

**Tennessee Valley Authority – Environmental Research Center (TVA-ERC)
Muscle Shoals, Alabama
EPA I.D. Number AL3 640 090 004**

FACT SHEET

A draft renewal of the Alabama Hazardous Waste Management and Minimization Act (AHWMMA) permit has been prepared for the Tennessee Valley Authority – Environmental Research Center (TVA-ERC) facility. This hazardous waste facility is located in Muscle Shoals, Alabama. This fact sheet has been prepared to briefly advise the public of the main permitting, legal and policy issues of the draft permit.

I. PERMIT PROCESS

The purpose of the permitting process is to allow the State and the public to evaluate TVA-ERC's ability to comply with the hazardous waste management requirements of the AHWMMA, as amended. TVA-ERC must comply with hazardous waste management conditions set forth in the permit during the effective period of the permit, which is ten (10) years from the last permit renewal date.

II. PROCEDURES FOR REACHING A FINAL DECISION

The Alabama Department of Environmental Management (ADEM or Department) is proposing to issue TVA-ERC a renewal permit which addresses the Solid Waste Management Unit (SWMU) and Areas of Concern (AOCs) Corrective Action requirements.

ADEM Admin. Code r. 335-14-8-.08(6)(b)1. requires that the public be given a 45-day comment period for each draft permit. The comment period will begin on April 28, 2023, which is the date of publication of the public notice in major local newspaper(s) of general circulation, and will end on June 12, 2023. The public notice will also be broadcast over local radio station(s).

Any person interested in commenting on the application or draft permit must do so within the 45-day comment period discussed above.

All persons wishing to comment on any of the permit conditions or the permit application should submit their comments in writing to the Alabama Department of Environmental Management, Permits and Services Division, 1400 Coliseum Blvd. (zip 36110-2400), P.O. Box 301463 (zip 36130-1463) Montgomery, Alabama, ATTENTION: Mr. Russell A. Kelly.

ADEM will consider all written comments received during the comment period while making a permit decision for this facility. When the Department makes its final permit decision, notice will be given to the applicant and each person who has submitted written comments or requested notice of the final permit decision.

III. FACILITY DESCRIPTION

TVA-ERC is a contiguous property owned and operated by TVA. TVA-ERC is located in Colbert County, Alabama near the city of Muscle Shoals at latitude N 34° 46' 37" and longitude W 87° 38' 52" within a 3036-acre federal TVA reservation. The ERC facility resides just south of the Tennessee River between river miles 256.5 and 259.6, east of the city of Sheffield, and north of the city of Muscle Shoals. TVA-ERC now occupies approximately 1200 acres of the reservation after the April 20, 2018, sale of approximately 900 acres.

Originally established by Congress in 1933 as the National Fertilizer Development Center (NFDC), the facility was dedicated to the research and development of new types of fertilizers and fertilizer processes. In January 1990, TVA changed the facility name to the National Fertilizer and Environmental Research Center (NFERC). In May 1990, TVA closed the large-scale fertilizer production facilities and transitioned them to small-scale prototype plants. Through 1993, these facilities were used in experimental production of more environmentally acceptable fertilizer products or in production of fertilizers by utilizing industrial by-products. By February 1994, NFERC's activities transitioned to environmental research, development, and technology and the name was changed to the ERC. TVA-ERC operated a facility dedicated to environmental research and development and was comprised of numerous buildings, laboratories, greenhouses, pilot scale treatment, and constructed wetland research areas. Areas of research and development included environmentally sustainable technologies and practices in agriculture, atmospheric sciences, biotechnology, site remediation, and waste management. However, these research and development programs are no longer conducted at ERC. TVA operations that are currently active at ERC include heavy modification/fabrication (machine shop); electrical breaker repair; sandblasting, painting, and coating operations; calibrating and certifying equipment; and grounds maintenance. TVA-ERC is also responsible for the implementation of investigation and corrective action for SWMUs and AOCs.

IV. TECHNICAL CONTACT

Dr. Sarah Gill
Facilities Engineering Section
Governmental Hazardous Waste Branch, Land Division
Alabama Department of Environmental Management
1400 Coliseum Blvd (zip 36110-2400)
P.O. Box 301463 (zip 36130-1463)
Montgomery, Alabama
Phone: (334) 271-7734
Email: sgill@adem.alabama.gov



HAZARDOUS WASTE FACILITY PERMIT

PERMITTEE: TENNESSEE VALLEY AUTHORITY
ENVIRONMENTAL RESEARCH CENTER

ADDRESS: MUSCLE SHOALS, COLBERT COUNTY

PERMIT NUMBER: AL3 640 090 004

UNITS PERMITTED: SOLID WASTE MANAGEMENT UNIT
(SWMU) CORRECTIVE ACTION

ISSUANCE DATE: XXXX XX, 2023

EXPIRATION DATE: XXXX XX, 2033

This Permit is issued pursuant with the Code of Alabama 1975, §§ 22-30-1-et. seq., as amended, and regulations adopted thereunder and the Hazardous Wastes Management and Minimization Act and in accordance with the plans and specifications and applications filed with the Department subject to the conditions appended hereto, all of which are considered a part of this Permit. This Permit shall be subject to all applicable laws of the State of Alabama, rules and regulations and orders of the Department of Environmental Management and shall be effective from the date of issuance.

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
HAZARDOUS WASTE PERMIT

Permittee: OWNER and OPERATOR: Permit Number: AL3 640 090 004
Tennessee Valley Authority Identification Number: AL3 640 090 004
Environmental Research Center
Reservation Road
Muscle Shoals, Alabama 35662
Colbert County

Pursuant to the Alabama Hazardous Wastes Management and Minimization Act (AHWMMA), Code of Ala. 1975, Section 22-30-1, et. seq., as amended, and attendant regulations promulgated thereunder by the Alabama Department of Environmental Management (ADEM or the Department), a permit is issued to TVA Environmental Research Center (hereinafter called the Permittee), for the facility located in Muscle Shoals, Alabama, on Reservation Road at latitude N 34° 46' 21.72" and longitude W 87° 39' 4.32".

The Permittee must comply with all terms and conditions of this permit, which consists of the conditions set forth herein (including those in any attachments), and the regulations applicable to the Permittee's facility contained in Chapters 335-14-1, 335-14-2, 335-14-5, 335-14-8, and 335-14-9 of the ADEM Administrative Code of Regulations (hereinafter referred to as the "ADEM Admin. Code"). Applicable regulations are those in effect on the date of issuance of this permit.

This permit is based on the assumption that the information submitted in the permit application attached to the Permittee's letter dated January 20, 2022, as modified by the subsequent amendment dated June 7, 2022 (hereby incorporated by reference and hereafter referred to as the Application) is accurate and that the facility will be constructed and operated as specified in the Application. Any inaccuracies found in this information could lead to the termination or modification of this permit in accordance with ADEM Admin. Code Rules (r.) 335-14-8-.04(2), 335-14-8-.04(3), and 335-14-8-.04(4) and could lead to potential enforcement action. The Permittee must inform ADEM of any deviation from or changes to the information provided in the Application that would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

This permit is effective as of **XXXX XX, 2023** and shall remain in effect until **XXXX XX, 2033** unless revoked and reissued, or terminated under ADEM Admin. Code r. 335-14-8-.04(2) and 335-14-8-.04(4) or continued in accordance with ADEM Admin. Code r. 335-14-8-.05(2).

Alabama Department of Environmental Management

Date Signed

TABLE OF CONTENTS

<u>PART</u>	<u>TITLE</u>	<u>TOTAL PAGES</u>
I	Standard and General Facility Conditions	11
II	Post-Closure Care	3
III	Groundwater Monitoring and Corrective Action	12
IV	Solid Waste Management Unit Identification and Evaluation	25
V	Corrective Measures Implementation	11
VI	Land Use Controls and Environmental Covenants	8
VII	Summary of Deadlines	3

DOCUMENTS INCORPORATED BY REFERENCE:

- (1) Part A and Part B Permit Renewal Application submitted on January 20, 2022, as modified by a subsequent amendment dated June 7, 2022.
- (2) Resource Conservation and Recovery Act Facility Investigation (RCRA) Human Health Risk Assessments (HHRA) (dated May 1999 and received by ADEM on May 11, 1999).
- (3) Interim Measures (IM) Report Old Ammonia Plant (Solid Waste Management Unit (SWMU) 117) (dated November 6, 2000 and received by ADEM on November 9, 2000).
- (4) Corrective Measures Study (CMS) Phase II Report (dated April 2000 and received by ADEM on May 1, 2000).
- (5) Corrective Measures Study (CMS) Phase II Report Addendum 1 (dated September 13, 2001 and received by ADEM on September 18, 2001).
- (6) SWMU 214 (Water Tower) Revision 1 CMI Report (dated June 27, 2017 and received by ADEM on July 5, 2017).

PART I

STANDARD AND GENERAL FACILITY CONDITIONS

I.A. EFFECT OF PERMIT

Issuance of this permit does not 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 action brought under the AHWMMMA, or any other law governing protection of public health or the environment, for any imminent and substantial endangerment to human health, welfare, or the environment.

I.B. 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.C. DUTIES AND REQUIREMENTS

1. Duty to Comply

The Permittee shall comply with 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 the AHWMMMA, and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

2. Duty to Reapply

- a. If the Permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the Permittee must apply for and obtain a new permit.
- b. The Permittee must submit an application for a new permit for both post-closure and Solid Waste Management Unit (SWMU) corrective action at least 180 calendar days before the expiration of this permit. The Permittee must reapply in order to fulfill the 30 year post-closure care period required by ADEM Admin. Code r. 335-14-5-.07(8)(a)1. The Department may shorten or extend the post-closure care period applicable to the hazardous waste facility in accordance with ADEM Admin. Code r. 335-14-5-.07(8)(a)2. and 335-14-8-.03(1)(b).

3. 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.

4. 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.

5. Proper Operation and Maintenance

The Permittee shall, at all times, properly operate and maintain all facilities and systems of treatment, monitoring, 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 (O&M) includes 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 backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this permit.

6. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause as specified in ADEM Admin. Code r. 335-14-8-.04(2), 335-14-8-.04(3) and 335-14-8-.04(4). 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.

7. Property Rights

Issuance of this permit does not convey any property rights of any sort, nor any exclusive privilege.

8. Duty to Provide Information

The Permittee shall furnish to the Department, within a reasonable time as determined by the Department, 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 to the Department, upon request, copies of records required to be kept by this permit.

9. Inspection and Entry

The Permittee shall allow duly designated officers and employees of the Department, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,
- d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the AHWMMMA, any substances or parameters at any location. The Permittee shall have the opportunity to split samples during sampling.

10. Monitoring and Records

- 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 to be analyzed must be the appropriate method from ADEM Admin. Code r. 335-14-2-Appendix I or the methods specified in Attachment 2: Appendix F of the permit renewal application. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846 (latest edition), Methods for Chemical Analysis of Water and Wastes (EPA-600/4-79-020), Standard Methods for the Examination of Water and Wastewater (latest edition), the methods specified in Attachment 2: Appendix F of the permit renewal application, or an alternative method approved by ADEM. [ADEM Admin. Code r. 335-14-8-.03(1)(j)1.]
- b. The Permittee shall maintain at the facility records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, the certification required by ADEM Admin. Code r. 335-14-5-.05(4)(b)9., records of all data used to prepare documents required by this permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit for a period of at least three (3) years from the date of the certification, application, sample, measurement, report or record, or until corrective action is completed, whichever date is later. This period may be extended by the Department at any time and is automatically extended during the course of any unresolved enforcement action regarding this facility. [ADEM Admin. Code r. 335-14-5-.05(5)(b) and 335-14-8-.03(1)(j)2.]
- c. The Permittee shall maintain at the facility records for all groundwater monitoring wells, piezometers, and associated groundwater surface elevations throughout the post-closure care period. These records shall include the surveyed location, surveyed elevation, surveyed elevation reference point, total depth, screened interval, construction details, well log, and all other pertinent information for each well and piezometer.
- d. Records of monitoring information shall include:
 - i. The dates, exact place, and times of sampling or measurements;
 - ii. The names of individuals who performed the sampling or measurements;

- iii. The dates analyses were performed;
 - iv. The names of individuals who performed the analyses;
 - v. The analytical techniques or methods used; and,
 - vi. The results of such analyses.
- e. The following documents and information shall be maintained throughout the post-closure care period at the facility.
- i. Complete copy of this permit and the permit application.
 - ii. Operating record as required by ADEM Admin. Code r. 335-14-5-.05(4) and this permit.
 - iii. Copies of all plans, reports, inspection schedules, and inspection logs as required by ADEM Admin. Code r. 335-14-5 and this permit.

11. Signatory Requirements

All applications, reports or information required by this permit and submitted to the Department shall be signed and certified in accordance with ADEM Admin. Code r. 335-14-8-.02(2) and 335-14-8-.03(1)(k).

12. Reporting Requirements

a. Planned Changes

The Permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility and any solid waste management units identified under Part IV of this permit.

b. 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.

c. Transfer of Permits

This permit may be transferred to a new owner or operator only if it is modified or revoked and reissued pursuant to ADEM Admin. Code r. 335-14-8-.04(1) or 335-14-8-.04(3)(a)1.(vii). Before transferring ownership or operation of the facility during its post-closure period, the Permittee shall notify the new owner or operator, in writing, of the requirements of ADEM Admin. Code r. 335-14-5 and 335-14-8 and this permit.

d. Monitoring Reports

Monitoring results shall be reported at the intervals specified elsewhere in this permit.

e. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted to the Department no later than 14 calendar days following each schedule date.

f. Twenty-four Hour Reporting

i. The Permittee shall report to the Department any noncompliance with this permit which may endanger human health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. This report shall include, but is not limited to, the following:

- (I) Information concerning the release of any hazardous waste which may endanger public drinking water supplies; and,
- (II) Information concerning the release or discharge of any hazardous waste, or hazardous waste constituents, or of a fire or explosion at the facility, which could threaten the environment or human health outside the facility.

ii. The description of the occurrence and its cause shall include:

- (I) Name, address, and telephone number of the owner or operator;
- (II) Name, address, telephone number, and EPA Identification Number of the facility;
- (III) Date, time, and type of incident;
- (IV) Name and quantity of material(s) involved;
- (V) The extent of injuries, if any;
- (VI) An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and,
- (VII) Estimated quantity and disposition of recovered material that resulted from the accident.

iii. A written submission shall also be provided within 5 calendar days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its

cause; the periods of noncompliance (including exact dates and times); whether the noncompliance 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.

g. Other Noncompliance

The Permittee shall report to the Department all instances of noncompliance not otherwise required by Permit Conditions I.C.12.d., I.C.12.e., or I.C.12.f. at the time any other reports required by this permit are submitted. The reports shall contain the information required by Permit Condition I.C.12.f.

h. Other Information

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information. In addition, upon request, the Permittee shall furnish to the Department any information related to compliance with this permit.

13. Obligation for Corrective Action

Owners and operators of hazardous waste management units must have permits during the active life (including the closure period and post-closure period) of the unit, and for any period necessary to comply with the SWMU corrective action requirements (Part II) of this permit. Therefore, the Permittee must reapply in accordance with Condition I.C.2. of this permit until this obligation is fulfilled.

14. Certification of Construction

The Permittee may not commence treatment, storage or disposal of hazardous waste or contaminated media at any new or modified portion of the facility until the Permittee has submitted to the Department by certified mail or hand-delivery a letter (together with the certification by the Construction Quality Assurance (CQA) officer required by ADEM Admin. Code r.335-14-5-.02(10)(d) and any other certifications required by this permit or ADEM Admin. Code r. 335-14) signed by the Permittee and an Alabama-registered professional engineer, stating that the facility has been constructed or modified in compliance with this permit where appropriate; and,

a. The Department has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of this permit; or

b. The Department has either waived the inspection or has not notified the Permittee, within 15 calendar days of the notification from the Permittee, of its intent to inspect. [ADEM Admin. Code r. 335-14-8-.03(1)(1)2.]

15. The Permittee shall assure that all measures necessary to maintain and/or achieve compliance with all applicable requirements of ADEM Admin. Code r. 335-14 are taken during the active life of the facility, and throughout the post-closure care period, corrective action period, and the term of this permit.

16. In the event that circumstances beyond the Permittee's control arise to prevent achievement of any deadline set forth by this permit, the Permittee may immediately, upon the occurrence thereof, request an extension by sending a written request to the Department explaining the need for the extension. The Department may, after consideration of the circumstances, grant the extension. Requests for extensions may require a permit modification pursuant to ADEM Admin. Code r. 335-14-8-.04(2) or (3).

I.D. CONFIDENTIAL INFORMATION

The Permittee may claim confidential any information required to be submitted by this permit if the information is protectable under Code of Alabama 1975, §22-30-18, as amended. The term "trade secret" as used in §22-30-18 is defined in Code of Alabama 1975, §22-30-3(12) [ADEM Admin. Code r. 335-14-8-.02(3)].

I.E. DEFINITIONS

For the purposes of this permit, terms used herein shall have the same meaning as those in ADEM Admin. Code r. 335-14-1, 335-14-2, 335-14-5, and 335-14-8, unless this permit specifically provides otherwise. Where terms are not defined in the regulations or this permit, a standard dictionary reference or the generally accepted scientific or industrial meaning of the term shall define the meaning associated with such terms.

"Area of concern" (AOC), for the purposes of this permit, includes any area having a probable release of a hazardous waste or hazardous constituent(s) 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 investigations and remedial action as required under Section 3005(c)(3) of the Resource Conservation and Recovery Act and ADEM Admin. Code r. 335-14-8-.03(3)(b)2. in order to ensure adequate protection of human health and the environment.

"Contamination," for the purposes of this permit, refers to the presence of any hazardous constituent in a concentration that exceeds the naturally occurring concentration of that constituent in the immediate vicinity of the facility (i.e., areas not affected by the facility).

"Corrective action," for the purposes of this permit, is the sum of all corrective measures, and may include all corrective measures necessary to protect human health and the environment for all releases of hazardous waste or hazardous constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in the unit, as required by ADEM Admin. Code r.(s) 335-14-5-.06(11) and/or 335-14-5-.06(12). Corrective measures may address releases to air, soils, surface water, or groundwater.

"Corrective measures," for the purposes of this permit, include all individual measures taken and/or necessary to remedy releases and to protect human health and the environment for all releases of hazardous waste or hazardous constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in the unit, as required under ADEM Admin. Code r. 335-14-5-.06(12). Corrective measures may address releases to air, soils, surface water, or groundwater. The sum of all individual corrective measures is known as corrective action.

"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 detection limits or background concentrations indicative of the region, whichever is appropriate as determined by the Department.

“Facility,” for the purposes of this permit, includes all contiguous land, and structures, other appurtenances, and improvements on the land, used for storing of hazardous waste. For the purposes of implementing corrective action under ADEM Admin. Code r. 335-14-5-.06(12) a facility includes all contiguous property under the control of the owner or operator seeking a permit under Subtitle C of RCRA.

"Hazardous constituents," for the purposes of this permit, are those substances listed in ADEM Admin. Code r. 335-14-2-Appendix VIII and/or ADEM Admin. Code r. 335-14-5-Appendix IX and include hazardous constituents released from solid waste, hazardous waste, and hazardous waste constituents that are reaction by-products.

“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.

“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 corrective action management unit.

“Land Use Controls,” for the purpose of this permit is as defined by ADEM Admin. Code R. 335-5-1-.03.

A “maximum concentration limit” (MCL), for the purposes of this permit, refers to a groundwater concentration limit listed in Table 1 of ADEM Admin. Code r. 335-14-5-.06(5), or which is listed in ADEM Admin. Code r. 335-7-2 (Primary Drinking Water Standards) or ADEM Admin. Code r. 335-7-3 (Secondary Drinking Water Standards) or analogous federal safe drinking water regulations (40 CFR 141). In cases where a constituent is listed in multiple sources (ADEM Admin. Code r. 335-14 and/or ADEM Admin. Code r. 335-7, and/or 40 CFR 141), the most stringent standard shall apply.

“Method detection limit” (MDL), for the purpose of this permit, means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

“Mixed waste,” for the purposes of this permit, means a solid waste that is a mixture of hazardous waste (as defined in ADEM Admin. Code r. 335-14-2-.01(3)) and radioactive waste (as defined in 10 CFR 61.2). The radioactive component of mixed waste is subject to regulation by the Atomic Energy Act (AEA)/Nuclear Regulatory Commission (NRC). The non-radioactive chemically hazardous component of mixed waste is subject to regulation by the AHWMA and ADEM Admin. Code R. 335-14.

“Operating day,” for the purposes of this permit, means any day on which hazardous waste is treated, stored, or disposed of in a unit. For example, each day that a hazardous waste storage unit contains hazardous waste is an operating day; as is each day that a disposal unit contains or receives hazardous waste, or each day that hazardous waste is treated in a treatment unit.

"Release," for the purposes of this permit, includes any spilling, leaking, pouring, emitting, emptying, discharging, injecting, escaping, leaching, pumping, or disposing into the environment of any hazardous waste or hazardous constituent.

"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 materials, including solid, liquid, semisolid, or contained gaseous materials 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 by-product material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).

"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, irrespective of whether the unit is or ever was intended for the management of solid waste. RCRA-regulated hazardous waste management units are also 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 remediated and cannot be linked to solid waste management activities (e.g., product or process spills).

"Storm event," for the purposes of this permit, is defined as a 1-year, 24-hour storm event or rainfall that measures 1-inch or greater in 1 hour or less. Rainfall measurements may be taken at the site, or the closest official weather monitoring station may be used.

A "unit," for the purposes of this permit, includes any contiguous discernable area used for the management of hazardous waste (or non-hazardous waste in the case of a SWMU) and may include, 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.F. EXPIRATION AND CONTINUATION OF PERMIT

This permit and all conditions herein will remain in effect beyond this permit's expiration date if the Permittee has submitted a new application as required by Permit Condition I.C.2. and through no fault of the Permittee, the Department has not issued a new permit [ADEM Admin. Code r. 335-14-8-.05(1) and 335-14-8-.05(2)].

I.G. WASTE MINIMIZATION

1. Certification Requirements

Pursuant to ADEM Admin. Code r. 335-14-5-.05(4)(b)9. the Permittee must certify, no less often than annually, that:

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

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

2. Recording Requirements

The Permittee shall maintain copies of this certification in the facility operating record as required by ADEM Admin. Code r. 335-14-5-.05(4).

I.H. COST ESTIMATE

1. The Permittee shall maintain detailed written cost estimates, in current dollars, at the location specified in Permit Condition I.C.10.e. and on file with ADEM in accordance with ADEM Admin. Code r. 335-14-5-.08(3), (5), and (10).
2. All cost estimates must be updated annually as required by ADEM Admin. Code r. 335-14-5-.08(3)(b), 335-14-5-.08 (5)(b), and 335-14-5-.08 (10)(b).
3. The cost estimate shall be maintained and submitted in the form designated by the Department.
4. The Permittee must update the cost estimate no later than 30 calendar days after the Department has approved a modification to the Closure Plan, Post-Closure Plan, or Corrective Action Plan, or any other plan required or referenced by this permit, if the change in the plan results in an increase in the amount of the cost estimate.

I.I. FINANCIAL ASSURANCE (RESERVED)

I.J. PERMIT MODIFICATIONS

The Permittee shall request a permit modification whenever changes in operating plans or facility design affect any plan (*e.g.* closure, groundwater monitoring, post-closure, or corrective action) required or referenced by this permit. The Permittee must submit a written request for a permit modification pursuant to the requirements of ADEM Admin. Code r. 335-14-8-.04(2) at least 60 calendar days prior to the proposed change in the facility design or operation.

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

One hard copy and one electronic (an optical character recognition or text-searchable) copy of all reports, notifications, or other submissions that are required by this permit should be sent via certified mail, private courier service (which has package tracking/tracing), or hand delivered to:

Chief, Land Division
Alabama Department of Environmental Management
P.O. Box 301463 (Zip 36130-1463)

1400 Coliseum Boulevard (Zip 36110-2059)
Montgomery, Alabama

and

Director, Land, Chemicals and Redevelopment Division
USEPA Region 4
Atlanta Federal Center
61 Forsyth Street SW
Atlanta, Georgia 30303-3104

Draft

PART II

POST-CLOSURE CARE

II.A. POST-CLOSURE CARE PERIOD

The post-closure care period shall extend for a period of thirty (30) years from the date of **XXXX XX, 2023** unless shortened or extended pursuant to ADEM Admin. Code r. 335-14-5-.07(8). The post-closure care period shall automatically extend through the end of the compliance period specified in Part III of this permit.

II.B. POST-CLOSURE PROCEDURES AND USE OF PROPERTY

1. Post-Closure Activities

The Permittee shall conduct post-closure care activities, in accordance with Attachment 2: Appendix F of the permit renewal application, and as required by ADEM Admin. Code r. 335-14-5-.07, and 335-14-5-.14(11)(d), for each hazardous waste management unit listed in Table II.1. Post-closure care shall commence upon the effective date of this permit and shall continue throughout the post-closure care period.

2. Security

- a. The Permittee shall comply with the security provisions of ADEM Admin. Code r. 335-14-5-.02(5)(b) and (c) and as described in Attachment 2: Appendix B of the permit renewal application.
- b. In order to comply with ADEM Admin. Code r. 335-14-5-.02(5), each hazardous waste management unit listed in Table II.1 shall remain fenced with a chain link fence at least six-feet high. The fence shall be kept in good repair. All entrances to the facility shall be closed and locked when security and/or operations personnel are not present.
- c. The Permittee shall maintain signs along the perimeter fence for each hazardous waste management unit listed in Table II.1. The signs shall read "Danger Unauthorized Personnel Keep Out," so that at least one sign must be legible from a distance of at least 25 feet from any approach to the facility (ADEM Admin. Code r. 335-14-5-.02(5)(c)).

3. Disturbance of Closed Unit(s)

The Permittee shall not allow the disturbance of the integrity of the final cover, liners, any components of the containment system, or the function of the facility's monitoring systems during the post-closure care period for any unit identified in Table II.1.

4. The Permittee shall:
 - a. Maintain the integrity and effectiveness of the final cover, including making repairs to the cap, as necessary, to correct the effects of settling, subsidence, erosion, or other events;
 - b. Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of ADEM Admin. Code r. 335-14-5-.06 and Part III of this permit;
 - c. Prevent run-on and run-off from eroding or otherwise damaging the final cover; and,
 - d. Protect and maintain surveyed benchmarks used in complying with the surveying and recordkeeping requirements of ADEM Admin. Code r. 335-14-5-.14(10).

II.C. INSPECTIONS

1. The Permittee shall inspect the components, structures, and equipment at the site in accordance with the inspection schedule as described in Attachment 2: Appendix C of the permit renewal application, the Post-Closure Plan as described in Attachment 2: Appendix F of the permit renewal application, and as required by ADEM Admin. Code r. 335-14-5-.07.

2. **Monitoring and Inspection**

The Permittee shall inspect the closed hazardous waste management units listed in Table II.1, at least quarterly and after storm events to detect any evidence of deterioration or improper operation as described in the Attachment 2: Appendix C of the permit renewal application, the Post-Closure Plan as described in Attachment 2: Appendix F, and as required under ADEM Admin. Code r. 335-14-5-.07, and 335-14-5-.14. The inspections shall specifically include evaluation of the following items:

- a. Integrity of the final cover (erosion, ponding, subsidence, cracking, water elevation, etc.);
 - b. Growth and stabilization of vegetative cover;
 - c. Run-on and run-off control system;
 - d. Groundwater monitoring wells;
 - e. Survey benchmarks; and,
 - f. Security fencing and signs.
3. **Contingency Monitoring Requirements**

For the duration of the post-closure care period, should drought conditions occur, the Permittee will commence inspections of SWMU 104 as described in the Post-Closure Plan, Attachment 2: Appendix F, of the permit renewal application.

TABLE II.1
POST-CLOSURE CARE UNITS

UNIT NAME	UNIT DESCRIPTION	CLOSED-IN-PLACE CAPACITY (ESTIMATED QUANTITY)	DESCRIPTION OF UNIT*	LOCATION OF UNIT*
SWMUs 17- 37	Phosphorus Sludge Entombments	2,535 tons	Post-Closure Plan (Attachment 2: Appendix F)	Figures 4E and 4F (Attachment 1)
SWMU 104	Ash Settling Pond	800 tons	Post-Closure Plan (Attachment 2: Appendix F)	Figure 4F and 4I (Attachment 1)
SWMU 108	Phosphate Development Works Landfill	3100 cu. yds.	Post-Closure Plan (Attachment 2: Appendix F)	Figure 4F and 4I (Attachment 1)
SWMU 112	Precipitator Dust Waste Piles	20,000 tons	Post-Closure Plan (Attachment 2: Appendix F)	Figure 4E (Attachment 1)
SWMU 194	Trestle Drum Storage Area	**	Post-Closure Plan (Attachment 2: Appendix F)	Figure 4E (Attachment 1)

* Location in permit renewal application containing description (text) and location (figure) of unit.

** A northern portion of SWMU 194 was addressed under the same remedy as SWMU 112. The drums at SWMU 194 were sampled, analyzed, and properly disposed. Additional soil samples confirmed that the surrounding soil was not contaminated by constituents in the drums. However, the soil was contaminated with the constituents of SWMU 112, and therefore, complete closure could not be achieved until remediation of SWMU 112 was completed. Closed-in-place quantity included with SWMU 112.

PART III

GROUNDWATER MONITORING AND CORRECTIVE ACTION

III.A. REQUIRED PROGRAM(S)

1. Groundwater monitoring shall consist of the General Groundwater Monitoring Program of Permit Condition III.B. and the Detection Monitoring Program contained in Permit Condition III.C.
2. The Permittee shall commence groundwater monitoring as required by this permit not later than 120 calendar days after the effective date of this permit.

III.B. GENERAL GROUNDWATER MONITORING PROGRAM

1. Well Location, Installation and Construction

The Permittee shall install and/or maintain a groundwater monitoring system to comply with the requirements of ADEM Admin. Code r. 335-14-5-.06(8), 335-14-5-.06(9), 335-14-5-.06(10), and 335-14-5-.06(11) as applicable and as specified below:

- a. The Permittee shall maintain all groundwater monitoring wells and surface water monitoring sites at the facility as identified in Table III.1. of this permit, at the locations specified in the Post-Closure Monitoring Plan, Attachment 2: Appendix F, of the permit renewal application, and any other groundwater monitoring wells specified by Permit Condition III.B.1.f.
 - i. All groundwater monitoring wells and surface water monitoring sites shall be maintained in accordance with the plans and specifications presented in the Post-Closure Plan, Attachment 2: Appendix F, of the permit renewal application, and in accordance with ADEM Admin. Code r. 335-14-5-.06.
 - ii. A groundwater monitoring well or surface water monitoring site shall not be removed from any monitoring program specified in this permit without an approved permit modification pursuant to Permit Condition I.J.
 - iii. If a groundwater monitoring well is damaged, the Permittee shall immediately notify the Department in writing, which includes a description of the well repair activities to be conducted. The well repair procedures must be approved by the Department prior to implementation. Within 30 calendar days after the well is repaired, the Permittee shall submit a written notification to the Department that the well repair activities were conducted in accordance with the approved procedures.
 - iv. If a groundwater monitoring well or surface water monitoring site is deleted from the monitoring program(s) required by this permit in accordance with Permit Conditions III.B.1.a.ii. and I.J., it shall be

abandoned or removed within 90 calendar days after deletion using procedures to be approved by the Department. Within 30 calendar days after the well is abandoned, the Permittee shall submit a written notification to the Department that the well abandonment activities were conducted in accordance with the approved procedures.

- b. The Permittee shall maintain groundwater monitoring wells W23S, W24S, W25S, P6S, P6SD, P8S, P8SD, P7S, P7SD, P4S, and P4SD as detection wells for the closed landfills and surface impoundment.
- c. Groundwater monitoring wells P11S, P11D, P13S, P13D, P14S, P14D, W27S, W27D, PH1S, and PH2S shall define the point of compliance for the closed entombments, landfills, and surface impoundment.
- d. The Permittee shall maintain groundwater monitoring well P3S as the background monitoring well for the closed entombments, landfills, and surface impoundment as specified in the Post-Closure Monitoring Plan, Attachment 2: Appendix F, of the permit renewal application.
- e. The Permittee shall maintain surface water monitoring sites SW1, SW2, SW3, SW4, and SW5 as the surface water locations for the landfills and surface impoundment as identified in Table III.1. of this permit and as specified in the Post-Closure Monitoring Plan, Attachment 2: Appendix F, of the permit renewal application.
- f. The Permittee shall install and maintain additional groundwater monitoring wells as necessary to assess changes in the rate and extent of any plume of contamination or as otherwise deemed necessary to maintain compliance with ADEM Admin. Code r. 335-14-5-.06(6), 335-14-5-.06(8), 335-14-5-.06(9), 335-14-5-.06(10), and 335-14-5-.06(11), as applicable. A plan in the form of a permit modification request specifying the design, location and installation of any additional monitoring wells should be submitted to the Department within 90 calendar days prior to installation which, at a minimum, shall include:
 - i. Well construction techniques including casing depths and proposed total depth of well(s);
 - ii. Well development method(s);
 - iii. A complete description of well construction materials;
 - iv. A schedule of implementation for construction; and,
 - v. Provisions for determining the lithologic characteristics, hydraulic conductivity, grain size distribution, and porosity for the applicable aquifer unit(s) at the location of the new well(s).

2. General Groundwater Monitoring Requirements

- a. The Permittee shall determine the groundwater surface elevation from all monitoring wells listed in Table III.1. of this permit at least annually and each

time a sampling event is conducted. The results of these determinations should be submitted in accordance with Permit Condition III.B.6. Elevation data should be recorded and reported as mean sea level (MSL) and referenced to an appropriate national geodetic vertical datum (NGVD) benchmark.

- b. The Permittee shall determine the groundwater flow rate and direction in the underlying aquifer(s) at least annually and each time a sampling event is conducted and submit the results in accordance with Permit Condition III.B.6.
- c. The Permittee shall determine background concentrations of hazardous constituents and other chemical parameters required to be monitored by this permit in accordance with the Post-Closure Monitoring Plan, Attachment 2: Appendix F, of the permit renewal application, and ADEM Admin. Code r. 335-14-5-.06(8)(g).

3. Groundwater Protection Standard

- a. The groundwater protection standard, as required under ADEM Admin. Code r. 335-14-5-.06(3), shall consist of Table III.3 of this permit which lists the hazardous constituents and their respective concentration limits.
- b. The groundwater protection standard applies to all hazardous waste or hazardous constituent releases as deemed appropriate by the Department to protect human health and the environment.

4. Compliance Period

- a. The compliance period, during which the groundwater protection standard specified in Permit Condition III.B.3. applies, shall begin at the time of the first sampling event of the compliance monitoring program (Permit Condition III.D.), or the corrective action monitoring program (Permit Condition III.E.), whichever is earlier.
- b. The compliance period shall continue (after beginning pursuant to Permit Condition III.B.4.a.) until the groundwater protection standard as defined by Permit Condition III.B.3.a. has not been exceeded for a period of three consecutive years.
- c. If the Permittee is engaged in a corrective action program pursuant to Permit Condition III.E., then the compliance period shall continue as required by ADEM Admin. Code r. 335-14-5-.06(7)(c) until the groundwater protection standard has not been exceeded for a period of three consecutive years after corrective action has been terminated and this permit has been modified, in accordance with Permit Condition I.J., to implement a compliance monitoring program pursuant to Permit Condition III.D. or a detection monitoring program pursuant to Permit Condition III.C., as required by ADEM Admin. Code r. 335-14-5-.06(11)(f).

5. Sampling and Analysis Procedures

The Permittee shall use the following techniques and procedures when obtaining and analyzing samples from the groundwater monitoring wells and surface water monitoring

sites described in Permit Condition III.B.1. to provide a reliable indication of the quality of the groundwater as required under ADEM Admin. Code r. 335-14-5-.06(8)(d), (e), and (g):

- a. Samples shall be collected, preserved, and shipped (when shipped off-site for analysis) in accordance with the procedures specified in the Post-Closure Monitoring Plan, Attachment 2: Appendix F, of the permit renewal application.
 - b. Samples shall be analyzed according to the procedures specified in the Post-Closure Monitoring Plan, Attachment 2: Appendix F, of the permit renewal application, the most recent edition of SW-846, or other appropriate methods approved by the Department. Analytical method detection limits shall be less than, or equal to, the concentration limits specified in Table III.3, unless otherwise approved in writing by the Department.
 - c. Samples shall be tracked and controlled using the chain-of-custody procedures specified in the Post-Closure Monitoring Plan, Attachment 2: Appendix F, of the permit renewal application.
 - d. Statistical analyses used to evaluate groundwater monitoring data shall be as described in the Post-Closure Monitoring Plan, Attachment 2: Appendix F, of the permit renewal application and ADEM Admin. Code r. 335-14-5-.06(8)(h).
 - e. All samples taken in accordance with this permit shall not be filtered prior to analysis.
6. Recordkeeping and Reporting
- a. The Permittee shall keep and maintain all monitoring, testing, and analytical data obtained in accordance with Permit Conditions III.B., III.C., III.D., and III.E. as required by Permit Condition I.C.10.
 - b. The Permittee shall submit to the Department a written report to include all analytical sampling data, established background values, statistical evaluations, groundwater elevations, associated potentiometric maps, and the annual groundwater flow rate and direction determinations. The analytical method and the method detection limit (MDL) for each constituent must be integrated into all reports of analysis. The report shall be submitted within 60 calendar days after the first sampling event and on an annual basis thereafter. Copies of this report shall be kept at the facility in accordance with Permit Conditions I.C.10.c. and I.C.10.e.
 - c. The Permittee shall submit progress reports to the Department describing implementation of groundwater monitoring and/or corrective action activities at the site as required by Part III of this permit on a quarterly basis. The first progress report shall be submitted to the Department within 90 calendar days after the effective date of this permit. The progress reports shall continue until such time as the required monitoring and/or corrective action systems and activities required by this permit are fully constructed and operational. In the event that additional monitoring and/or corrective action requirements are imposed through a permit modification, the reporting requirement shall resume,

commencing upon the effective date of the permit modification and continuing until the required monitoring and/or corrective action systems and activities are again fully constructed and operational.

III.C. DETECTION MONITORING PROGRAM

The requirements of this Condition are applicable to entombments, landfills, and surface impoundments. Except as specified otherwise in this permit, the Detection Monitoring Program shall be implemented in accordance with the Post-Closure Monitoring Plan, Attachment 2: Appendix F, of the permit renewal application and ADEM Admin. Code r. 335-14-5-.06(9).

1. Monitoring Requirements

In addition to the general groundwater monitoring requirements specified in Permit Condition III.B.2., the Permittee shall:

- a. Sample all detection and point of compliance wells, as well as all surface water locations, and analyze for the constituents listed in Table III.2. of this permit, throughout the post-closure period in accordance with Permit Condition III.B.5.
- b. Sample all detection, point of compliance, and background monitoring wells, as well as surface water locations, and analyze for temperature (degrees F or C), specific conductance (Mhos/cm), and pH (standard units) each time the well or surface water location is sampled in accordance with Permit Condition III.B.5. The data obtained should be submitted as raw data in the reports required by Permit Condition III.B.6.
- c. Sample all designated background monitoring wells and analyze, in accordance with Permit Condition III.B.5., for the constituents listed in Table III.2. of this permit in all monitoring events.

2. Reporting and Response Requirements

In addition to the recordkeeping and reporting requirements specified in Permit Condition III.B.6.:

- a. The Permittee shall determine whether there is statistically significant evidence of contamination above background levels at each monitoring well within 45 calendar days after completion of each sampling event. The statistical evaluation of monitoring well analytical data shall be performed pursuant to Permit Condition III.B.5. and ADEM Admin. Code r. 335-14-5-.06(9)(f).
- b. If the Permittee determines, pursuant to Permit Condition III.C.2.a., that there is statistically significant evidence of contamination above background levels for any chemical parameters or hazardous constituents listed in Table III.2. of this permit at any monitoring well at the point of compliance, he or she must comply with ADEM Admin. Code r. 335-14-5-.06(9)(g).

III.D. COMPLIANCE MONITORING PROGRAM (RESERVED)

III.E. CORRECTIVE ACTION MONITORING PROGRAM (RESERVED)

Draft

TABLE III.1
MONITORING WELL DESIGNATIONS

WELL NUMBER Current (Former)¹	WELL TYPE*	WELL LATITUDE	WELL LONGITUDE	UNIT(S) MONITORED	WELL DEPTH (ft)	GROUND ELEVATION (ft. MSL)	TOP-OF-RISER ELEVATION (ft. MSL)	SCREENED INTERVAL (ft.)	MONITORED ZONE**
W23S (W23)	PGM	34°46'20.1"	87°38'34.4"	SWMU 104	37.82	530.26	535.19	20	Upper
W24S (W24)	PGM	34°46'08.5"	87°38'33.4"	SWMU 104	32.92	520.8	524.98	20	Upper
W25S (W25A)	PGM	34°46'21.2"	87°38'40.0"	SWMU 104	64.05	521.7	525.59	10	Lower
W27S (POC4-A)	POC	34°46'17.8"	87°38'44.4"	SWMU 104	62.42	516.44	520.71	10	Lower
W27D (POC4-B)	POC	34°46'17.9"	87°38'44.8"	SWMU 104	83.79	516.61	520.72	10	Bedrock
P6S (PZ 1B)	PGM	34°46'17.9"	87°38'29.5"	SWMU 108	53.96	533.44	537.62	5	Lower
P6SD (PZ 1C)	PGM	34°46'17.8"	87°38'29.5"	SWMU 108	76.89	533.14	537.63	5	Lower
P8S (PZ 2C)	PGM	34°46'22.6"	87°38'29.5"	SWMU 108	59.73	531.79	535.84	5	Lower

TABLE III.1
(cont.)

WELL NUMBER Current (Former)¹	WELL TYPE*	WELL LATITUDE	WELL LONGITUDE	UNIT(S) MONITORED	WELL DEPTH (ft)	GROUND ELEVATION (ft. MSL)	TOP-OF-RISER ELEVATION (ft. MSL)	SCREENED INTERVAL (ft.)	MONITORED ZONE**
P8SD (PZ 2D)	PGM	34°46'22.5"	87°38'29.6"	SWMU 108	73.98	531.73	535.84	5	Lower
P7S (PZ 3A)	PGM	34°46'19.6"	87°38'23.8"	SWMU 108	29.15	535.58	539.62	5	Upper
P7SD (PZ 3B)	PGM	34°46'19.6"	87°38'23.8"	SWMU 108	54.01	535.54	539.51	5	Lower
P4S (PZ 32A)	PGM	34°46'13.4"	87°38'28.9"	SWMU 108	84.8	528.87	531.15	20	Lower
P4SD (PZ 32B)	PGM	34°46'13.7"	87°38'28.9"	SWMU 108	109.95	529.55	532.32	26.5	Bedrock
P11S (POC1-A)	POC	34°46'26.1"	87°38'37.5"	SWMU 108	61.6	528.09	532.36	20	Lower
P11D (POC1-B)	POC	34°46'26.0"	87°38'37.4"	SWMU 108	109.42	527.89	532.15	10	Bedrock
P13S (POC2-A)	POC	34°46'29.8"	87°38'34.1"	SWMU 108	74.47	535.67	539.75	20	Lower
P13D (POC2-B)	POC	34°46'29.9"	87°38'34.1"	SWMU 108	95.7	535.71	539.75	10	Bedrock

TABLE III.1
(cont.)

WELL NUMBER Current (Former) ¹	WELL TYPE*	WELL LATITUDE	WELL LONGITUDE	UNIT(S) MONITORED	WELL DEPTH (ft)	GROUND ELEVATION (ft. MSL)	TOP-OF-RISER ELEVATION (ft. MSL)	SCREENED INTERVAL (ft. MSL)	MONITORED ZONE**
P14S (POC3-A)	POC	34°46'33.9"	87°38'23.7"	SWMU 108	75.4	549.91	554.05	20	Lower
P14D (POC3-B)	POC	34°46'34.1"	87°38'23.8"	SWMU 108	114.3	550.11	553.99	10	Bedrock
P3S (G-A)	BKG	34°46'08.3"	87°38'14"	All	65.28	537.29	541.26	20	Lower (Gauging only)
PH1S (POC5)	POC	34°46'38.1"	87°38'44.6"	SWMUs 17-37	52.8	540.23	544.27	15	Lower
PH2S (POC6)	POC	34°46'37.5"	87°38'37.8"	SWMUs 17-37	34.55	538.15	542.34	15	Upper
SW1	NA	34°46'13.8"	87°38'40.7"	Central Ditch for SWMU 104	NA	NA	NA	NA	Surface Water
SW2	NA	34°46'06.6"	87°38'30.4"	Central Ditch for SWMU 104	NA	NA	NA	NA	Surface Water
SW3	NA	34°45'45.8"	87°38'05.8"	Pond Creek for SWMU 108	NA	NA	NA	NA	Surface Water

TABLE III.1
(cont.)

WELL NUMBER Current (Former) ¹	WELL TYPE*	WELL LATITUDE	WELL LONGITUDE	UNIT(S) MONITORED	WELL DEPTH (ft)	GROUND ELEVATION (ft. MSL)	TOP-OF-RISER ELEVATION (ft. MSL)	SCREENED INTERVAL (ft. MSL)	MONITORED ZONE**
SW4	NA	34°46'06"	87°38'28.8"	Pond Creek for SWMU 108	NA	NA	NA	NA	Surface Water
SW5	NA	34°46'23.1"	87°38'09.9"	Pond Creek for SWMU 108	NA	NA	NA	NA	Surface Water

* Well Type:
 POC - Point of Compliance Wells
 EFF - Effectiveness Monitoring Wells
 PGM - Piezometers and/or General Monitoring Wells
 BKG - Background Wells
 BDY - Boundary Monitoring Wells
 UPG - Upgradient Well
 REC - Recovery Well
 TRN - Trench Well

** Monitored Zone - *e.g.*, upper, lower, bedrock, deep, intermediate, surface water.

1 In 2019, monitoring wells identified as not meeting Alabama Department of Environmental Management (ADEM) construction standards, background monitoring wells and poorly yielding wells were replaced and renamed. Furthermore, in 2019 and 2021, the monitoring network was expanded to move the most downgradient monitoring points for Solid Waste Management Unit (SWMU) 108 to the north, northeast and northwest. See Section 2.1 of the permit application for additional information. The finalization of this monitoring well expansion is still ongoing and further changes to the monitoring well network will be addressed in a permit modification once the well network is finalized. The table contains the well data that is current as of the issuance of this permit.

The well numbers for the corresponding wells that were replaced are given in parentheses to allow cross referencing with the 2003 ERC Post Closure Monitoring Plan, provided in Attachment 2 Appendix F of the permit application, until sufficient data has been gathered and analyzed to confirm the replacement wells are sufficient and the Post Closure Monitoring Plan is updated.

TABLE III.2

GROUNDWATER QUALITY MONITORING CONSTITUENTS

HAZARDOUS CONSTITUENT	UNIT*
Phosphorus (White)	SWMUs 17-37, 104
Tetrachloroethylene	SWMU 108
Carbon tetrachloride	SWMU 108
Chloroform	SWMU 108
Trichloroethene	SWMU 108
Cis-1,2-dichloroethylene	SWMU 108
Trans-1,2-dichloroethylene	SWMU 108
Dibromochloromethane	SWMU 108
Vinyl Chloride	SWMU 108

* Identifies the unit(s) at which the given constituent must be monitored.

TABLE III.3
GROUNDWATER PROTECTION STANDARD

HAZARDOUS CONSTITUENT	CAS No.	UNIT*	MAXIMUM CONCENTRATION LIMIT (MCL)** (mg/L)	POINT-OF- COMPLIANCE ACTION LEVEL*** (mg/L)	SURFACE WATER ACTION LEVEL**** (mg/L)
Tetrachloroethylene	127-18-4	SWMU 108	0.005	0.05	0.019
Carbon Tetrachloride	56-23-5	SWMU 108	0.005	0.05	0.010
Chloroform	67-66-3	SWMU 108	0.08	0.8	1.020
Trichloroethene	79-01-6	SWMU 108	0.005	0.05	0.175
Cis-1,2-dichloroethylene	156-59-2	SWMU 108	0.07	0.7	0.684
Trans-1,2-dichloroethylene	156-60-5	SWMU 108	0.1	1.0	0.684
Dibromochloromethane	124-48-1	SWMU 108	0.08	0.8	0.048
Vinyl Chloride	75-01-4	SWMU 108	0.002	0.02	0.014
Phosphorus (White)*****	7723-14-0	SWMUs 17-37, 104	0.00073	0.0073	0.0073

* Identifies the unit(s) at which the given constituent must be monitored.

** Alabama Risk Based Corrective Action Guidance Manual, September 2008, Table 2-2

*** The Point-of-Compliance Action Level is used to determine the effectiveness of the remedial action; however, the MCL is the groundwater protection standard that has to be met before all corrective measures have been achieved for closure.

**** ADEM Ambient Water Quality Criteria Code: 335-6-10-.07, equations 16 and 18. MCL used if higher.

***** No MCL is promulgated for the contaminant. Action Level from USEPA Region IX Preliminary Remediation Goals per USEPA Region IV Guidance.

PART IV

**SOLID WASTE MANAGEMENT UNIT
IDENTIFICATION AND EVALUATION**

IV.A. APPLICABILITY

The Conditions of this Part apply to:

1. The solid waste management units (SWMUs) and areas of concern (AOCs) identified in Table IV.1;
2. The SWMUs and AOCs identified in Table IV.2, which require investigation and/or remediation;
3. The SWMUs and AOCs identified in Table IV.3, which require no further investigation under this permit at this time;
4. The SWMUs and AOCs identified in Table IV.4, which require post-closure care and groundwater monitoring;
5. The SWMUs and AOCs identified in Table IV.5, which require a Corrective Measures Implementation Plan;
6. The SWMUs and AOCs identified in Table IV.6, which are located on parcels of property that have been sold in whole or in part out of TVA ownership;
7. Any additional SWMUs or AOCs discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means; and,
8. Contamination beyond the facility boundary, if applicable. 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.

**IV.B. NOTIFICATION AND ASSESSMENT REQUIREMENTS FOR NEWLY IDENTIFIED
SWMUs AND AOCs**

1. The Permittee shall notify the Department in writing, within 15 calendar days of discovery, of any additional AOCs as described under Permit Condition IV.A.7. The notification shall include, at a minimum, the location of the AOC and all available information pertaining to the nature of the release (e.g., media affected, hazardous constituents released, magnitude of release, etc.). If the Department determines that

further investigation of an AOC is required, the permit will be modified in accordance with ADEM Admin. Code r. 335-14-8-.04(2).

2. The Permittee shall notify the Department in writing, within 15 calendar days of discovery, of any additional SWMUs as described under Permit Condition IV.A.7.
3. The Permittee shall prepare and submit to the Department, within 90 calendar days of notification, a SWMU Assessment Report (SAR) for each SWMU identified under Permit Condition IV.B.2. At a minimum, the SAR shall provide the following information:
 - a. Location of unit(s) on a topographic map of appropriate scale such as required under ADEM Admin. Code r. 335-14-8-.02(5)(b)19.
 - b. Designation of type and function of unit(s).
 - c. General dimensions, capacities and structural description of unit(s) (supply any available plans/drawings).
 - d. Dates that the unit(s) was operated.
 - e. Specification of all wastes that have been managed at/in the unit(s) to the extent available. Include any available data on hazardous constituents in the wastes.
 - f. All available information pertaining to any release of hazardous waste or hazardous constituents from such unit(s) (to include groundwater data, soil analyses, air, and/or surface water data).
4. Based upon the results of the SAR, the Department shall determine the need for further investigations at the SWMUs covered in the SAR. If the Department determines that such investigations are needed, the Permittee shall initiate an investigation as outlined in Permit Conditions IV.D. immediately upon receiving notification of the Department's determination.

IV.C. NOTIFICATION REQUIREMENTS FOR NEWLY DISCOVERED RELEASES AT PREVIOUSLY IDENTIFIED SWMUs or AOCs

1. The Permittee shall notify the Department in writing of any newly discovered release(s) of hazardous waste or hazardous constituents discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means, within 15 calendar days of discovery. Such newly discovered releases may be from SWMUs or AOCs identified in Permit Condition IV.A.3 or SWMUs or AOCs identified in Permit Condition IV.A.7 for which further investigation was not required.
2. If the Department determines that further investigation of the SWMUs or AOCs is needed, the Permittee shall initiate an investigation as outlined in Permit Condition IV.D. immediately upon receiving notification of the Department's determination.

IV.D. RCRA FACILITY INVESTIGATION (RFI)

1. The Permittee must perform a RFI for any SWMU and AOC identified by the Department in accordance with Permit Conditions IV.A.2, IV.B.4, and IV.C.2.
2. The RFI must completely identify the concentration of hazardous constituents released from each SWMU and AOC and fully delineate the area where such hazardous constituents have come to be located.
3. The RFI must fully characterize the nature and extent of contamination released from each SWMU or AOC under investigation.
4. The RFI must be performed in a manner consistent with the most recent edition of the Alabama Environmental Investigation and Remediation Guidance.
5. Except as provided by Permit Condition IV.D.6., the RFI must be completed within 180 days from the effective date of this permit, or, for SWMUs or AOCs identified pursuant to Permit Conditions IV.B. and C., within 180 calendar days from the receipt of notification from the Department that a RFI is required. If, prior to the effective date of this permit, the Department has approved a work plan that includes a schedule for completing the RFI, the RFI shall be completed in accordance with the approved schedule.
6. RFI Schedule of Compliance
 - a. For RFIs expected to require greater than 180 days to complete, the Permittee may submit a schedule of compliance subject to Departmental approval and/or modification.
 - b. Submittal of an RFI Schedule of Compliance does not delay or otherwise postpone the Permittee's obligation to initiate the RFI.
 - c. The Schedule of Compliance must include:
 - i. A detailed narrative discussion which explains why the RFI cannot be completed within 180 days, and;
 - ii. A detailed and chronological listing of milestones, with estimated durations, which provides sufficient information to track the progress of the investigation.
 - d. The RFI Schedule of Compliance shall be reviewed by the Department in accordance with Permit Condition IV.G.
 - e. The Permittee shall complete the RFI in accordance with the approved RFI Schedule of Compliance.
7. RFI Progress Reports
 - a. For an RFI being conducted in accordance with an approved RFI Schedule of Compliance, the Permittee must submit progress reports on monthly basis.

- b. The RFI Progress Reports must include:
 - i. A description of the RFI activities completed during the reporting period;
 - ii. Summaries of any problems or potential problems encountered during the reporting period;
 - iii. Actions taken to rectify problems;
 - iv. Changes in relevant personnel;
 - v. Projected work for the next reporting period;
 - vi. Any proposed revisions to the RFI Schedule of Compliance (Modifications of the RFI Schedule of Compliance are subject to approval by the Department); and,
 - vii. A summary of any data collected during the reporting period, including:
 - (A) The location of each sampling point identified on a site map;
 - (B) The concentration of each hazardous constituent detected at each sampling point;
- c. Submittal of RFI Progress Reports, work plans, or other documents during the RFI does not alter the approved RFI Schedule of Compliance.

8. RFI Reports

- a. The Permittee shall prepare and submit to the Department a RFI Report within 60 days from the completion of investigation activities in accordance with the approved RFI Schedule of Compliance, if applicable.
- b. The RFI Report must provide a detailed description of all required elements of the investigation as described in the most recent edition of the Alabama Environmental Investigation and Remediation Guidance.
- c. The RFI Report shall be reviewed by the Department in accordance with Permit Condition IV.G.

IV.E. SELECTION OF CORRECTIVE MEASURES AND PERMIT MODIFICATION

- 1. The Permittee shall develop and submit to the Department a Corrective Measures Implementation (CMI) Plan for any areas of the Permittee's site where hazardous constituents have come to be located at concentrations exceeding those appropriate for the protection of human health and the environment. The CMI Plan must include all applicable elements of the proposed remedy pursuant to the most recent edition of the Alabama Environmental Investigation and Remediation Guidance.

2. The CMI Plan shall be submitted to the Department within 120 days following the Permittee's submittal of the RFI Report indicating that hazardous constituents have come to be located at any area of the Permittee's facility, or beyond the facility, at concentrations exceeding those appropriate for the protection of human health and the environment, or within 120 days following notification from the Department that a CMI Plan is required, whichever occurs earlier.
3. The CMI Plan shall be submitted along with a request for permit modification pursuant to ADEM Admin. Code r. 335-14-8-.04(2), and shall include any applicable fees pursuant to ADEM Admin. Code r. 335-1-6. This modification will serve to incorporate the proposed final remedy, including all procedures necessary to implement and monitor the remedy, into this permit.

IV.F. INTERIM MEASURES (IM)

1. IM Work Plan(s)
 - a. Upon notification by the Department, the Permittee shall prepare and submit an Interim Measures (IM) Work Plan for any SWMU or AOC that the Department determines is necessary. IM are necessary in order to minimize or prevent further migration of contaminants and limit human and environmental exposure to contaminants while long-term corrective measures are evaluated and, if necessary, implemented. The IM Work Plan shall be submitted within 30 calendar days of such notification and shall include the elements listed in Permit Condition IV.F.1.b. Such IM may be conducted concurrently with investigations required under the terms of this permit. The Permittee may initiate IM by submitting an IM Work Plan for approval and reporting in accordance with the requirements under Permit Condition IV.F.
 - b. The IM Work Plan shall ensure that the IM 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 Work Plan shall include: the IM objectives, procedures for implementation (including any designs, plans, or specifications), and schedules for implementation.
 - c. The IM Work Plan must be approved by the Department, in writing, prior to implementation. The Department shall specify the start date of the IM Work Plan schedule in the letter approving the IM Work Plan.
 - d. The IM Report shall be reviewed by the Department in accordance with Permit Condition IV.G.
2. IM Implementation
 - a. The Permittee shall implement the IM in accordance with the approved IM Work Plan.
 - b. The Permittee shall give notice to the Department as soon as possible of any planned changes, reductions or additions to the IM Work Plan.

- c. Final approval of corrective action required under ADEM Admin. Code r. 335-14-5-.06(12) which is achieved through IM shall be in accordance with ADEM Admin. Code r. 335-14-8-.04(2) and Permit Condition IV.E.

3. IM Reports

- a. If the time required for completion of IM 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, at a minimum, contain the following information:
 - i. A description of the portion of the IM completed;
 - ii. Summaries of any deviations from the IM Work Plan during the reporting period;
 - iii. Summaries of any problems or potential problems encountered during the reporting period;
 - iv. Projected work for the next reporting period; and,
 - v. Copies of laboratory/monitoring data.
- b. The Permittee shall prepare and submit the IM Report to the Department within 90 calendar days of completion of IM conducted under Permit Condition IV.F. The IM Report shall, at a minimum, contain the following information:
 - i. A description of IM implemented;
 - ii. Summaries of results;
 - iii. Summaries of all problems encountered;
 - iv. Summaries of accomplishments and/or effectiveness of IM; and,
 - v. Copies of all relevant laboratory/monitoring data, etc. in accordance with Permit Condition I.C.10.

IV.G. SUBMITTALS

- 1. All work plans, reports, schedules, and other documents (“submittals”) required by this permit shall be subject to approval by the Department to assure that such submittals 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 directed by the Department.
- 2. The Department will review all submittals 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 therefore. If the Department disapproves a submittal, the Department shall (1) notify the Permittee in writing of the submittal’s deficiencies and

specify a due date for submission of a revised submittal, (2) revise the submittal and notify the Permittee of the revisions, or (3) conditionally approve the submittal and notify the Permittee of the conditions. Permit Condition IV.H. shall apply only to submittals that have been disapproved and revised by the Department, or that have been disapproved by the Department, then revised and resubmitted by the Permittee, and again disapproved by the Department.

3. All submittals shall be submitted within the time frame specified by the Department and in accordance with the approved schedule of compliance. 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.
4. All submittals required by this permit shall be signed and certified in accordance with ADEM Admin. Code r. 335-14-8-.02(2).
5. A copy of all submittals shall be provided by the Permittee to the Department in accordance with Permit Condition I.K. Additional copies shall be made available upon request.

IV.H. DISPUTE RESOLUTION

Notwithstanding any other provision in this permit, in the event the Permittee disagrees, in whole or in part, with the Department's revision of a submittal or disapproval of any revised submittal required by this Part, the following may, at the Permittee's discretion apply:

1. In the event that the Permittee chooses to invoke the provisions of this section, the Permittee shall notify the Department in writing within 30 calendar days of receipt of the Department's revision of a submittal or disapproval of a revised submittal. Such notice shall set forth:
 - a. the specific matters in dispute;
 - b. the position the Permittee asserts should be adopted as consistent with the requirements of this permit;
 - c. the basis for the Permittee's position; and,
 - d. any matters considered necessary for the Department's determination.
2. The Department and the Permittee shall have an additional 30 calendar days from the Department's receipt of the notification provided for in Permit Condition IV.H.1. to meet or confer to resolve any disagreement.
3. In the event agreement is reached, the Permittee shall submit and implement the revised submittal in accordance with and within the time frame specified in such agreement.
4. If agreement is not reached within the 30-day period, the Department will notify the Permittee in writing of his/her decision on the dispute, and the Permittee shall comply with the terms and conditions of the Department's decision in the dispute. For the

purposes of this provision in this permit, the responsibility for making this decision shall not be delegated below the Land Division Chief.

5. With the exception of those conditions under dispute, the Permittee shall proceed to take any action required by those portions of the submission and of this permit that the Department determines are not affected by the dispute.

Draft

Table IV.1

The following Solid Waste Management Unit (SWMU) and/or Area of Concern (AOC) numbers and descriptions correspond with those noted in the most current RCRA Facility Assessment (RFA) Report. Where discrepancies exist, the permit will take precedence.

Master List of known SWMUs/AOCs at the facility:

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT
SWMU 1	South Settling Pond	*
SWMU 2	North Settling Pond	*
SWMU 3	Asbestos Storage Bin	
SWMU 4	RCRA Storage Building	
SWMU 5	Outdoor Drum Storage Area No. 1	
SWMU 6	Abandoned Rail Cars	*
SWMU 7	Furnace Building Drum Storage	
SWMU 8	Dumpster	
SWMU 9	Tank Car Washing Pit	
SWMU 10	Tank Car Washing Sumps	
SWMU 11	Tank Car Drum Storage Area	
SWMU 12	Tank Car Horizontal Tank	
SWMU 13	Abandoned Valve Pit	
SWMU 14	Fertilizer Tank Valve Pit	
SWMU 15	Fertilizer Spill Containment	
SWMU 16	North End Maintenance Tool Room	
SWMU 17	Phosphorus Sludge Entombments – Storage Tank No. 1	
SWMU 18	Phosphorus Sludge Entombments – Storage Tank No. 2	
SWMU 19	Phosphorus Sludge Entombments – Storage Tank No. 3	
SWMU 20	Phosphorus Sludge Entombments – Storage Tank No. 4	
SWMU 20A	Phosphorus Sludge Entombments – Limestone Pit	
SWMU 21	Phosphorus Sludge Entombments – Storage Tank No. 5	
SWMU 22	Phosphorus Sludge Entombments – Storage Tank No. 6	
SWMU 23	Phosphorus Sludge Entombments – Storage Tank No. 7	
SWMU 24	Phosphorus Sludge Entombments – Storage Tank No. 8	
SWMU 25	Phosphorus Sludge Entombments – Storage Tank No. 9	
SWMU 26	Phosphorus Sludge Entombments – Storage Tank No. 10	
SWMU 27	Phosphorus Sludge Entombments – Storage Tank No. 11	
SWMU 28	Phosphorus Sludge Entombments – Recovery Tank No. 1	
SWMU 29	Phosphorus Sludge Entombments – Recovery Tank No. 2	
SWMU 30	Phosphorus Sludge Entombments – Acid Unit No. 6 Feed Tanks (2)	
SWMU 31	Phosphorus Sludge Entombments – Furnace Sumps	
SWMU 32	Phosphorus Sludge Entombments – Acid Unit No. 7 Feed Tank No. 1	
SWMU 33	Phosphorus Sludge Entombments – Acid Unit No. 7 Feed Tank No.2	

Table IV.1 (cont'd)

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT
SWMU 34	Phosphorus Sludge Entombments – No. 1 Acid Unit	
SWMU 35	Phosphorus Sludge Entombments – No. 1 Acid Unit	
SWMU 36	Phosphorus Sludge Entombments – No. 1 Acid Unit	
SWMU 37	Phosphorus Sludge Entombments – CO Cooler Sump	
SWMU 38	Clarifier	
SWMU 39	Old Clarifier Water Tanks (2)	
SWMU 40	New Clarifier Water Tanks (2)	
SWMU 41	Clarifier Surge Tank	
SWMU 42	Phosphate Fertilizer Storage Building	
SWMU 43	Sulfur Cake Storage Area	
SWMU 44	Building 103 Hopper	
SWMU 45	Asbestos Tape Storage	
SWMU 46	Tank Scrapping Sump	
SWMU 47	Unknown Sump No. 1	
SWMU 48	Unknown Sump No. 2	
SWMU 49	Wet Process Phosphoric Acid Tanks (3)	
SWMU 50	Polychlorinated Biphenyls (PCB) Storage Building	
SWMU 51	Electrical Switch House	
SWMU 52	Discarded Roofing Tar	
SWMU 53	Carpenter Shop Outdoor Storage Area	
SWMU 54	Phosphate Development Works (PDW) Storage Tanks (2)	
SWMU 55	PDW Abandoned Tank Containment Structure No. 1	
SWMU 56	PDW 111-A Tanks	
SWMU 57	PDW Off-Loading Structures	
SWMU 58	PDW Elemental Phosphorus Rail Car	
SWMU 59	PDW Service Pits	
SWMU 60	PDW Step Zero Clarifier	
SWMU 61	PDW Step Zero Process Area	
SWMU 62	PDW PCl ₃ Storage Tanks (3)	
SWMU 63	PDW Building 103	
SWMU 64	PDW Building 103 Drum Storage Pad	
SWMU 65	PDW Fuel Oil Storage Tanks (33)	
SWMU 66	PDW Step One Process Area	
SWMU 67	PDW Scrap Yard and Spare Parts	
SWMU 68	PDW Abandoned Drum Storage Area	
SWMU 69	PDW Laboratories	
SWMU 70	PDW Building 805 Drum Storage Area	
SWMU 71	PDW Abandoned Tank Containment Structure No. 2	
SWMU 72	PDW Step Two Process Units	
SWMU 73	PDW Army Tanker Trailers (10)	
SWMU 74	PDW NaOH Scrubber Water Tanks	
SWMU 75	PDW Area 309 Tanks	
SWMU 76	PDW Area 309 Drum Storage Area	

Table IV.1 (cont'd)

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT
SWMU 77	PDW Oil Heaters (2)	
SWMU 78	PDW Building 301 Drum Storage Areas (2)	
SWMU 79	PDW Building 901 Spill	
SWMU 80	PDW Former POCl ₃ Treatment Area	
SWMU 81	PDW Transformer Storage Building 901B	
SWMU 82	PDW Building 301 Outdoor Drum Storage	
SWMU 83	PDW Area 307 Drum Storage Area	
SWMU 84	PDW Surface Drainage Ditch	
SWMU 85	PDW Storm Water Pond	
SWMU 86	PDW Lagoons (2)	
SWMU 87	Ammonia from Coal Project (ACP) Lock Hopper	
SWMU 88	ACP Drag Conveyer	
SWMU 89	ACP Drum Storage Area No. 1	
SWMU 90	ACP Coal Fines Releases	
SWMU 91	ACP Gasifier Blow Down Sump	
SWMU 92	ACP Drum Storage Area No. 2	
SWMU 93	ACP Drum Storage Area No. 3	
SWMU 94	ACP Stripper	
SWMU 95	ACP Accumulator	
SWMU 96	ACP Flocculator/Clarifier	
SWMU 97	ACP Conditioner Tank	
SWMU 98	ACP Pressure Filter	
SWMU 99	ACP Wastewater Sump	
SWMU 100	ACP Equalization Basin	
SWMU 101	ACP Area Leaking Transformer	
SWMU 102	ACP Activated Sludge and Digester Tank	
SWMU 103	ACP Sodium Vanadate Spill	
SWMU 104	Ash Settling Pond	
SWMU 105	Plant Drainage Ditch	
SWMU 106	Central Ditch and Skimmer	
SWMU 107	National Fertilizer Development Center (NFDC) Scrap Yard	
SWMU 108	NFDC Landfill	
SWMU 109	Northeast End Drum Storage Area/North UST Site	
SWMU 110	Coal Pile Runoff Ditch	
SWMU 111	Phosphorus Sludge Rail Cars (18)	
SWMU 112	Precipitator Dust Piles	
SWMU 113	Wooden Tanks (4)	
SWMU 114	Phosphorus Slag Disposal Area	
SWMU 115	Coal Slag Landfill	
SWMU 116	Former Underground Storage Tank Area	
SWMU 117	Old Ammonia Plant	*
SWMU 118	Warehouse 310	*

Table IV.1 (cont'd)

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT
SWMU 119	Storage Building 316	*
SWMU 120	Ammonia Overflow Pond	
SWMU 121	Abandoned Fuel Oil Tank	
SWMU 122	Building 321 Outdoor Drum Storage Area	
SWMU 123	Building 321 Storage Area	
SWMU 124	Gypsum Surface Impoundment	*
SWMU 125	Gypsum Waste Pile	*
SWMU 126	Gypsum Sump	*
SWMU 127	Gypsum Area Drum	*
SWMU 128	Building 409 Outdoor Drum Storage Area	*
SWMU 129	New Oil Containment Area	*
SWMU 130	Waste Oil Containment Area	*
SWMU 131	Waste Oil Storage Area	*
SWMU 132	Waste Oil Railcar	*
SWMU 133	Sulfuric Acid Railcar	*
SWMU 134	Building 406 Railcar Pit	*
SWMU 135	Building 406 Used Oil Accumulation	*
SWMU 136	Building 403 Outdoor Phosphoric Acid Tank	*
SWMU 137	Building 408 Outdoor Drum Storage Area	*
SWMU 138	Building 410 Drum Storage Area	*
SWMU 139	Old Nitric Acid Tanks (12)	*
SWMU 140	Area 508 Sulfur Storage	*
SWMU 141	Building 508 Drum Storage Area	*
SWMU 142	Building 502 Chemical Storage Area	*
SWMU 143	Building 504 Drum Storage Areas (2)	*
SWMU 144	Building 506 Drum Storage Area	*
SWMU 145	Ethanol from Wood (EFW) Residue Bin	*
SWMU 146	EFW Sump	*
SWMU 147	EFW Storage Tanks (4)	*
SWMU 148	EFW Outdoor Drum Storage Area	*
SWMU 149	Boiler Plant	*
SWMU 150	Ammonia Plant Compressor Blow Down Sump	
SWMU 151	Ammonia Plant Oil/Water Separator	
SWMU 152	Ammonia Plant Oil Accumulation Area	
SWMU 153	Ammonia Plant Compressor Oil Area	
SWMU 154	Power Service No. 2 Compressor Blowdown Collection	
SWMU 155	Power Service No. 2 Outdoor Drum Storage	
SWMU 156	Old Steam Plant	
SWMU 157	Equipment Wash Sump	*
SWMU 158	Former Underground Diesel Tank	*
SWMU 159	Fuel Storage Tanks (3)	*
SWMU 160	Sulfuric Acid Storage Tank	*
SWMU 161	Low-Level Radioactive Waste Burial Site	
SWMU 162	Nitric Acid Tanks (2)	*
SWMU 163	Building 604 (3A)	*

Table IV.1 (cont'd)

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT
SWMU 164	Urea Plant Waste Oil Accumulation Area No. 1	*
SWMU 165	Urea Plant Waste Oil Accumulation Area No. 2	*
SWMU 166	Urea Plant Waste Oil Catch Basin	*
SWMU 167	Urea Plant Waste Oil Accumulation Area No. 3	*
SWMU 168	Urea Plant Oil and Ammonia Sump	*
SWMU 169	Urea Plant Waste Oil Accumulation Area No.4	*
SWMU 170	Urea Plant Ditch	*
SWMU 171	Urea Plant Old Plant Sump	*
SWMU 172	Urea Plant New Plant Sump	*
SWMU 173	Urea Plant Overflow Sump	*
SWMU 174	Urea Plant Stripper Overflow Tank	*
SWMU 175	Urea Plant Sump Overflow Tank	*
SWMU 176	Urea Plant Oil/Water Separator	*
SWMU 177	Ammonia Nitrate Accumulation Tank Car	*
SWMU 178	Ammonia Nitrate Sump	*
SWMU 179	Urea Sump	*
SWMU 180	Main Floor Urea Sump	*
SWMU 181	Urea Water Storage Rail Cars	*
SWMU 182	Railcar Sump	*
SWMU 183	Storage Building 501	*
SWMU 184	Plant Storm Water Pond	*
SWMU 185	NFDC Laboratories	*
SWMU 186	Chemical Engineering Laboratories	*
SWMU 187	Chemical Engineering Outdoor Waste Acid Storage Area	*
SWMU 188	PCB Spill Area	
SWMU 189	PDW Chemical Sewer	
SWMU 190	Phosphate Sludge Storage Tank	*
SWMU 191	ACP Process Units	
SWMU 192	Urea Plant Stripper	*
SWMU 193	South Site Former UST	*
SWMU 194	Trestle Drum Storage Area	
SWMU 195	PDW Underground Storage Tank	
SWMU 196	Ammonia Pumping Station	
SWMU 197	Power Service Shop (PSS) No. 2 West Wall	
SWMU 198	North End Storm Sewer	
SWMU 199	Boiler Fuel Area	*
SWMU 200	Flume House	
SWMU 201	ACP Drum Storage Area No. 4	
SWMU 202	Sulfur Tank	*
SWMU 203	Paint Shop Wastewater Sump	
SWMU 204	Catalyzer No. 4 Laboratory Holding Tank	*

Table IV.1 (cont'd)

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT
SWMU 205	Firing Range	
SWMU 206	National Fertilizer and Environmental Research Center (NFERC) Inert Demolition Landfill Permit No. 17-06	
SWMU 207	Former 90 Days Or Less Storage ERC	*
SWMU 208	Oily Debris 90 Days or Less Storage Area PSS #2	
SWMU 209	Sandblast Rolloff 90 Days Or Less Storage Area	
SWMU 210	Former Asbestos Storage Area	
SWMU 211	90 Days or Less Storage Area ERC	
SWMU 212	Customer Service Center	*
SWMU 213	Farm Area	*
SWMU 214	Water Tower	*
SWMU 215	Uncharacterized Disposal Area	
AOC 4 (SWMU 213)	Small Landfill	*
AOC 5 (SWMU 213)	Lead Contaminated Debris, Area	*
AOC 998	Site-wide Polycyclic Aromatic Hydrocarbon Study	AOC 998 only addresses PAH's on a site-wide basis *
Roofing Tar Bucket AOC	Tar, Polycyclic Aromatic Hydrocarbons	

* The parcel of land containing the SWMU/AOC was sold in whole or in part to a new owner. For more details on the remaining responsibilities of TVA with respect to the SWMUs and AOCs that have been sold either as a complete parcel or a portion of the parcel to a new owner, please refer to Table IV.6 of this permit and Attachment 2: Section 2.2 of the permit renewal application.

Table IV.2

The following Solid Waste Management Unit(s) (SWMU) and/or Area(s) of Concern (AOC) numbers and descriptions correspond with those noted in the most current RCRA Facility Assessment (RFA) Report. Where discrepancies exist, the permit will take precedence.

List of SWMUs and AOCs requiring a RCRA Facility Investigation (RFI) and/or remediation:

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT	POTENTIALLY AFFECTED MEDIA
SWMU 215	Uncharacterized Disposal Area		Soil, Sediment, Groundwater and Surface Water

Table IV.3

The following Solid Waste Management Unit (SWMU) and/or Area of Concern (AOC) numbers and descriptions correspond with those noted in the most current RCRA Facility Assessment (RFA) Report. Where discrepancies exist, the permit will take precedence.

List of SWMUs and AOCs requiring no further action at this time:

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT
SWMU 1	South Settling Pond	*
SWMU 2	North Settling Pond	*
SWMU 3	Asbestos Storage Bin	
SWMU 4	RCRA Storage Building	
SWMU 6	Abandoned Rail Cars	*
SWMU 8	Dumpster	
SWMU 9	Tank Car Washing Pit	
SWMU 10	Tank Car Washing Sump	
SWMU 11	Tank Car Drum Storage Area	
SWMU 12	Tank Car Horizontal Tank	
SWMU 13	Abandoned Valve Pit	
SWMU 14	Fertilizer Tank Valve Pit	
SWMU 15	Fertilizer Spill Containment	
SWMU 16	North End Maintenance Tool Room	
SWMU 38	Clarifier	
SWMU 39	Old Clarifier Water Tanks (2)	
SWMU 40	New Clarifier Water Tanks (2)	
SWMU 41	Clarifier Surge Tank	
SWMU 44	Building 103 Hopper	
SWMU 45	Asbestos Tape Storage	
SWMU 46	Tank Scraping Sump	
SWMU 47	Unknown Sump No. 1	
SWMU 48	Unknown Sump No. 2	
SWMU 49	Wet Process Phosphoric Acid Tanks (3)	
SWMU 50	PCB Storage Building	
SWMU 51	Electrical Switch House	
SWMU 52	Discarded Roofing Tar	
SWMU 54	PDW Storage Tanks (2)	
SWMU 55	PDW Abandoned Tank Containment Structure No. 1	
SWMU 56	PDW 111A Tanks	
SWMU 57	PDW Off-Loading Structures	
SWMU 58	PDW Elemental Phosphorus Railcar	
SWMU 60	PDW Step Zero Clarifier	
SWMU 61	PDW Step Zero Process Area	
SWMU 62	PDW PC ₁₃ Storage Tanks (3)	
SWMU 63	PDW Building 103	
SWMU 64	PDW Building 103 Drum Storage Pad	

Table IV.3 (cont'd)

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT
SWMU 65	PDW Fuel Oil Storage Tanks (33)	
SWMU 66	PDW Step One Process Area	
SWMU 67	PDW Scrap Yard and Spare Parts	
SWMU 68	PDW Abandoned Drum Storage Area	
SWMU 69	PDW Laboratories	
SWMU 70	PDW Building 805 Drum Storage Area	
SWMU 71	PDW Abandoned Tank Containment Structure No. 2	
SWMU 72	PDW Step Two Process Units	
SWMU 73	PDW Army Tanker Trailers (10)	
SWMU 74	PDW NaOH Scrubber Water Tanks	
SWMU 75	PDW Area 309 Tanks	
SWMU 76	PDW Area 309 Drum Storage Area	
SWMU 77	PDW Oil Heaters (2)	
SWMU 78	PDW Building 301 Drum Storage Areas (2)	
SWMU 79	PDW Building 901 Spill	
SWMU 80	PDW Former POC _l ₃ Treatment Area	
SWMU 81	PDW Transformer Storage Building 901B	
SWMU 82	PDW Building 301 Outdoor Drum Storage	
SWMU 85	PDW Storm Water Pond	
SWMU 86	PDW Lagoons (2)	
SWMU 87	ACP Lock Hopper	
SWMU 88	ACP Drag Conveyer	
SWMU 89	ACP Drum Storage Area No. 1	
SWMU 90	ACP Coal Fines Releases	
SWMU 91	ACP Gasifier Blow Down Sump	
SWMU 93	ACP Drum Storage Area No. 3	
SWMU 94	ACP Stripper	
SWMU 95	ACP Accumulator	
SWMU 96	ACP Flocculator/Clarifier	
SWMU 97	ACP Conditioner Tank	
SWMU 98	ACP Pressure Filter	
SWMU 99	ACP Wastewater Sump	
SWMU 101	ACP Area Leaking Transformer	
SWMU 102	ACP Activated Sludge and Digester Tank	
SWMU 103	ACP Sodium Vanadate Spill	
SWMU 109	Northeast End Drum Storage Area/North UST Site	
SWMU 111	Phosphorus Sludge Railcars (18)	
SWMU 113	Wooden Tanks	
SWMU 114	Phosphorus Slag Disposal Area	
SWMU 115	Coal Slag Landfill	
SWMU 116	Former Underground Storage Tank Area	
SWMU 117	Old Ammonia Plant	*
SWMU 118	Warehouse 310	*
SWMU 119	Storage Building 316	*

Table IV.3 (cont'd)

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT
SWMU 120	Ammonia Overflow Pond	
SWMU 121	Abandoned Fuel Oil Tank	
SWMU 123	Building 321 Storage Area	
SWMU 124	Gypsum Surface Impoundment	*
SWMU 125	Gypsum Waste Pile	*
SWMU 126	Gypsum Sump	*
SWMU 127	Gypsum Area Drum	*
SWMU 129	New Oil Containment Area	*
SWMU 130	Waste Oil Containment Area	*
SWMU 132	Waste Oil Railcar	*
SWMU 133	Sulfuric Acid Railcar	*
SWMU 134	Building 406 Railcar Pit	*
SWMU 135	Building 406 Used Oil Accumulation	*
SWMU 136	Building 403 Outdoor Phosphoric Acid Tank	*
SWMU 138	Building 410 Drum Storage Area	*
SWMU 139	Old Nitric Acid Tanks (12)	*
SWMU 140	Area 508 Sulfur Storage	*
SWMU 142	Building 502 Chemical Storage Area	*
SWMU 143	Building 504 Drum Storage Areas (2)	*
SWMU 144	Building 506 Drum Storage Area	*
SWMU 145	EFW Residue Bin	*
SWMU 146	EFW Sump	*
SWMU 147	EFW Storage Tanks (4)	*
SWMU 148	EFW Outdoor Drum Storage Area	*
SWMU 149	Boiler Plant	*
SWMU 150	Ammonia Plant Compressor Blow Down Sump	
SWMU 152	Ammonia Plant Oil Accumulation Area	
SWMU 153	Ammonia Plant Compressor Oil Area	
SWMU 154	Power Service No. 2 Compressor Blowdown Collection	
SWMU 155	Power Service No. 2 Outdoor Drum Storage	
SWMU 156	Old Steam Plant	
SWMU 157	Equipment Wash Sump	*
SWMU 158	Former Underground Diesel Tank	*
SWMU 159	Fuel Storage Tanks (3)	*
SWMU 160	Sulfuric Acid Storage Tank	*
SWMU 161	Low-Level Radioactive Waste Burial Site	
SWMU 162	Nitric Acid Tanks (2)	*
SWMU 163	Building 604 (3A)	*
SWMU 164	Urea Plant Waste Oil Accumulation Area No. 1	*
SWMU 167	Urea Plant Waste Oil Accumulation Area No. 3	*
SWMU 170	Urea Plant Ditch	*
SWMU 171	Urea Plant Old Plant Sump	*
SWMU 172	Urea Plant New Plant Sump	*
SWMU 173	Urea Plant Overflow Sump	*

Table IV.3 (cont'd)

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT
SWMU 174	Urea Plant Stripper Overflow Tank	*
SWMU 175	Urea Plant Sump Overflow Tank	*
SWMU 176	Urea Plant Oil/Water Separator	*
SWMU 177	Ammonia Nitrate Accumulation Tank Car	*
SWMU 178	Ammonia Nitrate Sump	*
SWMU 179	Urea Sump	*
SWMU 180	Main Floor Urea Sump	*
SWMU 181	Urea Water Storage Rail Cars	*
SWMU 182	Railcar Sump	*
SWMU 183	Storage Building 501	*
SWMU 184	Plant Storm Water Pond	*
SWMU 185	NFDC Laboratories	*
SWMU 186	Chemical Engineering Laboratories	*
SWMU 187	Chemical Engineering Outdoor Waste Acid Storage Area	*
SWMU 188	PCB Spill Area	
SWMU 189	PDW Chemical Sewer	
SWMU 190	Phosphate Sludge Storage Tank	*
SWMU 191	ACP Process Units	
SWMU 192	Urea Plant Stripper	*
SWMU 193	South Site Former UST	*
SWMU 195	PDW Underground Storage Tank	
SWMU 198	North End Storm Sewer	
SWMU 199	Boiler Fuel Area	*
SWMU 200	Flume House	
SWMU 202	Sulfur Tank	*
SWMU 203	Paint Shop Wastewater Sump	
SWMU 204	Catalyzer No. 4 Laboratory Holding Tank	*
SWMU 205	Firing Range	
SWMU 206	NFERC Inert Demolition Landfill Permit No. 17-06	
SWMU 207	Former 90 Days Or Less Storage Area ERC	*
SWMU 208	Oily Debris 90 Days or Less Storage Area PSS #2	
SWMU 209	Sandblast Rolloff 90 Days Or Less Storage Area	
SWMU 210	Former Asbestos Storage Area	
SWMU 211	90 Days or Less Storage Area ERC	
SWMU 212	Customer Service Center	*
SWMU 213	Farm Area	*
SWMU 214	Water Tower	*
AOC 4 (SWMU 213)	Small Landfill	*
AOC 5 (SWMU 213)	Lead Contaminated Debris, Area	*

Table IV.3 (cont'd)

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT
Roofing Tar Bucket AOC	Tar, Polycyclic Aromatic Hydrocarbons	

* The parcel of land containing the SWMU/AOC was sold in whole or in part to a new owner. For more details on the remaining responsibilities of TVA with respect to the SWMUs and AOCs that have been sold either as a complete parcel or a portion of the parcel to a new owner, please refer to Table IV.6 of this permit and Attachment 2: Section 2.2 of the permit renewal application.

Draft

Table IV.4

The following Solid Waste Management Unit (SWMU) and/or Area of Concern (AOC) numbers and descriptions correspond with those noted in the most current RCRA Facility Assessment (RFA) Report. Where discrepancies exist, the permit will take precedence.

List of SWMUs and AOCs regulated by Parts II and III of this permit:

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT	POTENTIALLY AFFECTED MEDIA
SWMUs 17-20	Phosphorus Sludge Entombments	Phosphorus Sludge Storage Tanks	Air, Groundwater, Soil, Surface Water
SWMU 20A	Phosphorus Sludge Entombments	Phosphorus Sludge Limestone Pit	Air, Groundwater, Soil, Surface Water
SWMUs 21-25	Phosphorus Sludge Entombments	Phosphorus Sludge Storage Tanks	Air, Groundwater, Soil, Surface Water
SWMUs 26-27	Phosphorus Sludge Entombments	Phosphorus Sludge Storage Tanks	Air, Groundwater, Soil, Surface Water
SWMUs 28-29	Phosphorus Sludge Entombments	Phosphorus Sludge Recovery Tanks	Air, Groundwater, Soil, Surface Water
SWMU 30	Phosphorus Sludge Entombments	Phosphorus Sludge Acid Unit No. 6 Feed Tanks (2)	Air, Groundwater, Soil, Surface Water
SWMU 31	Phosphorus Sludge Entombments	Phosphorus Sludge Furnace Sump	Air, Groundwater, Soil, Surface Water
SWMUs 32-33	Phosphorus Sludge Entombments	Phosphorus Sludge Acid Unit No. 7 Feed Tanks (2)	Air, Groundwater, Soil, Surface Water
SWMUs 34-36	Phosphorus Sludge Entombments	Phosphorus Sludge Acid Unit No.1	Air, Groundwater, Soil, Surface Water
SWMU 37	Phosphorus Sludge Entombments	Phosphorus Sludge CO Cooler Sump	Air, Groundwater, Soil, Surface Water
SWMU 104	Ash Settling Pond	Impoundment for Elemental Phosphorus and Fly Ash	Groundwater, Soil, Surface Water
SWMU 108	National Fertilizer Development Center Landfill	Landfill	Soil, Surface Water, Subsurface Gas, Groundwater
SWMU 112	Precipitator Dust Piles	Waste Piles	Soil, Surface Water, Groundwater
SWMU 194	Trestle Drum Storage Area	Outdoor Drum Storage Area	Soil, Surface Water, Groundwater

Table IV.5

The following Solid Waste Management Unit (SWMU) and/or Area of Concern (AOC) numbers and descriptions correspond with those noted in the most current RCRA Facility Assessment (RFA) Report. Where discrepancies exist, the permit will take precedence.

The following SWMUs and AOCs require a Corrective Measure Implementation (CMI) Plan:

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT	POTENTIALLY AFFECTED MEDIA

There are no SWMUs or AOCs requiring a CMI Plan at this time.

Draft

Table IV.6

The following Solid Waste Management Unit (SWMU) and/or Area of Concern (AOC) numbers and descriptions correspond with those noted in the most current RCRA Facility Assessment (RFA) Report. Where discrepancies exist, the permit will take precedence. These SWMUs and AOCs are located on parcels of property that have been sold either as a complete parcel or a portion of the parcel to a new owner. Pending new information or discoveries, each SWMU and/or AOC has completed the corrective action requirements pursuant to this permit and has either been determined to require no further action, or has an environmental covenant on file. As described in the special warranty deeds (Attachment 2, Appendix I (Deeds) of the permit renewal application) if, in the future, additional contamination related to TVA's use of the property is identified, these SWMUs/AOCs will be subject to corrective action requirements described throughout this permit.

SWMUs and AOCs that have completed the corrective action process and are located on parcels of property sold by TVA:

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT
SWMU 1	South Settling Pond	Sold to Muscle Shoals Holdings, LLC. (MSH, LLC) ¹
SWMU 2	North Settling Pond	Sold to MSH, LLC ¹
SWMU 6	Abandoned Rail Cars	Portion Sold to MSH, LLC ²
SWMU 117	Old Ammonia Plant	Sold to MSH, LLC ³
SWMU 118	Warehouse 310	Sold to MSH, LLC ¹
SWMU 119	Storage Building 316	Sold to MSH, LLC ¹
SWMU 124	Gypsum Surface Impoundment	Sold to MSH, LLC ¹
SWMU 125	Gypsum Waste Pile	Sold to MSH, LLC ¹
SWMU 126	Gypsum Sump	Sold to MSH, LLC ¹
SWMU 127	Gypsum Area Drum	Sold to MSH, LLC ¹
SWMU 128	Building 409 Outdoor Drum Storage Area	Sold to MSH, LLC ³
SWMU 129	New Oil Containment Area	Sold to MSH, LLC ¹
SWMU 130	Waste Oil Containment Area	Sold to MSH, LLC ¹
SWMU 131	Waste Oil Storage Area	Sold to MSH, LLC ³
SWMU 132	Waste Oil Railcar	Sold to MSH, LLC ¹
SWMU 133	Sulfuric Acid Railcar	Sold to MSH, LLC ¹
SWMU 134	Building 406 Railcar Pit	Sold to MSH, LLC ¹
SWMU 135	Building 406 Used Oil Accumulation	Sold to MSH, LLC ¹
SWMU 136	Building 403 Outdoor Phosphoric Acid Tank	Sold to MSH, LLC ¹
SWMU 137	Building 408 Outdoor Drum Storage Area	Sold to MSH, LLC ³
SWMU 138	Building 410 Drum Storage Area	Sold to MSH, LLC ¹
SWMU 139	Old Nitric Acid Tanks (12)	Portion Sold to MSH, LLC ²
SWMU 140	Area 508 Sulfur Storage	Sold to MSH, LLC ¹
SWMU 141	Building 508 Drum Storage Area	Sold to MSH, LLC ³
SWMU 142	Building 502 Chemical Storage Area	Sold to MSH, LLC ¹
SWMU 143	Building 504 Drum Storage Areas (2)	Sold to MSH, LLC ¹
SWMU 144	Building 506 Drum Storage Area	Sold to MSH, LLC ¹
SWMU 145	Ethanol from Wood (EFW) Residue Bin	Sold to MSH, LLC ¹

Table IV.6 (cont'd)

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT
SWMU 146	EFW Sump	Sold to MSH, LLC ¹
SWMU 147	EFW Storage Tanks (4)	Sold to MSH, LLC ¹
SWMU 148	EFW Outdoor Drum Storage Area	Sold to MSH, LLC ¹
SWMU 149	Boiler Plant	Sold to MSH, LLC ¹
SWMU 157	Equipment Wash Sump	Sold to MSH, LLC ¹
SWMU 158	Former Underground Diesel Tank	Sold to MSH, LLC ¹
SWMU 159	Fuel Storage Tanks (3)	Sold to MSH, LLC ¹
SWMU 160	Sulfuric Acid Storage Tank	Sold to MSH, LLC ¹
SWMU 162	Nitric Acid Tanks (2)	Sold to MSH, LLC ¹
SWMU 163	Building 604 (3A)	Sold to MSH, LLC ¹
SWMU 164	Urea Plant Waste Oil Accumulation Area No. 1	Sold to MSH, LLC ¹
SWMU 165	Urea Plant Waste Oil Accumulation Area No. 2	Sold to MSH, LLC ³
SWMU 166	Urea Plant Waste Oil Catch Basin	Sold to MSH, LLC ³
SWMU 167	Urea Plant Waste Oil Accumulation Area No. 3	Sold to MSH, LLC ¹
SWMU 168	Urea Plant Oil and Ammonia Sump	Sold to MSH, LLC ³
SWMU 169	Urea Plant Waste Oil Accumulation Area No.4	Sold to MSH, LLC ³
SWMU 170	Urea Plant Ditch	Sold to MSH, LLC ¹
SWMU 171	Urea Plant Old Plant Sump	Sold to MSH, LLC ¹
SWMU 172	Urea Plant New Plant Sump	Sold to MSH, LLC ¹
SWMU 173	Urea Plant Overflow Sump	Sold to MSH, LLC ¹
SWMU 174	Urea Plant Stripper Overflow Tank	Sold to MSH, LLC ¹
SWMU 175	Urea Plant Sump Overflow Tank	Sold to MSH, LLC ¹
SWMU 176	Urea Plant Oil/Water Separator	Sold to MSH, LLC ¹
SWMU 177	Ammonia Nitrate Accumulation Tank Car	Sold to MSH, LLC ¹
SWMU 178	Ammonia Nitrate Sump	Sold to MSH, LLC ¹
SWMU 179	Urea Sump	Sold to MSH, LLC ¹
SWMU 180	Main Floor Urea Sump	Sold to MSH, LLC ¹
SWMU 181	Urea Water Storage Rail Cars	Sold to MSH, LLC ¹
SWMU 182	Railcar Sump	Sold to MSH, LLC ¹
SWMU 183	Storage Building 501	Sold to MSH, LLC ¹
SWMU 184	Plant Storm Water Pond	Sold to MSH, LLC ¹
SWMU 185	NFDC Laboratories	Sold to MSH, LLC ¹
SWMU 186	Chemical Engineering Laboratories	Sold to MSH, LLC ¹
SWMU 187	Chemical Engineering Outdoor Waste Acid Storage Area	Sold to MSH, LLC ¹
SWMU 190	Phosphate Sludge Storage Tank	Sold to MSH, LLC ¹
SWMU 192	Urea Plant Stripper	Sold to MSH, LLC ¹
SWMU 193	South Site Former UST	Sold to MSH, LLC ¹
SWMU 199	Boiler Fuel Area	Portion Sold to MSH, LLC ²
SWMU 202	Sulfur Tank	Sold to MSH, LLC ¹
SWMU 204	Catalyzer No. 4 Laboratory Holding Tank	Sold to MSH, LLC ¹
SWMU 207	Former 90 Days Or Less Storage Area ERC	Sold to MSH, LLC ¹
SWMU 212	Customer Service Center	Sold to MSH, LLC ¹
SWMU 213	Farm Area	Sold to MSH, LLC ¹

Table IV.6 (cont'd)

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT
SWMU 214	Water Tower	Sold to MSH, LLC ¹
AOC 4 (SWMU 213)	Small Landfill	Sold to MSH, LLC ¹
AOC 5 (SWMU 213)	Lead Contaminated Debris, Area	Sold to MSH, LLC ¹
AOC 998	Site-wide Polycyclic Aromatic Hydrocarbon Study	Portion Sold to MSH, LLC ⁴

- 1 These SWMUs and/or AOCs require no further action under this permit at this time (as identified in Table IV.3 of this Part), and the parcel of land containing the SWMU/AOC has been sold as a complete parcel to a new owner. These sites are no longer under the control of TVA.
- 2 These SWMUs and/or AOCs require no further action under this permit at this time (as identified in Table IV.3 of this Part), and a portion of the parcel of land containing the SWMU/AOC has been sold to a new owner. TVA will continue to manage, as described by this permit, the portion of the parcel of land containing the SWMU/AOC that has not been sold.
- 3 These SWMUs and/or AOCs have an Environment Covenant in-place (as identified in Part VI, Table VI.1 of this permit), and the parcel of land containing the SWMU/AOC has been sold as a complete parcel to a new owner. These sites are no longer under the control of TVA.
- 4 These SWMUs and/or AOCs have an Environment Covenant in-place (as identified in Part VI, Table VI.1 of this permit), and a portion of the parcel of land containing the SWMU/AOC has been sold to a new owner. TVA will continue to manage, as described by this permit, the portion of the parcel of land containing the SWMU/AOC that has not been sold.

PART V

CORRECTIVE MEASURES IMPLEMENTATION

V.A. APPLICABILITY

The conditions of this Part apply to the SWMUs and AOCs identified in Table V.1.

V.B. GENERAL CONDITIONS

1. The Permittee is required to perform corrective measures for the SWMUs and AOCs identified in Condition V.A. The approved remedy for these defined units, waterway areas, or land parcels, includes any and all actions set forth in this permit and in the approved Resource Conservation and Recovery Act (RCRA) Human Health Risk Assessments (HHRA), Interim Measures Plans, Corrective Measures Studies (CMS), and Corrective Measures Implementation (CMI) Plans approved by the Department, as noted in Table V.1.

2. Remedial Cleanup Levels

Upon approval, pursuant to Condition IV.E., of a CMI Plan designating applicable cleanup level(s), the cleanup level(s) for the areas specific to the CMI Plan will be deemed to be a condition of this permit.

3. Groundwater Monitoring and Remediation

Where required pursuant to Conditions V.B.1. and V.C. of this Permit, the Permittee shall comply with the general groundwater monitoring requirements of Part III of this permit.

4. Land Use Controls

Where required pursuant to Conditions V.B.1. and V.C. of this Permit, the Permittee shall establish appropriate land use controls to achieve protection of human health and the environment. The Permittee shall comply with Conditions V.B.5. and V.B.6. of this Permit when implementing corrective measures requiring land use controls. In the event an off-site property owner does not allow an environmental covenant to be imposed, the Permittee shall notify the Department within 14 days of receipt of such written notification by the refusal by the off-site property owner. If the property owner does not provide a written refusal of the request to allow an environmental covenant to be imposed, the Permittee shall notify the Department within 14 days of delivery of the request to the off-site property owner. In such cases, the Department may allow the Permittee to propose an alternate area-specific land use control, subject to the Department's review and approval.

5. Survey Plat

For corrective measures where residual concentrations of contaminants will remain in-place at levels greater than those appropriate for unrestricted land use, or for corrective measures that rely on land use controls, the Permittee must:

- a. Within 90 calendar days following the effective date of a permit modification addressing remedy selection, submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Department, a survey plat indicating the location and dimensions of the SWMUs, AOCs, and capped or partially remediated areas with respect to permanently surveyed benchmarks, the locations of sampling points, and the concentrations of hazardous constituents detected. This plat must be prepared and certified by a professional land surveyor registered in the State of Alabama. The plat must be filed with the local zoning authority or the authority with jurisdiction over local land use and must contain a note, prominently displayed, which states the Permittee's obligation to limit the property to the specified restricted uses.
- b. Maintain the survey plat as described in Condition V.B.5.a of this permit and in the CMI Report, until the Permittee has demonstrated, to the satisfaction of the Department that the levels of hazardous constituents in all contaminated media are within limits appropriate for unrestricted land uses.

6. Environmental Covenant

No later than the submission of the survey plat required in Condition V.B.5., the Permittee must:

- a. Record in the probate judge's office of the county in which the property, or a portion thereof, is located an environmental covenant in accordance with ADEM Admin. Code r. 335-5 that will in perpetuity notify any potential purchaser of the property that:
 - i. The land is contaminated with hazardous constituents in concentrations that exceed unrestricted use standards;
 - ii. The use of the property is restricted by this permit for certain residential, municipal, or industrial purposes and may lead to an increased risk of exposure to hazardous constituents depending upon the activities initiated at the site. Such activities may yield an increased level of human health risk to the owner;
 - iii. The potential purchaser or entity that desires to work in the contaminated area should notify the Permittee before mobilizing to the area covered by the land use control.
- b. Submit to the Department a certification, signed by the Permittee in accordance with Permit Condition I.C.11., that the environmental covenant specified in this part has been performed. This certification must include a copy of the document in which the notation has been placed.
- c. Maintain the environmental covenant described in Permit Condition V.B.6. until the Permittee has demonstrated, to the satisfaction of the Department, that the levels of hazardous constituents in all contaminated media are within limits appropriate for unrestricted land uses.

- d. Submit applicable fees in accordance with ADEM Admin. Code r. 335-5-1-.06 to provide the Department with the funds required to implement the provisions of the Alabama Uniform Environmental Covenants Act.

7. Security

Security measures, where required by Conditions V.B.1. and V.C. of this Permit will be conducted in accordance with ADEM Admin. Code r. 335-14-5-.02(5) and as prescribed in the approved CMI Plan.

8. Inspection

Where corrective measures addressed in Conditions V.B.1. include provisions to cap in place or partially remediate properties or land areas, whether owned or not owned by the Permittee, the Permittee shall specify inspection protocols on a scheduled basis to ensure continued integrity of the remedy and to ensure that land use remains appropriately restricted per the deed notice established pursuant to Permit Condition V.B.6. Inspection provisions shall be as prescribed in the approved CMI Plan.

9. Reporting

For all corrective measures addressed in Permit Conditions V.B.1. and V.C., which consist of, include, and/or require the imposition and/or maintenance of land use controls, whether on property owned or not owned by the Permittee, the Permittee shall submit Land Use Control Effectiveness Reports (LUCER) on an annual basis, beginning within 365 days of the effective date of this permit. The LUCER shall include, at a minimum, the following:

a. For Engineering Controls

- i. A detailed narrative presenting an evaluation of the integrity, status, and effectiveness of each individual land use control;
- ii. Tabulated summaries of inspection and maintenance activities performed for each individual land use control during the reporting period;
- iii. Any significant revisions, adjustments, or proposed modifications to the individual land use controls.

b. For Institutional Controls and/or Water Use Restrictions

- i. A detailed narrative presenting an evaluation of the integrity, status, and effectiveness of each individual land use control;
- ii. Tabulated summaries of inspection and maintenance activities performed for each individual land use control during the reporting period;
- iii. Any significant revisions, adjustments, or proposed modifications to the individual land use controls.

V.C. AREA SPECIFIC CONDITIONS

The Permittee shall implement the actions and conditions as described in the referenced CMI Plans identified in Table V.1 and this Permit; the current area specific conditions are as follows:

1. SWMUs 5, 7, 42, 43, 53, 59, 83, 84, 92, 100, 105, 106, 107, 110, 117, 122, 128, 131, 137, 141, 151, 165, 166, 168, 169, 196, 197, and 201: The Permittee shall inspect and maintain LUCs required as follows.
 - a. The property for the SWMUs listed above is designated for industrial use only. Due to the presence of hazardous constituents at levels that may exceed those appropriate for unrestricted reuse, current and future uses of the subject property are restricted to non-residential uses. An environmental covenant shall be required in accordance with Part V and Part VI of this permit. Within 180 days of the issuance of this permit, the Permittee shall submit to the Department the environmental covenants for the SWMUs listed in Table VI.1 as pending for the covenant effective date.
 - b. The Permittee shall monitor and report on the presence and effectiveness of land use restrictions and controls annually.
 - c. The LUCs shall be maintained until the concentrations of hazardous substances at the SWMUs listed above are at levels suitable for unrestricted use and exposure, and a permit modification, in accordance with Permit Condition I.J, to remove the LUCs is submitted to the Department for review and approval.
2. SWMUs 17 - 37, Phosphorus Sludge Entombments: The Permittee shall conduct post-closure care and groundwater monitoring, in accordance with Sections II and III of this permit, respectively. The Permittee shall inspect and maintain LUCs required as follows.
 - a. The property for SWMUs 17 - 37 is designated for industrial use only due to the permanent storage of a hazardous waste (material containing elemental phosphorus).
 - b. The existing gates and six-foot high chain link fence shall be inspected and maintained.
 - c. Warning signs shall be installed, inspected, and maintained at key site entry points and other locations to be seen from any approach legible from a distance of 25 feet.
 - d. Visual inspections shall be performed quarterly and guided by the inspection checklist the Attachment 2: Appendix F of the permit renewal application. These checklists will provide a standardized method of reporting as well as act as an inspection guide for future inspectors, not familiar with these sites and their history.
 - e. Site maintenance shall be performed quarterly based on the findings of the visual inspections as described in the Attachment 2: Appendix F of the permit renewal application. Maintenance shall consist of, but not be limited to, removal and/or

- mowing vegetation; repairing fences, signs, and well heads; repairing concrete caps and containments; and eradication of burrowing animals.
- f. The Permittee shall maintain the existing concrete caps and containments for SWMUs 17 - 37.
 - g. The Permittee shall monitor and report on the presence and effectiveness of land use restrictions and controls annually.
 - h. The LUCs shall be maintained until the concentrations of hazardous substances at SWMUs 17 - 37 are at levels suitable for unrestricted use and exposure, and a permit modification, in accordance with Permit Condition I.J, to remove the LUCs is submitted to the Department for review and approval.
3. SWMU 104, Ash Settling Pond: The Permittee shall conduct post-closure care and groundwater and surface water monitoring in accordance with Sections II and III of this permit, respectively. The Permittee shall inspect and maintain LUCs required as follows.
- a. The property for SWMU 104 is designated for industrial use only due to the permanent storage of a hazardous waste (material containing elemental phosphorus).
 - b. The existing gates and six-foot high chain link fence topped with three strands of barbed wire shall be inspected and maintained.
 - c. Warning signs shall be installed, inspected, and maintained at key site entry points and other locations to be seen from any approach legible from a distance of 25 feet.
 - d. Visual inspections shall be performed quarterly and guided by the inspection checklist the Attachment 2: Appendix F of the permit renewal application. These checklists will provide a standardized method of reporting as well as act as an inspection guide for future inspectors, not familiar with these sites and their history.
 - e. Site maintenance shall be performed quarterly based on the findings of the visual inspections as described in the Attachment 2: Appendix F of the permit renewal application. Maintenance shall consist of, but not be limited to, removal and/or mowing vegetation; repairing fences, signs, and well heads; preventing berm erosion; loss of water entering and leaving site; sustaining the water covering; and eradication of burrowing animals.
 - f. The Permittee shall maintain the existing vegetation and water covering at SWMU 104. If necessary, the Permittee shall perform the response plan for loss of water covering to the ash/sediment layer that protects underlying materials containing elemental phosphorus. The response plan was developed to address the possibility of a severe drought or loss of supply water to SWMU 104.
 - g. The Permittee shall monitor and report on the presence and effectiveness of land use restrictions and controls annually.

- a. The property for SWMUs 112 and 194 is designated for industrial use only due to the permanent storage of a hazardous waste (phosphorus containing precipitator dust).
 - b. The existing gates and six-foot high chain link fence topped with three strands of barbed wire shall be inspected and maintained.
 - c. Warning signs shall be installed, inspected, and maintained at key site entry points and other locations to be seen from any approach legible from a distance of 25 feet.
 - d. Visual inspections shall be performed quarterly and guided by the inspection checklist the Attachment 2: Appendix F of the permit renewal application. These checklists will provide a standardized method of reporting as well as act as an inspection guide for future inspectors, not familiar with these sites and their history.
 - e. Site maintenance shall be performed quarterly based on the findings of the visual inspections as described in the Attachment 2: Appendix F of the permit renewal application. Maintenance shall consist of, but not be limited to, removal and/or mowing vegetation; repairing fences, signs, and well heads; preventing slope erosion; and eradication of burrowing animals.
 - f. The Permittee shall maintain the existing vegetation covering on the landfill cap at SWMUs 112 and 194.
 - g. The Permittee shall monitor and report on the presence and effectiveness of land use restrictions and controls annually.
 - h. The LUCs shall be maintained until the concentrations of hazardous substances at SWMUs 112 and 194 are at levels suitable for unrestricted use and exposure, and a permit modification, in accordance with Permit Condition I.J, to remove the LUCs is submitted to the Department for review and approval.
6. AOC 998: As indicated in the Revised RCRA HHRA, the Permittee shall inspect and maintain LUCs requiring that the property for AOC 998 is designated for industrial use only. Due to the presence of hazardous constituents at levels that may exceed those appropriate for unrestricted reuse, current and future uses of the subject property are restricted to non-residential uses. An environmental covenant shall be required in accordance with Part V and Part VI of this permit.

V.D. CORRECTIVE MEASURES IMPLEMENTATION (CMI) REPORTS

1. CMI Progress Reports

If the time required to complete implementation of a specific set of corrective measures, as described in the Department-approved CMI Plan, is greater than 180 calendar days, the Permittee shall provide ADEM with progress reports according to the schedule approved by ADEM in the CMI Plan. If no schedule has been approved as part of the associated plan, progress reports shall be submitted at least quarterly. The progress reports shall, at a minimum, contain the following information:

- a. A description of the portion of the CMI Plan completed;
- b. Summaries of, and deviations from, the approved CMI Plan activities during the reporting period;
- c. Summaries of current and potential problems, including recommended solutions and alternatives as well as corrective actions undertaken;
- d. Any monitoring data (soil, air, dust, water) collected for any reason during the construction period for the purposes of monitoring potential for human and ecological exposure;
- e. Projected work for the next period and impacts to approved schedule.

2. Final CMI Reports

Upon completion of construction of corrective measures systems, implementation of land use controls, interim removal actions, or other short-term activities required by this permit and/or the approved CMI Plan, the Permittee shall submit to the Department a Final CMI Report containing, at a minimum, the following:

- a. A description of activities completed;
- b. For cap and cover remedies, as-built construction drawings presenting the final in-place three-dimensional location of contaminated material. A plan view of the remediated areas shall be presented in addition to a cross section of the in-place capped areas;
- c. Hazardous waste manifests indicating the handling of any excavated material that has been shipped off-site to a Department approved, certified landfill;
- d. For remedies involving land use controls, a copy of the survey plat and environmental covenant required by Condition V.B. of this permit;
- e. Monitoring data (soil, air, dust, water) collected for any reason during the construction period for the purposes of monitoring potential for human and ecological exposure; and,
- f. Certification, prepared in accordance with ADEM Admin. Code r. 335-14-8-02(2)(d) by the Permittee and an independent professional engineer registered in the State of Alabama, that the corrective measures implementation phase (i.e., construction) required by this permit is complete and that the approved system

and/or facilities are ready for operation in accordance with the intended design (i.e., CMI Plan).

3. Corrective Measures (CM) Effectiveness Reports

- a. For corrective measures that have been fully implemented and where the corrective measures system must operate for a period of time to achieve cleanup goals/levels, the Permittee shall submit CM Effectiveness Reports annually, unless otherwise approved by the Department, beginning 180 days following the Department's approval of the Final CMI Report for the initial Corrective Measures system subject to this permit condition. The overall CM Effectiveness Reports shall include, at a minimum, the following information for each SWMU and/or AOC included in the report:
- i. A detailed narrative presenting an evaluation of the effectiveness of the selected remedy;
 - ii. Summaries of compliance with and progress toward achieving cleanup goals;
 - iii. Any significant revisions, adjustments, or proposed modifications to the selected remedy;
 - iv. Tabulated environmental sampling and monitoring data, specifically including, but not limited to, groundwater quality, elevation data, and a graphical representation of all constituents detected during each sampling event from recovery wells, monitoring wells, drinking water wells, and other locations;
 - v. Chain of custody, field reports, and laboratory data sheets which include the date of collection, the date the sample was extracted, and the date of sample analysis for samples collected during the reporting period;
 - vi. Any monitoring data (soil, air, dust, water) collected for any reason during the post-construction period for the purposes of monitoring potential for human and ecological exposure;
 - vii. Isoconcentration maps depicting the distribution of parameters for each sampling event;
 - viii. Time versus concentration plots for each monitoring parameter, for each recovery well, and for a representative number of effectiveness wells;
 - ix. Tabulated volumetric data on groundwater pumped and pumping rates (monthly and cumulative) for each recovery well;
 - x. Records of any groundwater recovery system operation time, including shut-down periods, not including any minor (less than 24 hours) shut-downs for repairs, maintenance, etc.;
 - xi. Potentiometric surface maps;

- xii. Description of land use during the reporting period at the designated area requiring corrective measures; and,
 - xiii. Findings of the Permittee's investigation into the continued effectiveness of institutional controls per Condition V.B. and V.C.
- b. If, at any time, the Permittee determines that any remedy selection specified in Condition V.B. or V.C. of this permit no longer satisfies the applicable requirements of ADEM Admin. Code r. 335-14-5-.06(12) or this permit for releases of hazardous waste or hazardous constituents originating from SWMUs or AOCs, the Permittee must, within 90 calendar days, submit an application for a permit modification, pursuant to Permit Condition I.J, to make any appropriate changes to the CMI Plan.
 - c. The application for changes in the CMI Plan, including changes in inspection and monitoring provisions of the CMI Plan, shall be submitted as an application for a permit modification pursuant to the requirements of ADEM Admin. Code r. 335-14-8-.04.
4. Final Report of Corrective Measures

Within 90 days following attainment of cleanup levels/goals as outlined in this Permit and the approved CMI Plan, the Permittee shall submit to the Department a Final Report of Corrective Measures (FRCM). The FRCM shall contain a certification by the Permittee and an Alabama-registered independent professional engineer that all remedial measures required by this permit and the approved CMI Plan have been completed. The FRCM shall outline any procedures and schedules for dismantling of corrective measures systems, groundwater monitoring or recovery systems, removal of land use controls, and any other remedial systems/controls required by this permit or the approved CMI Plan.

Table V.1.

The following Solid Waste Management Unit(s) (SWMUs) and/or Area(s) of Concern (AOCs) numbers and descriptions correspond with those noted in the most current RCRA Facility Assessment (RFA) Report. Where discrepancies exist, the permit will take precedence.

List of SWMUs and AOCs requiring Corrective Measures:

Applicable SWMU/AOC	*CMS/CMI/RCRA HHRA	Approval Date	Location of Document *
SWMUs 17- 37	Phosphorus Sludge Entombment Project files (dated December 12, 1978 through April 29, 1982)	June 1, 1982 by the Alabama Department of Public Health	Attachment 6
AOC 998 **	Revised RCRA HHRA (CMS Phase I) dated May 1999	October 14, 1999	Attachment 10
SWMUs 5, 7, 42, 43, 53, 59, 83, 84, 92, 100, 105, 106, 107, 110, 117, 122, 128, 131, 137, 141, 151, 165, 166, 168, 169, 196, 197, and 201 **	CMS Phase II Report, dated April 2000 & (Addendum 1) September 13, 2001	May 12, 2000, & October 30, 2001	Attachments 8 and 9
SWMU 117 **	IM Report, dated November 9, 2000	November 15, 2000	Attachment 7
SWMUs 112 & 194	CMI Work Plan, dated November 28, 2000	February 8, 2001	Attachment 5
SWMU 108	CMI Work Plan, dated March 9, 2001, amended March 23, 2001	July 2, 2001	Attachments 3 and 4
SWMU 104	CMI Work Plan, dated March 8, 2002, amended March 22, 2002 & November 13, 2002	June 13, 2003	Attachment 3
SWMU 214 **	Revision 1 CMI Report dated June 27, 2017	October 5, 2017	

* Location in permit application containing the CMI Plans and other files.

** The parcel of land containing the SWMU/AOC was sold in whole or in part to a new owner. For more details on the remaining responsibilities of TVA with respect to the SWMUs and AOCs that have been sold either as a complete parcel or a portion of the parcel to a new owner, please refer to Part IV (Table IV.6) of this permit and Attachment 2: Section 2.2 of the permit renewal application.

PART VI

LAND USE CONTROLS AND ENVIRONMENTAL COVENANTS

VI.A. APPLICABILITY

The conditions of this Part apply to SWMUs and AOCs identified in Table VI.1.

VI.B. LAND USE CONTROLS (LUCS)

ADEM Admin. Code r. 335-5-1-.03(i) defines LUCs as any restriction or control that serves to protect human health and the environment by limiting the use of or exposure to any portion of a property or site, including water resources. These controls include, but not limited to, engineering controls and institutional controls.

1. Engineering controls for remedial actions are directed toward containing or controlling the migration of contaminants through the environment. These include, but are not limited to, stormwater conveyance systems, slurry walls, liner systems, caps, leachate collection systems, pump and treat systems, and groundwater recovery systems. Engineering controls are classified as:
 - a. Class 1, which include multi-layer caps or liner systems, soil vapor extraction systems, groundwater pump-and-treat systems, leachate and groundwater recovery systems, stormwater conveyance systems, slurry walls and active ventilation of closed spaces.
 - b. Class 2, which include clay or soil caps or liner systems, substructural vapor barriers and passive ventilation of closed spaces.
 - c. Class 3, which include asphalt caps and fencing systems.
 - d. For other engineering controls not listed, ADEM shall determine the classification of the engineering control upon the request of an owner or operator or other responsible person.
2. Institutional controls are legal or contractual restrictions on property use which remain effective after remediation is completed and are used to meet an approved remediation plan or proposal. These include, but are not limited to, deed notations, deed restrictions, water use restrictions, restrictive covenants, conservation easements, and limited development rights. Institutional controls are classified as:
 - a. Class 1, which include any water use restriction.
 - b. Class 2, which include restrictive covenants for industrial or commercial use only or no schools or daycares, and imposition of conservation easements or limited development rights.
 - c. Class 3, which include restrictive covenants for no excavations, for use as greenspace only and no hunting or fishing.

- d. For other institutional controls not listed, ADEM shall determine the classification of the institutional control upon the request of an owner or operator or other responsible person.

For the corrective actions being undertaken by the Permittee hereunder at the Facility (e.g., for SWMUs, AOCs, Sites, and/or Parcels) for which land use controls or other restrictions are imposed by this permit, the enforcement of such LUCs or restrictions will continue for as long as said LUCs are necessary to protect human health and the environment, or in perpetuity from the date of initial permit issuance, unless the Department approves removal of LUCs for unrestricted site use.

VI.C. ALABAMA UNIFORM ENVIRONMENTAL COVENANTS ACT (UECA)

On May 26, 2009, ADEM promulgated regulations to establish minimum requirements governing environmental covenants pursuant to the Alabama Uniform Environmental Covenants Act, Code of Alabama 1975, §§ 35-19-1 to 35-19-14. ADEM Admin. Code r. 335-5 is located on the ADEM website and applies to all sites that are not remediated to unrestricted use. Therefore, it is required that a covenant request, including appropriate information, be submitted along with the CMI plan prior to approval of the final remedy as discussed further in Permit Condition V.B.6.

VI.D. REPORTING REQUIREMENTS FOR LUCs

In addition to the reporting requirements discussed in Permit Condition V.B.9., the Permittee shall also provide the following information: the date of inspection of LUCs, and deficiencies observed during inspections, any records that were reviewed, the frequency of inspections, and specific documentation of the LUCs implemented at the site (e.g. provide details regarding fence height, types of signage, etc.).

VI.E. INSPECTION REQUIREMENTS FOR LUCs

In addition to the inspection requirements discussed in Permit Condition V.B.8., the Permittee shall also inspect landfill caps on an annual basis, signage and fencing on an annual basis, covenant records at the courthouse on an annual basis and any other inspection criteria established in the approved CMI Plan.

TABLE VI.1

The following table presents a list of Solid Waste Management Unit(s) (SWMU) and/or Area(s) of Concern (AOC) that require land use controls and environmental covenants. Site Identifiers and descriptions correspond with those noted in the most current RCRA Facility Assessment (RFA) Report. Where discrepancies exist, the permit will take precedence.

List of SWMUs and AOCs requiring Land Use Controls and Environmental Covenants:

SWMU/AOC NUMBER	SWMU/AOC NAME	RESPONSIBLE PARTY	LUCs	SECTION REFERENCE	LAND RECORD FILING LOCATION *	DEED NOTICE FILING DATE	COVENANT EFFECTIVE DATE**
SWMU 5	Outdoor Drum Storage Area No. 1	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 7	Furnace Building Drum Storage	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 17	Phosphorus Sludge Entombments – Storage Tank No.1	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 18	Phosphorus Sludge Entombments – Storage Tank No.2	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 19	Phosphorus Sludge Entombments – Storage Tank No.3	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 20	Phosphorus Sludge Entombments – Storage Tank No.4	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 20A	Phosphorus Sludge Entombments – Limestone Pit	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 21	Phosphorus Sludge Entombments – Storage Tank No.5	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A

TABLE VI.1 (CONTINUED)

SWMU/AOC NUMBER	SWMU/AOC NAME	RESPONSIBLE PARTY	LUCs	SECTION REFERENCE	LAND RECORD FILING LOCATION *	DEED NOTICE FILING DATE	COVENANT EFFECTIVE DATE**
SWMU 22	Phosphorus Sludge Entombments – Storage Tank No.6	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 23	Phosphorus Sludge Entombments – Storage Tank No.7	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 24	Phosphorus Sludge Entombments – Storage Tank No.8	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 25	Phosphorus Sludge Entombments – Storage Tank No.9	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 26	Phosphorus Sludge Entombments – Storage Tank No.10	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 27	Phosphorus Sludge Entombments – Storage Tank No.11	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 28	Phosphorus Sludge Entombments – Recovery Tank No.1	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 29	Phosphorus Sludge Entombments – Recovery Tank No.2	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 30	Phosphorus Sludge Entombments – Acid Unit No. 6 Feed Tanks (2)	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A

TABLE VI.1 (CONTINUED)

SWMU/AOC NUMBER	SWMU/AOC NAME	RESPONSIBLE PARTY	LUCs	SECTION REFERENCE	LAND RECORD FILING LOCATION *	DEED NOTICE FILING DATE	COVENANT EFFECTIVE DATE**
SWMU 31	Phosphorus Sludge Entombments – Furnace Sumps	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 32	Phosphorus Sludge Entombments – Acid Unit No. 7 Feed Tank No.1	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 33	Phosphorus Sludge Entombments – Acid Unit No. 7 Feed Tank No.2	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 34	Phosphorus Sludge Entombments – Acid Unit No.1	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 35	Phosphorus Sludge Entombments – Acid Unit No.1	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 36	Phosphorus Sludge Entombments – Acid Unit No.1	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 37	Phosphorus Sludge Entombments – CO Cooler Sump	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.2.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 42	Phosphate Fertilizer Storage Building	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 43	Sulfur Cake Storage Area	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014

TABLE VI.1 (CONTINUED)

SWMU/AOC NUMBER	SWMU/AOC NAME	RESPONSIBLE PARTY	LUCs	SECTION REFERENCE	LAND RECORD FILING LOCATION *	DEED NOTICE FILING DATE	COVENANT EFFECTIVE DATE**
SWMU 53	Carpenter Shop Outdoor Drum Storage Area	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 59	PDW Service Pit	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 83	PDW Building 307 Drum Storage Area	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 84	PDW Surface Drainage Ditch	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 92	ACP Drum Storage Area No. 2	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 100	ACP Equalization Basin	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 104	Ash Settling Pond	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.3.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 105	Plant Drainage Ditch	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 106	Central Ditch	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 107	NFDC Scrap Yard	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 108	NFDC Landfill	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.4.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A

TABLE VI.1 (CONTINUED)

SWMU/AOC NUMBER	SWMU/AOC NAME	RESPONSIBLE PARTY	LUCs	SECTION REFERENCE	LAND RECORD FILING LOCATION *	DEED NOTICE FILING DATE	COVENANT EFFECTIVE DATE**
SWMU 110	Coal Pile Run Off Ditch	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 112	Precipitator Dust Piles	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.5.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 117***	Old Ammonia Plant	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 122	Building 321 Outdoor Drum Storage Area	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 128***	Building 409 Outdoor Drum Storage Area	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 131***	Waste Oil Storage Area	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 137***	Building 408 Outdoor Drum Storage Area	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 141***	Building 508 Drum Storage Area	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 151	Ammonia Plant Oil/Washer Separator	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 165***	Urea Plant Waste Oil Accumulation Area No. 2	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 166***	Urea Plant Waste Oil Catch Basin	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014

TABLE VI.1 (CONTINUED)

SWMU/AOC NUMBER	SWMU/AOC NAME	RESPONSIBLE PARTY	LUCs	SECTION REFERENCE	LAND RECORD FILING LOCATION *	DEED NOTICE FILING DATE	COVENANT EFFECTIVE DATE**
SWMU 168***	Urea Plant Oil and Ammonia Sump	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 169***	Urea Plant Waste Oil Accumulation Area No.4	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 194	Trestle Drum Storage Area	TVA	Deed restriction placed on the property that it is designated for industrial use only.	V.C.5.	FICHE 200343 FRAMES 031 thru 043.	09/19/2003	N/A
SWMU 196	Ammonia Pumping Station	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 197	PSS No. 2 West Wall	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
SWMU 201	ACP Drum Storage Area No. 4	TVA	Environmental Covenant placed on the property that it is designated for industrial use only.	V.C.1.	OFRD, Book 2014, Page 22121	N/A	8/29/2014
AOC 998***	Site-wide Polycyclic Aromatic Hydrocarbon Study	TVA	Environmental Covenant placed on the property that it is designated for industrial or commercial use only.	V.C.6.	OFRD, Book 2014, Page 22121	N/A	8/29/2014

* The Land Record Filing Location column refers to the Book/Plat/Page recording location in the Land Records at the office of the Judge of Probate of Colbert County.

** The Covenant Effective Date refers to the date that the Department approved the documents containing the environmental covenants.

*** The parcel of land containing the SWMU/AOC was sold in whole or in part to a new owner. For more details on the remaining responsibilities of TVA with respect to the SWMUs and AOCs that have been sold either as a complete parcel or a portion of the parcel to a new owner, please refer to Part IV (Table IV.6) of this permit and Attachment 2: Section 2.2 of the permit renewal application.

N/A Not Applicable

PART VII**SUMMARY OF DEADLINES**

The summary information provided herein is intended only as a guide to the requirements of this permit. It is not intended to be all inclusive, nor is it intended to be used as a substitute for the full text of this permit.

<u>PERMIT CONDITION</u>	<u>ITEM</u>	<u>DUE DATE</u>
I.C.2.b.	Reapply for a renewal	180 days from the expiration of the current permit.
I.C.12.	Give notice to the Department of any planned physical alterations or additions to the permitted facility and any solid waste management units.	As soon as possible.
I.C.12.	Report any noncompliance with this permit that may endanger human health or the environment.	Orally within 24 hours from the time the Permittee becomes aware of the circumstances. Written submission shall also be provided within 5 calendar days of the time that the Permittee becomes aware of the circumstances
I.G.	Maintain Waste Minimization Certification in the facility operating records.	Annually
I.H.	Update cost estimates	No later than 30 calendar days after the Department has approved a modification to the Closure Plan, Post-Closure Plan, or Corrective Action Plan, or any other plan required or referenced by this permit, if the change in the plan results in an increase in the amount of the cost estimate and annually as required by ADEM Admin. Code r. 335-14-5-.08(3)(b), (5)(b), and (10)(b)
I.J.	Submit a written request for a permit modification pursuant to the requirements of ADEM Admin. Code r. 335-14-8-.04(2).	At least 60 calendar days prior to a proposed change in facility design or operation.
II.C.2	Inspect closed unit(s).	Quarterly, after storms, and in accordance with the inspection schedule.
III.B.1.a.iii.	Notification of damaged groundwater monitoring wells.	Immediately in writing. The well must be repaired within 30 calendar days of damage, and repair report must be submitted within 30 calendar days of repair.
III.B.1.f.	Install additional groundwater monitoring wells.	As necessary to assess changes in the rate and extent of any plume of contamination, or as otherwise deemed necessary. Note: a permit modification request must be submitted within 90 calendar days prior to installation of additional groundwater monitoring well(s).

<u>PERMIT CONDITION</u>	<u>ITEM</u>	<u>DUE DATE</u>
III.B.2.a.	Determine groundwater surface elevation.	At least annually and each time a well is sampled.
III.B.2.b.	Determine groundwater flow rate and direction.	At least annually and each time a well is sampled.
III.B.6.b.	Submit groundwater monitoring report.	Within 60 calendar days of the first sampling event and annually thereafter.
III.B.6.c.	Submit progress reports.	Within 90 calendar days after the effective date of this permit and quarterly thereafter. See permit condition for start/stop/resume provisions.
III.C.2.a.	Determine whether there is statistically significant evidence of contamination.	Within 45 calendar days after each sampling event.
IV.B.1.	Notify the Department, in writing, of the discovery of any additional AOCs.	Within 15 calendar days of discovery.
IV.B.2.	Notify the Department, in writing, of the discovery of any additional SWMUs.	Within 15 calendar days of discovery.
IV.B.3.	Submit a SWMU Assessment Report (SAR) for each SWMU identified under IV.B.2.	Within 90 calendar days of notification.
IV.C.1.	Notify the Department, in writing, of any newly discovered release(s) of hazardous waste or hazardous constituents from SWMUs or AOCs discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means.	Within 15 calendar days of discovery.
IV.D.7.	Submit monthly RFI progress reports.	Monthly basis beginning in the second month following initiation of the RFI.
IV.D.8.	Submit RFI Report.	Within 60 days from the completion of investigation activities.
IV.E.2.	Submit CMI Plan.	Within 120 days following the Permittee's submittal of the RFI Report indicating that hazardous constituents have come to be located at any area of the Permittee's facility, or beyond the facility, at concentrations exceeding those appropriate for the protection of human health and the environment, or within 120 days following notification from the Department that a CMI Plan is required, whichever occurs earlier.
IV.F.3.	Submit IM Report.	Within 90 calendar days of completion of IM.

<u>PERMIT CONDITION</u>	<u>ITEM</u>	<u>DUE DATE</u>
V.B.5.a.	Submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Department, a survey plat indicating the location and dimensions of the SWMUs, AOCs, and capped or partially remediated areas with respect to permanently surveyed benchmarks, the locations of sampling points, and the concentrations of hazardous constituents detected.	Within 90 calendar days following the effective date of a permit modification addressing remedy selection.
V .B.6.a.	Record environmental covenant	No later than the submission of the survey plat required in Condition V.B.5.
V .B.6.b.	Submit to the Department a certification that the environmental covenant has been performed.	No later than the submission of the survey plat required in Condition V.B.5.
V .C.1.a.	Submit to the Department the environmental covenants for the SWMUs listed in Table VI.1 as pending for the covenant effective date	Within 180 days of the issuance of this permit
V.D.3.	Begin submitting annual CM Effectiveness Reports.	180 days following the Department's approval of the Final CMI Report.
V.D.4.	Submit a Final Report of Corrective Measures (FRCM).	Within 90 days following attainment of cleanup levels/goals.