Missouri
Department of
Natural Resources

MISSOURI HAZARDOUS WASTE MANAGEMENT FACILITY PERMIT
PART I
PERMIT NUMBER: MOD007129935

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PERMITTEE

Owner and Operator: International Paper Company
6400 Poplar Avenue
Memphis, TN 38197

FACILITY LOCATION

2609 South Rangeline
Joplin, MO 64801
Jasper County
W $^1/_2$ Section 18, T 27N, R 32W

FACILITY DESCRIPTION

International Paper is an inactive wood treating facility, approximately 98 acres in total size, located in a moderately industrialized area in the eastern portion of Joplin, Missouri. The facility operated 11 surface impoundments covering 11 acres which were closed several years ago pursuant to applicable state and federal hazardous waste management laws/regulations governing closure requirements. In 1986, hazardous sludges were removed from all of the site impoundments. The remaining hazardous media was treated and encapsulated in two corrective action management units (CAMU) on site. The wood treating facility shut down in March of 2006 and is in the process of being decommissioned. International Paper has constructed and is operating a groundwater monitoring and remediation system. The facility's former drip pad area and main treatment area will be closed under the authority of the Environmental Protection Agency's (EPA) Hazardous and Solid Waste Amendments (HSWA) Part II Permit. The facility location is shown in Figure 1.

PERMITTED ACTIVITIES

This Permit contains conditions to address post-closure care for two CAMUs containing consolidated remediation waste. This permit also contains conditions for the operation and maintenance of a long-term groundwater monitoring and remediation system under the corrective action program.

EFFECTIVE DATES OF PERMIT: _____ to _____

_____ Date

_____
David J. Lamb, Director
HAZARDOUS WASTE PROGRAM

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INTRODUCTION

After public notice, according to Code of State Regulations 10 CSR 25-8.124, and review of International Paper Company's Missouri Hazardous Waste Management Facility Permit Application, (hereafter referred to as the application), the Missouri Department of Natural Resources (hereafter referred to as the Department) has determined that the application conforms to the provisions of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (RCRA) and regulations promulgated thereunder by the U.S. Environmental Protection Agency (hereafter referred to as EPA) (codified and to be codified in Title 40 of the Code of Federal Regulations) and the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this act), Section 260.350, et seq., RSMo. Pursuant to Section 260.375.13, RSMo, and the Solid Waste Disposal Act, the Department hereby approves the application and issues Permit Number MOD007129935 to International Paper Company as the facility owner and operator (hereafter referred to as the Permittee) for post-closure care as described in the application and this Permit. This Permit also addresses corrective action requirements for Solid Waste Management Units (SWMUs) and the requirements of the Hazardous and Solid Waste Amendments of 1984 (HSWA) as administered and enforced by the Department. Applicable regulations are found in 40 CFR Parts 260 through 264, 266, 268, and 270, and 10 CSR 25-7, as specified in this Permit. The Department is issuing this Missouri Hazardous Waste Management Facility (MHWMF) Part I Permit (hereafter referred to as the Permit) under state authority. EPA is issuing the HSWA Part II Permit under federal authority to address the regulatory requirements of HSWA that the State has not yet adopted or been authorized by EPA to implement. The MHWMF Part I Permit will remain in effect even if the HSWA Part II Permit is terminated or has expired.

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

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

All permit application information will be available to the public unless the Permittee requests nondisclosure in writing, as described in Section 260.430, RSMo and 10 CSR 25-7.270(2)(B)2. This Permit and accompanying material will be available for review by the public at the Department's central office in Jefferson City, Missouri, and the EPA Region 7 office in Lenexa, Kansas.

Any appeals of this Permit, or specific permit conditions based on state authority, shall be filed according to 10 CSR 25-2.020 and Sections 260.395.11 and 621.250, RSMo. If you are

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

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

- The application submitted by the Permittee dated March 8, 2004.
- Consent Agreement/Final Order (CAFO) effective August 3, 2004.
- Revised Part A dated October 5, 2007.
- Cleanup Action Work Plan dated October 17, 2011.
- Closure Plan for the Drip Pad and Main Treatment Area-Revision 2, dated January 23, 2012.
- The Permit application amendment and response to Department's comments, dated February 17, 2012.
- *Resource Conservation and Recovery Act* Facility Investigation (RFI) Report dated November 2008 and Supplemental RFI Report dated August 2011.

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 consolidated permit application at the facility.

Any inaccuracies found in information submitted by the Permittee may be grounds for the termination, revocation and reissuance, or modification of this Permit according to 40 CFR Part 270 Subpart D, incorporated by reference in 10 CSR 25-7.270(1) and modified in 10 CSR 25-7.270(2)(D), and for potential enforcement action. The Permittee shall inform the

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Department of any deviation from, or changes in, the information in the application, which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

When the Department receives any information, such as inspection results, information from the Permittee, or requests from the Permittee, it may decide whether cause exists to modify, revoke and reissue, or terminate this Permit. All such changes to this Permit will be according to 10 CSR 25-7.270(2)(D), 10 CSR 25-8.124, and 40 CFR Part 270 Subpart D, as incorporated by reference in 10 CSR 25-7.270(1).

Post-closure operation of this hazardous waste facility and corrective action activities shall be according to the provisions of this Permit, the Missouri Hazardous Waste Management Law (Sections 260.350 to 260.434, RSMo), the rules and regulations promulgated thereunder [Code of State Regulations, Title 10, Division 25 (10 CSR 25)] as effective on the date of this Permit, all final engineering plans, petitions, specifications, and operating procedures that were submitted to the Department during the permit application review process, which are included in the final version of the permit application, and any other conditions, changes, or additions to the engineering plans, specifications, and operating procedures as specified in this Permit. The consolidated permit application, which includes the final engineering plans, specifications, and operating procedures, is therefore incorporated by this reference into the conditions of this Permit. All conditions specified in this Permit supersede any conflicting information in the consolidated permit application. Where conflicts arise between documents, the latest revision will be effective.

This Permit for the post-closure care of two Corrective Action Management Units (CAMUs) containing consolidated remediation waste and operation and maintenance of a long-term groundwater monitoring and remediation system under the corrective action program is issued only to the Permittee named above. This Permit is issued for a period of ten years and expires at midnight on _____. This Permit is subject to review and modification by the Department according to Section 260.395.12, RSMo. According to 40 CFR 270.51, as incorporated in 10 CSR 25-7.270(1), if a timely and complete application is submitted, the conditions of the expired permit continue in force until the effective date or denial of a new permit.

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

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Permit and are under state authority. Authority for other HSWA requirements that the state has not adopted or been authorized to implement by EPA are retained by EPA in the HSWA Part II Permit.

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

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

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

40 CFR 270.32(b)(2), as incorporated by reference in 10 CSR 25-7.270(1), and Section 260.395.12, RSMo, require that each permit issued under that section contain terms and conditions as the Department determines necessary to protect human health and the environment.

The Permittee is required to comply with all applicable environmental laws and regulations enforced by the Department. These environmental laws and regulations are administered by the Air Pollution Control Program, Hazardous Waste Program, Land Reclamation Program, Solid Waste Management Program, and Water Protection Program. Failure to comply with these environmental laws and regulations may, in certain circumstances, result in the suspension or revocation of this Permit and may subject the permit holder to civil and criminal liability.

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DEFINITIONS

For purposes of this Permit, terms used herein will have the same meaning as those in RCRA and 40 CFR Parts 260, 261, 264, 266, 268, and 270, and 10 CSR 25, unless this Permit specifically provides otherwise. Where terms are not defined in RCRA, the regulations, this Permit, or EPA guidance or publications, the meaning associated with such terms will be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

"Alternate Concentration Limit" means a Department-approved maximum concentration limit for a hazardous constituent and/or facility-related contaminant 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 is not exceeded.

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

"Area of Concern (AOC)" means any area where an actual or potential release of hazardous wastes or hazardous constituents that is not from a Solid Waste Management Unit has occurred or is occurring and is determined by the Department to pose a current or potential threat to human health or the environment. Investigation and/or remediation of AOCs may be required pursuant to Section 260.395, RSMo, and 40 CFR 270.32(b)(2), as incorporated by reference in 10 CSR 25-7.270(1).

"Consolidated Permit Application" means the approved permit application, any changes resulting from the public comment period, and all additional documents required to be submitted under the Schedule of Compliance contained in this Permit.

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

"Facility" means:

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

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

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

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

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

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

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

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SCHEDULE OF COMPLIANCE

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

A. Submit to the Department two paper copies and one searchable electronic copy of the consolidated permit application as required by 10 CSR 25-7.270(2)(B)7. and defined in the Introduction of this Permit.

B. Submit to the Department for approval a revised Part A permit application. The revised Part A shall include all permitted units at the facility.

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

D. Submit to the Department, to the attention of the Hazardous Waste Program, Permits Section, 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 Hazardous Waste Program, Permits Section, a check or money order payable to "State of Missouri" for $1000 for each year this Permit is to be in effect beyond the first year. This Permit is effective for ten years. Since the Permittee has submitted a $1000 deposit with the permit application and paid a $1000 permit continuation fee for the current year, the remaining balance to be submitted by the Permittee is calculated as:

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

where N_d equals the number of calendar days from the expiration date of the continued permit (which coincides with the anniversary date of the original permit issuance) to the date of permit reissuance. An invoice is included with this Permit based on the foregoing formula.

F. Submit to the Department for approval, a revised updated Sampling and Analysis Plan (SAP) that addresses the groundwater, surface water and CAMU leachate monitoring requirements of this Permit as contained in Special Permit Conditions III., IV. and V.

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G. Submit to the Department a revised post-closure plan that addresses post-closure care for the CAMUs in accordance with 40 CFR 264.118, as incorporated by reference in 10 CSR 25-7.264(1), and Special Permit Condition II. of this Permit.

II. Within 90 calendar days after the effective date of this Permit, the Permittee shall submit to the Department for review, a revised, detailed post-closure care (40 CFR 264.144) and corrective action (40 CFR 264.101) cost estimate that reflects the requirements of Corrective Action Condition XV.

III. Within 30 calendar days after receipt of the Department's final written response to the Permittee's post-closure care and corrective action cost estimates pursuant to this Permit, the Permittee shall submit draft financial assurance instruments and related documents to the Department for review and evaluation in accordance with Corrective Action Condition XV.B.1.a. or Corrective Action Condition XV.B.2.a., as appropriate.

IV. Within ten calendar days after receiving the Department's final written response regarding the draft financial assurance instrument(s), the Permittee shall execute or otherwise finalize all instruments or other documents required in order to make the selected financial assurance legally binding.

V. Within 30 calendar days after receiving the Department's final written response regarding the draft financial assurance instrument(s), the Permittee shall ensure that the issuing institution submits all original executed and/or otherwise finalized instruments or other documents to the Department.

VI. Within one calendar year after the effective date of this Permit, the Permittee shall:

A. Complete all plugging operations in accordance with 10 CSR 23-4.080 of the following monitoring and recovery wells.

LSR-1, LSR-2, LSR-3, LSR-5, J-13.11, J-13.42, J-14.121, J-31.15, J-31.40, J-30.100, J-27.100, J-16.09, J-16.28, J-08.355, J-14.274, J-23.164, J-28.40, J-30.42, J-31.60, J-32.70, J-46.268, and J-47.95.

B. Complete all new monitoring well installations and well redevelopments in accordance with 10 CSR 23-4.060 for the following monitoring wells.

1. J-31.60R or appropriately named to identify it as the monitoring well replacing abandoned off-site wells J-30.42 and J-31.60.

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2. J-52.17R or appropriately named to identify it as the monitoring well replacing the abandoned well required for Drip Pad closure activities.

C. Submit a Report and Updated SAP to the Department containing the following information.

1. A copy of the well certification report form and the resulting certification acceptance required by 10 CSR 23-4.020 for wells installed to comply with the conditions of this Permit.

2. Well boring logs for the construction of the new monitoring wells listed above.

3. A copy of the well registration report form and resulting registration acceptance required by 10 CSR 23-4.080 for any monitoring wells plugged pursuant to this Permit.

4. Updated SAP to reflect changes in the monitoring well network including any maintenance, sampling, and location information for the abandoned and newly-constructed monitoring wells.

VII. The Permittee shall comply with all contingent post-closure and corrective action requirements of this Permit as specified in the applicable Sections of this Permit and as partially summarized in Table 4.

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SUBMITTAL OF REQUIRED INFORMATION

I. Unless otherwise requested, the Permittee shall submit two paper copies and one searchable electronic copy, of all reports, documents, plans/specifications, and the consolidated permit application required under the terms of this Permit to:

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

II. The Permittee shall submit one paper copy and one searchable electronic copy, of all reports, documents, plans/specifications, and the consolidated permit application required under the terms of this Permit to:

Chief, Waste Remediation and Permitting Branch
U.S. Environmental Protection Agency Region 7
Air and Waste Management Division
11201 Renner Boulevard
Lenexa, KS 66219

III. 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 in accordance with Corrective Action Condition XVII. of this Permit.

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STANDARD PERMIT CONDITION

I. The Permittee shall comply with the requirements set forth in the Missouri Hazardous Waste Management Law and all corresponding standards, rules, and regulations adopted under this Law, Section 260.350, et seq., RSMo, 40 CFR Part 264 Subpart H, 40 CFR 270.10, 270.30, 270.40, 270.42, and 270.51, as incorporated and modified in 10 CSR 25-7 and 10 CSR 25-8.

GENERAL PERMIT CONDITIONS

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

II. Notification of an Emergency Situation [Chapter 260.505.4, RSMo]

The Permittee shall, at the earliest practical moment upon discovery of an emergency involving the hazardous waste under the Permittee's control, notify the Department's emergency response hotline at (573) 634-2436 and the National Response Center at 1-800-424-8802.

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

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SPECIAL PERMIT CONDITIONS

In accordance with 40 CFR 270.32, as incorporated in 10 CSR 25-270(1), the Department has 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 CFR 264.18(b)]

The Permittee has submitted information, as required in 40 CFR 270.14(b)(11)(iii) and 270.28, that identifies the facility as not located in a 100-year floodplain. The Permittee shall maintain this information in the facility operating record.

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

International Paper's wood treating facility originally operated with 11 surface impoundments. The sludges removed from these impoundments were collected and placed into 4 land treatment (landfarm) units on the southern portion of the facility property. Following bioremediation activities and with the Department's approval of International Paper's Corrective Action Management Unit (CAMU) proposal, the bioremediated materials from Landfarms 1 and 4 were moved into Landfarms 5 and 7. Landfarms 1 and 4 were closed with no post-closure care required. Landfarms 5 and 7 (the CAMUs), were closed with post-closure care requirements. The post-closure CAMUs (Landfarms 5 and 7) are shown on Figure 2.

The Permittee shall comply with all applicable requirements of 40 CFR Part 264 Subpart G, as incorporated by reference in 10 CSR 25-7.264(1) and modified in 10 CSR 25-7.264(2)(G), and all provisions of this Permit for the post-closure CAMUs.

A. Post-Closure Care and Use of Property [40 CFR 264.117]

1. According to 40 CFR 264.117(a)(1), post-closure care begins after the acceptance of the closure certification of the hazardous waste management unit and continues for 30 years after that date, unless modified according to 40 CFR 264.117(a)(2) or otherwise specified by the Department.

2. At a minimum, post-closure care shall be extended until such time as the groundwater protection standard maximum concentration limits contained in Table 1 or approved alternate concentration limits, as applicable, are

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met for a period of three consecutive years under the groundwater monitoring and corrective action conditions described in Special Permit Conditions III. and IV. of this Permit.

3. During the post-closure care period, the Permittee shall comply with the applicable maintenance, monitoring and reporting requirements of 40 CFR Part 264 Subparts F, G, and K as incorporated by reference in 10 CSR 25-7.264 and this Permit.

4. During the post-closure care period, the Permittee shall comply with the requirements of 40 CFR 264.310, including, but not limited to:

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

   b. Continuing to operate the Leachate Collection System as outlined in the approved permit application;

   c. Maintaining and monitoring the leachate collection and groundwater monitoring systems and complying with all applicable requirements of 40 CFR Part 264 Subpart F;

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

   e. Protecting and maintaining surveyed benchmarks used to comply with 40 CFR 264.309.

5. In the event that 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 allow the Department to inspect the feature in order to evaluate the subsidence or collapse prior to conducting any repairs. The Permittee shall, within 30 calendar days of the Department's written request, submit a plan for repair of the feature to the Department for review and approval. 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.

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6. The Permittee shall continue to provide for the proper operation and maintenance of any engineering controls implemented as part of the approved permit application. These actions are necessary to prevent human exposure to bioremediated sludges, soils and/or groundwater contaminated with hazardous wastes, hazardous constituents and related contaminants in concentrations exceeding applicable 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 operation/maintenance of such controls.

7. Post-closure use of the property shall be restricted by the Permittee to prevent disturbance of Landfarm 1, Landfarm 4, Landfarm 5 and Landfarm 7. The Department may approve a use of the property that disturbs the integrity of these areas including the final covers if it is necessary for the proposed use of the property and will not increase the potential hazard to human health or the environment, or if it is necessary to reduce a threat to human health or the environment.

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 that a shortened post-closure care period is sufficient to protect human health and the environment. Approval to shorten the post-closure care period shall be according to the applicable permit modification procedures in 40 CFR Part 270, 10 CSR 25-7 and 10 CSR 25-8.124.

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

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

2. The post-closure care plan may be amended at any time during the post-closure care period. Amendments are subject to the applicable permit modification requirements of 40 CFR Part 270 Subpart D, 10 CSR 25-7.270(2)(D), and 10 CSR 25-8.124. Written requests for amendments shall be submitted at least 60 calendar days before the proposed change in site operations, or not later than 60 calendar days after the occurrence of an unexpected event that has affected the post-closure care plan. The

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

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

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

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

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

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

III. Groundwater Monitoring [40 CFR 264 Subpart F and 40 CFR 264.552]

The eleven surface impoundments previously operated at the facility were used for wastewater treatment and product recovery from the wood preserving operations. The bottom sediment sludge associated with the wastewater treatment was classified as a

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listed hazardous waste (K001). This listed hazardous waste was previously removed from the surface impoundments, placed into four landfarms (1, 4, 5, and 7) for bioremediation and were later consolidated following bioremediation into two CAMUs (landfarms 5 and 7) on the facility property. The groundwater contamination at the facility is associated, in part, with the listed waste now contained within the CAMUs, and therefore continues to be subject to the corrective action requirements of 40 CFR 264.100 and 40 CFR 264.552(e)(4)(v)(E)(5)(i). K001 listed hazardous waste continues to be contained and treated within the two CAMUs. Potential releases from the CAMUs are technically subject to the detection monitoring requirements of 40 CFR 264.98 and 40 CFR 264.552(e)(4)(v)(E)(5)(ii); however, due to the inability to distinguish new releases from these CAMUs, the Drip Pads regulated under the EPA Part II HSWA Permit and other solid waste management units (SWMUs) and areas of concern (AOCs) subject to 40 CFR 264.101 that are known to have contributed to groundwater contamination at the facility, the following modified groundwater monitoring and corrective action requirements are established pursuant to 40 CFR 264.90(f).

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

1. The GPS establishes the maximum concentration limits for hazardous constituents (40 CFR 261, Appendix VIII) and wood treating related contaminants throughout the groundwater contaminant plume at the facility. The hazardous constituents and related contaminants, maximum concentration limits, and method detection limits specified in Table 1 of this Permit constitute the GPS for the Permittee's groundwater monitoring and corrective action program. The hazardous constituents and related contaminants in Table 1 are reasonably expected to be in or derived from the K001 listed waste currently managed in the CAMUs, releases to groundwater during previous operation of the eleven surface impoundments, and releases from historical wood treating process areas including the drip pad area that is addressed by the EPA Part II HSWA Permit.

a. The maximum concentration limits for the GPS hazardous constituents and related contaminants listed in Table 1 are based on protection of human health and the environment and were derived from several different sources as explained by the footnotes to Table 1.

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b. The GPS maximum concentration limit for some hazardous constituents and related contaminants is below the lowest, reasonably achievable analytical detection limit due to limitations in current analytical technology. In these cases, the GPS maximum concentration limit will be equal to the corresponding GPS method detection limit.

c. The allowable GPS method detection limit shall never be greater than the GPS maximum concentration limit. If the GPS method detection limit for specific GPS parameters cannot be achieved due to matrix interferences or current analytical limitations (provided that appropriate supporting documentation is provided), the affected sample and associated chemical analysis will be exempted from this requirement. However, such an exemption does not in any way relieve the Permittee from complying with the GPS maximum concentration limits.

2. 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 Special Permit Condition III. of this Permit, which allow for adequate comparison with appropriate health- or environmental protection-based GPS concentration limit(s) indicated in the footnotes to Table 1.

3. The Permittee may make a demonstration to the Department, at any time during the term of this Permit, for establishment of alternate concentration limits (ACL) in lieu of the GPS maximum concentration limits contained in this Permit. Any such demonstration shall ensure that any and all ACLs proposed in lieu of the GPS maximum concentration limits are protective of human health and the environment, according to the requirements of 40 CFR 264.94(b). In proposing an ACL(s), the Permittee shall consider and formally address the factors listed in 40 CFR 264.94(b)(1) and (2). Any ACL(s) proposed by the Permittee shall require a Class 3 permit modification according to 40 CFR 270.42. Any final decision/approval by the Department regarding the Permittee's proposed ACLs shall be processed following completion of the public notice and comment period for the Class 3 permit modification.

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4. The Permittee shall propose modification of the GPS to include any additional hazardous constituent(s) (40 CFR Part 261, Appendix VIII) in the groundwater that are identified, and their presence confirmed, during future sampling and analysis unless the Permittee can demonstrate that a source other than facility operations caused the presence of such hazardous constituent(s) or that 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 that 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 operations caused the hazardous constituent presence or that the presence resulted from an error in sampling, analysis, or evaluation.

   c. Any addition of hazardous constituents to the GPS will require a Class 1 permit modification with prior Director's approval, according to 40 CFR 270.42. Any other changes to the GPS list of hazardous constituents may require a permit modification according to 40 CFR 270.42.

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Table 1 - Groundwater Protection Standard (GPS)

Hazardous Constituent	Chemical Abstract Number	Maximum Concentration Limit (µg/l)	Method Detection Limit (µg/l)*
1-Methylnaphthalene[1]	90-12-0	0.97 (c)	0.48
2,3,4,6-Tetrachlorophenol	58-90-2	170 (c)	0.75
2,4,5-Trichlorophenol	95-95-4	890 (c)	0.54
2,4,6-Trichlorophenol	88-06-2	3.5 (c)	0.64
2,4-Dichlorophenol	120-83-2	35 (c)	0.51
2,4-Dimethylphenol	105-67-9	270 (c)	5.00
2,4-Dinitrophenol	51-28-5	30 (c)	0.50
2,4-Dinitrotoluene	121-14-2	0.2 (c)	0.73
2,6-Dinitrotoluene	606-20-2	0.042 (c)	0.77
2-Chlorophenol	95-57-8	71 (c)	0.62
2-Methylnaphthalene[2]	91-57-6	27 (c)	0.54
4,6-Dinitro-o-cresol	534-52-1	1.2 (c)	0.52
Acenaphthene[2]	83-32-9	400 (c)	0.65
Acenaphthylene[2]	208-96-8	170 (d)	0.48
Anthracene[2]	120-12-7	9600 (b)	0.57
Benzene	71-43-2	5 (a)	5.00
Benz[a]anthracene	56-55-3	0.50 (e)	0.50
Benzo[a]pyrene	50-32-8	0.2 (e)	5.00
Benzo[b]fluoranthene	205-99-2	0.59 (e)	0.59
Benzo[ghi]perylene[2]	191-24-2	26.4 (d)	5.00
Benzo[j]fluoranthene	205-82-3	10.0 (e)	10.0
Benzo[k]fluoranthene	207-08-9	0.66 (e)	0.66
Benzothiophene[3]	95-18-8	Not Applicable	10.0
Carbazole[1]	86-74-8	26.4 (d)	5.00
Chrysene	218-01-9	5.0 (e)	5.00
Cresol (m-)	108-39-4	720 (c)	5.00
Cresol (o-)	95-48-7	720 (c)	5.00
Cresol (p-)	106-44-5	1400 (c)	5.00
Dibenzo[a,h]anthracene	53-70-3	0.53 (e)	0.53
Dibenzofuran[2]	132-64-9	5.67 (d)	0.67
Fluoranthene	206-44-0	300 (b)	0.52
Fluorene[2]	86-73-7	1300 (b)	0.67
Indeno[1,2,3-cd]pyrene	193-39-5	5.0 (e)	5.00
Naphthalene	91-20-3	20 (b)	0.56
p-Chloro-m-cresol	59-50-7	1100 (c)	0.60

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Hazardous Constituent	Chemical Abstract Number	Maximum Concentration Limit (µg/l)	Method Detection Limit (µg/l)*
Pentachlorophenol	87-86-5	1.0 (a)	0.68
Phenanthrene[2]	85-01-8	75 (d)	0.63
Phenol	108-95-2	300 (b)	5.00
Pyrene[2]	129-00-0	960 (b)	0.51
Polychlorinated dibenzo-p-dioxins and dibenzofurans**	Not Applicable	0.01 (e)	0.01
Toluene	108-88-3	1000 (a)	5.00
Xylenes, total[2]	1330-20-7	10000 (a)	5.00

[1] Facility-specific contaminant with risk-based concentration, not a hazardous constituent listed in 40 CFR 261 Appendix VIII or a groundwater monitoring parameter listed in 40 CFR 264 Appendix IX.

[2] Facility-specific contaminant with risk-based concentration, not a hazardous constituent listed in 40 CFR 261 Appendix VIII but is a groundwater monitoring parameter listed in 40 CFR 264 Appendix IX.

[3] Facility-specific contaminant with no risk-based concentration, not a hazardous constituent listed in 40 CFR 261 Appendix VIII or a groundwater monitoring parameter listed in 40 CFR 264 Appendix IX.

* The Method Detection Limit is based upon the lowest achievable practical quantitation limit contained in the latest version of the EPA publication, Test Methods for Evaluating Solid Waste-Physical/Chemical Methods (SW-846) or the method specific detection limit routinely achieved by the Permittee's current contract laboratory.

** Sampling and analysis for the full suite of chlorinated dibenzo-p-dioxin and dibenzofuran congeners is required. For the purpose of estimating equivalent concentrations of 2,3,7,8-TCDD to allow risk comparisons, toxicity equivalence factors (TEFs) of complex mixtures of chlorinated dibenzo-p-dioxins and dibenzofurans will be multiplied by the respective congener concentrations. The TEF values to be utilized in this risk comparison should be obtained from the EPA Guidance Document *Recommended Toxicity Equivalency Factors (TEFs) for Human Health Risk Assessments of 2,3,7,8-Tetrachlorodibenzo-p-dioxin and Dioxin-Like Compounds* (EPA/100/R 10/005), dated December 2010 or the latest revision of this document.

(a) Denotes limits derived from Missouri Public Drinking Water Standards (10 CSR 60-4, dated November 30, 2010) and federal public drinking water regulations (40 CFR Part 141 dated July 1, 1994).

(b) Denotes limits derived from Missouri Water Quality Standards (10 CSR 20-7.031, dated May 31, 2012) for protection of groundwater.

(c) Denotes limits derived from risk-based concentration values for tap water as contained in EPA Region 3 Risk Screening Tables dated May 2013 (TR=1E-6, HQ=1.0).

(d) Lowest Default Target Levels (Table B-1 from Appendix B) of the Departmental Missouri Risk-Based Corrective Action technical guidance document dated November 2006 with revisions published in March 2010.

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(e) Health- and/or environmental-based levels are lower than the ability of current analytical technology to detect at or below such levels. These hazardous constituents and their health-based criteria are listed below.

Hazardous Constituent	Maximum Concentration Limit (µg/l)
Benz(a)anthracene	0.0044 (b)
Benzo(a)pyrene	0.20 (a, b)
Benzo(b)fluoranthene	0.029 (c)
Benzo(j)fluoranthene	0.056 (c)
Benzo(k)fluoranthene	0.0044 (b)
Chrysene	0.0044 (b)
Dibenzo(a,h)anthracene	0.0044 (b)
Indeno(1,2,3-cd)pyrene	0.0044 (b)
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) Toxicity Equivalence	3.00E-05 (a)

B. Corrective Action Management Unit (CAMU) Monitoring Program [40 CFR 264.98]

The two CAMUs at the facility were built with engineering controls to mitigate potential releases. The Permittee shall continue to monitor any leachate generated by the CAMUs as an indicator of those hazardous constituents and related contaminants that might be released to the groundwater should the engineering controls be compromised. Groundwater in the vicinity of these CAMUs shall also be monitored as outlined in the current version of the approved SAP which shall include the following:

1. Frequency for sampling and analysis of monitoring wells surrounding the CAMUs which shall include: J-55.22, J-11.19, J-12.28, J-16.46, J-21.59, J-25.40, J-14.30, J-13.37, and J-08.28.

2. List of groundwater monitoring parameters that will be used to identify potential releases from the CAMUs;

3. Sampling and analysis of CAMU leachate to identify hazardous constituents and related contaminants that might be released;

4. Criteria that will be used to determine if further sampling and/or corrective action related to the CAMUs may be required; and

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5. Criteria that the Permittee will use to trigger notification to the Department that an actual or potential release from the CAMUs has occurred.

C. Point of Compliance [40 CFR 264.95]

The point of compliance shall be throughout the groundwater contaminant plume due to the current inability to distinguish new releases from the CAMUs, the Drip Pads regulated under the EPA Part II HSWA Permit and other SWMUs and AOCs subject to 40 CFR 264.101 that are known to have contributed to groundwater contamination at the facility. This alternative point of compliance and the modified groundwater monitoring and corrective action requirements herein are established pursuant to 40 CFR 264.90(f).

D. Compliance Period [40 CFR 264.96]

The compliance period was previously established as fifty-one (51) years and began on August 22, 1994, and shall last until August 22, 2045. If groundwater contamination is present above the GPS maximum concentration limits specified in Table 1 or approved alternate concentration limits, as applicable, the Permittee's groundwater corrective action program shall continue until the Permittee demonstrates that the GPS maximum concentration limits or alternate concentration limits, as applicable, have not been exceeded for a period of three consecutive years.

E. General Monitoring Requirements [40 CFR 264.97]

The Permittee has previously submitted a facility-related plan for groundwater monitoring to the Department. The Sampling and Analysis Plan (SAP) contains all sampling and analysis protocols and procedures to ensure accurate data is being obtained to determine the effectiveness of the groundwater monitoring and corrective action activities at the facility. The SAP also outlines the specific monitoring wells, constituents, and frequency for data collection for the corrective action, CAMU leachate, and surface water monitoring programs at the facility.

1. Within 60 calendar days after the effective date of this Permit, the Permittee shall revise and resubmit to the Department for approval a revised SAP to reflect the requirements contained in this Permit. All SAP procedures and techniques used in groundwater, surface water and CAMU leachate sampling, frequency, analysis, and measurement of related

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parameters shall be designed to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264(1) and modified in (10 CSR 25-7.264(2)(F), and this Permit. The Permittee's sampling, analysis, and measurement protocols shall ensure the representative nature of all analysis and measurement results. The SAP will be reviewed and approved according to the procedures outlined in Corrective Action Condition XVI. of this Permit.

2. The Permittee shall retain a copy of the approved SAP at the facility and comply with the sampling and analysis procedures in order to provide a reliable indication of the groundwater, CAMU leachate and surface water quality at the facility. The 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 shall retain a copy of the approved SAP at the facility which outlines the monitoring program. The Permittee's groundwater, leachate and surface water monitoring programs shall be designed, installed, operated, and maintained in a manner that ensures:

   a. Detection and/or delineation of the horizontal and vertical extent of groundwater contamination resulting from current and historical facility operations and releases including beyond the facility property boundary;

   b. Determination of representative concentrations of hazardous constituents and related contaminants in the groundwater, CAMU leachate and surface water as outlined in Table 1; and

   c. The Permittee's ability to determine the effectiveness of the groundwater corrective action activities in terms of contaminant removal, degradation, and/or containment (plume stability).

4. The number, location, and depth of the Permittee's monitoring wells shall be sufficient to define the horizontal and vertical extent of groundwater contamination beneath the Permittee's property and beyond the facility property boundary. If, at any time during the term of this Permit including any extension/continuation, the Permittee or the Department determines that the existing monitoring system fails to define the horizontal and

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vertical extent of groundwater contamination, the Permittee shall submit, within 30 calendar days of such determination by the Permittee or written notification by the Department, a proposal for the installation of additional monitoring wells to define such extent.

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

5. Any new groundwater monitoring well(s) installed by the Permittee to meet the requirements of this Permit shall be designed and constructed according to the requirements of 40 CFR 264.97, 10 CSR 23-1 through 10 CSR 23-4, Monitoring Well Construction Code of the Missouri Well Construction Rules, and/or well-specific plans and specifications approved by the Department.

   The Permittee shall submit to the Department a copy of the well certification report form and the resulting certification acceptance required by 10 CSR 23-4.020 for any new monitoring wells installed pursuant to this Permit. This information shall be reported as part of the Annual Groundwater Monitoring and Corrective Action Progress (AGM/CAP) Report required by Special Permit Condition VI. of this Permit.

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

   a. The Permittee shall submit to the Department, a copy of the well registration report form and resulting registration acceptance required by 10 CSR 23-4.080, for any monitoring wells abandoned and/or plugged pursuant to this Permit. This information shall be reported as part of the AGM/CAP Report required by Special Permit Condition VI. of this Permit.

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b. At such time as the Permittee's well registration has been accepted by the Department's Division of Geology and Land Survey (DGLS), the plugged wells shall be removed from the Permittee's SAP. Within 30 calendar days of DGLS' registration acceptance, the Permittee shall submit appropriate SAP revisions to the Department with the exception for those revisions already required by the schedule of compliance contained in this Permit.

7. A Class 2 permit modification may be required for any change in the number, location, depth, or design of wells designated above for monitoring in the vicinity of the CAMUs. Replacement of any designated wells without changing their location, depth, or design shall require a Class 1 permit modification without prior Director's approval in accordance with 40 CFR 270.42. The Permittee may elect to submit an annual permit modification to address these changes in lieu of a modification for each individual change.

8. The Permittee shall contact the Department at least five working days before conducting any field work associated with the construction or modification of the groundwater monitoring program required by this Permit. The Department shall then have the option to observe any part of the program's construction or modification. This notification requirement applies to major work such as new wells, retrofitting of existing wells or abandonment of wells. This notification requirement does not apply to minor repairs, minor maintenance or other minor changes.

9. A monitoring well inspection and maintenance program shall be implemented for the duration of the term of this Permit including any extension/continuation. This program shall be designed to ensure the structural integrity of all monitoring well installations is adequate to produce reliable monitoring results. The Permittee's revised SAP shall address the details of this program according to the following requirements.

a. Surface well equipment integrity inspections shall be performed at the time of each sampling event and shall be documented on a well inspection checklist. Surface equipment 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.

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The ground surface in the immediate vicinity of each monitoring well and the annular space between the outer protective casing and casing riser shall be inspected for visible anomalies (e.g., collection or ponding of water, ground subsidence, etc.).

b. Subsurface well integrity inspections shall be performed annually on all wells, according to the provisions contained in the Permittee's approved SAP, and shall be documented on a well inspection checklist. Subsurface well integrity inspections may consist of a combination of elements, including total well depth measurements, groundwater turbidity measurements, in-situ hydraulic conductivity tests, casing caliper logs, down-hole television camera surveys, and/or other methods capable of verifying the subsurface integrity of the well casing and screen.

c. Wellbore siltation evaluations shall be conducted annually on all monitoring wells. The Permittee's approved SAP shall specify 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 minimization of 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 (no greater than 10 percent occlusion) shall be redeveloped before the next regularly scheduled sampling event.

d. The Permittee shall perform well-specific surface and subsurface integrity inspections within seven calendar days following any naturally-occurring (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.

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e. Monitoring well repairs shall be started within 30 calendar days of identifying any surface or subsurface well integrity problem(s). If adverse weather or site conditions prevent the Permittee from gaining access to and/or repairing impacted monitoring wells within 30 calendar days, the Permittee shall take appropriate action as soon as possible. A written justification for any delay, completed well inspection checklists, 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 AGM/CAP Report required by Special Permit Condition VI. of this Permit.

IV. Corrective Action Program [40 CFR 264.100 and 40 CFR 264.101]

The existing groundwater contamination at the facility is attributable to multiple sources. The groundwater Corrective Action Program (CAP) recognizes the current inability to distinguish new releases from the CAMUs, the Drip Pads regulated under the EPA Part II HSWA Permit and other SWMUs and AOCs subject to 40 CFR 264.101 that are known to have contributed to groundwater contamination at the facility. The groundwater corrective action requirements are established herein pursuant to 40 CFR 264.90(f). The groundwater CAP shall continue until such time as the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264(1), and this Permit have been satisfied.

A. The CAP consists of a groundwater treatment system operation, and groundwater, surface water and CAMU leachate monitoring in accordance with Special Permit Conditions III., IV., and V. of this Permit. The need for further site investigation, evaluation, and/or implementation of additional remedial alternatives necessary to address sitewide groundwater contamination is addressed by Corrective Action Conditions II. through XVII. of this Permit. This includes any groundwater contamination that has migrated beyond the facility property boundary. The CAP is based on:

1. The ability to monitor the effectiveness of the corrective action program used to mitigate existing groundwater contamination along with the ability to detect potential releases from the CAMUs.

2. The desirability of implementing a holistic, sitewide approach to groundwater investigation, monitoring and remediation given the foregoing circumstances.

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B. The Permittee shall maintain the groundwater treatment system in accordance with the approved permit application, the requirements of Special Permit Condition III. and the following requirements.

1. Inspection and Maintenance

Adequate long-term treatment of contaminated groundwater and CAMU leachate shall be ensured through implementation of a weekly inspection program for the groundwater treatment system. The groundwater treatment system inspection shall be designed to identify system leaks, equipment deterioration, coating or fouling of equipment and/or appurtenances, and any other items which may impair system operation and/or treatment efficiency. Appropriate maintenance and/or repairs shall be undertaken within seven (7) days of identification of any system deficiencies. All repairs and maintenance shall be documented and reported in the AGM/CAP Report required by Special Permit Condition VI. of this Permit.

2. Treatment Efficiency

Contaminated groundwater and CAMU leachate shall be treated prior to discharge. The treatment system effluent shall meet the requirements of all applicable federal, state, and local laws, regulations and permits.

3. Non-Aqueous Phase Liquid (NAPL) Detection, Measurement and Recovery

On a quarterly basis, the Permittee shall attempt to detect, measure, record and/or recover, any light or dense NAPL from wells J-08.28, J-08.120, J-23.18, and any wells which have demonstrated phase separation, as specified in the facility's NAPL recovery plan. Well J-23.43R shall be monitored, and the NAPL extracted, monthly. NAPL recovered from the oil water separator shall be used to estimate the quantity of NAPL recovered from the active pumping wells (LSR-8 and MR-4). NAPL shall be monitored prior to sampling in other monitoring wells where groundwater samples are obtained in compliance with this Permit. Where dedicated down-hole equipment is present, such measurements shall be made at least once every two years.

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NAPL recovery shall be performed as a means to control/remove the subsurface source of groundwater contamination. Recovery may be accomplished through pumping, bailing, or other appropriate means provided that such recovery does not affect the representative nature of subsequent groundwater samples. All recovered NAPLs shall be handled as hazardous wastes. Any water recovered along with the NAPL shall be disposed of through the groundwater treatment plant. The quarterly NAPL-related information shall be reported in the AGM/CAP Report required by Special Permit Condition VI. of this Permit.

4. Subsurface Collapse Monitoring

The Permittee shall implement and maintain a monitoring program designed to detect and assess any vertical movement of the ground surface at the facility resulting from operation of the groundwater CAP. Subsidence monitoring shall be sufficiently accurate to show a differential movement of two-one hundredths (0.02) of a foot in permanent markers.

During the inception/re-inception of any groundwater pumping, subsidence will be checked daily during and until three (3) weeks after the groundwater potentiometric surface has stabilized. Subsidence monitoring shall continue weekly for a period of six (6) months after the groundwater potentiometric surface has stabilized, but will return to daily monitoring should groundwater pumping be stopped for more than seven (7) consecutive days. Daily monitoring, after a return to pumping, shall continue until the groundwater potentiometric surface has stabilized. After the groundwater potentiometric surface has stabilized, subsidence monitoring shall be performed on at least a quarterly basis and reported in the AGM/CAP Report required by Special Permit Condition VI. of this Permit.

Any crack in the soil that is visible at the ground surface and that penetrates the soil greater than one (1) foot, any vertical movement of the ground surface greater than one (1) foot, or movement of permanent markers greater than one tenth (0.10) of one foot shall be evaluated as an indicator of potential catastrophic collapse. Where permanent marker movement greater than one tenth (0.10) of one foot is observed, the potential collapse shall be re-evaluated by resurveying the permanent marker to confirm the initial measurement. If the measurement is

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confirmed, measurement of that permanent marker will continue for a period of two weeks to evaluate whether there is further movement.

Where there is a crack in the soil that is visible at the ground surface and that penetrates the soil greater than one (1) foot, or total movement of a permanent marker of 0.2 foot or more based on two (2) weeks of daily monitoring, further evaluation shall be in accordance with the facility's Subsidence Contingency Plan. Such an evaluation shall not be made until it is determined that the situation does not present a hazard to personnel. The Department shall be notified verbally within five (5) days of the occurrence and a written report of the investigation shall be submitted within thirty (30) days of the occurrence. This information shall also be included in the AGM/CAP Report required by Special Permit Condition VI. of this Permit. Should such an evaluation give an indication of potential collapse, the groundwater CAP shall be modified, with the approval of the Department, to minimize the potential for catastrophic collapse. If eight (8) consecutive quarters do not indicate a net change greater than 0.10 of one foot, subsidence monitoring will be performed on an annual basis thereafter. If any net changes greater than 0.10 of one foot are recorded during the annual surveys, monitoring will revert to a quarterly frequency.

5. Groundwater Pumping Rates

The CAP extraction wells shall be pumped at a combined rate that is sufficient to control the horizontal and vertical subsurface hydraulic gradients resulting in optimization of contaminated groundwater and/or NAPL recovery while minimizing the potential for both off-property movement of contaminated groundwater and catastrophic collapse of the subsurface mine workings. Documentation of pumping rates for the groundwater CAP shall be submitted as part of the AGM/CAP Report required by Special Permit Condition VI. of this Permit.

C. The Permittee shall perform groundwater sampling/analysis and field measurement of groundwater-related parameters to monitor existing groundwater contamination according to the schedule presented in Table 2 and the approved SAP.

1. Sampling and analysis in accordance with this schedule shall begin during the next regularly scheduled sampling event, according to the approved SAP.

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2. Sampling and analysis of groundwater from any newly installed wells required by 40 CFR Part 264 Subpart F or this Permit shall be performed no later than the next regularly scheduled sampling event following their installation.

3. Any newly installed well shall initially be monitored at a frequency that is sufficient to establish a trend related to the specific objective(s) for which that well was installed. Once the Permittee and Department agree that the objective(s) have been satisfied, the Permittee shall propose appropriate SAP monitoring frequency revisions for such well(s) for review and approval by the Department.

4. Specific wells to be monitored shall be specified in the Permittee's approved SAP required by Special Permit Condition III. of this Permit.

D. Only single sample analyses (as opposed to replicates) are required for the parameters listed in this permit and the approved SAP, with the exception of duplicate samples taken for Quality Assurance/Quality Control (QA/QC) purposes.

E. Down-well measurement of non-aqueous phase liquid thickness, static water level, and total well depth shall be taken before well purging.

F. Field parameter values measured and reported by the Permittee shall be representative of stabilized well conditions.

G. Specific conductance, pH, and temperature measurements reported to the Department shall be those taken immediately following adequate well purging. Additional field parameter measurements, such as those taken to verify the adequacy of well purging, shall be recorded in the field logbook.

H. Once every five (5) years, the Permittee shall sample and analyze groundwater for volatile organic compounds and polychlorinated dibenzo-p-dioxin and dibenzofuran congeners from six (6) monitoring wells as specified in Table 2. The six wells chosen for this analysis are left to the discretion of the Permittee and shall include two (2) wells each from the leading edge of the contaminant plume, wells with moderate levels of dissolved phase contamination interior to the contaminant plume and aqueous phase samples from two wells displaying NAPL contamination. This sampling is intended to provide for periodic assessment of trends across the range of potential concentrations of volatile organic compounds and polychlorinated dioxins/dibenzofurans and support for comparison with the corresponding GPS

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maximum concentration limits including calculation of 2,3,7,8- tetrachloro dibenzo-p-dioxin Toxicity Equivalence.

At least one (1) year prior to the expiration of this Permit, the Permittee shall sample and analyze groundwater for the full suite of parameters contained in 40 CFR 264 Appendix IX from three (3) monitoring wells as specified in Table 2. The three wells chosen for this analysis are left to the discretion of the Permittee and shall include one (1) well each from the leading edge of the contaminant plume, a well with moderate levels of dissolved phase contamination interior to the contaminant plume and aqueous phase samples from one well displaying NAPL contamination. This sampling is intended to provide for an assessment prior to permit reissuance as to whether additional hazardous constituents (40 CFR 261 Appendix VIII) and/or other facility-related contaminants or degradation products are present that may need to be added to any reissued permit.

1. The “five year” and “one year prior” sampling results shall be reported in the AGM/CAP Report required by Special Permit Condition VI. of this Permit.

2. As noted, the wells to be sampled to meet these requirements are left to the discretion of the Permittee.

3. If hazardous constituents and/or contamination indicator parameters are identified in the groundwater which are not currently specified in the complete listing of contaminants listed in Table 1 and the approved SAP, the Permittee may resample the groundwater, according to 40 CFR 264.99(g). If the Permittee’s subsequent groundwater analyses confirm the presence of additional hazardous constituents or contamination indicator parameters, then the Permittee shall propose to add the contaminant(s) to Table 1 and the SAP as a Class 1 permit modification with prior Director approval. The revised SAP will be reviewed and approved according to the procedures described in Corrective Action Condition XVI. of this Permit.

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

Parameters	Type	Maximum Detection Limit (µg/L)	Frequency
Appendix IX (1)	HC/IN	PQLs per SW-846**	At least one year prior to permit expiration
PCDDs/PCDFs (2)	HC	Per Table 1***	Every five years
Volatiles (3)	HC	Per Table 1***	Every five years
Semi-Volatiles (4)	HC/IN	Per Table 1***	Annually
NAPL thickness (5)	FM	Not Applicable	Annually
pH	FM	Not Applicable	Annually
Specific Conductance	FM	Not Applicable	Annually
Static Groundwater Elevation (6)	FM	Not Applicable	Annually
Temperature	FM	Not Applicable	Annually
Total Well Depth	FM	Not Applicable	Annually

* HC = Hazardous Constituent, IN = Contaminant Indicator, FM = Field Measurement, PQL = Practical Quantification Limit, PCDDs/PCDFs = Polychlorinated Dioxins/Polychlorinated Dibenzofurans, NAPL = non-aqueous phase liquid.

** The current SW-846 versions at the time of sampling should be used.

*** Detection Limit should be based upon the lowest achievable practical quantitation limit available from the Permittee's contract laboratory or the current SW-846 version at the time of sampling.

(1) Appendix IX. (40 CFR 264) on samples collected from three wells only. The wells sampled are left to the discretion of the Permittee; however, the choice of wells shall include one well containing low levels of dissolved phase contamination, one well containing moderate levels of dissolved phase contamination and one well demonstrating the presence of free phase contamination. The sample to be analyzed from the free phase contaminated well shall be the groundwater (aqueous phase) obtained from this well, not the non-aqueous phase liquid.

(2) Current version of EPA SW-846 Method 8280 or equivalent on samples collected from six wells only. The wells sampled are left to the discretion of the Permittee; however, the choice of wells shall include two wells containing low levels of dissolved phase contamination, two wells containing moderate levels of dissolved phase contamination and two wells demonstrating the presence of free phase contamination. The samples to be analyzed from the free phase contaminated wells shall be the groundwater (aqueous phase) obtained from these wells, not the non-aqueous phase liquid.

(3) Current version of EPA SW-846 Method 8260 or equivalent.

(4) Current version of EPA SW-846 Method 8270 or equivalent.

(5) NAPL detection and thickness measurements shall be made at the time of sampling (prior to well purging) and prior to removal of the NAPL from any well. Static groundwater elevations and total well depth measurements shall be made prior to well purging.

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(6) Potentiometric measurements shall be obtained at the time of each regularly scheduled sampling from all monitoring wells at the facility, including those which are not being sampled regularly. Elevations shall be measured to the nearest 0.01 foot.

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

The Permittee shall implement a surface water monitoring program during the term of this Permit including any continuation/extension. This monitoring program shall be conducted according to the regulations as required under 10 CSR 25-7.264(2)(F)4, the approved permit application and the approved SAP. The Permittee shall submit to the Department and EPA a copy of the un-interpreted analytical data and a summary of the sampling and analysis activities conducted during each surface water monitoring event with the AGM/CAP Report required by Special Permit Condition VI. of this Permit.

VI. Annual Groundwater Monitoring and Corrective Action Progress (AGM/CAP) Report

The Permittee shall prepare and submit to the Department and EPA a comprehensive evaluation of the facility-wide groundwater monitoring, CAMU leachate monitoring, surface water monitoring and corrective action programs for the previous calendar year. The AGM/CAP Reports are due by March 1 of each calendar year for the previous calendar year and shall continue to be submitted until the Permittee's corrective action activities (including any long-term operation, maintenance, and monitoring) are complete.

If the Department determines that further corrective action is required under Corrective Action Conditions II. through IX. of this Permit, the frequency of reporting may increase. If an increase in reporting frequency is necessary, the Department shall provide written notification of the new reporting frequency to the Permittee.

Detailed technical information required to be submitted in other reports required by this Permit as part of additional interim/stabilization measures, RCRA Facility Investigation and/or Corrective Measures Studies need not be reproduced as part of the Permittee's AGM/CAP Reports.

The AGM/CAP Reports shall include the following information for the time period being reported:

A. Narrative discussion of the nature and evolution of the Permittee's facility-wide groundwater monitoring, CAMU leachate monitoring, surface water monitoring and corrective action programs, as well as conclusions concerning the overall adequacy of these programs as related to their intended purposes. Any conclusions concerning

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inadequacies in the Permittee's programs shall be accompanied by a discussion of proposed program modifications. The Permittee shall further develop specific details concerning any proposed modifications outside of the scope of these reports or as otherwise specified or required by this Permit.

B. Comprehensively address all technical requirements of 40 CFR Part 264 Subpart F, 10 CSR 25-7.264(2)(F)4. and this Permit. The Permittee shall summarize relevant groundwater, CAMU leachate, surface water monitoring and corrective action information and shall present this information in the form of narrative discussions, groundwater flow and plume stability calculations, and/or diagrammatic illustrations (e.g., tabular and statistical data summaries, hydrogeologic and potentiometric contour maps/cross-sections, chemical parameter trend graphs, calculated rate(s) of contaminant migration, calculated/measured volumes of contaminant/NAPL recovery, contaminant isoconcentration maps/cross-sections, fence/isometric diagrams, groundwater flow nets, etc.), as appropriate.

C. Evaluate the effectiveness of the groundwater corrective action program, including, but not limited to, the following:

1. The rate and direction of groundwater movement in the water-bearing zone(s) underlying the facility and potential effects on any corrective measures implemented at the facility for removal, containment or control of the groundwater contaminant plume(s);

2. The horizontal and vertical extent and concentrations of hazardous constituents and related contaminants in the groundwater throughout the contaminant plume(s) as evaluated from the data obtained through the Permittee's groundwater monitoring and corrective action program;

3. Any surface and/or subsurface well integrity problems and their potential or actual influence on the groundwater data or effectiveness of the groundwater corrective action program;

4. Any observations, problems or unusual conditions noted during inspection, maintenance and monitoring of the groundwater extraction and treatment systems including actions taken to remedy problems, system downtime or any other factors that had an influence on operation of these systems including meeting applicable effluent discharge limits;

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5. A groundwater plume stability analysis to demonstrate whether the plume is growing, shrinking, or stable. This analysis shall focus on assessment of contaminant trends and contaminant mass removal/flux over the past ten years;

6. A groundwater remediation analysis to demonstrate progress during the reporting period and that includes an estimate of the amount of time remaining to meet the GPS maximum concentration limits contained in Table 1 throughout the plume of groundwater contamination. This analysis shall focus on assessment of remediation trends over the past ten years in support of the time remaining;

7. The estimated volume of Non-Aqueous Phase Liquid, dissolved phase contaminants and contaminated groundwater removed from the subsurface during the reporting period as part of the groundwater corrective action program. This information should be reported as both a total volume and per well or extraction location.

8. Conclusions regarding the overall efficacy of groundwater extraction and treatment system operation and recommendations, if any, for optimizing the efficiency and effectiveness of these systems.

D. The volume of leachate recovered from the leachate collection system sumps associated with the CAMUs and the concentration of hazardous constituents and related contaminants listed in Table 1 that were in the leachate. The leachate volumes shall be reported per sump and include an analysis of current and past leachate amounts, current trends, and future expectations for leachate generation and recovery. This information shall be discussed in relation to the effectiveness of the CAMU final covers, protection from surface water infiltration and implications for groundwater should any releases of leachate occur from the CAMUs.

E. Evaluation, every five years, of the availability and viability of innovative treatment technologies and their potential application to groundwater contamination with the objective of meeting the GPS maximum concentration limits listed in Table 1.

F. Detailed boring logs for new exploratory borings and detailed “as-built” monitoring well diagrams for any new monitoring wells installed during the reporting period. This also includes the monitoring well-related information specified for reporting in Special Permit Conditions III. and IV. of this Permit.

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G. Any instances of noncompliance with the requirements of this Permit not otherwise required to be reported elsewhere in this Permit.

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

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CORRECTIVE ACTION CONDITIONS

The Permittee shall comply with all applicable post-closure care, groundwater monitoring, surface water monitoring, corrective action and CAMU requirements contained in 40 CFR Part 264 Subparts F, G, and S as incorporated by reference in 10 CSR 25-7.264(1), 10 CSR 25-7.264(2)(F) and (G), and this Permit, for all previously and any newly-identified SWMUs and AOCs or releases identified pursuant to the provisions of this Permit.

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

A. The 1987 *Resource Conservation and Recovery Act* Facility Assessment (RFA) Report originally identified 28 SWMUs at the facility. Based on the historical surface impoundment closure and remediation activities conducted in the CAMUs, many of the SWMUs identified in the 1987 RFA Report do not physically exist. There are currently seven (7) SWMUs that physically exist at the facility. The following summarizes the closed SWMUs and the seven current SWMUs:

1. The 1987 RFA conducted by A.T. Kearney, Incorporated, identified 28 SWMUs.

2. Eleven (11) units were originally classified as RCRA hazardous waste (regulated) land disposal units (i.e., surface impoundments), though two (2) of these units were closed prior to enactment of RCRA. These units were also classified as SWMUs.

3. Seventeen (17) units were classified as SWMUs only.

4. The Permittee historically conducted large scale excavation of K001 wastewater treatment sludges and contaminated soil from the eleven surface impoundments. These contaminated materials were consolidated into four landfarms (1, 4, 5 and 7) that were used to bio-remediate these materials as part of closure of the eleven surface impoundments. The contents of Landfarm 1 and Landfarm 4 including associated liners and piping were later excavated and further consolidated into two CAMUs (Landfarm 5 and Landfarm 7) as part of closure.

5. Figure 3 shows the approximate locations of the all SWMUs historically located at the facility. The current SWMUs and CAMUs are identified in Figure 2 as:

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a. Landfarm 1

Closed Landfarm with no post-closure care required. No disturbance is allowed without Departmental approval. Historical bio-remediation location.

b. Landfarm 4

Closed Landfarm with no post-closure care required. No disturbance is allowed without Departmental approval. Historical bio-remediation location.

c. Landfarm 5 (CAMU/SWMU 1)

Closed CAMU with post-closure care required. No disturbance is allowed without Departmental approval. Historical bio-remediation location.

d. Landfarm 7 (CAMU/SWMU 2)

Closed CAMU with post-closure care required. No disturbance is allowed without Departmental approval. Historical bio-remediation location.

e. Drip Pad (40 CFR 264 Subpart W) and Main Treatment Area (former Kickback Area/(SWMU 3).

Sitewide groundwater monitoring and corrective action requirements included in this Permit. Additional requirements for this area are addressed by the U.S. EPA Consent Agreement Final Order dated August 3, 2004, and the EPA HSWA Part II Permit since the Department has not adopted or been authorized by EPA for the 40 CFR 264 Subpart W requirements and associated hazardous waste listings contained in 40 CFR 261.

f. Container Storage Area (SWMU 4)

The Container Storage Area is a less than 90-day hazardous waste storage area approximately 1500 square feet in area located on the west side of the wastewater treatment plant.

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g. Groundwater Treatment System (SWMU 5)

The Groundwater Treatment System uses two sand filters followed by a bag filter and then two granulated activated carbon vessels to treat contaminated groundwater from the groundwater extraction wells, groundwater generated during purging and sampling of monitoring wells and leachate from the CAMUs prior to discharge to the city of Joplin's Publicly Owned Treatment Works.

B. The Permittee shall conduct additional investigation(s) and/or take corrective action as deemed appropriate by the Department for the previously identified SWMUs and AOCs or any newly-identified SWMUs and AOCs, including off-property release(s), demonstrating releases of hazardous waste or hazardous constituents to soil, surface water, sediment, groundwater, and/or air in excess of applicable regulatory thresholds, as specified in the Corrective Action Conditions of this Permit. Any off-property releases of surface water, sediment, or groundwater shall be addressed to the extent that these media are impacted by groundwater or soil contamination originating from SWMUs or AOCs at the facility.

C. The requirements of this Permit are based on available information for SWMUs and AOCs at the time of issuance of this Permit. In the event new information becomes available indicating that 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 previously identified SWMUs/AOCs and/or any newly identified SWMUs/AOCs, including off-property release(s), as specified in the Corrective Action Conditions of this Permit.

II. <u>Notification Requirements for, and Assessment of, Newly-Identified SWMUs and AOCs</u>

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

B. The Department may require the Permittee to conduct an investigation of any newly-identified SWMU(s) or AOC(s). The Department shall notify the Permittee, in writing, of this decision. Within 30 calendar days after receipt of the Department's request to conduct an investigation, the Permittee shall prepare and

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submit a SWMU/AOC Assessment Work Plan to the Department for approval. The SWMU/AOC Assessment Work Plan shall include, but not be limited to, the following:

1. A discussion of past hazardous wastes management practices related to the unit(s);

2. A detailed investigation approach for surface and subsurface soils, surface water, groundwater, and air as necessary to:

   a. Determine if a release of hazardous wastes or hazardous constituents has occurred or is occurring at the unit(s);

   b. Yield reliable, representative samples and results;

   c. Determine impacts or potential impacts to human health and the environment; and

   d. Sufficiently assess all hazardous wastes and hazardous constituents related to the unit(s).

3. A proposed schedule for implementing the SWMU/AOC Assessment Work Plan, which is predicated on the date of Departmental approval of the plan; and

4. Identification of all data to be collected 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 as described in Corrective Action Condition XVI. of this Permit. The Permittee shall complete all activities described in the SWMU/AOC Assessment Work Plan according to the schedule contained in the approved plan.

D. The Permittee shall submit a SWMU/AOC Assessment Report to the Department and EPA according to the schedule specified in the approved SWMU/AOC Assessment Work Plan. The 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:

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1. The location of the newly-identified SWMU or AOC in relation to other SWMU(s) and AOC(s);

2. The type and function of the SWMU or AOC;

3. The general dimensions, capacities, and structural description of the SWMU or AOC;

4. The period during which the SWMU or AOC was operated;

5. The physical and chemical properties of all wastes that have been or are being managed at the SWMU or AOC, to the extent possible;

6. The results of any sampling and analysis conducted;

7. Past and present operating practices;

8. Previous uses of the area occupied by the SWMU or AOC;

9. Amounts of waste handled;

10. Drainage areas and/or drainage patterns near the SWMU or AOC; and

11. A recommendation as to whether further action is necessary and justification for the recommendation. If further action is recommended, the SWMU/AOC Assessment Report shall include a proposal for additional investigation or corrective action, as appropriate.

E. The Department shall review and approve the SWMU/AOC Assessment Report as described in Corrective Action Condition XVI. of this Permit. 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 RCRA Facility Investigation (RFI), at specific unit(s) identified in the SWMU/AOC Assessment Report.

If the Department determines that additional investigations are needed, the Department may require the Permittee to prepare and submit for approval a work plan for such investigations. The Department shall review and approve this work plan for additional investigations as described in Corrective Action Condition XVI.

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of this Permit. The Permittee shall complete all activities described in the work plan according to the schedule contained in the approved plan.

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

A. The Permittee shall notify the Department and EPA, in writing, no later than 15 calendar days after discovery or after discovery should have been made, of any newly-identified release(s) of hazardous wastes or hazardous constituents from previously identified SWMU(s) or AOC(s) discovered during the course of groundwater monitoring, field investigation, environmental auditing, or other activities undertaken after issuance of this Permit. The Department may examine the Facility's inspection records to determine if the Permittee should have known such a release has 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. Within 30 calendar days after receipt of 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, 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).

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3. A proposed schedule for implementing the Newly-Identified Release Work Plan, which is predicated on the date of Departmental approval of the plan; and

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

C. The Department shall review and approve the Newly-Identified Release Work Plan as described in Corrective Action Condition XVI. of this Permit. The Permittee shall complete all activities described in the Newly-Identified Release Work Plan according to the schedule contained in the approved plan.

D. The Permittee shall submit a Newly-Identified Release Report to the Department and EPA according to the schedule specified in the approved Newly-Identified Release Work Plan. The 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 SWMU(s) or AOC(s) under investigation and to any other SWMU(s) and AOC(s);

2. The general dimensions of the release;

3. The period during which the release is suspected to have occurred;

4. The physical and chemical properties of all wastes that have been determined to comprise the release;

5. The results of any sampling and analysis conducted;

6. Past and present operating practices near and at the location of the release;

7. Previous uses of the area(s) occupied near and at the location of the release;

8. Amounts of waste handled near and at the location of the release;

9. Drainage areas and/or drainage patterns near and at the location of the release; and

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10. A recommendation as to whether further action is necessary and justification for the recommendation. If further action is recommended, the Newly-Identified Release Report shall include a proposal for additional investigation or corrective action, as appropriate.

E. The Department shall review and approve the Newly-Identified Release Report as described in Corrective Action Condition XVI. of this Permit. 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, for specific releases(s) identified in the Newly-Identified Release Report.

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

IV. Interim/Stabilization Measures

Interim/Stabilization measures (ISMs) have been completed at the site to stabilize contaminated groundwater. A groundwater treatment system was installed in 1990 and began operating in 1993. The groundwater treatment system is currently operating and will continue to operate until the groundwater has been remediated to acceptable regulatory levels. The treatment system is maintaining hydraulic control of the groundwater contaminant plume at the time of Permit issuance. The following conditions apply to the current treatment system and any future Interim/Stabilization measures that may be necessary:

A. The Permittee shall notify the Department and EPA within 24 hours after becoming aware or should have become aware of a situation that may require ISMs to protect human health or the environment. The Department may examine the Facility's inspection records to determine if the Permittee should have known if such ISMs and notification should have occurred.

B. If, during the course of any activities initiated under this Permit, the Permittee or the Department determines that a release or potential release of hazardous wastes or hazardous constituents poses a threat to human health or the environment, the Department may require ISMs to slow or stop the further spread of contamination until final corrective action measures are implemented. The Department shall

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determine the specific action(s) that shall be taken to implement ISMs, including potential permit modifications, and the schedule for implementing the ISMs. The Department shall notify the Permittee in writing of decisions regarding the action(s). This requirement does not preclude the Permittee from responding to an emergency situation without direction from the Department.

C. The Permittee shall notify the Department and EPA, in writing, no later than ten calendar days after determining or after a determination should have been made, that the ISMs are not effectively limiting or stopping the further spread of contamination. The Department may require the ISMs be revised to make them effective in limiting or stopping the spread of contamination, or that final corrective action measures are required to remediate the contaminated media.

D. In cases where releases or potential releases present minimal exposure concerns and/or the remedial solution is relatively uncomplicated, the Permittee may propose ISMs for review and approval by the Department. These ISMs shall be consistent with and may supplement or satisfy the requirements for a final remedy(s) in specific areas. Proposed ISMs that are determined by the Department to be significant (e.g., those which are anticipated to make up a substantial part of the final remedy) may be subject to public review and comment before final approval by the Department. Proposed ISMs that are determined by the Department not to be significant will be reviewed and approved as described in Corrective Action Condition XVI. of this Permit.

V. <u>RCRA Facility Investigation (RFI) Work Plan</u>

A. Historical environmental investigations and monitoring of environmental conditions at the facility commenced in the late 1980s. Supplemental investigation and monitoring has continued since that time. More recently, the Permittee submitted a RFI Report on October 6, 2008, summarizing historical environmental investigations and corrective measures at the facility. The Permittee is currently conducting additional investigations to further delineate the extent of contamination.

1. The October 6, 2008, RFI Report resulted in a Department letter requesting an additional RFI Work Plan to collect surface and subsurface soil samples from specific areas around the facility.

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2. The Permittee submitted a RFI Work Plan dated March 17, 2009, to address the comments and proposed sampling at locations for surface and subsurface soil contaminants as requested in the Department's December 4, 2008, letter.

3. The Department approved the March 17, 2009, RFI Work Plan on May 18, 2009.

4. The Permittee submitted an RFI Work Plan addendum dated October 30, 2009, outlining plans for further delineation of contaminants. The Department approved the RFI Work Plan addendum in a letter dated November 13, 2009.

5. The Permittee submitted a Supplemental RFI Report, dated August 2, 2011, to address the Department's comments on the original, October 6, 2008, RFI Report. The Department shall complete review and approval of this report as described in Corrective Action Condition XVI. of this Permit.

B. If the Department determines that additional investigations are needed, the Department may require the Permittee to conduct further RFI activities. The Department shall notify the Permittee, in writing, of this decision. Within 60 calendar days after receipt of the Department's request to conduct further RFI activities, the Permittee shall prepare and submit an RFI Work Plan to the Department and EPA for review and approval. The RFI Work Plan shall be designed to investigate releases of hazardous wastes and hazardous constituents to all appropriate media of concern including surface and subsurface soils, surface water, groundwater, and air, as necessary. In order to substantiate future corrective action decisions, the RFI Work Plan shall contain provisions that are sufficient to meet the following objectives and a proposed schedule for implementing the RFI Work Plan, which is predicated on the date of Departmental approval of the plan:

1. Full characterization of the nature, vertical and horizontal extent, and rate of migration of releases of hazardous wastes and hazardous constituents from SWMUs and AOCs, or groups of SWMUs and AOCs, or newly-identified release(s) at the facility and the actual or potential receptors of such releases; and

2. Collection of any other pertinent data that may be utilized to substantiate future corrective action decisions.

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C. The 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. At a minimum, the RFI Work Plan shall detail all proposed activities and procedures to be conducted at the facility including, but not limited to, the following:

1. A description of current conditions;

2. The schedule for implementing and completing such investigations and for submission of reports (including the RFI Report);

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

4. The overall management of the RFI activities.

D. The RFI Work Plan shall include a Quality Assurance Project Plan (QAPP). The QAPP shall present the policies, organization, objectives, functional activities, and specific quality assurance and quality control activities designed to achieve the data quality goals of the RFI. It shall include, at a minimum, the RFI objectives, sampling procedures, analytical methods, field and laboratory quality control samples, chain-of-custody procedures, and data review, validation, and reporting procedures. The Permittee shall follow the EPA document entitled, EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5, March 2001, (reissued May 2006) or the most recent version.

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

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

G. The Department shall review and approve the RFI Work Plan as described in Corrective Action Condition XVI. of this Permit. The Permittee shall complete all activities described in the RFI Work Plan according to the schedule contained in the approved plan.

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VI. RCRA Facility Investigation (RFI) Report

The Permittee submitted an RFI Report on October 6, 2008, summarizing environmental investigations and corrective measures historically completed at the International Paper facility. The Permittee is currently conducting additional investigations to further delineate the extent of contamination in accordance with an October 30, 2009 RFI Work Plan addendum. The following facility investigation documents constitute the updated RFI Report (pending Department and EPA approval):

- RFI Report dated October 6, 2008.
- Supplemental RFI Report dated August 2, 2011.

The Permittee shall submit a final RFI Report to the Department and EPA that summarizes all work completed according to the most recently approved RFI Work Plan and all information contained in previous RFI Reports.

The following conditions apply to all RFI Reports submitted to the Department and EPA, including the final RFI Report as outlined above.

Should additional investigations be needed that require submission of an RFI Work Plan and RFI Report, the Permittee shall submit the RFI Report to the Department and EPA according to the schedule specified in the approved RFI Work Plan described in Corrective Action Condition V. of this Permit. The RFI Report shall present all information obtained under the approved RFI Work Plan(s) along with a brief facility description and map showing the facility property boundary and all SWMUs and AOCs. The RFI Report shall contain adequate information to support additional corrective action decisions at the facility. Information contained in the RFI Report shall be presented in a format that is consistent with Section 5 of the EPA document entitled, RCRA Facility Investigation (RFI) Guidance, EPA 530/SW-89-031, May 1989, or the most recent version.

A. The 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 Corrective Measures Study (CMS) may be necessary. The RFI Report shall describe the procedures, methods, and results of all investigations of SWMUs and AOCs and associated releases, including, but not limited to, the following, as appropriate:

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1. Characterization of the nature, concentration(s), horizontal and vertical extent, and direction/rate of movement of releases from SWMUs and AOCs at the facility;

2. Characterization of the environmental setting at the facility, including:

    a. Hydrogeological conditions;

    b. Climatological conditions;

    c. Soil and bedrock characteristics;

    d. Surface water and sediment quality; and

    e. Air quality and meteorological conditions.

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

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

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

6. Extrapolations of future contaminant migration including description of contaminant fate and transport mechanisms, and pathways for human and environmental exposure;

7. Laboratory, bench-scale, pilot-scale and/or appropriate tests or studies to determine the feasibility or effectiveness of treatment technologies or other technologies that may be appropriate in implementing remedies at the facility;

8. Statistical analyses to aid in the interpretation of data;

9. Results of any interim/stabilization measures previously implemented; and

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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., identification of any potential bias in the RFI data and documentation of its precision, accuracy, representativeness, completeness, comparability, validation, etc.).

B. The Department shall review and approve the RFI Report as described in Corrective Action Condition XVI. of this Permit. If the Department determines that the objectives of the RFI have not been met, the Department may require additional investigation. Upon approval of the RFI Report, the Department shall notify the Permittee of the next step in the corrective action process, which may include submission of a CMS Work Plan as described in Corrective Action Condition VII. of this Permit.

VII. Corrective Measures Study (CMS) Work Plan

A. A formal CMS has not been conducted at this facility. Previously implemented and ongoing remediation activities were handled largely through implementation of regulated unit closure requirements and corrective action interim measures. If the Department determines that there has been a release of hazardous waste or hazardous constituents from newly- or previously-identified SWMUs or AOCs that may pose a threat to human health or the environment and that threat has not already been addressed, the Department may require the Permittee to conduct a CMS. The Department shall notify the Permittee, in writing, of this decision. The notice shall identify the hazardous constituent(s) of concern and may specify remedial alternatives to be evaluated by the Permittee during the CMS.

B. As part of the CMS, the Department may require the Permittee to evaluate one or more specific remedial alternatives for removal, containment, and treatment of 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 protection of human health and the environment.

C. Within 45 calendar days after receipt of the Department's request to conduct a CMS, the Permittee shall prepare and submit a CMS Work Plan to the Department and EPA for review and approval. The CMS Work Plan shall be consistent with the EPA document entitled, RCRA Corrective Action Plan (Final), OSWER Directive

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9902.3-2A, May 1994, or the most recent version. At a minimum, the CMS Work Plan shall provide the following information and a proposed schedule for implementing the CMS Work Plan:

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

2. The specific objectives of the study;

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

4. A description of those potential remedial alternatives that were 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 criteria and cleanup standards;

6. A schedule that is predicated on the date of Departmental approval of the CMS Work Plan for conducting the study and submitting a CMS Report;

7. The proposed format for ranking remedial alternatives or 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 CMS Work Plan as described in Corrective Action Condition XVI. of this Permit. The Permittee shall complete all activities described in the CMS Work Plan according to the schedule contained in the approved plan.

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VIII. Corrective Measures Study (CMS) Report

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

B. The CMS Report shall describe and discuss each remedial alternative or combination of alternatives that was evaluated including any bench-scale or pilot tests conducted. The 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 exposures 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 and/or hazardous constituents released from the SWMU(s) and AOC(s).

3. An estimate 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 CMS Report and/or the GPS maximum concentration limits listed in Table 1 of this Permit.

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.

6. Assessment of institutional requirements that may be needed (e.g., state or local permits), discussion of other environmental or public health requirements or institutional controls that may substantially affect implementation of the preferred remedial alternative or combination of alternatives (e.g., local ordinances), and a draft of any site-specific

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institutional controls that are 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).

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

D. The Department shall review and approve the CMS Report as described in Corrective Action Condition XVI. of this Permit. Upon approval of the CMS Report, the Department will approve a final remedy as specified in Corrective Action Condition IX. of this Permit.

IX. Final Remedy Approval

A. Following the approval of the CMS Report or equivalent as described in Corrective Action Condition VIII. of this Permit, the Department shall prepare a Statement of Basis summarizing the remedial alternatives evaluated by the Permittee and the Department's basis of support for the proposed final remedy.

B. Following the Department's preparation of the Statement of Basis, a permit modification shall be initiated in accordance with 40 CFR 270.41 or 270.42(c), as applicable, to facilitate public review and comment on the Statement of Basis and proposed final remedy, final remedy approval by the Department, and implementation of the approved final remedy by the Permittee.

C. Upon completion of the public participation activities associated with the permit modification to implement the proposed final remedy, the Department shall approve a final remedy that shall:

1. Be protective of human health and the environment.

2. Control and/or eliminate the source(s) of contaminants so as to reduce or eliminate, to the maximum extent practicable, further contaminant releases, exposures or migration that may pose a threat to human health and the environment.

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

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X. Corrective Measures Implementation (CMI) Work Plan

A. If the Department determines that a final remedy is necessary to address a release(s) of hazardous waste or hazardous constituents from newly- and/or previously-identified SWMUs/AOCs, the Permittee shall:

1. According to the schedule established in conjunction with any permit modification to implement the approved final remedy, submit a CMI Work Plan to the Department and the EPA to provide detailed design specifications, construction plans, and a schedule for implementation of the final remedy. The CMI Work Plan shall provide detailed plans for remedy implementation consistent with all applicable CMI components as specified in the EPA document entitled, RCRA Corrective Action Plan (Final), May 1994, OSWER Directive 9902.3-2A, or the most recent version, and shall be consistent with the objectives specified in the approved CMS Report.

2. The CMI Work Plan shall be reviewed and approved by the Department as described in Corrective Action Condition XVI. of this Permit. The Permittee shall implement the CMI Work Plan in accordance with the schedule contained in the approved plan.

XI. Certification of Completion of Construction of Final Remedy and Corrective Measures Implementation (CMI) Report

A. Within 60 calendar days of completion of all construction activities associated with implementation of an approved final remedy, the Permittee shall:

1. Submit a written certification to the Department and EPA, by certified mail, stating that the final remedy has been constructed according to the approved CMS Report, final remedy decision and CMI Work Plan. The certification shall be signed by the Permittee and a professional engineer registered in Missouri.

2. Submit a CMI Report to the Department and the EPA. This CMI Report shall contain a summary of remedial activities conducted at the facility and provide detailed descriptions of the long-term operation, maintenance, and monitoring program associated with the final remedy. For SWMUs and/or AOCs requiring extended time periods for operation of the final remedy, the Permittee shall summarize the progress of the final remedy

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and continue to provide data obtained during final remedy operation, maintenance and monitoring in the AGM/CAP Report required by Special Permit Condition VI. of this Permit.

3. Submit a Long Term Operation, Maintenance, and Monitoring (LT OM&M) Plan. The LT OM&M Plan shall specify operation, maintenance, and monitoring procedures for the final remedy including, at a minimum, the information described below, and as described in Chapter V, Section II of the EPA document entitled, RCRA Corrective Action Plan (Final), May 1994, OSWER Directive 9902.3-2A, or the most recent version. The LT OM&M Plan shall address the approved standard operating procedures (SOPs) and institutional controls described in the approved final remedy and:

   a. All long-term groundwater monitoring, CAMU leachate monitoring and surface water monitoring conducted as specified in the approved SAP and this Permit.

   b. Include all long-term sampling and analysis data for all media in the AGM/CAP Report required by Special Permit Condition VI. of this Permit.

   c. The operation, maintenance, and optimization procedures for all elements/components of the final remedy, including the replacement schedule for equipment and installed components.

4. The LT OM&M Plan shall be reviewed and approved by the Department as described in Corrective Action Condition XVI. of this Permit. The Permittee shall implement all activities and comply with the schedule contained in the approved plan.

XII. Demonstration and Certification of Completion of Groundwater Corrective Action

A. The Permittee's groundwater corrective action program shall continue until the Permittee demonstrates that the GPS maximum concentration limits (or approved alternate concentration limits) listed in Table 1 have not been exceeded for a period of three consecutive years throughout the plume of groundwater contamination. At such time as the Permittee decides to demonstrate completion of corrective action at a SWMU/AOC, group of SWMUs/AOCs, or across the entire facility, the Permittee shall submit documentation to demonstrate that groundwater contamination has not

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exceeded applicable concentration limits during the subject time period. This may be a stand-alone demonstration or may be included in the AGM/CAP Report required by Special Permit Condition VI. of this Permit.

B. This demonstration shall be reviewed and approved by the Department as described in Corrective Action Condition XVI. of this Permit. In addition to the Department's review of this demonstration, modification of this Permit pursuant to 40 CFR 270.41 or 270.42, as appropriate, may be necessary prior to the Department's final approval to address changes in the groundwater corrective action status at the facility. Once any applicable permit modification is successfully concluded, the Department shall grant final approval notifying the Permittee that groundwater corrective action may cease in the area(s) covered by the approved demonstration.

C. Within 60 calendar days after receipt of the Department's final approval of the demonstration, the Permittee shall submit a written certification by certified mail to the Department and EPA stating that groundwater corrective action has been completed according to the requirements of the applicable regulations and this Permit. The certification shall be signed by the Permittee and a professional engineer registered in Missouri.

XIII. Activity and Use Limitations (AULs)

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

A. Soil or Other Media Disturbance at the Facility

1. The Permittee shall notify the Department at least 30 calendar days before any planned construction**,** excavation**,** or maintenance and repair activities that would disturb existing contamination at any SWMUs, AOCs, or other areas subject to AULs. The Permittee shall assess as needed, in coordination with the owner(s) of any off-property areas impacted by soil and/or groundwater contamination originating from SWMUs and AOCs at the facility, 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, prior to 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

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land use changes may necessitate further evaluation of conditions at SWMUs or AOCs having residual levels of contamination that exceed applicable regulatory thresholds.

2. The Permittee may, at its discretion, request development of an Excavated Soil Management Plan for review and approval by the Department. Any such plan would be designed to expedite future subsurface utility and construction activities in known and potentially contaminated areas at the facility. The Excavated Soil Management Plan shall be reviewed and approved by the Department as described in Corrective Action Condition XVI. of this Permit.

B. Transfer of Interest in Permitted Property

1. The Permittee shall notify the Department at least 90 calendar days before the transfer of any interest in any portion of the permitted property. The Permittee shall comply with all requirements of 40 CFR 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 property from the jurisdiction of this Permit shall require a submission of a demonstration that all contamination on that portion of the property proposed for removal is below applicable regulatory standards and/or that any residual contamination will be addressed in the future via implementation of enforceable institutional and/or engineering controls contained in an environmental covenant for that portion of the property.

3. Any parcel of the permitted 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 a covenant is not already in place at the time of the proposal, and successful completion of a Class 3 permit modification in accordance with 40 CFR 270.42, as incorporated by reference in 10 CSR 25-7.270(1) and 10 CSR 25-8.124 to remove that portion of the property from the jurisdiction of this Permit.

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C. Change in Use of Property

The Permittee shall notify the Department at least 30 calendar days before any proposed change in the use of the facility property, of any applications for building permits for work on the facility property, or proposals for work potentially affecting the contamination on the facility property and/or compliance with the requirements of this Permit, in accordance with 40 CFR 270.30(h).

Certain areas at the facility are currently included on the Registry of Confirmed Abandoned or Uncontrolled Hazardous Waste Disposal Sites in Missouri. These areas were previously surveyed by a registered land surveyor and included a legal description of the contaminated areas and a 100-foot buffer zone. The areas included on the Registry encompass approximately 4.5 acres. In addition to the change of use and ownership requirements imposed by this Permit and applicable regulations, areas of the facility on the Registry are subject to additional restrictions per 260.465 RSMo. Among others, one requirement is that use of portions of facility property on the Registry may not change substantially without the written approval of the Director. A change of use is considered substantial if it may result in the spread of contamination, increases human exposure to hazardous materials, increases adverse environmental impacts, or makes potential remedial actions to correct problems more difficult.

D. Deed Notices/Restrictions

The Permittee previously filed 5 deed notices/restrictions in the chain-of-title for portions of the facility associated with the management of hazardous waste or constituents, as described below. Notice/restriction details including specific areas of coverage at the facility can be found at the Recorder of Deeds' Office in Jasper County in Missouri.

1. A deed notice/restriction for the Kickback (Drip Pad) Area, East Land Farm (Land Farms #1 and #4), South Land Farm (Land Farm #7), West Land Farm (Land Farm #5) and Historical Waste Disposal Area was filed September 20, 2001, 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 units described in the survey plats attached to the notice. The deed notice/restriction can be found on Pages 1529 to 1537 of Book 1681 in the Recorder of Deeds' Office in Jasper County, Missouri.

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E. Missouri Environmental Covenants Act

If, and when, the Department determines that implementation of an Environmental Covenant is required at the facility, the Environmental Covenant shall be developed/executed in conformance with the Missouri Environmental Covenants Act, Section 260.1000 through 260.1039, RSMo, and Departmental guidance provided to the Permittee. The following requirements shall apply to any Environmental Covenant required by this Permit.

1. Within 15 calendar days after execution (signature by all parties) of an approved environmental covenant for the facility property, or for any off-property areas impacted by soil and/or groundwater contamination originating from SWMUs and AOCs on the facility property, the Permittee shall record, according to state law, the approved Environmental Covenant in the chain-of-title for all affected properties or on some other instrument which is normally examined during title search, that will in perpetuity notify any potential purchaser of the environmental conditions at the property(ies).

2. Within 30 calendar days after recording an approved environmental covenant, the Permittee shall provide a notarized statement to the Department, certifying that an approved Environmental Covenant has been recorded, including a copy of the Environmental Covenant.

3. The Environmental Covenant shall run with the land 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.

4. In the event that future remediation on the 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 in accordance with the provisions specified in the Environmental Covenant. This may include placement of an

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additional document in the property chain-of-title indicating that 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 or modify 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 effective date of any proposed permit termination. 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 and/or modifying 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 ensuring that residual contaminant levels are protective of human health and the environment if specific AULs are rescinded and/or modified.

2. If the Department determines, based on the demonstration required in Corrective Action Condition XIII.F.1. of this Permit, 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.

3. If the Department determines that the demonstration required in Corrective Action Condition XIII.F.1. of this Permit is sufficient to support elimination and/or modification of established AULs, the Department shall direct the Permittee to prepare and submit for review and approval, a revised draft Environmental Covenant to address the changed conditions at the facility.

4. The Department shall review and approve the revised draft Environmental Covenant according to the procedures described in Corrective Action Condition XVI. of this Permit.

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5. The Permittee shall record the approved revised Environmental Covenant and submit related documentation to the Department as required by Corrective Action Condition XIII.E.1. of this Permit.

XIV. Supplemental Data

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

XV. Post-Closure Care, Corrective Action Cost Estimates and Financial Assurance

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

A. Cost Estimates

1. Post-Closure Care and Corrective Action Cost Estimate

Within 90 calendar days of the effective date of this Permit, the Permittee shall submit an updated, detailed written cost estimate, in current dollars, of the cost of hiring a third party to perform the post-closure care and corrective action activities required by this Permit.

a. The post-closure care and corrective action cost estimate shall account for the total cost of all work activities that are expected to continue until such time as final clean-up objectives are met and confirmed. This includes any long-term costs such as final remedy operation, maintenance, monitoring; utility costs including electricity, water and sewer; decommissioning of remediation equipment and proper plugging/abandonment of monitoring wells, payment of real estate taxes on the property and Departmental oversight cost reimbursement.

b. The post-closure care and corrective action cost estimate shall be based on a “rolling” 30 years’ duration unless and until the

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Permittee makes a successful demonstration pursuant to this Permit for a shorter time, in which case the cost estimate shall then be adjusted based on the shorter time period.

c. A contingency cost allowance of 10 percent of the total cost of all post-closure care and corrective action activities shall be included in the cost estimate.

d. 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.

e. 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.

f. Discounting is not allowed.

The Permittee shall submit each revised post-closure care and corrective action cost estimate for review and evaluation by the Department. 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 submission of a revised cost estimate for further evaluation and final written response.

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

2. Revisions to the Post-Closure Care and Corrective Action Cost Estimate

a. Annual Adjustment for Inflation

The Permittee shall adjust annually the post-closure care and corrective action cost estimates for inflation until all post-closure care corrective action activities required by this Permit are complete. The inflation adjustment shall be determined by using

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

b. Additional Post-closure Care or Corrective Action Activities

The Permittee shall adjust the post-closure care and/or corrective action cost estimate if:

(1) The Permittee or the Department determines that any additional post-closure care and/or corrective action activities are required; or

(2) If any other conditions increase or decrease the estimated cost of the post-closure care and/or corrective action activities to be performed under this Permit.

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

The Permittee shall submit each revised post-closure care and/or corrective action cost estimate for review and evaluation by the Department within 60 calendar days of the Permittee's determination that a revised cost estimate is necessary or written notification by the Department that a new cost estimate is required. If the new cost estimate requires further revision, the Department shall notify the Permittee, in writing, of the estimate's deficiencies and specify a due date for submission of a new revised cost estimate.

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B. Post-Closure Care and Corrective Action Financial Assurance

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

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

a. Within 30 calendar days after receipt of the Department's final written response to the Permittee's post-closure care and corrective action cost estimates pursuant to this Permit, the Permittee shall submit draft financial assurance instruments and related documents to the Department for review and evaluation. This applies to all financial assurance instruments except the financial test or corporate guarantee. See Corrective Action Condition XV.B.2. of this Permit for time frames for financial tests and corporate guarantees.

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

c. Within 30 calendar days after receiving the Department's final written response regarding the draft financial assurance

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instrument(s), the Permittee shall ensure that the issuing institution submits all original executed and/or otherwise finalized instruments or other documents to the Department. Facsimiles or photocopies are not acceptable.

2. Time frames for Financial Tests and Corporate Guarantees

a. Within 30 calendar days after the Department's final written response regarding the Permittee's post-closure care and corrective action cost estimates pursuant to this Permit, the Permittee shall submit to the Department all documentation necessary to demonstrate that the Permittee satisfies the financial test criteria pursuant to Corrective Action Condition XV.B.11.e. of this Permit.

b. The Permittee's financial assurance shall be effective immediately upon the Permittee's receipt of the Department's final written response regarding the Permittee's post-closure care and corrective action cost estimates or the Permittee's demonstration that the Permittee satisfies the financial test criteria under Corrective Action Condition XV.B.11.e. of this Permit, whichever date is later.

c. The Permittee agrees that if the Permittee provides financial assurance by means of a corporate guarantee or financial test, the Department may request additional information (including financial statements and accountant's reports) from the Permittee or corporate guarantor at any time. Any request by the Department for this information shall be in writing and shall specify a due date for submission of this information. The Permittee shall promptly provide the requested information to the Department.

3. Certified Mail

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

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4. Multiple Instruments

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

5. Inadequate Financial Assurance Instrument

a. If at any time the Department determines that a financial assurance instrument provided pursuant to this Permit is inadequate, or no longer satisfies the requirements, the Department shall notify the Permittee in writing. This applies whether there is an adjustment in the estimated cost of the corrective action activities required by this Permit as independently determined by the Department or due to a determination by the Permittee pursuant to XV.B.5.b.

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

(2) Within ten calendar days of receiving the Department's final written response regarding the draft revised financial assurance instrument(s), the Permittee shall execute or otherwise finalize all instruments or other documents required in order to make the selected financial assurance legally binding. The instruments or other documents shall be in a form identical to the revised financial assurance documents reviewed and responded to by the Department.

(3) Within 30 calendar days after receiving the Department's final written response regarding the draft revised financial assurance instrument(s), the Permittee shall submit all original executed and/or otherwise finalized instruments or other documents to the Department. Facsimiles or photocopies are not acceptable.

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b. If at any time the Permittee determines that any financial assurance instrument provided pursuant to this Permit is inadequate or no longer satisfies the requirements described or incorporated by reference herein, the Permittee shall notify the Department in writing within ten calendar days of this determination. This applies whether due to an adjustment in the estimated cost of post-closure care and/or corrective action activities required by this Permit or for any other reason. The Permittee shall follow the procedures in Corrective Action Condition XV.B.5.a. of this Permit to replace the financial assurance instrument.

6. Obligation to Complete Post-Closure Care and Corrective Action Activities

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

7. Automatic Renewal

All financial assurance instruments shall automatically renew at the time of their expiration unless the financial assurance provider notifies both the Permittee and the Department by certified mail of a decision to cancel, terminate, or not renew a financial assurance instrument. The Permittee and the Department 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 of receipt of the notice by certified mail by both the Permittee and the Department.

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

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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 expiration of the instrument. The notification to the financial assurance provider shall instruct the financial assurance provider to immediately deposit the funds obligated under the financial assurance into the standby trust fund or a newly created trust fund acceptable to the Department.

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

a. Reduction of Amount of Financial Assurance

If the Permittee believes that the estimated cost to complete the post-closure care and corrective action activities required by this Permit has diminished below the amount covered by the existing financial assurance provided under this Permit, the Permittee may submit a written proposal to the Department to reduce the amount of the financial assurance provided under this Permit. The amount of the financial assurance proposed shall be at least equal to the estimated cost of the remaining post-closure care and corrective action activities required by this Permit. The written proposal shall specify, at a minimum, the cost of the remaining post-closure care and corrective action activities to be performed and the basis upon which such cost was calculated (e.g., years remaining until established clean-up standards are expected to be met). In seeking approval of a revised financial assurance amount, the Permittee shall follow the procedures described in Corrective Action Condition XV.B.8.b.(2) of this Permit. The Department shall notify the Permittee in writing regarding its evaluation of the revised financial assurance amount. The Permittee may reduce the amount of the financial assurance 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, other than a reduction in amount, is authorized except as provided in Corrective Action Condition XV.B.8.b. of this Permit.

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b. Change in Form of Financial Assurance

(1) If the Permittee desires to change the form or terms of financial assurance, the Permittee may submit a written proposal to the Department to change the form of financial assurance. The submission of such a proposal shall be as provided in Corrective Action Condition XV.B.8.b.(2) of this Permit. The acceptance of a proposal submitted under Corrective Action Condition XV.B.8. of this Permit shall be made at the Department's sole discretion.

(2) A written proposal for a revised or alternative form of financial assurance shall specify, at a minimum,:

(a) The cost of the remaining post-closure and/or corrective action activities to be performed;

(b) The basis upon which such cost was calculated; and

(c) The proposed revised form of financial assurance, including all proposed instruments or other documents required in order to make the proposed financial assurance legally binding.

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

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

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Within 30 calendar days of receiving a final written response regarding the proposed revised or alternative financial assurance, the Permittee shall ensure that the issuing institution submits all original executed and/or otherwise finalized instruments or other documents to the Department. Facsimiles or photocopies are not acceptable.

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

9. Performance Failure

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

(1) Has ceased implementation of any of the post-closure care and/or corrective action activities required by this Permit; or

(2) Is significantly or repeatedly deficient or late in its performance of the post-closure care and/or corrective action activities required by this Permit; or

(3) Is implementing the post-closure care and/or corrective action activities required by this Permit in a manner that may cause an endangerment to human health or the environment;

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

b. If the Permittee fails to remedy the Performance Failure to the Department's satisfaction before the expiration of the ten calendar day notice period specified in Corrective Action

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Condition XV.B.9.a. of this Permit, the Department shall have immediate access to and benefit of the financial assurance provided. The Department may, at any time thereafter, direct the financial assurance provider to immediately:

(1) Deposit into the standby trust fund, or a newly created trust fund acceptable to the Department, the remaining funds obligated under the financial assurance instrument; or

(2) Arrange for performance of the post-closure care and/or corrective action activities required by this Permit.

c. The Department shall give the Permittee written notice if:

(1) The Department determines that any of the circumstances described in Corrective Action Condition XV.B.9.(a)(1), (2), or (3) of this Permit have occurred; and

(2) The Department is nevertheless unable, after reasonable efforts, to secure the payment of funds or performance of the post-closure care and/or corrective action activities required by this Permit from the financial assurance provider.

d. Within ten calendar days of receiving such written notice, the Permittee shall provide cash to fund the standby trust fund, or a newly created trust fund acceptable to the Department. The funds shall at least equal the cost of the remaining post-closure and corrective action activities required by this Permit. The deposit shall be made in immediately available funds and without setoff, counterclaim, or condition of any kind.

10. Release of Financial Assurance.

The Permittee may submit a written request to the Department to release the Permittee from the requirement to maintain financial assurance after the Department and the Permittee have mutually agreed that all post-closure care and corrective action activities required by this Permit are complete. The Department shall notify both the Permittee and the provider(s) of the financial assurance if and when the Permittee is released

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from all financial assurance obligations under this Permit. The Permittee shall not release, cancel, or terminate any financial assurance provided pursuant to this Permit except as provided in this paragraph or Corrective Action Condition XV.B.8.b. of this Permit.

11. Financial Assurance Instruments

The wording of the financial assurance documents shall meet the requirements of 40 CFR 264.143 and 40 CFR 264.151, as incorporated and modified in 10 CSR 25-7 except that deviation in wording of a financial assurance instrument 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.

a. Trust Fund

The trust fund shall be:

(1) Established for the benefit of the Department;

(2) Administered by a trustee who has the authority to act as a trustee under federal or state law and whose trust operations are regulated and examined by a federal or state agency; and

(3) Acceptable in all respects to the Department.

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

(4) To reimburse the Permittee for expenditures made by the Permittee for post-closure and corrective action activities performed according to this Permit; or

(5) To pay any other person whom the Department determines has performed or will perform the post-closure care and corrective action activities required by this Permit.

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

b. Surety Bond

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 the trust fund in Corrective Action Condition XV.B.11.a. of this Permit; or

(2) Performance of the post-closure care and corrective action activities required by this Permit. The Surety Company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on Federal Bonds as described in Circular 570 of U.S. Department of the Treasury.

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

c. Irrevocable Letter of Credit

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

(1) That has the authority to issue letters of credit; and

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(2) Whose letter-of-credit operations are regulated and examined by a federal or state agency.

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

d. Policy of Insurance

A policy of insurance shall:

(1) Provide the Department with rights as a beneficiary which are acceptable to the Department; and

(2) Be issued by an insurance carrier that:

(a) Has the authority to issue insurance policies in Missouri; and

(b) Whose insurance operations are regulated and examined by a federal or state agency.

(3) The insurance policy shall be issued for a face amount at least equal to the current post-closure care and corrective action cost estimate for which the facility has received a written final review response from the Department except that the face amount may exclude costs that are covered by another financial assurance instrument, as permitted in Corrective Action Condition XV.B.4. of this Permit.

(4) The insurance policy shall state that the insurer shall make payments up to an amount equal to the face amount of the policy as directed by the Department in writing:

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(a) To reimburse the Permittee for expenditures made by the Permittee for post-closure care and/or corrective action activities performed according to this Permit; or

(b) To pay any other person whom the Department determines has performed or will perform the post-closure care and/or corrective action activities required by this Permit.

(5) The insurance policy shall also state that it may not be canceled, terminated or non-renewed and the policy shall remain in full force and effect in the event that:

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

(b) The Department notifies the insurer of the Permittee's failure to perform, under Corrective Action Condition XV.B.9. of this Permit.

e. Financial Test

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

f. Corporate Guarantee

A direct or indirect parent company of a Permittee may provide a corporate guarantee executed in favor of the Department. Such guarantee shall state that the company providing the guarantee shall perform the post-closure care and corrective action activities required by this Permit or that the company shall establish a trust fund as permitted by Corrective Action Condition XV.B.11.a. of this Permit. Any company providing such a guarantee shall

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demonstrate, to the satisfaction of the Department, that it meets the financial test requirements of 40 CFR 264.143(f), as incorporated and modified in 10 CSR 25-7. See Corrective Action Condition XV.B.11.g. of this Permit for further requirements.

g. Additional Requirements for Financial Test/Corporate Guarantee

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

(1) Initial submission of required financial reports and statements from the guarantor's chief financial officer and independent certified public accountant;

(2) Annual re-submission of such reports and statements within 90 calendar days after the close of each of the guarantor's fiscal year; and

(3) Notification to the Department by certified mail within 90 calendar days after the close of any of the guarantor's fiscal year in which any such guarantor no longer satisfies the financial test requirements described at 40 CFR Part 264.143(f)(1), as incorporated and modified in 10 CSR 25-7.

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

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be in writing and shall specify a due date for submission of this information. The Permittee shall promptly provide the requested information to the Department.

For purposes of the financial test or corporate guarantee described in Corrective Action Conditions XV.B.11.e. and XV.B.11.f. of this Permit, references in 40 CFR 264.143(f), as incorporated and modified in 10 CSR 25-7, to "the sum of current closure and post closure costs" and "the current plugging and abandonment cost estimates" and references in 40 CFR 264.101(c), as incorporated and modified in 10 CSR 25-7, to "Assurances of financial responsibility for such post-closure care and 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 and corrective action activities required by this Permit. This includes obligations under the Comprehensive Environmental Response, Compensation, and Liability Act, RCRA, Underground Injection Control Program, Toxic Substances Control Act, and any other state or tribal environmental obligation.

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XVI. Review and Approval Procedures

A. Financial assurance cost estimates and draft financial assurance mechanisms for corrective action shall be reviewed and responded to by the Department according to Corrective Action Condition XV. of this Permit.

B. Following submission of any plan, report or extension request pertaining to corrective action activities (excluding the AGM/CAP Reports, unless proposed actions to address inadequacies are contained therein; and the Certification of Completion of Construction of Final Remedy and Corrective Measures Implementation Report), the Department shall review and either approve or provide written comments on the plan, report or request. If the Department does not approve the plan, report or request, the Department shall notify the Permittee, in writing, of the plan's, report's or requests' deficiencies and specify a due date for submittal of a revised plan, report or activity.

C. If the Department does not approve the revised plan, report or activity schedule, the Department may modify the plan, report or schedule and notify the Permittee of the modifications. The plan or 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 any appeal of the Department-initiated modifications according to 10 CSR 25-2.020, and Sections 260.395.11 and 621.250, RSMo.

XVII. Document and Activity Extension Requests

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. The Department shall receive the extension request at least 15 calendar days before the scheduled due date of the document or activity. 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. The Department shall review and approve the extension request according to the procedures described in Corrective Action Condition XVI. of this Permit.

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FACILITY SUBMISSION SUMMARY

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

Submittal Requirements	Due Date*	Permit Condition
Two paper copies and one searchable electronic copy of the consolidated permit application	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.A.
Revised Part A permit application	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.B.
Certification that Permittee has read and understands all permit conditions in this Permit	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.C.
Check or money order for any outstanding engineering review costs	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.D.
Check or money order for each year this Permit is to be in effect beyond the first year	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.E.
Revised Sampling and Analysis Plan/Groundwater Monitoring Plan (SAP/GMP) for groundwater, surface water and CAMU leachate	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.F.
Revised CAMU Post-Closure Plan	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.G.
Updated post-closure care and corrective action cost estimate	Within 90 calendar days after effective date of this Permit.	Schedule of Compliance Item II.
Updated draft financial assurance instrument	Within 30 calendar days after the Department's final written response on the updated post-closure and corrective action cost estimate.	Schedule of Compliance Item III.
Execute/finalize updated financial assurance instrument reflecting the updated cost estimate	Within 10 calendar days of Department's final written response on draft financial assurance instrument.	Schedule of Compliance Item IV.

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Submittal Requirements	Due Date*	Permit Condition
Submit all original executed/ finalized financial assurance instruments and related documents	Within 30 calendar days after receiving the Department's final written response regarding the draft financial assurance instrument.	Schedule of Compliance Item V.
Submit Well Abandonment and Installation Report and Updated SAP/GMP	Within one calendar year after effective date of this Permit.	Schedule of Compliance Item VI.C.
Quarterly Reports with information required by 10 CSR 25-5.262(2)(D) and 10 CSR 25-7.264(2)(E)	Within 45 calendar days after end of each calendar quarter.	Standard Permit Condition I.
Permit Renewal Application	Within 180 calendar days of expiration date of this Permit.	Standard Permit Condition I.
Biennial Report with information required by 40 CFR 264.75	March 1 of each even numbered calendar year.	General Permit Condition I.
Annual Groundwater Monitoring and Corrective Action Progress (AGM/CAP) Report	March 1 of each calendar year.	Special Permit Condition VI.
Annual post-closure care and corrective action cost estimate inflation update	Within 60 calendar days before the anniversary date of the establishment of 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 to demonstrate financial assurance.	Corrective Action Condition XV.A.2.a.

*Extensions may be requested and approved by the Department for cause without modifying this Permit.

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Table 4 - Contingent Submittal Requirements Pursuant to the Post-Closure and Corrective Action Conditions of this Permit

Contingent Submittal Requirements	Due Date*	Permit Condition
Certification of Completion of Post-Closure Care	Within 60 days after completion of post-closure care period.	Special Permit Condition II.D.
Written notification of newly-identified SWMU(s) and AOC(s)	No later than 15 calendar days after discovery.	Corrective Action Condition II.A.
SWMU/AOC Assessment Work Plan	Within 30 calendar days after notice by the Department that a work plan is required.	Corrective Action Condition II.B.
SWMU/AOC Assessment Report	According to the schedule in the approved SWMU/AOC Assessment Work Plan.	Corrective Action Condition II.D.
Written notification of newly-identified releases from previously-identified SWMU(s) and AOC(s)	No later than 15 calendar days after discovery.	Corrective Action Condition III.A.
Newly-Identified Release Work Plan	Within 30 calendar days after notice by the Department that a work plan is required.	Corrective Action Condition III.B.
Newly-Identified Release Report	According to the schedule in the approved Newly-Identified Release Work Plan.	Corrective Action Condition III.D.
Notification of interim/ stabilization measures	Within 24 hours after discovery of need for stabilization.	Corrective Action Condition IV.A.
Notification of interim/ stabilization measures not effective	Within ten calendar days after determination.	Corrective Action Condition IV.C.
RCRA Facility Investigation (RFI) Work Plan	Within 60 calendar days of notice by the Department that a work plan is required.	Corrective Action Condition V.B.
RCRA Facility Investigation (RFI) Report	According to the schedule in the approved RFI Work Plan.	Corrective Action Condition VI.A.
Corrective Measures Study (CMS) Work Plan	Within 45 calendar days of notice by the Department that a work plan is required.	Corrective Action Condition VII.C.

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Contingent Submittal Requirements	Due Date*	Permit Condition
Corrective Measures Study (CMS) Report	According to the schedule in the approved CMS Work Plan.	Corrective Action Condition VIII.A.
Corrective Measures Implementation (CMI) Work Plan	According to the schedule in the implementation permit modification.	Corrective Action Condition X.A.1.
Certification of final remedy construction	Within 60 calendar days after completion of all construction activities.	Corrective Action Condition XI.A.1.
Corrective Measures Implementation (CMI) Report	Within 60 calendar days after completion of all construction activities.	Corrective Action Condition XI.A.2.
Long-Term Operation, Maintenance, and Monitoring (LT OM&M) Plan	Within 60 calendar days after completion of all construction activities.	Corrective Action Condition XI.A.3.
Certification of Corrective Action Complete	Within 60 calendar days after receipt of Department approval of document verifying completion.	Corrective Action Condition XII.C.
Soil or Other Media Disturbance at the Facility	As specified in referenced permit condition.	Corrective Action Condition XIII.A.
Transfer of Interest inPermitted Property	As specified in referenced permit condition.	Corrective Action Condition XIII.B.
Change in Use of Property	As specified in referenced permit condition.	Corrective Action Condition XIII.C.
Environmental Covenant Related Activities	As specified in referenced permit conditions.	Corrective Action Conditions XIII.E. & XIII.F.
Post-Closure Care and Corrective Action Cost Estimate Update	Within 60 calendar days of the Permittee's determination that a revised cost estimate is necessary or written notification by the Department that a new cost estimate is required.	Corrective Action Condition XV.A.2.b.
Post-Closure Care and Corrective Action Financial Assurance Updates	As specified in referenced permit condition.	Corrective Action Condition XV.B.

*Extensions may be requested and approved by the Department for cause without modifying this Permit.

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FIGURES

Figure 1 - Location of the International Paper Company Facility

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Figure 2 - Location of CAMUs

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Figure 3 - Location of SWMUs

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