduction

3) Page 6: On this page and elsewhere in the document the permit incorporates by reference DOE's previous permit application and amendments. On January 21, 1998 DOE submitted a request to cease operation as an interim status facility effectively negating two of the three volumes of the referenced permit application. It is our expectation that the final permit, and yet-to-be submitted revised permit application, will be the only documents that are referenced in the Final Permit. MDNR is requested to confirm this interpretation.

**MDNR RESPONSE:** Please note MDNR's response to General Comment Number 3 (requirements under 40 CFR 270.14 are required). The Department is uncertain as to whether ceasing operation as an interim status facility effectively negates two of the three volumes of the referenced permit application. However, the Part B Application and the MDNR Hazardous Waste Management Facility Application should be revised to reflect no permitted storage at the Facility. Section B. General Description of Storage Units; Section K. Manifest System, Recordkeeping, and Reporting; and Section O. Facility Closure Plan may be deleted. Individual drawings 17630-A1 through 17630-A9 may be deleted from Appendix A, Facility Drawings. Other sections may be revised to delete portions that relate to the interim status storage areas, but need to stay in the approved application as required to meet applicable federal and state regulations. For example, in Appendix B, KCP Spill Control Plan/Emergency Plan, Figure 4, Waste Storage Areas, should be replaced with revised Figure 4, indicating areas with less than 90 day storage. The Department does not want a major overhaul of the approved application, but since the Permittee did choose to close all storage areas after the application was in the technical review process, minor changes are necessary. No change was made to the Permit in response to this comment.

4) Page 7: The third paragraph appears to be an overbroad requirement that ties permit compliance to unrelated environment laws and DOE believes that it should be deleted. At a minimum, DOE recommends that the text be revised to include the introductory phrase "In performance of post-closure activities..."

**MDNR RESPONSE:** The MDNR disagrees that the other environmental laws are unrelated. This paragraph clarifies that should there be a violation of applicable environmental laws and regulations, the appropriate program within the Department will seek penalties through enforcement action as allowed by the applicable laws, and depending on the nature of the circumstances creating the violation, the Department may suspend or revoke this Permit. This paragraph is consistent with verbiage contained in previously issued post-closure permits. No change was made in the Permit in response to this comment.

5) Page 8, 3rd and 4th paragraphs: (See Special Permit Condition XVI, Page 62) Pursuant to Subpart H-Financial Requirements 40 CFR 264.140 © the Kansas City Plant, being a federal facility, is not required to comply with the financial responsibility provisions required of the private sector. 10 CSR 25-7 incorporates subpart H and does not modify it in this regard. As subpart H deals only with closure and post-closure activities, there are no financial assurance requirements therein for corrective action. Even when EPA proposed to add corrective action to subpart H, it specifically excluded federal agencies. (See 51 F.R. 37854, October 24, 1986.) Accordingly, the referenced text and Special Permit Condition should be deleted.

**MDNR RESPONSE:** The MDNR does not agree with the interpretation that a federal facility is not subject to financial assurance requirements described under 40 CFR 264.101 for corrective action. Unlike Subpart H, which pertains to closures of regulated units, there is no exclusion mentioned under the corrective action provisions for (40 CFR 264.101) state or federal agencies, as the corrective action provision mentioned in the F.R. 37854, October 24, 1986, was never finalized. As previously mentioned by DOE officials in discussions with the MDNR, DOE needs to make budget requests well in advance of when funding is needed, and have items of need listed in their request for funding. With the cost estimates that DOE has for future ongoing corrective action activities at the Kansas City Plant, it is necessary to demonstrate these requirements in the future budget items. Special Permit Condition XVI. has been modified using standard language used previously for federal agencies, including the requirement of an annual funding report, as a result of this comment. See response to Comment 70.

6) Page 9: The "Area of Concern" definition has not been found to be in 10 CSR 25 regulations. Other than a one-time spill event it is unclear how there could ever be a release of hazardous waste or constituents from something that is not a hazardous waste management unit. Even more difficult to understand is the concept of a "potential release" from something that is not a SWMU. DOE has in the past been amenable to adding units to the corrective action program that do not necessarily meet the strict definition of a SWMU in that they did not exhibit routine and systematic releases (e.g., 002 outfall). Accordingly, it is requested that the "Area of Concern" definition be deleted from the permit.

**MDNR RESPONSE:** The term "Area of Concern" (AOC) is not defined in either the state or federal statutes or regulations. The term is, however, routinely used in various EPA corrective action documents. The definition of AOC contained in the Permit was adapted from the final RCRA section 3008 (h) Model Consent Order, December 15, 1993. The State's authority to require investigation of non-SWMUs is rooted in Section 260.395.9-.12, RSMo, and 40 CFR 270.32, as incorporated by reference in 10 CSR 25-7.270(1). This authority is referenced on page eight of the

Introduction Section of the Draft Post-Closure Permit and allows the Department to include terms and conditions in the Permit as the Department determines necessary to protect human health and the environment. The AOC provision is designed to primarily address identification and/or investigation requirements for non-SWMU related releases which are discovered during the course of other required corrective action investigations. No change was made to the Permit in response to this comment.

7) Page 11 Section I: The first sentence contains a typographical error. The sentence should read... "Appendices F and G"...

**MDNR RESPONSE: The MDNR agrees, and has made this change in the Permit.**

8) Page 11, Section III.B.: The requirement to submit a Phase I RFI Work Plan or submit documentation that contamination no longer remains for SWMU 43 should be deleted. The Test Cell Tanks are a part of the Final Decision for the approved Multisite CMS. Remedies for soil (Institutional Controls) and groundwater (Pump and Treat) have already been selected. The Maintenance Vehicle Repair Shop Sump (MVRSS) RFI which included the area covered by the tanks has already been completed. The tanks and any waste materials in them have been removed as an interim measure, a report of which will be submitted to MDNR in the near future. The area has been investigated, evaluated, and final remedies selected under the corrective action process. Accordingly, additional activities are unnecessary and this section should be deleted.

**MDNR RESPONSE: Based on the information contained in the Test Cell Tanks Interim Measure Report, submitted to EPA and MDNR on February 1999, the MDNR agrees with this comment. The Phase I RFI Workplan requirement on the Test Cells (SWMU 43) or additional information on remaining contamination was removed from the Schedule of Compliance, and from Special Permit Condition VIII.A. in the Permit.**

9) Page 11, Item III.C.: The requirement for CMS workplan for the 95th Terrace site should be deleted. Under the Consent Order, DOE submitted four CMS reports that addressed contamination at 28 SWMUs. All of the CMS reports were developed without CMS workplans and were approved by EPA and MDNR. Accordingly, there is no need for the additional time and expense that would be required to generate a CMS workplan.

**MDNR RESPONSE: It is standard procedure in a permit issued by MDNR to include a conditional CMS Work Plan requirement. This provides a vehicle for the Department to "buy in" or approve of evaluation of one or more specific potential remedies for removal, containment, and/or treatment of the hazardous**

constituents in contaminated media. This approval may, in certain instances, be necessary prior to performing the CMS, in order to allow the Department to require a specific technology or combination of technologies that, in the Department's judgement, may be capable of achieving standards for protection of human health and the environment. If this step were to be eliminated, and the Department were to require a Permittee to go back and study additional alternatives after the CMS is submitted because the Permittee left out certain remedies that the Department feels should be evaluated, it would not only add additional time and expense, but could delay implementing the final remedy, potentially allowing more time for the contaminants to spread. DOE agreed to do the CMS in response to many of the comments on the revised RFI at the July 15, 1999 meeting with EPA and MDNR. See response to Comment 45. No changes were made to the Permit in response to this comment.

10) Page 12, Sections IV and IV: A typographical error exists in that there are two (2) Section IV's on this page. The text should be corrected accordingly.

**MDNR RESPONSE:** The MDNR agrees, and has corrected this in the Permit.

11) Page 12, 1st Section IV: This schedule as written would have the long term soil and groundwater plan submitted before corrective measures studies are complete for all currently-identified SWMUs. Such a plan should be submitted after the planned CMS's are completed in order to have a comprehensive document. This process was used for final decisions rendered under the RCRA 3008 (h) Order. The text is requested to be revised to state that the long term soil and groundwater plan will be submitted upon completion of all Corrective Measures Studies.

**MDNR RESPONSE:** The MDNR notes that the groundwater pump and treat system has been operating since 1988, on the ICGFS (Indian Creek Groundwater Flow System). In October, 1990, the treatment system began receiving water from the BRGFS (Blue River Groundwater Flow System). There have been numerous interim measures performed at the facility over the last eight years, and the September 28, 1998 version of Appendix F and Appendix G of the EPA Consent Order Schedule of Deliverables require the long term site wide soil and groundwater plan to be submitted during FY99, thus the Permit has been designed to be consistent with the Order. As this plan contains the institutional controls, which are a remedy for much of the facility, the Department feels that this task should be completed as soon as possible, and the 180 day time frame should be adequate to accomplish this. If any additional findings as a result of additional corrective action activities become known, the plan will have to be revised in the future as necessary. No changes were made to the Permit as a result of this comment.

12) Page 12, 2nd Section IV: Table IV (page 68) is discussed in this section. Table IV should include SWMU #'s for all listed submittal requirements, i.e., RFI Workplan, RFI Report, etc.

**MDNR RESPONSE:** Information regarding the status of the various SWMUs at the facility is presented in Special Permit Conditions VIII., X., and XIII. The MDNR believes that any ongoing corrective action, or any additional required corrective action relating to the identified SWMUs is adequately addressed in the Permit, and repeating the information in Table IV would be redundant. No change was made to the Permit in response to this comment.

#### GENERAL PERMIT CONDITIONS

13) Page 14, I, II, III, IV, and V: MDNR Hazardous waste generator regulations already require compliance by the Kansas City Plant with Subparts C- "Preparedness and Prevention," and Subpart D- "Contingency Plan and Emergency Procedures." Specific manifest requirements and compliance with the Land Disposal Restrictions are also currently required. 40 CFR 262.41 already requires the submittal of a biennial report by the Kansas City Plant, Notification of Emergency situations is also required by law. Accordingly, these general permit conditions should be deleted. (See also General Comment 3).

**MDNR RESPONSE:** Please see response to General Comment 3 and Specific Comment 3. The MDNR agrees that the manifest requirements are no longer required under this Permit, and that the LDRs are covered under the 40 CFR Part 262 that is applicable to the Permittee. 40 CFR Part 264 Subpart E on specific manifest requirements and 40 CFR Part 268 Land Disposal Restrictions have been deleted from this section in response to this comment. Subpart C and Subpart D are still applicable, and have been left in the Permit.

#### SPECIAL PERMIT CONDITIONS

14) Page 16, Post-Closure Care, third paragraph: It is requested that the second sentence be modified to delete the phrase "if it is necessary for the proposed use of the property". Necessity should not need to be established so long as it is established that no harm will result to human health or the environment.

**MDNR RESPONSE:** The language referenced in this comment comes from 40 CFR 264.117(c)(1). It states the Regional Administrator (Department) must find that the disturbance: "(1) is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment." No changes were made to the Permit in response to this comment.

15) Page 17, I.C.: The most likely removal activity would involve installation or repair of an underground utility. This activity should not require a permit modification. Accordingly, DOE requests that notification be provided to MDNR in lieu of a permit modification.

**MDNR RESPONSE:** Please note that the language of the Permit refers to removal of hazardous waste residues, contaminated soils, or contaminated sludges from beneath the former regulated units. 40 CFR 264.119(c) applies to units that closed with waste in place. In the event that material is removed for any remedial activities, the activity would require a Permit modification. This would require public notice. Notification only, would circumvent the public participation procedure, thereby not adhering to the regulatory requirements. If disturbance of the regulated units that closed with waste in place is required for other than remedial activities, the Permittee should contact the Department for directions prior to proceeding. Please note that Special Permit Condition XIX.B. provides an Excavated Soil Management Procedure to facilitate the Permittee's repair and maintenance of utilities in other areas of the KCP. No changes were made to the Permit in response to this comment.

16) Page 19, II A.4: A permit modification is too burdensome for an activity such as a change in analytical detection limits. Accordingly, it is recommended that this paragraph be deleted.

**MDNR RESPONSE:** As Special Permit Condition II.A.4. indicates, the Department reserves the right to modify the analytical detection limits, based on advances in analytical technology. This would be a Department requested modification, not a Permittee requested modification. No changes were made to the Permit in response to this comment.

17) Pages 20 and 21, Tables 1 and 1A, Footnotes (A) and (C): Groundwater at the site cannot be used for drinking water due to naturally occurring levels of contaminants such as iron and manganese. Accordingly, it is not practical to set drinking water standards as cleanup standards.

**MDNR RESPONSE:** The Department does agree that the water at the site is not currently being used directly for drinking water. However, the standards for groundwater protection listed in Table I, and Table IA are appropriate for two reasons. First, it is consistent with the standards for groundwater protection already established under previous investigations performed under the EPA Order, specifically the Multi-Site CMS and the Northeast Area. Second, previous submittals by the Permittee have shown that there is some groundwater discharge to the Blue River. EPA guidance and 10 CSR 20-7, the Clean Water Commission regulations, both take the approach that if groundwater discharges

to a surface water stream or body, that has a designated beneficial use, as the Blue River and Indian Creek do, then that use must be protected. [Both streams have designated beneficial uses other than drinking water.] Furthermore, checking Table A-Criteria for Designated Uses in 10 CSR 20-7, Column VII for Groundwater, and Column III for Drinking Water Supply, have identical numbers for protective levels for volatile organics. It should be noted that this is not the case for PCBs, which indicate a level much lower for Columns II and VII, .000045 ug/L, versus the 0.5 ug/L MCL for drinking water. No changes were made to the Permit in response to this comment.

18) Page 20 and 21, Tables I and IA: The asterick at the bottom of these tables allows the Permittee to utilize the method specific detection limit routinely achieved by our laboratory. DOE proposes to use the following reporting limits of our current contract lab as detection limits in Tables I and IA:

DOE LAB Reporting Limits	Contract Lab	Draft Permit
8021B ANALYTES	PRL ug/L	Max ug/L
Acetone	10.0	2.2
Benzene	2.0	0.5
2-butanone (MEK)	5.0	1.3
Carbon disulfide	5.0	3.8
Chlorobenzene	0.7	0.4
Chloroethene(Vinyl chloride)	1.8	1.3
Chloroform	0.5	0.5
1,2-dichlorobenzene	1.0	0.4
1,1-dichloroethane	0.7	0.6
1,2-dichloroethane	0.5	0.8
1,1-dichloroethene	1.3	0.6
1,2-dichloroethene(Total)	0.5	1.9
4methyl-2-pentanone(MIBK)	5.0	0.7



Tetrachloroethene	0.5	0.3
Toluene	2.0	0.4
1,1,1-trichloroethane	0.5	0.6
1,1,2-trichloroethane	0.5	1.0
Trichloroethene	1.2	0.3
Ethylbenzene	2.0	0.3
1,1,2-trichlorotrifluoroethane (Freon 113)	5.0	200
o-xylene— Requested Total Xylenes	7.0	0.4
M&p-xylenes	7.0	0.4
PCB's	0.5	0.4

**MDNR RESPONSE:** These proposed values are acceptable for the maximum detection limits in Table I and Table IA. These numbers have been incorporated into the two tables, and two additional footnotes were added to these tables as indicated below in response to this comment.

- (d) The MDNR reserves the right, based on future advances in analytical technology, to modify this Permit to require the Permittee to achieve analytical detection limits for the hazardous constituents covered by Special Permit Condition II.A. which allows for adequate comparison with appropriate health- or environmental protection-based concentration limit(s).
- (e) Health- and/or environmental-based levels are lower than the ability of current analytical technology to routinely attain detection limits at or below such levels. These constituents and their health- and/or environmental-based criteria are listed below.

<u>Constituent</u>	<u>(ug/L)</u>	<u>Source</u>
PCBs	0.000045	(b)

19) Page 22, II.A.6 (See also page 31 II.E.6): This paragraph states that Appendix IX sampling will be conducted to serve as the basis for the addition of hazardous waste constituents to the Groundwater Protection Standards as necessary. DOE provides the following comments:

a. Any detection of Appendix IX compounds will follow the KCP Sampling and Analysis Plan regarding the detection of new or unexpected compounds, that is, the well which detected the new or unexpected compound(s) will be immediately resampled for the new or unexpected compounds and split with the referee lab. If detected by either lab, the results will then be considered valid. If resampling does not confirm the presence of the initially detected compound(s), the initial result will not be considered valid.

b. It is proposed that pesticides/herbicides and dioxins and furans be deleted as requirements for any KCP Appendix IX sampling. The site has never utilized these compounds as a part of production operations and sampling of the same is considered unnecessary.

c. While newly found analytes from Appendix IX sampling can expand the total number of compounds sampled, there are no provisions that allow a reduction in the number of analytes. DOE proposes that an existing analytes be deleted from Table I or IA if it not detected in wells from any given groundwater flow system over a two year period based on at least 2 sampling events.

The text in this section should be modified to state that analytes may be added if the compounds are confirmed; pesticides and herbicide need not be run; and compounds not detected may be deleted from Appendix IX sampling.

**MDNR RESPONSE:** Please note that Special Permit Condition II.E.6 references 40 CFR 264.99(g), which allows a Permittee to resample within one month and repeat Appendix IX analysis. This confirmation is the Permittee's choice, and if they elect to do so, must report to the Department within seven days of the second analysis if it also detects additional constituents. If the Permittee elects not to resample, the results must be reported within seven days of the initial sampling, if additional constituents are found.

Special Permit Condition II.A.6 states "...any additional hazardous constituent(s) in the groundwater which is/are identified during future sampling and analysis, if such constituents may be attributed to past operation of the regulated unit(s) and/or the degradation of hazardous constituents known to be present in the groundwater." Should additional constituents be found that can be traced to other sources than the operations previously conducted at the facility, the Department shall consider this information in determining future corrective action. As pesticides/herbicides and dioxins and furans have never been used at the KCP, language was added to Special Permit Condition II.A.6 and II.E. to delete them in the Appendix IX analysis.

Analytes not found in several consecutive sampling events, may be removed from Table I and/or Table IA through the permit modification process noted in 40 CFR 270.42. No changes were made to the Permit in response to Comment a. and c.

20) Page 23, II. B.A.:

a. This paragraph defines and lists compliance point wells for the two KCP groundwater flow systems. Well 108 is stated to "monitor groundwater passing the point of compliance..." This paragraph should be amended to indicate that the iron treatment wall has been installed and is going through a one year demonstration phase. Wells installed to monitor the performance of the wall include a number of wells that serve as temporary compliance point wells for the Blue River Groundwater Flow System plume. These wells include 214U, 215L, 223L, 219U, 224L, 225L, 217L and 218U. Should the iron wall fail to treat contaminants to required levels as a result of the one year demonstration, well 108 would be turned on and would again serve as the compliance point well for this groundwater flow system. The text in this section should be revised to include the temporary compliance point wells as listed above for the ICGFS and to include provisions for how well 108 may be reinstated as the ICGFS compliance point well.

b. It is stated here that "In case of multiple regulated units and SWMU's, an imaginary line circumscribing the regulated unit may be used or a line of wells on the leading edge of the contaminated groundwater plume." Wells 61,62, and 63 are requested not to be included as compliance point wells since wells 195U, 195L, 196U, 196L, 197U, 197L, 198U, 198L, 73U, 202U, and 202L serve as compliance points for the Indian Creek Groundwater Flow System. Wells 61,62, and 63 only monitor upgradient portions of the plume and contamination from the former Underground Tank Farm. The plume from the underground Tank Farm mixes with plumes derived from other release sites addressed in the Multiple Sites and Miscellaneous Contaminated Sites CMS's. Further, Special Permit Condition II.E.1. states that integration of the corrective action monitoring for the closed regulated units with the site wide program is required due to the inability to differentiate groundwater contamination related to releases from the Underground Tank Farm to that of nearby SWMUs. DOE believes MDNR's desire to implement a holistic sitewide approach to groundwater investigation, monitoring and remediation expressed in Special Permit Condition II.E.1. is not met by including wells 61, 62 and 63 as compliance points. In addition, it should be pointed out that EPA in the preamble to its October 22, 1998 Post Closure Permit Requirement and Closure Process Rule (FR Vol. 63, No. 204, p.56725) echoes our concerns... "The requirement to place wells at the downgradient edge of a regulated unit often would not make sense if there are SWMU's further downgradient". The text should be revised to delete well 61, 62 and 63 as compliance point wells.

**MDNR RESPONSE:** The MDNR agrees with the term used by DOE of “temporary compliance point” wells. As the EPA has approved these temporary compliance point wells, the MDNR has the understanding that well 108 may be turned on long enough to sample if the temporary wells are not all showing levels below the GPS for the facility. As indicated in this comment, if the iron wall is not working properly, the interceptor trench would be activated by operating well 108 on a regular basis. While these additional wells will indicate the effectiveness of the iron wall, to be consistent with the previous final decision under the Consent Order, well 108 will be identified in the Permit as the compliance point well for the Blue River plume, with the understanding that if all the “temporary compliance point wells” sample below the GPS, then a sample from 108 will not be necessary for that sampling period.

The MDNR included wells 61, 62, and 63 in the Permit to be consistent with the former Final Decision for the Tank Farm under the Order. Since the Permittee mentions the Tank Farm as a potential source of contamination in this comment and in other studies, including the work centering on the contaminants migrating to the Southeast Parking Lot, additional information gained by keeping these wells as compliance point wells could help better define and target areas for remediation. No changes were made to the Permit in response to these comments.

21) Pages 25 and 26, II D.3.B. and 4.C.: The requirement for a class 2 permit modification to add or delete monitoring wells should be deleted as it is too restrictive and unnecessary. The Kansas City Plant has been very proactive in the installation of monitoring wells when needed. It is proposed that the text be changed as follows: “The Kansas City Plant shall submit a written request to MDNR to abandon any well on site. Abandonment may occur once approval has been received from MDNR. DOE will provide notification to MDNR when additional wells are installed.”

**MDNR RESPONSE:** The MDNR disagrees that a Class 2 Permit modification is too restrictive and unnecessary. As adding or deleting monitoring wells indicates that the contaminated groundwater plume is changing, moving, or diminishing in rate and extent, it is important that the public participation process be followed, so the public can be aware of the improved or declining conditions. This is indicated in 40 CFR 270.42, Appendix I. Please note that Special Permit Condition II.D.3.b. and 4.c. both state that the Permittee may elect to submit an annual modification to incorporate changes in the number of monitoring wells in lieu of a modification for each individual change. No changes were made to the Permit in response to this comment.

22) Page 25, II.D.4.B: It is requested that the groundwater Sampling and Analysis Plan be revised annually as a part of the submission of the annual report to incorporate

any changes to the groundwater monitoring system. Any information received during the previous year regarding well installation or removal, including DGLS registration acceptance cards, can be supplied to MDNR with the submission of semi-annual groundwater data and the annual report.

**MDNR RESPONSE:** MDNR would like to clarify our interpretation of "submit appropriate SAP revisions." This would include the registration report forms, the registration numbers sent back to the Permittee indicating DGLS approval, and revised pages that list the actual group of wells still being monitored at the facility, thus keeping the SAP current, until the next annual revision replaces it. No changes were made to the Permit in response to this comment.

23) Page 26, II.D.5: The five working days notice requirement is too lengthy with regard to the maintenance of interceptor wells. Often these wells are repaired (replace pump/chemical treatment) within five days of discovery. It should be added that DOE reports all well maintenance activities on monitoring and interceptor wells in the annual report. Also, since MDNR maintains an on-site presence at the KCP, DOE can notify the on-site contact before interceptor well maintenance occurs. A sentence should be added stating that this section does not apply to routine maintenance or other activities that do not affect the functionality of the wells.

**MDNR RESPONSE:** Special Permit Condition II.D.5. applies to major work such as new wells, retrofitting of existing wells, or abandonment of wells no longer needed in the monitoring network. It does not apply to minor repairs, maintenance, or modification. Redevelopment of wells would need to be reported, but does not require advance notice. Permits are not normally written with consideration given to MDNR on-site presence, as there is no long term agreement for funding the Agreement in Principle (AIP) arrangement between DOE and Federal Facilities Section of the HWP. It is possible that budget cuts could eliminate funding for these type of positions, thus the MDNR can not rely on this present arrangement as a means of communication between the Department and the Permittee. Previously DOE has taken the approach that the AIP should have minimum involvement in any activity that is thought to be regulatory, and many times has not included the AIP in correspondence or copied them on deliverables. Clarification has been added to Special Permit Condition II.D.5. to explain major work versus minor repairs.

24) Page 27, II.D.7.B.and C.: Due to the large number of well completions at the facility (240) it is requested that the text be changed to state that the annual downhole siltation and well screen occlusion evaluations and subsurface well integrity inspections be conducted on 1/3 of all wells once per year, with all wells being evaluated once every three years.

**MDNR RESPONSE:** Special Permit Condition II.D.7.(b) and (c) have been revised to allow these evaluations and inspections to be conducted on 1/3 of all wells per year, with all wells being evaluated every three years in response to this comment.

25) Page 27, II.D.7.D: The first part of the first sentence should be changed to read as follows: "monitoring well repairs that involve the functionality of the well shall be undertaken..."

**MDNR RESPONSE:** The word "functionality" can be subject to interpretation. Certain repairs may not be necessary in order to obtain a sample; however, the MDNR considers any repair that has the potential to affect the integrity of the well to be necessary. No change was made to the Permit in response to this comment.

26) Page 30, II.E.5.a.: DOE believes there is no need to measure NAPL. DOE has performed studies in the past in the wells that had the greatest likelihood to contain NAPL and supplied results of these investigations to EPA and MDNR in the Annual Report. The studies found no NAPL. To perform this activity again would be is redundant. Accordingly, it is recommended that this requirement be deleted.

**MDNR RESPONSE:** During the deep soil mixing demonstration within the northeast area of the facility, the sampling performed in connection with the project showed free product. The "Implementation of Deep Soil Mixing at the Kansas City Plant" report, dated February, 1997, has many references to "visible product", "free product" and "strong hydrocarbon and solvent odor" on pages 2-7 through 2-10. This "hot spot" of the Blue River Groundwater Flow System (BRGFS) indicates there is a possibility that free product could exist in other locations of the facility. Given the recent movement of the plume, and the sample results exceeding the groundwater protection standard in some of the compliance wells in both the BRGFS and the Indian Creek Groundwater Flow System (ICGFS), MDNR believes this requirement is necessary in order to maintain current knowledge of free product occurrence on the site. No change was made to the Permit in response to this comment.

27) Page 34, II.F.: The requirement for a semi-annual comprehensive evaluation of the facility wide groundwater monitoring program is too stringent for a site as well defined as the KCP and would be duplicative of the quarterly report. DOE proposes that MDNR permit the annual groundwater monitoring report submitted on March 1 of each calendar year to serve as the comprehensive document covering corrective action at the KCP. The text should be revised accordingly.

**MDNR RESPONSE:** The quarterly report referenced, is required in Special Permit Condition XVII., and applies to all permitted corrective action activities. (See response to Comment 71) Requirement for the semi-annual comprehensive evaluation report on the facility-wide groundwater monitoring program is found in 40 CFR 264.100(g). The semi-annual comprehensive evaluation is actually less stringent than current requirements of the Order. Special Permit Condition II.F. has been modified to require an annual comprehensive evaluation of the groundwater corrective action program, and a semi-annual reporting of all raw data, including groundwater analysis results, field measurements, copies of sampling and well inspection log sheets, well repair documentation, QA/QC data, accedences, and other relevant information in response to this comment.

28) Page 35, II.F.3.D.: The quantity of NAPL's removed per well will simply be an estimate based on the amount of water pumped from a given well to the total amount of solvents removed by the entire groundwater treatment system in a given year. DOE cannot provide an exact calculation of NAPL removed per well. The text should be clarified to so indicate.

**MDNR RESPONSE:** Special Permit Condition II.F.3.d. has been revised to provide clarification as follows:

The quantity of free NAPLs, if present and groundwater extracted from the subsurface during either stabilization activities or as part of the groundwater corrective action program should be reported both as a total amount and per well or extraction location, and shall be used in conjunction with dissolved phase contaminant concentration information to estimate quantities of contaminants removed.

29) Page 35, II.F.3.E.: This requirement should be deleted since DOE's NPDES permit requires no statistical evaluation of surface water results.

**MDNR RESPONSE:** Please note that the NPDES permit (State Operating Permit) issued by the Water Pollution Control Program (WPCP), does not entirely fulfill the requirements of 10 CSR 25-7.264(2)(F)4. The NPDES sampling data may be used for partial fulfillment of this requirement; however, it does not provide samples that represent the quality of background surface water that is not affected by any discharge from the facility, or the quality of surface water down gradient of the facility. The NPDES permit is not substantially equivalent to that which is otherwise required under 10 CSR 25-7.264(2)(F)4. No change to the Permit was made in response to this comment.

30) a. Page 36, III.A.2.: Analytical methods for groundwater (SW-846) are not appropriate for analysis of surface water. Additionally, the KCP's NPDES permits should be incorporated by reference under this section. The NPDES permit addresses the appropriate monitoring parameters and analytical methods.

b. Page 36, III.A.3: Parameters listed in Section 7 of the Permit application are not suitable for measurement of biological activity in streams; that requirement should be deleted. The permit should simply require monitoring for biological activity in accordance with 10 CSR 25-7.264(2)(F)(4).

c. Page 36, III.A.4: DOE is concerned that stormwater outfall monitoring required by this permit may conflict with requirements for NPDES monitoring, or could result in needless duplication of sampling and analysis. This permit should state that outfall monitoring data shall be obtained from sampling performed for the NPDES permit. If additional outfall data is required, those requirements should be added to the NPDES permit to avoid conflicts between the two permits. In addition, the KCP's existing NPDES permit adequately addresses the occurrence of PCBs in Outfall 002 and MDNR NPDES permitting personnel are cognizant of the historic occurrence PCBs in this outfall.

d. Page 36, III.A.5: The phrase "concurrently with" is not clear. Surface water sampling typically requires two days to accomplish, whereas groundwater sampling can take two to four weeks. This section should require surface water sampling to be conducted at some time during groundwater sampling, but not for the same duration.

e. Page 36, III.A.6: This section should be clarified to require submission of data and information with every semi-annual groundwater report and to allow analysis of the data in every second semi-annual groundwater report (annually).

#### **MDNR RESPONSE:**

a. The Department does not agree that (SW-846) methods are not appropriate for surface water. For example, Method 8260B for volatiles states it "is applicable to nearly all types of media, ground and surface water, aqueous sludges, caustic liquors, acid liquors, waste solvents, oily wastes, ..." Also, please see response to specific Comment Number 29. The Hazardous Waste Program finds no analytical methods listed in the State Operating Permit (SOP). Please note that Special Permit Condition III.A.2. states methods consistent with Table II for groundwater, which is footnoted to say "EPA SW-846 Method or equivalent." There are parameters on the list in the Permit application that are identified in the 1998 Annual Groundwater Monitoring Report, but are not listed in the effluent parameters in the State Operating Permit, such as benzene, chloroform, ethylbenzene, and toluene.



b. The parameters and locations submitted for surface water monitoring by the Permittee in Section 7 of the 1995 Permit application are acceptable to the Department, and it appears to be comprehensive in the parameters; however, the Permittee may propose changes in the Surface Water Monitoring Program in the SAP that is due within 60 days of the effective date of the Permit. After the Department approves such changes, then they may be implemented. In addition, the oxygen demand parameters are indicative of biological activity. This language was added to Special Permit Condition III.A.3. in response to this comment.

c. The MDNR does not agree that the SOP monitoring would provide substantially equivalent information that would otherwise be required by 10 CSR 25-7.264(2)(F)(4), or that needless duplication of sampling and analysis would occur, or that there would be a conflict in the requirements. The parameters that are sampled under the SOP, may be used for the surface water requirements of the Permit, for the parameters listed, and as frequency allows. For example, if there are conditions that require monthly surface water sampling pursuant to the Permit, and the SOP requires once/quarter, the SOP quarterly sampling data could be utilized for the appropriate parameters that month. The current draft SOP does require PCB compounds to be sampled for weekly, and the information could be used for the surface water requirements of the Permit; however, other locations need to be sampled to provide for evaluation of the concentration of contaminants upstream and downstream of the confluence of the raceway of Outfall 002. No changes were made in response to this comment.

d. For clarification, "concurrently with" means at some point during the groundwater sampling event. No changes were made in response to this comment.

e. MDNR would like to clarify that Special Permit Condition II.F. has been changed to require an annual comprehensive evaluation of the facility-wide groundwater monitoring program for the preceding calendar year. It requires a semi-annual report containing the data and associated information as listed in Special Permit Condition II.F.5. Thus, analysis of the surface water monitoring program is required in each March Annual Groundwater Corrective Action Report, while the data is required in the semi-annual report. Language was added to Special Permit Condition III.A.6 to clarify this in response to this comment.

31) Page 38, IV.B. SWMU 29 was investigated and closed in 1988. It is believed that MDNR wants a continuation of investigations into the Indian Creek Groundwater Flow System and not SWMU 29. DOE fully supports the continued investigations of ICGWFS and has proceeded to do so. The notation after SWMU 29 entry should be removed as this area is a component of the Multi-Sites CMS.

**MDNR RESPONSE:** SWMU 29 has appropriately been listed as a SWMU identified for no further action. The MDNR recognizes that SWMU 29 was addressed as part of the Multi-Sites CMS; however, there is evidence that the groundwater contamination has recently migrated into this area, and thus additional work and corrective action in this area is necessary. The entry following SWMU 29 indicates the situation, and MDNR believes it should be clear to anyone reading, following, or enforcing the Permit that the source of contamination in this area could be related to another area or different SWMU. No change was made to the Permit in response to this comment.

32) Page 39, IV.C.: Add the following SWMU's to the list:

- SWMU 17 Bldg. 54 (approved 10-08-93)
- SWMU 18 North Lot (approved 12/14/92)
- SWMU 19 Bldg. 16 Underground Pit (approved 12/14/92)
- SWMU 29 Southeast Lot (approved June 23, 1989)
- SWMU 43 Test Cells (approved 10-08-93)

**MDNR RESPONSE:** These have been added to Special Permit Condition IV.C.

33) Page 40, IV.D.: Add the following SWMU's to the list:

- SWMU 11 Substation 18 N. of Plating Bldg. (multiple sites CMS)
- SWMU 35 East Boilerhouse (IM Report approval March 20, 1997)

**MDNR RESPONSE:** These have been added to Special Permit Condition IV.D.

34) Page 40, IV.E.: SWMU 18 (North Lot) should be in this list.

**MDNR RESPONSE:** This has been added to Special Permit Condition IV.E.

35) Page 41, IV.F. Note (2): This note needs to be updated to reflect the final decision on the Multi-Site CMS that was finalized in July 1998.

**MDNR RESPONSE:** This has been added to Special Permit Condition IV.F., Note (2).

36) Page 42, IV.F. Penultimate Paragraph: This paragraph states that if any new information becomes available indicating human health and the environment may be adversely impacted DOE will be required to reevaluate risk assessment and fate and transport modeling previously approved by EPA to determine the need for further corrective actions. DOE is concerned about redoing work that has been previously reviewed and approved. Accordingly, the text should be changed to reflect that a re-evaluation may be required.

**MDNR RESPONSE:** This paragraph has been changed to read "...the Permittee may be required to reevaluate any report previously approved by EPA to..."

37) Page 42, IV.F., last paragraph: It is proposed that this paragraph be modified to apply only to construction or excavation activities "which disturb existing contamination" or "to locations where institutional controls for excavation are in place." Also, add the words "above clean-up levels" after the phrase "residual contamination".

**MDNR RESPONSE:** Special Permit Condition IV.F., last paragraph has been changed to read, "The Permittee shall notify the Department prior to any future construction or excavation activities which disturbs existing contamination at any SWMU or other area subject to institutional controls. The objective of this requirement will ensure that the necessary precautions are taken when disturbing and/or exposing any contaminated environmental media at the facility. Future construction, excavation activities, or land use changes may necessitate further evaluation of site conditions at SWMUs with residual levels of contamination above corresponding regulatory thresholds at that time." The objective is to insure that no additional exposure occurs as a result of activities at the facility. The notification requirement applies to all areas with institutional controls, regardless of contaminant levels. No change to the Permit was made in response to the last sentence of this comment.

38) Page 42, V.A.: This paragraph should be replaced with the language provided in the first paragraph of Section 6.2 of the DOE's 1996 Draft RCRA Post Closure Permit application.

**MDNR RESPONSE:** In the event that a new SWMU/AOC is identified after issuance of the Permit, the Permittee shall notify the MDNR and EPA in writing no later than 15 days after discovery in accordance with Special Permit Condition V.

A. This is the normal time frame in a permit. Determination by the MDNR that an actual or potential release of contamination, whether related to a new SWMU, AOC, or release from previously identified SWMU/AOC, poses "a current or potential threat to human health or the environment" is already acknowledged in the definition of SWMU, AOC, or release contained in the Permit. Determination of the need for SWMU/AOC assessment would require some substantive basis which, in this case, relates to the notification requirements of Special Permit Conditions V. and VI. These permit conditions only require notification by the Permittee. The notification requirements must include submittal of information related to the newly-identified SWMU, AOC, or release from previously identified SWMU/AOC. This information would in turn, form the basis for the MDNR to decide whether SWMU/AOC assessment is warranted. Investigation may or may not be required by the MDNR, but until the MDNR is in possession of a

notification by the Permittee, the MDNR has no substantive basis upon which to make a decision regarding the need, or lack thereof, for investigation. Should the MDNR require, based on the Permittee's notification of newly-identified SWMU, AOC, release, investigation of any newly-identified SWMU, AOC, or release based on actual or potential threat to human health or the environment, that determination would be conveyed to the Permittee in the MDNR's "request" or "notice" that an Assessment Work Plan is required pursuant to Special Permit Conditions V. and VI. The Permit was not modified in response to this comment.

39) Page 42, V.B.: Thirty calendar days to prepare an assessment work plan is too restrictive, given the size and complexity of the site, and the information to be included. Note that the model document, EPA's RCRA Corrective Action Plan (CAP), does not set a specific time requirement for preparation of an assessment plan. Instead, the CAP allows the flexibility to set time requirements based on specific instances. The permit should be revised to allow this flexibility. (See also General Comment 1).

**MDNR RESPONSE:** Special Permit Condition V.B. is referencing newly-identified SWMUs and AOCs. This applies to an individual, SWMU/AOC specific incident. It does not require the Permittee to prepare anything covering the whole site with its complexity, or to be duplicative of any previous deliverables or work done. Unlike the EPA's RCRA Corrective Action Plan (CAP), the corrective action prescribed in the Permit does have time frames. Given the experience and resources the Permittee has demonstrated in the past, 30 days should be adequate to prepare an assessment work plan on an individual SWMU/AOC basis. The Permittee may certainly request an extension, to be accompanied by adequate justification for such an extension. No change was made to the Permit in response to this comment.

40) Page 43, V.C.: Implementation of a work plan 80 days after MDNR approval would be very difficult, if not impossible for a newly identified site due to contracting and other administrative matters. (See also General Comment 1).

**MDNR RESPONSE:** Should the approved assessment work plan contain contract items, the MDNR would expect the Permittee to initiate the process of selecting their contractor in a timely manner. If weather, administrative matters, or other issues present a problem in initiating implementation of the plan within the schedule approved by the MDNR, the Permittee shall communicate that to the MDNR. The MDNR has always made an effort to accommodate these needs in schedules, as was demonstrated in the deep soil mixing demonstration. Special Permit Condition V.C. has been revised to state "The Permittee shall initiate implementation of the plan according to the schedule contained therein, after it is approved by the Department, and shall complete implementation in accordance with the schedule contained in the approved plan." in response to this comment.

41) Page 46, Section VII: The title of this section, and references therein to "stabilization", should be changed to "Interim/Stabilization Measures" to be consistent with the corrective action process and to better tie interim/stabilization measures at a SWMU to subsequent RFI/CMS/CMI activities. The phrases "or should have become aware" and "or should have known" are subjective and should be deleted. The permit should allow the use of interim/stabilization measures, where appropriate, as a substitute for CMS and CMI activities (as allowed on page 55 of the RCRA Corrective Action Plan). Language in Subsection VII.B that currently states, "The Department will determine the specific action(s) that shall be taken..." should be modified to allow the Permittee to propose specific interim/stabilization measures for MDNR's approval. The permit should allow DOE to stabilize an emergency situation without MDNR direction. Proposed rewording as follows:

#### VII. Interim/Stabilization Measures

- A. If the Permittee becomes aware of situation that may require interim/stabilization measures (ISM) to protect human health and the environment, the Permittee shall notify the Department and EPA within 24 hours of the time the Permittee becomes aware of the situation.
- B. If, during the course of any activities initiated under this Permit, the Permittee or the Department determines that a release or potential release of hazardous waste, including hazardous constituents, poses a threat to human health or the environment, the Department may require ISMs to slow or stop the further spread of contamination until final corrective action measures can be implemented. If ISMs are required by the Department, the Permittee shall submit a plan outlining specific ISM action(s) for approval by the Department. The Department will inform the Permittee of its decision regarding the ISM action(s), including potential modifications, in writing. This requirement should not preclude the Permittee from responding to an emergency situation without direction of the Department.
- C. If at any time the Permittee determines that the ISM program is not effectively limiting or stopping the further spread of contamination, the Permittee shall notify the Department and EPA in writing no later than ten (10) days after such a determination is made. The Department may require that the ISM program be revised to make it effective in limiting or stopping the spread of contamination or that final corrective action measures be undertaken to remediate the contaminated media.

- D. In cases where releases present minimal exposure concerns and/or the remedial solution is straightforward, the Permittee may propose, for review and approval by the Department, substitution of ISMs for the final CMS/CMI work.

**MDNR RESPONSE:** The MDNR disagrees that "or should have become aware" and "or should have known" are subjective as these phrases are generally well understood in the law and, within the context used, means willful ignorance is no excuse. Under Item B, if the MDNR should require a stabilization measure, resulting from a potential threat to human health or the environment, it is not deemed necessary to take the additional time for the Permittee to submit a plan for MDNR approval. The MDNR has revised this part of the Permit using the term Interim/Stabilization Measures where referenced, has added the sentence "This requirement shall not preclude the Permittee from responding to an emergency situation without direction of the Department." to Item B, and added D. as a result of this comment. Please note that D. was reworded to state these ISMs shall be consistent with and may supplement and/or satisfy the requirements for a final remedy(s) in specific areas.

42) Pages 46 and 47, VIII A: It is DOE's opinion that a Phase I RFI report for the Southeast Parking lot is not required and should be deleted. This area has been addressed and is included in the Final Decision for Multiple Sites. The compliance point wells included in this final decision are located in this parking lot. A significant amount of investigation has already been performed in this area in 1998 including a Natural Attenuation Study, a hydraulic investigation which included pump and slug tests together with the installation of four additional wells in this area has been, and continues to be, collected to determine contamination extent. When the data from this site was presented to EPA/MDNR on October 29, 1998, it was agreed that extensive investigation would not be useful. The information from these investigations will be provided in the annual report due to MDNR March 1, 1999. Furthermore, a modeling study to optimize locations of interceptor wells at the KCP including contamination in the Southeast Parking lot will be completed in Spring 1999. This report will be provided to MDNR upon completion. The KCP intends to continue monitoring and begin designing an extraction system to address this area. It should be noted that Table IV of the permit requires DOE only to submit data collected from this area, not to submit an RFI.

In addition, contamination in this area is believed to be derived from a former vapor degreaser pit at the former plating building. This area was addressed in the Multiple Sites CMS. Contribution to this contaminant plume is derived from commingling of groundwater plumes from the TCE Still Area and the Underground Tank Farm. Contamination in this area is not related to SWMU 29.

**MDNR RESPONSE:** The MDNR recognizes that the Permittee has done extensive investigations and studies in this area, and has also increased the frequency of sampling and monitoring of the wells. Given the many changes in the understanding of the Indian Creek Groundwater Flow System (ICGWFS) in this area within the past year, and given that the compliance wells have been exceeding the groundwater protection standards established in the Final Decision for Multiple Sites, since June, 1998, the MDNR believes it is appropriate to continue further and more detailed evaluation. MDNR believes it is appropriate that the Permittee assemble the most recent information in the form of a revised Phase I RFI Report. Should an interim measure, like one of the four alternatives (pump and treat, regeneration, iron wall, or interceptor trench) discussed in the March 15, 1999 conference call between the Permittee, EPA, and MDNR, prove to be effective in treating the problem, it will be considered as a potential final remedy. The current Permit language also clearly indicates that SWMU 29 is not the source of the contamination. It seems more reasonable to revise this one RFI, than to do two Phase II RFIs on the TCE Still Area and the Underground Tank Farm. MDNR does agree with the Permittee's comment on the commingling of groundwater plumes, with some of it coming from both the TCE Still Area and the former regulated unit, the Underground Tank Farm. No change was made to the Permit in response to this comment.

43) Page 47, VIII.A., second paragraph: See Specific Comment 8.

**MDNR RESPONSE:** See response to specific Comment 8. Requirements for a Phase I RFI Work Plan or additional information on remaining contamination for the Test Cells (SWMU 43) have been removed from the Permit.

44) Page 49, IX.B.: This paragraph makes the tasks described in Subparagraphs 1 through 11 mandatory for all RFI Reports. While some tasks may be basic requirements of all RFI Reports, others should clearly be optional, depending on the specific circumstances of each RFI. For example, laboratory, bench-scale, pilot-scale and/or appropriate tests or studies would not be appropriate for all RFIs. The wording in this section should be revised to restore the flexibility offered in EPA's model document. (See General Comment 1.)

**MDNR RESPONSE:** MDNR would like to clarify, that the Permittee in submitting a RFI, is required to provide information, or supporting data, to help determine the effectiveness of various technologies that may be useful at the facility. These may be anything from a pilot study at the individual facility, to reports or studies about a considered remedy. The last sentence in the first paragraph of Special Permit Condition IX.B. was revised to say "The RFI Report shall describe the procedures, methods, and results of all investigations of SWMUs/AOCs and associated releases, including, but not limited to, the following, as appropriate:" in response to this comment.

45) Page 51, Section X.B: The requirement for a CMS workplan for the 95th Terrace site should be deleted. Under the Consent Order, DOE has submitted four CMS reports that addressed contamination at 28 SWMUs. All of the CMS reports were developed without CMS workplans, and were approved by EPA and MDNR. Accordingly, there is no need for the additional time and expense that would be required to generate a CMS workplan.

**MDNR RESPONSE:** MDNR disagrees that the time and expense to prepare a CMS Workplan fills no need in the corrective action process. The Permittee should note Special Permit Condition X.C., specifies that the Department "may" require the Permittee to identify and evaluate one or more specific potential remedies for removal, containment, and treatment of hazardous waste in contaminated media based on the objectives established for corrective action. In other words, submittal of a CMS Work Plan is not an absolute requirement. However, MDNR feels that it must retain the opportunity to provide input to the CMS scope of work at the development stage, prior to implementation. In any area that contaminants are moving, or newly identified problems establish a need for additional corrective action, the Permittee and the MDNR would discuss the potential courses of action before a decision is made concerning the alternatives to be evaluated in detail. In this case, the 95th Terrace site, DOE agreed to do the CMS in response to many of the comments on the revised RFI at the July 15, 1999 meeting with EPA and MDNR. No changes were made in response to this comment.

46) Page 51, X.D.: A time period of 45 days is too short for preparation of a CMS work plan containing all the information required in this section. The wording in this section makes the tasks described in Subparagraphs 1-8 mandatory for every CMS work plan (requirements that are optional in the EPA guidance document). For example, a CMS work plan must be prepared in less than 45 days and must contain the results of laboratory, bench-scale, pilot-scale, and/or appropriate tests or studies. The mandatory requirements should be removed and replaced with a statement that CMS work plans shall be consistent with EPA's RCRA Corrective Action Plan. (See General Comments 1 and 4.)

**MDNR RESPONSE:** The 45 day time frame is standard permit language; however, should the Permittee demonstrate the need for a longer period, the MDNR will discuss it with the Permittee and adjust the time frame if appropriate. Also note that the CMS Work Plan is a proposal, or plan to describe the approach, objectives, possible remedies, and other considerations to be evaluated in search for the most efficient and effective final remedy for dealing with contaminated media at the facility. These are the alternatives to be studied during the CMS, are developed in the "think stage" by the Permittee with the oversight of the MDNR. Note response to specific Comment 44. Information from



the laboratory, bench-scale, pilot scale, and/or appropriate test/studies may already exist, or may be proposed to do in conjunction with the implementation of the CMS. The last sentence of the first paragraph in Special Permit Condition X.D. was revised to read, "At a minimum, the CMS Work Plan and any other CMS Work Plan required by this Permit shall provide the following information as appropriate:" in response to this comment.

47) Page 53, XII.: This condition as presently written appears to allow MDNR to approve a final remedy that has no relationship with any of the suggested remedies evaluated in a CMS. DOE asks that the text be modified to allow MDNR to select remedies evaluated in the CMS.

**MDNR RESPONSE:** The nature of the process involving MDNR approval in the CMS Work Plan stage, allows the Department to have input in the remedies to be evaluated. MDNR wants to clarify that the proposed final remedy chosen, should be one that has been evaluated in the CMS, but whose final approval shall be made by the Department, not the Permittee. The language in Special Permit Condition XII. is worded in this manner to allow MDNR to change or consider a final remedy other than that proposed by the Permittee as a result of comments received from the public during the public comment period. No changes were made in response to this comment.

48) Page 54, XIII.: Ninety (90) days to complete a CMI design as required in a CMI workplan is impracticable and will undoubtedly require requests for an extension. The preparation of a final set of construction specifications and drawings, plus a design report, could take a year to produce after a contract is placed with a consulting firm. The time requirement for preparation of CMI work plans should be based on a schedule presented in the approved CMS. (See also General Comments 1 and 4).

**MDNR RESPONSE:** The schedule in the CMS Work Plan reflects study time and submitting a CMS Report. For a fair and objective evaluation of remedies, neither the Permittee nor MDNR is aware at that stage (CMS Workplan) of the corrective action process, which remedy will be the final selection. Upon receipt of the CMS Report, the Statement of Basis will be prepared to summarize the corrective measures alternatives that were evaluated, and to justify the final remedy selected. Once the Permittee receives the approval, as indicated in Special Permit Condition XIII., the Permittee has 90 days to prepare a Corrective Measures Implementation (CMI) Workplan. Should the CMI Workplan include contract items, they should be shown in a schedule, along with a reasonable time estimate for completion. Usually the CMI Work Plan spells out specific actions and deliverables to be provided with associated schedules, not actual details. The Permittee may propose a CMI Schedule in the CMS report, which would be agreed to or changed through the approval process. The MDNR, like EPA has

done previously, will work with the Permittee to have reasonable time lines. If MDNR believes that the Permittee is taking too much time, they will communicate that to the Permittee. Likewise, if the Permittee can demonstrate adequate justification for a longer time period, MDNR will consider a reasonable extension for the 90 days. The following statement has been added to Special Permit Condition XIII.A., first paragraph.

**"The Permittee may propose a schedule for submitting the (CMI) Work Plan in their CMS Report, basing it upon the final remedy approval."**

49) Page 54, XIII.A., First Paragraph: This Section states that a CMI work plan shall be submitted within 90 days after approval of every final remedy. In addition, this section refers later to the SWMUs that were addressed in the Multiple Site CMS. However, EPA approved use of institutional controls in the Multiple Site CMS. Accordingly, this Section appears to conflict with the requirement in Section XIII.B. for submittal of an institutional controls implementation plan. This apparent conflict of requiring both a CMI Workplan and an Institutional Controls Implementation Plan for the same SWMU's should be corrected.

**MDNR RESPONSE:** The requirement in Special Permit Condition XIII.A. regarding SWMUs in the Multiple Site CMS incorporates information consistent with the EPA decision, and provides detail concerning the nature of contaminants remaining at those SWMUs. Special Permit Condition XIII.B. lists land use restrictions that are required to be included in the institutional controls, and applies to the entire KCP facility. Please note that Parts B., C., D., and G. make up the Long Term Soil and Groundwater Plan in Appendix G of the Order on Consent, and apply site-wide. No changes were made in response to this comment.

50) Page 54, XIII.A., second paragraph: It is apparent that the CMI work plan is to include completed construction specifications and drawings. It is unclear why, when the design effort is complete, this Section requires submittal of cost and schedule estimates for design. This requirement for the submittal of cost and schedule estimates for the design should be deleted.

**MDNR RESPONSE:** Information provided previously on remedies, costs, and designs has been preliminary estimates and designs. Please note the language used in this paragraph: "shall contain a detailed description of the design, construction, ...", "an amended cost estimate to more accurately define detailed costs for design, construction, ...", and "The CMI Work Plan shall provide detailed plans for remedy implementation ...", was misleading and does read like the statement in your comment. The CMI Work Plan actually serves as a framework, and does not normally contain significant technical detail. It would not be good

management or efficient use of funds to do full blown, detailed designs and specifications on a remedy, when it may not be the selected one. The word "detailed" was removed from Special Permit Condition XIII.A., second paragraph, in the three locations mentioned above in the Permit in response to this comment. Please note, it still reads "a detailed schedule for design, construction, and monitoring;" In other words, the schedule at this point should be detailed. Also please note that since the CMI Work Plan is to more accurately define costs, any costs related to financial assurance for corrective action, be it long term monitoring, institutional controls, or other remedies, should be included.

51) Page 54, XIII.A., second paragraph: The first paragraph discusses the requirements of a CMI to be submitted for any CMI under the permit whereas the second paragraph discusses a CMI for the Multiple Sites. As it presently reads it is confusing and needs clarification. DOE recommends deletion of subparagraphs 1-5.

**MDNR RESPONSE:** MDNR disagrees that subparagraphs 1-5 should be deleted. The first paragraph does require that a CMI Work Plan be prepared for each approved CMS Report. The second paragraph provides details and objectives to be included in a CMI Work Plan. Included within the second paragraph, is also the SWMUs within the Multiple Sites, providing facts on the remaining contamination, and the required institutional controls. As mentioned in response to Comment 49, this is consistent with the EPA decision. It should also be included to consolidate previous decisions on corrective action at the facility, thereby eliminating the need to find all previous final decision documents to determine the status of a SWMU. MDNR has made every effort to be consistent with former EPA decisions and guidelines, and provide for a smooth transition from the Order on Consent to the Permit. The following sentence has been added to the first paragraph of Special Permit Condition XIII.A., "The Permittee may propose a schedule for submitting the (CMI) Work Plan in their CMS Report, basing it upon the final remedy approval." in response to this comment.

52) Page 55, XIII.A.4.: An Interim Measures Report was not prepared for this site since little or no PCB contamination was found here. The Interim Measures Report referred to is probably the D/27 Outside IM Report. The section should be clarified accordingly. (See above comment).

**MDNR RESPONSE:** MDNR agrees that an IM Report was not prepared, and has revised Special Permit Condition XIII.A.4. as follows: "Department 27, Inside, SWMU 32. This area contains several pits, where PCB fluid was reported to have leaked. Sampling data from 1991, 1992, and the RFI conducted at the SWMU in 1994 and 1995, showed that chemicals of concern did not exceed the proposed soil cleanup levels based on industrial exposures. The requirements under

Special Permit Condition XIII.A.2. regarding institutional controls and land use restrictions apply." This is consistent with EPA's Final Decision Response to Comments, U.S. Department of Energy, Kansas City Plant Multiple Sites, Kansas City, Missouri, dated July 7, 1998, which selected institutional controls as the corrective action measure for all SWMUs at the Multiple Sites in the summary.

53) Page 56, XIII.B.3.: The word "urgent" in the second sentence should be deleted since repairs to utilities are not always urgent but are nevertheless required.

**MDNR RESPONSE:** MDNR has removed the word "urgent" from Special Permit Condition XIII.B.3., in response to this comment.

54) Page 56, XIII. B 5.: This condition is overly restrictive to possible GSA land use of property transferred from the KCP. Specific plans such as tree farming or other agricultural uses should be permitted. The text should be modified to allow this activity.

**MDNR RESPONSE:** MDNR received a letter from Glen W. Overton, Regional Administrator, U.S. General Services Administration, dated November 24, 1998, stating that GSA had worked closely with the D.O.E. and U.S. Army Corps of Engineers over the past several years, had numerous opportunities to offer comment on all developments, and had no questions about the proposed plan, in regard to the Draft Hazardous Waste Post-Closure Permit. Based upon the requirements contained in 40 CFR 264.117 and applicable EPA corrective action guidance documents, the MDNR will consider other proposed uses of the facility on a case by case basis. No changes were made in response to this comment.

55) Pages 56, 57, and 58: Note typos on page 56, line 4, "contamination," 57, paragraph D.2., "access", and page 59, XIV.A., "summarized."

**MDNR RESPONSE:** The Permit has been revised to correct these errors.

56) Page 57, D.3: Add the following after the parenthetical phrase: "and be acceptable under the U.S. Attorney General's Title Regulations promulgated pursuant to 40.U.S.C. 225."

**MDNR RESPONSE:** MDNR believes that the intended regulation citation mentioned is actually 40. U.S.C. 255, which pertains to property being acquired by the Federal Government, not to property currently owned by the Federal Government. To be consistent with the Final Decision/Response for Multiple Sites, this phrase was added to Special Permit Condition XIII.D.3.

57) Page 57, D.5.: This Condition should be revised to be consistent with Site Access Provisions identified in Section 6.8 of the November 1996 post closure permit application. (See General Comment 2).

**MDNR RESPONSE:** See response to General Comment 2, in regard to the 24 hour notice, and routine inspections. In consideration of the security requirements of the DOE, the first paragraph of Special Permit Condition XIII.D.5 has been revised to read: "The access easement shall include a grant of a right of access to the real property for the purpose of conducting any activity related to corrective measures provided for in this Permit. In order to comply with DOE's security requirements, the MDNR representatives shall be U.S. citizens, be accompanied by a DOE or DOE contractor escort, and if entering any exclusion security area, shall have a DOE Q access authorization. This shall include, but not be limited to the following activities:"

58) Page 58, XIII.F.: It is requested that the text be changed to read that any O&M requirements for the Iron Treatment Wall O&M be made as a part of the site-wide O&M plan. The one year demonstration for this project will be well underway (over half complete) at the time the plan is required to be submitted.

**MDNR RESPONSE:** As the iron treatment wall is in a demonstration phase of a Corrective Measures Implementation Plan, and not yet approved as a final remedy, the MDNR has requested a separate O&M plan for Department review and approval. DOE gave the MDNR and EPA notice on April 16, 1999, that compliance well KC98-215L was exceeding the groundwater protection standard for vinyl chloride. This implies that contaminants are migrating around the south end of the treatment wall. Based on this observation, MDNR does not feel that a one year demonstration, even if successful, merits removing the installed extraction well and trench that could be utilized as a contingency, in case there is a problem with the demonstration. No change was made to the Permit in response to this comment.

59) Page 58, XIII.F.: This Section states that the operating life of the iron treatment wall shall be at least ten years. The iron treatment wall is based on a relatively new technology with an uncertain operating life. Accordingly, any reference to an "operating life" should be deleted.

**MDNR RESPONSE:** MDNR agrees with DOE, that the iron treatment wall has an uncertain operating life, and agrees that use of the term "operating life" is not appropriate. That sentence in the Permit has been revised to read: "The operation of the treatment wall pursuant to the associated O&M plan shall be for a period of not less than ten years from the date of completion of installation of the treatment wall, or until the Permittee demonstrates that the wall is not effective in meeting the GPS."

60) Page 59, XIII. G.: It is requested that language in this Condition be modified. The language is not required by regulation and appears to require a constant review by DOE. A schedule of review such as biennially or every five years is more practicable.

**MDNR RESPONSE:** Special Permit Condition XIII.G. requires that the Permittee utilize the current pump and treat system in an effort to contain the contamination and to remove/reduce the source "hot spots." The Permittee must also report in the comprehensive Annual Groundwater Corrective Action Reports, any efforts to investigate new technology that could be applied at the facility. As long as the groundwater contamination appears to be migrating, the MDNR expects the DOE to be proactive in searching for new and better remedies. MDNR believes this is reasonable, considering that some compliance wells of both the Indian Creek Groundwater Flow System (ICGWFS) and the Blue River Groundwater Flow System (BRGWFS) have not been meeting the GPS for the site. In other words, based on the groundwater sampling and analysis over the past year or so, there should be an ongoing effort of the Permittee to meet the GPS, including consideration of new technologies that may be used to achieve the GPS. Special Permit Condition XIII.G. was changed to state "These efforts shall be reported annually as part of the March 1, Annual Groundwater Corrective Action Report to be consistent with the change in Special Permit Condition II. and in response to this comment.

61) Page 59, XIII.G.: This section states that the Multiple Sites CMS shall be reopened if buildings are removed from above the Indian Creek Groundwater Flow System. This conflicts with EPA's final decision with respect to the Multiple Sites CMS and other sections of the draft permit. EPA's final decision requires new measures to prevent percolation of precipitation into contaminated soil if existing buildings or pavement are removed. DOE recommends language similar to that identified in Special Permit Condition XIII.B.3., that is, DOE must provide an alternative for corrective measures for MDNR approval. The Multiple Sites CMS should not be re-opened.

**MDNR RESPONSE:** MDNR agrees with this comment, and has revised the last sentence of Special Permit Condition XIII.G. to read as follows: "In the event that the buildings are removed from over the Indian Creek Groundwater Flow System, the Permittee shall meet the requirements of Special Permit Condition XIII.B.3."

62) Page 59, XIV.A.: A time period of 60 days is inadequate for preparation of a CMI report. It is also unclear whether MDNR requests a CMI report to be submitted after every CMI, or one CMI report to be submitted after all CMIs are complete. This should be clarified. (See General Comment 4).

**MDNR RESPONSE:** See response to General Comment 4 regarding time requirements and extension requests. For clarification, for any Corrective Measures Implementation that is complete, a CMI Report shall be submitted. Considering the complex nature of the site, along with situations occurring independently in the ICGWFS and the BRGWFS, when another CMS is required, as in the case of the 95th Terrace, it is intended that when a final remedy is

approved by MDNR, and implemented, that a CMI Report be submitted. No change was made to the Permit in response to this comment.

63) Page 59, XIV. B.: This condition states that the groundwater corrective action shall continue until it is demonstrated that the GPS have not been exceeded for a period of 3 years. The text should be revised to say GPS "in compliance point wells".

**MDNR RESPONSE:** MDNR would like to clarify that 40 CFR 264.92 and 40 CFR 264.100 require the GPS to be met "at and beyond the point of compliance," even including areas beyond the facility property boundary. MDNR has changed the last sentence in Special Permit Condition XIV.B. to read: "... limits have not been exceeded for a period of 3 consecutive years at and beyond the point of compliance ."

64) Page 60, XIV D.: The written certification in this condition is duplicative of the report. It appears that DOE must submit a report declaring the remedy has been performed and then submit a certification saying the same thing. It is requested that this requirement be deleted.

**MDNR RESPONSE:** Certification is always tied to Department approval of the CMI Report. Special Permit Condition XIV. has been revised and reorganized to clarify this procedure. Please note that the CMI Report required in Special Permit Condition XIV.A. is submitted for MDNR approval. After MDNR approves the CMI Report, Special Permit Condition XIV.C. (XIV.D. in the draft permit) requires that certification be submitted. Please note that Special Permit Condition XIV.B. now has an additional paragraph stating, "Where remediation is projected to occur over a long period of time (i.e., is not complete at the time of construction completion), the Permittee shall submit a Corrective Measures Construction Completion Report to document construction of the final remedy. The Department will not formally approve the Corrective Measures Construction Report, but will acknowledge receipt and provide comments as needed." Also note that in the second paragraph of Special Permit Condition XIV.B., for extended time remedies, the Permittee shall summarize the progress in the Annual Groundwater Corrective Action Reports. For example, the Permittee would follow these steps where a remedial activity results in a process taking several years to complete, like pump and treat. The Permittee would then submit the CMI Report at a later date when the Permittee believes that the corrective measure completion criteria have been satisfied. The Corrective Measures Construction Completion Report under Special Permit Condition XIV.B. would not be submitted for a corrective measure that completed remediation upon installation/application, like a cutoff wall, or removing contaminated soil.

65) Page 60, XV A&B: Since local zoning boards have no jurisdiction to regulate land use at federal facilities, these two paragraphs should be deleted. It is noted that : (1) no such requirement was provided for in the EPA's Final Decision/Response to Comments dated July 13, 1998; and (2) adequate notice to prospective purchasers is provided for in the following paragraph C.1.

**MDNR RESPONSE:** The MDNR does not agree that Special Permit Condition XV.A. and B. should be deleted. MDNR's concern is the potential transfer of property at the facility back to the private sector. DOE can not provide any guarantee that this will never occur, and as a result of that uncertainty, Special Permit Condition XV. provides the MDNR with a method to keep the protective instruments that will run with the land, to be protective of human health and the environment in the future, whether a Federal agency remains the tenant, or not. Special Permit Condition XV.A. and B. were reworded, replacing the term, "submitted to the local zoning authority, or the authority with jurisdiction over local land use," with the term "filed with the Recorder of Deeds for Jackson County, Missouri," to be consistent with the Final Decision/Response to Comment Documents for the Multiple Sites from EPA and in response to this comment.

66) Page 60, XV C: The 60 day time period for recording the notice appears to conflict with the time frame for the submission of the "institutional control implementation plan" of 180 days after the effective date of the permit as well as the requirements of the plan for submission of draft real estate documents. Accordingly, this paragraph C should read "within 60 calendar days after Departmental approval of the institutional control implementation plan....."

**MDNR RESPONSE:** The institutional control implementation plan required in Special Permit Condition XIII. Corrective Measures Implementation (CMI) Work Plan, and the requirement of Special Permit Condition XV. Deed Notation and/or Deed Restriction Requirements, actually mesh together. Special Permit Condition XV. requires the Permittee to submit draft notices in Parts A and B to the MDNR for approval, within 60 days after the effective date of the Permit. The Permittee is then required to record these notices within 60 days of the MDNR's approval. This would be a total of 120 days, plus the time required for the MDNR to review and approve the notices. These notices make a record on the instrument normally examined during a title search prior to a conveyance of property, that these identified areas have been used to manage hazardous waste and the level of hazardous constituents that remain above background levels.

The plan for implementation of institutional controls required in Special Permit Condition XIII., consist of the controls and restrictions that the Permittee shall implement as a result of this Permit and previous final decisions under the Order,



which also include easements, notices, and other instruments necessary to continue these controls in the event that a different government entity or the private sector should be the tenant/owner in the future. No change was made to the Permit in response to this comment.

67) Page 61, E.: The first part of the first sentence should be re-written as follows:

"At least 60 days prior to conveyance, or transfer of custody or control, of any real property at the Kansas City Plant located within areas subject to corrective action or institutional controls under this Permit, the Permittee shall...."

**MDNR RESPONSE: MDNR agrees. Special Permit Condition XV.E. has been revised to read: "At least 60 days prior to conveyance, or transfer of custody or control, of any real property at the KCP located within areas subject to corrective action or institutional controls under this Permit, the Permittee shall ..."**

68) Page 61, E: The reference to "local zoning authority" should be deleted for the reasons stated above.

**MDNR RESPONSE: The term "local zoning authority and recorders office" was replaced with "Recorder of Deeds for Jackson County, Missouri" in response to this comment.**

69) Page 61, F.: It is unclear what purpose this paragraph serves. The investigation of new technologies, mentioned here, is dealt with more specifically elsewhere in the Permit. Second, it is unclear why the Department would require "modification or revocation and reissuance of this Permit" in connection with a conveyance or transfer. It is recommended that this paragraph be deleted.

**MDNR RESPONSE: MDNR agrees that investigation of new technologies is covered in more detail in Special Permit Condition XIII.G., but feels it is appropriate to be included in Special Permit Condition XV., in that it applies to the Permittee, and to future potential permittees.**

Please note that under Transfer of permits, 40 CFR Part 270.40, and 10 CSR 25-7.270(2)(D) that in order to transfer a permit to a new owner or operator, a modification or revocation and reissuance is required to identify the new permittee and to meet other requirements as necessary. No changes were made to the Permit in response to these comments.

70) Page 62, XVI.: Financial assurance requirements are not applicable to federal facilities and this permit condition should be deleted. (See Specific Comment 5).

**MDNR RESPONSE:** MDNR does not agree that this should be deleted, but has revised Special Permit Condition XVI. to incorporate language from: 1) other permits to federal agencies, and 2) a July 27, 1999 letter from the Permittee. It now reads:

**XVI. Funding and Financial Assurance for Corrective Action**

- A.** It is the expectation of the Department and Permittee that all obligations and commitments established in this Permit will be fully funded by the Permittee. The Permittee shall take all necessary steps, and use its best efforts, to obtain timely funding to meet its obligations under this Permit, including but not limited to the submission of timely budget requests. However, nothing herein shall affect Permittee's authority over its budget and funding level submissions. Additionally, any requirement for the payment or obligation of funds by Permittee established by the terms of this Permit shall be subject to the availability of appropriated funds, and no provision herein shall be interpreted to require the obligation or payment of funds in violation of the Anti-Deficiency Act, 31 U.S.C. Section 1341, as amended. In instances where Permittee is precluded from meeting its commitments hereunder due solely to the restrictions of the Act, and Permittee has otherwise taken all necessary steps and made diligent efforts to obtain the funds necessary to meet its commitments hereunder, any scheduled dates for activities that cannot be performed for such reason shall be appropriately adjusted.
- B.** The Permittee shall submit to the Department an annual funding report demonstrating requests for funding sufficient to fulfill the Permittee's obligations under this Permit. This funding report shall be submitted annually, on or before each anniversary of the effective date of this Permit.
- C.** Within 120 days of the effective date of this Permit, the Permittee shall provide all necessary documentation to demonstrate they have requested funds sufficient for the continued implementation of existing final remedies at the facility.
- D.** Within 90 days after this Permit has been modified to include any new or additional remedies, the Permittee shall provide all necessary documentation to demonstrate a request for an increase of funds sufficient to support all corrective action activities required under this Permit. The funding request shall be based on ongoing

remedies at the facility, and on the cost estimates contained in the CMS Reports for the additional remedies. If, in order to perform an approved remedy, the Permittee is required, through appropriate channels, to submit a funding request to the U. S. Congress, the Permittee shall notify the Department of such requirement within 30 days after this Permit has been modified to include such an approved remedy.

- E. If the cost estimates contained in the CMS Report, or ongoing implementation costs increase, the Permittee shall, in the next annual funding report under paragraph B. above, demonstrate that the cost increase has been reflected in the Permittee's budget requests.
- F. If appropriate funds are not available to fulfill the Permittee's obligations under this Permit, the Department reserves the right to initiate any action to enforce the terms of this Permit.

71) Page 62, XVII.: It is requested that the proposed quarterly progress reports be changed in frequency to semi-annual. It is also requested that these reports continue to contain the same information and remain in the same format as quarterly reports currently being submitted to MDNR and EPA under the RCRA 3008(h) Consent Order. The text should be modified to state that these reports should be submitted only during periods of active remediation or system modification.

**MDNR RESPONSE:** The quarterly progress reports are normal requirements of a Permit, and as noted by the Permittee in this comment, are consistent with the current reporting frequency of reports presently being submitted under the Order. Given the number of activities that are on-going at this time in corrective action (the iron treatment wall, additional investigation and remediation in the S. E. Parking lot, and the issue of the source of PCBs in outfall 002), the MDNR believes that quarterly reports on the corrective action activities at the facility are essential. The Permittee shall follow the format defined in Special Permit Condition XVII. No changes were made to the Permit in response to these comments.

72) Page 64, XIX A.: While it is understood that MDNR has final authority to approve or revise plans, DOE requests language more in keeping with the level of cooperation that exists between the KCP and MDNR.

**MDNR RESPONSE:** The processes defined in Special Permit Conditions III. through XXIII. of the Permit, provide for interaction between the Permittee and the MDNR, during the post-closure care period. While some regulatory requirements

are not considered by the MDNR to be negotiable, much of the corrective action process will indeed be approached in a cooperative, coordinated manner between the MDNR and the Permittee. No change was made to the Permit in response to this comment.

73) Page 64, XIX.B.: The Excavated Soil Management Procedures should not cover instances where a true immediate emergency necessitates immediate excavation. DOE requests that the text in this section be modified to state that soil excavated under these emergency circumstances may be placed on the ground adjacent to the excavation and be placed on plastic, bermed, and covered as had been the practice at the KCP. The soil when characterized will be disposed of according to applicable regulations.

**MDNR RESPONSE:** The Excavated Soil Management Procedures are described in Special Permit Condition XIX.B. to meet the Permittee's needs in doing routine repair and maintenance of the utilities at the facility. Emergency situations requiring immediate action that may result in exposing hazardous waste, or hazardous waste contaminated media, should be handled under Special Permit Condition VII. Interim Stabilization Measures, not the Excavated Soil Management Procedures. The Permittee would normally follow procedures that are protective of workers, contractors, human health, and the environment during an emergency. This includes the procedures to prevent run-on/run-off and appropriate analysis as described in this comment. Please note response to Comment 41, that Special Permit Condition VII. was revised to provide the Permittee additional flexibility to manage immediate emergencies.

74) Page 66, XXII.: This section should be deleted as the KCP is now a generator only facility. There are no active treatment, storage or disposal activities at the KCP.

**MDNR RESPONSE:** The MDNR agrees, and has removed Special Permit Condition XXII. Air Emissions From Process Vents and Equipment Leaks from the Permit.

75) The permit does not fully identify and discuss the potential long-term environmental cleanup liabilities and associated costs for this site. The cost of potential long term clean up to unrestricted or other appropriate uses for the site must be included to insure recognition of the liabilities and vulnerabilities which exist should the Department of Energy or the Federal Government desire to dispose of the property. Concerns are that failure to identify the entire liability for cleanup costs would result in no established national priority to fund restoration activities at the Kansas City Plant, impacting Part XVI. Funding and Financial Assurance for Corrective Action.

**MDNR RESPONSE:** Special Permit Condition XIII.B. requires the Permittee to submit a plan for implementing the institutional controls, according to the requirements listed therein, including item B.3 which prohibits removal of buildings, structures, and pavement at the facility without providing alternative corrective measures to protect human health and the environment, and the prior approval of MDNR. Special Permit Condition XIII.D. requires continuation of the institutional controls if the control or custody of the property transfers. This plan then must be filed at the Recorder of Deeds, for Jackson County. Special Permit Condition XVI. has been revised in response to comments (see response to Comment 70) to require an annual funding report, demonstrating requests for sufficient funding have been submitted in the Permittee's budget requests, in order to carry out any remedies, current and future. Special Permit Conditions XVI.D. and E. require updates for any new or additional remedies, and adjustments in funding requests due to costs increasing. In other words, if the Permittee desired to change or alter the cleanup standards to enable a more unrestricted future use of the property, these sections of the Permit should offer the ability for these remedies to be properly funded prior to such an undertaking.



Mal Carnahan, Governor • Stephen M. Mahfield, Director

## DEPARTMENT OF NATURAL RESOURCES

DIVISION OF ENVIRONMENTAL QUALITY

P.O. Box 176 Jefferson City, MO 65102-0176

October 4, 1999

Mr. Daniel Bradbury  
Kansas City Public Library  
311 East 12<sup>th</sup> Street  
Kansas City, MO 64106

RE: U.S. Department of Energy, Final Hazardous Waste Permit

Dear Mr. Bradbury:

Enclosed is a copy of the final permit and final permit cover letter regarding the hazardous waste management facility permit for the above-referenced facility.

The Missouri Department of Natural Resources is requesting that these documents be made available for public viewing at your library. Please allow the public to review the information, make copies, etc.; however, this information should not be removed from the library.

Thank you for your cooperation in this matter. If you have any questions, please contact me at (573) 751-3553.

Sincerely,

HAZARDOUS WASTE PROGRAM

A handwritten signature in black ink that reads "Jeremy Krump". The signature is written in a cursive style.

Jeremy Krump  
Environmental Specialist  
Permits Section

JK:la

Enclosures

Mr. Daniel Bradbury  
Page 2

c: Mr. Phil Keary, U.S. Department of Energy, Kansas City Plant  
Ms. Patricia Murrow, U.S. EPA Region VII  
MDNR, Kansas City Regional Office