MISSOURI HAZARDOUS WASTE MANAGEMENT FACILITY
PART I PERMIT

PERMIT NUMBER: MOD077887909

PERMITTEE

Owner and Operator: Expert Management Inc.
535 Marriott Drive, Suite 500
Nashville, TN 37214

FACILITY LOCATION

Expert Management Inc.
3078 County Road 180
Carthage, MO 64836
Jasper County
North Latitude – 37°06’50”
West Longitude – 94°22’48”

FACILITY DESCRIPTION

Expert Management Inc. (EMI), formerly ICI Explosives USA, Incorporated (ICI), is the owner of 583 acres of property where its predecessors operated a chemicals and explosives manufacturing Facility. The Facility manufactured industrial grade ammonium nitrate, weak nitric acid, ammonium nitrate-based emulsion explosives, TNT, blasting agents and other chemicals in support of the explosives industry. The Facility is now in post-closure care and manufacturing operations have ceased.
History of ownership.

The Joplin Facility was constructed in 1901 by E.I. Dupont de NeMours & Company, (Dupont) Incorporated. In 1912, DuPont divested portions of its explosives operations and the Joplin plant became part of the newly formed Atlas Powder Company. In 1961, the company incorporated under the name Atlas Chemical Industries. In the early 1970’s, ICI acquired Atlas Chemical Industries. ICI then divested the Atlas Powder explosives operations in 1973. Atlas Powder Company became a wholly-owned subsidiary of the Tyler Corporation from approximately mid-1973 until May 1990, when it was re-acquired by ICI. Several operations ceased between May 1990 and January 2000. ICI sold the bulk of its business and assets (exclusive of the real property) in February 2000 to Joplin Manufacturing, Incorporated (JMI), which continued to manufacture emulsion explosives until September 2001. ICI changed its name to EMI in December 2001. JMI ceased operations at the Facility and their lease of the real property on January 31, 2002. There are no current manufacturing operations at the Facility. In 2002, the hazardous waste incinerator and surrounding property was sold to EBV Environmental Explosives Company (now doing business as General Dynamics Ordnance and Tactical Systems), which is not affiliated with EMI, and which currently operates independently under their own permits. EMI retains responsibility for post-closure care, corrective action, site clean-up, and monitoring related to the soil and groundwater. Some of the Facility is in the Grove Creek 100-year floodplain. Adjoining property is being used for agricultural, forest, commercial, industrial, and residential purposes.

The EMI facility has five closed hazardous waste management units. These include a former impoundment (Atlas Pond), a former burning ground, a former drum storage building, former acid mud treatment area, and former emulsion waste treatment sump. Groundwater contamination resulting from the operation of these units is subject to corrective action and contingency planning provisions under this Permit.

All interim status regulated hazardous waste management units have gone through the closure process, and the Missouri Department of Natural Resources has received the certification of closure. The Department has accepted the certification on the impoundment and the burning ground, which were closed with waste in place. Additional corrective action has been performed at the burning ground. The acid mud treatment area was closed clean. The drum storage building and the emulsion waste treatment sump had contaminants in the soil above background levels. A risk based closure was done, including a risk assessment on both units, and deed notations were made on the property for the drum storage building and the emulsion waste treatment sump. The
Department has accepted the certification of closure on the drum storage building and the emulsion waste treatment sump.

The general Facility location is shown in Figure 1. The Facility property boundaries are shown in Figure 2.

**PERMITTED ACTIVITIES**

This Permit requires post-closure care and facility-wide corrective action for potential releases to the environment from former Solid Waste Management Units (SWMUs) that remains in the post-closure care. This Permit also contains contingent corrective action conditions to address any newly-identified release(s) to the environment from previously or newly identified SWMUs, Areas of Concern (AOCs), and Corrective Action Sites (CASs) as necessary and appropriate. This Permit also contains Remedial Action Plan (RAP) provisions to address reporting and closure requirements for RAP activities previously conducted under Department approved interim measures and temporary authorizations. When the RAP provisions are completed, reviewed and approved, the financial assurance provisions related to the RAP will be released, and all RAP-related provisions in this Permit will be null and void.

EFFECTIVE DATES OF PERMIT: ________________________ to ________________________

___________________________________________

Date

Chris Nagel, Director
WASTE MANAGEMENT PROGRAM
TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>6</td>
</tr>
<tr>
<td>DEFINITIONS</td>
<td>9</td>
</tr>
<tr>
<td>SCHEDULE OF COMPLIANCE</td>
<td>12</td>
</tr>
<tr>
<td>SUBMITTAL OF REQUIRED INFORMATION</td>
<td>14</td>
</tr>
<tr>
<td>STANDARD PERMIT CONDITIONS</td>
<td>14</td>
</tr>
<tr>
<td>GENERAL PERMIT CONDITIONS</td>
<td>15</td>
</tr>
<tr>
<td>SPECIAL PERMIT CONDITIONS</td>
<td>17</td>
</tr>
<tr>
<td>I. 100-Year Floodplain Requirements [40 C.F.R. § 264.18(b)]</td>
<td>17</td>
</tr>
<tr>
<td>II. Post-Closure [40 C.F.R. Part 264 Subpart G]</td>
<td>17</td>
</tr>
<tr>
<td>CORRECTIVE ACTION CONDITIONS</td>
<td>21</td>
</tr>
<tr>
<td>I. Identification of SWMUs, AOCs, and CASs</td>
<td>22</td>
</tr>
<tr>
<td>II. Contingent Notification Requirements for, and Assessment of, Newly Identified SWMUs and AOC(s)</td>
<td>32</td>
</tr>
<tr>
<td>III. Contingent Notification Requirements for, and Assessment of, Newly Identified Releases from Previously Identified SWMUs, AOCs, and CASs</td>
<td>34</td>
</tr>
<tr>
<td>IV. Interim/Stabilization Measures (ISMs)</td>
<td>37</td>
</tr>
<tr>
<td>V. RCRA Facility Investigation (RFI) Work Plan</td>
<td>38</td>
</tr>
<tr>
<td>VI. RCRA Facility Investigation (RFI) Report</td>
<td>41</td>
</tr>
<tr>
<td>VII. Corrective Measures Study (CMS) Work Plan</td>
<td>43</td>
</tr>
<tr>
<td>VIII. Contingent Corrective Measures Study (CMS) Report</td>
<td>45</td>
</tr>
<tr>
<td>IX. Final Remedy Selection and Approval</td>
<td>47</td>
</tr>
<tr>
<td>X. Corrective Measures Implementation (CMI) Work Plan</td>
<td>50</td>
</tr>
<tr>
<td>XI. CMI Report and Certification of Completion of Constructed Final Remedy</td>
<td>51</td>
</tr>
<tr>
<td>XII. Certification of Completion of Corrective Measures</td>
<td>52</td>
</tr>
<tr>
<td>XIII. Activity and Use Limitations (AULs)</td>
<td>53</td>
</tr>
<tr>
<td>XIV. Groundwater Monitoring and Corrective Action Program [40 C.F.R. Part 264 Subpart F]</td>
<td>63</td>
</tr>
<tr>
<td>XV. Surface Water Monitoring [40 C.F.R. § 270.32(b)]</td>
<td>77</td>
</tr>
<tr>
<td>XVI. Annual Progress Reports</td>
<td>79</td>
</tr>
</tbody>
</table>
XVII. Annual Groundwater Corrective Action Reports ................................................. 81
XVIII. Planned and Contingent Activities................................................................. 83
XIX. Data.................................................................................................................. 83

REMEDIAL ACTION PLAN ....................................................................................... 83
  I. Special RAP Conditions ................................................................................... 84

FINANCIAL ASSURANCE CONDITIONS ............................................................... 85
  I. Cost Estimates ................................................................................................ 85
  II. Financial Assurance ...................................................................................... 88
  III. Liability Requirements .............................................................................. 100

FACILITY SUBMISSION SUMMARY ....................................................................... 101

FIGURES

Figure 1 - Facility Location ...................................................................................... 106
Figure 2 - Facility Property Boundaries ................................................................. Error! Bookmark not defined.
Figure 3 - Location of CASs at the Facility ......................................................... Error! Bookmark not defined.
Figure 4 - Location of Corrective Action Complex (CACo) ................................ Error! Bookmark not defined.

TABLES

Table 1 – Corrective Action Site List ...................................................................... 22
Table 2 - CASs with Residual Levels of Soil Contamination .................................. 57
Table 3 - Groundwater Protection Standards ........................................................ 66
Table 4 - Groundwater Monitoring, Sampling, Analysis, and Parameter Measurement Schedule ............................................................................................................ 76
Table 5 - Surface Water Screening Values ................................................................ 77
Table 6 - Planned Submittal Requirements Pursuant to this Permit and Schedule of Compliance ................................................................................................................................. 101
Table 7 - Planned Corrective Action Submittal Requirements Pursuant to the Corrective Action Conditions of this Permit ................................................................. 103
Table 8 - Contingent Corrective Action Submittal Requirements Pursuant to the Corrective Action Conditions of this Permit ................................................................. 104
INTRODUCTION

After public notice, according to Code of State Regulations 10 CSR 25-8.124, and review of EMI’s RCRA Hazardous Waste Permit Application (hereafter referred to as the permit application), the Missouri Department of Natural Resources (hereafter referred to as the Department) determined the permit application conforms to the provisions of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (RCRA), the Missouri Hazardous Waste Management Law [Missouri Revised Statutes Sections 260.350, RSMo, et seq.], and all standards, rules, and regulations adopted under these acts. The federal regulations, promulgated by the U.S. Environmental Protection Agency (hereafter referred to as EPA), are codified and to be codified in Title 40 of the Code of Federal Regulations. State rules and regulations promulgated under the Missouri Hazardous Waste Management Law are published in the Code of State Regulations, Title 10, Division 25 (10 CSR 25).

Pursuant to Section 260.375.13, RSMo and the Solid Waste Disposal Act, the Department hereby approves the permit application and issues this Missouri Hazardous Waste Management Facility Part I Permit (hereafter referred to as the Permit), Permit Number MOD077887909, to EMI, as the facility owner and operator (hereafter referred to as the Permittee), for post-closure care and “active” corrective action activities including, operating, maintaining, and monitoring the composting of contaminated soil under the RAP provisions of this Permit as described in the approved permit application. When the RAP provisions are completed, reviewed and approved, the financial assurance provisions related to the RAP will be released, and all RAP-related provisions in this Permit are null and void.

This Permit also includes “contingent” corrective action requirements that may be triggered, if necessary, for Solid Waste Management Units and Areas of Concern, pursuant to the state-equivalent requirements of the federal Hazardous and Solid Waste Amendments of 1984 (HSWA) to RCRA, as administered and enforced by the Department. The Department is issuing this Permit under state authority.

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 Missouri, in lieu of EPA, are incorporated into this Permit and are under state authority.

All citations to federal regulations throughout this Permit are for the sake of convenient reference. The federal regulations are incorporated by reference in 10 CSR 25. Applicable regulations are found in 10 CSR 25-3, 25-4, 25-7, and 25-8; and 40 C.F.R. Parts 260 through 264, 266, 268, and 270, as specified in this Permit. In instances where state regulations are more stringent, the appropriate state reference is given and shall apply.
Any appeals of this Permit, or specific permit conditions based on state authority, shall be filed according to 10 CSR 25-8.124(2). The applicant or any aggrieved person by this decision may be entitled to pursue an appeal before the Administrative Hearing Commission (AHC). To appeal, the party shall file a petition with the AHC within 30 calendar 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 can be found online at ahc.mo.gov, or by calling 573-751-2422. The Department also requests a copy of any appeal request be provided to the Missouri Department of Natural Resources, Waste Management Program Director, P.O. Box 176, Jefferson City, MO 65102-0176.

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.

This Permit is for post-closure and corrective action activities and is issued only to the Permittee named above. This Permit is issued for a period of 10 years and expires at midnight on . This Permit is subject to review and modification by the Department, according to Section 260.395.12, RSMo and 40 C.F.R. §§ 270.41 and 270.175. According to 40 C.F.R. § 270.51, if the Permittee submits a timely and complete application for a new permit and the Department is unable to issue a new permit on or before the expiration of this Permit, the conditions of this Permit will continue in force until the effective date or denial of a new permit.

All permit application information, including the RAP information, shall be made 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 materials shall be available for public review at the Department’s office in Jefferson City, Missouri.

The following shall collectively be referred to as the “approved permit application”:

- Groundwater Technical Memorandum, dated February 27, 2019.
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 outlined above with the original consolidated permit application at the Facility and with the local Facility representative.

Section 260.395.12, RSMo and 40 C.F.R. § 270.32(b)(2), require each permit issued under that section to contain terms and conditions as the Department determines necessary to protect human health and the environment. Post-closure and corrective action activities shall be according to the provisions of this Permit; the Missouri Hazardous Waste Management Law and the rules and regulations promulgated thereunder as effective on the date of this Permit; all final engineering plans, petitions, specifications, and operating procedures submitted to the Department during the permit application review process, which are included in the approved 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 approved permit application, 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.

According to 40 C.F.R. Part 270 Subpart D, any inaccuracies found in information submitted by the Permittee may be grounds for terminating, revoking and reissuing, or modifying this Permit, 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 handled according to the requirements of 10 CSR 25-8.124 and 40 C.F.R. Part 270 Subpart D.

40 C.F.R. § 264.101(a) requires all owners or operators of facilities seeking a permit for treating, storing, or disposing 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 SWMU, regardless of the time at which waste was placed in such unit. 40 C.F.R. § 264.101(b) requires that permits issued under the Missouri 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 C.F.R. § 264.101(c) requires corrective action to 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 actions. 40 C.F.R. § 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.

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, Environmental Remediation Program, Land Reclamation
Program, Missouri Geological Survey, Waste Management Program, and Water Protection
Program. Failure to comply with these environmental laws and regulations may, in certain
circumstances, result in suspending or revoking 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 C.F.R. 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.

“Alternate Concentration Limit (ACL)” means a Department-approved maximum concentration
limit or risk-based threshold for a hazardous constituent, Facility-related contaminant, or
combination thereof, in the groundwater that will not pose a substantial present or potential
hazard to human health or the environment, as long as that concentration limit or risk-based
threshold is not exceeded at defined compliance points.

“Approved Permit Application” means the original permit application and all subsequent
revisions or addenda to the permit application, and any completeness and technical information
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 SWMU has occurred or is occurring and is
determined by the Department to pose a current or potential threat to human health or the
environment. Investigating and/or remediating AOCs may be required pursuant to Section
260.395, RSMo and 40 C.F.R. § 270.32(b)(2).
“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.

“Corrective Action” means the investigation and remediation of hazardous wastes and hazardous constituents from any past and present release(s), including contamination that may have migrated beyond the boundaries of the permitted property.

“Corrective Action Complex” or “CACo” means the buildings that were used for composting the impacted soil windrows via the temporary authorizations in accordance with the RAP.

“Corrective Action Site (CAS)” means collectively AOCs and SWMUs which will be dispositioned in whole or in part via the Corrective Action process under this Permit.

"Deep aquifer" means the aquifer located below the Northview Shale layer. The Northview Shale layer establishes a hydraulic barrier and separates the deep and shallow aquifers.

“Department” means the Missouri Department of Natural Resources.

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

“Effectiveness Wells” means the wells installed at various locations to evaluate the efficacy of the corrective action(s) and/or evaluate the remedy(s) implemented at the site.

“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 C.F.R. § 264.101, and as specified in this Permit.

“Hazardous Constituent” means any chemical compound listed in 40 C.F.R. Part 261, Appendix VIII.
“Hazardous Remediation Waste” means all solid and hazardous wastes, and all media (including groundwater, surface water, soils, and sediments) and debris that are managed for implementing cleanup, as defined in 40 C.F.R. § 260.10.

“Hazardous Waste” means any waste, or combination of wastes, as defined by or listed in 40 C.F.R. Part 261, that may cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness or that may pose a threat to the health of humans or other living organisms because of its quantity, concentration, physical, chemical, or infectious characteristics.

“Interim/Stabilization Measures (ISMs)” means actions to control or abate threats to human health or the environment from releases at hazardous waste treatment, storage, or disposal facilities, or to prevent or minimize the further spread of contamination while long-term remedies are pursued.

“Investigation Well” means the wells used to evaluate the rate of migration and extent of groundwater contamination and assess any newly identified release(s) or risk limit exceedance(s) observed at the Facility.

“Land Disposal Restriction (LDR)” means the treatment standards established in the regulations found in 40 C.F.R. § 268.

“Perimeter Wells” means the wells installed at various depths at or just beyond the known extent of groundwater contamination, which serve as an early warning system to detect changes in groundwater quality and potential contaminant migration.

“Point of Exposure (POE)” means the location(s) where a potential receptor could come in contact with contamination, either now or in the future. The contaminant concentrations identified in Table 5 must meet the Ecological Surface Water Screening Values ($ESV_{sw}$) at and beyond the POE, which is Grove Creek.

“Points of Compliance” means the location(s) at which concentrations are measured to demonstrate the concentrations at and beyond the POE will not exceed $ESV_{sw}$ contained in Table 5.

“Risk Assessment (RA) Area” means the 12 areas in which the Facility was divided for the purpose of evaluating exposures in the risk assessments.

“Release” means any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing hazardous wastes or hazardous constituents
into the environment, outside of permitted primary or secondary containment. This includes abandoning or discarding barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents.

“Shallow Aquifer” means the shallow portion of the saturated groundwater system located above the Northview Shale layer. The Northview Shale layer establishes a hydraulic barrier and separates the shallow and deep aquifers.

“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 managing solid or hazardous waste. Such units include any area at a Facility at which solid wastes have been routinely and systematically released.

SCHEDULE OF COMPLIANCE

I. Within 60 calendar days after the effective date of this Permit, the Permittee shall:

   A. Submit to the Department one paper copy and one searchable electronic copy of the consolidated permit application, incorporating any changes resulting from comments on the draft Permit, as required by 10 CSR 25-7.270(2)(B)7 and defined in the Introduction of this Permit.

   B. Submit to the Department for approval, a revised Part A permit application, including all changes resulting from comments on the draft Permit, all permitted units at the Facility, and a diagram of the Facility that clearly outlines where each permitted unit is located.

   C. Submit to the Department a certification signed by the Permittee that the Permittee has read this Permit in its entirety and understands all conditions contained in this Permit.

   D. Submit to the Department, to the attention of the Waste Management Program, a check or money order payable to “State of Missouri” for any outstanding engineering review costs.

   E. Submit to the Department, to the attention of the Waste Management Program, a check or money order payable to “State of Missouri” for $1,000 for each year this Permit is to be in effect beyond the first year. This Permit is effective for 10 years. Since the Permittee submitted a $1,000 deposit with the
permit application and paid a $1,000 permit continuation fee for the current year, the remaining balance to be submitted by the Permittee is calculated as:

\[
\text{Remaining balance} = $9,000.00 - \left(\frac{$1,000.00}{365 \text{ days}} \times N_d\right)
\]

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 based on the foregoing formula is included with this Permit.

F. If the conditions in the most currently approved Sampling and Analysis Plan do not adequately reflect the requirements of this Permit, Submit to the Department for approval, a revised Sampling and Analysis Plan to incorporate all groundwater monitoring and surface water conditions outlined in this Permit, as required in Corrective Action Condition XV.D.1.

G. Submit to the Department for approval, an updated Post-Closure Plan, according to 40 C.F.R. § 264.118.

H. Submit to the Department for evaluation, an updated post-closure cost estimate, according to 40 C.F.R. § 264.144.

I. Submit to the Department for evaluation, an updated, detailed written cost estimate, in current dollars, of the cost of hiring a third party to perform the post-closure, corrective action, and RAP activities required by this Permit, as specified in Financial Assurance Condition I.A.2.

J. Submit to the Department for review and approval, a Soil Management Plan as mentioned in the Statement of Basis.

II. Within 90 calendar days after the effective date of this Permit, the Permittee shall:

A. Submit to the Department for approval, a Corrective Measures Implementation (CMI) Work Plan, as required in Corrective Action Condition X.A. The CMI Work Plan shall be based on the final remedy decision and shall comply with the requirements of this Permit.

B. Shall submit to the Department for review and approval, a RAP Closure Report detailing the corrective action activities, results from sampling and analysis, and decontamination and closure of the CACo.
III. Within 30 calendar days after the effective date of this Permit, the Permittee shall submit the additional information requested to provide justification to reduce the post-closure care period for the burning grounds (CAS Y) described in Special Permit Condition II. The additional information will be reviewed and approved according to procedures described in General Permit Condition V.

IV. Within 30 days of the approved Soil Management Plan, the Permittee shall submit for approval a revised draft Environmental Covenant that incorporates the approved Soil Management Plan as part of the final remedy.

V. The Permittee shall comply, as necessary, with all planned and contingent corrective action requirements of this Permit, as specified in the Corrective Action Conditions of this Permit and as summarized in Tables 7 and 8.

SUBMITTAL OF REQUIRED INFORMATION

I. Unless otherwise requested by the Department, the Permittee shall submit one paper copy and one searchable electronic copy, (by mail with hardcopy), of all reports, documents, plans/specifications, consolidated permit application, and RAP application required under the terms of this Permit to:

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

II. If the Permittee requires additional time to submit a scheduled document or perform other activities required by this Permit, the Permittee shall submit a written extension request to the Department according to General Permit Condition VI.

STANDARD PERMIT CONDITIONS


II. Application for Permit Reissuance [40 C.F.R. § 270.32]
According to 40 C.F.R. § 270.10(h)(1), the Permittee may submit a permit renewal application to the Department at least 180 calendar days before the expiration date of this Permit, unless the Director allows a later date. However, in order not to jeopardize timely reissuance, according to 40 C.F.R. § 270.32(b)(2), the Permittee shall submit a permit renewal application to the Department at least 24 months before the expiration date of this Permit, unless the Department allows a later date pursuant to General Permit Condition VI.

GENERAL PERMIT CONDITIONS


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 or hazardous constituents under the Permittee’s control, implement the Facility contingency plan, including notifying the Department’s emergency response hotline at 573-634-2436 and the National Response Center at 800-424-8802.

Within 15 calendar days of the incident occurrence, the Permittee shall submit a written report to the Department providing details. The content of the written report shall conform to 40 C.F.R. § 264.56(i) and be provided to the addressee listed in the “Submittal of Required Information” provision of this Permit.

III. Reporting Requirements [40 C.F.R. § 270.30(l)(9)]

If applicable, a biennial report shall be submitted to the Department by March 1 during odd numbered calendar year, covering Facility activities as required by 40 C.F.R. § 270.30(l)(9).

IV. This Permit does not authorize managing any non-hazardous solid waste outside the hazardous waste management processes and units described herein. Handling non-hazardous solid waste or universal waste outside the requirements of this Permit is subject to regulation under Missouri’s Solid Waste Management Law and regulations.

V. Review and Approval Procedures
A. Financial assurance cost estimates and draft financial assurance mechanisms submitted for post-closure care, or corrective action activities shall be reviewed and responded to by the Department, according to the procedures described in the Financial Assurance Conditions of this Permit.

B. Following submission of any plan or report pertaining to any plans to conduct sampling and analysis of the hazardous waste, residues, emissions, plant sampling, odor testing, or corrective action activities (excluding the Annual Progress Reports, Annual Groundwater Corrective Action Report, unless proposed actions to address corrective action program inadequacies are contained therein; and CMI Report), and any Certification of Completion of Construction of Final Remedy, 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’s or report’s deficiencies and specify a due date for submitting a revised plan, report, or associated activity schedule.

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

D. If the Permittee disagrees with any Department-initiated plan, report, or schedule modifications, and a mutually acceptable resolution of such modifications cannot be informally reached, the Permittee may file an appeal of the Department-initiated modifications according to Sections 260.395.11 and 621.250, RSMo.

VI. Document and Activity Extension Requests

A. If the Permittee requires additional time to submit a scheduled document or perform other activities required by this Permit, the Permittee shall submit a written extension request to the Department. Hard copy letter or e-mail are acceptable. The Department shall receive the extension request at least 15 calendar days before the scheduled document due date or activity completion date. The Permittee’s extension request shall specify the amount of additional time needed and shall be accompanied by the Permittee’s justification for the extension.
B. The Department shall review and approve the extension request according to the procedures described in General Permit Condition V.

C. If the Department does not approve the extension request, the Department may modify the request and notify the Permittee, in writing, of the modification. The extension request, as modified by the Department, shall be the approved schedule.

SPECIAL PERMIT CONDITIONS

The Department established the following permit conditions for the Permittee and the hazardous waste Facility at the location specified in this Permit.

I. 100-Year Floodplain Requirements [40 C.F.R. § 264.18(b)]

The Permittee has previously submitted information, as required in 40 C.F.R. § 270.14(b)(11)(iii) and 40 C.F.R. § 270.28, that identifies the active portion of the Facility as not being located in a 100-year floodplain. The active portion of the Facility, in this case, refers to the Corrective Action Complex and main office building. Therefore, a plan, as required in 40 C.F.R. § 264.18(b), for managing hazardous waste within a floodplain is not required. The Permittee shall maintain this information in the Facility operating record.

II. Post-Closure [40 C.F.R. Part 264 Subpart G]

The Permittee shall comply with all applicable requirements in 40 C.F.R. Part 264 Subpart G, and all provisions of this Permit.

A. Post-Closure Care and Use of Property [40 C.F.R. § 264.117]

1. According to 40 C.F.R. § 264.117(a)(1), post-closure care begins after certified completion of closure of the hazardous waste management unit and continues for 30 years after that date, unless modified according to 40 C.F.R. § 264.117(a)(2) or otherwise specified by the Department. This Facility, therefore, has two post-closure care periods. One which shall last at least until April 18, 2020, which has been extended for the former Atlas Pond until the requirements are met in Special Permit Condition II.A.9. The other, which shall last at least until March 29, 2029, barring any extensions, for the former Burning Ground. Care during this period must consist of maintenance,
monitoring, and reporting in accordance with 40 C.F.R. Part 264 Subparts F and N.

2. At a minimum, post-closure care shall be extended until such time as the groundwater protection standard maximum concentration limits (MCLs) contained in Table 3 or approved alternate concentration limits, as applicable, are met for a period of three consecutive years under the groundwater monitoring and corrective action conditions described in Corrective Action Conditions XIV.

3. During the post-closure care period, the Permittee shall comply with the applicable maintenance, monitoring, and reporting requirements in 40 C.F.R. Part 264 Subparts F, and G.

4. During the post-closure care period, the Permittee shall comply with the requirements in 40 C.F.R. § 264.117, including, but not limited to:

   a. Maintaining the integrity and effectiveness of the final covers;

   b. Maintaining and monitoring the groundwater monitoring system and complying with all applicable requirements in 40 C.F.R. Part 264 Subpart F;

   c. Preventing run-on and runoff from eroding or otherwise damaging the final covers; and

   d. Protecting and maintaining surveyed benchmarks.

5. In the event a significant ground subsidence or collapse occurs anywhere on the Permittee’s property, the Permittee shall notify the Department, verbally or in writing, within five calendar days of becoming aware of a subsidence or collapse feature. The Permittee shall also notify the Department of any subsidence or collapse within the Facility property boundary that alters surface or groundwater flows to or from any land-based units closed with waste in place. The Permittee shall allow the Department to inspect the feature in order to evaluate the subsidence or collapse before conducting any repairs. Within 30 calendar days after the Department’s written request, the Permittee shall prepare and submit to the Department for review and approval, a plan for repairing the feature. Any repair plan submitted to
the Department shall contain post-repair reporting provisions that include providing detailed documentation of the location, repair work conducted, before and after photographs, etc., in a final report to the Department.

6. The Permittee shall continue providing proper operation and maintenance of any engineering controls implemented as part of the approved permit application and final remedy. 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 criteria. 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 operating and maintaining such controls.

7. Post-closure use of the property shall be restricted by the Permittee to prevent disturbing the integrity of the final covers and to prevent damage to the monitoring systems. The Department may approve a use of the property that disturbs the integrity of the final covers if it is necessary for the proposed property use and will not increase the potential hazards to human health or the environment, or if it is necessary to reduce a threat to human health or the environment. The Permittee shall submit a request to the Department before any activities that disturb the integrity of the final cover.

8. 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 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 C.F.R. Part 270, 10 CSR 25-7, and 10 CSR 25-8.124.

9. The Permittee has requested a shortened post-closure care period for the Burning Grounds (CAS Y). The request is currently under review by the Waste Management Program and the additional information needed to make a determination will be a schedule of compliance item for this Permit. The Atlas Pond, (CAS E), was scheduled to end
post-closure care April 18, 2020. Since groundwater monitoring is under the Facility-wide program, as approved by the Groundwater Technical Memorandum, all that remains is protective cover maintenance. Post-closure care shall remain in effect for the Burning Grounds until the additional justification to shorten the time period has been reviewed and approved. Post-closure care for the Atlas Pond will continue until the environmental covenant, which incorporates protective cover maintenance, is signed and executed.

Once the activities above have been satisfied, the post-closure care periods for the Burning Grounds and the Atlas Pond will terminate. The units will be released from financial assurance and the obligations of Special Permit Condition II once the certification detailed in Special Permit Condition II.D. has been reviewed and approved.

B. Post-Closure Plan and Amendments [40 C.F.R. § 264.118]

1. Post-closure care shall be conducted according to the post-closure care plan and all conditions of this Permit.

2. The post-closure care plan(s) may be amended at any time during the active life of the Facility or the post-closure care period. Amendments are subject to the applicable permit modification requirements in 40 C.F.R. Part 270 Subpart D and 10 CSR 25-8.124. Written requests for amendments shall be submitted at least 60 calendar days before the proposed change in post-closure operations, or no later than 60 calendar days after the occurrence of an unexpected event that has affected the post-closure care plan(s).

The Department may request modifications to the post-closure care plan if changes in site operations affect the approved post-closure care plan(s). No later than 60 calendar days after receiving the Department’s request, the Permittee shall submit the modified post-closure care plan(s). Any modifications requested by the Department are subject to the applicable permit modification requirements in 40 C.F.R. Part 270 Subpart D and 10 CSR 25-8.124.

3. The Facility contact shall keep the approved post-closure care plan(s) during the post-closure care period, as required by 40 C.F.R. § 264.118(c).
C. Future Removal of Hazardous Wastes [40 C.F.R. § 264.119(c)]

Except as required to facilitate Department-approved corrective actions, including the composting performed in the Corrective Action Complex, if the Permittee wishes to remove hazardous wastes, hazardous waste residues, contaminated soils, the Permittee shall request a modification of this Permit, according to the applicable requirements in 40 C.F.R. Part 270 Subpart D and 10 CSR 25-8.124. The modification request shall include a demonstration that the proposed action(s) will not increase potential hazards to human health or the environment, or the proposed action(s) is necessary to reduce threats to human health or the environment, according to 40 C.F.R. § 264.117(c). By removing contaminants, the Permittee may become a hazardous waste generator. The Permittee shall manage any removed material according to all applicable laws, regulations, and ordinances.

D. Certification of Completion of Post-Closure Care [40 C.F.R. § 264.120]

No later than 60 calendar days after completing the post-closure care period(s) (including any necessary extensions), the Permittee shall submit to the Department, by certified mail, a certification that the post-closure care period was performed according to the approved post-closure plan(s). Based on the Department’s original closure certification acceptance dates, the certification is/was due by June 18, 2020, for the former Atlas Pond, and May 29, 2029, for the former Burning Grounds. If necessary, post-closure care will be extended for both regulated units until such time as the groundwater protection standard (MCLs) contained in Table 3, or approved ACLs, as applicable, are met for a period of three consecutive years under the groundwater monitoring and corrective action conditions described in Corrective Action Condition XIV., or as determined to be necessary by the Department. The post-closure completion certification shall be signed by the Permittee and a professional engineer registered in the State of Missouri and shall include documentation supporting the certification.

CORRECTIVE ACTION CONDITIONS

The Permittee shall comply with all applicable post-closure care, groundwater monitoring, surface water monitoring, and corrective action requirements contained in 40 C.F.R. Part 264 Subparts F, G, and S, and all provisions of this Permit, for all previously and any newly identified SWMUs, AOCs, CASs, and releases identified pursuant to the provisions of this Permit.
I. Identification of SWMUs, AOCs, and CASs

A. On December 21, 1989, Atlas Powder Company and the USEPA entered into an Administrative Order on Consent (hereafter referred to as the Consent Order Permit), Docket No. VII-90-H-0014, pursuant to the authority of Section 3008 (h) of RCRA, Part IV. The Findings of Fact in the Consent Order listed 29 areas of waste management activity. Additional investigations done to date for the RCRA Facility Investigation (RFI) have identified a total of 52 SWMUs. Many of these SWMUs have been grouped together due to their geographic proximity and contamination type. The general location of the individual SWMUs is illustrated on Figure 3.

A summary table and brief description of the CASs provided as Table 4-1 in the Permit application is included below.

<table>
<thead>
<tr>
<th>Corrective Action Site (CAS)</th>
<th>CAS Name</th>
<th>Risk Area</th>
<th>CAS Status as of 08/01/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Former Trash Landfill</td>
<td>Area 6</td>
<td>NFA</td>
</tr>
<tr>
<td>B</td>
<td>Former Rail Car Washout Facility and Pond Area</td>
<td>Area 5</td>
<td>NFA</td>
</tr>
<tr>
<td>C</td>
<td>Former Container Storage Area</td>
<td>Area 5</td>
<td>NFA</td>
</tr>
<tr>
<td>D</td>
<td>Former Emulsion Solution Evaporation Facility</td>
<td>Area 2</td>
<td>Closed Using Risk Based Closure</td>
</tr>
<tr>
<td>E</td>
<td>Former Settling (Atlas) Pond</td>
<td>Area 2</td>
<td>Closed with Waste in Place</td>
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<tr>
<td>F-1</td>
<td>Former (Biazzi) Acid Salts Area</td>
<td>Area 2</td>
<td>Clean Closed</td>
</tr>
<tr>
<td>F-2</td>
<td>Former (Tower Concentrator) Acid Salts Area</td>
<td>Area 3</td>
<td>Clean Closed</td>
</tr>
<tr>
<td>F-3</td>
<td>Former (Mixed Acid) Acid Salts Area</td>
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<tr>
<td>F-4</td>
<td>Former (Oil of Vitriol) Acid Salts Area</td>
<td>Area 3</td>
<td>Clean Closed</td>
</tr>
<tr>
<td>F-5</td>
<td>Former (Nitric Acid Plant) Acid Salts Area (AOP)</td>
<td>Area 3</td>
<td>Clean Closed</td>
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<tr>
<td></td>
<td>Former Location Description</td>
<td>Area(s)</td>
<td>Notes</td>
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<tr>
<td>G</td>
<td>Former (Brush) Dump Site</td>
<td>Area 1</td>
<td>NFA</td>
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<tr>
<td>H-1</td>
<td>Former Salvage Storage Area (South)</td>
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<td>Former Salvage Storage Area (North)</td>
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<td>I-1</td>
<td>Former Nitric Acid Production Area (early 1900s)</td>
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<tr>
<td>I-2</td>
<td>Former Nitric Acid Production Area (until 1984)</td>
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<tr>
<td>I-3</td>
<td>Former Nitric Acid Production Area (from 1956)</td>
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<td>NFA</td>
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<td>J</td>
<td>Former Acid Reclamation Facility (RR 209)</td>
<td>Area 3</td>
<td>NFA, Remediation Complete (RAP/ISM)</td>
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<tr>
<td>K</td>
<td>Former Evaporation Pond &amp; Spray Application Field</td>
<td>Area 6</td>
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<td>L</td>
<td>Historic Nitro glycerin Spill Location</td>
<td>Area 2</td>
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<tr>
<td>M-1(a)</td>
<td>Former DNT Liquefaction Process Area</td>
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<td>M-1(b)</td>
<td>Former South DNT Drum Storage Area</td>
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<td>Former Central DNT Drum Storage Area</td>
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<td>M-2(b)</td>
<td>Former North DNT Drum Storage Area</td>
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<td>Former Red &amp; Yellow Water Evaporation Facility</td>
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<td>Former Red &amp; Yellow Water Pipeline</td>
<td>Area 2, 6</td>
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<tr>
<td>O</td>
<td>Former Petron Reclamation Leach Tanks</td>
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<td>P</td>
<td>Former Ammonium Nitrate &quot;Clay Pit&quot; or &quot;Clay Tank&quot;</td>
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<td>NFA</td>
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<td>Q</td>
<td>Former North Dump Site</td>
<td>Area 1, 5, 7</td>
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</tr>
<tr>
<td></td>
<td>Description</td>
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<td>Condition</td>
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<tr>
<td>R</td>
<td>Former Dissolved Air Flotation (DAF) Facility</td>
<td>2</td>
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<td>S-1</td>
<td>Former South Burning Ground</td>
<td>10</td>
<td>NFA, Remediation Complete (RAP/ISM)</td>
</tr>
<tr>
<td>S-2</td>
<td>Former South Dump Site</td>
<td>10</td>
<td>NFA, Remediation Complete (RAP/ISM)</td>
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<tr>
<td>S-3</td>
<td>Former Rubble Area</td>
<td>10</td>
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<td>T</td>
<td>Former TNT Settling Ponds Area</td>
<td>6</td>
<td>NFA</td>
</tr>
<tr>
<td>U</td>
<td>Former Chemical Pond #2 (Waste Water Pond)</td>
<td>5</td>
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<td>V</td>
<td>Former Storm Water Pond (Fire Water Pond)</td>
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<tr>
<td>W</td>
<td>Former Chemical Pond #1</td>
<td>6</td>
<td>NFA, Remediation Complete (RAP/TA)</td>
</tr>
<tr>
<td>X</td>
<td>Former Copper Pond</td>
<td>6</td>
<td>NFA</td>
</tr>
<tr>
<td>Y</td>
<td>Former Burning Ground</td>
<td>7</td>
<td>NFA, (Formerly Closed with Waste in Place)</td>
</tr>
<tr>
<td>Z</td>
<td>Former Spent Catalyst Area</td>
<td>5</td>
<td>NFA</td>
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<tr>
<td>AA</td>
<td>Former Biological Pond</td>
<td>6</td>
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<tr>
<td>BB-1(a)</td>
<td>Former W. R. Grace Company Fluoride Pond #1</td>
<td>8</td>
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<td>BB-1(b)</td>
<td>Former W. R. Grace Company Fluoride Pond #2</td>
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<tr>
<td>BB-1(c)</td>
<td>Former W. R. Grace Company Phosphoric Acid Plant</td>
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<tr>
<td>BB-2(a)</td>
<td>Former W. R. Grace Company Scrubber Area</td>
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<td>BB-2(b)</td>
<td>Former W. R. Grace Company Hopper Cleaner Area</td>
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<td>Former W. R. Grace Company Ammonium Sulfate Plant</td>
<td>8, 9</td>
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<tr>
<td>BB-2(d)</td>
<td>Former W. R. Grace Company Sulfuric Acid Plant</td>
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<td>W. R. Grace Company French Drains</td>
<td>Area 9</td>
<td>NFA</td>
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<tr>
<td>BB-3</td>
<td>Former W. R. Grace Company Dump Facility (Old Atlas Dump Facility)</td>
<td>Area 9</td>
<td>NFA</td>
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<td>BB-4</td>
<td>Former W. R. Grace Company North Disposal Area</td>
<td>Area 9</td>
<td>NFA</td>
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<tr>
<td>BB-5(a)</td>
<td>Former W. R. Grace Company Pesticide Storage Building</td>
<td>Area 8</td>
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<tr>
<td>BB-5(b)</td>
<td>Former W. R. Grace Company Maintenance Building</td>
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<td>NFA</td>
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<tr>
<td>BB-5(c)</td>
<td>Former W. R. Grace Company Vehicle Cleaning Area</td>
<td>Area 8</td>
<td>NFA</td>
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<tr>
<td>BB-5(d)</td>
<td>Former W. R. Grace Company Fuel Storage Tanks</td>
<td>Area 8</td>
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<tr>
<td>BB-6(a)</td>
<td>Former W. R. Grace Company QC Lab Septic Tank &amp; Drainage Field</td>
<td>Area 12</td>
<td>NFA, Remediation Complete (RAP/ISM)</td>
</tr>
<tr>
<td>BB-6(b)</td>
<td>Former W. R. Grace Company Cooling Tower</td>
<td>Area 12</td>
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<td>BB-6(c)</td>
<td>Former W. R. Grace Company Truck Scale</td>
<td>Area 4</td>
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<td>BB-7(a)</td>
<td>Former W. R. Grace Company Emergency Holding Pond</td>
<td>Area 11</td>
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<td>Former W. R. Grace Company Borrow Area</td>
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<td>BB-8(a)</td>
<td>Former W. R. Grace Company North Pond</td>
<td>Area 9</td>
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<td>BB-8(b)</td>
<td>Former W. R. Grace Company South Pond</td>
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<tr>
<td>CC-1(a)</td>
<td>South-Wetlands Ditch</td>
<td>Area 2, 3</td>
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<td>CC-1(b)</td>
<td>Central-Wetlands Ditch</td>
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<td>Description</td>
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<td>CC-2</td>
<td>North Ditch</td>
<td>Area 1, 6, 7</td>
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<td>CC-3</td>
<td>Constructed Wetlands System</td>
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<td>CC-4</td>
<td>North-Wetlands Ditch</td>
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<tr>
<td>DD(a)</td>
<td>Former Powderline Maintenance Shop and Wash Rack</td>
<td>Area 2</td>
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<tr>
<td>DD(b)</td>
<td>Former Acid Area Maintenance Complex</td>
<td>Area 3</td>
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<tr>
<td>DD(c)</td>
<td>Former Nitrogen Section Maintenance &amp; Engineering</td>
<td>Area 5</td>
<td>NFA</td>
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<tr>
<td>EE-1(a)</td>
<td>Former #1 Talley Mix House, Building 242</td>
<td>Area 2</td>
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<tr>
<td>EE-1(b)</td>
<td>Former #1 Talley DNT Storage, Building 245</td>
<td>Area 2</td>
<td>NFA</td>
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<tr>
<td>EE-2(a)</td>
<td>Former #2 Talley Mix House, Building 246</td>
<td>Area 2</td>
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<tr>
<td>EE-2(b)</td>
<td>Former #2 Talley DNT Storage, Building 247</td>
<td>Area 2</td>
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<td>EE-3</td>
<td>Former Dynamite Mixing Complex</td>
<td>Area 2</td>
<td>NFA, Remediation Complete (RAP/TA)</td>
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<tr>
<td>EE-4</td>
<td>Former #1 Hall &amp; Bohlman Packer, Building 240</td>
<td>Area 2</td>
<td>NFA</td>
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<td>EE-5</td>
<td>Former #2 Hall, Building 61</td>
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<tr>
<td>EE-6</td>
<td>Former #1 &amp; #2 LLC, Building 139</td>
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<td>NFA</td>
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<td>EE-7</td>
<td>Former #3 &amp; #4 LLC, Building 476</td>
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<td>NFA</td>
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<td>EE-8</td>
<td>Former #1 Gel, Building 65</td>
<td>Area 2</td>
<td>NFA</td>
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<td>EE-9</td>
<td>Former #2 Nitroglycerin Storehouse, Building 249</td>
<td>Area 2</td>
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<td>Code</td>
<td>Description</td>
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<td>Status</td>
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<td>EE-10</td>
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<td>EE-11</td>
<td>Former Dynamite Box Pack House, Building 113</td>
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<td>EE-12</td>
<td>Former Gelatin Box Pack House, Building 73</td>
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<td>EE-13</td>
<td>Former Holdover, Building 383</td>
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<td>EE-14</td>
<td>Former Biazzi Area, Buildings 511, 535 and 423</td>
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<td>EE-15</td>
<td>Former #3 Gel, Building 498</td>
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<td>EE-16</td>
<td>Former ##4 Gel, Building 409</td>
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<td>FF-1(a-1)</td>
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<td>Area 6</td>
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<tr>
<td>FF-1(a-2)</td>
<td>Former TNT Production Line 1, Bi &amp; Tri-Nitration Area</td>
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<td>NFA</td>
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<tr>
<td>FF-1(b)</td>
<td>Former TNT Production Line 1, Grainer Area</td>
<td>Area 6</td>
<td>NFA, Remediation Complete (RAP/TA)</td>
</tr>
<tr>
<td>FF-1(c)</td>
<td>Former TNT Production Line 1, Wash Area</td>
<td>Area 6</td>
<td>NFA, Remediation Complete (RAP/ISM)</td>
</tr>
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<td>FF-2(a-1)</td>
<td>Former TNT Production Line 2, Mono-Nitration Area</td>
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<td>Former TNT Production Line 2, Grainer Area</td>
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<td>NFA</td>
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<td>FF-2(c)</td>
<td>Former TNT Production Line 2, Wash Area</td>
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<tr>
<td>Code</td>
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<tr>
<td>GG(a)</td>
<td>Former Ammonium Nitrate Slurry Recirculation Sump</td>
<td>Area 5</td>
<td>NFA</td>
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<tr>
<td>GG(b)</td>
<td>Former Ammonium Nitrate Warehouse Floor</td>
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<td>NFA</td>
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<tr>
<td>HH</td>
<td>Former Nitrocarbonitrate Building (Dope House)</td>
<td>Area 2</td>
<td>NFA</td>
</tr>
<tr>
<td>II</td>
<td>Former Small Diameter Emulsion Plant Complex</td>
<td>Area 2</td>
<td>NFA</td>
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<tr>
<td>JJ</td>
<td>Former Large Diameter Emulsion Plant Complex</td>
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<td>NFA</td>
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<tr>
<td>KK</td>
<td>Former Laboratory Structures</td>
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<td>Former Powerhouse Complex</td>
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<td>Impacted Shallow Groundwater and Surface Water Property Wide</td>
<td>Facility-Wide</td>
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<td>NN</td>
<td>Former Test Detonation Complex</td>
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<tr>
<td>OO</td>
<td>Former Ammonia Receiving Area</td>
<td>Area 5</td>
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<tr>
<td>PP</td>
<td>Former Aqua Ammonia Plant</td>
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<td>NFA</td>
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<tr>
<td>QQ</td>
<td>Former Urea Production</td>
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<td>NFA</td>
</tr>
<tr>
<td>RR</td>
<td>Former Drum Storage Building</td>
<td>Area</td>
<td>Closed Using Risk Based Closure</td>
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<tr>
<td>-----</td>
<td>-----------------------------------</td>
<td>-------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>SS</td>
<td>Former Ammonia Production</td>
<td>Area 5</td>
<td>NFA</td>
</tr>
<tr>
<td>TT-1</td>
<td>Former South ANFO Blending</td>
<td>Area 2</td>
<td>NFA</td>
</tr>
<tr>
<td></td>
<td>(Ammonia Nitrate &amp; Fuel Oil)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TT-2</td>
<td>Former North ANFO Blending</td>
<td>Area 2</td>
<td>NFA</td>
</tr>
<tr>
<td></td>
<td>(Ammonia Nitrate &amp; Fuel Oil)</td>
<td></td>
<td></td>
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<tr>
<td>TT-3</td>
<td>Former Cast Primer Building</td>
<td>Area 2</td>
<td>NFA</td>
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<tr>
<td></td>
<td>(fka ANFO Bagging)</td>
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<td>UU</td>
<td>Former Soda Dry Operations</td>
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<td>Former Magazine #9</td>
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<td>Former Magazine #12</td>
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<td>Former Magazine #13</td>
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<td>AAA-14</td>
<td>Former Magazine Truck Scale</td>
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<td>UST-1</td>
<td>Former UST #1 Gasoline</td>
<td>Area 3</td>
<td>NFA (UST Removed)</td>
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<td>UST-4</td>
<td>Former UST #4 LDEP-DAF Emulsion wash water</td>
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<tr>
<td>UST-5</td>
<td>Former UST #5 SD Waster Water Sump</td>
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<td>UST-6</td>
<td>Former UST #6 Gasoline</td>
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<td>UST-7</td>
<td>Former UST #7 Diesel</td>
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<td>NFA (UST Removed)</td>
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<tr>
<td>UST-8</td>
<td>Former UST #8 Ammonia solution</td>
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<tr>
<td>UST-9</td>
<td>Former UST #9 Urea solution</td>
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</tr>
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<td>UST-10</td>
<td>Former UST #10 Urea &amp; AN Solution</td>
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</tr>
<tr>
<td>UST-12</td>
<td>Former UST #12 Diesel</td>
<td>Area 8</td>
<td>NFA (UST Removed)</td>
</tr>
<tr>
<td>UST-13</td>
<td>Former UST #13 Nitric acid</td>
<td>Area 3</td>
<td>NFA (UST Removed)</td>
</tr>
<tr>
<td>UST-14</td>
<td>Former UST #14 Nitric acid</td>
<td>Area 3</td>
<td>NFA (UST Removed)</td>
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Expert Management Inc.
Missouri Hazardous Waste Management Facility Permit – Part I
MOD077887909
Page 31

<table>
<thead>
<tr>
<th>UST</th>
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<th>Location</th>
<th>Status</th>
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<tr>
<td>UST-15</td>
<td>#15 Anhydrous ammonia pipeline</td>
<td>Area 3, 5, 8</td>
<td>NFA (U/G piping decommissioned and left in place)</td>
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<td>UST-H-1</td>
<td>H-1</td>
<td>Area 8</td>
<td>NFA (UST Removed)</td>
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<td>UST-H-3</td>
<td>H-3 Nitric acid pipeline</td>
<td>Area 3, 5</td>
<td>NFA (U/G piping decommissioned and left in place)</td>
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<td>UST-H-5</td>
<td>H-5 Sulfur</td>
<td>Area 9</td>
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</table>

B. The status of the known SWMUs, AOCs, and CASs is based on available information at the time of issuance of this Permit. In the event new information becomes available indicating human health or the environment may be adversely impacted, the Permittee may be required to conduct additional investigations and evaluations, as necessary, to determine the need for additional corrective action for the previously identified SWMUs, AOCs, and CASs, or any newly identified SWMUs, AOCs, and CASs, including off-site release(s), as specified in Corrective Action Conditions II. and III.

C. If deemed appropriate by the Department, the Permittee shall conduct additional investigation(s) and/or take corrective action for any releases from previously or newly identified SWMUs, AOCs, and CASs, including off-property release(s), demonstrating the releases of hazardous waste or hazardous constituents to soil, surface water, sediment, groundwater, and/or air has been thoroughly delineated and reported, as specified in Corrective Action Conditions II. through IX. Any off-property impacts to surface water, sediment, soil, or groundwater shall be addressed if the impacts to these media originated from SWMUs, AOCs, or other releases on the Facility property.
II. **Contingent Notification Requirements for, and Assessment of, Newly Identified SWMU(s) and AOC(s)**

A. The Permittee shall notify the Department in writing, no later than 15 calendar days after discovery, or after discovery should have been made (e.g., visual observations, laboratory test results, or information not previously available), of any new SWMU(s) or AOC(s) identified after the issuance of this Permit. The Department may examine the Facility’s inspection records to determine if the Permittee should have known that a release occurred.

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. If needed, within 30 calendar days after receiving the Department’s request to conduct an investigation, the Permittee shall prepare and submit a SWMU/AOC Assessment Work Plan to the Department for review and 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 the Department approves the plan; and
4. Identification of all data to be collected that is necessary to provide for a complete SWMU/AOC Assessment Report, as specified below.

C. The Department shall review and approve the SWMU/AOC Assessment Work Plan according to the procedures described in General Permit Condition V. 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, according to the schedule specified in the approved SWMU/AOC Assessment Work Plan. The SWMU/AOC Assessment Report shall present and discuss the information obtained under the approved SWMU/AOC Assessment Work Plan. At a minimum, the SWMU/AOC Assessment Report shall provide the following information for each newly identified SWMU or AOC:

1. The location of the newly identified SWMU or AOC in relation to other 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 for the newly identified SWMU or AOC and justification for the recommendation. If further action is recommended, such as updating the site conceptual model and/or assessing SWMU/AOC-specific risk, the SWMU/AOC Assessment Report shall include a proposal for additional investigation or corrective action, as appropriate.

E. The Department shall review and approve the SWMU/AOC Assessment Report according to the procedures described in General Permit Condition V. Based on the findings of this report and any other available information, the Department shall determine the need for additional investigation, including interim/stabilization measures or a RFI, at specific unit(s) identified in the SWMU/AOC Assessment Report.

F. If the Department determines additional investigations are needed, the Department may require the Permittee to prepare and submit to the Department for approval, a work plan for such investigations according to the applicable Corrective Action Conditions of this Permit. The Department shall review and approve any such work plan according to the procedures described in General Permit Condition V. The Permittee shall complete all activities described in the work plan, according to the schedule contained in the approved plan.

III. Contingent Notification Requirements for, and Assessment of, Newly Identified Releases from Previously Identified SWMUs, AOCs, and CASs

A. The Permittee shall notify the Department in writing, no later than 15 calendar days after discovery, or after discovery should have been made (e.g., visual observations, laboratory test results, or information not previously available), of any newly identified release(s) of hazardous wastes or hazardous constituents from any previously identified SWMU(s) or AOC(s) at the Facility. This includes SWMUs, AOCs, and/or CASs being investigated and reported as part of the corrective action process, where newly identified release(s) are discovered during the course of groundwater monitoring, field investigation, environmental auditing, or other activities undertaken after issuance of this Permit. The Department may examine the Facility’s inspection records to determine if the Permittee should have known that a release occurred.
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. If necessary, within 30 calendar days after receiving the Department’s request to conduct an investigation, the Permittee shall prepare and submit a Newly Identified Release Work Plan to the Department for review and 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 the Department approves the plan; and

4. Identification of all data to be collected that is necessary to provide for a complete Newly Identified Release Report, as specified below.

C. The Department shall review and approve the Newly Identified Release Work Plan according to the procedures described in General Permit Condition V. 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, according to the schedule specified in the approved Newly Identified Release Work Plan. The Newly Identified Release Report shall present and discuss the information obtained 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 in relation to the SWMUs or AOCs under investigation and to any other SWMUs and AOCs;

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 for the newly identified release from a previously identified SWMU(s) or AOC(s) and justification for the recommendation. If further action is recommended, such as updating the site conceptual model and/or assessing SWMU/AOC-specific risk, the Newly Identified Release Report shall include a proposal for additional investigation or corrective action, as appropriate.

E. The Department shall review and approve the Newly Identified Release Report according to the procedures described in General Permit Condition V. 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.

F. If the Department determines additional investigation is needed, the Department may require the Permittee prepare and submit to the Department for review and approval, a work plan for such investigations according to the applicable Corrective Action Conditions of this Permit. The Department shall review and approve any such work plan according to the procedures described in General Permit Condition V. The Permittee shall complete all activities described in the work plan, according to the schedule contained in the approved plan.

IV. Interim/Stabilization Measures (ISM)

A. To date, five interim measures investigations/actions have been implemented at the Facility. An Interim Measures Investigation was conducted in 1990 to evaluate the presence of hazardous constituents at 15 areas of the Facility. A second Interim Measures investigation was conducted in 1992 and 1993 at the location of the incinerator (Note: this is a separate area that has its own permit and is not part of the EMI property). A third Interim Measure resulted in the removal of sediment from the Ammonium Nitrate Clay Pit (CAS P), Chemical Pond (CAS W), Storm Water Pond (CAS V), and Biological Pond (CAS AA), between November of 1993 and February of 1994. The fourth Interim Measure Investigation was conducted in 1994 on the Powderline, the Nitroglycerin Spill Site, and the Spent Acid Recycling Facility. The fifth Interim Measure allowed for the offsite disposal of impacted soils from RA Area 3 and 6, and protective covers to be installed over CASs within RA Area 1, 5, 8, 10, and 12.

B. Should the Permittee become aware of a situation that may require additional ISMs that may be necessary to protect human health or the environment, the following conditions shall apply:

1. The Permittee shall notify the Department, by e-mail within 24 hours and by letter within seven days after becoming aware of the situation. The Department may examine the Facility’s inspection records to determine if the Permittee should have known ISMs might be required and notification should have occurred.
2. If, during the course of any activities initiated under this Permit, the Permittee or Department determines 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 in coordination with the Permittee, 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 the 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 shall not preclude the Permittee from responding to an emergency situation without direction from the Department.

3. The Permittee shall notify the Department, in writing, no later than 10 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 revised to make it effective in limiting or stopping the spread of contamination, or that additional corrective action measures are required to address the contaminated media.

4. In cases where releases or potential releases present minimal exposure concerns, or the remedial solution is relatively uncomplicated, the Permittee may propose ISMs to the Department for review and approval. These ISMs shall be consistent with, and may supplement or satisfy the requirements for, a final remedy(s) in specific areas. Proposed ISMs the Department determines 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 Department approval. Proposed ISMs determined by the Department not to be significant will be reviewed and approved according to the procedures described in General Permit Condition V.

V. RCRA Facility Investigation (RFI) Work Plan

A. Jacobs Engineering, on behalf of the EPA, completed the RFA for the Atlas Facility in April, 1988. Subsequent to completion of the RFA, EPA and Atlas Powder Company executed a Corrective Action Administrative Order on Consent, EPA Docket Number VII-90-H-0014, pursuant to the authority of Section 3008(h) of RCRA on December 21, 1989. Pursuant to the

B. If new information or changed circumstances become known, the Department may determine additional investigations are needed and the Department may require the Permittee to conduct a supplemental RFI. The Department shall notify the Permittee, in writing, of this decision. Within 90 calendar days after receiving the Department’s request to conduct a supplemental RFI, and after meeting with the Department to discuss the content of the Work Plan, the Permittee shall prepare and submit a supplemental RFI Work Plan to the Department for review and approval.

C. The supplemental 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; surface water; sediment; groundwater; and air, as necessary. In order to substantiate future corrective action decisions, the supplemental RFI Work Plan shall contain provisions sufficient to meet the following objectives and a proposed schedule for implementing the supplemental RFI Work Plan, which is predicated on the date the Department approves 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, AOCs, and CASs, or groups of SWMUs, AOCs, and CASs, 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 used to substantiate future corrective action decisions.

D. The supplemental RFI Work Plan shall be appropriate for Facility-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. Any required RFI activities shall also be conducted using the approaches contained in the EPA document entitled, Resource Conservation and Recovery Act Facilities Investigation Remedy Selection Track (RCRA FIRST): A Toolbox for Corrective Action, May 20, 2016. At a minimum, the supplemental 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 submitting reports (including the supplemental RFI Report);

3. The qualifications of personnel performing or directing the investigations, including contractor personnel; and

4. The overall management of the RFI activities.

E. The supplemental 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 supplemental RFI. It shall include, at a minimum, the supplemental 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.

F. The Permittee shall prepare and maintain a Health and Safety Plan during the project that assures the supplemental RFI activities are conducted in a manner that is protective of human health and the environment.

G. Due to the complexity of defining the extent of contamination, the Permittee may be required to use a phased approach that requires submitting additional supplemental RFI Work Plans.

H. The Department shall review and approve the supplemental RFI Work Plan(s) according to the procedures described in General Permit Condition V. The Permittee shall complete all activities described in the supplemental RFI Work Plan(s), according to the schedules contained in the approved plan(s).
VI. RCRA Facility Investigation (RFI) Report

A. The RFI was conducted in three phases. Phase I of the RFI was conducted in 1993-1994 and focused on characterizing the nature and extent of hazardous constituents in soil and establishing a hydrogeologic conceptual model for the Facility. EPA provided comments on the RFI Phase I Investigation Report submitted in April 1994, which resulted in revisions to the Phase I Report. The Phase I Report also proposed additional investigatory work and as so functioned as the RFI Phase II Work Plan. The Permittee performed Phase II of the RFI in 1995-1996 to further characterize soil and groundwater contamination. The Permittee conducted additional soil investigation and four quarters of groundwater sampling and analysis to supplement the RFI in response to the Department’s comments in April 1999. The Department received an amendment to the RFI Phase II Supplement in January 22, 2001, which included the quarterly monitoring data collected through calendar year 2000 plus an updated assessment of the Facility hydrogeology. The Department commented on the Final Phase II RFI Supplemental Report in a March 7, 2002, letter, listing items that had to be addressed prior to approval of the RFI. The Permittee responded to the Department’s comments in correspondence dated May 31, 2002. EPA, in coordination with the Department, approved the Facility-wide RFI on August 15, 2002. The Permittee also conducted a Pre-Design Investigation (PDI) in 2011-2012 to supplement previous investigations. The purpose of the PDI was to evaluate any potential data gaps prior to completion of the human health and ecological risk assessments. The PDI report was approved by the Department in June 2017.

B. Should new information or changed circumstances become known and additional investigations become necessary, the Permittee shall submit a supplemental RFI Report to the Department, according to the schedule specified in the approved supplemental RFI Work Plan described in Corrective Action Condition V. The supplemental RFI Report shall present all information gathered under the approved supplemental RFI Work Plan, along with a brief Facility description and map showing the property boundary and all SWMUs, AOCs, and CASs. The supplemental RFI Report shall contain adequate information to support additional corrective action decisions at the Facility. Information contained in the supplemental RFI Report shall be presented in a format 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 supplemental RFI Report shall provide an interpretation of the RFI information gathered, supported with adequate documentation, to enable the Department to determine whether additional ISMs or a supplemental Corrective Measures Study (CMS) may be necessary. The supplemental RFI Report shall describe the procedures, methods, and results of all investigations of SWMUs, AOCs, and CASs 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, AOCs, and CASs at the Facility;

2. Characterization of the environmental setting of the Facility, including:
   a. Hydrogeological conditions;
   b. Climatological conditions;
   c. Soil and bedrock characteristics;
   d. Surface water and sediment quality; and
   e. Air quality and meteorological conditions.

3. Characterization of SWMUs, AOCs, and CASs from which releases have been or may be occurring, including unit and waste characteristics;

4. Descriptions of human and environmental receptors and associated risks to the receptors which are, may have been, or, based on site-specific circumstances, could be exposed to release(s) from SWMUs, AOCs, and CASs;

5. Assessment of potential risks to the human and environmental receptors exposed to release(s) from SWMUs, AOCs, and CASs;

6. Extrapolations of future contaminant migration, including description of contaminant fate and transport mechanisms, and pathways for human and environmental exposure;
7. Laboratory, bench-scale, pilot-scale, and/or appropriate tests or studies to determine the feasibility or effectiveness of treatment technologies or other technologies that may be appropriate in implementing remedies at the Facility;

8. Statistical analyses to aid in interpreting data;

9. Results of any ISMs previously implemented; and

10. 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., identifying any potential bias in the supplemental RFI data and documenting its precision, accuracy, representativeness, completeness, comparability, validation, etc.).

D. The Department shall review and approve the supplemental RFI Report according to the procedures described in General Permit Condition V. If the Department determines the objectives of the supplemental RFI have not been met, the Department may require additional investigation. Upon approval of the supplemental RFI Report, the Department shall notify the Permittee, in writing, of the next step in the corrective action process, which may include submitting a supplemental CMS Work Plan or equivalent, as described in Corrective Action Condition VII.

VII. Corrective Measures Study (CMS) Work Plan

A formal Corrective Measures Study has not been conducted at this Facility. The Permittee, in consultation with the Department, has utilized the RCRA Lean approach which streamlines the corrective action process. A final remedy is being proposed with the issuance of this Permit as detailed in the Statement of Basis. Previously implemented and ongoing remediation activities have been handled through implementing regulated unit closure, corrective action ISMs, and temporary authorization processes.

A. If the Department determines there has been a potential new release of hazardous waste or hazardous constituents from newly or previously identified SWMUs, AOCs, and/or CASs that may pose a threat to human health or the environment, the Department may require the Permittee to conduct a supplemental 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 for the Permittee to evaluate.

B. As part of the supplemental CMS, the Department may require the Permittee to evaluate one or more specific remedial alternatives for removing, containing, or treating hazardous wastes and hazardous constituents in contaminated media, based on the objectives established for the corrective action. These remedial alternatives 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 90 calendar days after receiving the Department’s request to conduct a supplemental CMS, and after meeting with the Department to discuss the nature and scope of the supplemental CMS, the Permittee shall prepare and submit a supplemental CMS Work Plan to the Department for review and approval. The supplemental CMS Work Plan shall be generally consistent with the EPA document entitled, *RCRA Corrective Action Plan (Final), OSWER Directive 9902.3-2A, May 1994*, or the most recent version. Any required activities shall be conducted using the approaches contained in the EPA document entitled, *Resource Conservation and Recovery Act Facilities Investigation Remedy Selection Track (RCRA FIRST): A Toolbox for Corrective Action, May 20, 2016*. At a minimum, the supplemental CMS Work Plan shall provide the following information, as appropriate, and a proposed schedule for implementing the elements of the supplemental CMS Work Plan:

1. A description of the general approach to investigating and evaluating potential remedial alternatives or combinations of alternatives;

2. A definition of the specific objectives of the study/evaluation;

3. A description of the remedial alternative or combination of alternatives that will be studied;

4. A description of those potentially viable remedial alternatives initially considered, but were dropped from further consideration, including the rationale for elimination;
5. The specific plans for evaluating remedial alternatives or combination of alternatives to ensure compliance with applicable remedy selection threshold/balancing criteria and cleanup standards;

6. A schedule for conducting the study/evaluation and submitting a Supplemental CMS Report or equivalent and/or preferred remedy proposal, which is predicated on the date the Department approves the supplemental CMS Work Plan;

7. The proposed format for ranking remedial alternatives or a combination of alternatives in support of a preferred remedial alternative or combination of alternatives; and

8. Identification of laboratory, bench-scale, pilot-scale, and/or other appropriate tests or studies that will be used to determine the feasibility or effectiveness of treatment technologies, or other technologies that may be appropriate in implementing remedial alternatives at the Facility.

D. The Department shall review and approve the supplemental CMS Work Plan according to the procedures described in General Permit Condition V. The Permittee shall complete all activities described in the supplemental CMS Work Plan, according to the schedule contained in the approved plan.

VIII. Contingent Corrective Measures Study (CMS) Report

A. If a supplemental CMS Work Plan is necessary, the Permittee shall submit a supplemental CMS Report to the Department, according to the schedule specified in the approved supplemental CMS Work Plan described in Corrective Action Condition VII. The supplemental CMS Report shall present all information gathered under the approved supplemental CMS Work Plan and shall be generally consistent with guidance contained in the EPA document entitled, RCRA Corrective Action Plan (Final), OSWER Directive 9902.3-2A, May 1994, or the most recent version.

B. The supplemental CMS Report shall describe and discuss each remedial alternative or combination of alternatives evaluated, including any bench-scale or pilot tests conducted. The supplemental CMS Report shall include, but not be limited to, the following information:
1. Evaluation of the performance, reliability, ease of implementation, and potential impacts of each remedial alternative or combination of alternatives, including safety impacts, cross media impacts, overall carbon footprint, and control of exposure to any residual contamination;

2. Assessment of the effectiveness of each remedial alternative or combination of alternatives in terms of achieving adequate control of contaminant sources and cleanup of hazardous waste or hazardous constituents released from the SWMU(s) and AOC(s);

3. Estimation of the time required to begin and complete implementation of each remedial alternative or combination of alternatives, and an estimate of the time required to meet the proposed remediation objectives contained in the supplemental CMS Report;

4. Estimation of the costs to implement, operate, monitor, and maintain each remedial alternative or combination of alternatives;

5. Recommendation of a preferred remedial alternative or combination of alternatives, and rationale for the proposed 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 implementing the preferred remedial alternative or combination of alternatives (e.g., local ordinances), and a draft of any Facility-specific institutional controls proposed as part of the preferred remedial alternative or combination of alternatives (e.g., a draft environmental covenant containing specific activity and use limitations prepared pursuant to the Missouri Environmental Covenants Act, Sections 260.1000 through 260.1039, RSMo.).

C. The supplemental CMS Report shall contain information sufficient to facilitate the Department’s development of a Statement of Basis in support of the supplemental final remedy decision-making process.

D. The Department shall review and approve the supplemental CMS Report according to the procedures described in General Permit Condition V. Upon
approval of the supplemental CMS Report, the Department will approve a supplemental final remedy, as specified in Corrective Action Condition IX.

IX.     Final Remedy Selection and Approval

A.    The proposed final remedy is being issued concurrently with this Permit. The proposed approach is presented in detail in the Statement of Basis accompanying this Permit and includes the following:

1. Remedial Actions to Address Risk to Construction Workers
   a. Use of project-specific health and safety plans (HASPs) to protect the future construction worker from unacceptable exposures, particularly to potentially impacted soil. The HASP should include the appropriate personal protective equipment and monitoring based on specific chemicals of concern causing the exceedance, specific locations within the construction area with exceedances, and depth to groundwater in specific locations where unacceptable risk have been identified.
   b. Consultants and third party contractors have their own HASPs for each project or activity performed at the Facility. The Permittee is required to keep a copy of each HASP with their records at the Facility. The specific details of the HASP will be determined on a project-by-project basis and will contain procedures and equipment to address potential exposures related to specific project requirements.

2. Remedial Actions to Address Exceedance of Groundwater Protection Standards
   a. To prevent future use of contaminated groundwater for drinking water purposes on the permitted Facility property, AULs will be established in an enforceable Environmental Covenant according to Corrective Action Condition XIV.E.
   b. Monitored Natural Attenuation (MNA) will be implemented to supplement the numerous interim measures and remedial activities conducted to date that are described in Corrective Action Condition IV. The MNA remedy includes annual
groundwater sampling and analysis that will be implemented according to Tables 1 and 2 and the Revised SAP, as required by Corrective Action Condition XV.D.1.

c. The use of MNA will include contingency planning provisions which will be included in the revised SAP. Contingency planning includes specific measures to be taken if changed conditions are observed that are inconsistent with the ongoing MNA program (e.g., an unexpected and persistent increase in contaminant concentrations in groundwater potentially attributable to the releases from the Facility). The contingency plan provisions will be activated through SAP amendments or as requested by the Department. Therefore, the response actions will be specific to the location, sources, and triggering criteria. Examples of contingency actions that may be considered include:

(1) Increase in monitoring frequency for specific monitoring wells.

(2) Increase in the number of monitoring wells included in the monitoring plan.

(3) Evaluation of the additional data collected to determine the cause of the increase(s).

d. If an unexpected and persistent increase in groundwater contamination attributable to the releases from the Facility is verified, actions may be selected to address the increases as appropriate. Contingency mitigation measures may include one or more of the following:

(1) Investigation of suspected contaminant releases and/or source areas.

(2) Removal, treatment and/or control of previously unknown releases/sources that are identified.
(3) Implementation of other active or passive remedial technologies as warranted by a detailed evaluation of the data.

3. Remedial Actions to Address Future Risk and Groundwater Plume Stability

   a. Groundwater monitoring will be conducted to monitor, verify, and document groundwater plume stability. The data will be evaluated to determine if the groundwater concentrations are stable, decreasing, or increasing.

B. This Corrective Action Condition may apply to additional activities undertaken in response to newly identified SWMUs, AOCs, and CASs, additional activities undertaken in response to newly identified release(s) from previous identified SWMUs, AOCs, and CASs, and additional activities undertaken in response to any increasing trends in levels of contamination identified through long-term monitoring under Corrective Action Condition(s) XIV.E.

1. If a supplement to the final remedy is determined to be necessary, following the approval of the supplemental CMS Report, as described in Corrective Action Condition VIII., the Department shall prepare a supplemental Statement of Basis summarizing the remedial alternatives evaluated by the Permittee and the Department’s basis of support for the proposed supplement to the final remedy.

2. Following the Department’s preparation of the supplemental Statement of Basis, a permit modification shall be initiated according to 40 C.F.R. §§ 270.41 or 270.42(c), as applicable, to facilitate public review and comment on the Statement of Basis, proposed supplemental final remedy, and supporting documents. When, and if, required, the Permittee shall provide assurances of financial responsibility for any approved revised or supplemental corrective action final remedy pursuant to 40 C.F.R. § 264.101(b), and as specified in Financial Assurance Condition II.

3. Upon completion of the public participation activities associated with the current proposed final remedy summarized in the Statement of Basis, accompanying this Permit and any future permit modification to
implement any proposed supplemental final remedy, the Department shall approve a final remedy that shall:

a. Be protective of human health and the environment;

b. 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

c. Meet all applicable federal, state, and local laws and regulations.

X. Corrective Measures Implementation (CMI) Work Plan

A. The proposed final remedy at the Facility includes composting of impacted soil and placement of protective covers with a warning barrier that delineates the extent of contaminated soil removed and where contaminated soil remains. These activities were previously completed through the Permittee’s implementation of Department-approved interim measures and temporary authorizations. Monitored Natural Attenuation will be used to address impacted groundwater, as described in the Statement of Basis issued concurrently with this Permit. The Permittee shall submit a CMI Work Plan to the Department, within 90 calendar days of the effective date of this Permit. The CMI Work Plan shall provide a summary detailing remaining steps for implementing the final remedy, including groundwater monitoring, cover inspection and maintenance. The CMI Work Plan shall be consistent with the objectives specified in the approved Statement of Basis. The CMI Work Plan shall also contain the following:

1. Detailed technical descriptions of the design, construction, operation, maintenance, monitoring, and quality assurance requirements;

2. A detailed schedule for design, construction, and monitoring;

3. Management procedures for hazardous wastes and hazardous constituents recovered as a result of implementing the corrective measures;
4. Environmental Covenant requirements as described under Corrective Action Condition XIV.; and

5. Other information, as necessary, pertaining to the design and implementation of the corrective measure(s) in the approved final remedy.

B. Those elements of the approved final remedy that have received prior approval and are operational before submitting the CMI Work Plan should be incorporated in the CMI Work Plan by reference, along with additional information requested by the Department.

C. The Department shall review and approve the CMI Work Plan according to the procedures described in General Permit Condition V. The Permittee shall implement the CMI Work Plan according to the schedule contained in the approved plan.

XI. CMI Report and Certification of Completion of Constructed Final Remedy

A. This Permit and the Corrective Action Conditions contained herein are based on the work previously completed via implementation of Department approved interim measures, temporary authorization activities, and the work remaining to be completed as specified in this Permit. If the Department or Permittee determines a new remedy or revised final remedy is necessary, all current Corrective Action Conditions shall continue in force, unless and until appropriate permit modifications are reviewed and approved.

B. Within 60 calendar days after completing all construction activities associated with implementing the approved final remedy specified in this Permit (and any new or revised future remedy), the Permittee shall submit a CMI Report that includes a written certification to the Department, by certified mail, stating the final remedy has been constructed according to this Permit, approved final remedy decision, and, as applicable, CMI Work Plan. The certification shall be signed by the Permittee and a professional engineer registered in Missouri.

This certification shall be part of the CMI Report. The CMI Report shall contain a summary of all final remedy construction activities implemented at the Facility (including any previously implemented ISMs and remedial activities), the location(s) and design of any new wells, and discussion of any
deviations from the approved final remedy. The CMI Report shall provide detailed descriptions of the long-term operation, maintenance, and monitoring program associated with the final remedy.

C. For SWMUs, AOCs, and/or CASs requiring extended time periods for operating the final remedy, the Permittee shall summarize the final remedy progress and continue providing data obtained during final remedy operation, maintenance, and monitoring in the Annual Groundwater Corrective Action Report, required in Corrective Action Condition XVII. Any short-term completion of additional corrective action activities at individual SWMUs shall be included in the Annual Groundwater Corrective Action Report.

XII. Certification of Completion of Corrective Measures

A. When the Permittee decides to verify completion of corrective measures at a SWMU, group of SWMUs, CAS or facility-wide, the Permittee shall submit to the Department, documentation to demonstrate groundwater contaminant levels do not exceed the applicable GPS or approved ACLs specified in Corrective Action Conditions XIV., the SAP and as specified in Tables 3. Factors to address in the demonstration include:

1. The continued presence (or lack thereof) of legally enforceable groundwater use restrictions,

2. The groundwater contaminant plume(s) has been stable or decreasing for at least three consecutive years,

3. The GPS limits included in Table 3, or approved ACLs, are not likely to be exceeded in the future beyond the permitted Facility property boundaries, and

4. Future expansion of the groundwater contaminant plume(s) is unlikely beyond the three consecutive year period due to “contaminant rebound” related to back diffusion of contaminants from matrix or secondary porosity features.

The Permittee’s groundwater corrective action program shall continue until the Permittee demonstrates, individually or collectively, that these limits have not been exceeded for a period of three consecutive years at each SWMU, group of SWMUs, CAS, or facility-wide. Groundwater corrective action may
stop at any individual SWMU, group of SWMUs, or CASs once the Department reviews and approves the Permittee’s demonstration and this Permit is successfully modified according to 40 C.F.R. §§ 270.41 or 270.42(c), as appropriate, to recognize this demonstration has been completed. The permit modification shall address changes in the groundwater corrective action status of individual SWMUs, groups of SWMUs, CASs, or facility-wide. Documentation related to the certification of completion of corrective measures can be included in the Annual Groundwater Corrective Action Report submitted according to Corrective Action Condition XVII., or submitted as a stand-alone document under separate cover.

B. The Department shall review and approve the documentation verifying completion of all corrective action activities at each SWMU, group of SWMUs, CASs, or facility-wide, according to the procedures described in General Permit Condition V.

C. Within 60 calendar days after receiving the Department’s approval of the documentation verifying completion of all facility-wide corrective action activities under Corrective Action Condition XII.B., the Permittee shall submit a written certification to the Department, by certified mail, stating the final remedy has been completed according to the RAP, approved final remedy, and supplemental CMI Work Plan. The certification shall be signed by the Permittee and a professional engineer registered in Missouri.

D. Facility-wide cessation of the groundwater corrective action program will require submission of a Groundwater Remediation Completion Report by the Permittee that addresses all factors identified in Corrective Action Condition XII.A. above, in support of a Class 3 Permit Modification or permit termination, following the requirements in 40 C.F.R. § 270.42(c) and the public notice and opportunity for comment requirements in 10 CSR 25-8.124.

XIII. Activity and Use Limitations (AULs)

AULs are legal or physical restrictions or obligations with respect to the permitted Facility property. AULs place a legal responsibility and physical restrictions or limitations on the use of, or access to, the permitted Facility property. The following AULs, consistent with the final remedy and Environmental Covenant required by this Permit, apply to the Permittee and the Facility property subject to the jurisdiction of this Permit:
A. Soil or Other Environmental 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 may disturb existing contamination at any SWMU, AOC, CAS, or other area subject to AULs. Completing the work in accordance with a Department-approved Soil Management Plan satisfies the notice requirement. The Permittee shall, in coordination with the owner(s) of any off-property areas impacted by soil and/or groundwater contamination originating from SWMUs, AOCs, and CASs at the Facility, assess the potential hazards associated with activities that potentially disturb or expose any contaminated environmental media and ensure that necessary precautions are taken, including protective and/or remedial measures, before performing the activity. In situations where advance notice is not feasible (i.e., emergency utility service or repair), notice shall occur as soon as practical. Future construction, excavation activities, or land use changes may necessitate further evaluation of conditions at SWMUs, AOCs, and/or CASs having residual levels of contamination that exceed applicable regulatory thresholds.

2. The Permittee has decided to develop a Soil Management Plan. The plan would be designed to expedite future subsurface utility and construction activities in known and potentially contaminated areas at the Facility. The Department shall review and approve the Soil Management Plan according to the procedures described in General Permit Condition V.

B. Transfer of Interest in Permitted Property

1. The Permittee shall notify the Department at least 90 calendar days before transferring any interest in any portion of the permitted Facility property. The Permittee shall comply with all requirements of 40 C.F.R. § 270.40, as related to any transfer of ownership or operational control of any portion of the permitted Facility.

2. Any proposal by the Permittee to remove any parcel of the permitted Facility property from the jurisdiction of this Permit shall require submitting a demonstration that all residual contamination on the portion of the property proposed for removal is protective of human
health and the environment. Such demonstrations can be made by demonstrating the residual concentrations are below applicable regulatory standards consistent with any enforceable institutional and/or engineering controls contained in an environmental covenant for that portion of the property or that any residual contamination will be addressed in the future via implementing enforceable institutional controls.

3. Any parcel of the permitted Facility property proposed to be removed from the jurisdiction of this Permit shall require a legal survey for that portion of the property, execution of an environmental covenant, if needed and such covenant is not already in place at the time of the proposal, and successful completion of a Class 3 Permit Modification to remove the proposed portion of the property from the jurisdiction of this Permit, following the requirements in 40 C.F.R. § 270.42(c), and the public notice and opportunity for comment requirements in 10 CSR 25-8.124.

C. Change in Use of Property

The Permittee shall notify the Department, according to 40 C.F.R. § 270.30(h), at least 30 calendar days before any proposed change in the use of the Facility property, including any applications for building permits for work on the Facility property or proposals for work that could potentially affect the contamination on the Facility property, be affected by contamination from a SWMU, AOC, CAS, or affect compliance with the requirements of this Permit.

D. Deed Notice/Restrictions

The Permittee previously filed two deed notices and one restrictive covenant in the chain-of-title for portions of the Facility property, as described below. Notice and restriction details, including specific areas of coverage at the Facility, can be found with the Office of Recorder of Deeds of Jasper County, Missouri.

1. The deed notice for the Atlas Pond Closure was filed November 15, 1989, in the Office of Recorder of Deeds of Jasper County, Missouri. The deed notice restricts the owner or operator of the property from disturbing the hazardous waste disposal unit described in a survey plat
attached to the notice. The deed notice can be found on Page 1300 - 1301 of Book 1367, in the Recorder of Deeds’ Office in Jasper County, Missouri.

2. The deed notice for the Soils Composting Building was filed October 16, 2007, in the Office of Recorder of Deeds of Jasper County, Missouri. The deed notice calls for careful consideration of future uses of the building described in a survey plat attached to the notice. The deed notice can be found on Pages 1927 - 1931 of Book, in the Recorder of Deeds’ Office in Jasper County, Missouri.

3. The restrictive covenant for the 583.0 acre Facility Property was filed March 20, 2006, in the Office of Recorder of Deeds of Jasper County, Missouri. The restrictive covenant prohibits the use of shallow groundwater beneath the Facility Property. It also states the property shall only be used to conduct “Nonresidential” activities. The restrictive covenant can be found on Pages 730 - 739 of Book 1979, in the Recorder of Deeds’ Office in Jasper County, Missouri.

E. Missouri Environmental Covenants Act

The Department prepared a preliminary draft Environmental Covenant in conformance with the Missouri Environmental Covenants Act, Sections 260.1000 through 260.1039, RSMo. The preliminary draft Environmental Covenant is still being reviewed by additional parties. It will be finalized after approval of the Soil Management Plan as described below.

1. The Permittee shall submit a Soil Management Plan (SMP) to the Department within 60 days of the effective date of this Permit. The Department shall review and approve the SMP according to the procedures described in General Permit Condition V. The Permittee shall, within 30 days of Department approval of the SMP approval, modify the draft Environmental Covenant to include the SMP. The Department shall review and approve the revised draft Environmental Covenant according to the procedures described in General Permit Condition V. The revised draft Environmental Covenant must comply with the Missouri Environmental Covenants Act, Sections 260.1000 through 260.1039, RSMo. The Permittee shall assure that use, occupancy, and activities on the permitted property are restricted as follows:
a. The Facility property shall not be used for residential purposes, which includes, but is not limited to, single family homes, duplexes, multi-plexes, apartments, condominiums, schools, retirement or senior/child care facilities, or any land use where persons can be expected to reside.

b. Residual levels of contamination in the soils remaining at the CASs identified in the following table may pose a threat to human health and the environment if site conditions change. SWMUs identified in Table 2 shall not be excavated or otherwise disturbed, except as specified in the approved SMP, in any manner without the Department’s prior written approval:

<table>
<thead>
<tr>
<th>CAS</th>
<th>RA Area</th>
<th>Description of CAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>2</td>
<td>Former Emulsion Solution Evaporation Facility</td>
</tr>
<tr>
<td>E</td>
<td>2</td>
<td>Former Atlas Pond</td>
</tr>
<tr>
<td>Q</td>
<td>1</td>
<td>Covered soil stockpile from Former Dump Site</td>
</tr>
<tr>
<td>Q</td>
<td>5</td>
<td>Covered soil stockpile from Former Dump Site</td>
</tr>
<tr>
<td>S-1</td>
<td>10</td>
<td>Former South Burning Ground</td>
</tr>
<tr>
<td>S-2</td>
<td>10</td>
<td>Former South Dump Site</td>
</tr>
<tr>
<td>BB-5(a)</td>
<td>8</td>
<td>Concrete covered area at Former W.R. Grace Pesticide Building</td>
</tr>
<tr>
<td>BB-6(a)</td>
<td>12</td>
<td>Covered soil stockpile from Former W.R. Grace QC Lab Septic Tank</td>
</tr>
<tr>
<td>RR</td>
<td>5</td>
<td>Former Drum Storage Building</td>
</tr>
</tbody>
</table>

c. In the event that construction or excavation work that may expose workers to contaminated soil or groundwater is to be performed on the Facility property, the Permittee shall ensure that actual notice is provided in advance, both verbally and in writing, to any person or entity performing any work that will or is likely to result in exposure to such soil or groundwater, so appropriate protective measures are taken to protect such
workers’ health and safety, according to applicable health and safety laws and regulations.

d. Residual levels of contamination in the groundwater at the Facility may pose a threat to human health and the environment. The Permittee shall prohibit the use of and exposure to contaminated groundwater and prohibit any artificial penetration of the groundwater-bearing unit(s) containing contaminants, which could result in cross-contamination of clean groundwater bearing units. Such penetrations are allowable if necessary for corrective action purposes and approved by the Department, in writing, in advance. The Permittee shall also prohibit installing any groundwater wells on the Facility property in the shallow aquifer, except those used for investigation, monitoring, or remediation purposes, without prior Department approval. Groundwater beneath the permitted Facility, in zones that are known to be contaminated, shall not be used as a water supply for any purpose. Drilling groundwater wells on the Facility property is also restricted as Jasper County is within drill area 11 according to the Missouri Well Construction Code, 10 CSR 23-3.090(11).

e. The engineered controls implemented as part of the approved final remedy at the Facility shall not be disturbed and shall be properly maintained to prevent human exposure to soils and groundwater contaminated with hazardous wastes or hazardous constituents in concentrations exceeding applicable risk-based criteria. The physical or engineering controls shall remain in place and be effective until such time the controls are altered, modified, or eliminated by a permit modification, according to 40 C.F.R. § 270.42.

2. The draft Environmental Covenant shall include the following:

a. A record of the type, location, and concentrations of hazardous wastes and hazardous constituents remaining in the subsurface soils and/or groundwater exceeding applicable regulatory risk-based thresholds/standards;
b. Figures illustrating the approximate boundaries of each CAS for which the levels of contamination in the subsurface soils and/or groundwater exceed the applicable regulatory risk-based thresholds/standards. The figures shall be to scale and indicate the location and dimensions of each CAS with respect to key landmarks, such as major buildings, the permitted Facility property line, etc. These figures shall also illustrate the location of any engineered controls implemented as part of the final remedy, which are to be restricted from disturbance;

c. Reference to a Department-approved SMP, soil disturbance, and groundwater use restrictions based on current land use;

d. A provision to provide for proper operation and maintenance of any engineering controls implemented as part of the approved final remedy to prevent human exposure to soils and groundwater contaminated with hazardous wastes or hazardous constituents in concentrations exceeding applicable regulatory risk-based thresholds/standards at the time of permit termination. The engineering controls shall not be disturbed and shall remain in place and be effective until the Department provides written approval to alter, modify, eliminate, or otherwise cease operation and maintenance of such controls; and

e. A provision to seal the concrete floor and walls of the Corrective Action Complex to prevent exposure from potential residuals if it is to be used in the future other than the storage of equipment by EMI.

3. The Department shall review and approve the draft revised Environmental Covenant according to the procedures described in General Permit Condition V.

4. Within 60 calendar days after the Department’s approval of the draft Environmental Covenant, the Permittee shall execute the Environmental Covenant(s), incorporating any changes necessitated in response to public comments, and shall submit the Environmental Covenant to all other relevant parties for review and signature.
5. Within 30 calendar days after all relevant parties have executed the Environmental Covenant for the permitted Facility property, the Permittee shall record the executed Environmental Covenant with the county recorder of deeds, the local zoning authority, or the authority with jurisdiction over local land use, according to state law. The executed Environmental Covenant shall be recorded in the chain-of-title for all affected properties, or on some other instrument which is normally examined during a title search, that will, in perpetuity, notify any potential purchaser of the environmental conditions of the property(ies).

6. Within 30 calendar days after recording the executed Environmental Covenant, the Permittee shall submit to the Department, a notarized statement certifying the executed Environmental Covenant has been recorded, including a copy of the Environmental Covenant showing the book/page/instrument number of recordation.

7. The Environmental Covenant shall run with the land (permitted Facility property) and shall be binding upon any future owners, operators, heirs, successors, lessees, or assigns and their authorized agents, employees, or persons acting under their direction or control. In the event of permit termination, the Permittee and/or Facility owner shall cause any lease, grant, or other transfer of any interest in the Facility property to include a provision expressly requiring the lessee or transferee to comply with the Environmental Covenant conditions filed in the chain-of-title for the Facility property.

8. In the event that future additional remediation on the permitted Facility property, before or after permit termination, reduces contaminants to levels below applicable risk-based threshold/standards based on use of the property, the AULs, or portions thereof, contained in the Environmental Covenant may be rescinded and/or modified according to the provisions specified in the Environmental Covenant. This may include placing an additional document in the property chain-of-title indicating the Environmental Covenant, or portions thereof, have been rescinded and/or modified.
F. Environmental Covenant Provision Requirements Before Permit Termination

1. If the Permittee desires to rescind all or part of a previously executed Environmental Covenant, the Permittee shall submit a proposal to the Department at least 180 calendar days before the proposed rescission. This proposal will give the Department the opportunity to evaluate the information and make a determination. This proposal shall contain a demonstration, signed by the Permittee, that evaluates the residual levels of contamination in comparison with then-current risk-based thresholds/standards. The Permittee shall demonstrate that residual contaminant levels have decreased to less than the applicable risk-based thresholds/standards in support of rescinding established AULs. The demonstration shall include, at a minimum, a summary of analytical data collected during any monitoring and/or confirmation sampling of contaminated media, a summary of all relevant historical data, accompanying narrative discussion, and any other relevant information that will ensure residual contaminant levels will be protective of human health and the environment if specific AULs are rescinded.

2. If the Department determines, based on the demonstration required in Corrective Action Condition XIII.F.1., that the residual levels of contamination present may still pose a threat to human health or the environment based on use of the property, the Department shall notify the Permittee, in writing, that the terms of the existing Environmental Covenant are still appropriate or that the Permittee shall prepare and submit for approval, a revised draft Environmental Covenant to address the changed conditions at the Facility. Within 60 calendar days after receiving the Department’s notification, the Permittee shall prepare and submit a revised draft Environmental Covenant to the Department for review and approval. The revised Environmental Covenant shall include the following:

   a. An updated record of the type, location, and concentrations of hazardous wastes and hazardous constituents expected to remain in the subsurface soils and/or groundwater that will exceed the currently applicable regulatory risk-based thresholds/standards at the time of proposed revision of the Environmental Covenant and/or termination of this Permit;
b. Two updated figures illustrating the boundary of each SWMU and AOC for which the levels of contamination in the subsurface soils and/or groundwater exceed the applicable regulatory risk-based thresholds/standards at that time. One figure shall illustrate soil contamination in relation to individual SWMUs or groups of SWMUs at the time of proposed revision of the Environmental Covenant and/or termination of this Permit. The second figure shall illustrate groundwater contamination in relation to individual SWMUs or groups of SWMUs at the time of proposed revision of the Environmental Covenant and/or termination of this Permit. The figures shall be to scale and indicate the location and dimensions of each SWMU with respect to key landmarks, such as major buildings, the permitted Facility property boundaries, etc. These figures shall also illustrate the location of any engineered controls implemented as part of the approved final remedy, which are to be restricted from disturbance;

c. Groundwater use restrictions applicable at the time of proposed revision of the Environmental Covenant and/or termination of this Permit; and

d. Updated provisions to provide for continued proper operation and maintenance of any engineering controls implemented as part of the approved final remedy to prevent human and/or environmental exposures to disposed wastes and soils and groundwater contaminated with hazardous wastes or hazardous constituents in concentrations exceeding applicable regulatory risk-based thresholds/standards at the time of proposed revision of the Environmental Covenant and/or termination of this Permit. Any engineering controls shall not be disturbed and shall remain in place and be effective until the Department provides written approval to alter, modify, eliminate, or otherwise cease operation and maintenance of such controls.

3. If the Department determines the demonstration required in Corrective Action Condition XIII.F.1. is sufficient to support eliminating and/or modifying established AULs, the Department shall direct the Permittee to prepare and submit to the Department for review and approval, a
4. The Department shall review and approve the revised draft Environmental Covenant according to the procedures described in General Permit Condition V.

5. The Permittee shall record the approved revised Environmental Covenant as outlined in Corrective Action Condition XIII.E.5. and submit any related documentation to the Department according to the schedule outlined in Corrective Action Conditions XIII.E.6. and E.7. The Permittee shall also comply with any additional Environmental Covenant conditions as outlined in Corrective Action Conditions XIII.E., as appropriate.

XIV. Groundwater Monitoring and Corrective Action Program [40 C.F.R. Part 264 Subpart F]

A. Groundwater Protection Standards (GPS), Hazardous Constituents, and Concentration Limits [40 C.F.R. §§ 264.90(f) and 264.101]

The GPS establishes the MCLs for hazardous constituents (40 C.F.R. Part 261, Appendix VIII) throughout the groundwater contaminant plume(s) at the Facility. These levels must not be exceeded where groundwater use is possible (i.e., beyond the permitted Facility property boundaries and in the deep aquifer beneath the Facility property), since no enforceable groundwater use restrictions currently exist on properties next to the permitted Facility and in the deep aquifer. The hazardous constituents and related contaminants, health- and/or environmental-based concentration limits, and maximum analytical detection limits specified in Table 3 constitute the GPS for the Permittee’s Facility. The listed GPS hazardous constituents and related contaminants either have been detected in the groundwater beneath and beyond the permitted Facility or are reasonably expected to be in or derived from wastes managed at SWMUs, AOCs, and CASs at the Facility.

1. The GPS for the hazardous constituents and related contaminants listed in Table 3 are based on protecting human health and the environment. These limits were derived from several different sources, as explained by the footnotes to Table 3.
2. The GPS for some hazardous constituents and related contaminants is below the lowest, reasonably achievable analytical method detection limit due to limitations in current analytical technology. In these cases, the GPS shall be equal to the corresponding GPS maximum detection limit.

3. The allowable maximum detection limit shall never be greater than the GPS. If the GPS for specific hazardous constituents cannot be achieved due to matrix interferences or other reasonable analytical limitations, as long as appropriate supporting documentation is provided, the affected sample(s) and associated chemical analysis shall be exempted from this requirement. However, such an exemption does not in any way relieve the Permittee from complying with the GPS.

4. The Department reserves the right, based on future advances in analytical technology, to modify this Permit to require the Permittee to achieve analytical detection limits for the hazardous constituents and related contaminants covered by Corrective Action Condition XIV.A.2., which allows for adequate comparison with appropriate health- or environmental protection-based GPS concentration limit(s) indicated in the footnotes to Table 3.

5. The Permittee shall demonstrate, by the ongoing collection of groundwater samples and evaluating groundwater monitoring data, that the concentrations of contaminants in groundwater related to releases originating on the permitted Facility property are protective of human health and the environment throughout the Facility consistent with the risk assessment. Additionally, the Permittee may make a demonstration to the Department, at any time during the term of this Permit, for establishing ACLs in lieu of the GPS contained in this Permit. Any such demonstration shall ensure any and all ACLs proposed in lieu of the GPS are protective of human health and the environment, according to the requirements of 40 C.F.R. §§ 264.94(b)(1) and (b)(2), and are consistent with the approved risk assessment. In proposing an ACL(s), the Permittee shall consider and formally address the factors listed in 40 C.F.R. §§ 264.94(b)(1) and (b)(2) and the EPA document entitled, Interim Final Alternate Concentration Limit Guidance, Part I, OSWER Directive 9481.00-6C, EPA 530/SW-87-017, July 1987. Any ACL(s) proposed by the Permittee shall be processed as a Class 3 Permit Modification,
6. The Permittee shall propose modifications to the GPS to include any additional hazardous constituent(s) (40 C.F.R. Part 261, Appendix VIII.) identified in the groundwater and its presence confirmed during confirmatory sampling and analysis, if such constituents may be attributed to past operation of the Facility and/or the degradation of hazardous constituents known to be present in the groundwater. The 40 C.F.R. Part 264, Appendix IX. groundwater sampling and analysis requirements contained in Corrective Action Condition XIV.E.6. shall be used as the basis for determining if adding hazardous constituents to the GPS is necessary. The Permittee can demonstrate that a source other than Facility-related releases caused the presence of such hazardous constituent(s) or the apparent presence was a result of an error in sampling, analysis, or evaluation. For the demonstration under this paragraph to be considered, the Permittee shall:

a. Within seven calendar days of determining an additional hazardous constituent has been discovered, notify the Department, in writing, that the Permittee intends to make a demonstration under this paragraph.

b. Within 90 calendar days, submit a report to the Department that demonstrates a source other than the Facility-related releases caused the hazardous constituent presence or the presence resulted from an error in sampling, analysis, or evaluation.

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, according to 40 C.F.R. § 270.42.
Table 3 - Groundwater Protection Standards

<table>
<thead>
<tr>
<th>Constituent of Concern</th>
<th>Maximum Concentration Limit (µg/l)</th>
<th>Maximum Detection Limit (µg/l)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,3-Dinitrobenzene</td>
<td>2(a)(c)</td>
<td>0.014</td>
</tr>
<tr>
<td>2,4,6-Trinitrotoluene</td>
<td>9.8(a)</td>
<td>0.022</td>
</tr>
<tr>
<td>2,4-Dinitrotoluene</td>
<td>0.11(a)(b)</td>
<td>0.019</td>
</tr>
<tr>
<td>2,6-Dinitrotoluene</td>
<td>4.9(a)</td>
<td>0.022</td>
</tr>
<tr>
<td>RDX</td>
<td>60(a)</td>
<td>0.021</td>
</tr>
<tr>
<td>Cadmium**</td>
<td>5(a)(b)</td>
<td>0.452</td>
</tr>
<tr>
<td>Perchlorate</td>
<td>14(a)(c)</td>
<td>0.0040</td>
</tr>
<tr>
<td>Ammonia as N</td>
<td>30,000(a)</td>
<td>22</td>
</tr>
<tr>
<td>Nitrate as N</td>
<td>10,000(a)(b)</td>
<td>19</td>
</tr>
<tr>
<td>Fluoride**</td>
<td>4,000(a)(b)</td>
<td>165</td>
</tr>
<tr>
<td>Sulfate**</td>
<td>250,000(a)(b)</td>
<td>1030</td>
</tr>
<tr>
<td>Benzene**</td>
<td>5(a)(b)</td>
<td>0.16</td>
</tr>
<tr>
<td>Tetrachloroethene**</td>
<td>5(a)</td>
<td>0.2</td>
</tr>
<tr>
<td>Trichloroethene**</td>
<td>5(a)(b)</td>
<td>0.16</td>
</tr>
</tbody>
</table>

* Detection limit based on the lowest achievable practical quantitation limit available from the lower of Method Detection Limits (MDLs) contained in the latest version of the EPA document entitled, Test Methods for Evaluating Solid Waste- Physical/Chemical Methods (SW-846), or method specific detection limits routinely achieved by the Permittee’s contract laboratory.

** Sampled every three years.

(a) Denotes levels approved in the Permittee’s 2019 Groundwater Technical Memorandum.
(b) Denotes limits derived from Missouri Water Quality Standards (10 CSR 20-7.031, dated March 31, 2018) for protecting groundwater.
(c) Denotes limits derived from risk-based concentration values for tap water as contained in EPA Regional Screening Level Tables, dated November 2019 (HI=1).

B. Point of Compliance [40 C.F.R. § 264.90(f)]

The compliance point for the Facility is the point of exposure, Grove Creek. The conceptual model depicts groundwater and surface water from the site contributing to Grove Creek. Due to the current inability to distinguish releases from SWMUs, AOCs, and CASs subject to 40 C.F.R. § 264.101 that are known to have contributed to groundwater contamination at the Facility, such points of compliance and the modified groundwater monitoring and corrective action requirements are established pursuant to 40 C.F.R. § 264.90(f).
The Permittee’s groundwater and surface water corrective action program shall continue until the Permittee demonstrates the GPS limits contained in Table 3 have not been exceeded, and the Ecological Surface Water Screening Values (ESV_{SW}) contained in Table 5, are not likely to be exceeded, at or beyond the point of compliance and the groundwater plume(s) and concentrations are stable or declining for a period of three consecutive years. This demonstration shall include an assessment of the potential for significant “contaminant rebound” beyond the three consecutive year time period, related to back diffusion of contaminants from matrix or secondary porosity feature or other relevant subsurface contaminant release mechanisms that could result in future plume expansion or exceedance of the GPS at or beyond the point of compliance.

C. Compliance Period [40 C.F.R. § 270.32(b)(2)]

The compliance period shall continue until the Permittee demonstrates the maximum concentration limits in Table 3 have not been exceeded within the groundwater contaminant plume, and the ESV_{SW} in Table 5 have not been exceeded in surface water, for a period of three consecutive years.

D. General Groundwater Monitoring Requirements [40 C.F.R. § 264.97].

The Permittee shall comply with applicable sections of 40 C.F.R. § 264.97, and the following additional requirements.

1. Within 90 calendar days of the effective date of this Permit, the Permittee shall revise and resubmit to the Department for review and approval, a revised SAP, to reflect any revised and additional requirements contained in this Permit. All SAP procedures and techniques used in groundwater sampling, sampling frequency, analysis, and measurement of groundwater-related parameters shall be designed to meet the requirements of 40 C.F.R. Part 264 Subpart F and this Permit. The Permittee’s sampling, analysis, and measurement protocols shall ensure the representative nature of all analysis and measurement results. The Department shall review and approve the revised SAP, according to the procedures described in General Permit Condition V.

2. The Permittee shall retain a copy of the approved groundwater SAP with the local Facility representative and/or at the Facility and comply
with the approved 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 operated and maintained during the compliance period, including any extensions, in a manner that ensures:
   a. Detection and/or delineation of the horizontal and vertical extent of groundwater contamination, 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 boundaries. If, at any time during the compliance period, including any necessary extensions, the Permittee or the Department determines 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 proposed plan for installing additional monitoring wells to define such extent.

When the Department determines the Permittee has adequately redefined the horizontal and/or vertical extent of groundwater contamination, the wells defining such extent shall be incorporated into the groundwater monitoring system and be designated for continued monitoring in the Permittee’s SAP. The Department shall notify the Permittee, in writing, regarding this determination. The
Permittee shall submit appropriate annual SAP revisions to the Department. The Department shall review and approve the SAP revisions, according to the procedures described in General Permit Condition V.

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 C.F.R. § 264.97, the Monitoring Well Construction Code of the Missouri Well Construction Rules (10 CSR 23-1 through 10 CSR 23-4), and/or Department-approved well-specific plans and specifications.

The Permittee shall submit to the Department’s Missouri Geological Survey (MGS) and Waste Management Program (WMP), a copy of the well certification report form and resulting certification acceptance required by Section 256.614.1.(1), RSMo, for any new monitoring well(s) installed pursuant to this Permit. This information shall be reported as part of the Annual Groundwater Corrective Action Reports, described in Corrective Action Condition XVIII.

6. Plugging and abandoning any groundwater monitoring well(s) operated by the Permittee pursuant to the requirements of this Permit shall meet the requirements of Section 256.614, RSMo and 10 CSR 23-4.080.

a. The Permittee shall submit to MGS and WMP, 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 Reports, described in Corrective Action Condition XVII.

b. At such time as MGS accepts the Permittee’s well registration, the plugged wells shall be removed from the Permittee’s groundwater SAP. Within 30 calendar days of MGS’ registration acceptance, the Permittee shall submit appropriate SAP revisions to the Department. The Department shall review and approve the SAP revisions, according to the procedures described in General Permit Condition V.
7. According to 40 C.F.R. § 270.42, a Class 2 Permit Modification is required for any change in the number, location, depth, or design of wells of the Facility groundwater monitoring system monitoring the former regulated units. Replacing 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 C.F.R. § 270.42. The Permittee may elect to submit an annual permit modification request to address these changes collectively in lieu of a modification for each individual change.

Installing additional investigation wells does not require a Class 2 Permit Modification. These wells may be installed upon the Department’s approval of associated work plans. The Department shall review and approve the work plans, according to the procedures described in General Permit Condition V.

8. The Permittee shall contact the Department at least seven calendar days before conducting any field work associated with constructing or modifying the groundwater monitoring system or installing any additional groundwater monitoring wells required by this Permit. The Department shall then have the option to observe any part of this field work. This notification requirement applies to major work such as new wells, retrofitting existing wells, or abandoning 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 this Permit, including any necessary extensions. This program shall be designed to ensure the ongoing structural integrity of all monitoring well installations during the compliance period. The Permittee’s revised groundwater SAP shall specify the details of this program relative 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., water collection or ponding, ground subsidence, etc.).

b. Subsurface well integrity inspections shall be performed, according to the provisions contained in the Permittee’s approved SAP, and shall be documented on a well inspection log sheet. Subsurface well integrity inspections may consist of a combination of one or more 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 in accordance with the SAP. The Permittee’s approved SAP shall specify the frequency and performance standards for this evaluation to assess down-well siltation and well screen occlusion in 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 minimizing sampling and measurement interferences (e.g., turbidity, excessive well screen occlusion, etc.). The Permittee’s approved 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 (e.g., 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 14 calendar days following any naturally-occurring event (contact of wells by flood waters, tornado, etc.) or man-made event (vehicular...
contact, vandalism, etc.) that has the potential to compromise the structural integrity of the well. If adverse weather or site conditions prevent the Permittee from gaining access to and/or repairing flood-impacted monitoring wells, Permittee shall perform the inspection within 14 calendar days of gaining access to the well.

e. Monitoring well repairs shall be completed within 60 calendar days of identifying any surface or subsurface well integrity problem(s). If adverse weather or site conditions prevent the Permittee from gaining access to and/or repairing flood-impacted monitoring wells within 60 calendar days, the Permittee shall take appropriate action as soon as possible. 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 Reports, required by Corrective Action Condition XVII.

E. Corrective Action Program [40 C.F.R. §§ 264.101 and 270.32(b)(2)]

All SWMUs, AOCs, and CASs are subject to the corrective action program requirements of 40 C.F.R. § 264.101 and this Permit, until such time as these regulatory and permit requirements have been satisfied.

1. The Permittee’s corrective action program for the Facility shall consist of groundwater and surface water monitoring, according to Corrective Action Conditions XIV. and XV. Any additional investigation, evaluation, or implementation of remedial alternatives necessary to address facility-wide groundwater contamination shall be according to Corrective Action Conditions V. through IX. The corrective action program shall also address any groundwater contamination that has migrated beyond the Facility property boundaries. The corrective action program is based on:

a. The inability to differentiate groundwater contamination related to releases from the CASs, which are subject to corrective action according to 40 C.F.R. § 264.101.
b. The exceedance, or potential exceedance, of the GPS contained in Table 3 at the property boundary or in the deep aquifer, or evidence of groundwater plume expansion may act as a “trigger” for investigating, evaluating, or implementing additional groundwater remedial or interim/stabilization measures.

c. The desirability of implementing a holistic, facility-wide approach to groundwater investigation, monitoring, and remediation given the foregoing circumstances.

2. The Permittee shall perform groundwater sampling/analysis and field measurement of groundwater-related parameters to monitor releases from the CASs, according to the schedule presented in Table 4.

a. Sampling and analysis according to this schedule shall begin during the next regularly scheduled sampling event, following approval of the revised SAP required by Corrective Action Condition XIV.D.1. Given the potential lag time between the effective date of this Permit and approval of the revised SAP, the Permittee shall continue sampling and analysis according to the latest version of the approved SAP, until such time as the revised SAP is approved.

b. Sampling and analysis of groundwater from any newly installed wells required by 40 C.F.R. Part 264 Subpart F or this Permit shall be performed no later than the next regularly scheduled sampling event following their installation and according to the latest version of the approved SAP.

c. Wells monitored to ensure adequate delineation of the horizontal and vertical extent of groundwater contamination (hereafter referred to as perimeter wells) shall be analyzed annually, according to Table 4.

d. Specific perimeter wells to be monitored shall be specified in the Permittee’s revised SAP required by Corrective Action Condition XIV.D.1.
e. Installing additional perimeter wells during the term of this Permit, including any extensions, may be necessary to meet the requirements of 40 C.F.R. Part 264 Subpart F and this Permit. If any such wells are installed, they may be subject to the monitoring requirements contained in Table 4. Adding new perimeter wells is subject to the permit modification procedures outlined in Corrective Action Condition XIV.D.7.

f. The Department shall approve, in writing, any future changes to the list of perimeter wells established in the Permittee’s SAP. The Permittee shall submit annual SAP revisions to the Department for approval.

3. Wells monitored to assess the effectiveness of the Permittee’s corrective action program (hereafter referred to as effectiveness wells) shall be sampled and the samples analyzed annually, according to Table 4.

a. Specific effectiveness wells to be monitored shall be specified in the Permittee’s SAP required by Corrective Action Condition XIV.D.1.

b. Installing additional effectiveness wells during the term of this Permit, including any permit continuations, may be necessary to meet the requirements of 40 C.F.R. Part 264 Subpart F and this Permit. If any such wells are installed, they may be subject to the monitoring requirements contained in Table 4. Installing effectiveness wells does not require a permit modification, but does require prior Department approval.

c. The Department shall approve, in writing, any future changes to the list of effectiveness wells established in the Permittee’s SAP. The Permittee shall submit annual SAP revisions to the Department for approval.

4. Only single sample analyses (as opposed to replicates) are required for the parameters listed in Table 4, with the exception of duplicate samples taken for Quality Assurance/Quality Control (QA/QC) purposes.
5. Field parameter values measured and reported by the Permittee shall be representative of stabilized well conditions.
   a. Downwell measurement of 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 upon stabilizing these parameters during well purging. Any additional field parameter measurements, such as those taken to verify the adequacy of well purging, shall be recorded in the field logbook.

6. Within one year before the fifth and tenth years of this Permit, the Permittee shall sample and analyze groundwater from three historically contaminated wells for all parameters contained in 40 C.F.R. Part 264, Appendix IX, as specified in Table 4, as abbreviated by the Groundwater Technical Memorandum. The abbreviated Appendix IX sampling shall include semi-volatile organic compounds, volatile organic compounds, and metals.
   a. The wells sampled to meet this requirement are left to the discretion of the Permittee; however, the choice of wells shall include one well containing low levels of contamination, one well containing moderate levels of contamination, and one well demonstrating the presence of high levels of contamination, as appropriate.
   b. This sampling and analysis is required to determine if additional hazardous constituents (40 C.F.R. Part 261, Appendix VIII.) or contamination indicator parameters are present in the groundwater that may be attributable to a release(s) from the SWMUs, AOCs, and CASs or degradation of currently known hazardous constituents.
   c. If hazardous constituents and/or contamination indicator parameters are identified in the groundwater, which are not currently specified in the Table 3 constituent list, the Permittee may resample the groundwater, according to 40 C.F.R. § 264.99(g). If the Permittee’s subsequent groundwater
analyses confirms the presence of additional hazardous constituents or contamination indicator parameters, the Permittee shall propose a Class 1 Permit Modification With Prior Director’s Approval, according to 40 C.F.R. § 270.42, to add the confirmed hazardous constituent(s) or contamination indicator parameter(s) to the Table 3 constituent list and the monitoring program schedule specified in Table 4, if the constituent/indicator is not already covered by the analysis methods specified in the footnotes to Table 4.

### Table 4 - Groundwater Monitoring, Sampling, Analysis, and Parameter Measurement Schedule

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Type*</th>
<th>Maximum Detection Limit (µg/l)</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix IX (1)</td>
<td>HC</td>
<td>PQLs per SW-846**</td>
<td>Every 5 years</td>
</tr>
<tr>
<td>Volatiles/Semi-Volatiles (2)</td>
<td>HC</td>
<td>Per Table 3</td>
<td>*** (see note)</td>
</tr>
<tr>
<td>Metals (3)</td>
<td>HC</td>
<td>Per Table 3</td>
<td>*** (see note)</td>
</tr>
<tr>
<td>Explosives (4)</td>
<td>HC</td>
<td>Per Table 3</td>
<td>*** (see note)</td>
</tr>
<tr>
<td>Perchlorate (5)</td>
<td>HC</td>
<td>Per Table 3</td>
<td>*** (see note)</td>
</tr>
<tr>
<td>pH</td>
<td>FM</td>
<td>Not Applicable</td>
<td>*** (see note)</td>
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<tr>
<td>Specific Conductance</td>
<td>FM</td>
<td>Not Applicable</td>
<td>*** (see note)</td>
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<tr>
<td>Static Groundwater Elevation (6)</td>
<td>FM</td>
<td>Not Applicable</td>
<td>****(see note)</td>
</tr>
<tr>
<td>Temperature</td>
<td>FM</td>
<td>Not Applicable</td>
<td>*** (see note)</td>
</tr>
<tr>
<td>Total Well Depth</td>
<td>FM</td>
<td>Not Applicable</td>
<td>****Annually</td>
</tr>
</tbody>
</table>

* FM = Field Measurement, HC = Hazardous Constituent
** The EPA approved SW-846 version at the time of sampling.
*** Specified sampling only for selected wells referenced in the Sampling and Analysis Plan. Annually for all constituents, except those designated by ** in Table 3, they are to be sampled every three years.
**** Static groundwater elevations and total well depth measurements shall be made prior to well purging.
(1) Appendix IX. (40 C.F.R. § 264). Abbreviated sampling only to include Semi-Volatiles, Volatiles, and Metals. Scan on three wells only.
(2) EPA SW-846 Method 8260/8270 or equivalent.
(3) EPA SW-846 Method 6000 series or equivalent
(4) EPA SW-846 Method 8330 or equivalent
(5) EPA SW-846 Method 8081A or equivalent
(6) Potentiometric measurements shall be obtained from wells scheduled to be sampled as specified in the SAP. Elevation shall be to the nearest 0.01 foot.

XV. Surface Water Monitoring [40 C.F.R. § 270.32(b)]

A. Ecological Surface Water Screening Values (ESV\textsubscript{SW})

1. The ESV\textsubscript{SW} establishes the screening benchmark for hazardous constituents (40 C.F.R. Part 261, Appendix VIII) throughout the Facility point of compliance, the receiving stream Grove Creek. These levels must not be exceeded at the point of compliance. ESV\textsubscript{SW} were identified using a hierarchy of available standards as follows: (1) Missouri Water Quality Standards; (2) National Recommended Water Quality Criteria; (3) USEPA Region 4 Surface Water Screening Values; (4) other published sources. A site-specific, risk-based ESV\textsubscript{SW} for perchlorate was developed, as no other screening values standard was available. Table 5 provides the ESV\textsubscript{SW} to be used at the point of compliance. The listed ESV\textsubscript{SW} hazardous constituents and related contaminants either have been detected in the groundwater beneath and beyond the permitted Facility or are reasonably expected to be in or derived from wastes managed at SWMUs and AOCs at the Facility.

<table>
<thead>
<tr>
<th>Hazardous Constituent</th>
<th>Ecological Surface Water Screening Values (µg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,3-Dinitrobenzene</td>
<td>22(a)(d)</td>
</tr>
<tr>
<td>2,4,6-Trinitrotoluene</td>
<td>13(a)(d)</td>
</tr>
<tr>
<td>2,4-Dinitrotoluene</td>
<td>44 (a)(d)</td>
</tr>
<tr>
<td>2,6-Dinitrotoluene</td>
<td>81(a)(d)</td>
</tr>
<tr>
<td>RDX</td>
<td>79(a)(d)</td>
</tr>
<tr>
<td>Cadmium</td>
<td>0.3(b)(d)</td>
</tr>
<tr>
<td>Perchlorate</td>
<td>9,300(c)(d)</td>
</tr>
<tr>
<td>Ammonia as N</td>
<td>2,500(b)(d)</td>
</tr>
<tr>
<td>Nitrate as N</td>
<td>NA</td>
</tr>
<tr>
<td>Fluoride</td>
<td>2,700(a)(d)</td>
</tr>
<tr>
<td>Sulfate</td>
<td>758,000(d)</td>
</tr>
<tr>
<td>Benzene</td>
<td>160(a)(d)</td>
</tr>
</tbody>
</table>
Expert Management Inc.
Missouri Hazardous Waste Management Facility Permit – Part I
MOD077887909
Page 78

<table>
<thead>
<tr>
<th>Tetrachloroethene</th>
<th>53(a)(d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trichloroethene</td>
<td>200(a)(d)</td>
</tr>
</tbody>
</table>

(a) Denotes limits obtained from USEPA Region 4 Surface Water (chronic) Screening Values (dated March 2018).
(b) Denotes limits obtained from Missouri Water Quality Standards (10 CSR 20-7.031, dated March 31, 2018) for protecting groundwater.
(c) Denotes limits obtained from Development of Freshwater Water-Quality for Perchlorate (Dean et. al., dated June 2004).
(d) Denotes levels as approved in the Permittee’s 2019 Groundwater Technical Memorandum.

B. Within 60 calendar days of the effective date of this Permit, the Permittee shall submit to the Department for approval, revisions to the surface water monitoring program within the revised SAP to reflect any requirements of this Permit. Surface water monitoring shall continue throughout the term of this Permit, including any extensions, 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 the approved permit application, this Permit, and 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 Corrective Action Permit Condition XIV.D.1.

2. The Permittee’s surface water sampling locations shall be sufficient to yield representative data on background and downgradient surface water quality and shall be depicted in the SAP. Sampling and analysis methods for chemical indicator parameters and hazardous constituents shall be consistent with those specified in Table 3 and the Permittee’s Missouri State Operating Permit MO-0002453 issued by the Department’s Missouri Clean Water Commission and Water Protection Program.

3. The Permittee shall perform surface water sampling on a schedule consistent with the Permittee’s state operating permit 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 the requirements of 40 C.F.R. § 270.32(b) are met and included as part of the Annual Groundwater Corrective Action Report, as defined in Corrective Action Condition XVII. 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 of the ESV\textsubscript{sw} and effluent limits in the Missouri State Operating Permit.

5. The Permittee shall notify the Department in writing 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.

C. The Permittee may, at any time during the term of this Permit, 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 40 C.F.R. § 264.94(b), as applied to potentially affected surface water bodies. This demonstration shall be certified by a geologist or professional engineer registered in Missouri. Department approval of the Permittee’s surface water monitoring exemption shall necessitate a permit modification, according to 40 C.F.R. § 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 Water Protection Program for discharges to waters of the State.

XVI. Annual Progress Reports

A. The Permittee shall prepare and submit Annual Progress Reports to the Department, summarizing all permitted corrective action activities undertaken during the previous calendar year (i.e., January through December). Annual Progress Reports are due by March 1 of each calendar year for the previous calendar year. The Annual Progress Reports shall continue to be submitted until the Permittee’s corrective action activities (including any long-term operation, maintenance, and monitoring activities) are complete.

B. The Annual Progress Reports and Annual Groundwater Monitoring Reports, required by Corrective Action Conditions XVI. and XVII., may be combined
and submitted as a single report. The Annual 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 non-compliance with the corrective action requirements of this Permit not otherwise required to be reported elsewhere in this Permit.

C. If the Department determines additional corrective action is required under Corrective Action Conditions II. through VIII., the frequency of progress report submittals may increase. If an increase in reporting frequency is necessary, the Department shall provide written notification of the new reporting frequency to the Permittee.

D. As part of any additional corrective action activities undertaken pursuant to this Permit, detailed technical information required to be submitted as part of ISMs, RFI or CMS work plans and reports need not be reproduced as part of the Permittee’s Annual Progress Reports.

E. Copies of other reports (e.g., inspection reports), information, or data shall be made available to the Department and EPA upon request.

F. Every three years the Permittee shall evaluate the final remedy with respect to clean up goals and report the findings in the annual progress report. If the final remedy is underperforming or not performing as expected, the Department may request the Permittee to perform contingent remedies as found in Corrective Action Condition IX.B.
XVII. **Annual Groundwater Corrective Action Reports**

The Permittee shall prepare and submit Annual Groundwater Corrective Action Reports providing a comprehensive evaluation of the facility-wide groundwater monitoring program and all uninterpreted analytical data from the Permittee’s annual groundwater sampling event for the previous calendar year (i.e., January through December). The Annual Groundwater Corrective Action Reports shall be submitted to the Department by March 1 of each calendar year for the previous calendar year. Each Annual Groundwater Corrective Action Reports shall include the following information for the time period being reported:

A. All original, uninterpreted 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, QA/QC data, statistical analysis of groundwater data, field investigation results, volume of groundwater extracted, and other relevant groundwater-related information, as appropriate.

B. A discussion of any exceedances of the GPS, ESVsw, and effluent limits of the Missouri State Operating Permit.

C. 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 ISMs/remedial action plans. 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 the scope of these reports or as otherwise specified in this Permit.

D. Comprehensively address all technical requirements of 40 C.F.R. Part 264 Subpart F and this Permit. The Permittee shall summarize relevant groundwater monitoring information and 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.
E. Evaluate the effectiveness of the groundwater corrective action program, including, but not limited to, the following:

1. The rate of migration and direction of groundwater movement in underlying aquifers and potential effects on any corrective action measures being designed or implemented at the Facility for removing, containing, or controlling the groundwater contaminant plume(s);

2. The horizontal and vertical extent and concentrations of hazardous constituents and contamination indicators (Table 3) 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 its potential or actual influence on the groundwater data or effectiveness of the groundwater corrective action program;

4. An annual plume stability analysis, which shall demonstrate whether the plume is expanding, shrinking, or stable relative to the past 10 years. The analysis shall demonstrate increasing, decreasing, or stable contaminant trends for the past 10 years;

5. Contaminant statistical 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; and

6. The conclusions and summary, including statistical evaluation, of analytical results from surface water monitoring conducted during the report period.

F. 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 and the monitoring well-related information specified in Corrective Action Conditions XV.D.5. and 6.
XVIII. Planned and Contingent Activities

A. The Permittee shall comply with the schedule for planned corrective action activities as specified in this Permit and summarized in Table 7.

B. The Permittee shall comply, as necessary, with the schedule(s) for contingent corrective action activities as specified in this Permit and summarized in Table 8.

XIX. Data

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

REMEDIAL ACTION PLAN

The RAP portion of this Permit was developed to facilitate operation and maintenance of the on-site CACo to store and treat via composting contaminated soil excavated from RA Areas on the permitted Facility. The RAP consisted of three main parts, excavation and offsite disposal of impacted soil in RA Areas 3 and 6, installation and/or maintenance of protective covers for parts of RA Areas 1, 5, 8, 10, and 12, and excavation, bioremediation and replacement of treated soils in RA Areas 2 and 6. After review of the Permittee’s revised RAP application, dated September 27, 2019 the Department determined the RAP application was complete and adequate pursuant to 40 C.F.R. § 270.110.

During the pending reissuance of this Permit by the Department, the Permittee was able to complete the planned physical soil management, composting and covering activities through implementation of Department-approved interim measures and temporary authorizations. Remaining RAP activities as noted below include closure of the CACo and RAP completion reporting followed by the Department’s acceptance of the RAP Closure Report, release of financial assurance for the CACo, and release of third party liability obligations.

The Department included the preceding overview of the completion of the RAP as a basis for the remaining RAP activities to be conducted pursuant to this Permit. The results of the RAP will be submitted as a Schedule of Compliance Item in a final RAP Closure Report that details the corrective action activities, results from sampling and analysis, and decontamination of the CACo. Quarterly updates submitted by the Permittee during the course of the interim measures
and temporary authorization activities have shown reduction of nitroaromatic compounds in the soil at greater than 90 percent and well below the screening criteria for direct contact. Applicable regulations are found in 40 C.F.R. Part 270 Subpart H; 40 C.F.R. § 270.30, and applicable requirements of 40 C.F.R. Parts 264, 266 and 268, as incorporated in 10 CSR 25-7.

According to 40 C.F.R. § 270.175(a)(6), any inaccuracies found in information submitted by the Permittee may be grounds for the termination, revocation and reissuance, or modification of the RAP provisions of this Permit, and for potential enforcement action. The Permittee shall inform the Department of any deviation from, or changes in, the information provided in the RAP application that would affect the Permittee’s ability to comply with the applicable regulations or RAP conditions.

When the Department receives any RAP-related information, such as inspection results or information or requests from the Permittee, it may decide whether cause exists to modify, revoke and reissue, or terminate the RAP provisions of this Permit. Any RAP actions by the Department in this regard shall be handled according to 40 C.F.R. §§ 270.170, 270.175, 270.180, 270.185 and 270.190, as appropriate.

I. Special RAP Conditions

The Permittee shall comply with the applicable requirements described in 40 C.F.R. § 270.30 during the conveyance, storage and treatment of the hazardous remediation wastes on the permitted Facility. The Department has established the following RAP conditions as required by 40 C.F.R. § 270.135 and information required under 40 C.F.R. § 270.110 (a) through (f). Specifically, these requirements include:

A. Final RAP Report

The Permittee must submit a report that details the activities of the RAP. The report shall include the results of the composting and any deviations from the RAP itself. The report should include how the CACo was decontaminated and detail the fate of the decontamination waste.

B. CACo Future Use

Upon finishing the RAP activities the Permittee shall with the exception of current use by EMI for equipment storage, deed restrict the future use of the buildings unless the concrete floors and walls are adequately sealed to prevent potential exposure to contaminants that may have been left behind following the decontamination of the buildings.
FINANCIAL ASSURANCE CONDITIONS

The Permittee shall comply with all applicable financial assurance requirements contained in the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this act), Section 260.350, et seq., RSMo; 40 C.F.R. Part 264 Subpart H; 40 C.F.R. §§ 264.101, 270.30, 270.40, 270.42, 270.51, and 270.220; and all provisions of this Permit for post-closure care, corrective action and RAP activities, if not complete, identified pursuant to the provisions of this Permit.

I. Cost Estimates

A. Post-Closure Care, Corrective Action and RAP Cost Estimates

1. Within 60 calendar days of the effective date of this Permit, the Permittee shall submit an updated post-closure care, corrective action and, if not complete, RAP cost estimate, as specified in Schedule of Compliance Items I.I. and I.J.

2. Within 60 calendar days of the effective date of this Permit, the Permittee shall submit in compliance with 40 C.F.R. § 264.101, an updated, detailed written cost estimate, in current dollars, of the cost of hiring a third party to perform the post-closure care, corrective action and RAP activities required by this Permit.

   a. A third party is a party who:

      (1) Is neither a parent nor a subsidiary of the Permittee; and

      (2) Does not share a common parent or subsidiary with the Permittee.

   b. This cost estimate shall include the long-term costs associated with operating and maintaining the Corrective Action Complex and any capitalized costs of treatment site construction that are expected to take longer than 12 months from the effective date of this Permit to complete.

   c. The cost estimates shall be certified by a professional engineer registered in Missouri and developed using appropriate cost estimating software.
d. The post-closure care, corrective action and RAP cost estimates shall account for the total cost of all work activities and related costs expected to continue until such time as final cleanup objectives are met and confirmed. This includes, but is not limited to, any long-term costs, such as:

   (1) Final remedy operation, maintenance, and monitoring;

   (2) Utilities, including electricity, water, and sewer;

   (3) Decommissioning remediation equipment and plugging/abandoning monitoring wells;

   (4) Real estate taxes on the property; and

   (5) Departmental oversight cost reimbursement.

e. The post-closure care and corrective action cost estimates shall be based on a “rolling” 30 years’ duration unless the Permittee makes a successful demonstration for a shorter time period. The RAP portion of the cost estimate shall be based on the expected duration of operation and closure of the CACo. The Permittee may, at any time, submit to the Department for review and approval, a demonstration to adjust the post-closure care, corrective action or RAP cost estimates based on the estimated time remaining to achieve applicable remediation objectives/standards.

f. The post-closure care, corrective action and RAP cost estimates shall include a contingency cost allowance of 10 percent of the total cost of all post-closure, corrective action, and RAP activities.

g. The cost estimates shall not include any salvage value that may be realized from the sale of wastes, Facility structures or equipment, land, or other assets associated with the Facility.

h. Discounting is not allowed for post-closure care cost estimates. The regulations are silent on discounting for corrective action and RAP cost estimates, if and when needed. Discounting
would allow a facility to provide less than the amount of financial assurance required, based on the future value of the investment. The assumption is made that by the end of any corrective action and RAP period, the full amount of financial assurance will be available based on the future value of money.

3. The Permittee shall submit each post-closure care, corrective action and RAP cost estimate to the Department for review and evaluation. If the cost estimate requires modification, the Department shall notify the Permittee, in writing, of the estimate's deficiencies and specify a due date for submitting a revised cost estimate for further evaluation and final written response.

4. The Permittee shall maintain, in the operating record, the most recent post-closure care, corrective action, and RAP cost estimate that has received a final written response from the Department.

B. Revisions to Post-Closure Care, Corrective Action and RAP Cost Estimates

1. Annual Adjustment for Inflation

The Permittee shall annually adjust the post-closure care, corrective action, and RAP cost estimates, as applicable, for inflation until all activities required by this Permit are complete. The inflation adjustment shall be determined by using the procedures described in 40 C.F.R. § 264.142(b), except that the inflation factor should be derived from the most recent annual Implicit Price Deflator for the Gross Domestic Product, instead of the Gross National Product. The cost estimate is due within 60 calendar days before the anniversary date of the financial assurance instrument used to comply with this section. If the Permittee uses a financial test or corporate guarantee to demonstrate financial assurance, the cost estimate is due within 30 calendar days after the close of the guarantor’s fiscal year.

2. The Permittee shall also adjust the post-closure care, corrective action, and/or RAP estimate if:

   a. The Permittee or the Department determines any additional post-closure care, corrective action or RAP activities are required; or
b. Any other conditions increase or decrease the estimated cost of the post-closure care, corrective action or RAP activities to be performed under this Permit.

3. If the Department determines a new cost estimate is required, the Department shall notify the Permittee, in writing, of this requirement. The revised cost estimate is due within 60 calendar days of the Permittee’s determination that a revised cost estimate is necessary or the Department’s written notification that a new cost estimate is required.

4. The Permittee shall submit each revised post-closure care, corrective action, and RAP cost estimate to the Department for review and evaluation. If the revised cost estimate requires further modification, the Department shall notify the Permittee, in writing, of the estimate’s deficiencies and specify a due date for submitting a new revised cost estimate for further evaluation and final written response.

II. Financial Assurance

In order to provide for the full and final completion of the post-closure care, corrective action, and RAP activities required by this Permit, the Permittee shall establish and maintain financial assurance, for the benefit of the Department, in the amount at least equal to the most recent post-closure care, corrective action, and RAP cost estimate that received a final written response from the Department. All financial assurance instruments provided pursuant to this Permit shall be satisfactory in form and substance as determined by the Department.

A. Certified Mail

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

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

1. Within 30 calendar days after receiving the Department’s final written response regarding the Permittee’s cost estimate(s) pursuant to this Permit, the Permittee shall submit to the Department for review and evaluation, the draft financial assurance instrument(s) and related
documents. This applies to all financial assurance instruments except the financial test or corporate guarantee. See Financial Assurance Condition II.C.

2. Within 10 calendar days after receiving the Department’s final written response regarding the draft financial assurance instrument(s), the Permittee shall execute and/or otherwise finalize all instruments or other documents required in order to make the selected financial assurance legally binding. The final financial assurance instrument(s) shall be in a form identical to the draft financial assurance documents reviewed and responded to by the Department, including any changes resulting from that review.

3. Within 30 calendar days after receiving the Department’s final written response regarding the draft financial assurance instrument(s), the Permittee shall ensure the issuing institution submits to the Department all original executed and/or otherwise finalized instruments or other documents required in order to make the selected financial assurance legally binding. The instruments or other documents shall be in a form identical to the financial assurance documents reviewed and responded to by the Department. Facsimiles or photocopies are not acceptable.

C. Timeframes for Financial Tests and Corporate Guarantees

1. Within 30 calendar days after receiving the Department’s final written response regarding the Permittee’s cost estimate(s) pursuant to this Permit, the Permittee shall submit to the Department for review and evaluation, all documentation necessary to demonstrate the Permittee satisfies the financial test criteria. See Financial Assurance Condition II.E.5.

2. The Permittee’s financial assurance shall become effective immediately upon the Permittee receiving the Department’s final written response regarding either the Permittee’s cost estimate(s) or the Permittee’s demonstration that the Permittee satisfies the financial test criteria, whichever date is later.
D. Multiple Instruments

The Permittee may combine more than one mechanism generally described in Financial Assurance Condition II.E., to demonstrate financial assurance for the post-closure care, corrective action, and RAP activities required by this Permit. As specified in 40 C.F.R. §§ 264.143(g) and 264.145(g), these mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. Using the foregoing instruments in combination with the financial test or corporate guarantee is not allowed. The Department reserves the right to limit the Permittee’s choices to one or more of the instruments, on a case-by-case basis, in order to ensure the full and final completion of the post-closure care, corrective action and RAP activities required by this Permit.

E. Financial Assurance Instruments

The Permittee must choose from the mechanisms specified in 40 C.F.R. §§ 264.143, 264.145, and 264.146. The wording of the financial assurance documents shall meet the requirements of 40 C.F.R. § 264.151, except that deviation in wording to incorporate coverage for corrective action activities is allowed. All financial assurance instruments provided pursuant to this Permit shall be satisfactory in form and substance as determined by the Department.

1. Trust Fund

a. The trust fund shall be established for the benefit of the Department and administered by a trustee who has the authority to act as a trustee under federal or state law and whose trust operations are regulated and examined by a federal or state agency.

b. The trust agreement shall state that the trustee shall make payments from the fund, as the Department directs in writing, to:

(1) Reimburse the Permittee for expenditures made by the Permittee for post-closure care, corrective action and RAP activities performed according to this Permit; or
(2) Pay any other person whom the Department determines has performed or will perform the post-closure care, corrective action and RAP activities required by this Permit.

c. The trust agreement shall also state that the trustee shall not refund to the grantor any amounts from the fund until the Department notifies the trustee, in writing, that the post-closure care, corrective action and RAP activities performed according to this Permit have been completed to the Department’s satisfaction.

2. Surety Bond
   a. A surety bond shall unconditionally guarantee either:
      (1) Payment, at the direction of the Department, into a standby trust fund that meets the requirements of Financial Assurance Condition II.E.1; or
      (2) Performance of the post-closure care, corrective action and RAP activities required by this Permit. The Surety Company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on Federal Bonds, as described in Circular 570 of the U.S. Department of the Treasury.
   b. If the Permittee chooses to establish financial assurance by using a surety bond, the Permittee shall, at the same time, establish and maintain a standby trust fund. The standby trust fund shall meet the requirements of Financial Assurance Condition II.E.1. Funds from the surety bond shall be deposited into the standby trust fund if the Department directs the financial assurance provider to do so, pursuant to Financial Assurance Condition II.I.

3. Irrevocable Letter of Credit
   a. The letter of credit shall be issued by a financial institution that has the authority to issue letters of credit and whose letter of
credit operations are regulated and examined by a federal or state agency.

b. If the Permittee chooses to establish financial assurance by using a letter of credit, the Permittee shall, at the same time, establish and maintain a standby trust fund. The standby trust fund shall meet the requirements of Financial Assurance Condition II.E.1. Funds from the letter of credit shall be deposited into the standby trust fund if the Department directs the financial assurance provider to do so, pursuant to Financial Assurance Condition II.I.

4. Policy of Insurance

a. A policy of insurance shall provide the Department with rights, as a beneficiary, and be issued by an insurance carrier that has the authority to issue insurance policies in Missouri and whose insurance operations are regulated and examined by a federal or state agency.

b. The insurance policy shall be issued for a face amount at least equal to the current post-closure care and corrective action cost estimate for which the Facility has received a final written response from the Department, except that the face amount may exclude costs covered by another financial assurance instrument, as permitted in Financial Assurance Condition II.D.

c. The insurance policy shall state that the insurer shall make payments up to an amount equal to the face amount of the policy, as the Department directs in writing, to:

(1) Reimburse the Permittee for expenditures made by the Permittee for post-closure care, corrective action and RAP activities performed according to this Permit; or

(2) Pay any other person whom the Department determines has performed or will perform the post-closure care, corrective action or RAP activities required by this Permit.
d. The insurance policy shall also state that it may not be canceled, terminated, or non-renewed and the policy shall remain in full force and effect in the event that:

(1) The Permittee is named as a debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(2) The Department notifies the insurer of the Permittee’s failure to perform, under Financial Assurance Condition II.I.

5. Financial Test or Corporate Guarantee

a. A Permittee may provide financial assurance through a demonstration that the Permittee satisfies the financial test requirements described in 40 C.F.R. §§ 264.143(f) and 264.145(f).

b. A Permittee’s direct or indirect parent company may provide a corporate guarantee, executed in favor of the Department. Such guarantee shall state the company providing the guarantee shall perform the post-closure care, corrective action and RAP activities required by this Permit, or that the company shall establish a trust fund as allowed in Financial Assurance Condition II.E.1. Any company providing such a guarantee shall demonstrate, to the satisfaction of the Department, that it satisfies the financial test requirements described in 40 C.F.R. §§ 264.143(f) and 264.145(f).

c. The Permittee shall also comply with the applicable requirements of 40 C.F.R. §§ 264.151(f) and (h)(1), as related to these methods, unless otherwise provided in this Permit. This includes, but is not limited to:

(1) Initial submission of required financial reports and statements from the guarantors’ chief financial officer and independent certified public accountant;
(2) Annual re-submission of such reports and statements within 90 calendar days after the close of each of the guarantor’s fiscal year; and

(3) Notifying the Department, by certified mail, within 90 calendar days after the close of any of the guarantor’s fiscal years in which any such guarantor no longer satisfies the financial test requirements.

d. The Department may, at any time, request additional information from the Permittee or corporate guarantor, including financial statements and accountant’s reports. Any Department request for this information shall be in writing and shall specify a due date for submitting the information. The Permittee shall promptly provide the requested information to the Department.

e. References in 40 C.F.R. §§ 264.143(f) and 264.145(f) to “the sum of current post-closure costs” and “the current plugging and abandonment cost estimates” and reference in 40 C.F.R. § 264.101(c) to “Assurances of financial responsibility for such corrective action shall be provided” shall mean “the sum of all environmental remediation obligations” guaranteed by such company or for which such company is otherwise financially obligated, in addition to the cost of the post-closure care, corrective action and RAP activities required by this Permit. This includes obligations under the Comprehensive Environmental Response, Compensation, and Liability Act; RCRA; Toxic Substances Control Act; Underground Injection Control Program; and any other state or tribal environmental obligation.

F. Automatic Renewal

All financial assurance instruments shall automatically renew each calendar year, within 90 calendar days after the close of the guarantor’s fiscal year, unless the financial assurance provider notifies both the Permittee and Department, by certified mail, of a decision to cancel, terminate, or not renew a financial assurance instrument. The Permittee and Department shall receive such notification at least 120 calendar days before expiration, cancellation, or
termination of the instrument. Under the terms of the financial assurance instrument, the 120 calendar days shall begin on the date both the Permittee and Department receive the notice.

1. Within 90 calendar days after receiving such notice by both the Permittee and Department, the Permittee shall provide alternate financial assurance and obtain a final written response from the Department regarding such alternate financial assurance.

2. If the Permittee fails to provide alternate financial assurance within 90 calendar days, the Department shall notify the financial assurance provider, in writing, before the instrument expires. The notice to the financial assurance provider shall instruct the financial assurance provider to immediately deposit any and all funds obligated under the financial assurance instrument into the standby trust fund, or a newly created trust fund acceptable to the Department.

G. Modifying Instruments

1. Inadequate Financial Assurance Instrument
   a. If, at any time, the Department determines a financial assurance instrument(s) provided pursuant to this Permit is inadequate or no longer satisfies the requirements, the Department shall notify the Permittee, in writing. This applies whether there is an adjustment in the estimated cost of the post-closure care, corrective action, and/or RAP activities required by this Permit, as independently determined by the Department, or for any other reason.

   (1) Within 30 calendar days of receiving such notice, the Permittee shall submit to the Department for review and evaluation, draft revised financial assurance instrument(s) and related documents. The draft revised financial assurance instrument(s) and related documents shall address the inadequacies outlined in the Department’s notice.

   (2) Within 10 calendar days after receiving the Department’s final written response regarding the draft
revised financial assurance instrument(s), the Permittee shall execute and/or otherwise finalize all instruments or other documents required in order to make the selected financial assurance legally binding. The final financial assurance instrument(s) shall be in a form identical to the draft revised financial assurance documents reviewed and responded to by the Department, including any changes resulting from that review.

(3) Within 30 calendar days after receiving the Department’s final written response regarding the draft revised financial assurance instrument(s), the Permittee shall ensure the issuing institution submits to the Department, all original executed and/or otherwise finalized instruments or other documents required in order to make the selected financial assurance legally binding. The instruments or other documents shall be in a form identical to the revised financial assurance documents reviewed and responded to by the Department. Facsimiles or photocopies are not acceptable.

b. If, at any time, the Permittee determines a financial assurance instrument provided pursuant to this Permit is inadequate or no longer satisfies the requirements described or incorporated herein, the Permittee shall notify the Department, in writing, within 10 calendar days of this determination. This applies whether due to an adjustment in the estimated cost of the post-closure care, corrective action, or RAP activities required by this Permit or for any other reason.

2. Reduction in Amount of Financial Assurance

a. If the Permittee believes the estimated cost to complete the post-closure care, corrective action, and/or RAP activities required by this Permit has diminished below the amount covered by the existing financial assurance provided under this Permit, the Permittee may submit a written proposal to the
Department to reduce the amount of the financial assurance provided under this Permit.

(1) The amount of financial assurance proposed shall be at least equal to the estimated cost of the remaining post-closure care, corrective action, and RAP activities required by this Permit.

(2) The written proposal shall specify, at a minimum, the cost of the remaining post-closure care, corrective action, and RAP activities to be performed and the basis upon which such cost was calculated (e.g., years remaining until established cleanup standards are expected to be met).

b. The Department shall notify the Permittee, in writing, regarding its evaluation of the revised financial assurance amount. The Permittee may reduce the financial assurance amount after receiving the Department’s written response to the proposed revisions, but only according to, and to the extent permitted by, the Department’s response. No change to the form or terms of any financial assurance provided under this Section is authorized, other than a reduction in amount.

3. Change of Form of Financial Assurance

a. If the Permittee wishes to change the form or terms of financial assurance, the Permittee may submit a written proposal to the Department for a revised or alternative form of financial assurance. The written proposal shall specify, at a minimum:

(1) The cost of the remaining post-closure care, corrective action, and RAP activities to be performed and the basis upon which such cost was calculated; and

(2) The proposed revised form of financial assurance, including all proposed instruments or other documents required in order to make the proposed financial assurance legally binding. The proposed revised or alternative form of financial assurance shall satisfy all
requirements described or incorporated by reference in this Permit.

b. The Department shall notify the Permittee, in writing, of its decision regarding the revised or alternative form of financial assurance. Acceptance of the written proposal shall be made at the Department’s sole discretion.

c. Within 30 calendar days after receiving the Department’s final written response regarding the proposed revised or alternative financial assurance, the Permittee shall ensure the issuing institution submits to the Department, all original executed and/or otherwise finalized instruments or other documents required in order to make the selected financial assurance legally binding. The instruments or other documents shall be in a form identical to the financial assurance documents reviewed and responded to by the Department. Facsimiles or photocopies are not acceptable.

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

H. Obligation to Complete Post-Closure Care, Corrective Action, and RAP Activities

The Permittee’s inability or failure to establish or maintain financial assurance for completing the post-closure care, corrective action, or RAP activities required by this Permit in no way excuses performing any other requirements of this Permit, including, without limitation, the Permittee’s obligation to complete all necessary post-closure care, corrective action, and RAP activities in strict accordance with the terms of this Permit.

I. Performance Failure

1. In the event the Department determines the Permittee:
a. Has ceased implementing any of the post-closure care, corrective action, or RAP activities required by this Permit; or

b. Is significantly or repeatedly deficient or late in performing the post-closure care, corrective action, or RAP activities required by this Permit; or

c. Is implementing the post-closure care, corrective action, or RAP activities required by this Permit in a manner that may cause an endangerment to human health or the environment;

The Department may issue, to both the Permittee and financial assurance provider, a written notice (“Performance Failure Notice”) of the Permittee’s failure to perform. The notice shall specify the grounds upon which the notice was issued and provide the Permittee 10 calendar days to remedy the circumstances.

2. If the Permittee fails to remedy the performance failure to the Department’s satisfaction before the 10 calendar days’ end, the Department shall have immediate access to, and benefit of, the financial assurance provided. The Department may, at any time thereafter, direct the financial assurance provider to immediately:

a. Deposit any and all funds obligated under the financial assurance instrument into the standby trust fund, or a newly created trust fund acceptable to the Department; or

b. Arrange for performance of the post-closure care, corrective action, or RAP activities required by this Permit.

3. The Department shall notify the Permittee, in writing, if the Department is unable, after reasonable efforts, to secure the payment of funds from the financial assurance provider for performing the post-closure care, corrective action, or RAP activities. Within 10 calendar days of receiving such notice, the Permittee shall provide cash to fund the standby trust fund, or a newly created trust fund acceptable to the Department.
a. The funds shall at least equal the cost of the remaining closure, post-closure care, corrective action, and RAP activities required by this Permit.

b. The deposit shall be made in immediately available funds and without setoff, counterclaim, or condition of any kind.

J. Release of Financial Assurance

1. After the Department and Permittee have mutually agreed that all post-closure care, corrective action, and RAP activities required by this Permit are complete, the Permittee may submit a written request to the Department to release the Permittee from the requirement to maintain financial assurance.

2. The Department shall notify both the Permittee and financial assurance provider(s), in writing, if and when the Permittee is released from all financial assurance obligations under this Permit.

3. The Permittee shall not release, cancel, or terminate any financial assurance provided pursuant to this Permit, except as provided in Financial Assurance Condition II.G.2.

III. Liability Requirements

If the Permittee has not already done so as of the effective date of this Permit, within 90 calendar days after the effective date of this Permit, the Permittee shall establish third party liability coverage according to 40 C.F.R. § 264.147. Thereafter, the Permittee shall demonstrate continuous compliance with the requirements of 40 C.F.R. § 264.147, including the requirements to have and maintain liability coverage for sudden accidental occurrences in the amount of at least $1,000,000 per occurrence with an annual aggregate of at least $2,000,000, exclusive of legal defense costs. Pursuant to 40 C.F.R. § 264.147(d), the Department may adjust the level of financial responsibility. This liability requirement is only applicable until final closure and decontamination of the CACo and acceptance of closure by the Department under the RAP provisions of this Permit.
### FACILITY SUBMISSION SUMMARY

Table 6 - Planned Submittal Requirements Pursuant to this Permit and/or Schedule of Compliance

<table>
<thead>
<tr>
<th>Submittal Requirements</th>
<th>Due Date*</th>
<th>Permit Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>One paper copy and one searchable electronic copy of the consolidated permit application</td>
<td>Within 60 calendar days after effective date of this Permit</td>
<td>Schedule of Compliance Item I.A.</td>
</tr>
<tr>
<td>Revised Part A permit application</td>
<td>Within 60 calendar days after effective date of this Permit</td>
<td>Schedule of Compliance Item I.B.</td>
</tr>
<tr>
<td>Certification that Permittee has read and understands all permit conditions in this Permit</td>
<td>Within 60 calendar days after effective date of this Permit</td>
<td>Schedule of Compliance Item I.C.</td>
</tr>
<tr>
<td>Check or money order for any outstanding engineering review costs</td>
<td>Within 60 calendar days after effective date of this Permit</td>
<td>Schedule of Compliance Item I.D.</td>
</tr>
<tr>
<td>Check or money order for each year this Permit is to be in effect beyond the first year</td>
<td>Within 60 calendar days after effective date of this Permit</td>
<td>Schedule of Compliance Item I.E.</td>
</tr>
<tr>
<td>Revised SAP including surface water</td>
<td>Within 60 calendar days after effective date of this Permit</td>
<td>Schedule of Compliance Item I.F.</td>
</tr>
<tr>
<td>Updated post-closure plan</td>
<td>Within 60 calendar days after effective date of this Permit</td>
<td>Schedule of Compliance Item I.G.</td>
</tr>
<tr>
<td>Updated post-closure care, corrective action, and RAP cost estimate</td>
<td>Within 60 calendar days after effective date of this Permit</td>
<td>Schedule of Compliance Item I.H. and I.</td>
</tr>
<tr>
<td>Soil Management Plan</td>
<td>Within 60 calendar days after effective date of this Permit</td>
<td>Schedule of Compliance Item I.J.</td>
</tr>
<tr>
<td>Corrective Measures Implementation Work Plan</td>
<td>Within 90 calendar days after the effective date of this Permit</td>
<td>Schedule of Compliance Item II.A.</td>
</tr>
<tr>
<td>Final RAP Closure Report</td>
<td>Within 90 calendar days after the effective date of this Permit</td>
<td>Schedule of Compliance Item II.B,</td>
</tr>
<tr>
<td>Submittal Requirements</td>
<td>Due Date*</td>
<td>Permit Condition</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Additional Justification for a Shortened Post-Closure Care Period</td>
<td>Within 30 calendar days after the effective date of this Permit</td>
<td>Schedule of Compliance Item III</td>
</tr>
<tr>
<td>Draft Environmental Covenant</td>
<td>Within 30 calendar days after approval of the Soil Management Plan</td>
<td>Schedule of Compliance Item IV</td>
</tr>
<tr>
<td>Draft financial assurance instrument(s)</td>
<td>Within 60 calendar days after receiving the Department’s final written response regarding updated post-closure care, corrective action, and RAP cost estimate.</td>
<td>Financial Assurance Condition II.B.1</td>
</tr>
<tr>
<td>Execute updated financial assurance instrument reflecting updated cost estimate</td>
<td>Within 10 calendar days after receiving Department’s final written response regarding draft financial assurance instrument.</td>
<td>Financial Assurance Condition II.B.2</td>
</tr>
<tr>
<td>Original executed financial assurance instruments and related documents</td>
<td>Within 30 calendar days after receiving Department’s final written response regarding draft financial assurance instrument.</td>
<td>Financial Assurance Condition II.B.3</td>
</tr>
<tr>
<td>Annual post-closure care, corrective action, and RAP estimate inflation update</td>
<td>Annually, within 60 calendar days before the anniversary date establishing the financial assurance instrument or within 30 calendar days of the end of the provider’s fiscal year if a financial test or corporate guarantee is used.</td>
<td>Financial Assurance Condition I.B.1.</td>
</tr>
<tr>
<td>Biennial Report with information required by 40 C.F.R. § 264.75</td>
<td>March 1 of each even numbered calendar year, unless an extension is requested.</td>
<td>General Permit Condition III.</td>
</tr>
<tr>
<td>Certification of Completion of Post-Closure Care</td>
<td>Within 60 calendar days after completing post-closure care period. (Including Extensions)</td>
<td>Special Permit Condition II.D.</td>
</tr>
<tr>
<td>Permit Renewal Application</td>
<td>At least 24 months before expiration date of this Permit.</td>
<td>Standard Permit Condition II.</td>
</tr>
</tbody>
</table>
*Extensions may be requested and approved by the Department for cause without modifying this Permit.

Table 7 - Planned Corrective Action Submittal Requirements Pursuant to the Corrective Action Conditions of this Permit

<table>
<thead>
<tr>
<th>Planned Submittal Requirements</th>
<th>Due Date</th>
<th>Corrective Action Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certification of Final Remedy Construction</td>
<td>According to the schedule in the approved CMI Work Plan</td>
<td>XI.</td>
</tr>
<tr>
<td>Corrective Measures Implementation (CMI) Report</td>
<td>According to the schedule in the approved CMI Work Plan</td>
<td>XI.</td>
</tr>
<tr>
<td>Certification of Completion of Corrective Measures</td>
<td>Within 60 calendar days after receiving Department approval of documentation verifying completion.</td>
<td>XIII.C</td>
</tr>
<tr>
<td>Annual Progress Reports</td>
<td>By March 1 of each calendar year (to be combined with March 1 Groundwater Corrective Action Monitoring Reports).</td>
<td>XVII.A.</td>
</tr>
<tr>
<td>Annual Groundwater Corrective Action Effectiveness Reports</td>
<td>March 1 of each calendar year.</td>
<td>XVIII</td>
</tr>
<tr>
<td>Execute Environmental Covenant</td>
<td>Within 60 calendar days after receiving Department notice.</td>
<td>XIV.E.4.</td>
</tr>
<tr>
<td>Recordation of Environmental Covenants</td>
<td>Within 30 calendar days after execution of Environmental Covenants</td>
<td>XIV.E.5.</td>
</tr>
<tr>
<td>Notarized statements certifying the executed Environmental Covenants were recorded.</td>
<td>Within 30 calendar days after recording executed Environmental Covenants</td>
<td>XIV.E.6.</td>
</tr>
</tbody>
</table>
Table 8 - Contingent Corrective Action Submittal Requirements Pursuant to the Corrective Action Conditions of this Permit

<table>
<thead>
<tr>
<th>Contingent Submittal Requirements</th>
<th>Due Date</th>
<th>Corrective Action Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written notification of newly identified SWMU(s) and AOC(s)</td>
<td>No later than 15 calendar days after discovery.</td>
<td>II.A.</td>
</tr>
<tr>
<td>SWMU/AOC Assessment Work Plan</td>
<td>Within 30 calendar days after notice by the Department that a work plan is required.</td>
<td>II.B.</td>
</tr>
<tr>
<td>SWMU/AOC Assessment Report</td>
<td>According to the schedule in the approved SWMU/AOC Assessment Work Plan.</td>
<td>II.D.</td>
</tr>
<tr>
<td>Written notification of newly identified releases from previously identified SWMU(s) and AOC(s)</td>
<td>No later than 15 calendar days after discovery.</td>
<td>III.A.</td>
</tr>
<tr>
<td>Newly Identified Release Work Plan</td>
<td>Within 30 calendar days after notice by the Department that a work plan is required.</td>
<td>III.B.</td>
</tr>
<tr>
<td>Newly Identified Release Report</td>
<td>According to the schedule in the approved Newly Identified Release Work Plan.</td>
<td>III.D.</td>
</tr>
<tr>
<td>Notification of interim/stabilization measures</td>
<td>Within 24 hours after discovery of need for stabilization.</td>
<td>IV.B.1.</td>
</tr>
<tr>
<td>Notification of interim/stabilization measures not effective</td>
<td>Within 10 calendar days after determination.</td>
<td>IV.B.3.</td>
</tr>
<tr>
<td>Supplemental RCRA Facility Investigation (RFI) Work Plan</td>
<td>Within 90 calendar days after notice by the Department that a work plan is required.</td>
<td>V.B.</td>
</tr>
<tr>
<td>Supplemental RCRA Facility Investigation (RFI) Report</td>
<td>According to the schedule in the approved supplemental RFI Work Plan.</td>
<td>VI.B.</td>
</tr>
<tr>
<td>Contingent Submittal Requirements</td>
<td>Due Date</td>
<td>Corrective Action Condition</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Supplemental Corrective Measures Study (CMS) or Remedy Evaluation Work Plan</td>
<td>Within 90 calendar days after notice by the Department that a work plan is required.</td>
<td>VII.C.</td>
</tr>
<tr>
<td>Supplemental Corrective Measures Study (CMS) or Remedy Evaluation Report</td>
<td>According to the schedule in the approved supplemental CMS Work Plan.</td>
<td>VIII.A.</td>
</tr>
<tr>
<td>Corrective Measures Implementation (CMI) Work Plan</td>
<td>According to the schedule in the permit modification to implement a final remedy.</td>
<td>X.</td>
</tr>
<tr>
<td>Certification of Final Remedy Construction</td>
<td>Within 60 calendar days after recording approved Environmental Covenant.</td>
<td>XI.</td>
</tr>
<tr>
<td>Corrective Measures Implementation (CMI) Report</td>
<td>According to the schedule in the approved CMI Work Plan.</td>
<td>XI.</td>
</tr>
<tr>
<td>Certification of Completion of Corrective Measures</td>
<td>Within 60 calendar days after receiving approval of documentation verifying completion.</td>
<td>XIII.C</td>
</tr>
<tr>
<td>Soil or Other Media Disturbance Notification</td>
<td>At least 30 calendar days before any planned activities at any area subject to AULs.</td>
<td>XIV.A.</td>
</tr>
<tr>
<td>Transfer of Interest in Permitted Property Notification</td>
<td>At least 90 calendar days before transferring any interest in any portion of permitted property.</td>
<td>XIV.B.</td>
</tr>
<tr>
<td>Change in Use of Property Notification</td>
<td>At least 30 calendar days before any proposed change in use of property.</td>
<td>XIV.C.</td>
</tr>
</tbody>
</table>
Figure 1 - Facility Location

Figure not available due to size.
Please see hard copy or separate electronic file online at
Figure 2 - Facility Property Boundaries

Figure not available due to size.
Please see hard copy or separate electronic file online at
Figure 3 - Location of CASs at the Facility

Figure not available due to size.
Please see hard copy or separate electronic file online at
Figure 4 - Location of Corrective Action Complex (CACo)

Figure not available due to size. Please see hard copy or separate electronic file online at https://dnr.mo.gov/env/hwp/permits/mod077887909/2019-09-20-figure-4-location-of-corrective-action-complex-mod077887909.pdf