



Jeremiah W. (Jay) Nixon, Governor * Kip A. Stetzler, Acting Director

DEPARTMENT OF NATURAL RESOURCES

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MISSOURI HAZARDOUS WASTE MANAGEMENT FACILITY PERMIT PART I PERMIT NUMBER: MOD046740148

PERMITTEE

Owner: OM Group, Incorporated
127 Public Square
1500 Key Tower
Cleveland, OH 44114

Operator: EaglePicher Technologies, LLC
P.O. Box 47
"C" and Porter Streets
Joplin, MO 64802

FACILITY LOCATION

P.O. Box 47, "C" and Porter Streets
Joplin, Missouri 64802
Jasper County
North Latitude – 37°05'46"
West Longitude – 94°31'38"

FACILITY DESCRIPTION

EaglePicher Technologies, LLC, manufactures special purpose batteries at this facility for use by the federal government in the aerospace and defense industries. EaglePicher Technologies, LLC, previously operated two hazardous waste surface impoundments: 1) lead (chemicals) settling pond and 2) mercury (couples) waste impoundment. Both impoundments were closed in 1989 according to a department-approved closure plan.

The former lead (chemicals) settling pond, or impoundment, was used to retain process wastewater from the lead (chemicals) facility to allow secondary gravity sedimentation of suspended solids after the water underwent primary clarification. The former lead impoundment is subject to the groundwater corrective action program requirements of 40 CFR 264.100, as



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incorporated by reference in the Missouri Hazardous Waste Management Regulations, because the groundwater protection standard maximum concentrations are being exceeded.

The former mercury (couples) waste impoundment was used to manage wastewater generated by the mercury production process in the manufacture of batteries. The permit was modified in 2003 to remove the requirements for groundwater monitoring and post-closure care activities at the former mercury (couples) waste impoundment. These activities were terminated after an assessment of the groundwater monitoring analytical results for the former mercury (couples) waste impoundment found no detections above the groundwater protection standard.

In 1987, the Resource Conservation and Recovery Act (RCRA) Corrective Action Process was initiated by the U.S. Environmental Protection Agency (EPA) at the facility. Following completion of the RCRA Facility Assessment by EPA, a RCRA Facility Investigation (RFI) was initiated in December 1993, in accordance with EaglePicher Technologies, LLC's EPA-issued Hazardous and Solid Waste Amendments of 1984 (HSWA) Part II Permit. A draft of the RFI Report was submitted in January 2009. The Corrective Action Process, including review and approval of the RFI Report and potential subsequent corrective action activities, is ongoing and scheduled to continue in accordance with the requirements of this Permit.

PERMITTED ACTIVITIES

This Permit requires continued post-closure care for the former lead impoundment and continued implementation of corrective action requirements, including sitewide groundwater monitoring and remediation, to address releases from Solid Waste Management Units and Areas of Concern.

EFFECTIVE DATES OF PERMIT: September 28, 2010 to September 28, 2020

September 28, 2010
Date

[Original signed by David J. Lamb]

David J. Lamb, Director
HAZARDOUS WASTE PROGRAM

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INTRODUCTION

After public notice, according to 10 CSR 25-8.124, and review of EaglePicher Technologies, LLC's Missouri Hazardous Waste Management Facility 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 the Resource Conservation and Recovery Act of 1976 (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. Pursuant to Section 260.375.13, RSMo, and the Solid Waste Disposal Act, the Department hereby approves the application and issues Permit Number MOD046740148 to OM Group, Incorporated, as the facility owner and EaglePicher Technologies, LLC, as the facility operator (hereafter collectively referred to as the Permittee) for post-closure care 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 10 CSR 25-7, as specified in this Permit. The Department is issuing this Missouri Hazardous Waste Management Facility (MHWMF) Part I Permit (hereafter referred to as the Permit) under state authority. EPA Region VII 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 Section 260.430, RSMo and 10 CSR 25-7.270(2)(B)2. This Permit and accompanying material shall be available for review by the public at the Joplin Public Library in Joplin, Missouri; the Department's central office in Jefferson City, Missouri; and the EPA Region VII office in Kansas City, Kansas.

Any appeals of this Permit based on state authority must be filed in accordance with 10 CSR 25-2.020 and Sections 260.395.11 and 621.250, RSMo. If you are adversely affected by this decision, you may be entitled to pursue an appeal before the Administrative Hearing Commission (AHC). To appeal, you must file a petition with the AHC within 30 days after the date this Permit was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, then it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Contact information for the AHC is as follows: Administrative Hearing Commission, Truman State Office Building, Room 640, 301 West High Street, P.O. Box 1557, Jefferson City, MO 65102, telephone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc. The Department further requests that a copy of any appeal request be provided to the Director of the Department's Hazardous Waste Program, P.O. Box 176, Jefferson City, MO 65102-0176.

The application submitted by the Permittee March 26, 2010, shall be referred to as the "approved permit application." The "consolidated permit application" is defined as the approved permit application, any changes resulting from the public comment period, and all additional documents required to be submitted under the Schedule of Compliance contained in this Permit. The Permittee shall maintain a copy of all documents constituting the consolidated permit application 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 shall 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 facility and corrective action shall be according to the provisions of this Permit, the Missouri Hazardous Waste Management Law (Sections 260.350 to 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, all final engineering plans, petitions, specifications, and operating procedures that were submitted to the Department during the permit application review process, which are included in the final version

of the permit application, and any other conditions, changes, or additions to the engineering plans, specifications, and operating procedures as specified in this Permit. The consolidated permit application, which includes the final engineering plans, specifications, and operating procedures, is therefore incorporated by this reference into the conditions of this Permit. All conditions specified in this Permit supersede any conflicting information in the consolidated permit application. Where conflicts arise between documents, the latest revision shall be effective.

This Permit for post-closure care and corrective action activities is issued only to the Permittee named above. This Permit is issued for a period of ten years and expires at midnight on September 28, 2020. This Permit is subject to review and modification by the Department according to Section 260.395.12, RSMo. According to 40 CFR 270.51, as incorporated in 10 CSR 25-7.270(1), the conditions of the expired permit continue in force until the effective date or denial of a new permit if a timely and complete application is submitted.

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 Permit and are under state authority. Authority for other HSWA requirements 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 wastes 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 before 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 shall be determined on a case-by-case basis. In addition, assurances of financial responsibility for completing such corrective action shall be provided, according to 40 CFR 264.101.

40 CFR 270.32(b)(2), as incorporated by reference in 10 CSR 25-7.270(1), and Section 260.395.12, RSMo, require 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 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 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, this Permit, or EPA guidance or publications, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

“Approved Permit Application” means the original permit application and all subsequent revisions or addenda to the permit application, and any completeness and technical information submitted as referenced in the Introduction of this Permit.

“Area of Concern (AOC)” means any area where an actual or potential release of hazardous wastes 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, any changes resulting from the public comment period, and all additional documents required to be submitted under the Schedule of Compliance contained in this Permit.

“Director” means the Director of the Missouri Department of Natural Resources or authorized delegate.

“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 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 or 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. and defined in the Introduction of this Permit.
 - B. Submit to the Department a certification by the Permittee that the Permittee has read this Permit in its entirety and understands all permit conditions contained in this Permit.
 - 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 this 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 and paid a \$1000 permit continuation fee for the current year, 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 calendar 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 based on the foregoing formula. The check shall be directed to the Hazardous Waste Program, Permits Section.

- II. Within 60 calendar days after the effective date of this Permit, the Permittee shall submit to the Department for approval, a revised Sampling and Analysis Plan (SAP) that includes a detailed surface water monitoring program according to the requirements of Special Permit Condition V.A.
- III. Within 60 calendar days after the effective date of this Permit, the Permittee shall submit a Site Excavation Plan to the Department for approval to address excavation activities at the facility, as required by and described in Corrective Action Permit Condition X.A.

- IV. Within 60 calendar days after the effective date of this Permit, the Permittee shall submit to the Department for approval, an updated post-closure care cost estimate according to 40 CFR 264.144 that includes an allowance for contingency costs. A contingency cost allowance of 20 percent of the total cost of all specified post-closure care activities shall be incorporated into the final post-closure care cost estimate.
- V. Within 60 calendar days after the Department’s approval of the updated post-closure care cost estimate, the Permittee shall:
 - A. Submit to the Department for review draft updates to the financial assurance instrument to reflect the increased post-closure cost estimate;
 - B. After the Department’s review of the draft updates to the financial assurance instrument, the Permittee shall execute or otherwise finalize the update in order to make it legally binding. The update shall be in a form identical to the draft financial assurance documents reviewed and approved by the Department;
 - C. The Permittee shall submit all original executed and/or otherwise finalized financial assurance instruments or other documents to the Department. Facsimiles or photocopies are not acceptable.
- VI. The Permittee shall comply 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 Tables 3 and 4.
- VII. The Permittee shall:
 - A. Within 15 calendar days after receiving the Department’s approval of the draft environmental covenant, the Permittee shall record with the county recorder of deeds, the local zoning authority, or the authority with jurisdiction over local land use, according to state law, the approved environmental covenant in the chain of title for the facility property or on some other instrument that is normally examined during a title search that will, in perpetuity, notify any potential purchaser of the environmental conditions of the property.
 - B. Within 30 calendar days after recording the approved environmental covenant in the chain of title for the facility property or other instrument normally examined during a title search, the Permittee shall submit to the Department a notarized statement certifying that the approved environmental covenant has been recorded.

Copies of the recorded pages which show that the approved environmental covenant has been recorded and become part of the property record shall be included with the notarized statement.

- VIII. The Permittee shall maintain financial assurance for the closure cost estimate until such time as the Department accepts the closure certification report for former container storage areas I, K, O, P, and R and notifies the Permittee in writing that the financial assurance mechanism for the closure cost estimate may be terminated.

SUBMITTAL OF REQUIRED INFORMATION

- I. The Permittee shall submit three copies, unless otherwise requested, of all reports, documents, and plans/specifications required under the terms of this Permit to:

Chief, Permits Section
Missouri Department of Natural Resources
Hazardous Waste Program
P.O. Box 176
Jefferson City, MO 65102-0176

- II. The Permittee shall submit two copies of all reports, documents, and plans/specifications required under the terms of this Permit to:

Chief, RCRA Corrective Action & 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 Law), Section 260.350, et seq., RSMo, 40 CFR Part 264 Subpart H, 40 CFR §§270.10, 270.30, 270.40, 270.42, and 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 Subparts B, C, D, E, G, and 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.

Within 15 days of the incident occurrence, a written report shall be submitted to the Department providing details. The content of the written report shall conform to 40 CFR 264.56(j), as incorporated in 10 CSR 25-7.264, and be provided to the addressees listed in "Submittal of Required Information" provision.

SPECIAL PERMIT CONDITIONS

In accordance with 40 CFR 270.32, as incorporated in 10 CSR 25-7.270(2), the following permit conditions are established for the Permittee and the hazardous waste facility at the facility location specified in this Permit.

I. 100-Year Floodplain Requirements [40 CFR 264.18(b)]

The Permittee has submitted information, as required in 40 CFR §§270.14(b)(11)(iii) and 270.28, that identifies the active portion of the facility as not being located in the 100-year floodplain. The active portion in this case refers to solid waste management units, areas of concern, wells and/or other waste management structures. The Permittee shall maintain the submitted information in the facility operating record.

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

The Permittee shall comply with all applicable provisions of 40 CFR Part 264 Subpart G, as incorporated in 10 CSR 25-7.264(1) and modified in 10 CSR 25-7.264(2)(G), and all provisions of this Permit for the former lead impoundment.

A. Post-Closure Care [40 CSR 264.117]

1. According to 40 CFR 264.117(a)(1), post-closure care begins after the acceptance of the closure certification of the hazardous waste management unit and continues for 30 years after that date, unless modified according to 40 CFR 264.117(a)(2) or otherwise specified by the Department. Therefore, the former lead impoundment has a post-closure care period that shall continue until August 21, 2021.
2. At a minimum, post-closure care shall be extended until such time as the groundwater protection standard maximum concentration limits or alternate concentration limits, as applicable, are met for a period of three consecutive years under the groundwater monitoring and corrective action program described in the Special Permit Conditions of this Permit.
3. During the post-closure care period, the Permittee shall comply with the maintenance, monitoring, and reporting requirements of 40 CFR Part 264 Subparts F, G, and N, as incorporated by reference in 10 CSR 25-7.264.

4. The Permittee shall continue to provide for the proper operation and maintenance of any engineering controls implemented as part of the approved permit application. These actions are necessary to prevent human exposure to soils and/or groundwater contaminated with hazardous wastes or hazardous constituents in concentrations exceeding applicable regulatory risk-based thresholds/standards. The engineering controls shall not be disturbed and shall remain in place and be effective unless or until the Department provides written approval to alter, modify, eliminate, or otherwise cease operation/maintenance of such controls.
5. The Permittee may submit a request to the Department to shorten the post-closure care period. Justification for shortening the post-closure care period shall accompany any such request. The Department may approve the request if it determines that a shortened post-closure care period is sufficient to protect human health and the environment. Approval to shorten the post-closure care period shall be according to the applicable permit modification procedures in 40 CFR Part 270 and 10 CSR 25-8.124.
6. Post-closure use of the property shall be restricted by the Permittee to prevent disturbance of the integrity of the final cover on the closed surface impoundment and to prevent damage to the monitoring system. The Department may approve a use of the property that disturbs the integrity of the final cover if it is necessary for the proposed use of the property and will not increase the potential hazard to human health or the environment, or if it is necessary to reduce a threat to human health or the environment.

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

1. Post-closure care shall be conducted according to the post-closure care plan included in the approved permit application and all conditions of this Permit. The post-closure care plan may be amended, according to 40 CFR 264.118(d), at any time during the active life of the facility or the post-closure period. Amendments are subject to the applicable permit modification requirements of 40 CFR Part 270 Subpart D, 10 CSR 25-7.270(2)(D), and 10 CSR 25-8.124.
2. Written requests for amendments shall be submitted at least 60 calendar days before the proposed change in site operations, or not later than 60 calendar days after the occurrence of an unexpected event that has affected the post-closure care plan. The Department may request

modifications to the post-closure care plan if changes in site operations affect the approved post-closure care plan. The Permittee shall submit the modified post-closure care plan no later than 60 calendar days after a request by the Department for modification of the post-closure care plan. Any modifications requested by the Department are subject to the applicable permit modification requirements of 40 CFR Part 270 Subpart D, 10 CSR 25-7.270(2)(D), and 10 CSR 25-8.124.

3. During the post-closure care period, the facility contact shall keep the approved post-closure care plan for the post-closure care period, as required by 40 CFR 264.118(c).

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

If the Permittee wishes to remove hazardous wastes, hazardous waste residues, contaminated soils, or contaminated sludges from within the boundaries of the regulated units, the Permittee shall request a modification of this Permit, according to the applicable requirements in 40 CFR Part 270 Subpart D, 10 CSR 25-7.270(2)(D), and 10 CSR 25-8.124. The request for a modification shall include a demonstration that the action will not increase the potential hazard to human health or the environment, or the action is necessary to reduce the threat to human health or the environment, according to 40 CFR 264.117(c). By removing contaminants, the Permittee may become a generator of hazardous waste and shall manage any removed material according to all applicable laws, regulations, and ordinances.

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

No later than 60 calendar days after the completion of the post-closure care period (including any necessary extensions), the Permittee shall submit to the Director, by certified mail, a certification that the post-closure care period was performed according to the approved post-closure plan. The certification shall be signed by the Permittee and a registered professional engineer licensed in Missouri, and shall include documentation supporting the certification.

III. Groundwater Monitoring [40 CFR Part 264 Subpart F]

A. Groundwater Protection Standard (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, currently published health-based standards for each corresponding hazardous constituent, and maximum analytical detection limits are specified in Table 1 of this Permit. The listed GPS hazardous constituents have been detected in the groundwater beneath and beyond the former lead impoundment and are reasonably expected to be in or derived from water managed at the former lead impoundment.

1. The maximum concentration limits for the GPS hazardous constituents listed on Table 1 are based on protection of human health and the environment and were derived from four different sources as explained by the footnotes to Table 1.
2. The allowable GPS maximum detection limit shall never be greater than the GPS maximum concentration limit. If the GPS maximum detection limit for a specific GPS hazardous constituents cannot be achieved due to matrix interferences or other analytical limitations (provided that appropriate supporting documentation is provided), the affected sample and associated chemical analysis shall be exempted from this requirement. Such an exemption does not, however, in any way relieve the Permittee from complying with the GPS maximum concentration limits.
3. 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 in this Permit. Any such demonstration shall ensure that any and all ACLs proposed in lieu of the GPS maximum concentration limits are protective of human health and the environment in accordance with the requirements of 40 CFR 264.94(b). In proposing an ACL(s), the Permittee shall consider and formally address the factors listed in 40 CFR 264.94(b)(1) and (2) and EPA's Interim Final Alternate Concentration Limit Guidance, Part I, OSWER Directive 9481.00-6C, EPA 530/SW-87-017, July 1987. Any ACLs approved by the Department shall require a Permit modification in accordance with 40 CFR 270.42.

4. The Permittee shall propose modifications of the GPS to include any additional hazardous constituent(s) (40 CFR Part 261 Appendix VIII.) in the groundwater that are identified during future sampling and analysis, if such constituents may be attributed to past operation of the regulated unit(s) and/or the degradation of hazardous constituents known to be present in the groundwater. The Appendix IX (40 CFR Part 264) groundwater sampling and analysis requirements contained in Special Permit Condition III.E.5 of this Permit 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 with prior Director's approval. Any other changes to the GPS list of hazardous constituents shall require a permit modification in accordance with 40 CFR 270.42.

B. Point of Compliance [40 CFR 264.95]

The Point of Compliance is defined as a vertical surface located at the hydraulically downgradient limit of the waste management area that extends perpendicularly downward into the uppermost aquifer underlying the regulated units. For the purposes of this Permit, the waste management area is described at the ground surface as an imaginary line circumscribing the boundary of the former lead impoundment. In the subsurface, the Point of Compliance is defined as a vertical surface that extends perpendicularly downward from the edge of the cap encompassing the former lead impoundment into the uppermost aquifer underlying the facility. 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. Based on current hydrogeologic conditions at the former lead impoundment, the following monitoring wells serve to monitor groundwater at and beyond the point of compliance (Figure 2):

Pb-1, Pb-1A, Pb-2, Pb-2A, Pb-3, Pb-3A, Pb-4 and Pb-4A.

Should the Permittee's ongoing site investigation reveal that the above sampling points do not adequately monitor groundwater at and beyond the Point of Compliance, the Permittee shall propose a permit modification to install or establish new compliance monitoring points and/or exclude existing compliance monitoring points in accordance with 40 CFR 270.42.

C. Compliance Period [40 CFR 264.96]

The compliance period for the former lead impoundment shall last for 60 years, based on the requirements of 40 CFR 264.96. The compliance period began August 1, 1993, and shall last until August 1, 2053. 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].

1. The Permittee shall comply with applicable sections of 40 CFR 264.97 for monitoring programs, as specified in 40 CFR 264.100 and the following additional requirements.
2. The Permittee shall retain a copy of the approved groundwater Sampling and Analysis Plan (SAP) on site and comply with the sampling and analysis procedures. The groundwater SAP shall describe sample collection, preservation, and shipment methodology; chain-of-custody procedures; and analytical methodology for field samples, trip blanks, and other quality control samples.
3. 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. Determination of the effectiveness of any groundwater corrective action activities in terms of contaminant removal, destruction, and/or containment (plume stability).

4. 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, including any necessary extensions, 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 SAP. The Department shall notify the Permittee in writing regarding this determination. Within 30 calendar days of receipt of this notification, the Permittee shall submit appropriate SAP revisions to the Department for approval.

5. Any new groundwater monitoring well(s) installed by the Permittee to meet the requirements of this Permit shall be designed and constructed according to the requirements of 40 CFR 264.97, 10 CSR 23-4, 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 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 Annual Groundwater Corrective Action Report, as described in Special Permit Condition II.F. of this Permit.

6. 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 a copy of the well registration report form and resulting registration acceptance

required by 10 CSR 23-4.080, for any monitoring wells abandoned and plugged pursuant to this Permit. This information shall be reported as part of the Annual Groundwater Corrective Action Report, as described in Special Permit Condition II.F.

- b. At such time as the Permittee's well registration has been accepted by the Department's Division of Geology and Land Survey (DGLS), the plugged wells shall be removed from the Permittee's SAP. Within 30 calendar days of DGLS' registration acceptance, the Permittee shall submit appropriate SAP revisions to the Department.
7. A Class 2 Permit Modification is required for any change in the number, location, depth, or design of upgradient or downgradient wells of the facility groundwater monitoring system, according to 40 CFR 270.42. Replacement of any well without changing the location, depth, or design of that well shall require a Class 1 Permit Modification without prior Director approval, according to 40 CFR 270.42. The Permittee may elect to submit an annual permit modification to address these changes collectively in lieu of a modification for each individual change.
8. The Permittee shall contact the Department at least five working days before conducting any field work 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 part of the system's construction or modification. This notification requirement applies to major work such as new wells, retrofitting of existing wells, or abandonment of wells. It does not apply to minor repairs, minor maintenance, or other minor changes.
9. A monitoring well inspection and maintenance program shall be implemented for the duration of the compliance period including any necessary extensions. This program shall be designed to ensure the structural integrity of all monitoring well installations during the compliance period. The Permittee's SAP shall address the details of this program according to the following requirements.
 - a. Surface well integrity inspections shall be performed at the time of each sampling event and shall be documented on a well 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 on all wells, according to 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. Wellbore siltation evaluations shall be conducted annually on all monitoring wells. This evaluation 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 (10 percent occlusion) shall be redeveloped before the next regularly scheduled sampling event.

- d. The Permittee shall perform well-specific surface and subsurface integrity inspections within seven calendar days following any contact of wells by flood waters.
- e. Monitoring well repairs shall be started within 30 calendar days of identifying any surface or subsurface well integrity problem(s). If

adverse weather or site conditions preclude the Permittee from gaining access to and/or repairing flood-impacted monitoring wells within 30 calendar days, the Permittee shall take appropriate action as soon as practicable. A written justification for any delay, completed well inspection log sheets, a narrative description of any well repairs, and before and after repair photographic documentation (in the case of visible surface well repairs) shall be provided to the Department as part of the Annual Groundwater Corrective Action Report, as described in Special Permit Condition IV.

E. Corrective Action Program [40 CFR 264.100].

The former lead impoundment is subject to the corrective action program requirements of 40 CFR 264.100, as incorporated by reference in 10 CSR 25-7.264(1), 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(1), and this Permit have been satisfied.

1. The Permittee's corrective action program for the former lead impoundment shall consist of groundwater and surface water monitoring, according to Special Permit Conditions III. and V. of this Permit, and any further site investigation, evaluation, and/or implementation of remedial alternatives necessary to address sitewide groundwater contamination, according to Corrective Action Permit Conditions V. through IX.
2. The Permittee shall perform groundwater sampling/analysis and field measurement of groundwater-related parameters to monitor releases from the former lead impoundment according to the schedule presented in Table 2.
 - a. Sampling and analysis according to this schedule shall begin during the next regularly scheduled sampling event, according to the approved SAP.
 - b. Sampling and analysis of groundwater from any newly installed wells required by 40 CFR Part 264 Subpart F or this Permit shall be performed no later than the next regularly scheduled sampling event following their installation.

- c. Installation of additional wells during the compliance period, including any extensions, may be necessary to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264(1), and this Permit. If any such wells are installed, they may be subject to the monitoring requirements contained in Table 2. The addition of new monitoring wells is subject to the permit modification procedures of this Permit.
 - d. Any future changes to the list of wells established in the Permittee's SAP shall be approved, in writing, by the Department. Within 30 calendar days of receipt of the Department's approval, the Permittee shall submit additional SAP revisions to incorporate the approved changes.
3. Only single sample analyses (as opposed to replicates) are required for the parameters listed in Table 2, with the exception of duplicate samples taken for Quality Assurance/Quality Control (QA/QC) purposes.
4. Field parameter values measured and reported by the Permittee shall be representative of stabilized well conditions.
 - a. Downwell measurement of static water level and total well depth shall be taken before 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.
5. Within one year before the fifth and tenth years of this Permit, the Permittee shall sample and analyze groundwater from two historically contaminated downgradient wells for all parameters contained in Appendix IX of 40 CFR Part 264, as specified in Table 2.
 - a. The wells sampled to meet this requirement are left to the discretion of the Permittee.

- b. This sampling and analysis is required to determine if additional hazardous constituents (40 CFR 261, Appendix XIII) or contamination indicator parameters are present in the groundwater that may be attributable to a release(s) from the former lead impoundment or degradation of currently known hazardous constituents.
- c. If hazardous constituents or contamination indicator parameters are identified in the groundwater which are not currently specified in the GPS, the Permittee may resample the groundwater, according to 40 CFR 264.99(g). If the Permittee's subsequent groundwater analyses confirm the presence of additional hazardous constituents or contamination indicator parameters, then the Permittee shall propose a Class 1 Permit Modification with prior Director's approval, according to 40 CFR 270.42, to add the confirmed hazardous constituent(s) or contamination indicator parameter(s) to the GPS specified in Table 1 and the monitoring program schedule specified in Table 2.

IV. Groundwater-Related Reporting Requirements

The Permittee shall prepare and submit an Annual Groundwater Corrective Action Monitoring Report (Annual Report) providing a comprehensive evaluation of the facility-wide groundwater monitoring and corrective action program for the previous calendar year (i.e., January through December). The Annual Report shall be submitted to the Department and EPA by March 1 of each calendar year for the previous calendar year. The following requirements apply to the Annual Reports:

- A. The Annual Report shall contain a narrative discussion of the nature and evolution of the Permittee's groundwater monitoring program, as well as conclusions concerning the overall adequacy of the program as related to its intended purpose, including any interim measures/stabilization actions. Any conclusions concerning inadequacies in the Permittee's groundwater monitoring program shall be accompanied by a discussion of proposed remedies. Specific details concerning any proposed remedies shall be further developed outside of the scope of these reports and/or as otherwise specified in this Permit.
- B. The Annual Report shall comprehensively address all 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.

- C. All laboratory analytical data package reports from the Permittee’s annual groundwater sampling events, groundwater analysis results, field parameter measurement results, copies of field sampling and well inspection log sheets, well repair documentation, quality assurance/quality control (QA/QC) data, statistical analysis of groundwater data, field investigation results, and other relevant groundwater-related information, as appropriate. These reports shall also include a discussion of any exceedances of the GPS.
- D. The Annual Report shall evaluate the effectiveness of the groundwater corrective action program, including, but not limited to, the following:
 - 1. 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);
 - 2. The horizontal and vertical extent and concentrations of hazardous constituents (Table 1) in groundwater throughout the contaminant plume(s) as evaluated from the data obtained through the Permittee’s groundwater monitoring program;
 - 3. 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; and
 - 4. The Permittee shall include contaminant trend analyses from year to year using analytical results of the groundwater samples to help evaluate the overall progress/trends of the corrective action program, and to provide the basis for future decisions regarding the need for additional corrective action/stabilization measures at the facility.
- E. The Annual Report shall contain detailed boring logs for new exploratory borings and/or detailed “as-built” monitoring well diagrams for any new monitoring wells

installed during the corresponding reporting period, including the monitoring well-related information specified in Special Permit Conditions III.D.4. and 5.

- F. The Permittee shall submit to the Department, on a semi-annual basis, copies of all original, uninterpreted laboratory analytical reports providing data from the Permittee's groundwater sampling efforts for the preceding calendar half-year (i.e., January through June and July through December) for the monitoring wells and surface water sampling points. The semi-annual reports shall include groundwater analyses results, field parameter measurement results, copies of field sampling and well inspection log sheets, well repair documentation, quality assurance/quality control data, and any other relevant groundwater-related information. The Permittee may combine each calendar year's second semi-annual data report with the Annual Groundwater Corrective Action Report. The Permittee's first semi-annual data report shall be due by September 1 of each calendar year.

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

- A. The Permittee shall implement a surface water monitoring program according to the requirements of 10 CSR 25-7.264(2)(F)4, throughout the post-closure care period or until such time as the Permittee makes a successful demonstration for exemption from these requirements. Compliance with this monitoring program is for the purposes of this Permit only and does not relieve the Permittee of the obligation to comply with any other federal, state or local water monitoring requirements. The Permittee's surface water monitoring program shall be performed as described in this Permit and in accordance with procedures contained in the approved SAP.
1. The Permittee's surface water monitoring program shall be incorporated directly into, and be submitted as part of, the groundwater SAP required by Special Permit Condition III.D.
 2. The surface water sampling program shall be described in detail in the SAP and shall be sufficient to yield representative data on background and downgradient surface water quality. The surface water sampling program shall be consistent with the Permittee's Missouri State Operating Permit #MO-0002348 effective May 2, 2003. The surface water sampling program in the SAP shall include the following:
 - a. Outfall flow measurements,

- b. Surface water sampling locations,
 - c. Sampling and analysis methods as described in the Missouri State Operating Permit referenced above except for the whole effluent toxicity test, and
 - d. A table of the parameters and hazardous constituents to be measured, which shall include mercury.
 3. The Permittee shall perform surface water sampling on a schedule consistent with the Permittee's state operating permit referenced above and the approved SAP.
 4. Reporting and analysis of data and 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 as part of the Annual Groundwater Corrective Action Report, as described in Special Permit Condition IV. In addition to other reporting requirements for the surface water monitoring program, the Permittee shall include with the Annual Groundwater Corrective Action Report a discussion of any exceedances limits specified in the current Missouri State Operating Permit effective at the time of sampling.
 5. The Permittee shall perform statistical comparisons of mercury, lead and zinc analytical data obtained from the upgradient and downgradient surface water sampling locations in Lone Elm Creek. The Permittee shall use a statistical method appropriate for the distribution of data undergoing analysis and shall ensure, to the greatest degree possible, protection of human health and the environment. These statistical comparisons shall be included in the Annual Groundwater Corrective Action Report required by Special Permit Condition IV.
 6. The Permittee shall notify the Department within seven days of determining that a statistically significant increase of hazardous constituents has been detected via statistical comparison of downstream and upstream surface water analytical data.
- B. The Permittee may, at any time during the post-closure care period, including any extensions, make a demonstration to the Department for a surface water monitoring exemption. A successful demonstration for such an exemption shall,

at a minimum, address the elements of 10 CSR 25-7.264(2)(F)4.A. Department approval of the Permittee's surface water monitoring exemption shall necessitate a permit modification according to 40 CFR 270.42. In addition, any exemption shall not affect any obligation on the part of the Permittee to apply for and obtain a Missouri State Operating Permit from the Department's Clean Water Commission and Water Protection Program for discharges to waters of the State.

VI. Cost Estimate and Financial Assurance [40 CFR §§264.144 and 264.145]

- A. In accordance with 40 CFR 264.144, the Permittee shall maintain a detailed written estimate, in current dollars, of the annual cost of post-closure monitoring and maintenance of the former lead impoundment. The estimate shall be based on the cost of hiring a third party to conduct these activities. The estimate is calculated by multiplying the annual cost estimate by the number of years of the post-closure care period, which is 30. The post-closure care cost estimate shall not be reduced due to a shortened post-closure care period unless by an approved permit modification.
1. The post-closure cost estimate for the former lead impoundment is included in the approved permit application and is subject to revision and approval as described in the Schedule of Compliance. A contingency cost allowance of 20 percent of the total cost of all specified post-closure care activities shall be incorporated into the final post-closure care cost estimate. The revised post-closure cost estimate shall be reviewed according to the procedures outlined in Corrective Action Permit Condition XIII. of this Permit.
 2. Throughout the post-closure care period, the Permittee shall adjust the post-closure care cost estimate for inflation within 60 calendar days prior to the anniversary date of the establishment of the financial assurance instrument(s) used to comply with 40 CFR 264.145 and 10 CSR 25-7.264(2)(H).
- B. The Permittee shall comply with the financial requirements of 40 CFR Part 264 Subpart H, as incorporated and modified in 10 CSR 25-7.264(1) and (2)(H), for post-closure care. The Permittee shall demonstrate continuous compliance with 40 CFR 264.145, 10 CSR 25-7.264(2)(H) and the documentation requirements of 40 CFR 264.151 (with appropriate substitution of state terms) in at least the

amount of the cost estimate required in this Permit condition. Changes in financial assurance mechanisms shall be approved by the Department pursuant to 40 CFR 264.145 and 10 CSR 25-7.264(2)(H).

1. The financial assurance instrument(s) for post-closure care shall be based on the cost estimate approved in this Permit and as revised annually for inflation costs, and any subsequent revised cost estimates for amended and approved post-closure care plans.
2. The Permittee may make adjustments annually for inflation costs by recalculating the post-closure cost estimate in current dollars or by multiplying the latest cost estimate by the latest inflation factor, as described in 40 CFR 264.144(b) derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its *Survey of Current Business*. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.
3. The Permittee shall submit the updated financial assurance within 60 calendar days after the Department's approval of the updated post-closure cost estimate required by this Permit condition.

CORRECTIVE ACTION PERMIT CONDITIONS

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

- A. A 1989 Resource Conservation and Recovery Act (RCRA) Facility Assessment identified 43 solid waste management units (SWMUs) and four areas of concern (AOCs). The 1993 RCRA Part B permit application described an additional 81 SWMUs, bringing the total to 124 SWMUs. In a September 7, 1994, meeting between the U.S. Environmental Protection Agency (EPA), the Department and the Permittee, it was determined that 46 SWMUs required no further investigation and 78 SWMUs required further investigation.

A comprehensive RCRA Facility Investigation (RFI) Work Plan was submitted to EPA and the Department November 1, 1994. A revised work plan was submitted April 28, 1995, and approved by EPA and the Department May 5, 1995. The approved RFI Work Plan addressed the 124 SWMUs and added four additional SWMUs to be investigated. The general location of the individual SWMUs is shown on Figure 1. For the Phase I RFI, the SWMUs were separated into seven geographic groups to conduct a geostatistical evaluation of the data to identify any areas where data gaps existed. The Phase I RFI Report was submitted November 14, 1995, and recommended a Phase II RFI. A Phase II RFI followed and the final Phase II RFI Report was submitted March 5, 1999.

The Department, EPA and the Permittee determined that additional investigation-related data gaps still remained; therefore, a Phase II RFI Work Plan Addendum was submitted October 7, 1999. An approval letter, with modifications for the work plan addendum, was sent by the agencies October 29, 1999. A final RFI Report was received by the agencies January 29, 2009, incorporating the results of both phases of the investigation and addressing all agency concerns expressed in previous correspondence/meetings between the Permittee and the agencies. The final RFI Report is under review.

- B. The information regarding these SWMUs and AOCs is based on investigations and reports available when this Permit was issued. In the event new information becomes available indicating that human health or the environment may be adversely impacted, the Permittee may be required to perform such investigations and evaluations as necessary to determine the need for additional corrective actions at the facility, including off-site releases(s), as specified in the Corrective Action Permit Conditions of this Permit.

- C. The Permittee shall conduct further investigation(s) and/or take corrective action as deemed appropriate by the Department for SWMUS and/or AOCs demonstrating releases of hazardous waste or hazardous constituents to soil, surface water, sediment, groundwater, and/or air in excess of applicable regulatory thresholds and for any newly-identified SWMUs and/or AOCs and/or release(s) from previously-identified SWMUs and/or AOCs, including off-site release(s) to soils, groundwater and/or air as specified in the Corrective Action Permit Conditions 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 the Permittee to conduct an investigation of any newly-identified SWMU(s) or AOC(s). The Department shall notify the Permittee in writing of this decision. Within 30 calendar days after receipt of the Department's request to conduct an investigation, the Permittee shall prepare and submit a SWMU/AOC Assessment Work Plan to the Department for approval. The SWMU/AOC Assessment Work Plan shall include, but not be limited to, the following:
 - 1. A discussion of past hazardous wastes management practices related to the unit(s);
 - 2. A detailed investigation approach for surface and subsurface soils, surface water, groundwater, and air as necessary to:
 - a. Determine if a release of hazardous wastes or hazardous constituents has occurred or is occurring at the unit(s);
 - b. Yield reliable, representative samples and results;
 - c. Determine impacts or potential impacts to human health and the environment; and
 - d. Sufficiently assess all hazardous wastes and hazardous constituents related to the unit(s).

3. A proposed schedule for implementing the SWMU/AOC Assessment Work Plan, which is predicated on the date of Departmental approval of the plan; and
 4. Identification of all data to be collected necessary to provide for a complete SWMU/AOC Assessment Report, as specified below.
- C. The Department shall review the SWMU/AOC Assessment Work Plan according to the procedures described in Corrective Action Permit Condition XIII. The Permittee shall complete all activities described in the SWMU/AOC Assessment Work Plan according to the schedule contained in the approved plan.
- D. The Permittee shall submit a SWMU/AOC Assessment Report to the Department and EPA according to the schedule specified in the approved SWMU/AOC Assessment Work Plan. The report shall present and discuss the information obtained under the approved SWMU/AOC Assessment Work Plan. At a minimum, the 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 SWMU(s) and AOC(s);
 2. The type and function of the SWMU or AOC;
 3. The general dimensions, capacities, and structural description of the SWMU or AOC;
 4. The period during which the SWMU or AOC 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 possible;
 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;

10. Drainage areas and/or drainage patterns near the SWMU or AOC; and
 11. A recommendation as to whether further action is necessary and justification for the recommendation. If further action is recommended, the SWMU/AOC Assessment Report shall include a proposal for additional investigation or corrective action, as appropriate.
- E. The Department shall review the SWMU/AOC Assessment Report according to the procedures described in Corrective Action Permit Condition XIII. Based on the findings of the report and any other available information, the Department shall determine the need for additional investigation, including interim/stabilization measures or an RFI, 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 shall review this work plan for additional investigations according to the procedures described in Corrective Action Permit Condition XIII. The Permittee shall complete all activities described in the work plan 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 of any newly-identified release(s) of hazardous wastes or hazardous constituents from previously-identified SWMU(s) or AOC(s) 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 the Permittee to conduct an investigation of the newly-identified release(s). The Department shall notify the Permittee in writing of this decision. Within 30 calendar days after receipt of notice that the Department requires an investigation, the Permittee shall submit a Newly-Identified Release Work Plan to the Department for approval. The Newly-Identified Release Work Plan shall include, but not be limited to, the following:
 1. A discussion of the hazardous waste/chemical management practices related to the release(s);

2. A detailed investigation approach for groundwater, land surface and subsurface soils, surface water, and air as necessary to:
 - a. Define the extent of the release area(s);
 - b. Yield reliable, representative samples and results;
 - c. Determine impacts or potential impacts to human health and the environment; and
 - d. Sufficiently assess all hazardous wastes and hazardous constituents related to the release(s).
 3. A proposed schedule for implementing the Newly-Identified Release Work Plan, which is predicated on the date of Departmental approval of the plan; and
 4. Identification of all data to be collected necessary to provide for a complete Newly-Identified Release Report, as specified below.
- C. The Department shall review the Newly-Identified Release Work Plan according to the procedures described in Corrective Action Permit Condition XIII. The Permittee shall complete all activities described in the Newly-Identified Release Work Plan according to the schedule contained in the approved plan.
- D. The Permittee shall submit a Newly-Identified Release Report to the Department and EPA according to the schedule specified in the approved Newly-Identified Release Work Plan. The report shall present and discuss the information obtained under 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(s) in relation to the SWMU(s) or AOC(s) under investigation and to any other SWMU(s) and 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;
 9. Drainage areas and/or drainage patterns near and at the location of the release; and
 10. A recommendation as to whether further action is necessary and justification for the recommendation. If further action is recommended, the Newly-Identified Release Report shall include a proposal for additional investigation or corrective action, as appropriate.
- E. The Department shall review the Newly-Identified Release Report according to the procedures described in Corrective Action Permit Condition XIII. Based on the findings of the report and any other available information, the Department shall determine the need for additional investigation, including interim/stabilization measures or an RFI, at specific releases(s) identified in the Newly-Identified Release Report.

IV. Interim/Stabilization Measures

- A. The Permittee shall notify the Department and EPA within 24 hours after becoming aware or should have become aware of a situation that may require interim/stabilization measures (ISMs) to protect human health or the environment.
- B. 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 wastes or hazardous constituents poses a threat to human health or the environment, the Department may require ISMs to slow or stop the further spread of contamination until final corrective action measures are implemented. The Department shall determine the specific action(s) that shall be taken to implement ISMs, including potential permit modifications and the schedule for implementing the ISMs. The Department shall notify the Permittee in writing of decisions regarding the action(s). This requirement does not preclude the Permittee from responding to an emergency situation without direction from the Department.

- C. 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 ISMs are not effectively limiting or stopping the further spread of contamination. The Department may require the ISMs be changed to make them effective in limiting or stopping the spread of contamination, or that final corrective action measures are required to remediate the contaminated media.
- D. In cases where releases or potential releases present minimal exposure concerns and/or the remedial solution is relatively uncomplicated, the Permittee may propose ISMs for review and approval by the Department. These ISMs shall be consistent with and may supplement or satisfy the requirements for a final remedy(s) in specific areas. Proposed ISMs that are determined by the Department to be significant (e.g., those which are anticipated to make up a substantial part 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. Pursuant to the requirements of the Permittee's Hazardous and Solid Waste Amendments of 1984 Part II Permit, dated August 19, 1993, several iterations of RFI Work Plans and respective RFI Reports have been submitted to and approved by the Department and EPA. A final RFI Report was submitted January 29, 2009. The report has not yet been approved; however, no additional investigation is anticipated to be needed to satisfy the objectives of the RFI.
- B. If the Department determines that additional investigations are needed, the Department may require the Permittee to conduct an RFI. The Department shall notify the Permittee in writing of this decision. Within 60 calendar days after receipt of the Department's request to conduct an RFI, the Permittee shall prepare and submit an RFI Work Plan to the Department and EPA for approval. The RFI Work Plan shall be designed to investigate releases of hazardous wastes and hazardous constituents to all appropriate media of concern including surface and subsurface soils, groundwater, surface water, and air, as necessary. In order to substantiate future corrective action decisions, the RFI Work Plan shall contain provisions that are sufficient to meet the following objectives and a proposed schedule for implementing the RFI Work Plan, which 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 wastes and hazardous constituents

from SWMUs and AOCs, or groups of SWMUs and AOCs, or newly-identified release(s) at the facility and the actual or potential receptors of such releases; and

2. Collection of any other pertinent data 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 EPA document entitled, RCRA Facility Investigation (RFI) Guidance, EPA 530/SW-89-031, May 1989, or the most recent version. At a minimum, the RFI Work Plan shall detail all proposed activities and procedures to be conducted at the facility including, but not limited to, the following:
1. A description of current conditions;
 2. The schedule for implementing and completing such investigations and for submission of reports (including the RFI Report);
 3. The qualifications of personnel performing or directing the investigations, including contractor personnel; and
 4. The overall management of the RFI activities.
- 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, at a minimum, 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 the EPA document entitled, EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5, March 2001, (reissued May 2006) or the most recent 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 shall review the RFI Work Plan(s) according to the procedures described in Corrective Action Permit Condition XIII. The Permittee shall complete all activities described in the RFI Work Plan(s) according to the schedules contained in the approved plan(s).

VI. RCRA Facility Investigation (RFI) Report

- A. Pursuant to the requirements of the Permittee's Hazardous and Solid Waste Amendments of 1984 Part II Permit, dated August 19, 1993, several iterations of RFI Work Plans and respective RFI Reports have been submitted to and approved by the Department and EPA. A final RFI Report was submitted January 29, 2009, and has not yet been approved.
- B. Should additional investigations become necessary, the Permittee shall submit an RFI Report to the Department and EPA according to the schedule specified in the approved RFI Work Plan described in Corrective Action Permit Condition V. of this Permit. The RFI Report shall present all information obtained 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 shall contain adequate information to support additional 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 EPA document entitled, RCRA Facility Investigation (RFI) Guidance, EPA 530/SW-89-031, May 1989, or the most recent version.
- 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 measures or a Corrective Measures Study (CMS) 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 migration of releases from SWMUs and 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 migration including description of contaminant fate and transport mechanisms, and pathways for human and environmental exposure;
 7. Statistical analyses to aid in the interpretation of data;
 8. Results of any interim/stabilization measures previously implemented; and
 9. Evaluation of data quality that 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 shall review the RFI Report according to the procedures described in Corrective Action Permit Condition XIII. 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, the

Department shall notify the Permittee of the next step in the corrective action process, which may include the submittal of a CMS Work Plan, described in Corrective Action Permit Condition VII.

VII. Corrective Measures Study (CMS) Work Plan

- A. A CMS has not been conducted for this facility. If the Department determines that there has been a release of hazardous waste or hazardous constituents from newly- or previously-identified SWMUs or AOCs that may pose a threat to human health or the environment, the Department may require the Permittee to conduct a CMS. The Department shall notify the Permittee, in writing, of this decision. The notice shall 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 evaluate one or more specific potential remedies for removal, containment, and treatment of hazardous wastes and 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 protecting human health and the environment.
- C. Within 45 calendar days after receipt of the Department's request to conduct a CMS, the Permittee shall prepare and submit a CMS Work Plan to the Department and EPA for approval. The CMS Work Plan shall be consistent with the EPA document entitled, RCRA Corrective Action Plan (Final), OSWER Directive 9902.3-2A, May 1994. At a minimum, the CMS Work Plan shall provide the following information, as appropriate, and a proposed schedule for implementing the CMS Work Plan, which 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 shall 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 shall review the CMS Work Plan according to the procedures described in Corrective Action Permit Condition XIII. The Permittee shall complete all activities described in the CMS Work Plan according to the schedules contained in the approved plan.

VIII. Corrective Measures Study (CMS) Report

- A. The Permittee shall submit a CMS Report to the Department and EPA according to the schedule specified in the approved CMS Work Plan described in Corrective Action Permit Condition VII. The CMS Report shall present all information obtained under the approved CMS Work Plan and shall be consistent with guidance contained in the EPA document entitled, RCRA Corrective Action Plan (Final), OSWER Directive 9902.3-2A, May 1994.
- B. The CMS Report shall describe the results of the investigations for each remedy studied and 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, or combination thereof, and rationale for the selection; and
 6. Assessment of institutional requirements that may be needed (e.g., state or local permits), discussion of other environmental or public health requirements or institutional controls that may substantially affect implementation of the final remedy (e.g., local ordinances), and/or a draft of any site-specific institutional controls that are proposed as part of a final remedy (e.g., an environmental covenant prepared under the Missouri Environmental Covenants Act).
- C. The CMS Report shall contain adequate information to support the Department in the final remedy decision-making process.
- D. The Department shall review the CMS Report according to the procedures described in Corrective Action Permit Condition XIII. Upon approval of the CMS Report, the Department may approve a final remedy as specified in Corrective Action Permit Condition IX.

IX. Final Remedy Approval

- A. Following the approval of the CMS Report or equivalent (as described in Corrective Action Permit Condition VIII. of this Permit), the Department shall prepare a Statement of Basis that summarizes the remedial alternatives evaluated by the Permittee and 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 shall be initiated according 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, final remedy approval by the Department, and implementation of the approved final remedy by the Permittee. This Permit

modification shall include requirements for the Permittee to provide assurances of financial responsibility for completing corrective action, according to 40 CFR 264.101(b).

- 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 shall:
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 may 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)

AULs are legal or physical restrictions or obligations with respect to the facility. AULs place a legal or physical restriction or limitation on the use of, or access to, the facility. The following AULs apply to the Permittee and the permitted facility:

- A. Soil or Other Media Disturbance at the Facility
1. The Permittee shall notify the Department at least 30 calendar days before any planned construction, excavation, or maintenance and repair activities that would disturb existing contamination at any SWMUs or AOCs. The Permittee shall assess the potential hazards associated with activities that potentially disturb or expose any contaminated environmental media and ensure precautions are taken, including protective and/or remedial measures, prior to performing the activity. In situations where advance notice is not feasible (e.g., utility service or repair) notice shall occur as soon as practical. Future construction, excavation activities, or land use changes may necessitate further evaluation of site conditions at SWMUs or AOCs having residual levels of contamination that exceed applicable regulatory thresholds.
 2. Within 60 calendar days after the effective date of this Permit, the Permittee shall submit a Site Excavation Plan to the Department for

approval. The Plan shall address media sampling and characterization for activities potentially disturbing any media encountered during excavation activities at the facility. The Plan shall also include procedures for situations where advance notice to the Department is not feasible. The Plan shall provide for assessing potential hazards associated with excavation activities and proper management and disposal of excavated media.

B. Change of Use of Property

The Permittee shall notify the Department at least 30 calendar days before any changes in the use of the facility property, of any applications for building permits for site work on the facility property, or proposals for site work affecting the contamination on the facility property, in accordance with 40 CFR 270.30. The Permittee shall submit a permit modification according to 40 CFR 270.40, before transferring ownership or operational control of any portion of the permitted facility. The permit modification shall incorporate such other requirements as necessary to continue the AULs, engineering and institutional controls, as well as ongoing remediation and corrective action.

C. Missouri Environmental Covenants Act

The Permittee shall comply with the Missouri Environmental Covenant Act, Section 260.1000 through 260.1039, RSMo.

XI. Quarterly Progress Reports

- A. The Permittee shall prepare and submit signed Quarterly Progress Reports to the Department and EPA, summarizing all permitted corrective action activities undertaken during the previous calendar quarter. Each Quarterly Progress Report is due within 60 calendar days following the last day of each reporting period (i.e., March 1, June 1, September 1, and December 1). The Quarterly Progress Reports falling on March 1 and September 1 may be combined with the Annual/Semi-Annual Groundwater Corrective Action Reports required by Special Permit Condition IV. The first Quarterly Progress Report shall be due within 60 calendar days after the end of the calendar quarter in which this Permit becomes effective. The Quarterly 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.

- B. The Quarterly Progress Reports shall include the following information for the time period being reported:
1. A description of the work completed;
 2. Summaries of all findings, including summaries of laboratory data;
 3. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;
 4. Projected work for the next reporting period; and
 5. Any instances of noncompliance with the corrective action requirements of this Permit not otherwise required to be reported elsewhere in this Permit.
- C. Any detailed technical information that is part of any additional corrective action activities undertaken pursuant to this Permit and required to be submitted as part of interim/stabilization measures, RFI and/or CMS work plans and reports, need not be reproduced as part of the Permittee's Quarterly Progress Reports.

XII. Supplemental Data

All uninterpreted data, such as laboratory reports, drilling logs, bench-scale or pilot-scale studies, 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.

XIII. Corrective Action Cost Estimates and Financial Assurance

- A. Within 120 days after this Permit has been modified to include a final remedy, the Permittee shall demonstrate continuous compliance with the financial assurance requirements in effect at that time for corrective action being performed under state law. The effective financial assurance requirements for corrective action shall be consistent with and/or substantially equivalent to that specified in 40 CFR Part 264 Subpart H, as incorporated by reference in 10 CSR 25-7.264. The amount of financial assurance shall be based on the Permittee's cost estimate for the approved final remedy as contained in the approved CMS Final Report or equivalent.

- B. Annually, within 60 calendar days before the anniversary date of the establishment of the financial assurance instrument, the Permittee shall adjust the corrective action cost estimate to account for inflation, in accordance with 40 CFR 264.142(b), and any other changes in the costs associated with the implementation, operation, maintenance, and monitoring of the approved final remedy. If the cost estimate increases, documentation of adequate financial assurance for that increase shall be submitted to the Department within 60 calendar days after the increase in the cost estimate.

XIV. Review and Approval Procedures

- A. Following submission of any plan or report pertaining to corrective action activities (excluding the Quarterly Progress Reports and Semi-Annual/Annual Groundwater Corrective Action Report) the Department shall review and either approve or provide written comments on the plan or report. If the Department does not approve the plan or report, the Department shall 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.
- B. 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.
- C. 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.
- D. Should the Permittee require additional time to submit a scheduled document or perform other activities required by this Permit, the Permittee shall provide a written extension request to the Department at least 15 calendar days prior to the scheduled due date of the document or activity. The Permittee's extension request shall specify the amount of additional time requested and shall be accompanied by the Permittee's justification for the extension. Review and approval of extension requests shall be in accordance with this Permit condition.

TABLES

**Table 1 - Groundwater Protection Standards
 40 CFR 264.100(a)**

Hazardous Constituent	Maximum Concentration Limit (ug/l)	Maximum Detection Limit (ug/l)*
Arsenic	10 (a)	5
Barium	2000 (a)	50
Cadmium	5 (b) (c)	2
Chromium (total)	100 (a)	10
Lead	15 (a) (b) (c)	5
Mercury	2 (a) (b) (c)	0.2
Nickel	100 (c)	10

* The lower of Method Detection Limits (MDLs) contained in the latest version of the EPA publication, Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846) or method specific detection limits routinely achieved by the Permittee's contract laboratory.

- (a) Denotes limits derived from Environmental Protection Agency's National Primary Drinking Water Standards or State Drinking Water Standards as of May 2009. Lead contaminant concentration is listed as an action level.
- (b) Denotes limits derived from Missouri Public Drinking Water Standards (10 CSR 60-4, dated September 30, 2009) and federal public drinking water regulations, May 2009.
- (c) Missouri Water Quality Standards (10 CSR 20-7, Table A, dated May 31, 2009) for protection of groundwater.

Table 2 - Groundwater Corrective Action Monitoring, Sampling, Analysis, and Parameter Measurement Schedule

Parameters	Type*	Maximum Detection Limit (ug/L)	Frequency
Appendix IX (1)	HC	Method Detection Limits per SW-846(b)	Every five years
Arsenic (2)	HC	1.0 (a)	Annually/Semi-annually
Barium (2)	HC	4.0 (a)	Annually/Semi-annually
Cadmium (2)	HC	1.0 (a)	Annually/Semi-annually
Chromium (2)	HC	10.0(a)	Annually/Semi-annually
Lead (2)	HC	4.0 (a)	Annually/Semi-annually
Mercury (2)	HC	1.0 (a)	Annually/Semi-annually
Nickel (2)	HC	4.0 (a)	Annually/Semi-annually
pH (2)	FM	Not Applicable	Annually/Semi-annually
Specific Conductance (2)	FM	Not Applicable	Annually/Semi-annually
Static Groundwater Elevation (3)	FM	Not Applicable	Annually/Semi-annually
Temperature (2)	FM	Not Applicable	Annually/Semi-annually
Total Well Depth	FM	Not Applicable	Annually

- (1) Appendix IX. (40 CFR 264) scan sampling and analyses shall be performed on two downgradient, historically contaminated, wells only every five years. The wells to be sampled are left to the discretion of the Permittee.
- (2) Wells monitoring the point of compliance as specified in Special Permit Condition III.B. and the background groundwater quality shall be sampled on an annual basis. Wells monitoring the groundwater quality downgradient of the former lead impoundment shall be sampled on a semi-annual basis in accordance with the Permittee’s SAP.
- (3) Potentiometric measurements shall be obtained at the time of each regularly scheduled sampling event from all monitoring wells/piezometers at the facility including those not being sampled regularly.
- (a) Detection Limit based upon the lowest achievable method detection limit available from the Permittee’s contract laboratory.
- (b) Current SW-846 version at time of sampling.

* HC = Hazardous Constituent, FM = Field Measurement

Table 3 - Summary of Planned Submittal Requirements Pursuant to this Permit and Schedule of Compliance

Submittal Requirements	Due Date	Permit Condition
Two copies of the 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 all permit conditions in this Permit	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.B.
Check or money order for any outstanding engineering review costs	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.C.
Check or money order for each year this Permit is to be in effect beyond the first year	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.D.
Revised SAP	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item II
A Site Excavation Plan	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item III.
Updated post-closure cost estimate	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item IV.
Updated draft financial assurance instrument	Within 60 calendar days after approval of updated post-closure cost estimate.	Schedule of Compliance Item V.
Permit Renewal Application	Within 180 calendar days of expiration date of this Permit.	Standard Permit Condition I.
Biennial Report with information required by 40 CFR 264.75	March 1 of each even numbered calendar year.	General Permit Condition I.
Semi-annual Groundwater Report	September 1 of each calendar year.	Special Permit Condition IV.
Annual Groundwater Corrective Action Monitoring Report	March 1 of each calendar year.	Special Permit Condition IV.

Submittal Requirements	Due Date	Permit Condition
Activity and Use Limitations	At least 30 calendar days before activities requiring AULs	Corrective Action Permit Condition X.
Quarterly Progress Reports	Within 60 days following the last day of each reporting period.	Corrective Action Permit Condition XI.A.

NOTE: Extensions, if requested, may be granted by the Department for cause without modifying this Permit.

Table 4 - Summary of Contingent Corrective Action Submittal Requirements Pursuant to the Corrective Action Permit Conditions of this Permit

Planned Submittal Requirements	Due Date	Corrective Action Permit 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 after 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 after 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.
Notification of interim/stabilization measures	Within 24 hours after discovery of need for stabilization.	IV.A.
Notification of interim/stabilization measures not effective	Within ten calendar days after determination.	IV.C.
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.

Planned Submittal Requirements	Due Date	Corrective Action Permit Condition
Corrective Measures Study (CMS) Report	According to the schedule in the approved CMS Work Plan.	VIII.A.

FIGURES

Figure 1 - SWMUs and AOCs

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Figure 2 - Point of Compliance

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