SC DEPARTMENT of ENVIRONMENTAL SERVICES

Division of Waste Management
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 29201

BUREAU OF LAND AND WASTE MANAGEMENT
HAZARDOUS WASTE MANAGEMENT PERMIT
SCD 049 126 097

Permit Effective Date:
Last Modification Effective Date:
Permit Expiration Date:

This Permit is hereby issued to:

Name:	General Electric Company (GE Greenville Gas Turbines LLC)
Address:	300 Garlington Road Greenville, SC 29607
Facility Contact:	Tommy Hyde (864) 254-3019

This Permit is for postclosure care of one hazardous waste management unit consisting of three former hazardous waste surface impoundments (lagoons) and identification and corrective action for all solid waste management units (SWMUs) and areas of concern (AOCs) located at 300 Garlington Road, Greenville, in Greenville County, South Carolina.

This Permit is issued pursuant to Section 44-56-10 et seq. and Regulation 61-79 of the 1976 South Carolina Code of Laws, as amended. The authority granted hereunder is subject to the requirements of the aforementioned laws and regulations and the attached conditions.

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Stacey French, P.E., Director
Division of Waste Management
Bureau of Land and Waste Management

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SCD 049 126 097

Effective Date	Class	Location in Permit	Description of Change

Module I. STANDARD CONDITIONS

I.A. EFFECT OF PERMIT

This Permit is issued pursuant to the Resource Conservation and Recovery Act (RCRA), as amended. Issuance of this Permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of state or local law or regulations. Compliance with the terms of this Permit does not constitute a defense to any order issued or any action brought under Sections 3008(a), 3008(h), 3013, or 7003 of RCRA; Sections 106(a), 104, or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq., commonly known as CERCLA), or any other law providing for protection of public health or the environment. [R.61-79.270.4, R.61-79.270.30(g)]

The Permittee perform postclosure care and/or perform corrective action in accordance with the Conditions of this Permit. Any storage, treatment, and/or disposal of hazardous waste not authorized in this Permit is prohibited, except as allowed by the South Carolina Hazardous Waste Management Regulations, R.61-79.

I.B. PERMIT ACTIONS

I.B.1 Permit Modification, Revocation and Reissuance, and Termination

This Permit may be modified, revoked and reissued, or terminated for cause as specified in R.61-79.270.41, R.61-79.270.42, and R.61-79.270.43. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any Permit Condition. [R.61-79.270.30(f)]

I.B.2 Permit Renewal

This Permit may be renewed as specified in Permit Condition I.E.2. Review of any application for a permit renewal shall consider improvements in the state of control and measurement technology, as well as changes in applicable regulations. [R.61-79.270.30(b)]

I.B.3 Permit Expiration

Pursuant to R.61-79.270.50, this Permit shall be effective for a fixed term not to exceed 10 years. This Permit and all Conditions herein will remain in effect beyond the Permit's expiration date, if the Permittee has submitted a timely, complete application (see R.61-79.270.10, R.61-79.270.13 through R.61-79.270.29) and,

through no fault of the Permittee, the Department has not issued a new permit, as set forth in R.61-79.270.51.

I.C. SEVERABILITY

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

I.D. DEFINITIONS

For the purposes of this Permit, terms used herein shall have the same meaning as those in R.61-79 Parts 124, 260, 264, 266, 268, and 270, unless this Permit specifically provides otherwise; where terms are not defined in the regulations or the Permit, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

I.D.1 Approved Permit Application

For purposes of this Permit means the most recent RCRA Part A Application, Part B Application, and modifications approved by the Department for the duration of this permit.

I.D.2 Area of Concern (AOC)

For the purposes of this Permit includes any area having a probable release of a hazardous waste or hazardous constituent which is not from a solid waste management unit and is determined by the Department to pose a current or potential threat to human health or the environment. Such areas of concern may require investigation and remedial action as required under Section 3005(c)(3) of the Resource Conservation and Recovery Act and R.61-79.270.32(b)(2) in order to ensure adequate protection of human health and the environment.

I.D.3 Certified Laboratory

For the purposes of this Permit means a laboratory that has been approved by the Department to perform specific analyses referenced in R.61-79.260 through R.61-79.270.

I.D.4 Compliance Period

For the purposes of the groundwater requirements of this Permit is the number of years equal to the active life of the unit prior to the Department's approval of certification of closure. The compliance period includes any period of waste

management activity that may have occurred prior to permitting and begins when the owner/operator initiates a compliance monitoring program for groundwater pursuant to R.61-79.264.99.

I.D.5 **Contamination**

For the purposes of this Permit refers to the presence of any hazardous constituent in a concentration which exceeds the naturally occurring concentration of that constituent in areas not affected by the facility.

I.D.6 **Corrective Action**

For the purposes of this Permit, includes all corrective actions necessary to protect human health and the environment for all releases of hazardous waste or hazardous constituents at the facility, regardless of the time at which waste was placed in the unit, as required under R.61-79.264.100(b) and R.61-79.264.101. Corrective action may address releases to air, soils, surface water sediment, groundwater, or subsurface gas.

I.D.7 **Corrective Action Management Unit (CAMU)**

For the purposes of this Permit, includes any area within a facility that is designated by the Department under R.61-79.264 Subpart S for the purpose of implementing corrective action requirements under R.61-79.264.101 and RCRA Section 3008(h). A CAMU shall only be used for the management of remediation wastes pursuant to implementing such corrective action requirements at the facility.

I.D.8 **Department**

For the purposes of this permit means the South Carolina Department of Environmental Services, including personnel thereof authorized to act on behalf of the Department.

I.D.9 **Extent of Contamination**

For the purposes of this Permit is defined as the horizontal and vertical area in which the concentrations of hazardous constituents in the environmental media being investigated are above the naturally occurring concentration of that constituent in areas not affected by the facility.

I.D.10 **Facility**

For the purposes of this Permit, means all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste, or for managing hazardous secondary materials prior to reclamation. A facility may consist of several treatment, storage, or disposal

operational units (e.g., one or more landfills, surface impoundments, or combinations of them). For the purpose of implementing corrective action under sections R.61-79.264.101. "Facility" includes all contiguous property under the control of the owner or operator seeking a permit under subtitle C of RCRA. This definition also applies to facilities implementing corrective action under RCRA Section 3008(h). The facility boundary is depicted in APPENDIX E – FACILITY MAP.

I.D.11 **Hazardous Constituent**

For the purposes of this Permit are those substances listed in Appendix VIII (Hazardous Constituents) of R.61-79.261 and Appendix IX (Groundwater Monitoring List) of R.61-79.264.

I.D.12 **Hazardous Waste Management Unit (HWMU)**

For the purposes of this Permit is a contiguous area of land on or in which hazardous waste is managed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include surface impoundments, waste piles, land treatment areas, landfill cells, incinerators, tanks and their associated piping and underlying containment system, and container storage areas. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are managed.

I.D.13 **Interim Measures**

For the purposes of this Permit are actions necessary to minimize or prevent the further migration of contaminants and limit actual or potential human and environmental exposure to contaminants while long-term corrective action remedies are evaluated and, if necessary, implemented.

I.D.14 **Land Disposal**

For the purposes of this Permit and R.61-79.268 means placement in or on the land except for a CAMU and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, underground mine or cave, or concrete vault or bunker intended for disposal purposes.

I.D.15 **Landfill**

For the purposes of this Permit includes any disposal facility or part of a facility where hazardous waste is placed in or on the land and which is not a pile, a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave, or a CAMU.

I.D.16 **PostClosure Care Period**

For the purpose of this Permit is a thirty-year (30) period beginning when a hazardous waste management unit is certified as closed and during which time the Permittee shall be required to maintain, monitor, and report in accordance with the appropriate requirements of R.61-79.264 Subparts F, K, L, M, N, and X. The postclosure care period is unit specific and may be more or less than thirty years. The Department may modify the postclosure care period applicable to a unit if it finds that an extended or reduced period is sufficient to protect human health and the environment. [R.61-79.264.117]

I.D.17 **Release**

For the purposes of this Permit includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of any hazardous waste or hazardous constituents.

I.D.18 **Remediation Waste**

For the purposes of this Permit includes all solid and hazardous wastes, and all media (including groundwater, surface water, soils and sediments) and debris, which contain listed hazardous wastes or which themselves exhibit a hazardous waste characteristic, that are managed for the purpose of implementing corrective action requirements under R.61-79.264.100, R.61-79.264.101 and RCRA Section 3008(h). For a given facility, remediation wastes may originate only from within the facility boundary but may include waste managed in implementing RCRA Sections 3004(v) or 3008(h) for releases beyond the facility boundary.

I.D.19 **Schedule of Compliance/Compliance Schedule**

For the purposes of this Permit, "Schedule of Compliance" and "Compliance Schedule" are interchangeable terms which mean a schedule of measures included in this Permit, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the S.C. Hazardous Waste Management Act and the South Carolina Hazardous Waste Management Regulations. [R.61-79.270.2]

I.D.20 **Solid Waste**

For the purposes of this Permit means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in

domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under Section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).

I.D.21 **Solid Waste Management Unit (SWMU)**

For the purposes of this Permit includes any unit which has been used for the treatment, storage, or disposal of solid waste at any time from which hazardous constituents might migrate, irrespective of whether the unit is or ever was intended for the management of solid waste. RCRA hazardous waste management units are also solid waste management units. Solid Waste Management Units (SWMUs) include areas that have been contaminated by routine and systematic releases of hazardous waste or hazardous constituents, excluding one-time accidental spills that are immediately and adequately remediated and cannot be linked to solid waste management activities (e.g. product or process spills).

I.D.22 **Tank**

For the purposes of this Permit means a stationary device, designed to contain an accumulation of hazardous waste which is constructed primarily of non-earthen materials (e.g. wood, concrete, steel, plastic) which provide structural support. [R.61-79.260.10]

I.D.23 **Tank System**

For the purposes of this Permit means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system. [R.61-79.260.10]

I.D.24 **Temporary Unit (TU)**

For the purposes of this Permit includes any temporary tanks and/or container storage areas used solely for treatment or storage of hazardous remediation wastes during remedial activities required under R.61-79.264.101 or RCRA Section 3008(h). Designated by the Department, such units must conform to specific standards as specified in R.61-79.264.553.

I.D.25 **Unit**

For the purposes of this Permit includes, but is not limited to, any landfill, surface impoundment, waste pile, land treatment unit, incinerator, injection well, tank, container storage area, septic tank, drain field, wastewater treatment unit, elementary neutralization unit, transfer station, or recycling unit.

I.E. DUTIES AND REQUIREMENTS

I.E.1 Duty to Comply

The Permittee shall comply with the Approved Permit Application and all Conditions of this Permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any Permit noncompliance, other than noncompliance authorized by an emergency permit, constitutes a violation of RCRA and the South Carolina Hazardous Waste Management Act and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application. [R.61-79.270.30(a)]

I.E.2 Duty to Reapply

If the Permittee intends to continue an activity allowed or required by this Permit after the expiration date of this Permit, the Permittee shall submit a complete application for a new permit at least one hundred eighty (180) days prior to permit expiration. The Permittee must comply with the public notice requirements of R.61-79.124.10. [R.61-79.270.10(h), R.61-79.270.30(b)]

I.E.3 Obligation for Corrective Action

The Permittee is required to continue this Permit for any period necessary to comply with the corrective action requirements of this Permit. [R61-79.264.101, 270.1(c), R.61-79.270.51]

I.E.4 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the Conditions of this Permit. [R.61-79.270.30(c)]

I.E.5 Duty to Mitigate

In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. [R.61-79.270.30(d)]

I.E.6 Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the Conditions of this Permit. Proper operation and maintenance include effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and

process controls, including appropriate quality assurance procedures. This provision requires the operation of a backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the Conditions of this Permit. [R.61-79.270.30(e)]

I.E.7 **Duty to Provide Information**

The Permittee shall furnish to the Department, within a reasonable time, any relevant information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish the Department, upon request, copies of records required to be kept by this Permit. [R.61-79.264.74(a), R.61-79.270.30(h)]

I.E.8 **Inspection and Entry**

I.E.8(a) The Permittee shall allow an authorized representative of the Department, upon the presentation of credentials and other documents, as may be required by law, to: [R.61-79.270.30(i)]

I.E.8(b) Enter at reasonable times upon the Permittee's premises where a regulated activity is located or conducted, or where records must be kept under the Conditions of this Permit;

I.E.8(c) Have access to and copy, at reasonable times, any records that must be kept under the Conditions of this Permit;

I.E.8(d) Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices or operations regulated as required under this Permit; and

I.E.8(e) Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

I.E.9 **Monitoring and Records**

I.E.9(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste and/or contaminated media to be analyzed must be the appropriate method from Appendix I of R.61-79.261, the EPA Region 4 Quality System and Technical Procedures (most recent version), or an equivalent method as specified in the waste analysis plan of the Approved Permit Application, or otherwise approved by the Department.

Laboratory methods must be those specified in the most recent edition of Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (SW-846), or an equivalent method approved by the Department, and must be performed by a laboratory certified for each specific parameter pursuant to the State Environmental Laboratory Certification Regulations, R.61-81 and R.61-79.260.11. [R.61-79.270.30(j)(1)]

I.E.9(b) The Permittee shall retain the following at the facility, or at another location as approved by the Department:

I.E.9(b)(i) Records of all monitoring information required under the terms of this Permit, including all calibration and maintenance records,

I.E.9(b)(ii) Records of all original strip chart recordings for continuous monitoring instrumentation,

I.E.9(b)(iii) Copies of all reports and records required by this Permit and all data used to prepare them,

I.E.9(b)(iv) Records of all data used to complete the application for this Permit, and

I.E.9(b)(v) Certification required by R.61-79.264.73(b)(9), if applicable.

The Permittee shall retain these items for a period of at least three (3) years from the date of the sample, measurement, report, record, certification, or application, or until corrective action is completed, whichever date is later.

This period may be extended by request of the Department at any time and is automatically extended during the course of any unresolved enforcement action regarding this facility.

I.E.9(c) Pursuant to R.61-79.270.30(j)(3), records of monitoring information shall specify:

I.E.9(c)(i) The dates, exact place, and times of sampling or measurements;

I.E.9(c)(ii) The individuals who performed the sampling or measurements;

I.E.9(c)(iii) The dates analyses were performed;

I.E.9(c)(iv) The individuals who performed the analyses;

I.E.9(c)(v) The analytical techniques or methods used; and

I.E.9(c)(vi) The results of such analyses.

I.E.9(c)(vii) Monitoring results shall be reported at intervals specified by the Department. [R.61-79.270.30(l)(4)]

I.E.10 **Reporting Planned Changes**

The Permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions which may impact any Hazardous Waste Management Units (HWMUs), Solid Waste Management Units (SWMUs), Areas of Concern (AOCs), or the areas contaminated by them. [R.61-79.270.30(l)(1)].

I.E.11 **Reporting Anticipated Noncompliance**

The Permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity that may result in noncompliance with Permit requirements. [R.61-79.270.30(l)(2)]

I.E.12 **Certification of Construction or Modification**

The Permittee may not commence treatment, storage, or disposal of hazardous waste at the facility until the Permittee has submitted to the Department, by certified mail or hand delivery, a letter signed by the Permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the Permit and: [R.61-79.270.30(l)(2)]

I.E.12(a) The Department has inspected the modified or newly constructed facility and finds it is in compliance with the Conditions of the Permit; or

I.E.12(b) Within fifteen (15) days of the date of submission of the letter required in Permit Condition I.E.12(a) above, the Permittee has not received notice from the Department of its intent to inspect, prior inspection is waived and the Permittee may commence treatment, storage, or disposal of hazardous waste.

I.E.13 **Transfer of Permits**

This Permit may be transferred to a new owner or operator only after notice to the Department pursuant to R.61-79.270.40 and only if the Permit is modified or revoked and reissued pursuant to R.61-79.270.41 to identify the new Permittee and incorporate such other requirements as may be necessary. Before transferring ownership or operation of the facility during its operating life, or of a disposal facility during the postclosure care period, the Permittee shall notify the new owner or operator in writing of the requirements of R.61-79.264 and R.61-79.270, and this Permit.

I.E.14 **Change in Facility Property**

The Permittee must submit a request to the Department for a permit modification in accordance with R.61-79.270.40 or R.61-79.270.42 if any portion of the facility property as defined in either Permit Condition I.D.11, R.61-79.260.10, or depicted in Appendix E – Facility Map is transferred to or from any agency, private person, entity, successors and assigns, trustees, and/or receivers. A request for permit modification must be submitted to the Department at least ninety (90) days prior to property transfer.

I.E.15 **Monitoring Reports**

Monitoring results shall be reported at the intervals specified by the Department. [R.61-79.270.30(l)(4)]

I.E.16 **Compliance Schedule**

Reports of compliance or noncompliance with, or any progress reports on, interim or final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. [R.61-79.270.30(l)(5)].

I.E.17 **Imminent Hazard Reporting**

The Permittee shall report to the Department's Emergency Response Section at 1-888-481-0125 any noncompliance, imminent or existing hazard from a release of hazardous waste or hazardous constituents, or from a fire or explosion at the facility, which may endanger human health or the environment. The Permittee must also report to the Department's local Environmental Office and to the Hazardous Waste Permitting Project Manager. The Permittee shall also report any fire or explosion at or near a permitted unit or other hazardous waste management area. Such information shall be reported orally within twenty-four (24) hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:

I.E.17(a) Information concerning the release of any hazardous waste or hazardous constituents that may endanger public drinking water supplies. [R.61-79.270.30(l)(6)(i)(A)].

I.E.17(b) Information concerning the release or discharge of any hazardous waste, or hazardous constituents, or a fire or explosion at the facility, which could threaten the environment or human health outside the facility, or of any fire or explosion at or near a permitted unit or other hazardous waste management area at the facility. [R.61-79.270.30(l)(6)(i)(B)].

I.E.17(c) The description of the occurrence and its cause shall include:

I.E.17(c)(i) Name, address, and telephone number of the owner or operator;

I.E.17(c)(ii) Name, address, and telephone number of the facility;

I.E.17(c)(iii) Date, time, and type of incident;

I.E.17(c)(iv) Name and quantity of materials involved;

I.E.17(c)(v) The extent of injuries, if any;

I.E.17(c)(vi) An assessment of actual or potential hazard to the environment and human health outside the facility, and

I.E.17(c)(vii) Estimated quantity and disposition of recovered material that resulted from the incident. [R.61-79.270.30(l)(6)(ii)].

I.E.17(d) A written report shall also be provided to the Department within fifteen (15) calendar days of the time the Permittee becomes aware of the circumstances. The written report shall contain the information specified under Permit Conditions I.E.17(a), I.E.17(b) and I.E.17(c) and include a description of the noncompliance or imminent hazard and its cause; the periods of noncompliance (including exact dates and times); whether the noncompliance or imminent hazard has been corrected; and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance or imminent hazard. [R.61-79.270.30(l)(6)]

I.E.18 **Manifest Discrepancy Report**

If a significant discrepancy in a manifest is discovered, the Permittee must attempt to reconcile the discrepancy. If not resolved within fifteen (15) days, the Permittee must submit a letter report, including a copy of the manifest, to the Department. [R.61-79.270.30(l)(7)]

I.E.19 **Unmanifested Waste Report**

This report must be submitted to the Department within fifteen (15) days of receipt of unmanifested waste. [R.61-79.270.30(l)(8)]

I.E.20 **Other Noncompliance**

The Permittee shall report all other instances of noncompliance not otherwise required to be reported above by Permit Conditions I.E.11 and I.E.17 at the time

monitoring reports are submitted. The reports shall contain the information listed in Permit Condition I.E.17(c), as applicable. [R.61-79.270.30(l)(10)]

I.E.21 **Other Information**

Whenever the Permittee becomes aware that he/she failed to submit any relevant facts or submitted incorrect information in a permit application or in any report to the Department, the Permittee shall promptly submit such facts or information. [R.61-79.270.30(l)(11)]

I.F. SIGNATORY REQUIREMENT

All applications, reports, or information submitted to the Department shall be signed and certified in accordance with R.61-79.270.11 and R.61-79.270.30(k).

I.G. REPORTS, NOTIFICATIONS, AND SUBMISSIONS TO THE DEPARTMENT

One printed copy and one searchable electronic copy in portable document format (PDF) of all reports, notifications, or other information required by this Permit to be submitted to the Department should be sent to the Department by verifiable delivery at the following address:

Attn: Director
Division of Waste Management
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 29201

I.H. CONFIDENTIAL INFORMATION

In accordance with R.61-79.270.12, the Permittee may claim confidential certain information required to be submitted by this Permit.

I.I. INFORMATION REPOSITORY

The Department may require the permittee to establish and maintain an information repository at any time, based on the factors set forth in R.61-79.124.33(b). The information repository will be governed by the provisions in R.61-79.124.33(c) through (f). [R.61-79.270.30(m)]

I.J. DOCUMENTS TO BE MAINTAINED DURING POSTCLOSURE CARE PERIOD

Until postclosure care activities are completed, certified by an independent registered professional engineer, and verified by the Department, the Permittee shall maintain at the facility the following documents and amendments, revisions, and modifications to these documents:

I.J.1 **Permit Application**

The Approved Permit Application pursuant to R.61-79.270.2.

I.J.2 **All Reports and Documentation**

Regarding compliance with R.61-79.264.118 and this Permit during the postclosure care period.

I.J.3 **Waste Analyses Plan**

As required by R.61-79.264.13 and this Permit.

I.J.4 **Contingency Plan**

As required by R.61-79.264.53(a) and this Permit.

I.J.5 **Operating Record**

As required by R.61-79.264.73 and this Permit.

I.J.6 **Inspection Schedules**

As required by R.61-79.264.15(b) and this Permit.

I.J.7 **PostClosure Plans**

As required by R.61-79.264.118, R.61-79.270.14(b)13 and this Permit.

I.J.8 **Documentation of Compliance**

With R.61-79.264.119, R.61-79.264.120 and this Permit.

I.J.9 **Annually-adjusted Cost Estimates**

For facility postclosure as required by R.61-79.264.144(b) and this Permit.

I.J.10 **Corrective Action Plan(s) and Reports**

As required by R.61-79.264.100 and R.61-79.264.101 and this Permit.

I.J.11 **Cost Estimates for Completion of Corrective Action**

As required by R.61-79.264.90(a)(2) and R.61-79.264.101 and this Permit.

I.J.12 **Installation Records**

For all monitoring wells and all groundwater elevation data collected during the postclosure care period.

I.J.13 **Groundwater Monitoring Records**

Required by R.61-79.264.100 and this Permit.

I.J.14 **A Survey Plat and Record**

Of the type, location, and description of hazardous waste or hazardous constituents disposed of within the surface impoundment and landfill areas as required by R.61-79.264.119.

I.J.15 **All Other Documents**

Required by Permit Conditions I.E.9, I.E.10 and I.E.11.

I.K. INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS

I.K.1 **Notification**

An owner or operator must notify the Department by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in R.61-79.264.143(f) and R.61-79.264.145(f) must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee (R.61-79.264.151(h)). [R.61-79.264.148(a)]

I.K.2 **Bankruptcy of Trustee**

An owner or operator who fulfills the requirements of R.61-79.264.143, R.61-79.264.145, or R.61-79.264.147 by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator must establish

other financial assurance or liability coverage within 60 days after such an event. [R.61-79.264.148(b)]

Module II. GENERAL FACILITY CONDITIONS

II.A. DESIGN AND OPERATION OF FACILITY

The Permittee shall design, construct, maintain and operate the facility in a manner to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment, as required by R.61-79.264.31.

II.B. SECURITY

The Permittee shall comply with the security provisions as specified in Section 2.1 of the Approved Permit Application, R.61-79.264.14, and R.61-79.264.117(b).

II.C. GENERAL INSPECTION REQUIREMENTS

The Permittee shall follow the general inspection requirements set out in R.61-79.264.15 and Section 2.2 of the Approved Permit Application. The Permittee shall remedy any deterioration or malfunction discovered by an inspection as required by R.61-79.264.15(c) and the Permit Application. Records of inspections shall be kept as required by R.61-79.264.15(d).

II.D. RECORD KEEPING AND REPORTING

The Permittee shall conduct record keeping and reporting as specified in this Permit.

II.D.1 Operating Record

The Permittee shall maintain a written operating record at the facility in accordance with R.61-79.264.73.

II.D.2 Quarterly Report

The Permittee shall comply with the quarterly reporting requirements of R.61-79.264.75.

Module III. POSTCLOSURE CARE FOR AERATION LAGOON, INDUSTRIAL LAGOON, AND SLUDGE LAGOON

The conditions of this module apply to the general postclosure care requirements for the hazardous waste management units as described below in Permit Condition III.B. The conditions for Corrective Action as required by R.61-79.264.100 are presented in Module IV (Groundwater Requirements) of this Permit.

III.A. UNIT IDENTIFICATION

The Permittee shall provide postclosure care for the hazardous waste management units described below, subject to the terms and conditions of this Permit.

Regulated Units	SWMU #	Dates Units Operated	Total Maximum Capacity	Description of Wastes Contained	Hazardous Waste Number
Aeration Lagoon	SWMU 3A	1968-1993	378,000 gallons	Wastewater containing spent halogenated and non-halogenated solvents	F-001 F-002 F-003 F-005
Industrial Lagoon	SWMU 2G	1968-1992	1,500,000 gallons	Wastewater containing spent halogenated and non-halogenated solvents	F-001 F-002 F-003 F-005
Sludge Lagoon	SWMU 3F	1972-1992	247,000 gallons	Wastewater containing spent halogenated and non-halogenated solvents	F-001 F-002 F-003 F-005

III.B. POSTCLOSURE PROCEDURES AND USE OF PROPERTY

III.B.1 **PostClosure Care Period**

The Permittee shall conduct postclosure care for the hazardous waste management unit(s) described in Permit Condition III.A. Postclosure care will be conducted for thirty (30) years after the completion of closure, except that the thirty (30) year postclosure care period may be shortened upon application and demonstration, approved by the Department, that the facility is secure, or may be extended if the Department finds this is necessary to protect human health and the environment. Postclosure care shall be in accordance with R.61-79.264.117 - 120, this Permit, and the PostClosure Plan contained in Attachment 2 the Approved Permit Application.

III.B.2 **Groundwater Monitoring System**

The Permittee shall maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of R.61-79.264 Subpart F and Module IV of this Permit during the postclosure period. [R.61-79.264.117(a)(1)]

III.B.3 **Landfill Requirements**

The Permittee shall comply with the requirements for landfills as follows: [R.61-79.264.310(b)]:

III.B.3(a) Maintain the integrity and effectiveness of the final cover; including making repairs to the liner system, as necessary, to correct the effects of settling, subsidence, erosion, or other events;

III.B.3(b) Prevent run-on and run-off from eroding or otherwise damaging the final cover;

III.B.3(c) Protect and maintain surveyed benchmarks used in complying with the surveying and record keeping requirements of R.61-79.264.309.

III.C. INSPECTIONS

III.C.1 **Components, Structures and Equipment**

The Permittee shall inspect the components, structures, and equipment at the site in accordance with R.61-79.264.117(a)(1)(ii) and the inspection schedule in Section 2.1.1 of the approved PostClosure Plan.

III.C.2 **Cover System**

The Permittee shall inspect the cover system(s) for uniformity, drainage, and imperfections. Soil based covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the cover.

III.D. NOTICES AND CERTIFICATION

III.D.1 **Use of units**

The Permittee shall not allow any use of the units designated in Permit Condition III.A which will disturb the integrity of the final cover, liners, any components of the containment system, or the function of the facility's monitoring systems during the postclosure care period. [R.61-79.264.117(c)]

III.D.2 **Amendments to PostClosure Plan**

The Permittee must request a permit modification to authorize a change in the approved postclosure plan. This request must be in accordance with applicable requirements of R.61-79.124 and R.61-79.270 and must include a copy of the proposed amendments to the Approved Permit Application for approval by the Department. The Permittee shall request a permit modification whenever changes in operating plans or facility design affect the postclosure plan, or other events occur during the active life of the facility that also affect the postclosure plan. The Permittee must submit a written request for a permit modification at least sixty (60) days prior to the proposed change in facility design or operation, or no later than sixty (60) days after an unexpected event has occurred which has affected the postclosure plan. [R.61-79.264.118(d)]

III.D.3 **PostClosure Notices**

III.D.3(a) No later than sixty (60) days after certification of closure of each hazardous waste disposal unit, the Permittee shall submit records of the type, location and quantity of hazardous waste disposed within each cell or disposal unit, in accordance with R.61-79.264.119(a).

III.D.3(b) Within sixty (60) days of certification of closure of the first hazardous waste disposal unit and the last hazardous waste disposal unit, the Permittee shall do the following:

III.D.3(b)(i) Record a notation on the deed to the facility property, in accordance with R.61-79.264.119(b)(1).

III.D.3(b)(ii) Submit a certification that a notation, in accordance with R.61-79.264.119(b)(2), has been recorded.

III.D.4 **Removal Request**

If the Permittee or any subsequent owner or operator of the land upon which the hazardous waste disposal unit is located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any; or contaminated soils, then he shall request a permit modification in accordance with the applicable requirements in R.61-79.124 and R.61-79.270. The Permittee or any subsequent owner or operator of the land shall demonstrate that the removal of hazardous wastes will satisfy the criteria of R.61-79.264.117(c). [R.61-79.264.119(c)]

III.D.5 **Certification of Completion of PostClosure Care**

No later than sixty (60) days after completion of the established postclosure care period for each hazardous waste disposal unit, the Permittee shall submit to the Department, by registered mail, a certification that the postclosure care for the hazardous waste disposal unit was performed in accordance with the specifications in the approved PostClosure Plan. The certification must be signed by the Permittee and an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the Department upon request until the Department releases the Permittee from the financial assurance requirements for postclosure care under R.61-79.264.145(i). [R.61-79.264.120]

III.E. COST ESTIMATE FOR FACILITY POSTCLOSURE CARE

III.E.1 **Most Recent Cost Estimate**

The Permittee's most recent postclosure cost estimate prepared in accordance with R.61-79.264.144(a) is specified in Section 6.1 the Approved Permit Application.

III.E.2 **Cost Estimate Annual Adjustment**

The Permittee must adjust the postclosure cost estimate for inflation within sixty (60) days prior to the anniversary date of the financial assurance instrument or within 30 days after the close of the facility's fiscal year, as specified by R.61-79.264.144(b).

III.E.3 **Cost Estimate Modification**

The Permittee must revise the postclosure cost estimate whenever there is a change in the facility's PostClosure Plan, as required by R.61-79.264.144(c) and R.61-79.270 Subpart D.

III.E.4 **Cost Estimate Record**

The Permittee must keep at the facility the latest postclosure cost estimate as required by R.61-79.264.144(d).

III.F. FINANCIAL ASSURANCE FOR FACILITY POSTCLOSURE CARE

The Permittee shall demonstrate compliance with R.61-79.264.145 by providing documentation of financial assurance as required by R.61-79.264.151 in at least the amount of the cost estimates required by Permit Condition III.E. Changes in financial assurance mechanisms must be approved by the Department pursuant to R.61-79.264.145.

Module IV. POSTCLOSURE CARE GROUNDWATER REQUIREMENTS for AERATION LAGOON, INDUSTRIAL LAGOON, AND SLUDGE LAGOON

The conditions of this module describe groundwater monitoring and corrective action programs applicable to SWMU 3A – Aeration Lagoon, SWMU 2G – Industrial Lagoon, and SWMU 3F – Sludge Lagoon. The groundwater monitoring portion of the Permit describes the location, number, and depths of groundwater monitoring wells; identifies which wells are upgradient and downgradient; establishes a list of hazardous constituents and concentration limits which must be achieved through corrective action; defines the length of the compliance period; specifies the sampling and analysis protocols for the groundwater corrective action monitoring program, the statistical evaluations to be conducted, and the procedures for modifying the Permit if changes to the groundwater corrective action monitoring program are necessary. The groundwater corrective action portion of the permit consists of a description of the overall strategy for corrective action and routine evaluation of the effectiveness of the groundwater remedial system.

IV.A. POINT OF COMPLIANCE

The Point of Compliance (POC) is a vertical surface located at the hydraulically downgradient limit of the Waste Management Area (WMA) that extends down to the base of the uppermost aquifer underlying the regulated units. The WMA, as delineated in Figure 9-1 of Section 9.2 of the Approved Permit Application, includes three (3) closed surface impoundments which are RCRA hazardous waste management units. In map view, the POC is represented in Figure 9-1 of the Approved Permit Application (Section 9.4) as a line running through appropriately designated wells listed in Table IV-A (Monitoring Well System) of this Permit Module. Vertically, the POC extends downward through the saprolite and fractured bedrock to the top of the competent, unfractured bedrock, which is identified as the base of the uppermost aquifer in Section 8.2.3 of the Approved Permit Application. [R.61-79.264.95]

IV.B. GROUNDWATER PROTECTION STANDARD

The Permittee shall ensure that the Groundwater Protection Standard (GWPS), as required under R.61-79.264.92, is being met or that remedial actions are being taken to reduce contaminant levels to meet standards. The GWPS shall consist of the hazardous constituents and their corresponding concentration limits listed in Table IV-B as established under R.61-79.264.93 and R.61-79.264.94.

IV.C. COMPLIANCE PERIOD

The Permittee shall comply with the applicable requirements of R.61-79.264 Subpart F for the duration of the compliance period. The compliance period is equal to sixteen (16) years. The compliance period for all units began on July 31, 1995 and was scheduled to end on July 30, 2022. If the Permittee is engaged in corrective action at the end of the compliance period as specified above, the compliance period will be extended until the Permittee can demonstrate that the GWPS has not been exceeded for a period of three (3) consecutive years. [R.61-79.264.96]

IV.D. WELL LOCATION, INSTALLATION, AND CONSTRUCTION

The Permittee shall design, install and/or maintain a groundwater monitoring system to comply with applicable requirements of R.61-79.264 Subpart F and as specified below.

IV.D.1 Point of Compliance Well System

The appropriately-designated monitoring wells listed in Table IV-A will be used to monitor groundwater quality at the POC. These monitoring wells constitute the POC monitoring well system.

IV.D.2 Background Monitoring Wells

The appropriately-designated monitoring wells listed in Table IV-A will be used to monitor background groundwater quality. These monitoring wells constitute the background monitoring well system.

IV.D.3 Plume Assessment Wells

The appropriately-designated monitoring wells listed in Table IV-A shall be used to monitor the contaminant plume movement and to assess the effectiveness of the corrective action program.

IV.D.4 Additional Wells

The Permittee shall install additional wells as necessary to maintain compliance with R.61-79.264 Subpart F requirements. A proposal for the design, location and installation of any additional well(s) shall be submitted to the Department for approval at least 45 days prior to planned installation. Written approval must be obtained prior to installation of any monitoring well.

IV.D.5 **Well Design, Installation and Maintenance**

The Permittee shall ensure that all wells are designed, installed, and maintained such that groundwater samples are representative of the true water quality. Additionally, the wells shall be designed, installed and monitored in such a manner to prevent interconnection between different hydrologic units. Failure of any well(s) to meet the standards described herein shall not interfere with the groundwater monitoring or corrective action programs.

IV.D.6 **Well Construction Details**

The Permittee shall report the surveyed elevation of monitoring well(s) to the nearest 0.01 foot within forty-five (45) days of installation along with as-built drawings and lithologic logs. The Permittee shall also report the total well depth, screened interval, elevation of the top of casing, ground surface and protective casing.

IV.D.7 **Total Well Depth**

The Permittee shall measure total well depth annually and redevelop any monitoring well when sediment has entered the well and accumulated to a depth of one foot; or, the accumulated sediment blocks twenty percent of the screen length, whichever is less. The Permittee shall redevelop any well exhibiting a significant decrease in yield, or a significant increase in recovery time.

IV.D.8 **Well Abandonment**

The Permittee shall properly abandon any well(s) not meeting the standard of Permit Condition IV.D.5. A proposal for specific well abandonment procedures shall be submitted to the Department for approval at least thirty (30) days prior to beginning abandonment procedures.

IV.E. SAMPLING AND ANALYSIS PROCEDURES

The Permittee shall use the following techniques and procedures when obtaining and analyzing groundwater samples from the groundwater monitoring wells described in Permit Condition IV.D to provide a reliable indication of groundwater quality as required under R.61-79.264.97(d) and (e).

IV.E.1 **Sampling Procedures**

Groundwater samples shall be collected, preserved, and shipped in accordance with the procedures specified in Section 4 of Attachment 2 (Postclosure Care Monitoring Plan) of the Approved Permit Application.

IV.E.2 **Sampling Frequency**

The Permittee shall ensure that the frequency of sample collection and the wells to be sampled are in accordance with Table 2a of Attachment 2 (Postclosure Care Monitoring Plan) of the Approved Permit Application. The Permittee shall monitor groundwater quality throughout the compliance period to demonstrate conformance with the GWPS.

IV.E.3 **Chain of Custody**

Groundwater samples shall be tracked and controlled using the chain-of-custody procedure specified in Section 5.1 of Attachment 2 (Postclosure Care Monitoring Plan) of the Approved Permit Application.

IV.E.4 **Analysis**

Samples shall be analyzed according to Section 4.5 of Attachment 2 (Postclosure Care Monitoring Plan) of the Approved Permit Application or the most current final version of EPA Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (SW-846), using whichever procedure is more recent at the time of analysis. For those constituents that have established Maximum Contaminant Levels (MCL) or Regional Screening Levels (RSL), the analytical method chosen must be capable of achieving a Practical Quantitation Limit (PQL) below the established MCL or RSL. For those constituents which do not have an established MCL or RSL, the analytical method must achieve the lowest reasonably achievable PQL based on instrumentation and analytical method.

IV.E.5 **Annual Appendix IX Analyses**

Annually, the Permittee shall collect and analyze groundwater samples from the historically most contaminated point of compliance well(s) as established in Table 2a of Attachment 2 (Postclosure Care Monitoring Plan) of the Approved Permit Application. These samples will be analyzed for all constituents contained in R.61-79.264 Appendix IX (Groundwater Monitoring List) in order to determine whether additional hazardous constituents are present in the uppermost aquifer.

IV.E.5(a) If R.61-79.264 Appendix IX constituents are detected that are not listed in the GWPS, then the Permittee may resample within one (1) month to confirm their presence. If the Permittee chooses not to resample, the original detections will be considered valid detections. If the presence of hazardous constituents that are not listed in the GWPS is confirmed by resampling, or the Permittee chooses not to resample, then the Permittee shall report the concentrations of these constituents to the Department in

writing within seven (7) days after receipt of analytical data. The Permittee must immediately incorporate these new constituents within the groundwater monitoring program.

IV.E.5(b) For each R.61-79.264 Appendix IX constituent identified at the point of compliance, the Permittee shall determine whether the concentration detected is elevated with respect to background. If the concentration detected at the point of compliance is determined to be statistically significant with respect to background, the new constituent will be added to the GWPS. Within ninety (90) days of completing the required statistical evaluation, the Permittee shall submit an application for a permit modification to incorporate the new constituents, along with their concentration limits, into the GWPS of Permit Condition IV.B.

IV.E.6 **Management of Contaminated Media**

The Permittee shall treat, store and/or dispose of all contaminated groundwater in accordance with all applicable federal, state and local requirements.

IV.F. BACKGROUND GROUNDWATER QUALITY

The Permittee shall establish background groundwater quality in accordance with R.61-79.264.97 and as approved by the Department. Groundwater samples will be collected and analyzed for the constituents listed in Table 4 of Attachment 2 (Postclosure Care Monitoring Plan) of the Approved Permit Application and the results reported to the Department in accordance with Permit Conditions IV.E and IV.J.

IV.G. GROUNDWATER ELEVATION

On a schedule established in the Approved Permit Application, the Permittee shall measure and record the groundwater elevation in all monitoring wells listed in Table 2a of Attachment 2 (Postclosure Care Monitoring Plan) of the Approved Permit Application. Within thirty (30) days of completing these measurements, the Permittee shall use the water level data to evaluate the direction and rate of groundwater flow and determine whether the requirements for locating monitoring wells continue to be satisfied. If the Permittee determines that the conditions are no longer satisfied, the Permittee must submit a proposal to the Department within thirty (30) days to modify the monitoring system. If the modification is significant, the Permittee shall be required to submit an application for permit modification.

IV.H. STATISTICS

Pursuant to R.61-79.264.97(h) and R.61-79.264.97(i), an appropriate statistical procedure must be proposed prior to the termination of groundwater corrective action. The proposed statistical method must compare compliance point data to the concentration limits in the GWPS. Until such time that an appropriate statistical method has been approved by the Department, the effectiveness of the corrective action program shall be evaluated semi-annually using graphical analysis of time versus concentration trends in strategic monitoring wells. These trend analyses shall be submitted in the corrective action groundwater monitoring reports required by Permit Condition IV.J.

IV.I. GROUNDWATER CORRECTIVE ACTION PROGRAM

The Permittee shall design, implement, and maintain a groundwater corrective action program as required under R.61-79.264.100 and R.61-79.264.101.

IV.I.1 Corrective Action at the Point of Compliance

The Permittee shall design, implement, and maintain a corrective action program that prevents hazardous constituents from exceeding the GWPS as specified in Permit Condition IV.B at the POC.

IV.I.2 Corrective Action Beyond the Point of Compliance

The Permittee must conduct a corrective action program to remove and treat any hazardous constituents that exceed the GWPS as specified in Permit Condition IV.B in groundwater between the compliance point and the downgradient property boundary, and beyond the property boundary where necessary to protect human health and the environment in accordance with R.61-79.264.100(e).

IV.I.3 Maintenance of the Corrective Action System

The Permittee shall ensure that the groundwater corrective action system (i.e. groundwater recovery components and ancillary treatment equipment) is maintained to operate as specified in the approved Corrective Measures Study Report (CMS).

IV.I.4 Corrective Action System

Groundwater corrective action shall, at a minimum, consist of groundwater extraction and treatment in accordance with the approved CMS.

IV.I.5 **Continuation of Corrective Action**

The Permittee must continue corrective action during the compliance period to the extent necessary to ensure that the GWPS is not exceeded. In accordance with R.61-79.264.100(f), the compliance period is automatically extended, if necessary, until the GWPS has not been exceeded for three (3) consecutive years.

IV.I.6 **Modification of the Corrective Action System**

If the Permittee determines that the corrective action program no longer satisfies the requirements of R.61-79.264.100, within ninety (90) days of such a determination, the Permittee must submit a permit modification request pursuant to R.61-79.270.42 to make any appropriate changes to the corrective action system.

IV.J. RECORDKEEPING AND REPORTING

IV.J.1 **Operating Record**

The Permittee shall enter all monitoring, testing, analytical, and corrective action data obtained pursuant to the Permit Conditions contained in Module IV (Groundwater Requirements) into the operating record as required by R.61-79.264.73(b)(6).

IV.J.2 **Semi-Annual Report**

On or before September 1 of each year, the Permittee shall submit one printed copy and one electronic PDF of a detailed report describing the effectiveness of the corrective action program for the period from January 1 through June 30. The report shall include, at a minimum, the following:

IV.J.2(a) Groundwater elevation data collected during the reporting period in table form. Groundwater quality data in table form for all constituents sampled during the reporting period. Copies of the chain of custody, field records and laboratory data sheets, to include the date of extraction and date of analysis for each sample, shall be submitted;

IV.J.2(b) Potentiometric maps depicting groundwater flow directions for each hydrogeologic unit based on gradients for each quarter shall be submitted. Potentiometric maps shall include all plume assessment, background, and recovery wells identified in Table IV-A. An evaluation of any significant changes in gradients or flow direction shall be included;

IV.J.2(c) Isoconcentration maps depicting the distributions of pertinent parameters. All plume assessment, background and recovery wells listed in Table IV-A shall be depicted. Surface water sampling locations shall be depicted on the

isoconcentration maps. Large scale maps should be used;

IV.J.2(d) Tabulated volumetric data and flow rates for the corrective action system (monthly and cumulative);

IV.J.2(e) Recharge data (inches of rainfall during the reporting period);

IV.J.2(f) Dates of any corrective action system down time with explanations; Description of any minor modifications or repairs to the groundwater monitoring and corrective action systems.

IV.J.2(g) Detailed narrative evaluating and discussing the effectiveness of the corrective action system.

IV.J.3 **Annual Report**

On or before March 1 of each year, the Permittee shall submit one printed copy and one electronic PDF copy of a detailed annual report describing the effectiveness of the corrective action program for the previous calendar year. This report shall include, at a minimum, all of the elements required for the semi-annual report as described in Permit Condition IV.J.2 and the following:

IV.J.3(a) Detailed narrative evaluating and discussing the effectiveness of the corrective action system. This should include a discussion of time trend analyses to date for the past year plus the zone of capture and drawdown for the corrective action system. All portions of the groundwater contaminant plume located outside the zone of capture of the recovery system must be identified. Improvements for achieving capture of all portions of the plume that exceed the GWPS (Table IV-B) must be discussed. Proposals for modification of the corrective action system must be submitted under separate cover;

IV.J.3(b) Hydrographs for all point of compliance wells and strategic plume assessment wells (Table IV-A) depicting groundwater elevations through time. A table to reference actual calendar dates corresponding to sampling events shall also be submitted to aid in interpreting the hydrographs for each well. Nested wells may be included on the same hydrograph;

IV.J.3(c) Time versus concentration plots for a representative number of plume assessment wells identified in Table IV-A. These plots shall depict the concentration of total volatile organic compounds and any other specific parameter that may be pertinent to monitoring the effectiveness of the corrective action system;

IV.J.3(d) A statistical evaluation of water quality data and water elevation data for significant changes. This evaluation should be conducted on the point of compliance wells (Table IV-A) and a representative number of plume assessment wells;

IV.J.3(e) Hydrogeologic cross sections for each sampling event during the reporting period depicting the distribution of total volatile organic compounds and any other specific parameter that may be pertinent for monitoring the effectiveness of the corrective action system. At least one cross section should be oriented perpendicular through the point of compliance wells and include the background groundwater monitoring well.

IV.J.3(f) Determination of the extent and severity of groundwater contamination. This may be delineated on the large scale isoconcentration maps and cross sections;

IV.J.3(g) Table depicting all constituents from R.61-79.264 Appendix IX detected in groundwater samples since the initiation of interim status. This table should include, at minimum, well identification, date of sample collection, parameter detected, concentration levels, date of resample and analytical results;

IV.J.3(h) A table listing all production, groundwater recovery, and groundwater monitoring wells, along with pertinent construction details. This table must also list all wells installed, abandoned, resurveyed, or otherwise modified during the year. A map(s) should be included depicting the locations of the wells listed on this table.

IV.K. DUTY OF PERMITTEE

The Permittee shall assure that the groundwater monitoring and corrective action programs are in compliance with the requirements of R.61-79.264 Subpart F throughout the operating, closure, and postclosure periods.

IV.K.1 Permit Modification

If the Permittee at any time determines that the corrective action program required by this Permit no longer satisfies the requirements of R.61-79.264.100 and R.61-79.264.101 for releases of hazardous constituents listed in Table IV-B (GWPS) that originate from the regulated unit, the Permittee must within ninety (90) days submit an application for a permit modification to make any appropriate changes in the program, as required under R.61-79.264.100(h).

IV.K.2 **Termination of Corrective Action**

If the GWPS is met in accordance with R.61-79.264.100 and R.61-79.264.101, the Permittee may submit an application for a permit modification pursuant to R.61-79.270.42 to terminate the corrective action program and establish a groundwater compliance monitoring program.

TABLE IV-A

Monitoring Well System

Aeration Lagoon, Industrial Lagoon, and Sludge Lagoon

Point of Compliance Wells	WQ-35AR, WQ-35B, WQ-35C, WQ-36A, WQ-36B, WQ-37, WQ-37A, WQ-37B, WQ-37C, WQ-72, WQ-72B
Background Monitoring Wells	WQ-38, WQ-38A, WQ-38B
Groundwater Recovery Wells	PW-35A, PW-35B, PW-29B, PW-34BR, PW-37B, PW-LRC1B, PW-LRC2A, PW-LRC3A
Plume Assessment Wells	WQ-32, WQ-32B, WQ-34B, WQ-34C, WQ-39B, WQ-40B, WQ-21, WQ-42B, WQ-50B, WQ-50C, WQ-51B, WQ-51C, WQ-66B
Water Level Wells	PW-34C, WQ-29, WQ-29B, WQ-30, WQ-30B, WQ-31, WQ-31B, WQ-34D, WQ-35, WQ-41B, WQ-43, WQ-58C, WQ-67, WQ-68, WQ-99, SWMU4A-GW1
Surface Water Sampling	GSW-010, GSW-070

TABLE IV-B

GROUNDWATER PROTECTION STANDARD

Aeration Lagoon, Industrial Lagoon, and Sludge Lagoon

Constituent	CAS No.	Concentration Limit, mg/l
Inorganics		
Arsenic	7440-38-2	0.01 mg/l[1]
Barium	7440-39-3	2.0 mg/l[1]
Cadmium	7440-43-9	0.005mg/l[1]
Chromium	7440-47-3	0.1 mg/l[1]
Cobalt	7440-48-4	0.006 mg/l[2]
Lead	7439-92-1	0.015 mg/l[1]
Nickel	7440-02-0	0.390 mg/l[2]
Selenium	7782-49-2	0.05 mg/l[1]
Silver	7440-22-4	0.10 mg/l[3]
Zinc	7440-66-6	5 mg/l[3]
Volatile Organics		
Acetone	67-64-1	18 mg/l[2]
Benzene	71-43-2	0.005 mg/l[1]
2-Butanone	78-93-3	5.6 mg/l[2]
Carbon disulfide	75-15-0	0.81 mg/l[2]
Chlorobenzene	108-90-7	0.1 mg/l[1]
Chloroethane	75-00-3	8.3 mg/l[2]
Chloroform	67-66-3	0.08 mg/l[1]
Chloromethane	74-87-3	0.19 mg/l[2]
1,1-Dichloroethane	75-34-3	0.0028 mg/l[2]
1,2-Dichloroethane	107-06-2	0.005 mg/l[1]
1,1-Dichloroethene	75-35-4	0.007 mg/l[1]
(cis 1,2-) Dichloroethene	156-59-2	0.07 mg/l[1]
(trans 1,2-) Dichloroethene	156-60-5	0.1 mg/l[1]
Ethylbenzene	100-41-4	0.7 mg/l[1]
Methylene Chloride	75-09-2	0.005 mg/l[1]
4-Methyl-2-Pentanone	108-10-1	6.3 mg/l[2]
Styrene	100-42-5	0.1 mg/l[1]
Tetrachloroethene	127-18-4	0.005 mg/l[1]
Toluene	108-88-3	1 mg/l[1]

Constituent	CAS No.	Concentration Limit, mg/l
1,1,1-Trichloroethane	71-55-6	0.2 mg/l[1]
1,1,2-Trichloroethane	79-00-5	0.005 mg/l[1]
Trichloroethane	79-01-6	0.005 mg/l[1]
Trichlorofluoromethane	75-69-4	5.2 mg/l[2]
Vinyl acetate	108-05-4	0.41 mg/l[2]
Vinyl chloride	75-01-4	0.002 mg/l[1]
Xylene (total)	1330-20-7	10 mg/l[1]
Semi-Volatile Organics		
Acenaphthene	83-32-9	0.53 mg/l[2]
Bis(2-chloroethyl) ether	111-44-4	0.000014 mg/l[2]
Bis(2-chloro-1-methylethyl) ether	108-60-1	0.71 mg/l[2]
4-Chloro-3-methylphenol	59-50-7	1.4 mg/l[2]
2-Chlorophenol	95-57-8	0.091 mg/l[2]
2-Chloronaphthalene	91-58-7	0.75 mg/l[2]
1,4-Dichlorobenzene	106-46-7	0.075 mg/l[1]
2,4-Dimethylphenol	105-67-9	0.36 mg/l[2]
2-Methylnaphthalene	91-57-6	0.036 mg/l[2]
2-Methylphenol (Cresol, o-)	95-48-7	0.93 mg/l[2]
4-Methylphenol (Cresol, p-)	106-44-5	0.37 mg/l[2]
Naphthalene	91-20-3	0.00012 mg/l[2]
2-Nitrophenol	88-75-5	0.005 mg/l[4]
4-Nitrophenol	100-02-7	0.01 mg/l[4]
Pentachlorophenol	87-86-5	0.001 mg/l[1]
Phenanthrene	85-01-8	0.01 mgl[4]
Phenol	108-95-2	5.8 mg/l[2]
2,3,4,6-Tetrachlorophenol	58-90-2	0.24 mg/l[2]
Tributyl Phosphate	126-73-8	0.0052 mg/l[2]
2,4,5-Trichlorophenol	95-95-4	1.2 mg/l[2]
Pesticides		
beta-BHC	319-85-7	0.000025 mg/l[2]
Gamma-BHC (Lindane)	58-89-9	0.0002 mg/l[1]
4,4-DDE (P,P'-DDE')	72-55-9	0.000046 mg/l[1]
Endrin Aldehyde	7421-93-4	0.0002 mg/l[4]
Endosulfan I	959-98-8	0.0001 mg/l[4]
delta-BHC	319-86-8	0.0001 mg/l[4]
4,4-DDT	50-29-3	0.00023 mg/l[2]
4,4-DDD	72-54-8	0.000032 mg/l[2]

[1] Maximum Contaminant Level (MCL) as established pursuant to U.S. EPA National Primary Drinking Water Regulations, October 2024 update.

[2] U.S. EPA Regional Screening Levels for Tap Water, May 2024 Update.

[3] Secondary Maximum Contaminant Level (SMCL) as established pursuant to U.S. EPA Drinking Water Regulations and Health Advisories, June 2024 update.

[4] Practical Quantitation Limit (PQL) as defined in R.61-79.264 Appendix IX.

Module V. CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS & AREAS OF CONCERN

V.A. APPLICABILITY

The objective of the corrective action program at a hazardous waste management facility is to evaluate the nature and extent of releases of hazardous waste and/or constituents, and if necessary, implement corrective measures to protect human health and the environment. The Permittee is required to implement corrective action in accordance with R.61-79.264.101 and the conditions of this Permit. The Permittee shall follow applicable guidance, including but not limited to the RCRA Corrective Action Plan, EPA 520-R-94-004, dated May 1994 (most recent version).

The Permit Conditions of this Module apply to:

V.A.1 SWMUs and AOCs Identified by the RFA:

The solid waste management units (SWMUs) and areas of concern (AOCs) identified by the initial RCRA Facility Assessment, any subsequent investigations, or other means, as listed in Appendix A – List of All Solid Waste Management Units (SWMUs), Areas of Concern (AOCs), and Regulated Units.

V.A.2 Additional SWMUs or AOCs

Any additional SWMUs or AOCs discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means. As used in this part of the Permit, the terms "discover", "discovery", or "discovered" refer to the date on which the Permittee or a Department representative either, (1) visually observes evidence of a new SWMU or AOC, (2) visually observes evidence of a previously unidentified release of hazardous constituents to the environment, or (3) receives information which suggests the presence of a new release of hazardous waste or hazardous constituents to the environment.

V.A.3 Contamination Beyond Facility Boundary

The Permittee shall implement corrective actions beyond the facility boundary where necessary to protect human health and the environment, unless the Permittee demonstrates to the satisfaction of the Department that, despite the Permittee's best efforts, as determined by the Department, the Permittee was unable to obtain the necessary permission to undertake such actions. The Permittee is not relieved of all responsibility to clean up 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. Assurances of

financial responsibility for completion of such off-site corrective action will be required. [R.61-79.264.100, R.61-79.264.101]

V.B. NOTIFICATION AND ASSESSMENT REQUIREMENTS FOR NEWLY IDENTIFIED SWMUS AND AOCS

V.B.1 Notification

The Permittee shall notify the Department in writing, within fifteen (15) calendar days of discovery, of any additional AOCs and/or SWMUs as discovered under Permit Condition V.A.2. The notification shall include, at a minimum, a unique sequential identification number, the location of the SWMU or AOC and all available information pertaining to the nature of the release (e.g., media affected, hazardous constituents released, magnitude of release, etc.).

V.B.2 Assessment Report

The Permittee shall prepare and submit to the Department, within ninety (90) calendar days of notification, an Assessment Report (AR) for each SWMU or AOC identified under Permit Condition V.B.1. At a minimum, the AR shall provide the following information:

V.B.2(a) The unique sequential identification for the SWMU or AOC.

V.B.2(b) Location of unit(s) on a topographic map of appropriate scale such as required under R.61-79.270.14(b)(19).

V.B.2(c) Designation of type and function of unit(s).

V.B.2(d) General dimensions, capacities and structural description of unit(s) (supply any available plans/drawings).

V.B.2(e) Dates that the unit(s) was (were) operated.

V.B.2(f) Specification of all wastes that have been managed at/in the unit(s) to the extent available. Include any available data on R.61-79.261 Appendix VIII constituents contained in the wastes.

V.B.2(g) All available information pertaining to any release of hazardous waste or hazardous constituents from such unit(s) (to include groundwater, soil, air, surface water, and/or sediment data).

V.B.3 Department Determination

The Department or the Permittee shall determine the need for further investigations at the SWMUs or AOCs covered in the AR. If the Department

determines that such investigations are needed, the Permittee shall be required to prepare a plan for such investigations as outlined in Permit Conditions V.D.6 and/or V.E. If the Department determines that further investigation of a SWMU or AOC is required, the Permit will be modified in accordance with R.61-79.270 Subpart D.

V.C. NOTIFICATION REQUIREMENTS FOR NEWLY DISCOVERED RELEASES AT PREVIOUSLY IDENTIFIED SWMUS OR AOCS

V.C.1 Notification

The Permittee shall notify the Department in writing of any newly discovered release(s) of hazardous waste or hazardous constituents at previously identified SWMUs or AOCs during the course of groundwater monitoring, field investigations, environmental audits, or other means, within fifteen (15) calendar days of discovery. Such newly discovered releases may be from SWMUs or AOCs identified in Permit Condition V.A.1 or SWMUs or AOCs identified in Permit Condition V.A.2. The notification shall include all available information pertaining to the nature of the release (e.g. media affected, hazardous constituents released, magnitude of release, etc.).

V.C.2 Plan for Investigation

If the Department or the Permittee determines that further investigation of the SWMUs or AOCs is needed, the Permittee shall be required to prepare a plan for such investigations as outlined in Permit Condition V.D or V.E.

V.D. CONFIRMATORY SAMPLING (CS)

V.D.1 CS Workplan

The Permittee shall prepare and submit a Confirmatory Sampling (CS) Workplan to the Department within forty-five (45) calendar days of notification by the Department. The CS Workplan must determine any releases from SWMUs or AOCs identified in Permit Conditions V.A.1 and V.A.2 or as required by Permit Condition V.B.3 or V.C.2. The CS Workplan shall include schedules of implementation and completion of specific actions necessary to determine whether a release has occurred and a cost estimate for a third party to complete the work required and preparation of the CS Report as required in Permit Condition V.D.5.

V.D.2 Approval Required

The CS Workplan must be approved by the Department, in writing, prior to implementation. The Department shall specify the start date of the CS Workplan in the letter approving the CS Workplan or within sixty (60) days if a time frame is not

provided. If the Department disapproves the CS Workplan, the Department shall: (1) notify the Permittee in writing of the CS Workplan's deficiencies and specify a due date for submission of a revised CS Workplan; (2) revise the CS Workplan and notify the Permittee of the revisions, or; (3) conditionally approve the CS Workplan and notify the Permittee of the conditions.

V.D.3 **Implementation**

The Permittee shall implement the confirmatory sampling in accordance with the approved CS Workplan.

V.D.4 **Financial Assurance for Confirmatory Sampling**

Within sixty (60) calendar days after the Department approves the CS Workplan, the Permittee shall demonstrate financial assurance for the costs to complete Confirmatory Sampling pursuant to Permit Condition V.D.1. The mechanism for financial assurance shall be one that is allowable under R.61-79.264 Subpart H.

V.D.5 **CS Report**

The Permittee shall prepare and submit to the Department in accordance with the schedule in the approved CS Workplan a Confirmatory Sampling (CS) Report for SWMUs or AOCs listed in Permit Conditions V.A.1 and V.A.2 or as required by Permit Condition V.B.3 or V.C.2, that have released hazardous waste or hazardous constituents into the environment. The CS Report shall include all data, including raw data, and an analysis and summary of the data that supports the above determination.

V.D.6 **Department Determination**

Based on the results of the CS Report, the Department shall determine the need for further investigations at the SWMUs or AOCs covered in the CS Report. If the Department determines that such investigations are needed, the Permittee shall be required to prepare a plan for such investigations as outlined in Permit Condition V.E. The Department shall notify the Permittee of any no further action decision.

V.D.7 **Continuation of Financial Assurance Following CS**

The Permittee shall maintain financial assurance for Confirmatory Sampling until such time as the Department notifies the Permittee of any No Further Action decision for those specific SWMUs or AOCs. If it is determined that further corrective action work is required pursuant to Permit Condition(s) V.E, V.F, and/or

V.G, financial assurance shall be maintained and adjusted accordingly based on any Department approved corrective action workplan.

V.D.8 **Adjustments to Cost Estimate**

The Permittee shall annually adjust the cost estimate for inflation sixty (60) days prior to the anniversary date of the establishment of the financial assurance mechanism unless using a financial test or corporate guarantee, in which case the estimate shall be updated thirty (30) days after the close of the firm's fiscal year.

V.E. RCRA FACILITY INVESTIGATION (RFI)

V.E.1 **RFI Workplan**

The Permittee shall prepare and submit to the Department within ninety (90) days of notification by the Department a RCRA Facility Investigation (RFI) Workplan(s) for those units identified in Permit Condition V.A. This Workplan shall be developed to meet the requirements of Permit Condition V.E.3.

V.E.2 **RFI Workplan for Newly Identified SWMUs and AOCs**

The Permittee shall prepare and submit to the Department within ninety (90) calendar days of notification by the Department, an RFI Workplan for those units identified under Permit Conditions V.B.3, V.C.2, or V.D.6. The RFI Workplan(s) shall be developed to meet the requirements of Permit Condition V.E.3.

V.E.3 **Required Contents**

The RFI Workplan(s) shall meet the requirements of Appendix B – RCRA Facility Investigation (RFI) Workplan Outline. The Permittee shall provide sufficient written justification for any omissions or deviations from any requirements of Appendix B. Such omissions or deviations are subject to the approval of the Department.

The RFI Workplan(s) shall include schedules of implementation and completion of specific actions necessary to determine the nature and extent of releases and the potential pathways of contaminant releases to air, land, surface water, and groundwater. The Permittee must provide sufficient justification and/or documentation that a release is not probable if a unit or a media/pathway associated with a unit (groundwater, surface water, sediment, soil, air or subsurface gas) is not included in the RFI Workplan(s). Such deletions of a unit, media or pathway from the RFI(s) are subject to the approval of the Department. In addition, the scope of the RFI Workplan(s) shall include all investigations necessary to ensure compliance with R.61-79.264.101(c). The RFI Workplan(s) shall also include a cost estimate for a third party to complete the RFI including the preparation of RFI

Progress Reports (as necessary pursuant to Permit Condition V.E.7) and the final RFI Report as required in Permit Condition V.E.8.

V.E.4 **Department Approval**

The RFI Workplan(s) must be approved by the Department, in writing, prior to implementation. The Department shall specify the start date of the RFI Workplan schedule in the letter approving the RFI Workplan(s). If the Department disapproves the RFI Workplan(s), the Department shall: (1) notify the Permittee in writing of the RFI Workplan's deficiencies and specify a due date for submission of a revised RFI Workplan; (2) revise the RFI Workplan and notify the Permittee of the revisions and the start date of the schedule within the approved RFI Workplan, or; (3) conditionally approve the RFI Workplan and notify the Permittee of the conditions.

V.E.5 **RFI Implementation**

The Permittee shall implement the RFI(s) in accordance with the approved RFI Workplan(s). The Permittee shall notify the Department at least twenty (20) days prior to any sampling activity.

V.E.6 **Financial Assurance for RFI**

Within sixty (60) calendar days after the Department approves the RFI Workplan, the Permittee shall demonstrate financial assurance for the costs to complete the RFI as required in Permit Condition V.E.1 or V.E.2. The mechanism for financial assurance shall be one that is allowable under R.61-79.264 Subpart H.

Commented [JB1]: Hey Kim, please double check the cross references. I think these are suppose to reference V.E.1 and V.E.2.

Commented [KT2R1]: The entirety of module V has had the fields updated

V.E.7 **RFI Progress Reports**

If the time required to conduct the RFI(s) is greater than one hundred eighty (180) calendar days, the Permittee shall provide the Department with quarterly RFI Progress Reports (90 day intervals) beginning ninety (90) calendar days from the start date specified by the Department in the RFI Workplan approval letter. The Progress Reports shall contain the following information at a minimum:

V.E.7(a) A description of the portion of the RFI completed;

V.E.7(b) Summaries of findings;

V.E.7(c) Summaries of any deviations from the approved RFI Workplan during the reporting period;

V.E.7(d) Summaries of any significant contacts with local community public interest groups or State government;

V.E.7(e) Summaries of any problems encountered during the reporting period;

V.E.7(f) Actions taken to rectify problems;

V.E.7(g) Changes in relevant personnel;

V.E.7(h) Projected work for the next reporting period.

V.E.8 **RFI Report**

The Permittee shall prepare and submit to the Department a RCRA Facility Investigation Report(s) for the investigations conducted pursuant to the RFI Workplan(s) submitted under Permit Condition V.E.1 or Permit Condition V.E.2. The RFI Report(s) shall be submitted to the Department for review in accordance with the schedule in the approved RFI Workplan(s). Any revised RFI Report(s) shall be submitted to the Department within thirty (30) calendar days of receipt of the Department's comments. The RFI Report(s) shall include an analysis and summary of all required investigations of SWMUs and AOCs and their results. The summary shall describe the type and extent of contamination at the facility, including sources and migration pathways, identify all hazardous constituents present in all media, and describe actual or potential receptors. The RFI Report(s) shall also describe the extent of contamination (qualitative/quantitative) in relation to background levels indicative of the area. The objective of this task shall be to ensure that the investigation data are sufficient in quality (e.g., quality assurance procedures have been followed) and quantity to describe the nature and extent of contamination, potential threat to human health and/or the environment, and to support a Corrective Measures Study (CMS), if necessary.

The RFI Report(s) shall propose a groundwater monitoring and reporting schedule for those SWMUs and/or AOCs at which groundwater contamination has been detected. Routine monitoring will be continued at these units until a remedy selection decision is made by the Department.

V.E.9 **Department Notification**

The Department will review the RFI Report(s) and shall notify the Permittee of the need for further investigation, if necessary; and if appropriate, the need for a CMS to meet the requirements of Permit Condition V.G and R.61-79.264.101.

V.E.10 **Continuation of Financial Assurance Following RFI**

The Permittee shall maintain financial assurance for corrective action work until such time as the Department notifies the Permittee of any No Further Action decision for those specific SWMUs or AOCs. If the Department notifies the Permittee of the need for further investigation or the need for a CMS to meet the requirements of Permit Condition V.G and R.61-79.264.101, financial assurance

shall be maintained and adjusted accordingly based on Department approved corrective action workplan(s).

V.E.11 **Adjustments to Cost Estimate**

The Permittee shall annually adjust the cost estimate for inflation sixty (60) days prior to the anniversary date of the establishment of the financial assurance mechanism unless using a financial test or corporate guarantee, in which case the estimate shall be updated thirty (30) days after the close of the firm's fiscal year.

V.F. INTERIM MEASURES (IM)

V.F.1 IM Workplan

V.F.1(a) Upon notification by the Department, the Permittee shall prepare and submit an Interim Measures (IM) Workplan for any SWMU or AOC that poses a current or potential threat to human health or the environment. The Permittee may submit an IM Workplan for approval prior to notification by the Department. The IM Workplan shall be submitted within thirty (30) calendar days of notification by the Department and shall include the elements listed in Permit Condition V.F.1(b). Interim measures may be conducted concurrently with investigation required under the terms of this Permit. The Permittee shall comply with the reporting requirements of Permit Condition V.F.4.

V.F.1(b) The IM Workplan shall ensure that the interim measures are designed to mitigate any current or potential threat(s) to human health or the environment and is consistent with and integrated into any long-term solution at the facility. The IM Workplan shall include: the interim measures objectives, procedures for implementation (including any designs, plans, or specifications), and schedules for implementation, and a cost estimate for a third party to complete the IM and prepare the IM Report(s) as required in Permit Condition V.F.4.

V.F.1(c) The IM Workplan must be approved by the Department, in writing, prior to implementation. The Department shall specify the start date of the IM Workplan schedule in the letter approving the IM Workplan. If the Department disapproves the IM Workplan, the Department shall: (1) notify the Permittee in writing of the IM Workplan's deficiencies and specify a due date for submission of a revised IM Workplan; (2) revise the IM Workplan and notify the Permittee of the revisions and the start date of the schedule within the approved IM Workplan, or; (3) conditionally approve the IM Workplan and notify the Permittee of the conditions.

V.F.2 **IM Implementation**

V.F.2(a) The Permittee shall implement interim measures in accordance with the approved IM Workplan.

V.F.2(b) The Permittee shall give notice to the Department prior to any changes, reductions or additions to the IM Workplan.

V.F.2(c) Final approval of corrective action required under R.61-79.264.101 which is achieved through interim measures shall be in accordance with R.61-79.270.41 and Permit Condition V.H as a permit modification.

V.F.3 **Financial Assurance for IM**

Within sixty (60) calendar days after the Department approves the IM Workplan, the Permittee shall demonstrate financial assurance for the costs to complete the IM as required in Permit Condition V.F.1. The mechanism for financial assurance shall be one that is allowable under R.61-79.264 Subpart H.

V.F.4 **IM Reports**

V.F.4(a) If the time required for completion of interim measures is greater than one year, the Permittee shall provide the Department with progress reports at intervals specified in the approved workplan. The Progress Reports shall contain the following information at a minimum:

V.F.4(a)(i) A description of the portion of the interim measures completed;

V.F.4(a)(ii) Summaries of findings;

V.F.4(a)(iii) Summaries of any deviations from the IM Workplan during the reporting period;

V.F.4(a)(iv) Summaries of any problems encountered during the reporting period; and

V.F.4(a)(v) Projected work for the next reporting period.

V.F.4(b) The Permittee shall prepare and submit to the Department, within ninety (90) calendar days of completion of interim measures conducted under Permit Condition V.F an Interim Measures (IM) Report. The IM Report shall contain the following information at a minimum:

V.F.4(b)(i) A description of interim measures implemented;

V.F.4(b)(ii) Summaries of results;

V.F.4(b)(iii) Summaries of all problems encountered;

V.F.4(b)(iv) Summaries of accomplishments and/or effectiveness of interim measures; and

V.F.4(b)(v) Copies of all relevant laboratory/monitoring data, etc. in accordance with Permit Condition I.E.9.

V.F.5 **Continuation of Financial Assurance Following IM**

The Permittee shall maintain financial assurance for corrective action work until such time as the Department notifies the Permittee of any No Further Action decision for those specific SWMUs or AOCs. If the Department notifies the Permittee of the need for further investigation to meet the requirements of Permit Condition V.E or the need for a CMS to meet the requirements of Permit Condition V.G and R.61-79.264.101, financial assurance shall be maintained and adjusted accordingly based on Department approved corrective action workplan(s).

V.F.6 **Adjustments to Cost Estimate**

The Permittee shall annually adjust the cost estimate for inflation sixty (60) days prior to the anniversary date of the establishment of the financial assurance mechanism unless using a financial test or corporate guarantee, in which case the estimate shall be updated thirty (30) days after the close of the firm's fiscal year.

V.G. CORRECTIVE MEASURES STUDY

V.G.1 **Corrective Measures Study (CMS) Workplan**

V.G.1(a) The Permittee shall prepare and submit a CMS Workplan for those units requiring a CMS within ninety (90) calendar days of notification by the Department that a CMS is required. This CMS Workplan shall be developed to meet the requirements of Permit Condition V.G.1(b). The CMS may be performed concurrent with the RFI if the Department determines that sufficient investigative details are available to allow concurrent action.

V.G.1(b) The CMS Workplan shall meet the requirements of Appendix C – Corrective Measure Study (CMS) Outline, at a minimum. The CMS Workplan shall include schedules of implementation and completion of specific actions necessary to complete a CMS. The CMS Workplan shall also include a cost estimate for a third party to complete the CMS including the preparation of the CMS Report as required in Permit Condition V.G.4. The Permittee must

provide sufficient written justification and documentation for any unit deleted from the CMS Workplan. Such deletion of a unit is subject to the approval of the Department. The CMS shall be conducted in accordance with the approved CMS Workplan. The Permittee shall provide sufficient written justification for any omissions or deviations from the minimum requirements of Appendix C. Such omissions or deviations are subject to the approval of the Department. The scope of the CMS Workplan shall include all investigations necessary to ensure compliance with R.61-79.264.101, R.61-79.264.552, R.61-79.264.553 and R.61-79.270.32(b)(2). The Permittee shall implement corrective actions beyond the facility boundary, as set forth in Permit Condition V.A.3.

V.G.1(c) If the Department disapproves the CMS Workplan, the Department shall; (1) notify the Permittee in writing of the CMS Workplan's deficiencies and specify a due date for submittal of a revised CMS Workplan; (2) revise the CMS Workplan and notify the Permittee of the revisions, or; (3) conditionally approve the CMS Workplan and notify the Permittee of the conditions.

V.G.2 **Corrective Measures Study Implementation**

The Permittee shall implement the Corrective Measures Study according to the schedules specified in the CMS Workplan, or no later than fifteen (15) calendar days after the Permittee has received written approval from the Department for the CMS Workplan. The CMS shall be conducted in accordance with the approved CMS Workplan.

V.G.3 **Financial Assurance for CMS**

Within sixty (60) calendar days after the Department approves the CMS Workplan, the Permittee shall demonstrate financial assurance for the costs to complete the CMS as required in Permit Condition V.G.1. The mechanism for financial assurance shall be one that is allowable under R.61-79.264 Subpart H.

V.G.4 **CMS Report**

V.G.4(a) The Permittee shall prepare and submit to the Department a CMS Report for the study conducted pursuant to the approved CMS Workplan. The CMS Report shall be submitted to the Department in accordance with the schedule in the approved CMS Workplan. Any revised CMS Report(s) shall be submitted to the Department within thirty (30) days of receipt of the Department's comments. The CMS Report shall summarize any bench-scale or pilot tests conducted. The CMS Report must include an evaluation of each remedial alternative. The CMS Report shall present all information

gathered under the approved CMS Workplan. The CMS Report must contain adequate information to support the Department's decision on the recommended remedy, described under Permit Condition V.H.

V.G.4(b) If the Department determines that the CMS Report does not fully satisfy the information requirements specified under Permit Condition V.G.4(a), the Department may disapprove the CMS Report. If the Department disapproves the CMS Report, the Department shall notify the Permittee in writing of the deficiencies in the CMS Report and specify a due date for submittal of a revised CMS Report. The Department will notify the Permittee of any no further action decision.

V.G.4(c) As specified under Permit Condition V.G.4(b) based on preliminary results and the CMS Report, the Department may require the Permittee to evaluate additional remedies or particular elements of one or more proposed remedies.

V.G.5 Continuation of Financial Assurance Following CMS

The Permittee shall maintain financial assurance for corrective action work until such time as the Department selects a remedy pursuant to Permit Condition V.H at which point financial assurance requirements for Remedy Selection (Permit Condition V.H.4) will apply or if the Department notifies the Permittee of any No Further Action decision for those specific SWMUs or AOCs. If the Department notifies the Permittee of the need for further corrective action work to complete the CMS pursuant to the requirements of Permit Condition V.G and R.61-79.264.101, financial assurance shall be maintained and adjusted accordingly based on Department approved corrective action workplan(s).

V.G.6 Adjustments to Cost Estimate

The Permittee shall annually adjust the cost estimate for inflation sixty (60) days prior to the anniversary date of the establishment of the financial assurance mechanism unless using a financial test or corporate guarantee, in which case the estimate shall be updated thirty (30) days after the close of the firm's fiscal year.

V.H. REMEDY APPROVAL AND PERMIT MODIFICATION

V.H.1 Remedy Selection

The Department shall select a remedy from the remedial alternatives evaluated in the CMS. The selection will be based at a minimum on protection of human health and the environment, as per specific site conditions, existing regulations, and

guidance. The selected remedy may include any interim measures implemented to date.

V.H.2 **Statement of Basis**

Upon approval of the CMS Report or other Department decision [i.e. NFA], the Permittee shall prepare a draft Statement of Basis that provides a summary and justification of the selected remedy. The Statement of Basis should be written following *EPA guidance "Guidance on RCRA Corrective Action Decision Documents: The Statement of Basis, Final Decision and Response to Comments," February 1991, EPA/540/G-91/011*, (or most recent version) or other Department approved guidance, and should include information on the proposed remedy, facility background, exposure pathways, cleanup goals, the scope of the corrective action, the remedial alternatives considered, an evaluation of those alternatives, and public participation. The Statement of Basis shall be submitted to the Department in draft form within the time frame specified in the letter from the Department that notifies the Permittee that the CMS Report is approved or within thirty (30) days if a time frame is not provided. The Department shall notify the Permittee of deficiencies and specify a due date for submittal of a revised Statement of Basis or revise and finalize the Statement of Basis.

V.H.3 **Permit Modification**

Pursuant to R.61-79.270.41, a permit modification will be initiated by the Department after recommendation of a remedy under Permit Condition V.H.1. This modification will serve to incorporate a final remedy into this Permit. The remedy selection is not final until a Permit Modification is issued.

V.H.4 **Financial Assurance**

Within one hundred and twenty (120) calendar days after this Permit has been modified for remedy selection, the Permittee shall demonstrate financial assurance for completing the approved remedy. The mechanism for financial assurance shall be one that is allowable under R.61-79.264 Subpart H.

V.I. CORRECTIVE MEASURES IMPLEMENTATION (CMI)

V.I.1 **CMI Workplan**

Within thirty (30) days of the effective date of the permit modification for the remedy selection, unless otherwise agreed by the Department, the Permittee shall prepare and submit a Corrective Measures Implementation (CMI) Workplan for the SWMUs or AOCs listed in Appendix A-7 – SWMUs and AOCs Requiring Corrective

Action with Land Use Controls (LUCs). At a minimum, this workplan shall include the following:

V.I.1(a) A description of the conceptual design, technical features (e.g. Plans and Specifications) and a Construction Plan for the selected remedy(ies) to achieve media cleanup standards protective of human health and the environment, controlling the source(s) of release, and complying with standards for the management of wastes and any remedial residues.

V.I.1(b) A proposed schedule that takes into account all phases of the CMI. The schedule should also include the submittal of documents to support the CMI (e.g. Operation and Maintenance Plan, Construction Completion Report, etc.) as described in Permit Conditions V.I.2 and V.I.4.

V.I.1(c) Requirements for removal and decontamination of units, equipment, devices or structures that will be used to implement the remedy(ies).

V.I.2 **Operation and Maintenance Plan**

An Operation and Maintenance Plan (O&MP) shall be submitted to the Department in accordance with the schedule required by Permit Condition V.I.1(b). The O&MP, at a minimum, shall include the following:

V.I.2(a) A system description, startup procedures, operation and maintenance procedures and schedule of inspection and maintenance;

V.I.2(b) Waste management practices, sampling and analysis required for operation and contingency procedures;

V.I.2(c) A description of the Corrective Measure(s) completion criteria and the method to be used to show when the criteria are met; and

V.I.2(d) For remedies with Land Use Controls, the Operation and Maintenance Plan should include the requirements of Permit Condition V.I.5.

V.I.3 **Department Approval**

All Plans required for the CMI phase, required by Permit Condition V.I must be approved, in writing, by the Department prior to implementation, in accordance with Permit Condition V.K.1.

V.I.4 **Construction Completion Report**

A Construction Completion Report (CCR) shall be submitted to the Department, in accordance with the schedule required by Permit Condition V.I.1(b) that demonstrates the completion of the remedy construction in accordance with

approved plans and specifications. The CCR shall be submitted when all operational tests have been completed. Any necessary documentation required by the Department shall be included in this report.

V.I.5 **Remedy with Land Use Controls**

The SWMUs and AOCs for which land use controls are selected as an integral part of the final remedy are listed in Appendix A-7 - SWMUs and AOCs Requiring Corrective Action with Land Use Controls. When corrective measures incorporate land use controls as part of the selected remedy, the following information should be provided:

V.I.5(a) The name, address and phone number of the person to contact about the SWMU or AOC;

V.I.5(b) Any necessary security provisions consistent with R.61-79.264.117(b) to prevent unauthorized entry and/or use of the waste unit;

V.I.5(c) A description of measures to protect the integrity of any installed engineering control(s) and associated features considered as part of the selected remedy, for the period that has to be maintained;

V.I.5(d) Planned maintenance and monitoring activities, and frequencies to ensure the security provisions are maintained;

V.I.5(e) An inspection checklist describing the land use control elements to be inspected, the frequency of inspection, and the potential problems that could be encountered. The checklist shall contain an area where the inspector may enter his/her name, the date of inspection, and the date upon which any problems encountered are remediated;

V.I.5(f) Procedure(s) to follow when a determination is made that the land use control(s) are not effective and require modification;

V.I.5(g) The mechanism by which a notification will be recorded on the deed for the facility property, or some other instrument which is normally examined during title search, that will in perpetuity notify any potential future purchaser of the property, that the property had been used for waste management and disposal activities and that restrictions exist precluding a residential use of the land. The need for a deed restriction may be reevaluated upon the transfer of ownership or control; and

V.I.5(h) The mechanism by which other pertinent agencies (State or Federal) will be given notice of restrictions placed on the use of the property, that is

affecting or may affect in the future, areas under the control of other State or Federal agencies.

V.I.5(i) The above information is outlined in detail in Appendix D – Land Use Control Management Plan (LUCMP).

V.I.6 **CMI Progress Reports**

If the time frame required to complete corrective measures implementation is greater than one hundred and eighty (180) days, the Permittee shall provide the Department with semi-annual Corrective Measures Implementation Progress Reports (180-day intervals) beginning from the date the CMI Workplan is approved by the Department, until the Remedy Completion Report is approved by the Department. The time frame stated is effective unless otherwise agreed to by the Department. The CMI Progress Reports shall contain at least the following information:

V.I.6(a) A description of the portion of the CMI Workplan completed (e.g. sampling events, operations, volumes removed/treated, wastes generated, etc.);

V.I.6(b) A summary of system performance/compliance and progress toward achieving cleanup goals;

V.I.6(c) A summary of any deviations from the approved CMI Workplans during the reporting period;

V.I.6(d) Summaries of all contacts with local community and public interest groups or State and Federal Government;

V.I.6(e) A summary of any problems or potential problems encountered during the reporting period;

V.I.6(f) A summary of actions taken to rectify the problems;

V.I.6(g) Any changes in relevant personnel; and

V.I.6(h) Projected work for the next reporting period.

V.I.7 **Remedy Completion Report**

V.I.7(a) Within ninety (90) days of completion of CMI phase, unless otherwise agreed by the Department, the Permittee shall submit a Remedy Completion Report (RCR), including certification of completion of the corrective measures activities. The RCR shall summarize the activities and results from the entire period of Corrective Measures Implementation. The RCR shall also demonstrate compliance with all media cleanup goals and

meet the corrective measures completion criteria in accordance with Permit Condition V.I.2(c). Approval by the Department of the final RCR constitutes remedy completion.

V.I.7(b) For corrective measures involving the cleanup of groundwater, the Permittee must demonstrate that the concentrations of the constituents of concern remain at or below cleanup levels for three (3) consecutive years after the corrective measures have been terminated. The time frame stated is effective unless otherwise agreed to by the Department.

V.J. MODIFICATION OF THE CORRECTIVE ACTION COMPLIANCE SCHEDULE

V.J.1 Initiation

If at any time the Department determines that modification of Table V-A Corrective Action Compliance Schedule is necessary, the Department may initiate a modification to the Corrective Action Compliance Schedule, in accordance with the applicable provisions of R.61-79.270.

V.J.2 Permittee Requested Modification

The Permittee may request a permit modification in accordance with R.61-79.270 to change the Corrective Action Compliance Schedule.

V.K. WORKPLAN AND REPORT REQUIREMENTS

V.K.1 Submittal Requirements

All reports submitted to the Department should be in the following format: one printed copy and one searchable electronic format.

V.K.2 Department Approval

All workplans, reports and schedules shall be subject to approval by the Department prior to implementation to assure that such workplans, reports and schedules are consistent with the requirements of this Permit and with applicable regulations and guidance. The Permittee shall revise all submittals and schedules as specified by the Department. Upon approval, the Permittee shall implement all workplans and schedules as written.

V.K.3 Extensions for Submittals

All workplans and reports shall be submitted in accordance with the approved schedule. Extensions of the due date for submittals may be granted by the

Department based on the Permittee's demonstration that sufficient justification for the extension exists.

V.K.4 **Amendment of the Workplan(s)**

If the Permittee at any time determines that the Assessment Report information required under Permit Condition V.B.2, the CS Workplan under Permit Condition V.D, or RFI Workplan(s) required under Permit Condition V.E, no longer satisfy the requirements of R.61-79.264.101 or this Permit for prior or continuing releases of hazardous waste or hazardous constituents from solid waste management units and/or areas of concern, the Permittee shall submit an amended Assessment Report and/or Workplan(s) to the Department within ninety (90) calendar days of such determination.

V.L. APPROVAL/DISAPPROVAL OF SUBMITTALS

The Department will review the workplans, reports, schedules, and other documents ("submittals") which require the Department's approval in accordance with the conditions of this Permit. The Department will notify the Permittee in writing of any submittal that is disapproved, and the basis thereof.

Table V-A		
Corrective Action Compliance Schedule		
Permit Condition	**Event**	**Due Date**
V.B.1	Notification of Newly Identified SWMUs and AOCs	Within fifteen (15) days of discovery.
V.B.2	Assessment Report	Within ninety (90) days of notification
V.C.1	Notification for Newly Discovered Releases at Previously Identified SWMUs and AOCs	Within fifteen (15) days of discovery.
V.D.1	Confirmatory Sampling Workplan and Cost Estimate	Within forty-five (45) days of notification by the Department
V.D.3	Implementation of Confirmatory Sampling Workplan	In accordance with the Department's approval letter for the CS Workplan.
V.D.4	Financial Assurance for Confirmatory Sampling	Within sixty (60) days after Department approves CS Workplan.
V.D.5	Confirmatory Sampling Report	In accordance with the approved CS Workplan.
V.E.1	RFI Workplan for SWMU(s) and AOC(s) Identified under Permit Condition V.A.1	Within ninety (90) days of notification by the Department.

Table V-A		
Corrective Action Compliance Schedule		
Permit Condition	**Event**	**Due Date**
V.E.2	RFI Workplan for Newly Identified SWMU(s) and AOC(s)	Within ninety (90) days after receipt of notification by the Department of which SWMUs or AOCs require an RFI.
V.E.5	Implementation of RFI Workplan	In accordance with the Department-approved RFI Workplan.
V.E.5	Notification of Sampling Activities	At least twenty (20) days prior to any RFI sampling activity.
V.E.6	Financial Assurance for RFI	Within sixty (60) days after Department approves RFI Workplan.
V.E.7	RFI Progress Reports	Quarterly, beginning ninety (90) days from the start date specified by the Department[1]
V.E.8	RFI Report	In accordance with the approved RFI Workplan.
V.E.8	Revised RFI Report	Within thirty (30) days of receipt of the Department's comments on the RFI Report.
V.F.1(a)	Interim Measures (IM) Workplan	Within thirty (30) days of notification by the Department.
V.F.2	Implementation of IM Workplan	In accordance with the Department-approved IM Workplan.

Table V-A		
Corrective Action Compliance Schedule		
Permit Condition	**Event**	**Due Date**
V.F.3	Financial Assurance for IM	Within sixty (60) days after Department approves IM Workplan.
V.F.4(a)	Interim Measures Progress Reports	In accordance with the approved IM Workplan.[2]
V.F.4(b)	Interim Measures Report	Within ninety (90) days of completion.
V.G.1(a)	CMS Workplan	Within ninety (90) days of notification by the Department that a CMS is required.
V.G.2	Implementation of the CMS Workplan	Within fifteen (15) days after receipt of the Department's approval of the Workplan.
V.G.3	Financial Assurance for CMS	Within sixty (60) days after Department approves CMS Workplan.
V.G.4(a)	CMS Report	In accordance with the schedule in the approved CMS Workplan.
V.G.4(a)	Revised CMS Report	Within thirty (30) days of receipt of the Department's comments on the CMS Report.
V.H.2	Statement of Basis	Within thirty (30) days of receipt of the Department's approval letter for the CMS Report.

Table V-A		
Corrective Action Compliance Schedule		
Permit Condition	**Event**	**Due Date**
V.H.4	Demonstration of Financial Assurance	Within one hundred twenty (120) days after Permit modification for remedy.
V.I.1	CMI Workplan	Within thirty (30) days of the permit modification for remedy selection.
V.I.2	Operations and Maintenance Plan	In accordance with the schedule in the approved CMI Workplan.
V.I.4	Construction Completion Report	In accordance with the schedule in the approved CMI Workplan.
V.I.6	CMI Progress Reports	Semi-annually, beginning one hundred eighty (180) days after approval of the CMI Workplan.
V.I.7	Remedy Completion Report	Within ninety (90) days of completion of the selected remedy.
V.K.4	Amendment of Assessment Report, CS Workplan, or RFI Workplan that no longer satisfies requirements of R.61-79.264.101 or this Permit	Within ninety (90) days of determination.
The above reports must be signed and certified in accordance with R.61-79.270.11. [1] Applies to workplan execution that requires more than one hundred eighty (180) days. [2] Applies to workplan execution that requires more than one (1) year.		

Module VI. WASTE MINIMIZATION

VI.A. GENERAL RESTRICTIONS

In the event that the Permittee treats, stores, or disposes of hazardous wastes onsite where such wastes were generated, then the Permittee must comply with R.61-79.264.73(b)(9), and Section 3005 (h) of RCRA (42 U.S.C. 6925(h)), and the Permittee must certify, no less than annually, that:

VI.A.1 Reduction of Hazardous Waste

The Permittee has a program in place to reduce the volume and toxicity of hazardous waste generated to the degree determined by the Permittee to be economically practicable; and

VI.A.2 Method of Treatment, Storage or Disposal

The proposed method of treatment, storage or disposal is the most practicable method available to the Permittee that minimizes the present and future threat to human health and the environment.

VI.B. RECORDING REQUIREMENTS

If Permit Condition VI.A is applicable, then the Permittee shall maintain copies of this certification in the facility operating record as required by R.61-79.264.73(b)(9).

VI.C. WASTE MINIMIZATION OBJECTIVES

If Permit Condition VI.A is applicable, the Waste Minimization program required under Permit Condition VI.A must address the objectives listed on the following two pages (Waste Minimization Objectives).

The Waste Minimization Program should include the following elements:

I. Top Management Support

A. Dated and signed policy describing management support for waste minimization and for implementation of a waste minimization plan.

B. Description of employee awareness and training programs designed to involve employees in waste minimization planning and implementation to the maximum extent feasible.

C. Description of how a waste minimization plan has been incorporated into management practices so as to ensure ongoing efforts with respect to product design, capital planning, production operations, and maintenance.

II. Characterization of Waste Generation

A. Identification of types, amounts, and hazardous constituents of waste streams, with the source and date of generation.

III. Periodic Waste Minimization Assessments

A. Identification of all points in a process where materials can be prevented from becoming a waste, or can be recycled.

B. Identification of potential waste reduction and recycling techniques applicable to each waste, with a cost estimate for capital investment and implementation.

C. Description of technically and economically practical waste reduction/recycling options to be implemented, and a planned schedule for implementation.

D. Specific performance goals, preferably quantitative, for the source reduction of waste by stream. Whenever possible, goals should be stated as weight of waste generated per standard unit of production, as defined by the generator.

IV. Cost Allocation System

A. Identification of waste management costs for each waste, factoring in liability, transportation, recordkeeping, personnel, pollution control, treatment, disposal, compliance and oversight costs to the extent feasible.

B. Description of how departments are held accountable for the wastes they generate.

C. Comparison of waste management costs with costs of potential reduction and recycling techniques applicable to each waste.

V. Technology Transfer

A. Description of efforts to seek and exchange technical information on waste minimization from other parts of the company, other firms, trade associations, technical assistance programs, and professional consultants.

VI. Program Evaluation

A. Description of types and amounts of hazardous waste reduced or recycled.

B. Analysis and quantification of progress made relative to each performance goal established and each reduction technique to be implemented.

C. Amendments to waste minimization plan and explanation.

D. Explanation and documentation of reduction efforts completed or in progress before development of the waste minimization plan.

E. Explanation and documentation regarding impediments to hazardous waste reduction specific to the individual facility.

References:

"Draft Guidance to Hazardous Waste Generators on the Elements of a Waste Minimization Program", 54 FR 25056, June 12, 1989.

"Waste Minimization Opportunity Assessment Manual", EPA/625/7 88/003, July 1988.

Module VII. LAND DISPOSAL RESTRICTIONS

VII.A. GENERAL RESTRICTIONS

R.61-79.268 identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances under which an otherwise prohibited waste may continue to be placed on or in a land treatment, storage, or disposal unit. The Permittee shall maintain compliance with the requirements of R.61-79.268. Where the Permittee has applied for an extension, waiver or variance under R.61-79.268, the Permittee shall comply with all restrictions on land disposal under this Part once the effective date for the waste has been reached pending a final decision for such application.

VII.B. LAND DISPOSAL PROHIBITIONS AND TREATMENT STANDARDS

VII.B.1 Restricted Waste Disposal Prohibition

A restricted waste identified in R.61-79.268 Subpart C may not be placed in a land disposal unit without further treatment unless the requirements of R.61-79.268 Subparts C and/or D are met.

VII.B.2 Storage Prohibition

The storage of hazardous wastes restricted from land disposal under R.61-79.268 is prohibited unless the requirements of R.61-79.268 Subpart E are met.

APPENDIX A – SOLID WASTE MANAGEMENT UNIT / AREA OF CONCERN SUMMARY

Appendix A-1	
List of All Solid Waste Management Units (SWMUs), Areas of Concern (AOCs), and Regulated Units	
SWMU Number or AOC Letter	**SWMU or AOC Name**
SWMU 1	Former Domestic Water System
	A) Domestic Sewer Line
	B) Comminutor
	C) Junction Box
SWMU 2	Former Industrial Waste System
	A) Industrial Sewer Line
	A) East Platform Area Industrial sewer release
	A) Groundwater Return Piping
	B) Waste Oil Sewer Line
	C) Influent Wet Well
	D) Dissolved Air Flotation Unit
	E) Alum Mix Basin
	F) Caustic Mix Basin
	G) Industrial Lagoon
	H) Inclined Plate Clarifier
SWMU 3	Former Combined Waste System
	A) Aeration Lagoon
	B) Secondary Clarifier
	C) Chlorine Contact Chamber
	D) Combination Wet Well
	E) Reactor Clarifier
	F) Sludge Lagoon
	G) Sand Filter
	H) Dechlorination Chamber
	I) Effluent Weir Box
SWMU 4	Sludge Dewatering System
	A) Sludge Conditioning Tank
	B) Sludge Press

Appendix A-1 List of All Solid Waste Management Units (SWMUs), Areas of Concern (AOCs), and Regulated Units	
SWMU Number or AOC Letter	**SWMU or AOC Name**
	C) Roll Off Containers
	D) Former Mobile System
SWMU 5	Former SAAs
	A) DAF Unit
	B) K-Bay X-Ray
	C) Pratt-Whitney Machines
	D) VPS Laboratory
	E) Daniel's Paint Room
	F) B-Bay Temporary SAA
	G) Excelo Grinder
SWMU 6	Current Industrial Waste System
	A) Industrial Sewer Line
	B) Weir Box
	C) Influent Wet Well
	D) Pumphouse Sump
	E) Skimmer
	F) Oily Solids Containers
	G) Equalization Tank
	H) Reactor Clarifier
	I) Sludge Holding Tank
	Wastewater Sludge Tank Release
	J) Parallel Aeration Tanks
	K) Secondary Clarifier
	L) Flow Measuring Device
	M) API Oil/Water Separator
SWMU 7	Waste Oil/Water Separation System
	A) Non-Hazardous Waste Oil Tank
	B) Separation Tank
	C) Separated Waste Oil Tank
	D) Truck Loading Pad
SWMU 8	Landfill
SWMU 9	Contaminated Soil Roll-Off Containers
SWMU 10	Storm Drains

Appendix A-1	
List of All Solid Waste Management Units (SWMUs), Areas of Concern (AOCs), and Regulated Units	
SWMU Number or AOC Letter	**SWMU or AOC Name**
SWMU 11	Equipment Laydown Area
SWMU 12	Former Free Product Recovery Tank
SWMU 13	Test Stand Diesel Spill – Test Stands 3 & 4
SWMU 14	Test Stand Cooling Tower Area
SWMU 15	Service Building Area
SWMU 16	Service Building Area Waste Accumulation Area
SWMU 17	South Parking Lot Detention Pond
SWMU 18	Fire Training / Sand Blasting Area
SWMU 19	Swarf Roll-Off Containers
SWMU 20	Ground-Water Holding Tank
SWMU 21	Frac Tanks
SWMU 22	Air Strippers
SWMU 23	East Platform Area
SWMU 24	East Platform Area Trash Compactors
SWMU 25	East Platform Area Roll-Off Containers
SWMU 26	East Platform Area Oil/Water Separator System
SWMU 27	Tanker Truck
SWMU 28	Mobile Sump Waste Tank
SWMU 29	Sumpsuckers
SWMU 30	Oil House
SWMU 31	Hazardous Waste Oil Tank
SWMU 32	Waste Oil Drum
SWMU 33	Former Hazardous Waste Storage Building
SWMU 34	Proposed Chip Storage Shed
SWMU 35	Muriatic Acid Tank
SWMU 36	Caustic Soda Tank
SWMU 37	Muriatic Acid Scrubber Tank
SWMU 38	Muriatic Acid UST
SWMU 39	Caustic Soda UST
SWMU 40	Removed Waste Oil Tank
SWMU 41	Former Combustion Liner Building Scrubber Water Tank
SWMU 42	East Platform Area Cyclone Dust Collector
SWMU 43	North Platform Waste Containers

Appendix A-1 List of All Solid Waste Management Units (SWMUs), Areas of Concern (AOCs), and Regulated Units	
SWMU Number or AOC Letter	**SWMU or AOC Name**
SWMU 44	North Platform Pumping Station
SWMU 45	North Platform Sawdust Collector
SWMU 46	EDM Oil Tanks
SWMU 47	EDM Oil Sludge Container
SWMU 48	Transition Piece Grit Blasting Waste Collectors
SWMU 49	Medical Department Containers
SWMU 50	Machine Pits
	A) CSB Machine Pit
	B) TP Vapor Degreaser Machine Pit
	C) APA Machine Pit
	D) JKA Horizontal Boring Machine Pit
	E) CHB Release Notification
SWMU 51	Floor Moats
	A) BJA Floor Moat
	B) Recycling Building Pipe Leak Area
	C) Former Flush Oil/Drum Storage Area
	D) Moat Release
SWMU 52	Electrostatic Precipitator Exhaust Pipeline
SWMU 53	Waste Metal Containers
	A) Scrap Metal Chip Containers
	B) Product Metal Reject Containers
	C) Grinding Swarf Containers
SWMU 54	Compressor Wheel Grit Blasting Waste Collectors
SWMU 55	A-Bay Shot Peen Dust Collectors
SWMU 56	VPS HEPA Filter System
SWMU 57	TCA Degreasers
SWMU 58	Caustic Degreasers
SWMU 59	Stator Casing Cleaning Booths
SWMU 60	Compressor Wheel Paint Booth
SWMU 61	Compressor Wheel Paint Booth SAA
SWMU 62	D-Bay Paint Booth Filters
SWMU 63	D-Bay Paint Booth SAA
SWMU 64	D-Bay Traveling Paint Booth Filters

Appendix A-1	
List of All Solid Waste Management Units (SWMUs), Areas of Concern (AOCs), and Regulated Units	
SWMU Number or AOC Letter	**SWMU or AOC Name**
SWMU 65	Forklift Waste Oil Drum
SWMU 66	East Platform Area Vault
SWMU 67	WWTP Area Ground Water Remediation System
	A) Extraction Wells
	B) Return Piping
	C) Ground Water Lift Station #1
	D) Ground Water Lift Station #2
	E) Ground Water Equalization Tank
	F) Ground Water Air Stripper
	G) Ground Water Mix Tank
	H) Ground Water Bag Filters
	I) Ground Water Carbon Filters
	J) Ground Water Metering Vault
SWMU 68	Huntington Downs Surface Water Treatment System
	A) Surface Water Collection Vault
	B) Surface Water Return Piping
	C) Surface Water Bag Filters
	D) Surface Water Carbon Filters
SWMU 69	Outside Dust Collectors
AOC A	Pumping Station Diesel Spill
AOC B	Former Flush Oil USTs
AOC C	Former Gasoline UST No. 1
AOC D	Former Gasoline UST No. 2
AOC E	Former Diesel Fuel UST
AOC F	Former Kerosene UST
AOC G	Little Rocky Creek
AOC H	North End Area Groundwater Plume
AOC I	Gas/Diesel Pump Area
AOC J	Waste Coolant Spill
AOC K	Dye Penetrant Spill
AOC L	Heat Exchanger Containment Overflow 1 & 2
AOC M	JQB Location Main Manufacturing Building
AOC N	MDA Location Main Manufacturing Building

Appendix A-1 List of All Solid Waste Management Units (SWMUs), Areas of Concern (AOCs), and Regulated Units	
SWMU Number or AOC Letter	**SWMU or AOC Name**
AOC	EDM Oil Spill
AOC	GTTL Courtyard & Retention Pond Spill
AOC	WWTP Sludge Wash Down
AOC	Elevator Shaft
AOC	AVA Work Station
AOC	MGB/MFB Work Station
AOC	Test Stand 7
AOC	LEB Work Station
AOC	HMA/HNA Work Station
AOC	AOC at VPS Area
AOC	M-Bay Expansion
AOC	North End Laydown Area
AOC	APA Work Station
AOC	MBB Work Station
AOC	CQA Work Station
AOC	HIB Work Station
AOC	O'Neal Laydown Area
AOC	Fluid Storage & Recycling Center Building
AOC	HOA Work Station
AOC	CEA Work Station
AOC	BFB Work Station
AOC	BLA Work Station
AOC	CUA Work Station
AOC	COA Work Station
AOC	DGB/DHB
AOC	North Cafeteria Construction
AOC	Former Paint Booth Area
AOC	RSRC Drain Over Flow
AOC	DMB, DNB, DOB Work Stations
AOC	CGB Work Station
AOC	MBA, MCA Work Stations
AOC	DNA Work Station
AOC	CWB Work Station

Appendix A-1 List of All Solid Waste Management Units (SWMUs), Areas of Concern (AOCs), and Regulated Units	
SWMU Number or AOC Letter	**SWMU or AOC Name**
AOC	JQA Work Station
AOC	BUA Work Station
AOC	BUB Work Station
AOC	MLB Work Station
AOC	Test Stand 7 Skid
AOC	BKA Work Station
AOC	DUB Work Station
AOC	DSB Work Station
AOC	JGB Work Station
AOC	DXB to DXZ Floor Moats
AOC	GTTL Heat Transfer Fluid Spill
AOC	D-Bay Crain Rail Release
AOC	Main Manufacturing Building – BIA and BJA Bay
AOC	Main Manufacturing Building –HCB Bay
AOC	Main Manufacturing Building – APA, AQA/ARA Bay
AOC	Main Manufacturing Building – AZA Bay
AOC	Main Manufacturing Building – HMB Bay
AOC	Main Manufacturing Building – C1B and C2B Bay
AOC	Main Manufacturing Building – APA Bay
AOC	Purge Water Spill near PW-34B
AOC	Main Manufacturing Building – BJB Bay
AOC	Main Manufacturing Building – MCB Machine Foundation Potential Removal
AOC	Main Manufacturing Building – MDB Bay
AOC	East Platform – Pump House Excavation
AOC	Main Manufacturing Building – L-Bay (LAA/LBA/LCA/LDB/LFB)
AOC	Main Manufacturing Building – HHB/HGB Bay
AOC	East Platform Area – MDC Expansion
AOC	Main Manufacturing Building – JFB Machine Foundation
AOC	Main Manufacturing Building – AQB* & ARB Bays
AOC	Main Manufacturing Building - MKA & MLA Bays

*Formerly listed as AGB, which was a typographical error.

Appendix A-2	
Units Regulated Under R.61-79.264 (RCRA-regulated units)	
SWMU Number or AOC Letter	**SWMU or AOC Name**
SWMU 2G	Industrial Lagoon
SWMU 3A	Aeration Lagoon
SWMU 3F	Sludge Lagoon

Appendix A-3	
SWMUs and AOCs Requiring No Further Action at this Time	
SWMU Number or AOC Letter	**SWMU or AOC Name**
SWMU 1	Former Domestic Water System
	A) Domestic Sewer Line
	B) Comminutor
	C) Junction Box
SWMU 2	Former Industrial Waste System
	A) East Platform Area Industrial sewer release
	A) Groundwater Return Piping
	C) Influent Wet Well
	D) Dissolved Air Flotation Unit
	E) Alum Mix Basin
	F) Caustic Mix Basin
	H) Inclined Plate Clarifier
SWMU 3	Former Combined Waste System
	B) Secondary Clarifier
	C) Chlorine Contact Chamber
	D) Combination Wet Well
	E) Reactor Clarifier
	G) Sand Filter
	H) Dechlorination Chamber
	I) Effluent Weir Box
SWMU 4	Sludge Dewatering System
	A) Sludge Conditioning Tank
	B) Sludge Press
	C) Roll Off Containers
	D) Former Mobile System
SWMU 5	Former SAAs
	A) DAF Unit
	B) K-Bay X-Ray
	C) Pratt-Whitney Machines
	D) VPS Laboratory
	E) Daniel's Paint Room

Appendix A-3	
SWMUs and AOCs Requiring No Further Action at this Time	
SWMU Number or AOC Letter	**SWMU or AOC Name**
	F) B-Bay Temporary SAA
	G) Excelo Grinder
SWMU 6	Current Industrial Waste System
	A) Industrial Sewer Line
	B) Weir Box
	C) Influent Wet Well
	D) Pumphouse Sump
	E) Skimmer
	F) Oily Solids Containers
	G) Equalization Tank
	H) Reactor Clarifier
	I) Sludge Holding Tank
	Wastewater Sludge Tank Release
	J) Parallel Aeration Tanks
	K) Secondary Clarifier
	L) Flow Measuring Device
	M) API Oil/Water Separator
SWMU 7	Waste Oil/Water Separation System
	A) Non-Hazardous Waste Oil Tank
	B) Separation Tank
	C) Separated Waste Oil Tank
	D) Truck Loading Pad
SWMU 9	Contaminated Soil Roll-Off Containers
SWMU 10	Storm Drains
SWMU 11	Equipment Laydown Area
SWMU 12	Former Free Product Recovery Tank
SWMU 15	Service Building Area
SWMU 16	Service Building Area Waste Accumulation Area
SWMU 17	South Parking Lot Detention Pond
SWMU 18	Fire Training / Sand Blasting Area
SWMU 19	Swarf Roll-Off Containers
SWMU 20	Ground-Water Holding Tank
SWMU 21	Frac Tanks
SWMU 22	Air Strippers

Appendix A-3	
SWMUs and AOCs Requiring No Further Action at this Time	
SWMU Number or AOC Letter	**SWMU or AOC Name**
SWMU 24	East Platform Area Trash Compactors
SWMU 25	East Platform Area Roll-Off Containers
SWMU 27	Tanker Truck
SWMU 28	Mobile Sump Waste Tank
SWMU 29	Sumpsuckers
SWMU 31	Hazardous Waste Oil Tank
SWMU 32	Waste Oil Drum
SWMU 33	Former Hazardous Waste Storage Building
SWMU 34	Proposed Chip Storage Shed
SWMU 35	Muriatic Acid Tank
SWMU 36	Caustic Soda Tank
SWMU 37	Muriatic Acid Scrubber Tank
SWMU 38	Muriatic Acid UST
SWMU 39	Caustic Soda UST
SWMU 41	Former Combustion Liner Building Scrubber Water Tank
SWMU 42	East Platform Area Cyclone Dust Collector
SWMU 43	North Platform Waste Containers
SWMU 44	North Platform Pumping Station
SWMU 45	North Platform Sawdust Collector
SWMU 46	EDM Oil Tanks
SWMU 47	EDM Oil Sludge Container
SWMU 48	Transition Piece Grit Blasting Waste Collectors
SWMU 49	Medical Department Containers
SWMU 50	Machine Pits
	A) CSB Machine Pit
	B) TP Vapor Degreaser Machine Pit
	C) APA Machine Pit
	D) JKA Horizontal Boring Machine Pit
	E) CHB Release Notification
SWMU 51	Floor Moats
	A) BJA Floor Moat
	B) Recycling Building Pipe Leak Area
	D) Moat Release
SWMU 52	Electrostatic Precipitator Exhaust Pipeline

Appendix A-3	
SWMUs and AOCs Requiring No Further Action at this Time	
SWMU Number or AOC Letter	**SWMU or AOC Name**
SWMU 53	Waste Metal Containers
	A) Scrap Metal Chip Containers
	B) Product Metal Reject Containers
	C) Grinding Swarf Containers
SWMU 54	Compressor Wheel Grit Blasting Waste Collectors
SWMU 55	A-Bay Shot Peen Dust Collectors
SWMU 56	VPS HEPA Filter System
SWMU 57	TCA Degreasers
SWMU 58	Caustic Degreasers
SWMU 59	Stator Casing Cleaning Booths
SWMU 60	Compressor Wheel Paint Booth
SWMU 61	Compressor Wheel Paint Booth SAA
SWMU 62	D-Bay Paint Booth Filters
SWMU 63	D-Bay Paint Booth SAA
SWMU 64	D-Bay Traveling Paint Booth Filters
SWMU 65	Forklift Waste Oil Drum
SWMU 66	East Platform Area Vault
SWMU 67	WWTP Area Ground Water Remediation System
	A) Extraction Wells
	B) Return Piping
	C) Ground Water Lift Station #1
	D) Ground Water Lift Station #2
	E) Ground Water Equalization Tank
	F) Ground Water Air Stripper
	G) Ground Water Mix Tank
	H) Ground Water Bag Filters
	I) Ground Water Carbon Filters
	J) Ground Water Metering Vault
SWMU 68	Huntington Downs Surface Water Treatment System
	A) Surface Water Collection Vault
	B) Surface Water Return Piping
	C) Surface Water Bag Filters
	D) Surface Water Carbon Filters
SWMU 69	Outside Dust Collectors

Appendix A-3	
SWMUs and AOCs Requiring No Further Action at this Time	
SWMU Number or AOC Letter	**SWMU or AOC Name**
AOC C	Former Gasoline UST No. 1
AOC D	Former Gasoline UST No. 2
AOC E	Former Diesel Fuel UST
AOC F	Former Kerosene UST
AOC I	Gas/Diesel Pump Area
AOC J	Waste Coolant Spill
AOC K	Dye Penetrant Spill
AOC L	Heat Exchanger Containment Overflow 1 & 2
AOC M	JQB Location Main Manufacturing Building
AOC N	MDA Location Main Manufacturing Building
AOC	EDM Oil Spill
AOC	GTTL Courtyard & Retention Pond Spill
AOC	WWTP Sludge Wash Down
AOC	Elevator Shaft
AOC	AVA Work Station
AOC	MGB/MFB Work Station
AOC	Test Stand 7
AOC	LEB Work Station
AOC	HMA/HNA Work Station
AOC	AOC at VPS Area
AOC	M-Bay Expansion
AOC	North End Laydown Area
AOC	APA Work Station
AOC	MBB Work Station
AOC	CQA Work Station
AOC	HIB Work Station
AOC	O'Neal Laydown Area
AOC	Fluid Storage & Recycling Center Building
AOC	HOA Work Station
AOC	CEA Work Station
AOC	BFB Work Station
AOC	BLA Work Station
AOC	CUA Work Station
AOC	COA Work Station

Appendix A-3	
SWMUs and AOCs Requiring No Further Action at this Time	
SWMU Number or AOC Letter	**SWMU or AOC Name**
AOC	DGB/DHB
AOC	North Cafeteria Construction
AOC	Former Paint Booth Area
AOC	RSRC Drain Over Flow
AOC	DMB, DNB, DOB Work Stations
AOC	CGB Work Station
AOC	MBA, MCA Work Stations
AOC	DNA Work Station
AOC	CWB Work Station
AOC	JQA Work Station
AOC	BUA Work Station
AOC	BUB Work Station
AOC	MLB Work Station
AOC	Test Stand 7 Skid
AOC	BKA Work Station
AOC	DUB Work Station
AOC	DSB Work Station
AOC	JGB Work Station
AOC	DXB to DXZ Floor Moats
AOC	GTTL Heat Transfer Fluid Spill
AOC	D-Bay Crain Rail Release
AOC	Main Manufacturing Building – BIA and BJA Bay
AOC	Main Manufacturing Building –HCB Bay
AOC	Main Manufacturing Building – APA, AQA/ARA Bay
AOC	Main Manufacturing Building – AZA Bay
AOC	Main Manufacturing Building – HMB Bay
AOC	Main Manufacturing Building – C1B and C2B Bay
AOC	Main Manufacturing Building – APA Bay
AOC	Purge Water Spill near PW-34B
AOC	Main Manufacturing Building – BJB Bay
AOC	Main Manufacturing Building – MCB Machine Foundation Potential Removal
AOC	Main Manufacturing Building – MDB Bay
AOC	East Platform – Pump House Excavation

Appendix A-3	
SWMUs and AOCs Requiring No Further Action at this Time	
SWMU Number or AOC Letter	**SWMU or AOC Name**
AOC	Main Manufacturing Building – L-Bay (LAA/LBA/LCA/LDB/LFB)
AOC	Main Manufacturing Building – HHB/HGB Bay
AOC	East Platform Area – MDC Expansion
AOC	Main Manufacturing Building – JFB Machine Foundation
AOC	Main Manufacturing Building – AQB* & ARB Bays
AOC	Main Manufacturing Building - MKA & MLA Bays

*Formerly listed as AGB, which was a typographical error.

Appendix A-4	
SWMUs and AOCs Requiring Confirmatory Sampling	
SWMU Number or AOC Letter	**SWMU or AOC Name**
None	

Appendix A-5	
SWMUs and AOCs Requiring a RCRA Facility Investigation (RFI)	
SWMU Number or AOC Letter	**SWMU or AOC Name**
None	

Appendix A-6	
SWMUs and AOCs Requiring a Corrective Measures Study (CMS)	
SWMU Number or AOC Letter	**SWMU or AOC Name**
None	

Appendix A-7				
SWMUs and AOCs Requiring Corrective Action with Land Use Controls (LUCs)				
SWMU Number or AOC Letter	**SWMU or AOC Name**	**Description of Corrective Action**	**Description of LUC**	**Document Selecting Corrective Action and LUCs**
SWMU 2A	Former Industrial Waste System – Industrial Sewer Line	Soil Vapor Extraction Groundwater Extraction	Facility 24-hour security and fence	CMS Report LUCMP
SWMU 2B	Former Industrial Waste System – Waste Oil Sewer Line	Soil Vapor Extraction Groundwater Extraction	Facility 24-hour security and fence	CMS Report LUCMP
SWMU 2G	Industrial Lagoon	Groundwater Extraction	Facility 24-hour security and fence	Permit Application
SWMU 3A	Aeration Lagoon	Groundwater Extraction	Facility 24-hour security and fence	Permit Application
SWMU 3F	Sludge Lagoon	Groundwater Extraction	Facility 24-hour security and fence	Permit Application
SWMU 13	Test Stand Diesel Spill – Test Stands 3 & 4	LNAPL removal	Facility 24-hour security and fence	CMS Report LUCMP
SWMU 14	Test Stand Cooling Tower Area	Soil Vapor Extraction Groundwater Extraction	Facility 24-hour security and fence	CMS Report LUCMP

Appendix A-7				
SWMUs and AOCs Requiring Corrective Action with Land Use Controls (LUCs)				
SWMU Number or AOC Letter	**SWMU or AOC Name**	**Description of Corrective Action**	**Description of LUC**	**Document Selecting Corrective Action and LUCs**
SWMU 23	East Platform Area	High Vacuum/Dual Phase Vapor Extraction Soil Vapor Extraction Groundwater Extraction	Facility 24-hour security and fence	CMS Report LUCMP
SWMU 26	East Platform Area Oil/Water Separator System	High Vacuum/Dual Phase Vapor Extraction Soil Vapor Extraction Groundwater Extraction	Facility 24-hour security and fence	CMS Report LUCMP
SWMU 30	Oil House	High Vacuum/Dual Phase Vapor Extraction Soil Vapor Extraction Groundwater Extraction	Facility 24-hour security and fence	CMS Report LUCMP
SWMU 40	Removed Waste Oil Tank	High Vacuum/Dual Phase Vapor Extraction Soil Vapor Extraction Groundwater Extraction LNAPL removal	Facility 24-hour security and fence	CMS Report LUCMP

Appendix A-7				
SWMUs and AOCs Requiring Corrective Action with Land Use Controls (LUCs)				
SWMU Number or AOC Letter	**SWMU or AOC Name**	**Description of Corrective Action**	**Description of LUC**	**Document Selecting Corrective Action and LUCs**
SWMU 51C	Former Flush Oil/Drum Storage Area	High Vacuum/Dual Phase Vapor Extraction Soil Vapor Extraction Groundwater Extraction	Facility 24-hour security and fence	CMS Report LUCMP
SWMU 66	East Platform Area Vault	High Vacuum/Dual Phase Vapor Extraction Soil Vapor Extraction Groundwater Extraction	Facility 24-hour security and fence	CMS Report LUCMP
AOC A	Pumping Station Diesel Spill	Soil Vapor Extraction Groundwater Extraction	Facility 24-hour security and fence	CMS Report LUCMP
AOC B	Former Flush Oil USTs	High Vacuum/Dual Phase Vapor Extraction Soil Vapor Extraction Groundwater Extraction	Facility 24-hour security and fence	CMS Report LUCMP
AOC G	Little Rocky Creek	Groundwater Extraction	Facility 24-hour security and fence	CMS Report LUCMP

Appendix A-7				
SWMUs and AOCs Requiring Corrective Action with Land Use Controls (LUCs)				
SWMU Number or AOC Letter	**SWMU or AOC Name**	**Description of Corrective Action**	**Description of LUC**	**Document Selecting Corrective Action and LUCs**
AOC H	North End Area Groundwater Plume	Groundwater Extraction	Facility 24-hour security and fence	CMS Report LUCMP

Appendix A-8			
SWMUs and AOCs Transferred to Another Environmental Program			
SWMU Number or AOC Letter	**SWMU or AOC Name**	**Name of Environmental Program**	**Type of Permit and ID Number**
SWMU 8	Landfill	Division of Mining and Solid Waste Management	C&D Landfill 233321-1901

APPENDIX B - RCRA FACILITY INVESTIGATION (RFI) WORKPLAN OUTLINE

I. RFI WORKPLAN REQUIREMENTS

The Permittee shall prepare a RCRA Facility Investigation (RFI) Workplan that meets the requirements of Part II of this appendix and the RFI Guidance, EPA-530/SW-89-031. This workplan shall also include the development of the following plans, which shall be prepared concurrently:

A. Project Management Plan

Permittee shall prepare a Project Management Plan that will include a discussion of the technical approach, schedules, and personnel. The Project Management Plan will also include a description of qualifications of personnel performing or directing the RFI, including contractor personnel. This plan shall also document the overall management approach to the RCRA Facility Investigation.

B. Sampling and Analysis Plan(s)

The Permittee shall prepare a plan to document all monitoring procedures: field sampling, sampling procedures and sample analysis performed during the investigation to characterize the environmental setting, source, and releases of hazardous constituents, so as to ensure that all information and data are valid and properly documented. The Sampling Strategy and Procedures shall be in accordance with EPA Region 4 Environmental Compliance Branch's Standard Operating Procedure and Quality Assurance Manual (SOP) (most recent version). Any deviations from this reference must be requested by the applicant and approved by the Department. The Sampling and Analysis Plan must specifically discuss the following unless the SOP procedures are specifically referenced.

1. Sampling Strategy

a) Selecting appropriate sampling locations, depths, etc.;

b) Obtaining all necessary ancillary data;

c) Determining conditions under which sampling should be conducted;

d) Determining which media are to be sampled (e.g. groundwater, air, soil, sediment, subsurface gas);

e) Determining which parameters are to be measured and where;

f) Selecting the frequency of sampling and length of sampling period;

g) Selecting the types of samples (e.g. composites vs. grabs) and number of samples to be collected.

2. Sampling Procedures

a) Documenting field sampling operations and procedures, including:

(i) Documentation of procedures for preparation of reagents or supplies which become an integral part of the sample (e.g. filters, preservatives, and absorbing reagents);

(ii) Procedures and forms for recording the exact location and specific considerations associated with sample acquisition;

(iii) Documentation of specific sample preservation method;

(iv) Calibration of field instruments;

(v) Submission of field-biased blanks, where appropriate;

(vi) Potential interferences present at the facility;

(vii) Construction materials and techniques, associated with monitoring wells and piezometers;

(viii) Field equipment listing and sampling containers;

(ix) Sampling order; and

(x) Decontamination procedures.

b) Selecting appropriate sample containers;

c) Sampling preservation; and

d) Chain-of-custody, including:

(i) Standardized field tracking reporting forms to establish sample custody in the field prior to shipment; and

(ii) Pre-prepared sample labels containing all information necessary for effective sample tracking.

3. Sample Analysis

Sample analysis shall be conducted in accordance with Test Methods for Evaluating Solid Waste:/, Physical/Chemical Methods (SW-846) (most recent version). The sample analysis section of the Sampling and Analysis Plan shall specify the following:

a) Chain-of-custody procedures, including:

   (i) Identification of a responsible party to act as sampling custodian at the laboratory facility authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered onto the sample custody records;

   (ii) Provision for a laboratory sample custody log consisting of serially numbered standard lab tracking report sheets; and

   (iii) Specification of laboratory sample custody procedures for sample handling, storage, and dispersement for analysis.

b) Sample storage;

c) Sample preparation methods;

d) Analytical Procedures, including:

   (i) Scope and application of the procedure;

   (ii) Sample matrix;

   (iii) Potential interferences;

   (iv) Precision and accuracy of the methodology; and

   (v) Method detection limits.

e) Calibration procedures and frequency;

f) Data reduction, validation and reporting;

g) Internal quality control checks, laboratory performance and systems audits and frequency, including:

   (i) Method blank(s);

   (ii) Laboratory control sample(s);

   (iii) Calibration check sample(s);

   (iv) Replicate sample(s);

   (v) Matrix-spiked sample(s);

   (vi) "Blind" quality control sample(s);

   (vii) Control charts;

(viii) Surrogate samples;

(ix) Zero and span gases; and

(x) Reagent quality control checks.

h) External quality control checks by the Department, including:

(i) Spikes and blanks at sampling events for which the Department or its technical representative provides oversight; and

(ii) The equivalent of a CLP data package for samples split with the Department or for which the Department specifically requests the package.

i) Preventive maintenance procedures and schedules;

j) Corrective action (for laboratory problems); and

k) Turnaround time.

C. Data Management Plan

The Permittee shall develop and initiate a Data Management Plan to document and track investigation data and results. This plan shall identify and set up data documentation materials and procedures, project file requirements, and project related progress reporting procedures and documents. The plan shall also provide the format to be used to present the raw data and conclusions of the investigation.

1. Data Record

The data record shall include the following:

a) Unique sample or field measurement code;

b) Sampling or field measurement location and sample or measurement type;

c) Sampling or field measurement raw data;

d) Laboratory analysis ID number;

e) Property or component measures; and

f) Result of analysis (e.g. concentration).

2. Tabular Displays

The following data shall be presented in tabular displays:

a) Unsorted (raw) data;

b) Results for each medium, or for each constituent monitored;

c) Data reduction for statistical analysis, as appropriate;

d) Sorting of data by potential stratification factors (e.g. location, soil layer, topography); and

e) Summary data

3. Graphical Displays

The following data shall be presented in graphical formats (e.g. bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transits, three dimensional graphs, etc.):

a) Display sampling location and sampling grid:

b) Indicate boundaries of sampling area, and area where more data are required;

c) Display geographical extent of contamination;

d) Illustrate changes in concentration in relation to distances from the source, time, depth or other parameters; and

e) Indicate features affecting inter media transport and show potential receptors.

II. RCRA Facility Investigation (RFI) Requirements

The Permittee shall conduct those investigations necessary to: characterize the facility (Environmental Setting); define the source (Source Characterization); define the degree and extent of release of hazardous constituents (Contamination Characterization); and identify actual or potential receptors.

The investigations should result in data of adequate technical content and quality to support the development and evaluation of the corrective action plan if necessary. The information contained in previously developed documents such as a RCRA Part B Permit Application and/or RCRA Section 3019 Exposure Information Report may be referenced as appropriate but must be summarized in both the RFI Workplan and RFI Report.

All sampling and analyses shall be conducted in accordance with the Sampling and Analysis Plan. All sampling locations shall be documented in a log and identified on a detailed site map.

A. Environmental Setting

The Permittee shall collect information to supplement and/or verify Part B information on the environmental setting at the facility. The Permittee shall characterize the following as they relate to identified sources, pathways and areas of releases of hazardous constituents from Solid Waste Management Units.

1. Hydrogeology

The Permittee shall conduct a program to evaluate hydrogeologic conditions at the facility. This program shall provide the following information:

a) A description of the regional and facility specific geologic and hydrogeologic characteristics affecting ground-water flow beneath the facility, including:

(i) Regional and facility specific stratigraphy: description of strata including strike and dip, identification of stratigraphic contacts;

(ii) Structural geology: description of local and regional structural features (e. g., folding, faulting, tilting, jointing, etc.);

(iii) Depositional history;

(iv) Regional and facility specific ground-water flow patterns; and

(v) Identification and characterization of areas and amounts of recharge and discharge.

b) An analysis of any topographic features that might influence the ground-water flow system.

c) Based on field data, tests, and cores, a representative and accurate classification and description of the hydrogeologic units which may be part of the migration pathways at the facility (i. e., the aquifers and any intervening saturated and unsaturated units), including:

(i) Hydraulic conductivity and porosity (total and effective);

(ii) Lithology, grain size, sorting, degree of cementation;

(iii) An interpretation of hydraulic interconnections between saturated zones; and

(iv) The attenuation capacity and mechanisms of the natural earth materials (e.g. ion exchange capacity, organic carbon content, mineral content etc.).

d) Based on data obtained from groundwater monitoring wells and piezometers installed upgradient and downgradient of the potential contaminant source, a representative description of water level or fluid pressure monitoring including:

(i) Water-level contour and/or potentiometric maps;

(ii) Hydrologic cross sections showing vertical gradients;

(iii) The flow system, including the vertical and horizontal components of flow; and

(iv) Any temporal changes in hydraulic gradients, for example, due to tidal or seasonal influences.

e) A description of man-made influences that may affect the hydrology of the site, identifying:

(i) Local water-supply and production wells with an approximate schedule of pumping; and

(ii) Man-made hydraulic structures (pipelines, french drains, ditches, etc.).

2. Soils

The Permittee shall conduct a program to characterize the soil and rock units above the water table in the vicinity of contaminant release(s). Such characterization may include, but not be limited to, the following types of information as appropriate:

a) Surface soil distribution;

b) Soil profile, including ASTM classification of soils;

c) Transects of soil stratigraphy;

d) Hydraulic conductivity (saturated and unsaturated);

e) Relative permeability;

f) Bulk density;

g) Porosity;

h) Soil sorption capacity;

i) Cation exchange capacity (CEC);

j) Soil organic content;

k) Soil pH;

l) Particle size distribution;

m) Depth of water table;

n) Moisture content;

o) Effect of stratification on unsaturated flow;

p) Infiltration;

q) Evapotranspiration;

r) Storage capacity;

s) Vertical flow rate; and

t) Mineral content.

3. Surface Water and Sediment

The Permittee shall conduct a program to characterize the surface water bodies in the vicinity of the facility. Such characterization may include, but not be limited to, the following activities and information:

a) Description of the temporal and permanent surface water bodies including:

(i) For lakes and estuaries: location, elevation, surface area, inflow, outflow, depth, temperature stratification, and volume;

(ii) For impoundments: location, elevation, surface area, depth, volume, freeboard, and construction and purpose;

(iii) For streams, ditches, and channels: location, elevation, flow, velocity, depth, width, seasonal fluctuations, flooding tendencies (i.e. 100 year event), discharge point(s), and general contents.

(iv) Drainage patterns; and

(v) Evapotranspiration.

b) Description of the chemistry of the natural surface water and sediments. This includes determining the pH, total dissolved solids, total suspended solids, biological oxygen demand, alkalinity, conductivity, dissolved oxygen profiles, nutrients, chemical oxygen demand, total organic carbon, specific contaminant concentrations, etc.

c) Description of sediment characteristics including:

(i) Deposition area;

(ii) Thickness profile; and

(iii) Physical and chemical parameters (e.g. grain size, density, organic carbon content, ion exchange capacity, pH, etc.)

4. Air

The Permittee shall provide information characterizing the climate in the vicinity of the facility. Such information may include, but not be limited to:

a) A description of the following parameters:

(i) Annual and monthly rainfall averages;

(ii) Monthly temperature averages and extremes;

(iii) Wind speed and direction;

(iv) Relative humidity/dew point;

(v) Atmospheric pressure;

(vi) Evaporation data;

(vii) Development of inversions; and

(viii) Climate extremes that have been known to occur in the vicinity of the facility, including frequency of occurrence. (i.e. Hurricanes)

b) A description of topographic and man-made features which affect air flow and emission patterns, including:

(i) Ridges, hills or mountain areas;

(ii) Canyons or valleys;

(iii) Surface water bodies (e. g. rivers, lakes, bays, etc.); and

(iv) Buildings.

B. Source Characterization

For those sources from which releases of hazardous constituents have been detected, the Permittee shall collect analytical data to completely characterize the wastes and the areas where wastes have been placed, to the degree that is possible without undue safety risks, including: type, quantity; physical form; disposition (containment or nature of deposits); and facility characteristics affecting release (e. g., facility security, and engineering barriers). This shall include quantification of the following specific characteristics, at each source area:

1. Unit/Disposal Area Characteristics:

a) Location of unit/disposal area;

b) Type of unit/disposal area;

c) Design features;

d) Operating practices (past and present)

e) Period of operation;

f) Age of unit/disposal area;

g) General physical conditions; and

h) Method used to close the unit/disposal area.

2. Waste Characteristics:

a) Type of wastes placed in the unit;

(i) Hazardous classification (e. g. flammable, reactive, corrosive, oxidizing or reducing agent);

(ii) Quantity; and

(iii) Chemical composition.

b) Physical and chemical characteristics such as;

(i) Physical form (solid, liquid, gas);

(ii) Physical description (e. g., powder, oily sludge);

(iii) Temperature;

(iv) pH;

(v) General chemical class (e. g., acid, base, solvent);

(vi) Molecular weight;

(vii) Density;

(viii) Boiling point;

(ix) Viscosity;

(x) Solubility in water;

(xi) Cohesiveness of the waste; and

(xii) Vapor pressure.

c) Migration and dispersal characteristics of the waste such as:

(i) Sorption capability;

(ii) Biodegradability, bioconcentration, biotransformation;

(iii) Photodegradation rates;

(iv) Hydrolysis rates; and

(v) Chemical transformations.

The Permittee shall document the procedures used in making the above determinations.

C. Characterization of Releases of Hazardous Constituents

The Permittee shall collect analytical data on groundwater, soils, surface water, sediment, and subsurface gas contamination in the vicinity of the facility in accordance with the sampling and analysis plan as required above. These data shall be sufficient to define the extent, origin, direction, and rate of movement of contamination. Data shall include time and location of sampling, media sampled, concentrations found, conditions during sampling, and the identity of the individuals performing the sampling and analysis. The Permittee shall address the following types of contamination at the facility:

1. Groundwater Contamination

The Permittee shall conduct a groundwater investigation to characterize any plumes of contamination detected at the facility. This investigation shall at a minimum provide the following information:

a) A description of the horizontal and vertical extent of any plume(s) of hazardous constituents originating from within the facility;

b) The horizontal and vertical direction of contamination movement;

c) The velocity of contaminant movement;

d) The horizontal and vertical concentration profiles of hazardous constituents in the plume(s);

e) An evaluation of factors influencing the plume movement; and

f) An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations (e. g., well design, well construction, geophysics, modeling, etc.).

2. Soil Contamination

The Permittee shall conduct an investigation to characterize the contamination of the soil and rock units above the saturated zone in the vicinity of any contaminant release. The investigation may include the following information:

a) A description of the vertical and horizontal extent of contamination;

b) A description of appropriate contaminant and soil chemical properties within the contaminant source area and plume. This may include contaminant solubility, speciation, absorption, leachability, exchange capacity, biodegradability, hydrolysis, photolysis, oxidation and other factors that might affect contaminant migration and transformation;

c) Specific contaminant concentrations;

d) The velocity and direction of contaminant movement; and

e) An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations.

3. Surface Water and Sediment Contamination

The Permittee shall conduct a surface water investigation to characterize contamination in surface water bodies resulting from releases of hazardous constituents at the facility. The investigation may include, but not be limited to, the following information:

a) A description of the horizontal and vertical extent of any plume(s) originating from the facility, and the extent of contamination in underlying sediments;

b) The horizontal and vertical direction of contaminant movement;

c) The contaminant velocity;

d) An evaluation of the physical, biological and chemical factors influencing contaminant movement;

e) An extrapolation of future contaminant, movement; and

f) A description of the chemistry of the contaminated surface waters and sediments. This includes determining the pH, total dissolved solids, specific contaminant concentrations, etc.

4. Air Contamination

The Permittee shall conduct an investigation to characterize gaseous releases of hazardous constituents into the atmosphere or any structures or buildings. This investigation may provide the following information:

a) A description of the horizontal and vertical direction and velocity of contaminant movement;

b) The rate and amount of the release; and

c) The chemical and physical composition of the contaminant(s) released, including horizontal and vertical concentration profiles.

The Permittee shall document the procedures used in making the above determinations.

D. Potential Receptors

The Permittee shall collect data describing the human populations and environmental systems that are susceptible to contaminant exposure from the facility. Chemical analysis of biological samples and/or data on observable effects in ecosystems may also be obtained as appropriate. The following characteristics shall be identified:

1. Current local uses and planned future uses of groundwater:

a) Type of use (e. g., drinking water source: municipal or residential, agricultural, domestic/non-potable, and industrial); and

b) Location of ground water users, to include withdrawal and discharge wells, within one mile of the impacted area.

The above information should also indicate the aquifer or hydrogeologic unit used and/or impacted for each item.

2. Current local uses and planned future uses of surface waters directly impacted by the facility:

a) Domestic and municipal (e. g., potable and lawn/gardening watering);

b) Recreational (e. g. swimming, fishing);

c) Agricultural;

d) Industrial; and

e) Environmental (e. g., fish and wildlife propagation).

3. Human use of or access to the facility and adjacent lands, including but not limited to:

a) Recreation;

b) Hunting;

c) Residential;

d) Commercial; and

e) Relationship between population locations and prevailing wind direction.

4. A general description of the biota in surface water bodies on, adjacent to, or affected by the facility.

5. A general description of the ecology within the area adjacent to the facility.

6. A general demographic profile of the people who use, or have access to, the facility and adjacent land, including, but not limited to: age; sex; and sensitive subgroups.

7. A description of any known or documented endangered or threatened species near the facility.

APPENDIX C - CORRECTIVE MEASURE STUDY (CMS) OUTLINE

The purpose of the CMS portion of the RCRA corrective action process is to identify and evaluate potential remedial alternatives for the releases of hazardous constituents that have been identified at the facility through the RFI or other investigations to need further evaluation. The scope and requirements of the CMS are balanced with the expeditious initiation of remedies and rapid restoration of contaminated media. The scope and requirements of the CMS should be focused to fit the complexity of the site-specific situation. It is anticipated that Permittee's with sites with complex environmental problems may need to evaluate a number of technologies and corrective measure alternatives. For other facilities, however, the evaluation of a single corrective measure alternative may be adequate. Therefore, a streamlined or focused approach to the CMS may be initiated. Information gathered during any stabilization or interim measures will be used to augment the CMS and in cases where corrective action goals are met, may be a substitute for the final CMS.

Regardless of whether a streamlined/focused or a detailed CMS is required, a CMS Workplan and CMS Report are generally required elements. The requirements for a full, detailed CMS are listed below. The Department has the flexibility not to require sections of the plan and/or report, where site-specific situations indicate that all requirements are not necessary. Additionally, the Department may require additional studies besides these discussed in order to support the CMS.

I. Corrective Measures Study (CMS) Workplan

A. Elements of the CMS Workplan

The Corrective Measures Study (CMS) Workplan shall include at a minimum the following elements:

1. A site-specific description of the overall purpose of the CMS;
2. A description of the corrective measure objectives, including proposed target media cleanup standards (e.g. promulgated federal and state standards) and preliminary points of compliance or a description of how a risk assessment will be performed (e.g. guidance documents);
3. A description of the specific corrective measure technologies and/or corrective measure alternatives which will be studied;
4. A description of the general approach to investigating and evaluating potential corrective measures;
5. A detailed description of any proposed pilot, laboratory and/or bench scale studies;

6. A proposed outline for the CMS Report including a description of how information will be presented;
7. A description of overall project management including overall approach, levels of authority (include organization chart), lines of communication, project schedules, budget and personnel. Include a description of qualifications for personnel directing or performing the work;
8. A project schedule that specifies all significant steps in the process and when key documents (e.g. CMS Progress Reports, draft CMS Report) are to be submitted to the Department;
9. A detailed Public Involvement Plan.

II. Corrective Measures Study (CMS) Report

The detail of a CMS may vary based upon the complexity of the site, on-going Interim Measures, etc. However, the CMS Report may include the following elements:

A. Introduction/Purpose

The Permittee shall describe the purpose of the CMS Report and provide a summary description of the project.

B. Description of Current Situation

The Permittee shall submit a summary and an update to the information describing the current situation at the facility and the known nature and extent of the contamination as documented by the RCRA Facility Investigation (RFI) Report. This discussion should concentrate on those issues which could significantly affect the evaluation and selection of the corrective measures alternative(s). The Permittee shall provide an update to information presented in the RFI regarding previous response activities and interim measures that have or are being implemented at the facility. The Permittee shall also make a facility-specific statement of the purpose for the response, based on the results of the RFI. The statement of purpose should identify the actual or potential exposure pathways that should be addressed by corrective measures.

C. Establishment of Proposed Media Specific Cleanup Standards

The Permittee shall describe the proposed media cleanup standards and point of compliance. The standards must be background, promulgated federal and state standards or risk-derived standards. If media clean-up standards are not proposed, then the Department will unilaterally propose setting media clean-up standards to

either background, promulgated federal and state standards or the most conservative risk-derived standards.

D. Identification, Screening and Development of Corrective Measure Technologies

1. Identification:

List and briefly describe potentially applicable technologies for each affected media that may be used to achieve the corrective action objectives. Include a table that summarizes the available technologies.

The Permittee should consider innovative treatment technologies, especially in situations where there are a limited number of applicable corrective measure technologies.

2. Screening:

The Permittee shall screen the corrective measure technologies to eliminate those that may prove infeasible to implement, that rely on technologies unlikely to perform satisfactorily or reliably, or that do not achieve the corrective measure objective within a reasonable time period. This screening process focuses on eliminating those technologies that have severe limitations for a given set of waste and site-specific conditions. The screening step may also eliminate technologies based on inherent technology limitations.

Site, waste, and technology characteristics that are used to screen inapplicable technologies are described in more detail below:

a) Site Characteristics: Site data should be reviewed to identify conditions that may limit or promote the use of certain technologies. Technologies whose use is clearly precluded by site characteristics should be eliminated from further consideration.

b) Waste Characteristics: Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening process. Technologies clearly limited by these waste characteristics should be eliminated from consideration. Waste characteristics particularly affect the feasibility of in-situ methods, direct treatment methods, and land disposal (on/off-site).

c) Technology Limitations: During the screening process, the level of technology development, performance record, and inherent construction, operation, and maintenance problems should be identified for each technology considered. Technologies that are unreliable, perform poorly, or are not fully demonstrated may be eliminated in the screening process. For example, certain treatment methods

have been developed to a point where they can be implemented in the field without extensive technology transfer or development.

3. Corrective Measure Development:

The Permittee shall assemble the technologies that pass the screening step into specific alternatives that have the potential to meet the corrective action objectives for each media. Options for addressing less complex sites could be relatively straightforward and may only require evaluation of a single or limited number of alternatives. Each alternative may consist of an individual technology or a combination used in sequence (i.e. treatment train). Different alternatives may be considered for separate areas of the facility, as appropriate. List and briefly describe each corrective measure alternative.

E. Evaluation of a Final Corrective Measure Alternative

For each remedy which warrants a more detailed evaluation (i.e. those that passed through the screening step), including those situations when only one remedy is being proposed, the Permittee shall provide detailed documentation of how the potential remedy will comply with each of the standards listed below. These standards reflect the major technical components of remedies including cleanup of releases, source control and management of wastes that are generated by remedial activities. The specific standards are as follows:

1. Protect human health and the environment.
2. Attain media cleanup standards set by the Department.
3. Control the source of releases to reduce or eliminate, to the extent practicable, further releases that may pose a threat to human health and the environment.
4. Comply with applicable standards for management of wastes.
5. Other factors.

In evaluating the selected alternative or alternatives, the Permittee shall prepare and submit information that documents that the specific remedy will meet the standards listed above. The following guidance should be used in completing this evaluation.

1. Protect Human Health and the Environment

Corrective action remedies must be protective of human health and the environment. Remedies may include those measures that are needed to be protective, but are not directly related to media cleanup, source control or management of wastes. An example would be a requirement to provide alternative drinking water supplies in order to prevent exposures to releases from an aquifer used for drinking water purposes. Therefore, the Permittee shall provide a discussion of any short term

remedies necessary to meet this standard, as well as discuss how the corrective measures alternative(s) meet this standard.

2. Attain Media Cleanup Standards

   Remedies will be required to attain media cleanup standards. As part of the necessary information for satisfying this requirement, the Permittee shall address whether the potential remedy will achieve the remediation objectives. An estimate of the time frame necessary to achieve the goals shall be included. Contingent remedies may be proposed if there is doubt if the initial remedy will be successful (e.g. contingent remedies to innovative technologies).

3. Control of Sources of Releases

   The Permittee shall address the issue of whether source control measures are necessary, and if so, the type of actions that would be appropriate. Any source control measure proposed should include a discussion on how well the method is anticipated to work given the particular situation at the facility and the known track record of the specific technology.

4. Comply With any Applicable Standards for Management of Wastes

   The Permittee shall include a discussion of how the specific waste management activities will be conducted in compliance with all applicable state and federal regulations (e.g. closure requirements, LDRs).

5. Other Factors

   Five general factors will be considered as appropriate by the Department in selecting/approving a remedy that meets the four standards listed above. These five decision factors include:

   a) Long-term reliability and effectiveness;
   b) Reduction in the toxicity, mobility or volume of wastes;
   c) Short-term effectiveness;
   d) Implementability; and
   e) Cost.

   Examples of the type of information to include are provided below:

   a) Long-term reliability and effectiveness: The Permittee may consider whether the technology, or combination of technologies, have been used effectively under analogous site conditions, whether failure of any one technology in the alternative would have any immediate impact on receptors, and whether the alternative would have the flexibility to deal with uncontrollable changes at the site. Operation and

maintenance requirements include the frequency and complexity of necessary operation and maintenance. In addition, each corrective measure alternative should be evaluated in terms of the projected useful life of the overall alternative and of its component technologies. Useful life is defined as the length of time the level of effectiveness can be maintained.

b) Reduction in the toxicity, mobility or volume of wastes: As a general goal, remedies will be preferred that employ techniques that are capable of eliminating or substantially reducing the potential for the wastes in SWMUs and/or contaminated media at the facility to cause future environmental releases. Estimates of how the corrective measure alternative will reduce toxicity, mobility and or volume of the waste is required and may be accomplished through a comparison of initial site conditions to expected post-corrective measures conditions.

c) Short-term effectiveness: The Permittee shall evaluate each corrective measure alternative for short-term effectiveness. Possible factors to consider are fire, explosion, exposure to hazardous constituents and potential threats associated with the treatment, excavation, transportation and re-disposal or containment of the waste material.

d) Implementability: Information to consider when assessing implementability include:

   (i) The administrative activities needed to implement the corrective measure alternative [e.g. permits, rights of way, etc.] and the length of time these activities will take;

   (ii) The constructability, time for implementation, and time for beneficial results;

   (iii) The availability of adequate off-site treatment, storage capacity, disposal services, needed technical services and materials; and

   (iv) The availability of prospective technologies for each corrective measure alternative.

e) Cost: The Permittee shall develop an estimate of the cost of each corrective measure alternative (and for each phase or segment of the alternative). The cost estimate shall include both capital and operation and maintenance costs. The capital costs shall include, but are not limited to, costs for: engineering, site preparation, construction, materials, labor, sampling/analysis, waste management/disposal, permitting, health and safety measures, etc. The operation and maintenance costs shall include labor, training, sampling and analysis, maintenance materials, utilities, waste disposal and/or treatment, etc. Costs shall be calculated as the net present value of the capital and operation and maintenance costs.

F. Justification and Recommendation of the Corrective Measure or Measures

The Permittee shall justify and recommend in the CMS Report a corrective measure alternative for consideration by the Department. Such a recommendation should include a description and supporting rationale for the preferred alternative that is consistent with the corrective action standards and remedy selection decision factors discussed above. In addition, this recommendation shall include summary tables that allow the alternative or alternatives to be understood easily. Trade-offs among health risks, environmental effects, and other pertinent factors shall be highlighted. The Department will select the corrective measure alternative or alternatives to be implemented based on the results presented in the CMS Report.

APPENDIX D - LAND USE CONTROL MANAGEMENT PLAN

DEFINITION

As used herein, the term "land use control" or "LUC" with regard to real property means any restriction or control that limits the use of and/or exposure to any portion of that property, including water resources, arising from the need to protect human health and the environment. The term encompasses “institutional controls”, such as those involved in real estate interests, governmental permitting, zoning, public advisories, deed notices, and other “legal” restrictions. The term also includes restrictions on access, whether achieved by means of engineered barriers (e.g. fence or concrete pad) or by human means (e.g. the presence of security guards). Additionally, the term includes both affirmative measures to achieve the desired restrictions (e.g. night lighting of an area) and prohibitive directives (e.g. no drilling of drinking water wells for the duration of the corrective action). Considered altogether, the LUCs for a facility will provide a tool for how the property should be used in order to maintain the level of protectiveness that one or more corrective actions were designed to achieve.

PURPOSE

When land use controls (LUCs) are necessary to assure the reliability of land use assumptions, the Permittee must put appropriate procedures in place to ensure that such controls will be maintained for as long as necessary to keep the chosen remedy fully protective of human health and the environment. This Land Use Control Management Plan (LUCMP) was developed to assure the effectiveness and reliability of the required LUCs for as long as any LUCs continue to be required in order for the corrective action to remain protective and to serve as an enforceable document for any noncompliance. The requirements described herein are only applicable to those SWMUs and/or AOCs for which LUCs were selected as part of the final corrective action. The conceptual outline for the LUC should be developed as part of the final corrective action. The specific details for the implementation of the LUC should be outlined in the CMI Workplan (or other Corrective Action document approved by the Department). Appendix A-7 provides a list of SWMUs and/or AOCs for which LUCs are selected as part of the corrective action, a summary of the corrective action requiring LUC, and a reference to the document selecting the final corrective action.

The purpose of the LUCMP is to accomplish the following specific objectives for SWMUs and/or AOCs listed in Appendix A-7:

- To implement a process for the Permittee to periodically advise the Department of the continued maintenance of any LUCs and of any planned changes in land use which might impact these LUCs.

- To implement procedures for integrating all SWMUs and/or AOCs into the Facility Planning Process as applicable (e.g. Facility Management Plan).
- To implement procedures for integrating all SWMUs and/or AOCs into the Property Conveyance Process as applicable.
- To implement a process to inform current and future property users of environmental conditions at SWMUs and/or AOCs.

I. LUC INSPECTION - REVIEW - CERTIFICATION

The Permittee shall initiate the following specific actions:

A. Conduct semi-annual inspections/review of all SWMUs and/or AOCs identified in Appendix A-7. These inspections shall be for the purposes of verifying that all necessary LUCs have been implemented and are being properly maintained. The Permittee will be responsible for the following:

1. Ensuring that all required inspections are performed.
2. Ensuring that the Department is provided with thirty (30) days advance notice of, and opportunity to observe facility personnel as they conduct at least one of the semi-annual inspections each year.
3. Ensuring that the Department is notified in writing within thirty (30) days of any deficiencies noted.
4. Ensuring that all appropriate measures are undertaken within thirty (30) days to correct any deficiencies and timely notification in writing to the Department detailing measures taken.

B. Prepare and forward an annual report to the Department signed by the Permittee certifying the continued maintenance of all LUCs associated with those SWMUs and/or AOCs identified in Appendix A-7.

II. CHANGE IN LAND USE

The following shall constitute a change in land use:

A. Any change in land that would be inconsistent with those specific exposure assumptions in the human health and/or ecological risk assessments or other criteria that served as the basis for selecting the LUCs as part of the final corrective action.

B. Any activity that may disrupt the effectiveness of the LUC. Including but not limited to: excavation at a SWMU and/or AOC; groundwater pumping that may impact a

groundwater mixing zone or groundwater corrective action or monitoring program; a construction project that may impact ecological habitat protected by the corrective action; removal of access control; removal of warning signs; or rezoning.

C. Any activity that may alter or negate the need for the specific LUCs.

III. REQUEST FOR PERMIT MODIFICATION FOR LAND USE CHANGE

A. The Permittee will provide written notification to the Department at least sixty days (60) (except in emergency situations- where notice should be given as soon as practicable) prior to implementation of any change in land use at the SWMUs and/or AOCs identified in Appendix A-7. A request for a permit modification will be provided for the purpose of obtaining the Department's concurrence with the Permittee's determination as to whether the contemplated change will or will not necessitate re-evaluation of the selected corrective action or implementation of specific measures to ensure continued protection of human health and the environment.

B. No land use change should be implemented until the permit modification is effective. The request for modification will include the following at a minimum:

1. An evaluation of whether the anticipated land use change will pose unacceptable risks to human health and the environment or negatively impact the effectiveness of the selected corrective action;
2. An evaluation of the need for any additional corrective action or LUCs resulting from implementation of the anticipated land use change; and,
3. A proposal for any necessary changes in the selected corrective action.

IV. FINANCIAL ASSURANCE

The Permittee shall provide financial assurance to continue maintenance of LUCs selected during final corrective action or postclosure care and, where necessary, reimplementation of LUCs and/or completion of corrective action necessitated by any inappropriate change to a LUC in accordance with R.61-79.264.101 (b) and (c). The proof of financial assurance should fulfill the requirements of one of the options specified in R.61-79.264.145.

V. REQUEST FOR PERMIT MODIFICATION FOR PROPERTY CONVEYANCE

Should the decision be made to transfer to any other agency, private person, or entity, either title to, or some lesser form of property interest (e.g. an easement, or right of way,

etc.) SWMUs and/or AOCs identified in Appendix A-7, then the Permittee will ensure that at a minimum in accordance with R.61-79.270.42:

A. The Department is provided with written notification at least ninety (90) days prior the initiation of the property conveyance process. Such notice shall indicate the following:

1. The type of property conveyance (e.g. an easement, or right of way, etc.)
2. The anticipated final date for the conveyance
3. Future property owners
4. A list of SWMUs and/or AOCs affected by the conveyance
5. Mechanism(s) that will be used to maintain any LUCs which may need to remain in place after the property conveyance.

B. All LUCs for SWMUs and/or AOCs identified in Appendix A-7 must be incorporated into the property conveyance documents so that the transferee(s) is given adequate notice of existing site condition(s). The details of the LUC provided in the property conveyance documents must be consistent with the details in the document where the final corrective action was selected

C. It is understood that for the planned conveyance of any SWMUs and/or AOCs identified in Appendix A-7, the Department will re-evaluate the continued appropriateness of any previously agreed upon LUC(s) based upon the level of assurance provided, to ensure that necessary LUCs will be maintained and enforced.

VI. IMPLEMENTATION OF LAND USE CONTROLS

For every SWMU and/or AOC identified in Appendix A-7, the Permittee must provide the information listed below prior to implementing any LUC. This information should be presented in the CMI Workplan (or other Corrective Action document approved by the Department).

A. SWMU and/or AOC Description: (e.g. provide survey plat map certified by a professional land surveyor)

B. Location/Area Under Restriction: (e.g. northeast corner of the facility between buildings 250 and 260 as reflected on BMP page ___ / GIS index under IR Site ____).

C. LUC(s) Implemented and Corresponding Objective(s): (e.g. installation of a fence to restrict public access, etc.)

D. Corrective Action Selection Document: (e.g. CMS dated _____).

E. Field Implementation Methods with Appropriate Figures: (e.g. engineering design drawings, etc.).

F. Inspection Methods and Maintenance Procedures: (e.g. Monitoring well plan to include analytical suite, well identification, reporting format, etc.)

G. Facility Planning Process: (e.g. a tracking system for facility employees to ensure proper maintenance of LUCs.)

H. Schedule for Submitting a Contingency Plan to be Implemented in the Case that Corrective Action and LUCs are no Longer Effective: (e.g. procedure for notification and implementation corrective action in the event that pump and treat system is not achieving modeled goals, etc.)

I. Corrective Action Completion – LUC Termination Process: (e.g. Pump and treat system has achieved goals and prohibition of drilling of drinking water wells is no longer needed, etc.)

J. Other Pertinent Information.

APPENDIX E - FACILITY MAP