



**MISSOURI HAZARDOUS WASTE MANAGEMENT FACILITY PERMIT
PART I
PERMIT NUMBER: MOD000298398**

PERMITTEE

Owner and Operator: GETS Global Signaling, LLC
2712 South Dillingham Road
Grain Valley, MO 64029

FACILITY LOCATION

2712 South Dillingham Road
Grain Valley, MO 64029
Jackson County
North Latitude – 39°03'50"
West Longitude – 94°12'50"

FACILITY DESCRIPTION

GETS Global Signaling, LLC, manufactures electronic signal instrumentation for the rail transportation industry. In 1987, plant management became aware that the method used to discard spent circuit board cleaning solvents did not comply with existing environmental laws. The spent solvents were collected in small containers that were emptied into a larger drum behind the Assembly Building. Spent solvents that were collected in the large drum were periodically poured onto the ground. The waste solvent is classified as a F001 hazardous waste and consisted primarily of trichloroethylene, with lesser amounts of acetone, 1,1,1 trichloroethane, 1,4-dioxane, toluene, methylene chloride, and xylene. The facility ceased this illegal activity and disclosed to the Missouri Department of Natural Resources that this

activity had been occurring. Since that time, a groundwater monitoring program and soil clean-up program has been instituted in the area where the F001 waste was disposed. The extent of contamination is currently limited to a small area on the GETS Global Signaling, LLC, property.

PERMITTED ACTIVITIES

This Permit requires post-closure care, including groundwater monitoring, to ensure that the contaminant plume is not posing a threat to human health or the environment. This Permit outlines the options that will be pursued in the event that contaminated groundwater poses a threat to human health or the environment due to significant off-site movement or significant vertical movement.

EFFECTIVE DATES OF PERMIT: September 30, 2009 to September 30, 2019

September 30, 2009

[Original signed by Robert Geller]

Date

Robert Geller, Director
HAZARDOUS WASTE PROGRAM

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	5
DEFINITIONS.....	9
SCHEDULE OF COMPLIANCE.....	11
SUBMITTAL OF REQUIRED INFORMATION	13
STANDARD PERMIT CONDITION	14
GENERAL PERMIT CONDITIONS.....	15
SPECIAL PERMIT CONDITIONS	16
I. Groundwater Monitoring and Corrective Action Program - Former Hazardous Waste Land Disposal Unit	16
II. Surface Water Monitoring Program.....	27
CORRECTIVE ACTION CONDITIONS	28
I. Identification of SWMUs and AOCs.....	28
II. Notification Requirements for, and Assessment of, Newly-Identified SWMUs and AOCs.....	29
III. Notification Requirements for, and Assessment of, Newly-Identified Releases from Previously-Identified SWMUs and AOCs	30
IV. Interim/Stabilization Measures	32
V. RCRA Facility Investigation (RFI) Work Plan	34
VI. RCRA Facility Investigation (RFI) Report.....	35
VII. Corrective Measures Study (CMS) Work Plan.....	37
VIII. Corrective Measures Study (CMS) Report.....	39
IX. Final Remedy Approval.....	40
X. Activity and Use Limitations (AULs).....	41
XI. Annual Progress Reports.....	41
XII. Planned and Contingent Activities.....	42
XIII. Supplemental Data	43
XIV. Corrective Action Cost Estimates and Financial Assurance.....	43
XV. Review and Approval Procedures.....	58

FACILITY SUBMISSION SUMMARY 60

 Table I - Summary of the Planned Submittal Requirements Pursuant to this Permit..... 60

 Table II - Summary of the Contingent Corrective Action Submittal Requirements
 Pursuant to the Corrective Action Conditions of this Permit..... 61

 Table III - Groundwater Protection Standards..... 63

 Table IV - Groundwater Corrective Action Monitoring, Sampling, Analysis, and
 Parameter Measurement Schedule 64

FIGURE 1 - Facility Boundaries, Former Hazardous Waste Land Disposal Unit, and Points of
 Compliance 65

INTRODUCTION

After public notice, according to 10 CSR 25-8.124, and review of GETS Global Signaling, LLC's Resource Conservation and Recovery Act (RCRA) Part B Permit Application, (hereafter referred to as the Application), the Missouri Department of Natural Resources (hereafter referred to as the Department) has determined that the application conforms to the provisions of the Solid Waste Disposal Act, as amended by RCRA and regulations promulgated thereunder by the U.S. Environmental Protection Agency (hereafter referred to as EPA) (codified and to be codified in Title 40 of the Code of Federal Regulations) and the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this act), Section 260.350, et seq., RSMo. In accordance with Section 260.375.13, RSMo, and the Solid Waste Disposal Act, the Department hereby approves the Application and issues Permit Number MOD000298398 to GETS Global Signaling, LLC (hereafter referred to as the Permittee) for post-closure as described in the Application and this Permit. This Permit also addresses corrective action requirements for solid waste management units and the requirements of the Hazardous and Solid Waste Amendments of 1984 (HSWA) as administered and enforced by the Department. Applicable regulations are found in 40 CFR Parts 260 through 264, 266, 268, and 270, and in 10 CSR 25-7, as specified in this Permit. The Department is issuing this Missouri Hazardous Waste Management Facility (MHWMF) Part I Permit under state authority. EPA is issuing the HSWA Part II Permit under federal authority to address regulatory requirements of HSWA for which the state is not yet authorized. The MHWMF Part I Permit shall remain in effect even if the HSWA Part II Permit is terminated or has expired.

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 instances where state regulations are more stringent, the appropriate state reference is given and shall apply.

The provisions of this Permit are severable. 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 permit application information shall be available to the public unless the Permittee requests nondisclosure in writing, as described in 10 CSR 25-7.270(2)(B)2. and Section 260.430, RSMo. This Permit and accompanying permit application material will be available for review by the public at the Mid-Continent Public Library, Grain Valley Branch, in Grain Valley, Missouri; the Department's central office in Jefferson City, Missouri; and the EPA Region VII office in Kansas City, Kansas.

Any appeals of the issuance or denial of this Permit or specific permit conditions based on state authority shall be filed according to 10 CSR 25-2.020 and Sections 260.395.11 and 621.250, RSMo. Anyone adversely affected or aggrieved by this decision may appeal to have the matter

heard by the Administrative Hearing Commission. To appeal, a written petition must be filed with the Administrative Hearing Commission within 30 calendar days after this Permit is mailed or hand delivered, whichever is earlier. If the petition is sent by registered mail or certified mail, it will be considered filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be considered filed on the date it is received by the Administrative Hearing Commission.

The “consolidated permit application” is defined as the approved permit application submitted by Permittee on May 29, 2009, and addendum submitted July 14, 2009, along with all additional documents required to be submitted under the Schedule of Compliance, Item I.A., of this Permit. The Permittee shall maintain a copy of all documents associated with the consolidated permit application on site at the facility.

Any inaccuracies found in information submitted by the Permittee may be grounds for the termination, revocation and reissuance, or modification of this Permit according to 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 this Permit. All such changes to this Permit will be according to 10 CSR 25-7.270(2)(D), 10 CSR 25-8.124, and 40 CFR Part 270 Subpart D, as incorporated by reference in 10 CSR 25-7.270(1).

Post-closure operation of this hazardous waste management facility shall be according to 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 be effective.

This Permit for post-closure activities is issued only to the Permittee named above. This Permit is issued for a period of ten years and expires at midnight on September 30, 2019. This Permit is subject to review and modification by the Department in accordance with Section 260.395.12, RSMo.

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 EPA are incorporated into this MHWMF Part I Permit and are under state authority. Federal administrative authority for other HSWA requirements for which the state has not adopted the applicable federal regulation or for which the state is not authorized is retained by EPA in the HSWA Part II 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 from 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 or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such action. 40 CFR 264.101(c) further stipulates that the owner or 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 260.395.12, 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.

The Permittee is required to comply with all applicable environmental laws and regulations enforced by the Department. These environmental laws and regulations are administered by the

GETS Global Signaling, LLC
Missouri Hazardous Waste Management Facility Permit - Part I
MOD000298398
Page 8

Air Pollution Control Program, Hazardous Waste Program, Land Reclamation Program, Solid Waste Management Program, and Water Protection Program. Failure to comply 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.

DEFINITIONS

For purposes of this Permit, terms used herein shall have the same meaning as those in Resource Conservation and Recovery Act (RCRA) and 40 CFR Parts 260, 261, 264, 266, 268, and 270, and 10 CSR 25, unless this Permit specifically provides otherwise. Where terms are not defined in RCRA, the regulations, the Permit, or the U.S. Environmental Protection Agency 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.

“Approved Permit Application” means the original permit application submittal and any subsequent completeness and/or technical information submittals as referenced in the Introduction of this Permit.

“Area of Concern (AOC)” means any area where an actual or potential release of hazardous waste or hazardous constituents that is not from a solid waste management unit has occurred or is occurring and is determined by the Department to pose a current or potential threat to human health or the environment. Investigation and/or remediation of AOCs 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).

“Consolidated Permit Application” means the approved permit application, along with all additional documents required to be submitted under Schedule of Compliance, Item I.A. of this Permit.

“Director” means the Director of the Missouri Department of Natural Resources.

“Facility” means:

(1) All contiguous land and structures, other appurtenances, and improvements on the land used for treating, storing, or disposing hazardous waste; and

(2) All contiguous property under the control of the owner or 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 the conditions throughout this Permit.

“Hazardous constituent” means any chemical compound listed in 40 CFR Part 261 Appendix VIII., as incorporated by reference 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, which, because of its quantity, concentration, 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. Within 60 calendar days after the effective date of this Permit, the Permittee shall:
- A. Submit to the Department two copies of the consolidated permit application as required by 10 CSR 25-7.270(2)(B)7. This consolidated permit application shall include the following:
 - 1. The approved permit application, as referenced in the Introduction of this Permit; and
 - 2. All changes made to the Application as a result of the public comment period;
 - 3. If no changes have been made to the approved permit application, submit to the Department a statement indicating that there have been no changes to the approved permit application and that the Department possesses all of the required documents of the consolidated permit application.
 - B. Submit to the Department a certification by the Permittee that the Permittee has read the Permit in its entirety and understands all permit conditions contained herein.
 - C. Submit to the Department a check or money order payable to "State of Missouri" for any outstanding engineering review costs.
 - D. Submit to the Department a check or money order payable to "State of Missouri" for \$1000 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 \$1000 deposit with the permit application, the remaining balance to be submitted by the Permittee is calculated as:

$$\text{remaining balance} = \$9000.00 - \left(\left(\frac{\$1000.00}{365 \cdot \text{days}} \right) \times N_d \right)$$

where N_d equals the number of days from the expiration date of the continued permit (which coincides with the anniversary date of the original permit issuance) to the date of permit reissuance. An invoice is included with this Permit. The check shall be directed to the Hazardous Waste Program, Permits Section.

- II. Within 60 calendar days after the Department's approval of the updated post-closure plan and cost estimate, the Permittee shall submit an updated financial assurance instrument according to 40 CFR 264.145. Cost Estimate must include the additional well and any other changes.
- III. Within 60 calendar days after the effective date of this Permit, the Permittee shall revise and resubmit for the Department's approval, the Sampling and Analysis Plan to reflect the requirements contained in this Permit, as required by Special Permit Condition I.D.6.
- IV. The Permittee shall comply, as necessary, with all planned and contingent corrective action requirements of this Permit as specified in the planned and contingent corrective action conditions sections and as summarized in Table I and II.

SUBMITTAL OF REQUIRED INFORMATION

- I. The Permittee shall submit three copies of all reports, documents, plans/specifications, and consolidated permit application 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 65102-0176

- II. 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 and Permits Branch
U.S. Environmental Protection Agency Region VII
Air and Waste Management Division
901 North Fifth Street
Kansas City, KS 66101

STANDARD PERMIT CONDITION

- 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, et seq., RSMo, 40 CFR Part 264 Subpart H, 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. The Permittee shall comply with the requirements described in 40 CFR Part 264 Subpart B, 40 CFR Part 264 Subpart C, 40 CFR Part 264 Subpart D, 40 CFR Part 264 Subpart E, 40 CFR Part 264 Subpart G, 40 CFR Part 264 Subpart H, 40 CFR Part 268, and 40 CFR Part 270, as incorporated and modified in 10 CSR 25-7 and 10 CSR 25-8.

- II. 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 the Permittee's control, notify the Department's emergency response hotline at (573) 634-2436 and the National Response Center at 1-800-424-8802.

SPECIAL PERMIT CONDITIONS

The Permittee shall comply with all applicable groundwater monitoring, surface water monitoring, and corrective action requirements contained in 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264(1), 10 CSR 25-7.264(2)(F), and this Permit for the Former Hazardous Waste Land Disposal Unit, all identified Solid Waste Management Units (SWMU) and Areas of Concern (AOCs), and any newly-identified SWMUs/AOCs or releases identified pursuant to the provisions of this Permit.

I. Groundwater Monitoring and Corrective Action Program - Former Hazardous Waste Land Disposal Unit [40 CFR Part 264 Subpart F]

A. Groundwater Protection Standards (GPS), Hazardous Constituents, and Concentration Limits [40 CFR 264.92, 264.93 and 264.94].

The 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 Table III of this Permit constitute the GPS for the Permittee's Former Hazardous Waste Land Disposal Unit. The listed hazardous constituents have been detected in the groundwater beneath and beyond the subject unit and are reasonably expected to be in or derived from waste managed at the Former Hazardous Waste Land Disposal Unit.

1. The maximum concentration limits for the GPS hazardous constituents listed on Table III are based on protection of human health and the environment and were derived from several different sources as explained by the footnotes to Table III.
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 will be equal to 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 analysis will be exempted from this requirement.

However, such an exemption does not 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 I.A.2., which allow for adequate comparison with appropriate health- or environmental protection-based concentration limit(s).
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 these 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 modification 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 can 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 I.E.6. shall be used as the basis for determining if the addition of hazardous constituents to the GPS is necessary.

Any addition of hazardous constituents to the GPS as a result of the above determination shall require a Class 1 permit modification in accordance with 40 CFR 270.42. 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].

At the ground surface, the point of compliance is defined as the vertical surface circumscribing the Former Hazardous Waste Land Disposal Unit (Figure 1). In the subsurface, the point of compliance is defined as a vertical surface that extends perpendicularly downward from this survey boundary, which extends into the uppermost aquifer underlying the Former Hazardous Waste Land Disposal Unit. Groundwater contamination at and beyond the point of compliance that exceeds the GPS maximum concentration limits shall be subject to corrective action pursuant to 40 CFR 264.100. MW-1 and MW-5 are wells monitoring groundwater passing the point of compliance.

C. Compliance Period [40 CFR 264.96].

The compliance period for the Former Hazardous Waste Land Disposal Unit shall be equal to the active life of the Former Hazardous Waste Land Disposal Unit, which is 16 years. The compliance period shall continue until July 31, 2012.

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 the 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 that 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 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 calendar 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.

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 Groundwater Sampling and Analysis Plan (SAP). The Department will notify the Permittee in writing regarding this determination. Within 30 calendar days of this notification, the Permittee shall submit appropriate SAP revisions to the Department's Hazardous Waste Program (HWP).

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.

The Permittee shall submit to the Department's HWP, 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 Groundwater Corrective Action Reports required by Special Permit Condition I.F.

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 HWP, 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 Groundwater Corrective Action Reports required by Special Permit Condition I.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 calendar days of DGLS' registration acceptance, the Permittee shall submit appropriate SAP revisions to the Department's HWP.
5. The Permittee shall contact the Department at least five business days prior to conducting any fieldwork associated with the construction or modification of the groundwater monitoring system required by this Permit. The Department shall then have the option of observing any portion of the system construction or modification.
6. 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. The Permittee shall revise and resubmit for Department approval the SAP within 60 calendar days after the effective date of this Permit to reflect the requirements contained in this Permit.

A monitoring well inspection and maintenance program shall be implemented for the duration of the compliance period including any extension. This program shall be designed to ensure the structural integrity of all monitoring well installations. The Permittee's SAP shall address the details of this program in accordance with the following requirements.

- a. Surface well integrity inspections shall be performed at the time of each sampling event and shall be documented on an inspection log sheet. Surface integrity evaluations for each monitoring well shall include a visual inspection of the outer protective casing, inner casing riser, surface well seal, well cap, and locking mechanism, to document any damage or deterioration. The ground surface in the immediate vicinity of each monitoring well and the annular space between the outer protective casing and casing riser shall be inspected for visible anomalies (e.g., collection or ponding of water, ground subsidence, etc.).
- b. Subsurface well integrity inspections shall be performed annually in all wells, in accordance with the provisions contained in the Permittee's SAP, and shall be documented on a well inspection log sheet. Subsurface well integrity inspections may consist of a combination of elements, including total well depth measurements, groundwater turbidity measurements, in-situ hydraulic conductivity tests, casing caliper logs, down-hole television camera surveys and/or other methods capable of verifying the subsurface integrity of the well casing and screen.
- c. The Permittee's SAP shall specify performance of an annual wellbore siltation evaluation to assess downwell siltation and well screen occlusion in all monitoring wells. This requirement shall be designed to ensure the representative nature of the Permittee's groundwater sample analysis and field measurement results through minimization of sampling and measurement interferences (e.g., turbidity, excessive well screen occlusion, etc.).

The Permittee's SAP shall specify a well redevelopment trigger criterion based on a percentage of well screen occlusion and the potential of such occlusion to compromise the representative nature of the Permittee's groundwater sample analysis and field measurement results. Wells demonstrating well screen occlusion equal to or in excess of the selected criterion shall be redeveloped prior to the next regularly scheduled sampling event.

E. Corrective Action Program [40 CFR 264.100].

The Former Hazardous Waste Land Disposal Unit is subject to the corrective action program requirements of 40 CFR 264.100, as incorporated by reference in 10 CSR 25-7.264, and this Permit, until such time as the corrective action requirements contained in 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264, and this Permit have been satisfied.

1. The Permittee's corrective action program for the Former Hazardous Waste Land Disposal Unit shall consist of groundwater and surface water monitoring, in accordance with Special Permit Conditions I. and II., and any further site investigation, evaluation, and/or implementation of remedial alternatives necessary to address site-wide groundwater contamination, in accordance with Corrective Action Conditions V. through IX. The corrective action program shall address any groundwater contamination that has migrated off site. The corrective action program is premised on:
 - a. The inability to differentiate groundwater contamination related to releases from the Former Hazardous Waste Land Disposal Unit versus that potentially related to nearby SWMUs/AOCs, which are subject to corrective action in accordance with 40 CFR 264.101.
 - b. The desirability of implementing a holistic, sitewide 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 IV.
 - a. Sampling and analysis in accordance with this schedule shall begin during the next regularly scheduled sampling event, in accordance with the approved SAP.
 - b. Sampling and analysis of groundwater from any new wells required by this Permit shall be performed no later than the next regularly scheduled sampling event following their installation.

- c. 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 quarterly, in accordance with Table IV.
 - d. Specific perimeter wells to be monitored shall be specified in the Permittee's approved SAP required by Special Permit Condition I.D.6.
 - e. Installation of additional perimeter wells may be necessary to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264, and this Permit. If any such wells are installed, they may be subject to the monitoring requirements contained in Tables III and IV.
 - f. Any future changes to the list of perimeter wells established in the Permittee's SAP shall be approved, in writing, by the Department. Within 30 calendar days of receipt of this 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 an annual basis, in accordance with Table IV.
- a. Specific effectiveness wells to be monitored shall be specified in the Permittee's SAP required by Special Permit Condition I.D.6.
 - b. Installation of additional effectiveness wells may be necessary to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264, and this Permit. If any such wells are installed, they may be subject to the monitoring requirements contained in Table IV.
 - c. Any future changes to the list of effectiveness wells established in the Permittee's SAP shall be approved, in writing, by the Department. Within 30 calendar days of receipt of this 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 IV, 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 non-aqueous phase liquid 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 adequate well purging. Additional field parameter measurements such as those taken to verify the adequacy of well purging shall be recorded in the field logbook.
6. Within one year prior to the fifth and tenth years of this Permit, the Permittee shall sample and analyze groundwater from two historically contaminated wells for all parameters 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 contaminated well to the west of the Assembly Building and one contaminated well on the east side of the Assembly Building.
 - b. This sampling and analysis is required to determine if additional hazardous constituents (40 CFR 261, Appendix XIII.) and/or contamination indicator parameters are present in the groundwater that may be attributable to a release(s) from the Former Hazardous Waste Land Disposal Unit 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, in accordance with 40 CFR 270.42, to add the confirmed hazardous constituents or contamination indicator parameters to the GPS specified in Table III and the monitoring program specified in Table IV.

F. Groundwater Corrective Action Reporting Requirements.

The Permittee shall submit to the Department, on a semi-annual basis, Groundwater Corrective Action Reports. The Permittee shall submit these Groundwater Corrective Action Reports to the Department by March 1st and September 1st of each calendar year for the preceding calendar half-year. These Groundwater Corrective Action Reports shall include all uninterpreted analytical data from the Permittee's groundwater sampling events, groundwater analysis results, field parameter measurement results, copies of field sampling and well inspection log sheets, well repair documentation, QA/QC data, field investigation results, volume of groundwater extracted, and other relevant groundwater-related information, as appropriate. These reports shall also discuss any exceedances of the GPS and effluent limits in the Missouri State Operating Permit. The September 1st Groundwater Corrective Action Reports need only contain the information outlined in this paragraph on the facility-wide groundwater monitoring program for the preceding half-year (i.e., January through June).

In addition to the information outlined above, the Permittee's March 1st Groundwater Corrective Action Reports shall contain a comprehensive evaluation, as described below, of the facility-wide groundwater monitoring program for the preceding calendar year (i.e., January through December).

1. The March 1st Groundwater Corrective Action 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 discussion of any groundwater-related interim measures or stabilization actions taken in the preceding calendar year. Any conclusions concerning inadequacies in the Permittee's groundwater monitoring program shall be accompanied by a discussion of proposed remedies. The Permittee shall develop specific details concerning any proposed remedies outside of the scope of these reports and/or as otherwise specified in this Permit.

2. The Permittee's March 1st 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 March 1st 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 III) 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 effectiveness of the groundwater corrective action program;
 - d. The Permittee shall include an annual plume stability analysis. The analysis must demonstrate if the plume is growing, shrinking, or stable for the past ten years. The analysis must demonstrate increasing, decreasing, or stable contaminant trends for the past 10 years; and
 - e. The conclusions and summary, including statistical evaluation, of analytical results from groundwater and surface water monitoring conducted during the reporting period.

4. The Permittee shall submit to the Department, in the March 1st 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 preceding calendar year and the monitoring well-related information.

II. 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) and the approved SAP, throughout the life of this Permit 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 SAP required by Special Permit Condition I.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 Tables III. and IV. for groundwater.
 3. Reporting and analysis 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 Groundwater Corrective Action Reports required by Special Permit Condition I.F.
- B. The Permittee may, at any time during the life of this Permit, make a demonstration to the Department for a surface water monitoring exemption. A successful demonstration for such an exemption would, at a minimum, adequately address the elements of 40 CFR 264.94(b), as applied to potentially affected surface water bodies. Department approval of the Permittee's surface water monitoring exemption shall necessitate a permit modification, in accordance with 40 CFR 270.42.

CORRECTIVE ACTION CONDITIONS

I. Identification of SWMUs and AOCs [40 CFR 264.101]

A. The U.S. Environmental Protection Agency (EPA) previously conducted a Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) to identify and gather information on releases or potential releases from any SWMUs (including the Former Hazardous Waste Land Disposal Unit) and Areas of Concern (AOCs) at the facility. The final RFA report, dated March 4, 1993, identified several SWMUs/AOCs on the property other than the Former Hazardous Waste Land Disposal Unit. The SWMUs/AOCs identified in the RFA are as follows:

1. Former Hazardous Waste Land Disposal Unit (SWMU 1)
2. Former Hazardous Waste Container Storage Area (SWMU 2)
3. Wastewater Treatment Plant (SWMU 3)
4. Former Septic Tank Holding Lagoon (SWMU 5)
5. Trash Dumpsters (SWMU 6)
6. Alleged Old Dumpsite (AOC A)
7. County Park Pond (AOC B)
8. NPDES Discharge Ditch (AOC C)

The Firewater Pond was initially identified as SWMU 4 in the RFA, however, it was later determined that the Firewater Pond is not a SWMU.

The RFA did not identify any SWMUs/AOCs, other than the Former Hazardous Waste Land Disposal Unit (SWMU 1), which required further investigation and/or remediation.

B. The Permittee shall conduct further investigations and/or take corrective action as deemed appropriate by the Department for any newly-identified SWMUs/AOCs or releases at the facility as specified in Corrective Action Conditions II. and IX. of this Permit.

- II. Notification Requirements for, and Assessment of, Newly-Identified SWMUs and AOCs
- A. The Permittee shall notify the Department and EPA, in writing, no later than 15 calendar days after discovery or after discovery should have been made, of any new SWMU(s) or AOC(s) identified after the issuance of this Permit.
- B. The Department may require a SWMU/AOC Assessment Work Plan for conducting an investigation of any newly-identified SWMU(s) or AOC(s). Within 60 calendar days after receipt of notice that the Department requires 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 must include monitoring parameters sufficient to assess the release of hazardous waste and/or hazardous constituents from the newly-identified SWMU(s) or 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. The SWMU/AOC Assessment Work Plan shall contain a schedule for implementation of the work plan that is predicated on the date of Departmental approval of the plan.
- C. The Department will review the SWMU/AOC Assessment Work Plan according to the procedures described in Corrective Action Condition XV. of this Permit. The Permittee shall implement the plan according to the schedule contained in the plan, after it is approved by the Department.
- D. The Permittee shall submit a newly-identified 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 or AOC:
1. The location of the newly-identified SWMU or AOC in relation to other SWMUs or AOCs;

2. The type and function of the unit/area;
 3. The general dimensions, capacities, and structural description of the unit/area;
 4. The period during which the unit/area was operated;
 5. The physical and chemical properties of all wastes that have been or are being managed at the SWMU or AOC, to the extent available;
 6. The results of any sampling and analysis conducted;
 7. Past and present operating practices;
 8. Previous uses of the area occupied by the SWMU or AOC;
 9. Amounts of waste handled; and
 10. Drainage areas and/or drainage patterns near the SWMU(s) or AOC(s).
- E. The Department will review the SWMU/AOC Assessment Report according to the procedures described in Corrective Action Condition XV. of this Permit. Based on the findings of the report and any other available information, the Department will determine the need for further investigations, including stabilization, a RCRA Facility Investigation (RFI), or a Corrective Measures Study (CMS), at specific unit(s) identified in the SWMU/AOC Assessment Report.
- F. 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. The Department will review this work plan for additional investigations according to the procedures described in Corrective Action Condition XV. of this Permit. The Permittee shall complete implementation according to the schedule contained in the approved plan.
- III. 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, no later than 15 calendar days after discovery or after discovery should have been made, of any

newly-identified release(s) of hazardous waste, including hazardous constituents, from previously-identified SWMUs and/or AOCs, discovered during the course of groundwater monitoring, field investigation, environmental auditing, or other activities undertaken after issuance of this Permit.

- B. The Department may require a Newly-Identified Release Work Plan for conducting an investigation of the newly-identified release(s). Within 60 calendar 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 that shall include a discussion of the waste/chemical management practices related to the release and 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. The sampling and analysis program shall be capable of yielding representative samples and must 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 identify any data to be collected to provide for a complete Newly-Identified Release Report, as specified below. The Newly-Identified Release Work Plan shall contain a schedule for implementation of the work plan that is predicated on the date of Departmental approval of the plan.
- C. The Department will review the Newly-Identified Release Work Plan according to the procedures described in Corrective Action Condition XV. of this Permit. The Permittee shall implement the plan according to the schedule contained in the plan, after it is approved by the Department.
- 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) or 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 have been determined to comprise the release;
 5. The results of any sampling and analysis 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 drainage patterns near and at the location of the release.
- E. The Department will review the Newly-Identified Release Report according to the procedures described in Corrective Action Condition XV. of this Permit. Based on the findings of the report and any other available information, the Department will determine the need for further investigation, including stabilization, a RFI, or a CMS.

IV. Interim/Stabilization Measures

- A. Interim/stabilization measures have been completed at the site to stabilize vadose zone subsurface soils. Operation of a Soil Vapor Extraction (SVE) system commenced on December 8, 1993. Active operation of the SVE system ceased on April 6, 2001. A final round of verification soil samples was taken in March 2001. The results of this sampling indicated that the concentration of contaminants in soils were below previously approved site-specific risk levels. On July 2, 2001, the Permittee submitted a formal request to suspend operation of the SVE system. The Department approved this request as a Class 1 permit modification with prior Director's approval on September 4, 2001. The SVE system is still in place and has remained idle since the time of the referenced permit modification. The Department may require reactivation of the SVE system if Semi-Annual Groundwater Reports, required in Special Permit Condition I.F.3.f.(2) of this Permit, show contaminant concentrations increasing above applicable levels.

1. The Permittee shall notify the Department and EPA within 24 hours of becoming aware of a situation that may require interim/stabilization measures to protect human health or the environment.
2. If, during the course of any activity 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 interim/stabilization measures 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 must be taken to implement interim/stabilization measures, including potential Permit modifications and the schedule for implementing the interim/stabilization requirements. The Department will inform the Permittee, in writing, of decisions regarding the action(s). This requirement shall not preclude the Permittee from responding to an emergency situation without direction from the Department.
3. The Permittee shall notify the Department and EPA, in writing, no later than ten calendar days after determining or after a determination should have been made, that the interim/stabilization measures program is not effectively limiting or stopping the further spread of contamination. The Department may require that the interim/stabilization measures 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.
4. In cases where releases or potential releases present minimal human health and environmental exposure concerns and/or the proposed remedial solution is relatively uncomplicated, the Permittee may propose interim/stabilization measures for review and approval by the Department according to the procedures described in Corrective Action Condition XV. of this Permit. These interim/stabilization measures shall be consistent with and may supplement and/or satisfy the requirements for a final remedy(s) in specific areas. Proposed interim/stabilization measures that are determined by the Department to be significant (e.g., those which are anticipated to make up a substantial portion of the final remedy) may be subject to public review and comment before final approval by the Department.

V. RCRA Facility Investigation (RFI) Work Plan

- A. Phase I, II, and III Field Investigation work plans were submitted and conducted at the facility from 1989 to 1991. The final RFI work plan, Phase III Site Investigation Work Plan, was submitted in October 1991.
- B. If the Department determines that additional investigations are needed, the Department may require the Permittee to prepare and submit for approval an RFI Work Plan. Within 60 calendar days after receipt of notice that the Department requires an RFI Work Plan, the Permittee shall submit an RFI Work Plan to the Department and EPA. The RFI Work Plan shall be designed to investigate releases of hazardous waste, including hazardous constituents, to all appropriate media of concern including soil, sediment, bedrock, groundwater, surface water, and/or air. In order to substantiate future corrective action decisions, the RFI Work Plan shall contain provisions that are sufficient to meet the following objectives and schedule for implementation of the work plan that is predicated on the date of Departmental approval of the plan:
 - 1. Full characterization of the nature, vertical and horizontal extent, and rate of migration of releases of hazardous waste and/or hazardous constituents from SWMUs and AOCs, or groups of SWMUs at the facility and the actual or potential receptors of such releases; and
 - 2. Collection of any other pertinent data that may be utilized to substantiate future corrective action decisions.
- C. 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 (currently May 1989) of the EPA guidance document entitled, 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 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. The Permittee shall follow EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations; EPA QA/R-5, March 2001 (reissued May 2006) or the most current version.

- 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 that requires the submittal of supplemental RFI Work Plans.
- G. The Department will review the RFI Work Plan(s) according to the procedures described in Corrective Action Condition XV. of this Permit. The Permittee shall implement the plan(s) according to the schedule contained in the plan(s), after it is approved by the Department.

VI. RCRA Facility Investigation (RFI) Report

- A. The Facility submitted results from the Phase III Site Investigation in July 1992.
- B. Should additional investigation become necessary, the Permittee shall submit an RFI Report to the Department and EPA according to the schedule contained in the approved RFI Work Plan described in Corrective Action Condition V. of this Permit. 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 and AOCs. The RFI Report must contain adequate information to support further corrective action decisions at the facility. Information contained in the RFI Report shall be presented in a format that is consistent with Section 5 of the most recent version (currently May 1989) of the EPA Publication entitled, RCRA Facility Investigation Guidance; EPA 530/SW-89-031.
- C. The RFI Report shall provide an interpretation of the RFI information gathered, supported with adequate documentation, to enable the Department to determine whether additional interim/stabilization and/or corrective measures may be necessary.

The RFI Report shall describe the procedures, methods, and results of all Investigations of SWMUs and 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 and 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 and AOCs;
5. Assessment of potential risks to the human and environmental receptors exposed to release(s) from SWMUs and 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 interim/stabilization measures previously implemented; and
 10. Evaluation of data quality which may affect the nature and scope of a CMS as well as the evaluation of corrective measures alternatives thereunder (e.g., identification of any potential bias in the RFI data, and documentation of its precision, accuracy, representativeness, completeness, comparability, validation, etc.)
- D. The Department will review the RFI Report according to the procedures described in Corrective Action Condition XV. of this Permit. 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 Corrective Measure Study Work Plan pursuant to Corrective Action Condition VII. of this Permit.

VII. Corrective Measures Study (CMS) Work Plan

A CMS has not been formally conducted for this facility. To date, the only identified SWMU/AOC requiring investigation and remediation is the Former Hazardous Waste Land Disposal Area. This SWMU is also classified as a regulated (hazardous waste) land disposal unit, hence, the final remedy for the contaminated soil and groundwater located at the Former Hazardous Waste Land Disposal Area was implemented during the closure process. Closure with waste in place was completed in 1996. As part of closure, the SVE system was installed to remove volatile organic compounds from subsurface soils and an asphalt cap was installed over the area of contaminated soil. The final remedy for contaminated groundwater implemented as part of closure is monitored natural attenuation.

- A. If the Department determines there has been a release of hazardous waste or hazardous constituents from newly- and/or previously-identified SWMUs or AOCs that may present a threat to human health or the environment, the Department may require the Permittee to prepare and submit for approval a CMS Work Plan. The Department 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. As part of the CMS, the Department may require the Permittee to identify and evaluate 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.

- C. Within 45 calendar days after receipt of notice that the Department requires the Permittee to conduct a CMS, the Permittee shall submit a CMS Work Plan to the Department and EPA. 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 shall provide the following information, as appropriate, and schedule for implementation of the work plan that is predicated on the date of Departmental approval of the plan:
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 that 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.

- D. The Department will review the CMS Work Plan according to the procedures described in Corrective Action Condition XV. of this Permit. The Permittee shall implement the plan according to the schedule contained in the plan, after it is approved by the Department.

VIII. Corrective Measures Study (CMS) Report

- A. If the Department determines that a CMS Report is necessary to address a release(s) of hazardous waste and/or hazardous constituents from newly- and/or previously-identified SWMUs/AOCs, the Permittee shall submit a CMS Report to the Department and EPA according to the schedule contained in the approved CMS Work Plan, described in Corrective Action Condition VII. of this Permit. 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.
- B. The CMS Report shall describe the results of the investigations for each remedy studied and of any bench-scale or pilot tests conducted. The CMS Report 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) and 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 a remedy and rationale for selection; and
 - 6. Assessment of institutional requirements, such as state or local permits that may be needed, discussion of other environmental or public health requirements or institutional controls (e.g., local ordinances) that may substantially affect implementation of the final remedy and/or a draft of

any site-specific institutional controls (e.g., an environmental covenant prepared pursuant to the Missouri Environmental Covenants Act) that are proposed as part of a final remedy.

- C. The CMS Report shall contain adequate information to support the Department in the remedy approval decision-making process.
- D. The Department will review the CMS Report according to the procedures described in Corrective Action Condition XV. of this Permit. Upon approval of the CMS Report by the Department, the Department will approve a final remedy as specified in Corrective Action Condition IX. of this Permit.

IX. Final Remedy Approval

- A. Following approval of the CMS Report, or equivalent, the Department will prepare a Statement of Basis summarizing the corrective measures alternatives that were evaluated by the Permittee, including the Department's basis of support for the proposed final remedy.
- B. Following the Department's preparation of the Statement of Basis, a permit modification will be initiated pursuant to 40 CFR 270.41 or 270.42(c), as applicable, to facilitate public review and comment on the Statement of Basis and proposed final remedy and, thereafter, final remedy approval by the Department and implementation of the approved final remedy by the Permittee.
- C. 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.

X. Activity and Use Limitations (AULs)

- A. The Permittee shall notify the Department before any construction or excavation activities that would disturb existing contamination at any SWMUs or other areas subject to AULs. This requirement will ensure that necessary precautions are taken when disturbing 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.
- B. Before conveyance of any property at the facility, or transfer of custody or control of any real property, 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 AULs, engineering and institutional controls, as well as ongoing remediation and corrective action.
- C. If and when the Department determines that an environmental covenant is appropriate, the Permittee shall comply with the Missouri Environmental Covenant Act, in accordance with Section 260.1000 through Section 260.1039, RSMo.
- D. Any deed restriction or notation for the facility must be filed with the Recorder of Deeds of Jackson County in Missouri. Proof of any such filing must be provided to the Department.

XI. Annual Progress Reports

- A. The Permittee shall submit signed Annual Progress Reports to the Department and EPA, summarizing all permitted corrective action activities undertaken during each calendar year. Each Annual Progress Report shall be due to the Department by March 1 of each calendar year for the preceding calendar year and may be submitted as part of the March 1st Groundwater Corrective Action Reports required by Special Permit Condition I.F. of this Permit.

The Annual Progress Reports shall continue to be submitted until the Permittee's corrective action activities (including any long-term operation, maintenance, and monitoring activities) are complete. The Annual Progress Reports shall include the following information for the time period being reported:

1. A description of any 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 otherwise required to be reported elsewhere in this Permit.
- B. If the Department determines that further “active” corrective action is required pursuant to Corrective Action Conditions II. through IX. of this Permit, the frequency of submittal of progress reports may increase. If an increase in reporting frequency is necessary, the Department will provide written notification of the new reporting frequency to the Permittee.

Detailed technical information required to be submitted as part of interim/stabilization measures, RFI and CMS work plans/reports, and semi-annual Groundwater Corrective Action Reports need not be reproduced as part of the Permittee’s Annual 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.

XII. Planned and Contingent Activities

- A. The Permittee shall comply with the schedule for planned corrective action activities as specified in this Permit and summarized on Table I.
- B. The Permittee shall comply, as necessary, with the schedule(s) for contingent activities as specified in the Corrective Action Conditions of this Permit and summarized on Table II.

XIII. 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.

XIV. Corrective Action Cost Estimates and Financial Assurance

The Permittee shall comply with the requirements described in the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this act), Section 260.350, et seq., RSMo, 40 CFR Part 264 Subpart H, 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.

A. Cost Estimates

1. Corrective Action Cost Estimate

Within 60 calendar days of the effective date of this Permit, the Permittee shall submit an updated, detailed written cost estimate, in current dollars, of the cost of hiring a third party to perform the corrective action activities required by this Permit.

- a. The cost estimate shall account for the total costs of the work activities including any necessary long-term costs, such as operation, maintenance and monitoring costs.
- b. A third party is a party who:
 - (1) Is neither a parent nor a subsidiary of the Permittee; and
 - (2) Does not share a common parent or subsidiary with the Permittee.
- c. The cost estimates shall not include any salvage value that may be realized from the sale of wastes, facility structures or equipment, land, or other assets associated with the facility.

- d. Discounting is not allowed.

The Permittee shall submit each corrective action cost estimate for review and approval by the Department. The Department will review each cost estimate and notify the Permittee, in writing, of the Department's approval, rejection, or modification of the cost estimate according to Corrective Action Condition XV. of this Permit. If the Department does not approve the cost estimate, the Department will notify the Permittee, in writing, of the estimate's deficiencies and specify a due date for submittal of a revised cost estimate.

- 2. Revisions to the Corrective Action Cost Estimate

- a. Annual Adjustment for Inflation

The Permittee shall adjust annually the corrective action cost estimate for inflation until all corrective action activities required by this Permit are complete. The inflation adjustment shall be determined by using the procedures described in 40 CFR 264.142(b) except that the inflation factor should be derived from the most recent annual Implicit Price Deflator for the Gross Domestic Product instead of the Gross National Product. The cost estimate is due within 60 calendar days before the anniversary date of the establishment of the financial assurance instrument used to comply with this section. If the Permittee uses a financial test or corporate guarantee to demonstrate financial assurance, the cost estimate is due within 30 calendar days of the end of the provider's fiscal year end.

- b. Additional Corrective Action Activities

The Permittee shall increase the corrective action cost estimate if:

- (1) The Permittee or the Department determines that any additional corrective action activities are required; or
- (2) If any other conditions increase the estimated cost of the corrective action activities to be performed under this Permit.

If the Department determines that a new cost estimate is required, the Department will notify the Permittee of this requirement.

The Permittee shall submit each revised corrective action cost estimate for review and approval by the Department. The Department will review each revised cost estimate and notify the Permittee, in writing, of the Department's approval, rejection, or modification of the cost estimate according to Corrective Action Condition XV. of this Permit. If the Department does not approve the revised cost estimate, the Department will notify the Permittee, in writing, of the estimate's deficiencies and specify a due date for submittal of a new revised cost estimate.

B. Financial Assurance

In order to provide for the full and final completion of the corrective action activities required by this Permit, the Permittee shall establish and maintain financial assurance for the benefit of the Department in the amount at least equal to the most recent Department-approved corrective action cost estimate. The Permittee may use one or more of the financial assurance forms generally described in Corrective Action Condition XIV.B.11. of this Permit. All financial assurance instruments provided pursuant to this Permit shall be satisfactory in form and substance as determined by the Department. The Department reserves the right to limit the choices of the Permittee to one or more of the instruments described in Corrective Action Condition XIV.B.11. of this Permit, on a case-by-case basis, in order to ensure the full and final completion of the corrective action activities required by this Permit.

1. Timeframes for Financial Assurance Instruments (other than Financial Test or Corporate Guarantee)

- a. Within 30 calendar days after Department approval of the Permittee's corrective action cost estimate(s) pursuant to this Permit, the Permittee shall submit draft financial assurance instruments and related documents to the Department for review and approval. This applies to all financial assurance instruments except the financial test or corporate guarantee. See Corrective Action Condition XIV.B.2. of this Permit for timeframes for financial tests and corporate guarantees.

- b. Within ten calendar days after Department approval of the draft financial assurance instrument(s), the Permittee shall execute or otherwise finalize all instruments or other documents required in order to make the selected financial assurance legally binding. The instruments or other documents must be in a form identical to the financial assurance documents reviewed and approved by the Department.
- c. Within 30 calendar days after receiving Department approval of the draft financial assurance instrument(s), the Permittee shall submit all original executed and/or otherwise finalized instruments or other documents to the Department. The Permittee must submit original executed or otherwise finalized instruments or documents. Facsimiles or photocopies are not acceptable.

2. Timeframes for Financial Tests and Corporate Guarantees

- a. Within 30 calendar days after the Department's approval of the Permittee's corrective action cost estimate(s) pursuant to this Permit, the Permittee shall submit to the Department all documentation necessary to demonstrate that the Permittee satisfies the financial test criteria pursuant to Corrective Action Condition XIV.B.11.e of this Permit.
- b. The Permittee's financial assurance shall be effective immediately upon the Department's approval of the Permittee's corrective action cost estimate or the Permittee's demonstration that the Permittee satisfies the financial test criteria pursuant to Special Permit Condition XIV.B.11.e. of this Permit, whichever date is later.
- c. The Permittee agrees that if the Permittee provides financial assurance by means of a corporate guarantee or financial test, the Department may request additional information (including financial statements and accountant's reports) from the Permittee or corporate guarantor at any time. The Permittee shall promptly provide the requested information to the Department.

3. Certified Mail

The Permittee shall submit all financial assurance instruments and related required documents by certified mail to the Department.

4. Multiple Instruments

The Permittee may combine more than one mechanism to demonstrate financial assurance for the corrective action activities required by this Permit. However, mechanisms guaranteeing performance rather than payment may not be combined with other instruments.

5. Inadequate Financial Assurance Instrument

a. If at any time the Department determines that a financial assurance instrument provided pursuant to this Permit is inadequate, or no longer satisfies the requirements, the Department shall notify the Permittee in writing. This applies whether there is an increase in the estimated cost of the corrective action activities required by this Permit or for any other reason.

(1) Within 30 calendar days of receipt of such notice, the Permittee shall submit draft financial assurance instruments and related documents to the Department for review and approval. The draft financial assurance instruments and related documents shall address the inadequacies outlined in the Department's notice.

(2) Within ten calendar days after Department approval of the draft financial assurance instrument(s), the Permittee shall execute or otherwise finalize all instruments or other documents required in order to make the selected financial assurance legally binding. The instruments or other documents must be in a form identical to the financial assurance documents reviewed and approved by the Department.

(3) Within 30 calendar days after receiving Department approval of the draft financial assurance instrument(s), the Permittee shall submit all original executed and/or

otherwise finalized instruments or other documents to the Department. The Permittee must submit original executed or otherwise finalized instruments or documents. Facsimiles or photocopies are not acceptable.

- b. Within ten calendar days, the Permittee shall notify the Department, in writing, if at any time the Permittee becomes aware of information indicating that any financial assurance instrument provided pursuant to this Permit is inadequate or no longer satisfies the requirements described or incorporated by reference herein. This applies whether due to an increase in the estimated cost of the corrective action activities required by this Permit or for any other reason. The Permittee shall follow the procedures in Corrective Action Condition XIV.B.5.(a) of this Permit to replace the financial assurance instrument.

6. Obligation to Complete Corrective Action Activities

The Permittee's inability or failure to establish or maintain financial assurance for completion of the corrective action activities required by this Permit shall in no way excuse performance of any other requirements of this Permit, including, without limitation, the obligation of the Permittee to complete all necessary corrective action activities in strict accordance with the terms of this Permit.

7. Automatic Renewal

All financial assurance instruments shall automatically renew at the time of their expiration unless the financial assurance provider notifies both the Permittee and the Department by certified mail of a decision to cancel, terminate, or not renew a financial assurance instrument. The Permittee and the Department must receive such notification at least 120 calendar days before expiration, cancellation, or termination of the instrument. Under the terms of the financial assurance instrument, the 120 calendar days will begin on the date of receipt of the notice by certified mail by both the Permittee and the Department.

Within 90 calendar days following receipt of such notice by both the Permittee and the Department, the Permittee must provide alternate financial assurance and obtain written approval for such alternate financial assurance.

If the Permittee fails to provide alternate financial assurance within 90 calendar days, the Department will notify the financial assurance provider, in writing, before the expiration of the instrument. The notification to the financial assurance provider shall instruct the financial assurance provider to immediately deposit the remaining funds obligated under the financial assurance into the standby trust fund or a newly created trust fund approved by the Department.

8. Modification of Amount and/or Form of Financial Assurance

a. Reduction of Amount of Financial Assurance

If the Permittee believes that the estimated cost to complete the corrective action activities required by this Permit has diminished below the amount covered by the existing financial assurance provided under this Permit, the Permittee may submit a written proposal to the Department to reduce the amount of the financial assurance provided under this Permit. The amount of the financial assurance proposed must be at least equal to the estimated cost of the remaining corrective action activities required by this Permit. The written proposal shall specify, at a minimum, the cost of the remaining corrective action activities to be performed and the basis upon which such cost was calculated. In seeking approval of a revised financial assurance amount, the Permittee shall follow the procedures described in Corrective Action Condition XIV.B.8.b.(2) of this Permit. The Department shall notify the Permittee of its approval in writing. The Permittee may reduce the amount of the financial assurance after receiving the Department's written approval but only according to and to the extent permitted by such written approval. No change to the form or terms of any financial assurance provided under this Section, other than a reduction in amount, is authorized except as provided in Corrective Action Condition XIV.B.8.b of this Permit.

b. Change of Form of Financial Assurance

- (1) If the Permittee wishes to change the form or terms of financial assurance, the Permittee may submit a written proposal to the Department to change the form of financial assurance. The submission of such a proposal shall be as provided in Corrective Action Condition XIV.B.8.b.(2) of this Permit. The approval of a proposal submitted under this Corrective Action Condition XIV.B.8. of this Permit shall be made at the Department's sole discretion.
- (2) A written proposal for a revised or alternative form of financial assurance shall specify, at a minimum:
 - (a) The cost of the remaining corrective action activities to be performed;
 - (b) The basis upon which such cost was calculated; and
 - (c) The proposed revised form of financial assurance, including all proposed instruments or other documents required in order to make the proposed financial assurance legally binding.

The proposed revised or alternative form of financial assurance shall satisfy all requirements described or incorporated by reference in this Permit. The Department shall notify the Permittee, in writing, of its decision to accept or reject a revised or alternative form of financial assurance submitted pursuant to this paragraph.

Within ten calendar days after receiving written approval of the proposed revised or alternative financial assurance, the Permittee shall execute and/or otherwise finalize all instruments or other documents required in order to make the selected financial assurance legally binding and effective in a form identical to the documents submitted to the Department.

Within 30 calendar days of receiving written approval of the proposed revised or alternative financial assurance, the Permittee

shall submit to the Department all original executed and/or otherwise finalized instruments or other documents required in order to make the selected financial assurance legally binding.

The Department shall release, cancel, or terminate the prior existing financial assurance instruments only after the Permittee has submitted all executed and/or otherwise finalized new financial assurance instruments or other required documents to the Department.

9. Performance Failure

a. In the event that the Department determines that the Permittee:

- (1) Has ceased implementation of any of the corrective action activities required by this Permit;
- (2) Is significantly or repeatedly deficient or late in its performance of the corrective action activities required by this Permit; or
- (3) Is implementing the corrective action activities required by this Permit in a manner that may cause an endangerment to human health or the environment;

The Department may issue a written notice (“Performance Failure Notice”) of the Permittee’s failure to perform to both the Permittee and the financial assurance provider. The notice will specify the grounds upon which it was issued and will provide the Permittee a period of ten calendar days to remedy the circumstances.

b. If the Permittee fails to remedy the relevant Performance Failure to the Department’s satisfaction before the expiration of the ten-day notice period specified in Corrective Action Condition XIV.B.9.a. of this Permit, the Department shall have immediate access to and benefit of the financial assurance provided. The Department may, at any time thereafter, direct the financial assurance provider to immediately:

- (1) Deposit into the standby trust fund, or a newly created trust fund approved by the Department, the remaining funds obligated under the financial assurance instrument; or
 - (2) Arrange for performance of the corrective action activities required by this Permit.
 - c. The Department shall give the Permittee written notice if:
 - (1) The Department determines that any of the circumstances described in Corrective Action Condition XIV.B.9(a) (1), (2), or (3) of this Permit have occurred; and
 - (2) The Department is nevertheless unable, after reasonable efforts, to secure the payment of funds or performance of the corrective action activities required by this Permit from the financial assurance provider.
 - d. Within ten calendar days of receiving such written notice, the Permittee shall provide cash to fund the standby trust fund, or a newly created trust fund approved by the Department. The funds must at least equal the cost of the remaining corrective action activities required by this Permit. The deposit shall be made in immediately available funds and without setoff, counterclaim, or condition of any kind.
10. Release of Financial Assurance.

The Permittee may submit a written request to the Department to release the Permittee from the requirement to maintain financial assurance after the Department and the Permittee have mutually agreed that all corrective action activities required by this Permit are complete. The Department shall notify both the Permittee and the provider(s) of the financial assurance if and when the Permittee is released from all financial assurance obligations under this Permit. The Permittee shall not release, cancel, or terminate any financial assurance provided pursuant to this Permit except as provided in this paragraph or Corrective Action Condition XIV.B.8.b. of this Permit.

11. Financial Assurance Instruments

To the extent possible, the wording of the financial assurance documents shall meet the requirements of 40 CFR 264.143 and 40 CFR 264.151, as incorporated and modified in 10 CSR 25-7. All financial assurance instruments provided pursuant to this Permit shall be satisfactory in form and substance as determined by the Department.

a. Trust Fund

The trust fund shall be:

- (1) Established for the benefit of the Department;
- (2) Administered by a trustee who has the authority to act as a trustee under federal or state law and whose trust operations are regulated and examined by a federal or state agency; and
- (3) Acceptable in all respects to the Department.

The trust agreement shall provide that the trustee shall make payments from the fund as the Department shall direct in writing:

- (4) To reimburse the Permittee for expenditures made by the Permittee for corrective action activities performed according to this Permit; or
- (5) To pay any other person whom the Department determines has performed or will perform the corrective action activities required by this Permit.

The trust agreement shall further state that the trustee shall not refund to the grantor any amounts from the fund until the Department has advised the trustee in writing that the corrective action activities performed according to this Permit have been completed to the satisfaction of the Department.

b. Surety Bond

A surety bond must unconditionally guarantee either:

- (1) Payment at the direction of the Department into a standby trust fund that meets the requirements of the trust fund in Corrective Action Condition XVIV.B.11.a. of this Permit;
or
- (2) Performance of the corrective action activities required by this Permit. The Surety Company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on Federal Bonds as described in Circular 570 of U.S. Department of the Treasury.

If the Permittee seeks to establish financial assurance by using a surety bond, the Permittee shall, at the same time, establish and maintain a standby trust fund. The standby trust fund must meet the requirements of Corrective Action Condition XIV.B.11.a. of this Permit. Funds from the surety bond shall be deposited into the standby trust fund if the Department directs the financial assurance provider to do so, pursuant to Corrective Action Condition XIV.B.9. of this Permit.

c. Irrevocable Letter of Credit

An irrevocable letter of credit shall be payable at the direction of the Department into a standby trust fund that meets the requirements of Corrective Action Condition XIV.B.11.a. of this Permit. The letter of credit shall be issued by a financial institution:

- (1) That has the authority to issue letters of credit; and
- (2) Whose letter-of-credit operations are regulated and examined by a federal or state agency.

If the Permittee seeks to establish financial assurance by using a letter of credit, the Permittee shall, at the same time, establish and maintain a standby trust fund. The standby trust fund must meet

the requirements of Corrective Action Condition XVIV.B.11.a. of this Permit. Funds from the letter of credit shall be deposited into the standby trust fund if the Department directs the financial assurance provider to do so, pursuant to Corrective Action Condition XIV.B.9. of this Permit.

d. Policy of Insurance

A policy of insurance shall:

- (1) Provide the Department with rights as a beneficiary which are acceptable to the Department; and
- (2) Be issued by an insurance carrier that:
 - (a) Has the authority to issue insurance policies in Missouri; and
 - (b) Whose insurance operations are regulated and examined by a federal or state agency.
- (3) The insurance policy shall be issued for a face amount at least equal to the current approved corrective action cost estimate for the corrective action activities to be performed under this Permit, except where costs not covered by the insurance policy but are covered by another financial assurance instrument, as permitted in Corrective Action Condition XIV.B.4. of this Permit.
- (4) The insurance policy shall state that the insurer shall make payments up to an amount equal to the face amount of the policy as directed by the Department in writing:
 - (a) To reimburse the Permittee for expenditures made by the Permittee for corrective action activities performed according to this Permit; or
 - (b) To pay any other person whom the Department determines has performed or will perform the corrective action activities required by this Permit.

- (5) The insurance policy shall also state that it may not be canceled, terminated, or non-renewed and the policy shall remain in full force and effect in the event that:
 - (a) The Permittee is named as a debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or
 - (b) The Department notifies the insurer of the Permittee's failure to perform, under Corrective Action Condition XIV.B.9. of this Permit.

e. Financial Test

A Permittee may provide financial assurance through a demonstration by the Permittee that the Permittee meets the financial test criteria of 40 CFR.264.143(f) provided that all other requirements of 40 CFR 264.143(f), as incorporated and modified in 10 CSR 25-7, are satisfied. See Corrective Action Condition XIV.B.11.g. of this Permit for further requirements.

A commercial facility may not satisfy financial assurance requirements for corrective action by use of a financial test.

f. Corporate Guarantee

A direct or indirect parent company of a Permittee may provide a corporate guarantee executed in favor of the Department. Such guarantee shall state that the company providing the guarantee shall perform the corrective action activities required by this Permit or that the company shall establish a trust fund as permitted by Corrective Action Condition XIV.B.11.a. of this Permit. Any company providing such a guarantee shall demonstrate to the satisfaction of the Department that it meets the financial test requirements of 40 CFR 264.143(f), as incorporated and modified in 10 CSR 25-7. See Corrective Action Condition XIV.B.11.g. of this Permit for further requirements.

g. Additional Requirements for Financial Test/Corporate Guarantee

If at any time during the term of this Permit the Permittee demonstrates financial assurance for the corrective action activities required by this Permit by providing a financial test or corporate guarantee pursuant to Corrective Action Conditions XIV.B.11.e. or XIV.B.11.f. of this Permit, the Permittee shall also comply with the other relevant requirements of 40 CFR 264.143(f), 40 CFR 264.151(f), and 40 CFR 264.151(h)(1), as incorporated and modified in 10 CSR 25-7, relating to these methods, unless otherwise provided in this Permit. This includes, but is not limited to:

- (1) Initial submission of required financial reports and statements from the guarantors' chief financial officer and independent certified public accountant;
- (2) Annual re-submission of such reports and statements within 90 calendar days after the close of each of the guarantor's fiscal year; and
- (3) Notification to the Department by certified mail within 90 calendar days after the close of any of the guarantor's fiscal year in which any such guarantor no longer satisfies the financial test requirements described at 40 CFR 264.143(f)(1), as incorporated and modified in 10 CSR 25-7.

If the Permittee provides financial assurance by means of a corporate guarantee or financial test, the Department may request additional information (including financial statements and accountant's reports) from the Permittee or corporate guarantor at any time. The Permittee shall promptly provide the requested information to the Department.

For purposes of the financial test or corporate guarantee described in Corrective Action Conditions XIV.B.11.e. and XIV.B.11.f. of this Permit, references in 40 CFR 264.143(f), as incorporated and modified in 10 CSR 25-7, to "the sum of current closure and post closure costs and the current plugging and abandonment cost

estimates” and references in 40 CFR 264.101(c), as incorporated and modified in 10 CSR 25-7, to “Assurances of financial responsibility for such corrective action must be provided shall mean “the sum of all environmental remediation obligations” guaranteed by such company or for which such company is otherwise financially obligated in addition to the cost of the corrective action activities required by this Permit. This includes obligations under Comprehensive Environmental Response, Compensation, and Liability Act, RCRA, Underground Injection Control Program, Toxic Substances Control Act, and any other state or tribal environmental obligation.

XV. Review and Approval Procedures

- A. Financial assurance cost estimates and draft financial assurance mechanisms for corrective action shall be reviewed and approved by the Department according to this section and Corrective Action Condition XIV. of this Permit.
- B. Following submission of any plan or report pertaining to corrective action activities (excluding the Corrective Action Condition XIV. Reports, Annual Progress Reports, and Semi-Annual Groundwater Corrective Action Reports, unless proposed actions to address inadequacies are contained therein), 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 or report’s deficiencies and specify a due date for submittal of a revised plan or report.
- C. 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.
- D. If the Permittee disagrees with any Department-initiated plan or report modifications, and a mutually acceptable resolution of such modifications cannot be informally reached, the Permittee may file any appeal of the Department-initiated modifications according to 10 CSR 25-2.020 and Sections 260.395.11 and 621.250, RSMo, as applicable.
- E. Requests for extensions to the compliance dates associated with this Permit will be considered, and may be granted, on a case-by-case basis. Any extension

request(s) must specify the proposed new compliance date and shall be accompanied by the Permittee's justification for the extension. The Department must receive extension requests at least 15 calendar days before the scheduled due date of the document or activity.

FACILITY SUBMISSION SUMMARY

Table I - Summary of the Planned Submittal Requirements Pursuant to this Permit

Submittal Requirements	Due Date	Permit Condition
Consolidated Permit Application	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.A.
Certification that Permittee has read and understands this Permit.	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.B.
Check or money order for any remaining balance and all outstanding engineering review costs.	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.C. and D.
Updated financial assurance instrument reflecting cost estimate in approved permit application.	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item II.
Revised SAP	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item IV.
Semi-Annual Groundwater Corrective Action Reports	By March 1 and September 1 of each calendar year.	Special Permit Condition I.F.
Biennial Report with information required by 40 CFR 264.75	March 1 of each even numbered calendar year.	General Permit Condition I.
Permit Renewal Application	Within 180 days of expiration date of this Permit.	Standard Permit Condition II.
Annual Corrective Action Progress Reports	By March 1 of each calendar year (may be combined with March 1 Groundwater Corrective Action Reports).	Corrective Action Condition XI.A.
Update Corrective Action Cost Estimate	Annually, within 60 calendar days before anniversary date of establishment of the financial assurance instrument.	Corrective Action Condition XIV.A.2.

Table II - Summary of the Contingent Corrective Action Submittal Requirements Pursuant to the Corrective Action Conditions of this Permit

Contingent Submittal Requirements	Due Date	Corrective Action Condition
Written Notification of Newly-Identified SWMU(s) and AOC(s)	No later than 15 calendar days after discovery.	II.A.
SWMU/AOC Assessment Work Plan	Within 30 calendar days of notice by the Department that a work plan is required.	II.B.
SWMU/AOC Assessment Report	According to the schedule in the approved SWMU/AOC Assessment Work Plan.	II.D.
Written Notification of Newly-Identified Releases from Previously-Identified SWMU(s) and AOC(s)	No later than 15 calendar days after discovery.	III.A.
Newly-Identified Release Work Plan	Within 30 calendar days of notice by the Department that a work plan is required.	III.B.
Newly-Identified Release Report	According to the schedule in the approved Newly-Identified Release Work Plan.	III.D.
Written Notification of Interim/Stabilization Measures	Within 24 hours of discovery of need for stabilization.	IV.A.1.
Written Notification of Interim/Stabilization Measures Not Effective	Within ten calendar days of determination by Permittee.	IV.A.3.
RCRA Facility Investigation (RFI) Work Plan	Within 60 calendar days of notice by the Department that a work plan is required.	V.B.
RCRA Facility Investigation (RFI) Report	According to the schedule in the approved RFI Work Plan.	VI.B.
Corrective Measures Study (CMS) Work Plan	Within 45 calendar days of notice by the Department that a work plan is required.	VII.C.

Contingent Submittal Requirements	Due Date	Corrective Action Condition
Corrective Measures Study (CMS) Report	According to the schedule in the approved CMS Work Plan.	VIII.A.
Final Remedy Approval	According to the schedule in the implementation Permit modification.	IX.
Corrective Action Cost Estimate	Within 60 calendar days after final remedy Permit modification.	XIV.A.1.
Draft Financial Assurance Instrument	Within 30 calendar days of approval of corrective action cost estimate(s).	XIV.B.1.a.
Execution of Final Financial Assurance Instrument	Within ten calendar days of approval of draft financial assurance instrument(s).	XIV.B.1.b.
Original Executed Financial Assurance Instrument	Within 30 calendar days of approval of draft financial assurance instrument(s).	XIV.B.1.c.

Table III - Groundwater Protection Standards

Hazardous Constituent	Maximum Concentration Limit (ug/l)	Maximum Detection Limit (ug/l)*
Acetone	22,000	(c) 5
Benzene	5	(a) 1
2-Butanone	7,100	(c) 5
Carbon Disulfide	1,000	(c) 1
Carbon Tetrachloride	5	(a) 1
Chloroethane	21,000	(c) 2
Chloroform	5.7	(b) 1
1,1-Dichloroethane	2.4	(c) 1
1,2-Dichloroethane	5	(a) 1
1,1-Dichloroethene	7	(a) 1
cis-1,2-Dichloroethene	70	(a) 1
trans-1,2-Dichloroethene	100	(a) 1
1,4-Dioxane	6.1	(c) 6.1
Ethylbenzene	700	(a) 1
Freon 113	59,000	(c) 1
2-Hexanone	4.75	(d) 5
Methylene Chloride	4.7	(b) 1
1,1,2,2-Tetrachloroethane	0.17	(b) 1
Tetrachloroethene	5	(a) 1
Toluene	1,000	(a) 1
1,1,1-Trichloroethane	200	(a) 1
1,1,2-Trichloroethane	5	(a) 1
Trichloroethene	5	(a) 1
Vinyl Chloride	2	(a) 2
Xylenes (total)	10,000	(a) 3

*Detection limit based on the lowest achievable practical quantitation limit available from the Permittee's contract laboratory.

- (a) Denotes limits derived from the Environmental Protection Agency's National Primary Drinking Water Standards or State Drinking Water Standards as of May 2009.
- (b) Denotes limits derived from Missouri Water Quality Standards for protection of groundwater (b) Missouri Public Drinking Water Standards (10 CSR 60-4, updated December 31, 2003) or Water Quality Standards (10 CSR 20-7, updated May 31, 2009) for protection of groundwater.
- (c) Denotes limits derived from risk-based concentration values for tap water as contained on EPA Region XI Preliminary Remediation Goals table updated May 2009.
- (d) Denotes limits derived from the June 2006 Missouri Risk Based Corrective Action Table B-1 Lowest Default Target Levels for all soil types and all pathways.

Table IV - 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 five years
Volatiles (2)	HC	Per Table III	***(see note)
1,4-Dioxane (3)	HC	Per Table III	****(see note)
pH	FM	Not Applicable	***(see note)
Specific Conductance	FM	Not Applicable	***(see note)
Static Groundwater Elevation (4)	FM	Not Applicable	Quarterly
Temperature	FM	Not Applicable	***(see note)
Total Well Depth	FM	Not Applicable	Annually

- (1) Appendix IX. (40 CFR 264) scan on two wells only.
- (2) EPA SW-846 Method 8260 or equivalent.
- (3) EPA Method 8270 Selective Ion Monitoring or equivalent.
- (4) Potentiometric measurements shall be obtained at the time of each regularly scheduled sampling event from all monitoring wells remaining at the facility including those that are not being sampled regularly.
- * HC = Hazardous Constituent, FM = Field Measurement
- ** Current SW-846 version at time of sampling.
- *** Quarterly for perimeter wells, annually for effectiveness wells.
- **** Specified sampling only for selected wells referenced in the Sampling and Analysis Plan.

FIGURE

Figure 1 - Facility Boundaries, Former Hazardous Waste Land Disposal Unit, and Points of Compliance

