



ENERGY AND ENVIRONMENT CABINET

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October 13, 2017

Certified Mail Tracking Numbers: 7007 0710 0003 3744 3855
7007 0710 0003 3744 3848

Mr. Robert E. Edwards III, Manager
US Department of Energy
Portsmouth/Paducah Project Site Office
5501 Hobbs Road
Kevil, Kentucky 42053

Mr. William E. Kirby, Program Manager
Four Rivers Nuclear Partnership, LLC
5501 Hobbs Road
Kevil, Kentucky 42053

RE: Notice of Permit Decision
Class I Modification #5
Paducah Site
Paducah, McCracken County, Kentucky
KY8-890-008-982

Mr. Edwards and Mr. Kirby:

The Kentucky Division of Waste Management (Division) is in receipt of the Class 1 Permit Modification request (Mod #5) to the Hazardous Waste Facility Permit (HWFP) dated September 19, 2017. The primary intent of this request is for a change of operational control of the facility from Fluor Federal Services, Inc. to Four Rivers Nuclear Partnership, LLC. Please note that changes were made to specific pages in Parts B, C, D, E3, F and I, but due to the revisions, some section locations changed, therefore requiring revision to the Table of Contents. This fact necessitated submittal of the entire Part for consistency and readability.

- 1) Part A (complete revised application per Permit Condition Part III.E.21)
- 2) Part B (revised Pages B-vii, B-1, B-2, B-9 and B-10 and Appendix B2)
- 3) Part C (revised Pages C-v, C-vii, C-1, C-2, C-4, C-6, C-7, C-9 thru C-12, C-17, C-20, C-21 and C2-3)
- 4) Part D (revised Pages D-v, D-vii, D-ix, D-1, D-5, D-9, D-10, D-11, D-12, D-13, D-14, D-21, D2-3 and Appendix D5 and D7 Cover Pages)
- 5) Part E, Appendix E3 (revised Pages E3-8, E3-12 and E3-18)
- 6) Part F (revised Pages F-iii, F-iv, F-v, F-1, F-3, F-5, F-8, F-9, F-10 and Appendix F3)
- 7) Part G (Complete)
- 8) Part H (revised Pages H-v, H-vii and H-1)
- 9) Part I (revised Pages I-2, I-4, I-5 and I2-6)
- 10) Part L (Certification Statements for DOE, FRNP and FFS)

A Class 1 Permit Modification requires the permittee to send a notice of the modification to all persons on the facility mailing list within 90 calendar days after the change is put into effect. The permittee has stated that the notice will be issued no later than January 18, 2018.

Please find attached, Modification #5, to the Hazardous Waste Management Facility Permit issued to the U.S. Department of Energy (DOE) and Four Rivers Nuclear Partnership, LLC. Please insert the attached cover sheet and the permit modification in front of the cover sheet of the existing permit.

If you are aggrieved by this decision, you may request a hearing. The request must be made in writing within thirty (30) days of your receipt of this decision and must conform to KRS 224.10-420(2). The requirement of condition T-125 of the attached permit and 401 KAR 38:070 - Section 6, is to keep records of all data used to complete the permit modification application for at least three (3) years.

If you have any questions or require additional information, please contact Leo W. Williamson at (502) 782-6478 or e-mail at leo.williamson@ky.gov.

Sincerely,



April J. Webb, Manager
Division of Waste Management

ARW:bb:jmg:lww

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DWM File: #1415; Graybar: APE20170003 (Permit Mod #5)

Attachment: Permit Modification #5

**Kentucky Energy and Environment Cabinet
Department for Environmental Protection
Division of Waste Management**

HAZARDOUS WASTE MANAGEMENT FACILITY PERMIT

United States Department of Energy, Paducah Site, and
Four Rivers Nuclear Partnership, LLC.
5501 Hobbs Road
Kevil, Kentucky 42053

The Division of Waste Management hereby grants the above-named facility a permit modification to reflect the transfer of operational control at the Paducah Site. This permit modification has been issued under the provision of KRS Chapter 224 and 401 KAR 38:040, Section 2, effective October 21, 2008, and is subject to all conditions and operating limitations contained herein. Issuance of this permit modification does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet and/or other federal, state, and local agencies.

Part I	-Legal Authority
Part II	-Specific Conditions
Part III	-Standard Conditions
Part IV	-Corrective Action
Part V	-Waste Minimization
Part VI	-Land Disposal Restrictions
Part VII	-RCRA Air Emission Standards
Part VIII	-Referenced Attachments

No deviation from the plans and specifications submitted with your application or the conditions specified herein is allowed, unless authorized in writing from the Division of Waste Management. Violation of the terms and conditions specified herein shall render this permit null and void. All rights of inspection by representatives of the Division of Waste Management are reserved. Conformance with all applicable Waste Management Regulations is the responsibility of the permittee. Receipt of the permit fee and any financial assurance specified below is hereby acknowledged.

PERMIT TYPE:	Operating	PERMIT NUMBER:	KY8-890-008-982
TYPE OF ACTIVITY:	Storage, Treatment & Post-closure	COUNTY:	McCracken
PERMIT FEE:	\$0.00	EFFECTIVE DATE:	October 13, 2017
CLOSURE AMOUNT:	N/A	EXPIRATION DATE:	August 25, 2025
POST-CLOSURE AMOUNT:	N/A		
CLOSURE INSTRUMENT:	N/A		
SUDDEN LIABILITY INSURANCE:	N/A		
HAZARDOUS WASTE MANAGEMENT UNITS:	Containers and Landfill		
NON-SUDDEN LIABILITY INSURANCE:	N/A		

Issued this 13th day of October, 2017



April J. Webb, PE, Manager
Hazardous Waste Branch



**Kentucky Energy and Environment Cabinet
Department for Environmental Protection
Division of Waste Management**

HAZARDOUS WASTE MANAGEMENT FACILITY PERMIT

United States Department of Energy, Paducah Site, and
Fluor Federal Services, Inc.
5501 Hobbs Road
Kevil, Kentucky 42053

The Division of Waste Management hereby grants the above-named facility a permit modification to reflect the transfer of operational control at the PGDP. This permit modification has been issued under the provision of KRS Chapter 224 and 401 KAR 38:040, Section 2, effective October 21, 2008, and is subject to all conditions and operating limitations contained herein. Issuance of this permit modification does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet and/or other federal, state, and local agencies.

Part I -Legal Authority
Part II -Specific Conditions
Part III -Standard Conditions
Part IV -Corrective Action
Part V -Waste Minimization
Part VI -Land Disposal Restrictions
Part VII -RCRA Air Emission Standards
Part VIII -Referenced Attachments

No deviation from the plans and specifications submitted with your application or the conditions specified herein is allowed, unless authorized in writing from the Division of Waste Management. Violation of the terms and conditions specified herein shall render this permit null and void. All rights of inspection by representatives of the Division of Waste Management are reserved. Conformance with all applicable Waste Management Regulations is the responsibility of the permittee. Receipt of the permit fee and financial assurance specified below is hereby acknowledged.

PERMIT TYPE: Operating **PERMIT NUMBER:** KY8-890-008-982
TYPE OF ACTIVITY: Storage, Treatment & Post-closure **COUNTY:** McCracken
PERMIT FEE: N/A **EFFECTIVE DATE:** August 26, 2015
CLOSURE AMOUNT: N/A **EXPIRATION DATE:** August 25, 2025
POST-CLOSURE AMOUNT: N/A
CLOSURE INSTRUMENT: N/A
SUDDEN LIABILITY INSURANCE: N/A
HAZARDOUS WASTE MANAGEMENT UNITS: Tanks, Containers and Landfill
NON-SUDDEN LIABILITY INSURANCE: N/A

Issued this 27th day of July, 2015


Anthony R. Hatton, Director,
Division of Waste Management



ENERGY AND ENVIRONMENT CABINET

Steven L. Beshear
Governor

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Leonard K. Peters
Secretary

July 27, 2015

Certified Mail Tracking Numbers: 7014 2120 0000 7298 5983
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5501 Hobbs Road
Kevil, Kentucky 42053

Mr. Cornelius Murphy
Fluor Federal Services, Inc.
5501 Hobbs Road
Kevil, Kentucky 42053

RE: Notice of Final Permit Decision
Paducah Site
Paducah, McCracken County, Kentucky
KY8-890-008-982

Mr. Murphie and Mr. Murphy:

Please find the enclosed final version of the Hazardous Waste Facility 10-Year Permit reissued to the U.S Department of Energy (DOE) and Fluor Federal Services, Inc. (Fluor) on July 27, 2015. Also enclosed is the Response to Comments package, addressing the DOE's April 15, 2015 comments received during the public comment period. Please note that the Division of Waste Management (Division) did not receive any other public comments.

If you are aggrieved by this decision, a hearing may be requested. The request must be made in writing within thirty (30) days of receipt of this decision and must conform to KRS 224.10-420(2). It is required to keep records of all data used to complete the permit application for at least three (3) years as required by Condition IV.L of the attached permit and 401 KAR 38:070, Section 6.

Mr. Murphie,
Mr. Murphy
Page 2 of 2
July 27, 2015

If you have any questions or require additional information, please contact Leo W. Williamson at (502) 564-6716, ext. 4683 or e-mail at leo.williamson@ky.gov.

Sincerely,


for Anthony R. Hatton, Director
Division of Waste Management

JM:jmg:lww

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DWM File: #1410; Graybar: APE20140002 (Permit Reissuance)

Attachment: Hazardous Waste Facility 10-Year Permit Reissuance

**Kentucky Division of Waste Management Response to
Substantive / Technical Comments to the
Hazardous Waste Facility 10-Year Draft Permit Reissuance
Paducah Gaseous Diffusion Plant, Paducah, Kentucky
July 27, 2015**

Substantive / Technical Comments:

1. Comment #1 (General):

“The term “facility” is used in several different contexts within the permit. In some cases, the condition should apply simply to the “unit(s) subject to the permit,” e.g., Conditions, II.B.6.b and c. Some specific discussions are provided below.”

Response: The use of facility in those conditions is consistent with 40 CFR 264.16. No change to the permit is made as a result of this comment.

2. Comment #2 (Part II.A.4.a):

“KDWM removed treatment by oxidation; however, oxidation was included in the Permit Application reference pages A-5, A-6, C-2, C-23, D-7, D-13, and D-17 through D-25. Chemical Oxidation could be a useful treatment option for wastes that may be encountered during D&D. Request oxidation be restored as an option.”

Response: The omission was typographical. The condition is revised as follows:

II.A.4. Hazardous Waste Treatment

II.A.4.a The Permittee may treat hazardous waste by neutralization, precipitation, oxidation, reduction, stabilization or a combination thereof at the C-752-A Hazardous Waste Storage and Treatment Facility, and the C-746-Q Hazardous Waste Storage and Treatment Facility in accordance with the requirements listed in this paragraph and the procedures outlined in Part D (Description of Waste Storage/Treatment) which is incorporated as part of this permit. Based on the following regulation(s): [401 KAR 34:180] effective 6/13/2007 and [401 KAR 34:190] effective 6/13/2007.

3. Comment #3 (Part II.A.4.d):

This condition duplicates condition II.A.4.f. Request that this condition be removed, since II.A.4.f states the same requirements and is written consistent with previous permit.

Response: The language in condition II.A.f. is moved to condition II.A.d and condition II.A.f.is deleted.

4. Comment #4 (Part II.A.4.f):

Recommend revising condition: “Upon approval of a Macro-Encapsulation Plan by the Hazardous Waste Branch Manager (hereinafter referred to as the “Manager”), the Permittee may treat other types of hazardous waste at the C-752-A Hazardous Waste Storage and Treatment Facility by macro-encapsulation, or may treat hazardous debris or hazardous wastes by macro-encapsulation at the C-733 Hazardous Waste Storage and Treatment Facility and the C-746-Q Hazardous Waste Storage and Treatment Facility. This Macro-Encapsulation Plan would detail compliance with regulatory treatment requirements.”

Response: The Division doesn't deem the suggested change necessary.

5. Comment #5 (Part II.B.3):

401 KAR 38:090, Section 2(8) does not apply to waste analyses. The correct citation is 401 KAR 38:090, Section 2(3).

Response: Agreed, the condition is revised to read:

II.B.3. Specific Waste Analysis

The Permittee shall comply with all requirements set forth under the regulation(s) specified in this paragraph and Part C (Waste Analysis Plan) that is incorporated into this permit. Based on the following regulations: [401 KAR 38:090, Section 2(3)] effective 6/13/2007.and [401 KAR 34:020, Section 4] effective 6/13/2007.

6. Comment #6 (Part II.B.4.a):

Request removal of “Other forms of security include road barriers that restrict site entry on off shifts and weekends.” It is not required by 401 KAR 34:020, Section 5 (40 CFR 264.14(b)(1). It could be misinterpreted to require jersey barriers on roads at night and on weekends, which could impede emergency response.

Response: Agreed, the condition is revised to read:

II.B.4.a Maintain security, which monitors and controls entry to the facility twenty-four (24) hours a day.

7. Comment #7 (Part II.B.4.c):

Consistent with 401 KAR 34:020 (5) and 40 CFR 264.14(c) please change from “from any direction” to “from any approach to this active portion.”

Response: Agreed, the condition is revised as follows:

Maintain signs at the entrance to the facility and other locations that are legible from twenty-five (25) feet from any approach to the active portion and read: DANGER – Unauthorized Personnel – Keep Out”. Based on the following regulation(s): [401 KAR 34:020, Section 5] effective 6/13/2007

8. Comment #8 (Part II.B.5.b.3):

Request removal of the term “Construction materials,” since it holds no value because the tanks and facility are fully constructed.

Response: The condition may be referring to any construction materials which may be part of the tank system. The permit condition remains unchanged.

9. Comment #9 (Part II.B.6.b):

Condition II.B.6.b states that the facility provides training; however, the permittee(s), and not the facility, is responsible for this training. Please replace “facility” with “permittee(s).”

Response: Agreed, the condition is revised as follows.

II.B.6.b All new employees involved in hazardous waste management at the facility shall be given appropriate training and this training shall be repeated/ reviewed annually. If training takes place during a particular month, the next year the permittee has until the end of the month or 30 days after the annual date of the previous training to complete the training. Based on the following regulations: [401 KAR 34:020, Section 7] effective 6/13/2007.

10. Comment #10 (Part II.B.6.b and c):

Training outlined in 401 KAR 34:020, Section 7 (40 CFR 264.16) does not contemplate a facility where industrial operations are co-located with hazardous waste management units. Training is intended for those personnel involved in handling, storing or shipping hazardous wastes within or to a permitted unit; however, this level of training for personnel that accumulate or handle small amounts of hazardous waste in areas subject to 40 CFR 262.34 standards, which are exempted from management under 40 CFR 264 in accordance with 40 CFR 264.1(g)(3). Accordingly, we request that the term “facility” be replaced with the term “units identified in this permit.”

Response: See response to Comment 1. No change to the permit is made as a result of this comment.

11. Comment #11 (Part II.C.5):

Please see previous comment (II.B.6 b and c) requesting substitution of the term “facility” with the term “units identified in this permit.” As written, aisle space would be required in offices and non-industrial areas not being used for waste management and could present an obstacle to removal of equipment/materials from buildings during deactivation.

Response: The condition uses language verbatim from 40 CFR 264.35. No change to the permit is made.

12. Comment #12 (Part II.C.6):

Please remove the requirement for sending copies of the Contingency Plan to the required agencies. This is already covered under Condition II.D.2.

Response: The condition as written serves to document how compliance with 401 KAR 34:030 is achieved by the permittee. The condition is revised as follows to remove the one week requirement:

II.C.6. Arrangement with Local Authorities

The Permittee shall comply with all requirements set forth under the regulation(s) specified in this paragraph and the following: The Permittee shall make the appropriate arrangements with local hospitals, fire and police departments and other appropriate agencies for emergency response service and provide current copies of the Contingency Plan to these agencies. The Permittee shall document in the operating record any refusal by any of the agencies to enter into such arrangements. Based on the following regulation: [401 KAR 34:030, Section 7] effective 6/13/2007.

13. Comment #13 (Part II.D.1.):

Please see previous comment requesting clarification on “facility.” The term “facilities” does not provide clarification or provide information on the Contingency Plan. Please remove “facilities.”

Response: Agreed, the condition is revised as follows:

II.D.1. Implementation of Contingency Plan

The Permittee shall comply with all requirements set forth under the regulation(s) specified in this paragraph. The Permittee shall immediately carry out the provisions of the Contingency Plan (Part G) and follow the emergency procedures described in the specified regulation(s) whenever there is an imminent or actual emergency situation including a fire, explosion or unplanned sudden or non-sudden release of any hazardous waste or hazardous waste constituents from the facility. The Permittee must note in the operating record the time, date and details of any incident that requires implementing the Contingency Plan. The Permittee must comply with notification procedures set forth in the specified regulations(s) and as outlined in the Contingency Plan (Part G). Based on the following regulation: [401 KAR 34:040, Section 2] effective 6/13/2007.

14. Comment #14 (Part II.D.3):

Suggest “Upon amendment of the Contingency Plan, the Permittee shall provide copies to the local authorities previously specified in Section II.C (Preparedness and Prevention).” to allow for Class 1 changes to be implemented by the permittees.

Response: Agreed, the condition is revised to read as follows:

II.D.3. Amendment of the Contingency Plan

The Permittee shall review and amend the incorporated Contingency Plan to this permit as required by the regulation(s) specified in this paragraph. The Permittee shall address the requirements on a routine basis by conducting an annual audit of the Contingency Plan and making appropriate modifications, including changes to the emergency coordinators and/or equipment lists. Upon amendment of the Contingency Plan, the Permittee shall provide copies to the local authorities previously specified in Section II.C (Preparedness and Prevention). Based on the following regulation: [401 KAR 34:040, Section 5] effective 6/13/2007.

15. Comment #15 (Part II.F.3.c):

401 KAR 34:040 is not the correct citation.

Response: Agreed, the condition is revised as follows:

II.F.3.c Inspection schedule (including the schedules in Part F (Procedures to Prevent Hazards) as required by 401 KAR 34:020, Section 6 effective 6/13/2007.

16. Comment #16 (Part II.F.8):

Please modify the phrase “will be impossible to meet” to “will be impracticable to meet.”

Response: Agreed, the condition is revised as follows:

II.F.8. Spill Release Reporting

The Permittee shall submit a report to the Manager within 30 days of detecting a release to the environment from a regulated unit. The report shall contain the following information: Precise location of the release, specific pollutant or contaminant or hazardous substance released, concentration and quantity of the pollutant or contaminant or hazardous substance in the release, circumstances and cause of the release, likely route of migration of the release, characteristics of the surrounding environment (including soil composition, geology, hydrogeology and climate), results of any monitoring or sampling conducted in connection with the release, description of response action taken or planned; and the name, address and telephone number of the person(s) who can be contacted for additional information concerning the release. If the Permittee finds it will be impracticable to meet the 30-day reporting period, the Permittee should provide the Manager with a schedule of when the results will be available. This schedule must be provided before the required 30-day submittal period expires. Based on the following regulation: [401 KAR 34:050, Section 8] effective 6/13/2007.

17. Comment #17 (Part II.G.4):

Add “or the final volume of non-hazardous waste” consistent with 40 CFR 264.113(a). In accordance with 264.113(d) and 264.113(e) provisions for an extended closure time period should be included in this condition.

Response: A permit modification would be necessary to execute the “or the final volume of non-hazardous waste” clause cited in the regulation. The requested language, or similar, would be included upon such a modification. No change to the condition is made as a result of this comment.

Comment #18 (Part II.G.5):

Consistent with 401 KAR 34:070(5) and 40 CFR 264.114, replace “and/or” with "or."

Response: Agreed, the condition is revised as follows.

II.G.5. Disposal or Decontamination of Equipment

The Permittee shall decontaminate or dispose of all contaminated equipment, structures and soils at the permitted unit(s) as required by the specified regulation(s) in this condition and the procedures outlined in the incorporated “Closure Plan”, Part I of this permit. Based on the following regulation: [401 KAR 34:070, Section 5] effective 6/13/2007.

18. Comment #19 (Part II.H.1):

The permit should include a condition that recognizes 40 CFR 270.1(c)(7) that allows for CERCLA to be used to meet post-closure requirements in lieu of a RCRA permit.

Response: Upon Division concurrence on any Record of Decision that provides long term care for the C-404 Hazardous Waste Landfill, the permit may be modified to remove this condition (and others) as appropriate. No change to the permit is made as a result of this condition.

19. Comment #20 (Part II.H.3):

The condition should be consistent with the language in 40 CFR 264.117, which states, “Post-closure care for each hazardous waste management unit subject to the requirements of 264.117 through 264.120 must begin after completion of closure of the unit and continue for 30 years after that date.” Suggest removing the words “minimum of” in front on “thirty years”.

Response: Agreed, the permit condition is revised as follows:

II.H.3 Monitoring and Maintenance Requirements

The Permittee shall perform the post-closure monitoring and maintenance in accordance with the requirements specified in the post-closure plan. Based on the following regulation: [401 KAR 34:070, Section 8] effective 6/13/2007.

20. Comment #21 (Part II.I.13):

The KY regulation 401 KAR 34:180 (6) and 40 CFR 264.175 do not use the word secondary. Please delete “secondary”.

Response: Agreed, the Condition is revised to read as follows:

II.I.13. Containment Systems

The Permittee shall maintain a containment system free of cracks and gaps, and ensure that the containment system is sufficiently impervious to contain leaks, spills and accumulated precipitation. The containment system for the storage area(s) must have sufficient capacity as addressed in the “Process Information (Part D) and “Procedures to Prevent Hazards” (Part F) which are incorporated into this permit. Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area(s) in as timely a manner as necessary to prevent overflow of the collection system. Based on the following regulation: [401 KAR 34:180, Section 6] effective 6/13/2007.

21. Comment #22 (Part II.I.3):

The correct citation for P00X should be 401 KAR 31:040 Section 4.

Response: Agreed, the condition is revised as follows:

II.I.3. Storage of Specific Hazardous Wastes

The Permittee shall only store those hazardous wastes specified in this condition in the C-733, C-746-Q and C-752-A container storage areas:

<u>WASTE DESCRIPTION</u>	<u>HAZARDOUS WASTE CODE</u>
Gold Dissolver Precipitate	D006, D008, D010
Misc. flammable materials – liquids	D001, D00X, F00X, U00X
Misc. flammable materials – solids	D001, D00X, F00X, U00X
Misc. solutions exhibiting toxicity characteristics	D00X
Misc. solids exhibiting toxicity characteristics	D00X
Discarded batteries	D00X
Liquids contaminated with spent solvents	D001, F001, F002, F003, F004, F005, U00X
Solids contaminated with spent solvents	F001, F002, F003, F004, F005, U00X
Waste Oils	D006, D008, F001, F002, F003, F004, F005
Misc. materials, debris and media	D004, D005, D006, D007, D008, D009

Containing spent solvents and metals – solids	D010, D011, F001, F002, F003, F004, F005, U00X
Misc. laboratory wastes – liquids	D00X, F00X, U00X, P00X
Misc. laboratory wastes – solids	D00X, F00X, U00X, P00X
Activated Carbon	D040, F00X, U00X
Equipment rinsates / decontamination wastes	D00X, F00X, U00X
Light bulbs	D006, D007, D008, D009
Sludges / scale	D00X, F00X, U00X
Compressed Gasses	D003, D001
Fuses / Circuit Boards	D006, D008, D009, D011
Leachate	F039
Pentachlorophenol	F027

D00X: All waste codes are identified in 401 KAR 31:030

F00X: All waste codes are identified in 401 KAR 31:040, Section 2

K00X: All waste codes are identified in 401 KAR 31:040, Section 3

P00X: All waste codes are identified in 401 KAR 31:040, Section 4

U00X: All waste codes are identified in 401 KAR 31:040, Section 4

22. Comment #23 (Part II.I.12):

The first sentence is a run-on sentence. Suggest ending first sentence after "log", for example: "...operating log. Inspections shall be performed where containers are stored, looking..."

Response: Agreed, the condition is revised as follows:

II.I.12. Inspection of Containers

At least weekly, the Permittee shall perform inspections of the container storage area(s) and maintain the inspection forms in an operating log. The permittee must look for leaking containers and for deterioration of containers and containment system caused by corrosion or other factors. Containers shall not be stacked more than two high. The Permittee shall stage/store the containers so that the labels are fully visible and easy to inspect. Based on the following regulation: [401 KAR 34:180, Section 5] effective 6/13/2007.

23. Comment #24 (Part II.1.14):

The KY regulation 401 KAR 34:180 (6) and 40 CFR 264.175 do not use the word secondary. Please delete "secondary".

Response: Agreed, the condition is revised as follows:

II.I.14. Special Requirements

The Permittee shall provide and maintain containment for containers holding F020, F021, F022, F023, F026 and F027 (chlorinated dioxins, dibenzofurans and phenols) that do not contain free liquids. Based on the following regulation: [401 KAR 34:180, Section 6] effective 6/13/2007.

24. Comment #25 (Part II.I.16):

The installation of a venting device may not be necessary in all cases depending upon other management techniques. Therefore, request that "shall" be restored to "may" to allow case by case decisions.

Response: Agreed, the condition is revised as follows:

II.I.16. Container Venting

The Permittee may install pressure relief devices within the bungs of containers to allow venting of gases or vapors which may cause the container to rupture or burst and present a health and safety concern. The Permittee shall maintain and inspect venting devices. All venting devices shall be fitted with appropriate filter(s) which shall remove or reduce hazardous constituents from released gasses. Pressure relief devices may be installed on the containers which store the following types of hazardous wastes and any hazardous waste containers that contain wooden pallets, oil sludge or sump sludge.

- Tri-2-ethyl hexyl phosphate (TEHP) from laboratory operations;
- UF₄ rust sludge from drum washing activities.
- Alumigold
- Acidic Wastes

Upon determination that a container may be a threat to human health or the environment due to the accumulation of compressed gasses resulting from a specific waste stream other than those referenced above, the Permittee may request the inclusion of these additional waste streams to be added to this permit. If the Permittee determines that a container poses an imminent and substantial endangerment and may rupture or burst due to an accumulation of compressed gasses, the Permittee may request oral or written approval to install a venting device on the container(s). A written approval or denial by the Director for installation of a venting device on container(s) shall follow the Permittee request within seven (7) days. Based on the following regulation: [401 KAR 34:180, Section 10] effective 6/13/2007.

25. Comment #26 (Part II.I.16):

Neither 40 CFR 264.1086(c)(3)(iv) nor (d)(3)(iv) contain the requirement for filters to be used with venting devices. Please remove sentence starting “All venting devices shall be fitted with appropriate filter(s)...”

Response: The Division is averse to removing protective clauses in permit conditions outside the full public information process. The Division is amenable to discussing possible changes to this condition in the context of a future permit modification. There is no change to the permit as a result of this comment.

26. Comment #27 (Part II.I.17.a):

The regulations should be cited as 401 KAR 34:180, Sections 6, 7, and 8, as in II.I.17.b.

Response: Agreed, the condition is revised as follows:

II.I.17. Requirements for Managing Incompatible, Ignitable or Reactive Wastes

II.I.17.a The Permittee shall ensure compliance with the applicable regulation(s) specified in this condition and the incorporated attachments of this permit, “Procedures to Prevent Hazards” (Part F) and “Waste Analysis Plan” (Part C) when managing incompatible, ignitable or reactive wastes at the facility. Based on the following regulation: [401 KAR 34:180, Sections 6, 7 and 8] effective 6/13/2007.

27. Comment #28 (Part II.J.5.a):

The regulations should be cited as 401 KAR 34:190, Sections 3 through 5.

Response: 401 KAR 34:190 Section 2 addresses tank system integrity and is an appropriate citation for this condition. For consistency, the permit condition is revised as follows:

II.J.5. Tank Design, Maintenance and Operation

II.J.5.a The Permittee shall maintain all tanks as required by 401 KAR 34:190, Sections 2 through 5, and as specified in the attached drawings in Part D of this permit. The shell thickness shall not be allowed to be less than the minimum as specified. A tank shall be replaced, repaired or decommissioned if the minimum shell thickness is found to be less than stated in drawings found in Part D of this permit. Based on the following regulation: [401 KAR 34:190 Sections 2 through 5] effective 6/13/2007.

28. Comment #29 (Part II.J.9):

401 KAR 34:190(7) and 40 CFR 264.196(f) requires the certification of repairs to be placed in the operating record.

Response: Agreed, the condition is revised as follows:

II.J.9. Certification of Repairs

The Permittee shall include in the operating record all certifications of major repairs to correct leaks within seven days from returning the tank system to use as required in the specified regulation(s) in this condition. Based on the following regulation: [401 KAR 34:190 Section 7] effective 6/13/2007.

29. Comment #30 (Part II.J.16):

The permit should recognize exceptions for radioactive mixed waste under the Federal Facilities Compliance Act.

Response: Agreed, the condition is adequately addressed by Part VI of the permit. Therefore, condition II.J.16 (Land Disposal Prohibitions on Storage) is deleted from the permit. Note that after deletion, previous condition II.J.17 (Regulatory Compliance) defaulted to condition II.J.16.

30. Comment #31 (Part II.K.1.d):

Given that UCRS wells are not upgradient or downgradient, recommend the following clarification of the Condition:

The Permittee shall maintain the groundwater wells listed below at the locations identified in Figure 3 of the incorporated Attachment.

1-Part E – “Groundwater Monitoring” of this permit. The ~~upgradient/background~~ wells consist of the following:

Downgradient Upper RGA	Upgradient Upper RGA	UCRS
MW-84	MW-93	MW-85, MW-94
MW-87	MW-420	MW-88, MW-91
MW-90A	MW-91	

Response: Agreed, the condition is revised as follows:

II.K.1.d The Permittee shall maintain the groundwater wells listed below at the locations identified in Figure 3 of the incorporated Attachment 1-Part E – “Groundwater Monitoring” of this permit.

<u>Upper RGA</u>	<u>UCRS</u>	<u>Upper RGA</u>	<u>UCRS</u>
MW-84	MW-85	MW-93	MW-94
MW-87	MW-88	MW-420	
MW-90A	MW-91		

Based on the following regulations: [401 KAR 34:060, Section 8] effective 6/13/2007 and [401 KAR 36:050] effective 10/8/2008.

31. Comment #32 (Part II.K.1.d): 401 KAR 6:310 applies to water supply wells and should not be cited in reference to groundwater monitoring wells.

Response: Agreed, the condition is revised as follows:

II.K.1.d The Permittee shall maintain the groundwater wells listed below at the locations identified in Figure 3 of the incorporated Attachment 1-Part E – “Groundwater Monitoring” of this permit

<u>Upper RGA</u>	<u>UCRS</u>	<u>Upper RGA</u>	<u>UCRS</u>
MW-84	MW-85	MW-93	MW-94
MW-87	MW-88	MW-420	
MW-90A	MW-91		

Based on the following regulations: [401 KAR 34:060, Section 8] effective 6/13/2007 and [401 KAR 36:050] effective 10/8/2008.

32. Comment #33 (Part II.K.2.j):

To be consistent with current practice for conducting the C-404 statistical evaluation, recommend the following changes to the language proposed in the draft permit.

(II.K.2.j) Background concentration shall be established from all upgradient monitoring wells listed in this permit for the constituents listed in Attachment 1-Part E that are subject to ANOVA evaluation. ~~The background data shall be based on one complete year of current data. The initial b~~Background concentration shall be calculated using at least the four most recent upgradient sample results. ~~based on four (4) consecutive quarters of data. Subsequent background values shall be calculated continuously (rolling average) on a semi-annual basis.~~ Based on the following regulations: [401 KAR 34:060, Sections 8 and 9] effective 6/13/2007.

Response: Agreed, the condition is revised as follows:

II.K.2.j Background concentration shall be established from all upgradient monitoring wells listed in this permit for the constituents listed in Part E. The background data shall be based on one complete year of current data. The background concentration shall be based on data from the last four (4) sampling events. Based on the following regulations: [401 KAR 34:060, Sections 8 and 9] effective 6/13/2007.

33. Comment #34 (Part II.K.4.c):

Consistent with the post-closure care timeframe specified in 40 CFR 264.117, the compliance period should be 30 years since it began with the initiation of the detection monitoring period. Please modify the compliance period to be 30 years.

Response: The Division is not willing to revise this condition outside the full public information process. The Division is amenable to discussing a potential change in the context of a future permit modification. No change to the permit is made as a result of this comment.

34. Comment #35 (Part II.K.3.g); (Part II.K.5. a, b, c and d); (Part II.K.6.a, f, g, i and j); (Part II.K.7) and (Part II.K.8)

Condition II.K.3.g uses the term “statistically significant increases,” which is not precise. Similarly, condition II.K.5.a/b/c/d does not precisely/accurately describe the statistics testing and the evaluation. “Statistically significant evidence of increased contamination” is not an accurate description of the statistical evaluation. Suggest the following language to be consistent with 40 CFR 264.91 and 264.98:

II.K.3.g: The Manager may specify the frequencies for collecting samples and conducting statistical tests to determine statistically significant evidence of ~~increases~~ contamination...

Response: Agreed, the condition is revised as follows:

II.K.3.g The Manager may specify the frequencies for collecting samples and conducting statistical tests to determine statistically significant evidence of contamination in accordance with the regulation(s) specified in this condition. One (1) sample from each well (background and compliance wells) shall be collected at least semiannually during the compliance period of the unit. Based on the following regulations: [401 KAR 34:060, Sections 8 and 9] effective 6/13/2007.

II.K.5.a: The determination of groundwater quality required in this permit shall consist of calculating whether there is a statistically significant ~~increase in concentration of~~ evidence of contamination for any constituents...

Response: Agreed, the permit condition is revised as follows:

II.K.5.a The determination of groundwater quality required in this permit shall consist of calculating whether there is a statistically significant evidence of contamination for any of the constituents identified in Attachment 1-Part E at any of the compliance wells over the background value for that constituent. The procedures outline in Attachment 1-Part E satisfies the requirements of 401 KAR 34:060, Section 2. Based on the following regulation: [401 KAR 34:060, Sections 8, 9 and 10] effective 6/13/2007.

II.K.5.b: The Permittee shall determine whether there is statistically significant evidence of ~~increased~~ contamination...

Response: Agreed, the condition is revised as follows:

II.K.5.b The Permittee shall determine whether there is statistically significant evidence of contamination for any chemical parameter or hazardous constituent specified in Attachment 1-Part E of this permit. Based on the following regulation: [401 KAR 34:060, Sections 8, 9 and 10] effective 6/13/2007.

II.K.5.c: In determining whether statistically significant evidence of ~~increased~~ contamination exists, the Permittee.

Response: Agreed, the permit condition is revised as follows:

II.K.5.c In determining whether statistically significant evidence of contamination exists, the Permittee shall use the method(s) specified in 401 KAR 34:060 Section 8 and in Attachment 1-Part E. The method(s) shall compare data collected at the compliance point(s) to a concentration limit developed in accordance with this administrative regulation. Based on the following regulation: [401 KAR 34:060, Sections 8, 9 and 10] effective 6/13/2007

II.K.5.d: The Permittee shall determine whether there is statistically significant evidence of ~~increased~~-contamination...

Response: Agreed, the permit condition is revised as follows:

II.K.5.d The Permittee shall determine whether there is statistically significant evidence of contamination at each monitoring well at the compliance point within a reasonable time period after completion of sampling. The Permittee must complete that statistical evaluation and provide a report to the Manager within thirty (30) days of completion of data validation. Based on the following regulations: [401 KAR 34:060, Sections 8, 9 and 10] effective 6/13/2007.

II.K.6.a: If the Permittee determines, pursuant to the permit and this condition, that there has been a confirmed statistically significant ~~increase from~~ exceedance of the background values...

Response: Agreed, the permit condition is revised as follows:

II.K.6.a If the Permittee determines, pursuant to the permit and this condition, that there has been a confirmed statistically significant exceedance of the background values for the constituents specified in the permit, the Permittee shall notify the Manager, in writing, within seven (7) days. The Permittee shall specify what concentration limits have been exceeded. Based on the following regulations: [401 KAR 34:060, Sections 8, 9 and 10] effective 6/13/2007.

II.K.6.f: If the Permittee determines, pursuant to Condition ~~II.K.3 (Sampling and Analysis Procedures)~~II.K.5 (Statistical Evaluation) of this permit, that there has been a confirmed statistically significant ~~increase from~~ exceedance of the background values for the constituents specified in the permit, the Permittee shall immediately resample the groundwater in all wells identified in this permit and determine the concentration of all constituents identified in 401 KAR 34:360, Section 1, as required by 401 KAR 34:060, Sections 9 and 10, unless the Permittee plans to exercise Permit Conditions II.K.7 or II.K.8. If a statistically significant ~~increase~~ evidence is confirmed...

Response: Partially agreed, conditions II.K.7 and II.K.8 as revised provide the desired relief from Condition II.K.6.f. The referenced permit condition and conditions II.K.7 and II.K.8 are revised as follows:

II.K.6.f If the Permittee determines, pursuant to Condition II.K.3 (Sampling and Analysis Procedures) and II.K.5 (Statistical Evaluation) of this permit, that there has been a confirmed statistically significant exceedance of the background values for the constituents specified in the permit, the Permittee shall immediately resample the groundwater in all wells identified in this permit and determine the concentration of all constituents identified in 401 KAR 34:360, Section 1, as required by 401 KAR 34:060, Sections 9 and 10. If a statistically significant increase is confirmed for Technetium-99 or Total Uranium in any well identified in II.K.1 (Well Location and Construction) of this permit, the Permittee shall immediately resample the groundwater in all wells for Technetium-99, Uranium-234, Uranium-235 and Uranium-238. Based on the following regulations: [401 KAR 34:060, Sections 9 and 10] effective 6/13/2007 and [401 KAR 34:360 Section 1 effective 6/13/2007.

II.K.7. Source Demonstration or Error in Data

The Permittee need not submit the application required under Condition II.K.6.i. nor the plan required under Condition II.K.6.j nor the resampling required under Condition II.K.6.f if the Permittee successfully demonstrates that a source other than the regulated unit caused the exceedance or that the exceedance is caused by an error in sampling, analysis, statistical evaluation or natural variation in the groundwater. In such case, the Permittee shall notify the Manager, in writing, within seven (7) days that the Permittee intends to make a demonstration, shall, within (90) days, submit a report to the Manager. This report shall demonstrate that a source other than the regulated unit caused the exceedance or that the increase resulted from error in sampling, analysis or evaluation. If warranted,

the Permittee may request a permit modification in accordance with Condition II.K.8. Based on the following regulations: [401 KAR 34:060, Sections 9 and 10] effective 6/13/2007 and [401 KAR 38:040, Section 3] effective 8/21/2008.

II.K.8. 2007 Source Demonstration

The Permittee need not submit the application required under Condition II.K.6.i. nor the plan required under Condition II.K.6.j. nor the resampling required under Condition II.K.6.f. if the Permittee successfully demonstrates that the exceedance is consistent with findings in the 2007 Alternate Source Demonstration. This demonstration shall be submitted within a semi-annual report required under Condition II.K.6.d. Data from additional groundwater monitoring wells near the unit, which are not specified in Condition II.K.1.d, may be submitted as a part of the demonstration. Based on the following regulations: [401 KAR 34:060, Sections 1, 9 and 10] effective 6/13/2007.

II.K.6.g If the Permittee determines, pursuant to Condition ~~II.K.3 (Sampling and Analysis Procedures)~~II.K.5 (Statistical Evaluation) of this permit, that there has been a confirmed statistically significant ~~increase from~~ exceedance of the background values for the constituents specified in the permit, the Permittee shall establish background values for each constituent ~~identified in the following regulation(s)~~ with an exceedance (effective 6/13/2007) found in the groundwater. The background data shall be calculated using at least the four most recent upgradient sample results. ~~Based on one complete year of current data. The initial background concentration shall be based on four (4) consecutive quarters of data pursuant to 401 KAR 34:060, Section 8. Subsequent background values shall be calculated continuously (rolling average) on a semi-annual basis.~~ Based on the following regulation: [401 KAR 34:060, Sections 8 and 9] effective 6/13/2007.

Response: Agreed, the permit condition is revised as follows:

II.K.6.g If the Permittee determines, pursuant to Condition II.K.3 (Sampling and Analysis Procedures) and II.K.5 (Statistical Evaluation) of this permit, that there has been a confirmed statistically significant exceedance of the background values for the constituents specified in the permit, the Permittee shall establish background values for each constituent identified in the following regulation [401 KAR 34:360 Section 1] (effective 6/13/2007) found in the groundwater. The background data shall be

based on the four most recent sampling events. Based on the following regulation: [401 KAR 34:060, Sections 8 and 9] effective 6/13/2007.

- II.K.6.i If the Permittee determines, pursuant to ~~II.K.3 (Sampling and Analysis Procedures)~~II.K.5 (Statistical Evaluation) of this permit, that there has been a confirmed statistically significant ~~increase from~~ exceedance of the background values for the constituents specified in the permit, the Permittee shall submit to the Manager, within ninety (90) days, an application for a permit modification to establish a compliance monitoring program meeting the requirements of the specified regulation(s) in this condition. If Technetium-99 or Total Uranium has a confirmed statistically significant ~~increase~~ exceedance, the Permittee...

Response: Agreed, the permit condition is revised as follows:

- II.K.6.i If the Permittee determines, pursuant to II.K.3 (Sampling and Analysis Procedures) and II.K.5 (Statistical Evaluation) of this permit, that there has been a confirmed statistically significant exceedance of the background values for the constituents specified in the permit, the Permittee shall submit to the Manager, within ninety (90) days, an application for a permit modification to establish a compliance monitoring program meeting the requirements of the specified regulation(s) in this condition. If Technetium-99 or Total Uranium has a confirmed statistically significant exceedance, the Permittee shall establish a compliance monitoring program consistent with Attachment 1-Part E (Groundwater Monitoring), Chapter 8. Based on the following regulations: [401 KAR 34:060, Sections 9 and 10] effective 6/13/2007.
- II.K.6.j If the Permittee determined that there has been a confirmed statistically significant ~~increase from~~ exceedance of the background values from the constituents specified in permit Condition ~~II.K.3 (Sampling and Analysis Procedures)~~II.K.5 (Statistical Evaluation), the Permittee shall submit to the Manager, within 180 days, an engineering feasibility plan for a corrective action program, except as provided in the regulations. This Condition is not applicable when a statistically significant ~~increase~~ exceedance has been...

Response: Agreed, the permit condition is revised as follows:

- II.K.6.j If the Permittee determined that there has been a confirmed statistically significant exceedance of the background values from

the constituents specified in permit Condition II.K.3 (Sampling and Analysis Procedures), the Permittee shall submit to the Manager, within 180 days, an engineering feasibility plan for a corrective action program, except as provided in the regulations. This Condition is not applicable when a statistically significant exceedance has been confirmed for Technetium-99, Total Uranium, Uranium-234, Uranium-235 or Uranium 238. Based on the following regulations: [401 KAR 34:060, Sections 9 and 10] effective 6/13/2007.

II.K.7. Source Demonstration or Error in Data

The Permittee need not submit the application required under Condition II.K.6.i. nor the plan required under Condition II.K.6.j if the Permittee successfully demonstrates that a source other than the regulated unit caused the ~~increase~~ exceedance or that the ~~increase~~ exceedance is caused by an error in sampling, analysis, statistical evaluation or natural variation in the groundwater. In such case, the Permittee shall notify the Manager, in writing, within seven (7) days that the Permittee intends to make a demonstration, shall, within (90) days, submit a report to the Manager. This report shall demonstrate that a source other than the regulated unit caused the ~~increase~~ exceedance or that the ~~increase~~ exceedance resulted from error...

Response: Agreed, the permit condition is revised as follows:

II.K.7. Source Demonstration or Error in Data

The Permittee need not submit the application required under Condition II.K.6.i. nor the plan required under Condition II.K.6.j nor the resampling required under Condition II.K.6.f if the Permittee successfully demonstrates that a source other than the regulated unit caused the exceedance or that the exceedance is caused by an error in sampling, analysis, statistical evaluation or natural variation in the groundwater. In such case, the Permittee shall notify the Manager, in writing, within seven (7) days that the Permittee intends to make a demonstration, shall, within (90) days, submit a report to the Manager. This report shall demonstrate that a source other than the regulated unit caused the exceedance or that the increase resulted from error in sampling, analysis or evaluation. If warranted, the Permittee may request a permit modification in accordance with Condition II.K.8. Based on the following regulations: [401 KAR 34:060, Sections 9 and 10] effective 6/13/2007 and [401 KAR 38:040, Section 3] effective 8/21/2008.

II.K.8. 2007 Source Demonstration

The Permittee need not submit the application required under Condition II.K.6.i. nor the plan required under Condition II.K.6.j. If the Permittee successfully demonstrates that the ~~increase~~ exceedance is consistent...

Response: Agreed. The condition is revised as follows:

II.K.8. 2007 Source Demonstration

The Permittee need not submit the application required under Condition II.K.6.i. nor the plan required under Condition II.K.6.j. nor the resampling required under Condition II.K.6.f if the Permittee successfully demonstrates that the exceedance is consistent with findings in the 2007 Alternate Source Demonstration. This demonstration shall be submitted within a semi-annual report required under Condition II.K.6.d. Data from additional groundwater monitoring wells near the unit, which are not specified in Condition II.K.1.d, may be submitted as a part of the demonstration. Based on the following regulations: [401 KAR 34:060, Sections 1, 9 and 10] effective 6/13/2007.

35. Comment #36 (Part II.K.6.f and g); (Part II.K.7) and (Part II.K.8)

Due to the 2007 Source Demonstration described in II.K.8, immediate resampling may not be necessary in all cases. Therefore request addition of language to II.K.7 and II.K.8 to include an exemption from resampling when the constituent and increase is related to the findings in the 2007 Alternate Source Demonstration. Recommend adding the following to II.K.6.f after Sections 9 and 10, “unless the Permittee plans to exercise Permit Conditions II.K.7 or II.K.8.” The revised text is provided in the previous comment.

Response: See earlier revised condition.

36. Comment #37 (Part II.K.6 g)

The process for establishing background for each constituent in the event that a confirmed statistically significant increase does not reflect current process. Specifically the background is not calculated on a rolling average basis and more than one year of data is utilized. The revised text is provided in a previous comment.

Response: See earlier revised condition.

37. Comment #38 (Part II.K.6.f, g, i and j):

Please note that Condition II.K.3 is for collection and analysis of samples, as opposed to statistical analysis performed under Condition II.K.5. Suggest references be updated to reflect correct reference for determining statistically significant evidence of contamination in Conditions II.K.6.f/g/i/j. The revised text is provided in a previous comment.

Response: See earlier revised condition

38. Comment #39 (Part II.K.6.f and II.K.6.j):

401 KAR 34:360 refers to Appendix IX, which doesn't include Tc-99 or U or its isotopes. Recommend removing this regulatory citation from this condition because it does not apply to radionuclides.

Response: The regulatory citation gives basis for the Appendix IX sampling, sampling for radionuclides is based on earlier agreement reached during the permit process. The conditions are not revised as a result of this comment.

39. Comment #40 (Part II.K.10):

The term interim corrective measures is not used in 40 CFR 264.100. Please remove the word "interim"

Response: Agreed, the condition is revised as follows:

II.K.10. Duty of Permittee

The Permittee must assure that monitoring and corrective action measures necessary to achieve compliance with the groundwater protection standard are taken during the term of this permit. Based on the following regulation: [401 KAR 34:060, Section 11] effective 6/13/2007.

40. Comment #41 (Part III.A)

Please restore the language deleted from the existing permit that constitutes RCRA's permit shield as set forth in 40 CFR 270.4(a)(1). Please remove all language inserted into Section III.A. that removes compliance with the permit as a defense to actions brought under certain sections of RCRA, CERCLA, KRS Chapter 224, and any other law governing protection of public health and the environment for any imminent and substantial endangerment to human health, welfare or the environment. This inserted language is inconsistent with the permit shield set forth in 40 CFR 270.4(a)(1) and 401 KAR 38:010 Section 3(1). The language of Section III.A should read as follows:

"Compliance with the terms of this permit constitutes compliance for purposes of enforcement with KRS 224 (implementing Subtitle C of the Resource Conservation and Recovery Act) except for those requirements not included in the permit which: a) Become effective by statute; b) Are promulgated under 401 KAR Chapter 37 restricting the placement of hazardous wastes in or on the land; c) Are promulgated under 401 KAR Chapter 34 regarding leak detection systems for new and replacement surface impoundments, waste pile, and landfill units, and lateral expansions of surface impoundments, waste pile, and landfill units. The leak detection system requirements include double liners, Construction Quality Assurance (CQA) programs, monitoring, action leakage rates and response action plans, and shall be implemented through the procedures of Chapter 38; or d) Are promulgated under 401 KAR 35:275, 35:280, or 35:281. Chapter 224, Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of state or local laws or

regulations. In the event of non-compliance with the permit, the Permittee shall take all reasonable steps to minimize releases to the environment for any imminent and substantial endangerment to human health, welfare or the environment. Based on the following regulations: [401 KAR 38:010, Section 3 and 401 KAR 38:030, Section 1] effective 6/13/2007.”

Response: Agreed, the condition is revised using the above-stated text.

41. Comment #42 (Part III.D.3):

Request to reinstate language from the previous permit Condition T-75. KDWM added “is determined by the Manager, to pose,” which is not consistent with FFA definition for Areas of Concern (AOC).

Response: The Division’s model hazardous waste permit definition was utilized. The FFA definition covers a broader list of hazardous substances and has always differed from the permit definition. No change to the permit is made as a result of this comment.

42. Comment #43 (Part III.D.5):

Please note that this change in the definition of “contamination” is not consistent with the definition set forth in 401 KAR 34:005 Section 5(12). The definition in the draft permit should be replaced with the regulatory definition contained in 401 KAR 34:005 Section 5(12).

Response: Agreed, the condition is revised as follows:

III.D.5. “Contamination”

“Contamination” for purposes of this permit means the degradation of naturally occurring water, air, or soil quality either directly or indirectly as a result of human activities.

43. Comment #44 (Part III.D.22):

The addition of the D&D OU and GDP D&D OU within the parenthetical is incorrect in this context. The parenthetical is referring to media and these OUs are not media. Additionally, a close parenthesis is missing. Suggest removal of the parenthetical because it no longer reflects examples of media or revert to the previous permit language (Condition T-95).

Response: Agreed, the condition is revised as follows:

III.D.22. “Operable Unit”

“Operable Unit” (OU) for purposes of this permit shall mean a discrete action that comprises an incremental step toward comprehensively addressing site problems. This discrete portion of a remedial response manages migration; or eliminates or mitigates a release, threat of release or pathway of exposure. The cleanup of the site can be divided into a number of OUs, depending on the complexity of the problems associated with the site. OUs may address geographic portions of the site, specific site problems, or initial phases of an action, or may consist of any set

of actions performed over time or any action that are concurrent but located in different parts of the site

44. Comment #45 (Part III.D.25):

The Proposed Plan would be approved through the FFA process. Please add reference consistent with other conditions.

Response: The condition is revised as follows:

III.D.25. “Proposed Plan”

“Proposed Plan” for purposes of this permit shall be the report which briefly describes the remedial alternatives analyzed, proposes a preferred remedial action alternative, and summarizes the information relied upon to select the preferred alternative. The Proposed Plan shall serve as a statement of basis for a draft permit modification to incorporate a remedy into this permit.

45. Comment #46 (Part III.D.36):

Suggest replacing "upon" with "following" to allow the Division flexibility to delay permit modification for RODs.

Response: Agreed, the condition is revised as follows:

III.D.36. “Record of Decision”

"Record of Decision" (ROD) for purposes of this permit shall mean the document issued which describes a remedial action plan for an operable unit pursuant to Section 117(b) of CERCLA, 42 U.S.C. §§ 9617 and shall be consistent with 40 CFR 300.430(f)(5). The Division shall issue a permit modification to incorporate a remedy following concurrence with the Record of Decision.

46. Comment #47 (Part III.D.39):

The draft changes to the permit condition differ from the definition of “solid waste” set forth in KRS 224.01-010(31). Recommend incorporating the statutory definition of “solid waste” into this permit condition.

Response: Agreed, the condition is revised as follows:

III.D.39. “Solid Waste”

"Solid waste" means any garbage, refuse, sludge and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, (excluding coal mining wastes, coal mining by-products, refuse and overburden), agriculture operations, and from community activities, but does not include those materials including, but not limited to, sand, soil, rock, gravel or bridge debris extracted as part of a public road construction project funded wholly or in part with state funds, recovered material, special wastes as designated by KRS 224.50.760, solid or dissolved material in domestic sewage, manure, crops, crop residue, or a combination thereof which are placed

on the soil for return to the soil as fertilizers or soil conditioners, or solid or dissolved material 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).

47. Comment #48 (Part III.E.7):

Condition should state furnish “upon request” per 401 KAR 38:030(1) and 40 CFR 270.30(h).

Response: Agreed, the condition is revised as follows:

III.E.7. Duty to Provide Information

The Permittee shall furnish the Manager, within a reasonable time, any information requested to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish the Manager, upon request, copies of the records kept as a requirement of this permit. Based on the following regulation: [401 KAR 38:030] effective 6/13/2007.

48. Comment #49 (Part III.E.14):

Replace “signed by the permittee” with “signed by the owner or operator”.

Response: The language utilized is the Division’s model permit language. No change to the permit is made as a result of this comment.

49. Comment #50 (Part III.E.21):

Typical contracts at Paducah have only allowed 90 days to transition contractors (operators). As a result, it is impractical to submit revised Part A applications 90-days prior to transition of ownership or operational control. Request that 90-days be replaced with 30-days, because the contract transition/bid process is public and KDWM will have been aware of pending changes well before they are submitted.

Response: The Division has and will continue to exercise discretion on enforcement of this time frame. No change to the permit is made as a result of this comment.

50. Comment #51 (Part IV.A):

Please insert the below proposed CERCLA/RCRA equivalency language for inclusion in Section IV.A., Applicability of the HWFP, to be inserted as the second sentence of the paragraph:

“To facilitate efficiency, avoid duplicating efforts and revisiting decisions it is agreed that permit requirements directing the review & submission of submittals, scheduling, reporting and schedule modifications are deferred to the controlling processes established under the PGDP FFA.”

Response: No change to the permit is made as a result of this comment.

51. Comment #52 (Part IV.A.1):

The discussion regarding DMSAs that references lists Appendix A-4(a) and A-4(b) should be removed and the tables reserved. All the DMSAs have been addressed in this context and the only remaining DMSAs being tracking are tracked as SWMUs under operable units; therefore, there is no need to single them out in the future.

Response: Agreed that sub-Appendices A-4(a) and A-4(b) should be removed. Appendix A-4(b) “SWMU Assessment Reports that are under review by the Manager” is valid and should remain, but simply be labeled A-4. The condition is revised as follows:

IV.A.1. List of Solid Waste Management Units

A list of Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) requiring a RCRA Facility Investigation (RFI) at this facility are listed in Appendix A-1 of this permit. SWMUs requiring no further action under this permit are listed in Appendix A-2 of this permit. SWMUs identified as “treatment, storage or disposal units” are listed in Appendix A-3 of this permit. SWMUs or AOCs that have SWMU Assessment Reports Under Review by the Manager are identified in Appendix A-4 of this permit. SWMUs that have been addressed by a Record of Decision and require a five-year review are identified in Appendix A-6 of this permit. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

52. Comment #53 (Part IV.A.1):

Remove “at this time.” A NFA does not require future action or investigation.

Response: Agree, see revised condition above.

53. Comment #54 (Part IV.B.1 and IV.B.2):

The regulatory authority granted to the Cabinet under 401 KAR 34:060, Section 12 to establish corrective action requirements (Part IV of the Permit) is limited to “Releases from Solid Waste Management Units.” Furthermore, as stated in Subpart IV.A (Applicability) and Appendix G of the draft Permit, it is the intent of the FFA Parties to coordinate DOE’s CERCLA obligations with the corrective action measures required by this Permit. The definition of SWMU in the 2004 permit is written very broadly and could be interpreted to include a broad range of areas that pose no threat of a release. The proposed permit conditions in IV.B. (Notification and Assessment Requirements for Newly Identified SWMUs and AOCs) require the Permittee to provide a 15-day written notification and submit SWMU Assessment Reports within 90 days upon “discovery” of a new SWMU, regardless of whether the area has a known or potential release. Based on past experience at the site, the proposed condition as written creates unnecessary administrative reporting and costs without added benefit. Consistent with regulatory authority provided by 401 KAR 34:060, Section 12, and the intent of Section IX of the FFA, the following statement should be added to Subpart IV.B.1 and IV.B.2 of the draft Permit:

IV.B.1 Notification of Discovery

The Permittee shall notify the Manager in writing, within fifteen (15) calendar days of discovery, of any additional SWMUs or AOCs with a known or potential release of a Hazardous Wastes and Hazardous Constituents that are discovered under any conditions. The notification shall include, at a minimum, the location of the units and all available information pertaining to the nature of the release (e.g. media affected, hazardous constituents released, magnitude of release, etc.). If the Manager determines that further investigations are required, the permit shall be modified. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.B.2 Submittal of a SWMU Assessment Report

The Permittee shall prepare and submit to the Manager, within ninety (90) calendar days of notification required by Condition IV.B.1, a SWMU Assessment Report (SAR) for each new SWMU identified at the facility.

Response: The language is the Division's model permit language. The Division will continue to work with the FFA parties regarding the proper identification of RCRA/CERCLA units at the facility. No change to the permit is made as a result of this comment.

54. Comment #55 (Part IV.K.4):

O&M requirements are contained in other portions of RCRA such as the Interim Measures Report. To avoid confusion, suggest deletion of the last sentence in this subsection that begins with "The Operations and Maintenance Plan is an element..."

Response: Agreed the condition is revised as follows:

IV.K.4 Operations and Maintenance Plan Submittal

The Permittee shall submit an Operations and Maintenance Plan in accordance with the schedules in Appendix D to Part IV – "Schedule of Compliance.

55. Comment #56 (Part IV.K.10):

Executive Orders and the Paper Reduction Act require reduction in wastes and consumption of energy. With most reports/documents now being submitted electronically and KDEP's change to recordkeeping to rely on electronic files, printing and delivering four paper copies is contrary to waste minimization mandates. This condition should be revised to require the submittal of one hard copy and an electronic submittal, with additional hard copies furnished upon request of the Manager.

Response: Agreed the condition is revised as follows:

IV.K.10 Report Submittal Requirements

Copies of all reports and work plans shall be provided by the Permittee to the Manager at the following address:

Manager, Hazardous Waste Branch

Division of Waste Management
200 Fair Oaks Lane, 2nd Floor
Frankfort, Kentucky 40601

Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

56. Comment #57 (Part V.C.4):

The cited regulation, 401 KAR 34:050(4) does not have any provisions specific to waste minimization.

Response: See 40 CFR 264.72(b) (9). No change to the permit is made as a result of this comment.

57. Comment #58 (Part VI.A):

The deletion of the reference to the September 1997 Agreed Order between DOE and the Commonwealth, File No. DWM 30059 042 is inappropriate. The Agreed Order is still in place and provides DOE operational flexibility in situations in which near-term disposal or treatment options may not be available for certain mixed low-level wastes. The removal of the November 15, 1995, Agreed Order between USEC and the Commonwealth, File No. DWM 30042 030 is appropriate; however, this Condition was modified to include an October 1995 Agreed Order between DOE and the Commonwealth (with no reference number) and there is no record of such an Agreed Order. Please provide the specific number of the Agreed Order and demonstrate its relevance or remove this reference from the condition.

Response: The deletion was a typographical error. The condition is revised as follows:

VI.A. GENERAL RESTRICTIONS

401 KAR Chapter 37 identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances in which an otherwise prohibited waste may continue to be placed on or in a land treatment, storage or disposal unit. The Permittee shall maintain compliance with the requirements of 401 KAR Chapter 37 unless the provisions of the September 1997 Agreed Order between DOE and the Commonwealth, File No. DWM 30059-042, are applicable. Where the Permittee has applied for an extension, waiver or variance under 401 KAR Chapter 37, the Permittee shall comply with all restrictions on land disposal under this Part once the effective date for the waste has been reached pending final approval of such application. Based on the following regulations: [401 KAR 37:005, 37:010, 37:020, 37:030, 37:040, 37:050, 37:060 and 37:110] effective 6/13/2007.

58. Comment #59 (Appendix D; Page D-1):

The schedule for the RFI Progress Reports should reflect the requirements in Condition IV.E.5, which identifies semiannual progress reports due April 30 and October 30 each year.

Response: Agreed, Appendix D to Part IV of the permit is revised and attached:

59. Comment #60 (Appendix D; Page D-1):

The schedule for the Final CMS Report should reflect the requirements in Condition IV.E.6, which identifies the schedule as “within sixty (60) calendar days of receipt of the Manager’s comments.”

Response: See response to comment #59.

60. Comment #61 (Appendix D; Page D1-):

Both the RFI Progress Reports and Interim Measures Work Plan reference a footnote that states: “This requirement may be satisfied by the Permittee reporting progress at the FFA Managers Meetings.” To more accurately reflect the current practices, please modify this to state, “This requirement may be satisfied by submittal of the FFA Semiannual Report.”

Response: See response to comment #59

61. Comment #62 (Appendix D; Page D-1):

BGOU (SWMUs 5 and 6 Remedial Action)—Field Start has a trigger date of “XX days after submittal of the Remedial Action Work Plan.” This is incorrect and should read “15 months after Record of Decision signature.”

Response: See response to comment #59

62. Comment #63 (Appendix D; Page D-1):

The schedule for the Final RFI Report should reflect the requirements in Condition IV.E.6, which identifies the schedule as “within sixty (60) calendar days of receipt of the Manager’s comments.”

Response: See response to comment #59

63. Comment #64 (Appendix D, Page D-1):

The schedule for the Interim Measures Progress Reports should reflect the requirements in Condition IV.F.9, which identifies semiannual progress reports due April 30 and October 30 each year.

Response: See response to comment #59

64. Comment #65 (Appendix D; Page D-1):

The schedule for the Imminent Hazard Report should reflect the requirements in Condition IV.J.1 to be reported orally within 2 hours.

Response: See response to comment #59

65. Comment #66 (Appendix E; Section II):

The Permittee does not agree that modifications in accordance with Appendix E shall not be subject to administrative appeal. Section II language should be revised to delete such references.

Response: Appendix E to Part IV. of the permit is revised as attached.

End of Division's Response to Substantive / Technical Comments

**Kentucky Division of Waste Management Response to
Editorial / Clarification Comments to the
Hazardous Waste Facility 10-Year Draft Permit Reissuance
Paducah Gaseous Diffusion Plant, Paducah, Kentucky
July 15, 2015**

Editorial / Clarification Comments:

1. Comment #1 (General):

The term “facility” is used in several different contexts within the permit. In some cases, the condition should apply simply to the “unit(s) subject to the permit,” (e.g., Conditions, II.B.6.b and c). Some specific discussions are provided as individual comments.

Response: The use of facility in those conditions is consistent with 40 CFR 264.16. No change to the permit is made as a result of this comment.

2. Comment #2 (General)

There is inconsistent use of “gases” vs. “gasses” through the document.

Response: The permit is corrected to reference the word “gasses” throughout the document.

3. Comment #3 (Part II.A.4.b); (Part II.B.6); (Part II.G.1); (Part IV.I.1) and (Part IV.K.1):

(Please note typo, outline(s) should be “outlined.” This is identified in several conditions. Suggest KDWM perform a global check for the word “outline” to correct the typos.

Response: Noted and conditions are revised accordingly.

4. Comment #4 (Part II.A.2):

The referenced regulation is not correct (not a regulation).

Response: The reference is a statute, not a regulation. Condition is revised accordingly.

5. Comment #5 (Part II.A.3):

The referenced regulation is not correct (not a regulation).

Response: The reference is a statute, not a regulation. Condition is revised accordingly.

6. Comment #6 (Part II.B.5):

Please note typo “flowing” should be “following.”

Response: Noted and condition is revised accordingly.

7. Comment #7 (Part II.B.6):

Please note typo, "outline" should be "outlined" since the procedure details previously were included in Part H of the application

Response: Noted and conditions are revised accordingly.

8. Comment #8 (Part II.B.6.a)

There are no subsections under Section 7. They are incorrectly referenced.

Response: Noted and condition is revised accordingly.

9. Comment #9 (Part II.B.6.c):

Please note typo “401 KAR 32:020” should be “401 KAR 34:020.” Also, the subsection below II.B.6.c should be “II.B.6.d” instead of “II.B.5.d.”

Response: Noted and condition is revised accordingly.

10. Comment #10 (Part II.B.7):

The referenced regulation is not correct (not a regulation).

Response: The reference is a statute, not a regulation. Condition is revised accordingly.

11. Comment #11 (Part II.B.7):

Please note typo “procedures in incorporated” should be “procedures incorporated in.”

Response: Noted and condition is revised accordingly.

12. Comment #12 (Part II.D.3):

Please note typo “routing” should be “routine.”

Response: Noted and condition is revised accordingly.

13. Comment #13 (Part II.F.7):

A word is missing after “Kentucky.”

Response: The sentence was rewritten from “Kentucky twenty-four (24) hour Environmental Response telephone numbers” to “twenty-four (24) hour Kentucky Environmental Response telephone numbers”.

14. Comment #14 (Part II.G.6):

Please note typo, should be “owner or operator.”

Response: Noted and condition is revised accordingly.

15. Comment #15 (Part II.H.6.a) and (Part II.H.6.b):

These conditions are incorrectly numbered.

Response: Noted and condition is revised accordingly.

16. Comment #16 (Part II.I.7) and (General):

There is inconsistency in the permit when referring to a “Part” of the permit application. In previous call-outs it is simply called out as “Part C” for example. In this condition, is it called “Attachment 1–Part C.” This inconsistency is noted throughout. Please use consistent references to the permit application sections.

Response: The reference “Attachment 1” is removed, and only the “Part” reference will be used. Noted and globally revised accordingly.

17. Comment #17 (Part II.I.12):

The first sentence is a run-on sentence. Suggest ending the first sentence after "log", which would then read, “...operating log. Inspections shall be performed where containers are stored, looking....”

Response: Noted and condition is revised accordingly.

18. Comment #18 (II.I.13):

The title for Part D should be “Description of Waste Storage/Treatment” rather than “Process Information.” Please correct.

Response: Noted and condition is revised accordingly.

19. Comment #19 (Part II.I.19.b)

Please note a period is missing after the first citation to 401 KAR 38:150.

Response: Noted and condition is revised accordingly.

20. Comment #20 (Part II.J.7):

“does not be” should be “does not need to be”.

Response: Noted and condition is revised accordingly.

21. Comment #21 (Part II.J.13.a):

Please note typo “KDAR” should be “KAR.”

Response: Noted and condition is revised accordingly.

22. Comment #22 (Part II.K.1.d and General):

Part E in the application is titled “C-404 Groundwater Monitoring.” Please correct in this condition and other conditions throughout the permit.

Response: Noted and condition is revised accordingly.

23. Comment #23 (Part II.K.2.b):

Replace "insure" with “ensure,” since insure implies financial obligation.

Response: Noted and condition is revised accordingly.

24. Comment #24 (II.K.3.d):

There is an extra period before “Based”

Response: Noted and condition is revised accordingly.

25. Comment #25 (Part II.K.3.g):

Please note typo "statistically significant evidence of increases contamination" should be "statistically significant evidence of contamination".

Response: Noted and condition is revised accordingly.

26. Comment #26 (Part II.K.3.j):

Please note typo "Manger's"

Response: Noted and condition is revised accordingly.

27. Comment #27 (Part II.K.3.u):

Please note clarification suggested to change the heading from "SW-846 Sample Methods" to "SW-846 Analytical Methods."

Response: This correction is to Part II.K.3.t as well as to Part II.K.3.u. Noted and condition is revised accordingly.

28. Comment #28 (Part III.B):

Section III.B subsections are mislabeled.

Response: There are no subsections in Section III.B. This comment seems to be in error and no revisions will be made to the permit.

29. Comment #29 (Part III.D):

Please note typo "401 KAR 30:010 Section 1" should be "401 KAR 30:005 Section 1."

Response: Noted and condition is revised accordingly.

30. Comment #30 (Part III.D.16):

Please note that there is no section 5(3) of 401 KAR 31:030. Suggest deleting "(3)."

Response: Noted and condition is revised accordingly.

31. Comment #31 (Part III.D.18):

Please note typo "but it not limited..." should be "but is not limited...."

Response: Noted and condition is revised accordingly.

32. Comment #32 (Part III.D.22.):

Please note typo "discreet" should be "discrete."

Response: Noted and condition is revised accordingly.

33. Comment #33 (Part III.D.22):

Please note typo "...over time or any action that are..." should be "...over time or any actions that are."

Response: Noted and condition is revised accordingly.

- 34. Comment #34 (Part III.D.36):**
Suggest replacing “upon” with “following” to allow the Division flexibility to delay permit modification for RODs.
Response: Noted and condition is revised accordingly.
- 35. Comment #35 (Part III.D.38):**
Please note typo “...may be considered and equivalent” should be “...may be considered an equivalent.”
Response: Noted and condition is revised accordingly.
- 36. Comment #36 (Part III.D.40):**
Last sentence in “SWMU” definition is incorrect—the word systemic should be changed back to “systematic.” Also “tank is” should be “tanks.”
Response: Noted and condition is revised accordingly.
- 37. Comment #37 (Part III.E.10.a):**
Please note typo missing close parenthesis after “posts.”
Response: Noted and condition is revised accordingly.
- 38. Comment #38 (Part III.E.12):**
Please note typo “301 KAR” should be “401 KAR.”
Response: Noted and condition is revised accordingly.
- 39. Comment #39 (Part III.E.13):**
Please note typo “on later than” should be “no later than.”
Response: Noted and condition is revised accordingly.
- 40. Comment #40 (Part IV.B.2.a):**
Please note typo “units(s)” should be simply “unit(s),” since one unit or multiple units may be discovered at a time.
Response: Noted and condition is revised accordingly.
- 41. Comment #41 (Part IV.B.2.c):**
Please note typo “(supply and available plans/drawings)” should be “(supply any available plans/drawings)”
Response: Noted and condition is revised accordingly.
- 42. Comment #42 (Part IV.C.1):**
Please note typo “releases(s)” should be simply “release(s)” since one release or multiple releases may be discovered at a time.
Response: Noted and condition is revised accordingly.

43. Comment #43 (Part IV.F.2):

Please note typo “schedule in the approve Removal Notification” should be “schedule in the approved Removal Notification.”

Response: Noted and condition is revised accordingly.

44. Comment #44 (Part IV.F.3):

Please note type “Work Plan for any SMWU or” should be “Work Plan for any SWMU or...”

Response: Noted and condition is revised accordingly.

45. Comment #45 (Part IV.F.10.e):

The words “all relevant” were removed from the previous permit condition when referring to laboratory/monitoring data. Suggest inserting “all relevant” in front of laboratory/monitoring data because in certain circumstances there may be a large body of historical data available; however, not deemed to be relevant to the particular action.

Response: Noted and condition is revised accordingly.

46. Comment #46 (Part IV.H.1):

Please note that “alternative” should be “alternative(s),” because it likely would be a list of remedial actions evaluated for the CMS.

Response: Noted and condition is revised accordingly.

47. Comment #47 (Part IV.G.1):

Please note typo “MCS” should be “CMS.”

Response: Noted and condition is revised accordingly.

48. Comment #48 (Part IV.G.6):

Please note typo “Based on preliminary result and” should be “Based on preliminary results and...”

Response: Noted and condition is revised accordingly.

49. Comment #49 (Part IV.I.1):

Please note typo “determines” should be “determination.” Also “as outlines in Appendix D” should be “as outlined in Appendix E.”

Response: Noted and condition is revised accordingly.

50. Comment #50 (Part IV.I.2):

Please note typo “Appendix D” should be “Appendix E.”

Response: Noted and condition is revised accordingly.

51. Comment #51 (Part IV.J.):

Please note the effective date for 401 KAR 34:040, Section 7 is 6/13/2007 rather than 8/21/2008.

Response: Noted and condition is revised accordingly.

52. Comment #52 (Part IV.L):

Please note typo “statues” should be “statute.”

Response: Noted and condition is revised accordingly.

53. Comment #53 (Part V.C.6):

The Title for Part K is “Waste Minimization” rather than “Waste Minimization Program”.

Response: Noted and condition is revised accordingly.

54. Comment #54 (Part VII.B.4):

Please note typos "det3ected" should be “detected”; “All leaks must be repaired an in compliance not later than” should be “All leaks must be repaired and in compliance no later than....”

Response: Noted and condition is revised accordingly.

55. Comment #55 (Part VII.C.4):

Please note typo “401 KAR 38:281” should be “401 KAR 34:281.”

Response: Noted and condition is revised accordingly.

56. Comment #56 (Appendix A-1; Page A-1):

This appendix is missing SWMU 3; however, it may not have been included as requiring an RFI, since it is permitted. Please verify that it was omitted intentionally.

Response: SWMU 3 was intentionally left off Appendix A-1 (SWMUs Requiring an RFI). Appendix A-3 (SWMUs which are permitted “Treatment, Storage or Disposal” Units) lists the seven permitted units. None of these units (except SWMUs 9 and 10 – where investigation and remediation activities are limited to groundwater issues) are listed in Appendix A-1. No change to the permit is made as a result of this comment.

57. Comment #57 (Appendix A-3; Page A-16):

SWMU 3 is not footnoted in the same manner as in the Site Management Plan (SMP). Footnote from SMP reads as follows, “SWMU 3 was issued only a post-closure permit, was not permitted for construction and operation, and was not an engineered hazardous waste landfill.” Please change for consistency.

Response: Agree. Footnote #10 on page 4-9 of the D2/R1 2015 SMP was replicated in Appendix A-3.

- 58.** Comment #58 (A-4a and A-4-b; Pages A-17 and A-18):
As commented previously, these tables can be reserved or deleted.
Response: See Substantive/Technical Comment Response #52.
- 59.** Comment #59 (Appendix A-5; Page A-22):
Title is inconsistent with SMP—should read “Groundwater Operable Unit–Dissolved-Phase Plumes.”
Response: Agree, condition is revised accordingly.
- 60.** Comment #60 (Appendix A-5; Page A-23):
Title is inconsistent with SMP—should read “GDP Groundwater Sources OU–C-400 Residuals and Remaining Sources.”
Response: Agree, condition is revised accordingly.
- 61.** Comment #61 (Appendix A-5; Paged A-26):
Title is inconsistent with SMP—should read “GDP Decontamination and Decommissioning Operable Unit–GDP D&D.”
Response: Agree, condition is revised accordingly.
- 62.** Comment #62 (Appendix A-5; Page A-27):
Title is inconsistent with SMP—should read “GDP Decontamination and Decommissioning Operable Unit–DUF₆.”
Response: Agree, condition is revised accordingly.
- 63.** Comment #63 (Appendix A-5; Page A-28):
Title is inconsistent with SMP—should read “Soils Operable Unit–Soils Remedial.”
Response: Agree, condition is revised accordingly.
- 64.** Comment #64 (Appendix A-5; Page A-29):
SWMU 226–OS-15 no longer is listed in the Soils OU. It is listed only in Soils and Slabs OU. Please correct.
Response: Agree, condition is revised accordingly.
- 65.** Comment #65 (Appendix A-5; page A-31):
Description for SWMU 67 should read as follows: “C-375-E4 Effluent Ditch (C-340 Ditch) (KPDES 011)”–not KPDES 001.
Response: Agree, condition is revised accordingly.
- 66.** Comment #66 (Appendix A-5; Page A-32):
Title is inconsistent with SMP—should read “Final Comprehensive Site Operable Unit.”
Response: Agree, condition is revised accordingly.

67. Comment #67 (Appendix A-5; Page A-34):

The SMP lists a SWMU/AOC of “Others” with a description of “Outfalls 07, 018, 019/20, and 526 and associated ditches.” Kentucky may have opted not to include, since there is no designated SWMU/AOC number.

Response: Correct, the “Others” line was not added to the Permit as no SWMU/AOC number exists.

68. Comment #68 (Appendix A-6; Page A-39):

SWMU 2 is missing from the list.

Response: Agree, SWMU 2 is added to Appendix A-6 (page A-39).

69. Comment #69 (Appendix A-5; Page A-34):

The SMP lists a SWMU/AOC of “Others” with a description of “Outfalls 07, 018, 019/20, and 526 and associated ditches.” Kentucky may have opted to not include since there is no designated SWMU/AOC number.

Response: See response to Comment #67.

70. Comment #70 (Appendix A tables):

Upon approval of the 2015 SMP, please incorporate the changes from Appendix 4 into the appropriate tables in Appendix A of this permit.

Response: Agree, Appendix A is revised to reflect the status of SMWUs in the approved D2/R1 2015 Site Management Plan.

End of Division’s Response to Editorial / Clarification Comments

TABLE OF CONTENTS

	<u>Page</u>	
Part I	LEGAL AUTHORITY	1
Part II	SPECIFIC CONDITIONS	
II.A.	Facility Description	
II.A.1.	Permittee and Permitted Activities	2
II.A.2.	Permitted Facilities	2
II.A.3.	List of Hazardous Wastes Permitted for Treatment and Storage	2
II.A.4.	Hazardous Waste Treatment	2
II.B.	General Facility Standards	
II.B.1.	Specific Restriction	4
II.B.2.	Emergency Response	4
II.B.3.	Specific Waste Analysis	4
II.B.4.	Security	4
II.B.5.	General Inspection Requirements	5
II.B.6.	Personnel Training	5
II.B.7.	Requirements for Ignitable, Reactive or Incompatible Wastes	6
II.C.	Preparedness and Prevention	
II.C.1.	Design and Operation of Facility	7
II.C.2.	Equipment Required	7
II.C.3.	Testing and Maintenance of Equipment	7
II.C.4.	Access to Communication or Alarm System	7
II.C.5.	Required Aisle Space	8
II.C.6.	Arrangement with Local Authorities	8
II.D.	Contingency Plan and Emergency Response	
II.D.1.	Implementation of Contingency Plan	8
II.D.2.	Copies of the Contingency Plan	8
II.D.3.	Amendment of the Contingency Plan	9
II.D.4.	Emergency Coordinator	9
II.E.	Manifest System	
II.E.1.	Use of the Manifest	9
II.E.2.	Manifest Discrepancy Report	9
II.E.3.	Specific Manifest Condition	10
II.F.	Recordkeeping and Reporting	

II.F.1.	Operating Record	10
II.F.2.	Availability, Retention and Disposition of Records	10
II.F.3.	Records Maintenance	10
II.F.4.	Additional Reports	11
II.F.5.	Annual Report	11
II.F.6.	Hazardous Waste Assessment Return	11
II.F.7.	Spill Release Notification	12
II.F.8.	Spill Release Reporting	12
II.G.	Closure	
II.G.1.	Closure Performance Standard	12
II.G.2.	Notification of Closure	13
II.G.3.	Closure Plan and Amendment of Closure Plan	13
II.G.4.	Time Allowed for Closure	13
II.G.5.	Disposal or Decontamination of Equipment	13
II.G.6.	Certification of Closure	13
II.H.	Post-Closure	
II.H.1.	Post-Closure Requirements	14
II.H.2.	Certification	14
II.H.3.	Monitoring and Maintenance Requirements	14
II.H.4.	Post-Closure Plan	14
II.H.5.	Post-Closure Monitoring and Maintenance	14
II.H.6.	Post-Closure Use of Property	15
II.H.7.	Inspection Requirements	15
II.H.8.	Permit Modifications	15
II.I.	Container Management Practices	
II.I.1.	Container Storage	16
II.I.2.	Container Storage Capacity	16
II.I.3.	Storage of Specific Hazardous Wastes	16
II.I.4.	Restrictions Applying to the Storage of Hazardous Waste	17
II.I.5.	Storage of Non-Hazardous Wastes	17
II.I.6.	Condition of Containers	18
II.I.7.	Compatibility of Containers	18
II.I.8.	Inventory of Containers	18
II.I.9.	Closure of Containers	19
II.I.10.	Management of Containers	19
II.I.11.	Labeling of Containers	19
II.I.12.	Inspection of Containers	19
II.I.13.	Container Containment Systems	19

II.I.14.	Special Requirements	20
II.I.15.	Requirements for Storing Ignitable or Reactive Wastes	20
II.I.16.	Container Venting	20
II.I.17.	Requirements for Managing Incompatible, Ignitable or Reactive Wastes	21
II.I.18.	Requirements for Managing Containers Prior to Closure	21
II.I.19.	Air Emissions Standards for Containers	21
II.J.	Management of Hazardous Waste in Tanks	
II.J.1.	Operation of Tank Systems	22
II.J.2.	Description of Tanks	22
II.J.3.	Tank Compatibility with Wastes	22
II.J.4.	Management of Wastes in Tanks	23
II.J.5.	Tank Design, Maintenance and Operation	23
II.J.6.	Tank Inspections	24
II.J.7.	Spill Notification	24
II.J.8.	Spill Reporting Requirements	25
II.J.9.	Certification of Repairs	25
II.J.10.	Certification of Installation	25
II.J.11.	Tank Integrity Assessment	26
II.J.12.	Tank Closure Requirements	26
II.J.13.	Requirements for Storing Ignitable or Reactive Wastes	26
II.J.14.	Requirements for Managing Incompatible, Ignitable or Reactive Wastes	27
II.J.15.	Air Emission Standards for Tanks	27
II.J.16.	Regulatory Compliance	27
II.K.	C-404 Landfill Detection Monitoring Program	
II.K.1.	Well Location and Construction	27
II.K.2.	Point of Compliance	28
II.K.3.	Sampling and Analysis Procedures	30
II.K.4.	Monitoring Program and Data Evaluation	34
II.K.5.	Statistical Evaluation	35
II.K.6.	Recordkeeping, Reporting and Response	36
II.K.7.	Source Demonstration or Error in Data	38
II.K.8.	2007 Source Demonstration	38
II.K.9.	Permit Modification	39
II.K.10.	Duty of Permittee	39

Part III	STANDARD CONDITIONS	
III.A.	Effect of Permit	40
III.B.	Permit Actions	40
III.C.	Severability	40
III.D.	Definitions	
III.D.1.	Annual Removal Action Plan	41
III.D.2.	Action Memorandum	41
III.D.3.	Area of Concern	41
III.D.4.	CERCLA	41
III.D.5.	Contamination	41
III.D.6.	Corrective Action	42
III.D.7.	Corrective Measures Implementation	42
III.D.8.	Corrective Measures Study	42
III.D.9.	Days	42
III.D.10.	DOE	42
III.D.11.	Engineering Evaluation / Cost Analysis	42
III.D.12.	Extent of Contamination	43
III.D.13.	Facility	43
III.D.14.	Feasibility Study	43
III.D.15.	Final Remedial Action Report	43
III.D.16.	Hazardous Constituent	44
III.D.17.	Interim Measures	44
III.D.18.	Land Disposal	44
III.D.19.	Landfill	44
III.D.20.	Manager	44
III.D.21.	On-Site	44
III.D.22.	Operable Unit	45
III.D.23.	Operation and Maintenance (O&M Plan)	45
III.D.24.	Post-Construction Report	45
III.D.25.	Proposed Plan	45
III.D.26.	RCRA Facility Investigation	45
III.D.27.	Regulated Units	45
III.D.28.	Release	46
III.D.29.	Remedial Action	46
III.D.30.	Remedial Action Work Plan	46
III.D.31.	Remedial Design Report	46
III.D.32.	Remedial Design Work Plan	46

III.D.33.	Remedial Investigation	46
III.D.34.	Removal Action	47
III.D.35.	Removal Action Work Plan	47
III.D.36.	Record of Decision	47
III.D.37.	Site	47
III.D.38.	Site Evaluation Report	47
III.D.39.	Solid Waste	48
III.D.40.	Solid Waste Management Unit	48
III.D.41.	Unit	48
III.D.42.	Waste Area Grouping	49
III.E.	Duties and Requirements	
III.E.1.	Duty to Comply	49
III.E.2.	Duty to Reapply	49
III.E.3.	Permit Expiration	49
III.E.4.	Need to Halt or Reduce Activity Not a Defense	49
III.E.5.	Duty to Mitigate	50
III.E.6.	Proper Operation and Maintenance	50
III.E.7.	Duty to Provide Information	50
III.E.8.	Inspection and Entry	50
III.E.9.	Monitoring and Recordkeeping	51
III.E.10.	Reporting Planned Changes	52
III.E.11.	Anticipated Non-Compliance	53
III.E.12.	Transfer of Permit	53
III.E.13.	Compliance Schedule	53
III.E.14.	New Units	53
III.E.15.	Sampling Notification	54
III.E.16.	Two Hour Reporting	54
III.E.17.	Other Non-Compliance	55
III.E.18.	Permit Modification	55
III.E.19.	Other Information	56
III.E.20.	Signatory Requirement	56
III.E.21.	Revised Part A Submittal	56
III.F.	Changes to the Permit	56
III.G.	Confidential Information	56
Part IV	CORRECTIVE ACTION	
IV.A.	Applicability	
IV.A.1.	List of Solid Waste Management Units	57

IV.A.2.	Discovery of new Solid Waste Management Units	57
IV.A.3.	Corrective Actions Beyond the Property Boundary	58
IV.B.	Notification and Assessment Requirements for Newly Identified SWMUs and AOCs	
IV.B.1.	Notification of Discovery	58
IV.B.2.	Submittal of a SMWUs Assessment Report	58
IV.C.	Notification Requirements for Newly Discovered Releases at Previously Identified SWMUs and AOCs	
IV.C.1.	Notification of Discovery	59
IV.C.2.	Requires Further investigation Determination	59
IV.D.	Confirmatory Sampling (CS)	
IV.D.1.	Confirmatory Sampling Work Plan Submittal	59
IV.D.2.	Confirmatory Sampling Work Plan Approval	60
IV.D.3.	Confirmatory Sampling Work Plan Implementation	60
IV.D.4.	Confirmatory Sampling Work Plan Report	60
IV.D.5.	RCRA Facility Investigation Work Plan	60
IV.E.	RCRA Facility Investigation (RFI)	
IV.E.1.	RCRA Facility Investigation Submittal	61
IV.E.2.	RCRA Facility Investigation Requirements	61
IV.E.3.	RCRA Facility Investigation Approval	61
IV.E.4.	RCRA Facility Investigation Implementation	62
IV.E.5.	RCRA Facility Investigation Progress Reports	62
IV.E.6.	RCRA Facility Investigation Report	63
IV.E.7.	RCRA Facility Investigation Report Specifications	63
IV.F.	Interim Measures	
IV.F.1.	Interim Measures Work Plan Determination	64
IV.F.2.	Interim Measures Work Plan Public Comments	64
IV.F.3.	Interim Measures Work Plan Submittal	64
IV.F.4.	Interim Measures Work Plan Implementation	65
IV.F.5.	Interim Measures Work Plan Approval	65
IV.F.6.	Interim Measures Work Plan Implementation	65
IV.F.7.	Interim Measures Work Plan Notification of Changes	66
IV.F.8.	Interim Measures Work Plan Approval	66
IV.F.9.	Interim Measures Work Plan Progress Reports	66
IV.F.10.	Interim Measures Work Plan Final Report	66
IV.G.	Corrective Measures Study	
IV.G.1.	Corrective Measures Study (CMS) Submittal	67

IV.G.2.	Corrective Measures Study (CMS) Approval	67
IV.G.3.	Corrective Measures Study (CMS) Implementation	68
IV.G.4.	Corrective Measures Study (CMS) Report	68
IV.G.5.	Corrective Measures Study (CMS) Report Approval	68
IV.G.6.	Additional Remedy Evaluation	68
IV.H.	Remedy Approval and Permit Modification	
IV.H.1.	Remedy Selection	69
IV.H.2.	Permit Modification Initiation	69
IV.I.	Modification of the Corrective Action Schedule of Compliance	
IV.I.1.	Initiation of Modifications	69
IV.I.2.	Finalization of Modifications	69
IV.I.3.	Modification Not Constituting a Reissuance	69
IV.I.4.	Class I Modifications	70
IV.J.	Imminent Hazards	
IV.J.1.	Notification	70
IV.J.2.	Reporting	70
IV.K.	Work Plan and Report Requirements	
IV.K.1.	Remedial Design Report Submittal	70
IV.K.2.	Remedial Action Work Plan Submittal	71
IV.K.3.	Post-Construction Report Submittal	71
IV.K.4.	Operations and Maintenance Plan Submittal	71
IV.K.5.	Final Remediation Report Submittal	71
IV.K.6.	Approval and Implementation	71
IV.K.7.	Extensions	71
IV.K.8.	No Longer Satisfies Requirements	72
IV.K.9.	Signature and Certification	72
IV.K.10.	Report Submittal Requirements	72
IV.L.	Approval / Disapproval of Submittals	72
IV.	APPENDICES	
A	Solid Waste Management Unit (SWMU) Summary	A-1 to A-37
B	RCRA Facility Investigation (RFI) Workplan Outline	B-1 to B-15
C.	Corrective Measures Study (CMS) Outline	C-1 to C-11
D.	Schedule of Compliance	D-1 to D-3
E.	Modification of the Corrective Action Schedule of Compliance	E-1 to E-2
F.	Records of Decision (ROD) for Operable Units	
F-1	ROD for Interim Remedial Action of the Northwest Plume	1 – 58

F-2	ROD for Interim Action Source Control at the North-South Diversion Ditch	1 – 42
F-3	ROD for Interim Remedial Action at the Northeast Plume	1 – 52
F-4	ROD for Interim Remedial Action at SWMUs 2 and 3 of Waste Area Group 22	1 – 49
F-5	ROD for Waste Area Group 17	1 – 18
F-6	ROD for Waste Area Groups 1 and 7	1 – 69
F-7	ROD for Remedial Action at SWMU 91 of Waste Area Group 27	1 – 36
F-8	ROD for Interim Remedial Action at the North-South Diversion Ditch	1 – 137
F-9	ROD for Interim Remedial Action for the Groundwater Operable Unit for the VOC Contamination at the C-400 Cleaning Building	1 – 68
F-10	ROD for the Interim Remedial Action of the Northwest Plume – Explanation of Significant Differences	1 – 25
G.	Referenced Sections of the Federal Facility Agreement	
G-1	Section IV	28 – 34
G-2	Section XXV	111 – 120
G-3	Section XL	142 – 147
Part V	WASTE MINIMIZATION	
V.A.	General Restrictions	73
V.B.	Recordkeeping Requirements	73
V.C.	Objectives	
V.C.1.	General Documentation	73
V.C.2.	Specific Documentation	74
V.C.3.	Waste Minimization Assessment	74
V.C.4.	Waste Minimization Cost Documentation	74
V.C.5.	Waste Minimization Technologies and Updates	75
V.C.6.	Waste Minimization Program Evaluation	75
Part VI	LAND DISPOSAL RESTRICTIONS	
VI.A.	General Restrictions	76
VI.B.	Prohibitions and Treatment Standards	
VI.B.1.	General Facility Standards	76
VI.B.2.	Specific Facility Standards	76

Part VII	ORGANIC AIR EMISSION STANDARDS	
	VII.A. Subpart AA	
	VII.A.1. Process Vents	77
	VII.A.2. Compliance	77
	VII.A.3. Exemptions	77
	VII.A.4. Addition of Equipment	77
	VII.B. Subpart BB	
	VII.B.1. Equipment Leaks	77
	VII.B.2. Compliance	78
	VII.B.3. Limitations	78
	VII.B.4. Monitoring	78
	VII.B.5. Inspections	78
	VII.B.6. General Recordkeeping	78
	VII.B.7. Specific Recordkeeping	79
	VII.B.8. Exemptions	79
	VII.B.9. Semiannual Reporting	79
	VII.C. Subpart CC	
	VII.C.1. Air Emission Standards	79
	VII.C.2. Compliance	80
	VII.C.3. Exemptions	80
	VII.C.4. Addition of Equipment	80
Part VIII	REFERENCED ATTACHMENTS	81
	VIII.A. Part A Permit Application (Part A)	
	VIII.B. Facility Description (Part B)	
	VIII.C. Waste Analysis Plan (Part C)	
	VIII.D. Facility Process Information (Part D)	
	VIII.E. Groundwater Monitoring and Corrective Action (Part E)	
	VIII.F. Procedures to Prevent Hazards (Part F)	
	VIII.G. Contingency Plan (Part G)	
	VIII.H. Personnel Training (Part H)	
	VIII.I. Closure Plan, Post-closure Plans and Financial Requirements (Part I)	
	VIII.J. Other Federal and State Environmental Laws (Part J)	
	VIII.K. Waste Minimization (Part K)	
	VIII.L. Owner/Operator Certification (Part K)	
	VIII.M. Subpart AA (Part M)	
	VIII.N. Subpart BB (Part N)	
	VIII.O. Subpart CC (Part O)	

PART I
LEGAL AUTHORITY

Pursuant to the Environmental Protection Law, as amended (KRS Chapter 224) and attendant regulations promulgated thereunder by the Kentucky Energy and Environment Cabinet (hereinafter referred to as the “Cabinet”), in the Kentucky Administrative Regulations title 401, a permit is issued to the United States Department of Energy’s Paducah Site (Paducah Gaseous Diffusion Plant) and Fluor Federal Services, Inc. at 5501 Hobbs Road, Kevil, Kentucky 42053 for treatment, storage, corrective action and closure and post-closure of hazardous waste at latitude 37° 6’41.95” and longitude 88° 48’46.09” W (#KY8-890-008-982). Based on the following statute: [KRS 224:46-530(1)(g)] effective 7/15/1986.

The Permittee shall comply with all terms and conditions of the permit. This permit consists of the conditions set forth in Part II (Specific Conditions), Part III (Standard Conditions), Part IV (Corrective Action), Part V (Waste Minimization), Part VI (Land Disposal Restrictions), Part VII (RCRA Organic Air Emissions Standards for Process Vents and Equipment Leaks), Part VIII (Referenced Attachments) and the applicable waste management regulations. Applicable regulations are those which are in effect on the date of issuance and also prior to the modification, revocation or reissuance of this permit. Based on the following statute/regulation: [KRS 224.46-530(1)(g)] effective 7/15/1986 and [401 KAR 38:030, Section 3] effective 6/13/2007.

This permit is based on the assumption that the information in the permit renewal application submitted on May 30, 2014 is accurate and that the facility will be operated as specified in the renewal application and this permit. Any inaccuracies found in this information could lead to the termination or modification of this permit and potential enforcement action. The Permittee shall inform the Manager of any deviation from or changes in the information in the application which would affect the Permittee’s ability to comply with the applicable regulations or permit conditions. Based on the following regulations: [401 KAR 40:040, Section 1] effective 12/2/1983; [401 KAR 38:030, Section 1] effective 6/13/2007; and [401 KAR 38:040, Section 4] effective 8/21/2008.

This renewal permit was issued on July 24, 2015 (effective August 23, 2015) and shall remain in effect for a duration of ten years until the specified expiration, unless revoked and reissued or terminated. Based on the following regulations: [401 KAR 38:040, Sections 2 and 4] effective 8/21/2008; [401 KAR 38:050, Section 2] effective 6/13/2007 and [401 KAR 40:050, Section 1] effective 12/2/1983.

PART II
SPECIFIC CONDITIONS

II.A. FACILITY DESCRIPTION

II.A.1 Permittee and Permitted Activities

This permit is issued to the U. S. Department of Energy and Fluor Federal Services, Inc. (hereinafter referred to as the “Permittee”) for treatment and storage of hazardous waste; post-closure care and corrective action at 5501 Hobbs Road, Kevil, Kentucky 42053. Storage takes place in four (4) tanks (in C-733) and containers as defined in 401 KAR 31:005 effective 6/13/2007. Based on the following regulation: [401 KAR 34:010, Section 1] effective 6/13/2007.

II.A.2. Permitted Facilities

The following is a summary of the hazardous waste management storage and treatment facilities the Permittee is permitted to operate at the facility. Based on the following statute: [KRS 224.46-530(1)(g)] effective 7/15/1986

C-733 Hazardous Waste Storage and Treatment Facility

C-746-Q Hazardous Waste Storage and Treatment Facility

C-752-A Hazardous Waste Storage and Treatment Facility

II.A.3. List of Hazardous Wastes Permitted for Treatment and Storage

The hazardous wastes which may be treated and stored at this facility are listed in Part C, Table 1. Each of these hazardous wastes shall be managed as specified within this permit. Based on the following statute: [KRS 224.46-530(1)(g)] effective 7/15/1986

II.A.4. Hazardous Waste Treatment

II.A.4.a The Permittee may treat hazardous waste by neutralization, precipitation, oxidation, reduction, stabilization or a combination thereof at the C-752-A Hazardous Waste Storage and Treatment Facility, and the C-746-Q Hazardous Waste Storage and Treatment Facility in accordance with the requirements listed in this paragraph and the procedures outlined in Part D (Description of Waste Storage/Treatment) which is incorporated as part of this permit. Based on the following regulation(s): [401 KAR 34:180] effective 6/13/2007 and [401 KAR 34:190] effective 6/13/2007.

- II.A.4.b The Permittee may treat hazardous waste by absorption and decanting at the C-752-A Hazardous Waste Storage and Treatment Facility, the C-733 Hazardous Waste Storage and Treatment Facility and the C-746-Q Hazardous Waste Storage and Treatment Facility in accordance with the requirements listed in this paragraph and the procedures outlined in Part D (Description of Waste Storage/Treatment) which is incorporated as part of this permit.
- II.A.4.c The Permittee may treat hazardous debris by macro-encapsulation at the C-752-A Hazardous Waste Storage and Treatment Facility in accordance with the requirements listed in this paragraph, and the procedures outlined in Part D (Description of Waste Storage/Treatment) which is incorporated as part of this permit. Upon approval of any treatment plan by the Hazardous Waste Branch Manager (hereinafter referred to as the “Manager”), the Permittee may treat hazardous waste at the C-752-A Hazardous Waste Storage and Treatment Facility by macro-encapsulation, or may treat hazardous debris or hazardous wastes by macro-encapsulation at the C-733 Hazardous Waste Storage and Treatment Facility and the C-746-Q Hazardous Waste Storage and Treatment Facility.
- II.A.4.d The Permittee may treat hazardous debris by macro-encapsulation at the C-752-A Hazardous Waste Storage and Treatment Facility in accordance with the requirements listed in this paragraph, and the procedures outlined in Part D (Description of Waste Storage/Treatment) which is incorporated as part of this permit. Upon approval of a treatment plan by the Manager, the Permittee may treat hazardous waste by macro-encapsulation at the C-752-A Hazardous Waste Storage and Treatment Facility, or may treat hazardous debris or hazardous wastes by macro-encapsulation at the C-746-Q Hazardous Waste Storage and Treatment Facility.
- II.A.4.e The Permittee may treat fluorescent/miscellaneous lamps (mercury D009, lead D008, cadmium D006 and chromium D007) for volume reduction. Treatment may take place in the C-746-Q Hazardous Waste Storage and Treatment Facility in accordance with Part D (Description of Waste Storage/Treatment) which is incorporated as part of this permit.

II.B GENERAL FACILITY STANDARDS

II.B.1. Specific Restriction

The Permittee shall not accept any hazardous wastes generated from off-site, except for: 1) waste generated as a result of environmental restoration/management activities (e.g. corrective action, removal action, remedial action, investigations and/or monitoring) that are associated with releases or potential releases from the PGDP and 2) residuals generated from the treatment or analysis of PGDP waste.

II.B.2. Emergency Response

The Permittee shall be responsible for all wastes that are stored in the storage areas listed in this permit. In the event of a release or other emergency, the Permittee will be responsible for ensuring that the proper response is taken pursuant to Section II.D.

II.B.3. Specific Waste Analysis

The Permittee shall comply with all requirements set forth under the regulation(s) specified in this paragraph and Part C (Waste Analysis Plan) that is incorporated into this permit. Based on the following regulations: [401 KAR 38:090, Section 2(3)] effective 6/13/2007.and [401 KAR 34:020, Section 4] effective 6/13/2007.

II.B.4. Security

The Permittee shall comply with all requirements set forth under the regulation(s) specified in this paragraph and Part F (Procedures to Prevent Hazards) that is incorporated into this permit. The Permittee shall also:

II.B.4.a Maintain security, which monitors and controls entry to the facility twenty-four (24) hours a day.

II.B.4.b Maintain gates and fences around the hazardous waste facility in good operating condition at all times.

II.B.4.c Maintain signs at the entrance to the facility and other locations that are legible from twenty-five (25) feet from any approach to this active portion and read: DANGER – Unauthorized Personnel – Keep Out”. Based on the following regulation(s): [401 KAR 34:020, Section 5] effective 6/13/2007.

II.B.5. General Inspection Requirements

II.B.5.a The Permittee shall comply with all requirements set forth under the regulation(s) specified in this paragraph and 401 KAR Chapter 34 as applicable. The Permittee shall remedy any deterioration or malfunction discovered by an inspection in accordance with applicable regulation(s) and Part F (Procedures to Prevent Hazards) that is incorporated into this permit. The Permittee shall conduct the inspections in accordance with the Inspection Schedule included in Part F that is incorporated into this permit. Records of inspection shall be kept as required by the regulation(s) specified in this paragraph, and in addition to the above-referenced Inspection Schedule, the Permittee shall record all inspections in the inspection log format included in applicable attachment(s) to this permit. Based on the following regulation: [401 KAR 34:180, Section 5] effective 6/13/2007.

II.B.5.b At a minimum, the Permittee shall inspect the following components of the tank system once each day the system is in operation as stated in Part F (Section 3.2) of this permit as well as:

II.B.5.b.1 Aboveground portions of the tank system to detect corrosion or waste releases;

II.B.5.b.2 Data gathered from monitoring and leak detection equipment to ensure that the tank system is being operated according to its design; and

II.B.5.b.3 Construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system, to detect erosion or signs of releases of hazardous waste (e.g. wet spots, dead vegetation, etc.)

Based on the following regulations: [401 KAR 34:020, Section 6] effective 6/13/2007.; [401 KAR 34:180, Section 5] effective 6/13/2007 and [401 KAR 34:190, Section 6] effective 6/13/2007.

II.B.6. Personnel Training

The Permittee shall conduct personnel training as required by the regulation(s) specified in this paragraph and procedures outlined in Part H (Personnel Training) that is incorporated into this permit. Based on the following regulation: [401 KAR 34:020, Section 7] effective on 6/13/2007.

- II.B.6.a The Permittee shall maintain training documents and records as required by the regulation(s) specified in this paragraph. Based on the following regulation: [401 KAR 34:020, Section 7] effective 6/13/2007.
- II.B.6.b All new employees involved in hazardous waste management at the facility shall be given appropriate training and this training shall be repeated/ reviewed annually. If training takes place during a particular month, the next year the Permittee has until the end of the month or 30 days after the annual date of the previous training to complete the training. Based on the following regulations: [401 KAR 34:020, Section 7] effective 6/13/2007.
- II.B.6.c All new employees hired in the positions that involve hazardous waste management (handling, storing or shipping hazardous wastes) at the facility shall successfully complete the training required by the above condition within six (6) months of their employment and must not work in unsupervised positions until they have completed the training required by the above conditions. Based on the following regulation: [401 KAR 34:020, Section 7] effective 6/13/2007.
- II.B.6.d The Permittee shall prepare and maintain detailed job descriptions with all information required by the specified regulation(s) in this paragraph for all personnel involved in the hazardous waste treatment and storage facility operations. Based on the following regulation: [401 KAR 34:020, Section 7] effective 6/13/2007.
- II.B.7. Requirements for Ignitable, Reactive or Incompatible Wastes
- The Permittee shall utilize procedures incorporated in Part C (Waste Analysis Plan) and Part D (Description of Waste Storage/Treatment) to ensure that ignitable, reactive or incompatible wastes are managed properly and to determine ignitability, reactivity and compatibility of wastes. The Permittee must prevent accidental ignition or reaction of incompatible and/or reactive wastes. The Permittee shall not place hazardous waste in an unwashed tank or container which previously held incompatible wastes or material(s). Based on the following statute and regulations: [KRS 224.46-530(1)(g)] effective 7/15/1986; [401 KAR 34:180, Section 8] effective 6/13/2007 and [401 KAR 34:190, Sections 9 and 10] effective 6/13/2007.

II.C PREPAREDNESS AND PREVENTION

II.C.1. Design and Operation of Facility

The Permittee shall maintain and operate the facility to minimize the possibility of a fire, explosion or unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water which could threaten human health or the environment. Based on the following regulation: [401 KAR 34:030] effective 6/13/2007.

II.C.2. Equipment Required

The Permittee shall comply with all requirements set forth under the specified regulation(s) and the following:

II.C.2.a At a minimum, the Permittee shall keep all equipment at the facility as specified in the Contingency Plan (Part G).

II.C.2.b The Permittee shall maintain all emergency equipment at the location listed in the Contingency Plan.

Based on the following regulation: [401 KAR 34:030] effective 6/13/2007.

II.C.3. Testing and Maintenance of Equipment

The Permittee shall comply with all requirements set forth under the specified regulation(s) and the following: In order to ensure proper operation in time of emergency, the Permittee shall test all equipment at the facility and maintain all equipment at the facility in good working order in accordance with the specified regulation(s) in this paragraph and the inspection schedule provided in Part F (Procedures to Prevent Hazards) that is incorporated into this permit. Based on the following regulation: [401 KAR 34:030, Section 4] effective 6/13/2007.

II.C.4. Access to Communication or Alarm System

For the permitted units, the Permittee shall comply with the following: Whenever waste is being poured, mixed, spread or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or vocal contact with another employee, unless the Manager has ruled that such a device is not required under 401 KAR 34:030, Section 3 effective 6/13/2007.. If there is only one (1) employee on the premises while the facility is operating, the employee must have immediate access to a device such as an on-scene telephone, a cellular phone or a hand-held two-way radio capable of summoning external emergency assistance, unless the Manger has ruled that such a device is not required under 401 KAR 34:030, Section 3 effective 6/13/2007.. Based on the following regulation: [401 KAR 34:030, Section 5] effective 6/13/2007.

II.C.5. Required Aisle Space

The Permittee shall comply with all requirements set forth under the regulation(s) specified in this paragraph and Part F (Procedures to Prevent Hazards). The Permittee shall maintain sufficient aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control emergency equipment and decontamination equipment to any area of the facility in an emergency, unless it can be demonstrated to the Manager that aisle space is not needed for any of these purposes and such movement is not needed to respond to an emergency. Based on the following regulation: [401 KAR 34:030, Section 6] effective 6/13/2007.

II.C.6. Arrangement with Local Authorities

The Permittee shall comply with all requirements set forth under the regulation(s) specified in this paragraph and the following: The Permittee shall make the appropriate arrangements with local hospitals, fire and police departments and other appropriate agencies for emergency response service and provide current copies of the Contingency Plan to these agencies. The Permittee shall document in the operating record any refusal by any of the agencies to enter into such arrangements. Based on the following regulation: [401 KAR 34:030, Section 7] effective 6/13/2007.

II.D CONTINGENCY PLAN AND EMERGENCY RESPONSE

II.D.1. Implementation of Contingency Plan

The Permittee shall comply with all requirements set forth under the regulation(s) specified in this paragraph. The Permittee shall immediately carry out the provisions of the Contingency Plan (Part G) and follow the emergency procedures described in the specified regulation(s) whenever there is an imminent or actual emergency situation including a fire, explosion or unplanned sudden or non-sudden release of any hazardous waste or hazardous waste constituents from the facility. The Permittee must note in the operating record the time, date and details of any incident that requires implementing the Contingency Plan. The Permittee must comply with notification procedures set forth in the specified regulations(s) and as outlined in the Contingency Plan (Part G). Based on the following regulation: [401 KAR 34:040, Section 2] effective 6/13/2007.

II.D.2. Copies of the Contingency Plan

The Permittee shall comply with all requirements set forth under the regulation(s) specified in this paragraph, and in accordance with procedures specified in Part G (Contingency Plan) that is incorporated into this permit.

Current copies of the Contingency Plan shall be maintained at the facility and at all emergency response departments (i.e. fire, police and hospital) that may provide emergency services. Based on the following regulation: [401 KAR 34:040, Section 4] effective 6/13/2007.

II.D.3. Amendment of the Contingency Plan

The Permittee shall review and amend the incorporated Contingency Plan to this permit as required by the regulation(s) specified in this paragraph. The Permittee shall address the requirements on a routine basis by conducting an annual audit of the Contingency Plan and making appropriate modifications, including changes to the emergency coordinators and/or equipment lists. Upon amendment of the Contingency Plan, the Permittee shall provide copies to the local authorities previously specified in Section II.C (Preparedness and Prevention). Based on the following regulation: [401 KAR 34:040, Section 5] effective 6/13/2007.

II.D.4. Emergency Coordinator

The Permittee shall comply with all requirements set forth under the regulation(s) specified in this paragraph concerning the facility Emergency Coordinator(s). An Emergency Coordinator shall be on-site or on-call at all times. Based on the following regulation: [401 KAR 34:040, Section 6] effective 6/13/2007.

II.E MANIFEST SYSTEM

II.E.1. Use of the Manifest

The Permittee shall comply with the manifest requirements of 401 KAR 34:050, Section 2 effective 6/13/2007. A copy of the manifest shall be kept at the facility for at least three (3) years from the date of delivery of the waste.

II.E.2. Manifest Discrepancy Report

For any manifest discrepancies that cannot be resolved with the generator or transporter within 15 days of the receipt of the waste, a manifest discrepancy report will be prepared and submitted to the Manager in accordance with the specified regulation(s) in this paragraph. If a discrepancy report is deemed necessary as required by the regulation(s) in this paragraph or the incorporated Waste Analysis Plan (Part C), the Permittee shall submit such report and reject the waste on the 16th day after receipt of the waste. Based on the following regulation: [401 KAR 34:050, Section 3] effective 6/13/2007.

II.E.3. Specific Manifest Condition

The Permittee shall not accept any hazardous waste at this facility except as provided in this permit. Based on the following regulation: [401 KAR 34:050] effective 6/13/2007.

II.F RECORDKEEPING AND REPORTING

II.F.1. Operating Record

The Permittee shall comply with all requirements set forth under the regulation(s) specified in this paragraph concerning the record keeping procedures. The Permittee shall maintain records of each hazardous waste stored at the facility. Based on the following regulation: [401 KAR 34:050, Section 4] effective 6/13/2007.

II.F.2. Availability, Retention and Disposition of Records

The Permittee shall comply with all requirements set forth under 401 KAR 34:050, Section 5 effective 6/13/2007.

II.F.3. Records Maintenance

The Permittee shall maintain at the facility, until closure is completed and certified by a qualified Professional Engineer, the following documents and amendments, revision and modifications to these documents:

- II.F.3.a Operating record as required by the 401 KAR 34:050 Section 5 effective 6/13/2007.
- II.F.3.b Personnel training document and records as required by 401 KAR 34:020 Section 7 effective 6/13/2007.
- II.F.3.c Inspection schedule (including the schedules in Part F (Procedures to Prevent Hazards) as required by 401 KAR 34:020, Section 6 effective 6/13/2007.
- II.F.3.d Use of the manifest system as required by 401 KAR 34:050, Section 2 effective 6/13/2007.
- II.F.3.e Manifest Discrepancy Reports as required by 401 KAR 34:050, Sections 3 and 5 effective 6/13/2007.
- II.F.3.f Copy of the Contingency Plan (including Part G (Contingency Plan) incorporated into this permit as required by 401 KAR 34:040, Section 4 effective 6/13/2007.
- II.F.3.g Tank management documents as required by 401 KAR 34:190 effective 6/13/2007.

II.F.4. Additional Reports

The Permittee shall comply with all requirements set forth under the regulation(s) specified in this paragraph concerning any additional reports that may have to be submitted to the Manager. Additional activities that require reporting shall include releases, fires explosions, and facility closures. Based on the following regulation: [401 KAR 34:050, Section 8] effective 6/13/2007.

II.F.5. Annual Report

The Permittee shall comply with all requirements set forth under the regulation(s) specified in this paragraph. The Permittee shall provide annual reports that are due annually by the first of March on a form designated by the Manager. The Permittee shall provide an electronic transmittal of Annual Report data. The Annual Report shall include, at a minimum, the following information:

- II.F.5.a EPA identification number, name and address of facility
- II.F.5.b Calendar year covered by the report;
- II.F.5.c Description and quantity of all wastes received during the year;
- II.F.5.d Method of treatment, storage or disposal of each waste;
- II.F.5.e Information regarding transportation and the manifest, as applicable;
- II.F.5.f Description of changes in volume and toxicity achieved during the year;
- II.F.5.g Efforts taken to reduce the volume and toxicity of the waste generated; and
- II.F.5.h Signed certification.

Based on the following regulation: [401 KAR 34:050, Section 6] effective 6/13/2007.

II.F.6. Hazardous Waste Assessment Return

The Hazardous Waste Assessment Return form is due on January 1, annually. The Permittee shall be allowed to submit the completed return on or before March 1 without penalty or interest. The Manager shall calculate penalties and interest for returns submitted after March 1 based on the statutory January 1 due date. Based on the following statute: [KRS 224.46-580] effective 7/12/2006.

II.F.7. Spill Release Notification

The Permittee shall immediately notify the twenty-four (24) hour Kentucky Environmental Response telephone numbers (502) 564-2380 or (800) 928-2380 after the detection of a release and/or spill that occurs from any of the hazardous waste management units to the environment. A release of one pound or less of hazardous waste, if immediately contained and cleaned up, does not need to be reported. If the Permittee has reported the release pursuant to KRS 224.1-400, that report will satisfy the requirements of this condition. Based on the following statute: [KRS 224.1-400] effective 3/18/2005.

II.F.8. Spill Release Reporting

The Permittee shall submit a report to the Manager within 30 days of detecting a release to the environment from a regulated unit. The report shall contain the following information: Precise location of the release, specific pollutant or contaminant or hazardous substance released, concentration and quantity of the pollutant or contaminant or hazardous substance in the release, circumstances and cause of the release, likely route of migration of the release, characteristics of the surrounding environment (including soil composition, geology, hydrogeology and climate), results of any monitoring or sampling conducted in connection with the release, description of response action taken or planned; and the name, address and telephone number of the person(s) who can be contacted for additional information concerning the release. If the Permittee finds it will be impracticable to meet the 30-day reporting period, the Permittee should provide the Manager with a schedule of when the results will be available. This schedule must be provided before the required 30-day submittal period expires. Based on the following regulation: [401 KAR 34:050, Section 8] effective 6/13/2007.

II.G CLOSURE

II.G.1. Closure Performance Standard

The Permittee shall comply with all requirements of the specified regulation(s) in this condition for the following permitted units: C-733, C-752-A and C-746-Q (hereinafter “permitted units”, and close the permitted units as pursuant to the procedures outlined in the incorporated Part I “Closure Plan, Post-Closure Plans and Financial Requirements” in this Permit. Based on the following regulation: [401 KAR 34:070, Section 2] effective 6/13/2007.

II.G.2. Notification of Closure

The Permittee shall notify the Manager at least 45 days prior to the date expected for closure activities to begin, as set forth under the specified regulation(s) in this condition. Based on the following regulation: [401 KAR 34:070, Section 3] effective 6/13/2007.

II.G.3. Closure Plan and Amendment of Closure Plan

The Permittee shall amend the “Closure Plan” whenever necessary in accordance with the specified regulation(s) in this condition. Based on the following regulation: [401 KAR 34:070, Section 3] effective 6/13/2007.

II.G.4. Time Allowed for Closure

The Permittee shall comply with the specified regulation(s) in this condition. Within ninety (90) days after receiving the final volume of hazardous waste or the in the permitted unit(s), the Permittee must remove all hazardous wastes in the permitted unit(s) in accordance with the incorporated “Closure Plan”, Part I of this permit. All closure activities shall be completed as described in the attached “Closure Plan” within 180 days after received the final volume of waste, unless a longer period is approved by the Manager. Further, all equipment and the facility will be decontaminated and washing residues removed. Based on the following regulation [401 KAR 34:070, Section 4] effective 6/13/2007.

II.G.5. Disposal or Decontamination of Equipment

The Permittee shall decontaminate or dispose of all contaminated equipment, structures and soils at the permitted unit(s) as required by the specified regulation(s) in this condition and the procedures outlined in the incorporated “Closure Plan”, Part I of this permit. Based on the following regulation: [401 KAR 34:070, Section 5] effective 6/13/2007.

II.G.6. Certification of Closure

Within sixty (60) days of completion of closure of each of the permitted unit(s), the Permittee shall submit to the Manager, by registered mail, a certification that closure for the hazardous waste storage unit was performed in accordance with the specification in the incorporated “Closure Plan”, Part I of this permit. The certification shall be signed by the owner or operator and by a qualified Professional Engineer. The Professional Engineer’s certification shall be furnished to the Manager upon request in accordance with the specified regulation(s) in this permit. Based on the following regulation: [401 KAR 34:070, Section 6] effective 6/13/2007.

II.H POST-CLOSURE

II.H.1. Post-Closure Requirements

The Permittee shall provide post-closure care for the C-404 Hazardous Waste Landfill subject to the terms and conditions of this permit as described as follows: Based on the following regulation: [401 KAR 34:070, Section 8] effective 6/13/2007.

II.H.2. Certification

Within sixty (60) days of completion of the established post-closure care period for the C-404 Hazardous Waste Landfill, the Permittee must submit to the Manager, by registered mail, a certification that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specification in the incorporated "Post-Closure Plan", Part I of this permit. The certification must be signed by the owner or operator and by a qualified Professional Engineer. Documentation supporting the Professional Engineer's certification must be furnished to the Manager upon request and in accordance with the specified regulation and this permit. Based on the following regulation: [401 KAR 34:070, Section 11] effective 6/13/2007.

II.H.3. Monitoring and Maintenance Requirements

The Permittee shall perform the post-closure monitoring and maintenance in accordance with the requirements specified in the post-closure plan. Based on the following regulation: [401 KAR 34:070, Section 8] effective 6/13/2007.

II.H.4. Post-Closure Plan

The Permittee shall implement the Post-closure Plan (Part I) of this permit. All Post-closure care activities must be conducted in accordance with the provisions of the Post-closure Plan. The Permittee shall request any necessary permit modification and amend the Post-closure Plan in accordance with the provisions of the applicable regulations. Based on the following regulation: [401 KAR 34:070, Section 9] effective 6/13/2007.

II.H.5. Post-Closure Monitoring and Maintenance

II.H.5.a The Permittee shall maintain and monitor the groundwater monitoring system as applicable, and comply with all other applicable requirements during the post-closure period as set forth in the specified regulation(s). Based on the following regulation: [401 KAR 34:230, Section 4] effective 6/14/2007.

II.H.5.b The Permittee shall 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. Based on the following regulation: [401 KAR 34:230, Section 7] effective 6/13/2007.

II.H.5.c The Permittee shall continue to operate the leachate collection and removal system, if and when necessary, until leachate is no longer detected. Based on the following regulation: [401 KAR 34:230, Section 2] effective 6/13/2007.

II.H.5.d The Permittee shall prevent run-on and run-off from eroding or otherwise damaging the final cover. Based on the following regulation: [401 KAR 34:230, Section 7] effective 6/13/2007.

II.H.6 Post-Closure Use of Property

The Permittee shall not allow any post-closure use of property on or in which hazardous wastes remain after partial or final closure that disturbs the integrity of the final cover, liner(s), any other components of the containment system, or the function of the facilities' monitoring systems, unless the Manger finds that the disturbance:

II.H.6.a Is necessary to the proposed use of the property, and will not increase the potential hazard to human health and the environment;

II.H.6.b Is necessary to reduce a threat to human health or the environment.

Based on the following regulation: [401 KAR 34:070, Section 8] effective 6/13/2007.

II.H.7 Inspection Requirements

The Permittee shall comply with the general inspection requirements as specified by this paragraph. The Permittee shall inspect the landfill in accordance with the Inspection Schedule provided in the "Post-closure Plan", which is incorporated as Part I to this permit. The Permittee shall remedy any deterioration or malfunction discovered by an inspection. Inspection records shall be kept as specified by the regulation(s) in this condition. Based on the following regulation(s): [401 KAR 34:020, Section 6] effective 6/13/2007 and [KAR 34:230, Section 4] effective 6/13/2007.

II.H.8 Permit Modifications

The Permittee shall obtain a permit modification in accordance with 401 KAR 38:040, Section 3, for any additional post-closure care equipment not listed in this permit. Based on the following regulation: [401 KAR 38:040, Section 3] effective 6/13/2007.

II.I CONTAINER MANAGEMENT PRACTICES

II.I.1. Container Storage

The Permittee shall construct, operate, maintain and inspect the container storage area(s) specified in this permit and as specified under the incorporated Part D “Description of Waste Storage/Treatment”. Based on the following statute: [401 KRS 224:46-530(1)(g)] effective 7/15/1986.

II.I.2. Container Storage Capacity

The Permittee shall not exceed the total permitted container capacity specified in this permit at any given time. Based on the following statute: [401 KRS 224:46-530(1)(g)] effective 7/15/1986.

II.I.3. Storage of Specific Hazardous Wastes

The Permittee shall only store those hazardous wastes specified in this condition in the C-733, C-746-Q and C-752-A container storage areas:

<u>WASTE DESCRIPTION</u>	<u>HAZARDOUS WASTE CODE</u>
Gold Dissolver Precipitate	D006, D008, D010
Misc. flammable materials – liquids	D001, D00X, F00X, U00X
Misc. flammable materials – solids	D001, D00X, F00X, U00X
Misc. solutions exhibiting toxicity characteristics	D00X
Misc. solids exhibiting toxicity characteristics	D00X
Discarded batteries	D00X
Liquids contaminated with spent solvents	D001, F001, F002, F003, F004, F005, U00X
Solids contaminated with spent solvents	F001, F002, F003, F004, F005, U00X
Waste Oils	D006, D008, F001, F002, F003, F004, F005
Misc. materials, debris and media	D004, D005, D006, D007, D008, D009
Containing spent solvents and metals – solids	D010, D011, F001, F002, F003, F004, F005, U00X
Misc. laboratory wastes – liquids	D00X, F00X, U00X, P00X
Misc. laboratory wastes – solids	D00X, F00X, U00X, P00X
Activated Carbon	D040, F00X, U00X
Equipment rinsates / decontamination wastes	D00X, F00X, U00X

Light bulbs	D006, D007, D008, D009
Sludges / scale	D00X, F00X, U00X
Compressed Gasses	D003, D001
Fuses / Circuit Boards	D006, D008, D009, D011
Leachate	F039
Pentachlorophenol	F027

D00X: All waste codes are identified in 401 KAR 31:030

F00X: All waste codes are identified in 401 KAR 31:040, Section 2

K00X: All waste codes are identified in 401 KAR 31:040, Section 3

P00X: All waste codes are identified in 401 KAR 31:040, Section 4

U00X: All waste codes are identified in 401 KAR 31:040, Section 4

II.I.4. Restrictions Applying to the Storage of Hazardous Wastes

C-733: All waste streams (listed in the condition immediately above) may be stored in this facility. The maximum container storage capacity is 38,500 gallons.

C-746-Q: All waste streams (listed in the condition immediately above) may be stored in this facility except for D001. No ignitable wastes will be stored at C-746-Q. The maximum container storage capacity is 306,570 gallons.

C-752-A: All waste streams (listed in the condition immediately above) may be stored in this facility except for flammable wastes with a flash point < 100° F. Ignitable wastes may be stored at C-752-A with a flashpoint between 100° and 140° F. The maximum container storage capacity is 496,000 gallons.

Based on the following statute: [401 KRS 224:46-530(1)(g)] effective 7/15/1986.

II.I.5. Storage of Non-Hazardous Wastes

The Permittee may store containers of products or non-hazardous material/waste in those container storage areas, specifically identified in the condition immediately above, that meet the following requirements:

- II.I.5.a The Permittee shall conduct necessary testing and analysis in accordance with the incorporated Waste Analysis Plan, Part C in the permit, in order to ensure that materials stored in permitted container storage area(s) are compatible.
- II.I.5.b The Permittee shall ensure that any products or non-hazardous wastes stored in a permitted container storage area are counted toward the total permitted container storage volume. The Permittee shall maintain daily inventories to ensure that permitted storage capacities are not exceeded.
- II.I.5.c The Permittee shall comply with all applicable requirements of this permit while storing containers of products or non-hazardous material/waste in permitted container storage area(s).

Based on the following statute: [401 KRS 224:46-530(1)(g)] effective 7/15/1986 and [49 CFR 178.Subpart L]

II.I.6. Condition of Containers

The Permittee shall comply with all requirements of the regulation(s) specified under this paragraph to ensure that all hazardous waste containers are in good condition. If a container holding hazardous waste is not in good condition (e.g. severe rusting, apparent structural defects, physical damage) or begins to leak, the Permittee shall transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the conditions of this permit. Based on the following regulation: [401 KAR 34:180, Section 2] effective 6/13/2007.

II.I.7. Compatibility of Containers

The Permittee shall conduct necessary testing and analysis in accordance with the Waste Analysis Plan (Part C), in order to ensure that materials stored in permitted container storage area(s) are compatible. The containers used to store hazardous waste shall be made of or lined with compatible materials. Based on the following regulation: [401 KAR 34:180, Section 3] effective 6/13/2007.

II.I.8. Inventory of Containers

The Permittee shall ensure that any products or non-hazardous wastes stored in a permitted container storage area are counted toward the total permitted container storage volume. The Permittee shall maintain inventories to ensure that permitted storage capacities are not exceeded. Based on the following regulation: [401 KAR 34:180, Section 4] effective 6/13/2007.

II.I.9. Closure of Containers

The Permittee shall comply with all requirements of the specified regulation(s) to ensure that container(s) holding hazardous waste shall always be closed during storage except when it is necessary to add or remove waste. Based on the following regulation: [401 KAR 34:180, Section 4] effective 6/13/2007.

II.I.10. Management of Containers

The Permittee shall comply with all requirements of the specified regulation(s) to ensure that container(s) holding hazardous waste are not opened, handled or stored in a manner which may rupture the container or cause it to leak. Based on the following regulation: [401 KAR 34:180, Section 4] effective 6/13/2007.

II.I.11. Labeling of Containers

The Permittee shall comply with all requirements of the specified regulation(s) to ensure that container(s) holding hazardous waste shall be labeled “Hazardous Waste” upon the date that hazardous waste is first added to the container. Based on the following regulation: [401 KAR 34:180, Section 4] effective 6/13/2007.

II.I.12. Inspection of Containers

At least weekly, the Permittee shall perform inspections of the container storage area(s) and maintain the inspection forms in an operating log. Inspections shall be performed where containers are stored, looking for leaking containers and for deterioration of containers and containment system(s) caused by corrosion or other factors. Containers shall not be stacked more than two high. The Permittee shall stage/store the containers so that the labels are fully visible and easy to inspect. Based on the following regulation: [401 KAR 34:180, Section 5] effective 6/13/2007.

II.I.13. Containment Systems

The Permittee shall maintain a containment system free of cracks and gaps, and ensure that the containment system is sufficiently impervious to contain leaks, spills and accumulated precipitation. The containment system for the storage area(s) must have sufficient capacity as addressed in the “Description of Waste Storage/Treatment (Part D) and “Procedures to Prevent Hazards” (Part F) which are incorporated into this permit. Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area(s) in as timely a manner as necessary to prevent overflow of the collection system. Based on the following regulation: [401 KAR 34:180, Section 6] effective 6/13/2007.

II.I.14. Special Requirements

The Permittee shall provide and maintain containment for containers holding F020, F021, F022, F023, F026 and F027 (chlorinated dioxins, dibenzofurans and phenols) that do not contain free liquids. Based on the following regulation: [401 KAR 34:180, Section 6] effective 6/13/2007.

II.I.15. Requirements for Storing Ignitable or Reactive Wastes

When storing ignitable or reactive wastes, the Permittee shall comply with the requirements listed in this condition. Any activity that requires compliance with 401 KAR 34:020, Section 8 shall not be allowed without specific investigations and appropriate measures being taken to prevent fires and explosions. These investigations and preventative measures shall be documented and maintained in the Operating Record. Based on the following regulations: [401 KAR 34:180, Section 7] effective 6/13/2007 and [401 KAR 34:020, Section 8] effective 6/13/2007.

II.I.16. Container Venting

The Permittee may install pressure relief devices within the bungs of containers to allow venting of gasses or vapors which may cause the container to rupture or burst and present a health and safety concern. The Permittee shall maintain and inspect venting devices. All venting devices shall be fitted with appropriate filter(s) which shall remove or reduce hazardous constituents from released gasses. Pressure relief devices may be installed on the containers which store the following types of hazardous wastes and any hazardous waste containers that contain wooden pallets, oil sludge or sump sludge.

- Tri-2-ethyl hexyl phosphate (TEHP) from laboratory operations;
- UF₄ rust sludge from drum washing activities.
- Alumigold
- Acidic Wastes

Upon determination that a container may be a threat to human health or the environment due to the accumulation of compressed gasses resulting from a specific waste stream other than those referenced above, the Permittee may request the inclusion of these additional waste streams to be added to this permit. If the Permittee determines that a container poses an imminent and substantial endangerment and may rupture or burst due to an accumulation of compressed gasses, the Permittee may request oral or written approval to install a venting device on the container(s). A written approval or denial by the Director for installation of a venting device on container(s) shall follow the

Permittee request within seven (7) days. Based on the following regulation: [401 KAR 34:180, Section 10] effective 6/13/2007.

II.I.17. Requirements for Managing Incompatible, Ignitable or Reactive Wastes

II.I.17.a The Permittee shall ensure compliance with the applicable regulation(s) specified in this condition and the incorporated attachments of this permit, “Procedures to Prevent Hazards” (Part F) and “Waste Analysis Plan” (Part C) when managing incompatible, ignitable or reactive wastes at the facility. Based on the following regulation: [401 KAR 34:180, Sections 6, 7 and 8] effective 6/13/2007.

II.I.17.b The Permittee shall ensure that incompatible wastes or materials are not placed within the same container(s). The Permittee shall ensure that hazardous wastes are not placed in an unwashed container that previously held an incompatible waste or material. The Permittee shall ensure that containers holding hazardous wastes that are incompatible with other waste or materials stored nearby in other containers, piles, open tanks or surface impoundments are separated from the other materials or are protected by a dike, berm, wall or other device. Based on the following regulation effective 6/13/2007: [401 KAR 34:180, Sections 6, 7 and 8] effective 6/13/2007.

II.I.18. Requirements for Managing Containers Prior to Closure

The Permittee, at closure, shall remove all hazardous waste residues from the containment system. Remaining containers, liners, bases and soil containing or contaminated with, hazardous waste or hazardous waste residues shall be decontaminated or removed from the facility in accordance with the Closure Plan, Part I to this permit. Based on the following regulation: [401 KAR 34:180, Section 9] effective 6/13/2007.

II.I.19. Air Emissions Standards for Containers

II.I.19.a The Permittee shall manage all hazardous waste placed in a container in accordance with the applicable requirements of 401 KAR 34:281. Based on the following regulations: [401 KAR 34:180, Section 10] effective 6/13/2007 and [401 KAR 34:281] effective 6/13/2007.

II.I.19.b The Permittee shall comply with all applicable requirements of 401 KAR 34:180 and 401 KAR 38:150. Based on the following regulations: [401 KAR 34:180] effective 6/13/2007 and [401 KAR 38:150] effective 6/13/2007.

II.J MANAGEMENT OF HAZARDOUS WASTE IN TANKS

II.J.1. Operation of Tank Systems

The Permittee shall construct, operate, maintain and inspect the tank system(s) specified in this permit and as specified in the incorporated attachments of this permit (Part D – Description of Waste Storage/Treatment). Based on the following statute: [KRS 224.46-530(1)(g)] effective 7/15/1986.

II.J.2. Description of Tanks

The Permittee may store a total of twelve thousand (12,000) gallons of hazardous waste in four (4) tanks (Dimensions: 8' diameter by 11' 10" – 3,000 gallon capacity each) at C-733, pursuant to the terms of this section and as listed below. The Permittee shall not exceed the total permitted tank capacity specified in this condition at any given time.

<u>WASTE DESCRIPTION</u>	<u>HAZARDOUS WASTE CODE</u>
Misc. solutions exhibiting toxicity characteristics	D00X
Liquids contaminated with spent solvents	F001, F002, F003, F004, F005, U00X
Misc. solutions contaminated with spent solvents and metals	F001, F002, F003, F004, F005 D004, D005, D006, D007, D008 D009, D010, D011, U00X
Misc. solutions (e.g. spills and releases) that are generated at the facility subject to the provisions of the PGDP Contingency Plan (Part G)	D00X, F00X, U00X, P00X

Based on the following statute: [KRS 224.46-530(1)(g)] effective 7/15/1986.

II.J.3. Tank Compatibility with Wastes

The Permittee shall store and/or treat only those wastes which are compatible with the corrosive protection and the steel of the tanks. The Permittee is prohibited from storing or treating hazardous waste in tanks that are not identified in the condition immediately above. Based on the following statute: [KRS 224.46-530(1)(g)] effective 7/15/1986.

II.J.4. Management of Wastes in Tanks

The Permittee shall only manage those hazardous wastes specified in section II.J.2 in the specified tank system(s) identified in Part D – Description of Waste Storage/Treatment) of this permit. Based on the following statute: [KRS 224.46-530(1)(g)] effective 7/15/1986.

II.J.5. Tank Design, Maintenance and Operation

II.J.5.a The Permittee shall maintain all tanks as required by 401 KAR 34:190, Sections 2 through 5, and as specified in the attached drawings in Part D of this permit. The shell thickness shall not be allowed to be less than the minimum as specified. A tank shall be replaced, repaired or decommissioned if the minimum shell thickness is found to be less than stated in drawings found in Part D of this permit. Based on the following regulation: [401 KAR 34:190 Sections 2 through 5] effective 6/13/2007.

II.J.5.b Prior to placing a new tank system or component (i.e. tank, secondary containment, etc.) in use, the Permittee shall have a qualified Professional Engineer or an independent qualified installation inspector (either of whom are trained and experienced in the proper installation of tank systems) inspect the tank system to assess any inadequate construction or damage which occurred during installation of the tank system or components. The Permittee shall remedy all discrepancies (e.g. structural damage or inadequate construction/installation) prior to placing the tank system in use as required by the specified regulation(s) in this condition. Based on the following regulations: [401 KAR 34:190 Section 3] effective 6/13/2007.and [401 KAR 30:020 Section 10] effective 6/13/2007.

II.J.5.c The Permittee shall test all new tanks and ancillary equipment for tightness prior to placing these systems in use as required by the specified regulation(s) in this condition. If a tank system is found not to be tight, all repairs necessary to remedy the leak(s) in the system must be performed prior to the tank being placed in use. Based on the following regulations: [401 KAR 34:190 Section 3] effective 6/13/2007.and [401 KAR 30:020 Section 10] effective 6/13/2007.

II.J.5.d The Permittee shall design, construct, install and manage the tank secondary containment system(s) in accordance with the specified regulation(s) and Part D, which is incorporated as part of this

permit. Based on the following regulation: [401 KAR 34:190 Sections 4 and 5] effective 6/13/2007.

- II.J.5.e The Permittee shall prevent overfilling of tanks as required by the specified regulation(s) and according to Parts D and F of this permit. Based on the following regulation: [401 KAR 34:190 Section 5] effective 6/13/2007.

II.J.6. Tank Inspections

The Permittee shall comply with all requirements of the regulations(s) specified in this condition. The Permittee shall remedy any deterioration or malfunction discovered by an inspection. Record of inspection shall be kept as required by the specified regulation(s) and as follows:

- II.J.6.a The Inspection Schedule included in the “Procedures to Prevent Hazards”, incorporated as Part F to this permit.
- II.J.6.b In addition to the above referenced Inspection Schedule, the Permittee shall record all inspections in the inspection log format included in the referenced attachment.
- II.J.6.c At a minimum, the Permittee shall inspect the following components of the tank system at least once each operating day:
 - II.J.6.c.i Above ground portions of the tank system to detect corrosion or releases of waste;
 - II.J.6.c.ii Data gathered from monitoring and leak detection equipment to ensure that the tank system is being operated according to its design; and
 - II.J.6.c.iii Construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system, to detect erosion or signs of releases of hazardous waste (e.g. wet spots, dead vegetation, etc.).

Based on the following regulations effective 6/13/2007: [401 KAR 34:190 Section 6] effective 6/13/2007.and [401 KAR 34:020, Section 6] effective 6/13/2007.

II.J.7. Spill Notification

The Permittee shall report to the Manager within 24 hours of detection: the detection of a release when a leak or spill occurs from the tank system or secondary containment system to the environment as required by the

regulation(s) specified in this condition. A leak or spill on one pound or less of hazardous waste that is immediately contained and cleaned up, does not need to be reported as specified in the referenced regulation(s). If the Permittee has reported the release pursuant to KRS 224.01-400, this report satisfies the requirements of this condition. Based on the following regulation: [401 KAR 34:190 Section 7] effective 6/13/2007.

II.J.8. Spill Reporting Requirements

Within 30 days of detecting a release to the environment from the tank system or secondary containment system, the Permittee shall report the following information to the Manager pursuant to the specified regulation(s) in this condition:

- II.J.8.a Likely route of migration of the release;
- II.J.8.b Characteristics of the surrounding soil (including soil composition, geology, hydrogeology and climate;
- II.J.8.c Results of any monitoring or sampling conducted in connection with the release. If the Permittee finds it will be impossible to meet this time period, the Permittee should provide the Manager with a schedule of when the results will be available. This schedule must be provided before the required thirty (30) day submittal period expires;
- II.J.8.d Proximity of downgradient drinking water, surface water and populated areas and;
- II.J.8.e Description of response action taken or planned.

Based on the following regulation: [401 KAR 34:190 Section 7] effective 6/13/2007.

II.J.9. Certification of Repairs

The Permittee shall include in the operating record all certifications of major repairs to correct leaks within seven days from returning the tank system to use as required in the specified regulation(s) in this condition. Based on the following regulation: [401 KAR 34:190 Section 7] effective 6/13/2007.

II.J.10. Certification of Installation

The Permittee shall obtain, and keep on file at the facility, the written statements by those persons required to certify the design and installation of the tank system pursuant to the specified regulation(s) in this condition. Based on the following regulation: [401 KAR 34:190 Section 7] effective 6/13/2007.

II.J.11. Tank Integrity Assessment

The Permittee shall keep on file at the facility the written assessment of the integrity of the tank system as required in the specified regulation(s) in this condition. Based on the following regulation: [401 KAR 34:190 Section 7] effective 6/13/2007.

II.J.12. Tank Closure Requirements

At closure of a tank system, the Permittee shall comply with the applicable requirements of the specified regulation(s) in this condition, the incorporated “Closure Plan, Post-closure Plans and Financial Requirements (Part I) in this permit, and shall remove or decontaminate all waste residues, contaminated containment system components (for example liners), contaminated soils, and structures and equipment contaminated with waste; and manage them as hazardous waste, unless Section 4 of KAR 401 KAR 31:010 applies. Based on the following regulations: [401 KAR 34:190 Section 8] and [401 KAR 31:010 Section 4] effective 6/13/2007.

II.J.13. Requirements for Storing Ignitable or Reactive Wastes

II.J.13.a The Permittee shall not place any ignitable or reactive waste in the tank system(s) unless the procedures described in 401 KAR 34:190, Section 9 are followed. Compliance with these requirements shall be documented through Part C “Waste Analysis Plan” and Part D “Description of Waste Storage/Treatment”. Any activity that requires compliance with 401 KAR 34:020, Section 8 shall not be allowed except in accordance with Part D. The measures taken to comply shall be noted in the Operating Record required in permit condition II.F.1. Based on the following regulations: [401 KAR 34:190 Section 9] effective 6/13/2007 and [401 KAR 34:020, Section 8] effective 6/13/2007.

II.J.13.b The Permittee, where ignitable or reactive waste is stored or treated in a tank system, shall maintain a buffer zone in accordance with the requirements of the specified regulation(s) and as specified in the “Waste Analysis Plan” (Part C), “Description of Waste Storage/Treatment” (Part D) and “Procedures to Prevent Hazards” (Part F) which are incorporated and attached to this permit. Based on the following regulations: [401 KAR 34:190 Sections 9 and 10] effective 6/13/2007 and [401 KAR 30:020 Section 10] effective 6/13/2007.

II.J.14. Requirements for Managing Incompatible, Ignitable or Reactive Wastes

The Permittee, when managing incompatible wastes, shall comply with all requirements of the specified regulation(s) in this condition and the following:

II.J.14.a Incompatible wastes, or incompatible wastes and materials, shall not be placed in the same tank system unless Section 8 of 401 KAR 34:020 is complied with.

II.J.14.b Hazardous waste shall not be placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless Section 8 of 401 KAR 34:020 is complied with.

Compliance with these requirements shall be documented in accordance with “Waste Analysis Plan” (Part C) and “Procedures to Prevent Hazards” (Part F) which are incorporated into this permit. Based on the following regulations: [401 KAR 34:190, Section 10] effective 6/13/2007 and [401 KAR 34:020, Section 8] effective 6/13/2007.

II.J.15. Air Emission Standards for Tanks

The Permittee shall manage all hazardous wastes placed in a tank system in accordance with the requirements of the specified regulation(s) in this condition. Based on the following regulations: [401 KAR 34:190, Section 11] and [401 KAR 34:281] effective 6/13/2007.

II.J.16. Regulatory Compliance

The Permittee shall comply with all applicable provisions of 401 KAR 34:190 and 401 KAR 38:160. Based on the following regulations: [401 KAR 34:190] and [401 KAR 38:160] effective 6/13/2007.

II.K C-404 LANDFILL DETECTION MONITORING PROGRAM

II.K.1. Well Location and Construction

II.K.1.a The Permittee shall maintain a groundwater monitoring program for the land-based unit referred to as the C-404 Hazardous Waste Landfill. This unit was closed as a landfill in May 1986. This permit and the associated approved permit application shall replace any and all groundwater monitoring requirements approved in the closure plan. The C-404 Hazardous Waste Landfill is in a Detection Monitoring Program. This is the only unit subject to the groundwater requirements specified. Based on the following regulation: [401 KAR 34:060, Section 9] effective 6/13/2007.

II.K.1.b The Permittee shall maintain a groundwater monitoring system to comply with the requirements of this permit. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.

II.K.1.c The Permittee shall maintain a groundwater monitoring system for the uppermost aquifer and the Upper Continental Recharge System (UCRS) that complies with the requirements of the following regulation: [401 KAR 34:060, Sections 6 and 8] effective 6/13/2007.

II.K.1.d The Permittee shall maintain the groundwater wells listed below at the locations identified in Figure 3 of the incorporated Part E “C-404 Groundwater Monitoring” of this permit.

<u>Upper RGA</u>	<u>UCRS</u>	<u>Upper RGA</u>	<u>UCRS</u>
MW-84	MW-85	MW-93	MW-94
MW-87	MW-88	MW-420	
MW-90A	MW-91		

Based on the following regulations: [401 KAR 34:060, Section 8] effective 6/13/2007 and [401 KAR 36:050] effective 10/8/2008.

II.K.2. Point of Compliance

II.K.2.a The Permittee shall determine whether any concentration limits for any constituents listed in Condition II.K.3 (Sampling and Analysis Procedures) are being exceeded at any monitoring well at the point of compliance. Based on the following regulation: [401 KAR 34:060, Section 9] effective 6/13/2007.

II.K.2.b The Permittee shall ensure that the hazardous constituents identified in Part E “C-404 Groundwater Monitoring” do not exceed the concentration limits identified in Part E at or beyond the point of compliance wells during the term of this permit. Based on the following regulation: [401 KAR 34:060, Section 5] effective 6/13/2007.

II.K.2.c The point of compliance consists of the following downgradient wells identified in Condition II.K.1.d (MW-84, MW-87 and MW90A). Based on the following regulation: [401 KAR 34:060, Section 6] effective 6/13/2007.

II.K.2.d The upgradient monitoring wells shall be used to determine background concentrations given in this permit. These monitoring

wells are designated MW-93 and MW-420. Based on the following regulation: [401 KAR 34:060, Section 6] effective 6/13/2007.

II.K.2.e All wells deleted from the compliance monitoring program and sub-standard RCRA monitoring wells not in use shall be plugged and abandoned in accordance with Part E “C-404 Groundwater Monitoring” of this permit. Approval of an alternate method for well decommissioning may be approved by the Manager. Well plugging, abandonment methods and certification shall be submitted to the Manager within thirty (30) days from the date the wells are removed from the monitoring program. Based on the following regulation: [401 KAR 34:060, Sections 6 and 8] effective 6/13/2007.

II.K.2.f The Permittee shall install replacement wells for any well listed in this permit which no longer meets the requirements in 401 KAR 34:060, Section 8. All replacement wells shall be designated by the letter “A” preceding the well number. In the event that an “A” series well is deleted from the monitoring system, the replacement well shall be designated as a “B” series and follows C, D, E, etc. for any individual monitoring well which is replaced. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.

II.K.2.g The Permittee shall submit a plan to the Manager for installation of any replacement monitoring wells. The plan shall be submitted within thirty (30) days from the date the replacement well is proposed to be installed. The plan shall consist of the following items:

II.K.2.g.i Exact location(s) of each proposed monitoring well(s);

II.K.2.g.ii Methods and equipment which will be used to install the proposed monitoring wells(s);

II.K.2.g.iii Materials and construction details of each monitoring well;

II.K.2.g.iv The proposed methods for developing newly installed wells;

II.K.2.g.v Schedules for installation and development.

- II.K.2.h The Permittee shall submit to the Manager a report of the surveyed elevation and the well construction details and specifications upon completion of any new well installation. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.
- II.K.2.i The Permittee shall monitor all wells listed in the above permit condition for the parameters and constituents listed in Part E “C-404 Groundwater Monitoring” that is included in this permit.
- II.K.2.j Background concentration shall be established from all upgradient monitoring wells listed in this permit for the constituents listed in Part E. The background data shall be based on one complete year of current data. The background concentration shall be based on data from the last four (4) sampling events. Based on the following regulations: [401 KAR 34:060, Sections 8 and 9] effective 6/13/2007.

II.K.3. Sampling and Analysis Procedures

- II.K.3.a When obtaining samples from the groundwater monitoring wells described in this permit, the Permittee shall use the techniques and procedures described in the incorporated in the “C-404 Groundwater Monitoring” (Part E) of this permit an in the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.
- II.K.3.b Protective disposable gloves shall be utilized during all groundwater sampling activities. A clean pair of gloves shall be worn at each sample location. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.
- II.K.3.c Water level measurements shall be taken in the monitoring wells prior to any purging or sample collection. The depth to groundwater measurement shall be made to an accuracy of 0.01 feet using an electronic water level indicator. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.
- II.K.3.d Water level measurements shall be made from the designated reference point at each well. The reference point shall be maintained as part of the recordkeeping requirements of this permit. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.

- II.K.3.e Wells shall be purged at rates specified in Part E until all field parameters stabilize, indicating that formation water is being evacuated. Results for the field tests shall be recorded on the groundwater sampling record. The purge water and any other water drawn from a well for field testing shall be properly disposed. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.
- II.K.3.f Samples shall be taken at an interval that assures, to the greatest extent technically feasible, that an independent sample is obtained. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.
- II.K.3.g The Manager may specify the frequencies for collecting samples and conducting statistical tests to determine statistically significant evidence of contamination in accordance with the regulation(s) specified in this condition. One (1) sample from each well (background and compliance wells) shall be collected at least semiannually during the compliance period of the unit. Based on the following regulations: [401 KAR 34:060, Sections 8 and 9] effective 6/13/2007.
- II.K.3.h Sample containers shall be composed of material(s) compatible and non-reactive with the material(s) it is to contain and meet the appropriate general performance standards as detailed in Part E. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.
- II.K.3.i If a preservative is added to a sample, it shall be noted on the sample label and in the sampling record. Samples shall be preserved in accordance with the procedures included in Part E. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.
- II.K.3.j The Permittee shall develop a field blank by filling the appropriate sample containers from the field supply of ASTM Type II organic-free water (or equivalent). This field supply water shall be the same water used for cleaning and decontamination of all equipment used for purging and sampling. Field blanks shall be collected and analyzed for each sampling event at a minimum of one (1) for every twenty (20) samples (5%) per monitoring event. Upon the Manager's approval, the Permittee may use a trip blank in lieu of a field blank. In such cases, the same procedures shall be

followed, except that the containers are to be filled in the laboratory instead of in the field. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.

- II.K.3.k The Permittee shall develop an equipment (rinse) blank in the field immediately following cleaning and decontamination procedures on any non-dedicated equipment used for purging or sampling by passing field supply ASTM Type II organic-free (or equivalent) through the non-dedicated equipment in the same procedures as a groundwater sample. Equipment blanks shall be collected and analyzed any time non-dedicated equipment is used or when new equipment is being dedicated to a well. Such blanks shall be collected at a minimum of one (1) in every twenty (20) samples (5%) per monitoring event. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.
- II.K.3.l The Permittee shall develop a trip blank prior to each sampling event. The trip blank shall consist of a sealed organic sample container filled with de-ionized, distilled, laboratory-certified ultra-pure water. With prior approval from the Division, equivalent water specifications can be used. The trip blank shall accompany the sample containers for volatile organics and be analyzed for organics identified in this permit. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.
- II.K.3.m At least one (1) duplicate sample shall be collected and analyzed according to the procedures specified in this permit each time the groundwater quality is determined at the compliance point. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.
- II.K.3.n Samples shall be withdrawn from each monitoring well listed in II.K.1 (Well Location and Construction), during each sampling event and field tested for temperature, pH, and specific conductance. Results from the field tests shall be recorded in the groundwater sampling records log and the sample properly disposed. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.
- II.K.3.o Samples shall be withdrawn in the following order:
 - II.K.3.o.i Samples to be analyzed for volatile organics;
 - II.K.3.o.ii Samples to be analyzed for total metals.

Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.

- II.K.3.p The analytical laboratory shall also report spike recovery data for each series of groundwater samples collected. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.
- II.K.3.q A groundwater sampling record shall be completed for each sample location during all groundwater monitoring events. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.
- II.K.3.r Samples shall be tracked and controlled using the chain-of-custody procedures specified in Part E. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.
- II.K.3.s Samples shall be preserved and shipped in accordance with the procedures specified in this permit. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.
- II.K.3.t Samples shall be analyzed in accordance with SW-846 “Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods”. Alternative SW-846 methods may be substituted with prior written approval from the Division. The required specific analytical methods for the above-specified constituents are identified below:

<u>HAZARDOUS CONSTITUENT</u>	<u>SW-846 ANALYTICAL METHODS</u>
Trichloroethylene	8010, 8240, 8260
Arsenic	7060, 7061, 6020
Cadmium	7130, 7131, 6010, 6020
Chromium	7130, 7131, 6010, 6020
Lead	7421, 6010, 6020
Selenium	7140, 7141, 6010, 6020
Mercury	7470, 6010, 6020

These parameters shall be analyzed in accordance with conditions outlined in this permit. Based on the following regulation: [401 KAR 30:020, Section 10] effective 6/13/2007.

II.K.3.u The following radionuclide sampling procedures have been approved:

<u>RADIONUCLIDE</u>	<u>ANALYTICAL METHOD/INSTRUMENTATION</u>
Technetium-99	Liquid Scintillation
Total Uranium	6010, 6020
Uranium-234	Alpha Spectroscopy/Gamma Spectroscopy
Uranium-235	Alpha Spectroscopy/Gamma Spectroscopy
Uranium-238	Alpha Spectroscopy/Gamma Spectroscopy

II.K.3.v The Permittee shall determine the groundwater surface elevation at each well, each time groundwater is sampled, as described in this paragraph. The Permittee shall record the surveyed elevation of the monitoring well(s) when installed to determine the groundwater elevation in accordance with this paragraph. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.

II.K.4. Monitoring Program and Data Evaluation

II.K.4.a The Permittee shall, in accordance with this condition, submit annual groundwater flow rate and direction by November 30 of each year of the post-closure period as specified in this permit. Based on the following regulation: [401 KAR 34:060, Section 9] effective 6/13/2007.

II.K.4.b The Permittee shall analyze for those indicator parameters listed in Condition II.K.3 (Sampling and Analysis Procedures) of this permit throughout the post-closure period. These determinations shall be made semi-annually, from at least one (1) sample for each monitoring well listed in the permit. Based on the following regulation: [401 KAR 34:060, Sections 8 and 9] effective 6/13/2007.

II.K.4.c The Permittee shall monitor for all hazardous constituents listed in Condition II.K.3 (Sampling and Analysis Procedures) of this permit during the compliance period. The compliance period is the number of years equal to the active life of the waste management area including any waste management activity prior to issuance of the post-closure Permit. The compliance period is forty (40) years. The compliance period began with the initial groundwater monitoring event performed on October 11, 1988 and will end on

October 11, 2028 (unless the C-404 Hazardous Waste Landfill has moved into a Corrective Action Program under 401 KAR 34:060, Section 11). Based on the following regulation: [401 KAR 34:060, Section 7] effective 6/13/2007.

II.K.5. Statistical Evaluation

- II.K.5.a The determination of groundwater quality required in this permit shall consist of calculating whether there is a statistically significant evidence of contamination for any of the constituents identified in Part E at any of the compliance wells over the background value for that constituent. The procedures outlined in Part E satisfy the requirements of 401 KAR 34:060, Section 2. Based on the following regulation: [401 KAR 34:060, Sections 8, 9 and 10] effective 6/13/2007.
- II.K.5.b The Permittee shall determine whether there is statistically significant evidence of contamination for any chemical parameter or hazardous constituent specified in Part E of this permit. Based on the following regulation: [401 KAR 34:060, Sections 8, 9 and 10] effective 6/13/2007.
- II.K.5.c In determining whether statistically significant evidence of contamination exists, the Permittee shall use the method(s) specified in 401 KAR 34:060 Section 8 and in Part E. The method(s) shall compare data collected at the compliance point(s) to a concentration limit developed in accordance with this administrative regulation. Based on the following regulation: [401 KAR 34:060, Sections 8, 9 and 10] effective 6/13/2007.
- II.K.5.d The Permittee shall determine whether there is statistically significant evidence of contamination at each monitoring well at the compliance point within a reasonable time period after completion of sampling. The Permittee must complete that statistical evaluation and provide a report to the Manager within thirty (30) days of completion of data validation. Based on the following regulations: [401 KAR 34:060, Sections 8, 9 and 10] effective 6/13/2007.

II.K.6. Recordkeeping, Reporting and Response

II.K.6.a If the Permittee determines, pursuant to the permit and this condition, that there has been a confirmed statistically significant exceedance of the background values for the constituents specified in the permit, the Permittee shall notify the Manager, in writing, within seven (7) days. The Permittee shall specify what concentration limits have been exceeded. Based on the following regulations: [401 KAR 34:060, Sections 8, 9 and 10] effective 6/13/2007.

II.K.6.b The data from the compliance wells shall be compared to the data from the upgradient/background wells to determine whether there is a statistically significant evidence of contamination. The Permittee shall utilize the statistical methods specified in Part E in evaluating groundwater monitoring data in accordance with the following regulations: [401 KAR 34:060, Sections 8, 9 and 10] effective 6/13/2007.

II.K.6.c The Permittee shall enter all monitoring, testing and analytical data obtained in the operating record. The data must include all computations, calculated means, variances and results of the statistical tests as required by this permit. Based on the following regulation: [401 KAR 34:050, Section 4] effective 6/13/2007.

II.K.6.d The Permittee shall submit the analytical and statistical results required by this permit in accordance with the schedule shown below:

<u>Sample Collection Month:</u>	<u>Results Due Date:</u>
January – March	May 30
July – September	November 30

II.K.6.e The Permittee shall record groundwater analytical data as measured and in a form necessary for the determination of statistical significance under the specified regulation in this condition during the compliance period of the facility. Based on the following regulation: [401 KAR 34:060, Section 8] effective 6/13/2007.

II.K.6.f If the Permittee determines, pursuant to Conditions II.K.3 (Sampling and Analysis Procedures) and II.K.5 (Statistical Evaluation) of this permit, that there has been a confirmed statistically significant exceedance of the background values for

the constituents specified in the permit, the Permittee shall immediately resample the groundwater in all wells identified in this permit and determine the concentration of all constituents identified in 401 KAR 34:360, Section 1, as required by 401 KAR 34:060, Sections 9 and 10. If a statistically significant exceedance is confirmed for Technetium-99 or Total Uranium in any well identified in II.K.1 (Well Location and Construction) of this permit, the Permittee shall immediately resample the groundwater in all wells for Technetium-99, Uranium-234, Uranium-235 and Uranium-238. Based on the following regulations: [401 KAR 34:060, Sections 9 and 10] effective 6/13/2007 and [401 KAR 34:360 Section 1] effective 6/13/2007.

II.K.6.g If the Permittee determines, pursuant to Condition II.K.3 (Sampling and Analysis Procedures) and II.K.5 (Statistical Evaluation) of this permit, that there has been a confirmed statistically significant exceedance of the background values for the constituents specified in the permit, the Permittee shall establish background values for each constituent identified in the following regulation [401 KAR 34:360 Section 1] (effective 6/13/2007) found in the groundwater. The background data shall be based on the four most recent sampling events. Based on the following regulation: [401 KAR 34:060, Sections 8 and 9] effective 6/13/2007.

II.K.6.h For any 401 KAR 34:360 compounds found in the analysis, the Permittee may resample within one (1) month and repeat the analysis for those compounds detected. If the results of the second analysis confirm the initial results, then these constituents shall form the basis for compliance monitoring. If the Permittee does not resample for the compounds, the hazardous constituents found during the initial 401 KAR 34:360 analysis shall form the basis for compliance monitoring. Based on the following regulation: [401 KAR 34:060, Section 9] effective 6/13/2007.

II.K.6.i If the Permittee determines, pursuant to II.K.3 (Sampling and Analysis Procedures) and II.K.5 (Statistical Evaluation) of this permit, that there has been a confirmed statistically significant exceedance of the background values for the constituents specified in the permit, the Permittee shall submit to the Manager, within ninety (90) days, an application for a permit modification to establish a compliance monitoring program meeting the

requirements of the specified regulation(s) in this condition. If Technetium-99 or Total Uranium has a confirmed statistically significant exceedance, the Permittee shall establish a compliance monitoring program consistent with Part E (C-404 Groundwater Monitoring), Chapter 8. Based on the following regulations: [401 KAR 34:060, Sections 9 and 10] effective 6/13/2007.

II.K.6.j If the Permittee determined that there has been a confirmed statistically significant exceedance of the background values from the constituents specified in permit Condition II.K.3 (Sampling and Analysis Procedures), the Permittee shall submit to the Manager, within 180 days, an engineering feasibility plan for a corrective action program, except as provided in the regulations. This Condition is not applicable when a statistically significant exceedance has been confirmed for Technetium-99, Total Uranium, Uranium-234, Uranium-235 or Uranium 238. Based on the following regulations: [401 KAR 34:060, Sections 9 and 10] effective 6/13/2007.

II.K.7. Source Demonstration or Error in Data

The Permittee need not submit the application required under Condition II.K.6.i. nor the plan required under Condition II.K.6.j nor the resampling required under Condition II.K.6.f if the Permittee successfully demonstrates that a source other than the regulated unit caused the exceedance or that the exceedance is caused by an error in sampling, analysis, statistical evaluation or natural variation in the groundwater. In such case, the Permittee shall notify the Manager, in writing, within seven (7) days that the Permittee intends to make a demonstration, shall, within (90) days, submit a report to the Manager. This report shall demonstrate that a source other than the regulated unit caused the exceedance or that the increase resulted from error in sampling, analysis or evaluation. If warranted, the Permittee may request a permit modification in accordance with Condition II.K.8. Based on the following regulations: [401 KAR 34:060, Sections 9 and 10] effective 6/13/2007 and [401 KAR 38:040, Section 3] effective 8/21/2008.

II.K.8. 2007 Source Demonstration

The Permittee need not submit the application required under Condition II.K.6.i. nor the plan required under Condition II.K.6.j. nor the resampling required under Condition II.K.6.f. if the Permittee successfully demonstrates that the exceedance is consistent with findings in the 2007 Alternate Source Demonstration. This demonstration shall be submitted within a semi-annual report required under Condition II.K.6.d. Data from additional groundwater

monitoring wells near the unit, which are not specified in Condition II.K.1.d, may be submitted as a part of the demonstration. Based on the following regulations: [401 KAR 34:060, Sections 1, 9 and 10] effective 6/13/2007.

II.K.9. Permit Modification

II.K.9.a If the Permittee determines that the monitoring program required by this permit no longer satisfies the requirements of the regulations, the Permittee must submit an application for a permit modification to make any appropriate changes to the program which will satisfy the regulations. Based on the following regulations: [401 KAR 34:060, Sections 9 and 10] effective 6/13/2007.

II.K.9.b The Permittee shall be subject to applicable modification fees. Based on the following statute and regulation: [KRS 224.46-018] effective 7/13/1990 and [401 KAR 39:120] effective 6/14/2013.

II.K.10. Duty of Permittee

The Permittee must assure that monitoring and corrective action measures necessary to achieve compliance with the groundwater protection standard are taken during the term of this permit. Based on the following regulation: [401 KAR 34:060, Section 11] effective 6/13/2007.

PART III
STANDARD CONDITIONS

III.A. EFFECT OF PERMIT

Compliance with the terms of this permit constitutes compliance for purposes of enforcement with KRS 224 (implementing Subtitle C of the Resource Conservation and Recovery Act) except for those requirements not included in the permit which: a) Become effective by statute; b) Are promulgated under 401 KAR Chapter 37 restricting the placement of hazardous wastes in or on the land; c) Are promulgated under 401 KAR Chapter 34 regarding leak detection systems for new and replacement surface impoundments, waste pile, and landfill units, and lateral expansions of surface impoundments, waste pile, and landfill units. The leak detection system requirements include double liners, Construction Quality Assurance (CQA) programs, monitoring, action leakage rates and response action plans, and shall be implemented through the procedures of Chapter 38; or d) Are promulgated under 401 KAR 35:275, 35:280, or 35:281. Chapter 224, Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of state or local laws or regulations. In the event of non-compliance with the permit, the Permittee shall take all reasonable steps to minimize releases to the environment for any imminent and substantial endangerment to human health, welfare or the environment. Based on the following regulations: [401 KAR 38:010, Section 3 and 401 KAR 38:030, Section 1] effective 6/13/2007.

III.B. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated for causes as specified in regulation(s) effective on 6/13/2007: [401 KAR 38:040, Sections 1, 2, 3, and 4], [401 KAR 38:050, Section 2], [401 KAR 40:040, Section 1], [401 KAR 38:030, Sections 1, 2, 3, and 4] and [401 KAR 38:070 Section 1]. The filing of a request for a permit modification, revocation and reissuance, or termination or the notification of planned changes or anticipated non-compliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition. Based on the following regulation: [401 KAR 38:030, Section 1] effective 6/13/2007.

III.C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby. Based on the following regulation: [401 KAR 30:020, Section 5] effective 6/13/2007.

III.D. DEFINITIONS

For the purpose of this permit, terms used herein shall have the same meaning as those in Title 401 of Kentucky Administrative Regulations (see 401 KAR Chapters 38, 34 and 30), unless this permit specifically provides otherwise; where terms are not otherwise defined, the meaning associated with such terms shall be as defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term. Based on the following regulations: [401 KAR 30:005 Section 1] effective 6/13/2007, [401 KAR 34:005] effective 8/21/2008 and [401 KAR 38:005] effective 8/21/2008.

III.D.1. “Annual Removal Action Plan”

“Annual Removal Action Plan” for the purpose of this permit shall mean the plan that describes the removal actions performed during the previous fiscal year. This plan shall meet the Interim Monitoring reporting provisions of Part IV of this permit.

III.D.2. “Action Memorandum”

“Action Memorandum” for the purpose of this permit shall mean the decision document for time-critical and non-time-critical removal actions describing the selected response action.

III.D.3. “Area of Concern”

Area of Concern" (AOC) for purposes of this permit includes any area having a probable release of a hazardous waste or hazardous constituent, which is not from a Solid Waste Management Unit and is determined by the Manager, to pose a current or potential threat to human health or the environment. Such Areas of Concern may require investigations and remedial action in order to ensure adequate protection of human health and the environment.

III.D.4. “CERCLA”

“CERCLA” shall mean the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S. C. §§9601, et seq. as amended by the Superfund Amendments and Reauthorization Act of 1986, Pub. L. 99-499.

III.D.5. “Contamination”

“Contamination” for purposes of this permit means the degradation of naturally occurring water, air, or soil quality either directly or indirectly as a result of human activities.

III.D.6. “Corrective Action”

"Corrective action," for purposes of this permit, may include all corrective measures necessary to protect human health and the environment from all releases of hazardous waste or hazardous waste constituents from any solid waste management unit or area of concern at the facility, regardless of the time at which waste was placed in the unit.

III.D.7. “Corrective Measures Implementation”

"Corrective Measures Implementation" (CMI) for the purposes of this permit shall mean the design, construction, operation, maintenance and monitoring of selected corrective measures. The CMI shall meet the requirements of RCRA, the corrective action requirements of KRS 224 – Chapter 46, their implementing regulations, and this Permit. Corrective Measures Implementation may be achieved through the schedules and specific actions contained in a Record of Decision, as appended to this permit, or the schedules in Appendix D to Part IV – “Schedule of Compliance

III.D.8. “Corrective Measures Study”

"Corrective Measures Study" (CMS) for purposes of this permit shall mean the study or report identifying and recommending, as appropriate, specific corrective measures that will correct the release(s) identified during the RCRA Facility Investigation. For the purposes of this permit, a Feasibility Study shall be equivalent to a CMS.

III.D.9. “Days”

"Days" for purposes of this permit shall mean calendar days, unless business days are specified. Any submittal or written statement of dispute that under the terms of this Permit would be due on a Saturday, Sunday or holiday shall be due on the following business day.

III.D.10. “DOE”

"DOE" shall mean the United States Department of Energy and its authorized representatives.

III.D.11. “Engineering Evaluation / Cost Analysis”

"Engineering Evaluation / Cost Analysis" (EE/CA) for purposes of this permit shall mean the document which evaluates removal alternatives for non-time critical removal actions.

III.D.12. “Extent of contamination”

“Extent of contamination” for 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 Manager, Hazardous Waste Branch.

III.D.13. “Facility”

“Facility” for the purposes of this permit means:

III.D.13.a All contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (for example, one or more landfills, surface impoundments, or combinations of them); and

III.D.13.b For the purpose of implementing corrective action under Section 12 of 401 KAR 34:060, all contiguous property under the control of the owner or operator seeking a hazardous waste permit. This definition also applies to facilities implementing corrective action under KRS 224.46-520.

III.D.14. “Feasibility Study”

“Feasibility Study” (FS) for purposes of this permit shall mean a study to develop and evaluate options for remedial action. The FS emphasizes data analysis and is generally performed concurrently and in an interactive fashion with the remedial investigation (RI), using the data gathered during the RI. The RI data are used to define the objectives of the response action, to develop remedial action alternatives, and to undertake an initial screening and detailed analysis of the alternatives. The term also refers to the report that describes the results of the study.

III.D.15. “Final Remedial Action Report”

“Final Remedial Action Report” for purposes of this permit shall mean the report describing the remedy for an Operable Unit. The report shall be submitted after the Operations and Maintenance Period and include a Certification that the remedy is operational and functional. The Final Remedial Action Report is an element of Corrective Measures Implementation as outlined under Part IV – Corrective Action – Work Plan and Report Requirements of this permit.

III.D.16. “Hazardous constituent”

“Hazardous constituents” or “Hazardous waste constituents” for purposes of the permit means a constituent which caused the Cabinet to list the hazardous waste in 401 KAR 31:040, or a constituent listed in Section 5 of 401 KAR 31:030 (effective 6/13/2007).

III.D.17. “Interim Measures”

“Interim Measures” (IM) for purposes of this permit are actions necessary to contain, remove, mitigate or treat contamination resulting from the release of hazardous waste constituents from SWMUs in order to protect against current or potential threats to human health and the environment. For the purposes of this permit, Interim Remedial Actions or Removal Actions shall be equivalent to Interim Measures.

III.D.18. “Land Disposal”

“Land Disposal” for purposes of this permit includes, but is not limited to, any placement of hazardous waste in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation or underground mine or cave.

III.D.19. “Landfill”

“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.

III.D.20. “Manager”

“Manager” means Manager, Hazardous Waste Branch, Division of Waste Management.

III.D.21. “On-Site”

“On-Site” for the purposes of this permit means on the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection, and access is by crossing, as opposed to going along the right-of-way. Non-contiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access is also considered on-site property.

III.D.22. “Operable Unit”

“Operable Unit” (OU) for purposes of this permit shall mean a discrete action that comprises an incremental step toward comprehensively addressing site problems. This discrete portion of a remedial response manages migration; or eliminates or mitigates a release, threat of release or pathway of exposure. The cleanup of the site can be divided into a number of OUs, depending on the complexity of the problems associated with the site. OUs may address geographic portions of the site, specific site problems, or initial phases of an action, or may consist of any set of actions performed over time or any actions that are concurrent but located in different parts of the site

III.D.23. “Operation and Maintenance (O&M Plan)”

“Operation and Maintenance Plan” for purposes of this permit shall mean the plan describing the measures required to maintain the effectiveness of response actions.

III.D.24. “Post-Construction Report”

“Post-Construction Report” for purposes of this permit shall mean the report submitted upon completion of the construction phase of a Response Action. The Report shall describe the construction work completed and certification that the construction work has been completed.

III.D.25. “Proposed Plan”

“Proposed Plan” for purposes of this permit shall be the report which briefly describes the remedial alternatives analyzed, proposes a preferred remedial action alternative, and summarizes the information relied upon to select the preferred alternative. The Proposed Plan shall serve as a statement of basis for a draft permit modification to incorporate a remedy into this permit.

III.D.26. “RCRA Facility Investigation”

“RCRA Facility Investigation” (RFI) shall mean an investigation performed in accordance with this permit to gather data sufficient to adequately characterize the nature, extent and rate of migration of actual and potential hazardous waste constituent releases. Those SWMUs and AOCs requiring RFIs are identified in Appendix A of this permit. For the purposes of this permit, a Remedial Investigation shall be equivalent to an RFI.

III.D.27. “Regulated units”

“Regulated units” means hazardous waste land disposal sites or facilities, or portions of existing hazardous waste land disposal sites or facilities that continued to receive waste after January 26, 1983.

III.D.28. “Release”

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

III.D.29. “Remedial Action”

"Remedial Action" (RA) shall mean the implementation of the RA Work Plan, in accordance with the ROD, the approved Remedial Design (RD), the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and Superfund Remedial Design and RA Guidance including on-site construction, treatment processes and any other necessary tasks and shall be consistent with 42 U.S. C. Section §§ 9601 (24). For purposes of this permit the RA shall be equivalent to the CMI.

III.D.30. “Remedial Action Work Plan”

"Remedial Action Work Plan" (RAWP) for purposes of this permit shall mean the plan describing the implementation of the RA for remediation of an OU.

III.D.31. “Remedial Design Report”

"Remedial Design Report" (RD) for purposes of this permit shall mean the report which specifies the technical analysis and procedures which follow the selection of a remedy and result in a detailed set of plans and specifications for final design of the RA. In accordance with the approved RD Work Plan, Intermediate RD Reports and a Final RD Report shall be submitted for review and comment in accordance with Section XX (Review/Comment on Draft/Final Document) of the FFA. The Design shall generally be developed in phases (e.g. 30%, 60%, 90%, etc.) with Intermediate RD Reports for each primary design development/review phase.

III.D.32. “Remedial Design Work Plan”

"Remedial Design Work Plan" (RD) Work Plan for purposes of this permit shall mean the plan specifying the approach to developing the RD. This plan shall specify general content, approach and schedule for submitting the secondary Intermediate RD Report(s) and the D1 RD Report. Generally, the RD Work Plan shall include the conceptual design.

III.D.33. “Remedial Investigation”

"Remedial Investigation" (RI) for purposes of this permit shall mean an investigation conducted to adequately assess the nature and extent of the release or threat of release of hazardous substances, pollutants or contaminants, or

hazardous wastes and hazardous waste constituents; and to gather necessary data to support the corresponding baseline risk assessment and FS and shall be consistent with 40 CFR 300.5. For purposes of this permit, the RI shall be equivalent to the RFI.

III.D.34. “Removal Action”

"Removal Action" shall have the same meaning as "remove" or "removal" as defined by Section 101 (23) of CERCLA; 42 U.S.C. §§ 9601 (23). For the permit, Removal Action shall be equivalent to IM. "Non-time Critical Removal Actions" are those actions for which a planning period of six (6) months or greater is required. All other removal actions shall be defined either as time-critical or emergency actions.

III.D.35. “Removal Action Work Plan”

"Removal Action Work Plan" for purposes of this permit shall mean the plan that provides a concise description of the activities to be undertaken to comply with the requirements of the FFA and shall meet the IM Work Plan requirements outlined in Part IV of this permit. The removal work plan shall also contain, but not be limited to the following:

III.C.35.a Health and safety plan;

III.C.35.b A detailed design report (or schedule for submitting a detailed design report; and

III.C.35.c A schedule for the completion of the work to be performed.

III.D.36. “Record of Decision”

"Record of Decision" (ROD) for purposes of this permit shall mean the document issued which describes a remedial action plan for an operable unit pursuant to Section 117(b) of CERCLA, 42 U.S.C. §§ 9617 and shall be consistent with 40 CFR 300.430(f)(5). The Division shall issue a permit modification to incorporate a remedy upon concurrence with the Record of Decision.

III.D.37. “Site”

"Site" for the purposes of this permit shall mean the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the waste facility or activity

III.D.38. “Site Evaluation Report”

"Site Evaluation Report" for purposes of this permit shall mean the report submitted subsequent to CERCLA response site evaluations and if it includes the information required in a SWMU Assessment Report and Confirmatory Sampling

Report may be considered an equivalent document to a SWMU Assessment Report and Confirmatory Sampling Report.

III.D.39. “Solid Waste”

"Solid waste" means any garbage, refuse, sludge and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, (excluding coal mining wastes, coal mining by-products, refuse and overburden), agriculture operations, and from community activities, but does not include those materials including, but not limited to, sand, soil, rock, gravel or bridge debris extracted as part of a public road construction project funded wholly or in part with state funds, recovered material, special wastes as designated by KRS 224.50.760, solid or dissolved material in domestic sewage, manure, crops, crop residue, or a combination thereof which are placed on the soil for return to the soil as fertilizers or soil conditioners, or solid or dissolved material 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).

III.D.40. “Solid Waste Management Unit”

"Solid Waste Management Unit" (SWMU) for the purposes of this permit includes any discernible unit which has been used for the treatment, storage, or disposal of solid waste or hazardous waste at any time, irrespective of whether the unit is or ever was intended for the management of solid waste or hazardous waste. RCRA regulated hazardous waste management units are also SWMUs. 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 waste management activities (e.g. product or process spills). Passive leakage from chemical storage tanks and production processes is also excluded from the definition unless the leakage is routine or systematic.

III.D.41. “Unit”

A "Unit" for the purpose of this permit includes, but is not limited to any area in which waste has been placed on or in the ground, 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 facility, or recycling unit.

III.D.42. “Waste Area Grouping”

A "Waste Area Grouping" (WAG) for purposes of this permit shall mean a group of SWMUs or AOCs that are geographically contiguous, hydrologic units or SWMUs/AOCs that exhibit other common characteristics (e.g. contaminant type, remedial alternatives, etc.). DOE may consolidate SWMUs, WAGs and/or other areas into single groupings for purposes of conducting any work under this permit and with the concurrence of the Manager.

III.E. DUTIES AND REQUIREMENTS

III.E.1. Duty to Comply

The Permittee shall comply with all conditions of this permit except to the extent and for the duration that such non-compliance is authorized by an emergency permit. Any permit non-compliance constitutes a violation of KRS Chapter 224 and is grounds for enforcement action, permit termination, revocation and reissuance, modification or for denial of a permit renewal application pursuant to the specified regulation(s) in this condition. Based on the following regulation: [401 KAR 38:030, Section 1(1)] effective 6/13/2007.

III.E.2. Duty to Reapply

At least 180 days before this permit expires, the Permittee shall submit a complete application for a new permit if the Permittee wishes to continue any activity allowed under this permit pursuant to the regulation(s) specified in this condition. The Permittee shall apply for a new permit in accordance with the regulations in effect 180 days prior to the expiration of this permit. Based on the following regulations: [401 KAR 38:030, Section 3] effective 6/13/2007; [401 KAR 38:040] effective 6/13/2007; [401 KAR 38:050] effective 6/13/2007 and [401 KAR 38:040, Section 6(1)] effective 8/21/2008.

III.E.3. Permit Expiration

This Permit and all conditions herein will remain in effect beyond the permit's expiration date if the Permittee has submitted a timely, complete application and through no fault of the Permittee, the Division has not issued a new permit as pursuant to the specified regulation(s) in this condition. Based on the following regulation: [401 KAR 38:040, Section 6(1)] effective 8/21/2008.

III.E.4. Need to Halt or Reduce Activity Not A Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit. Based on the following regulation: [401 KAR 38:030] effective 6/13/2007.

III.E.5. Duty to Mitigate

The Permittee shall take all reasonable steps to minimize releases to the environment and shall carry out such measures as are reasonable to prevent any significant adverse impacts on the environment resulting from non-compliance with this permit. Based on the following regulation: [401 KAR 38:030, Section 1(4)] effective 6/13/2007.

III.E.6. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance 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 the permit. Based on the following regulation: [401 KAR 38:030, Section 1(5)] effective 6/13/2007.

III.E.7. Duty to Provide Information

The Permittee shall furnish the Manager, within a reasonable time, any information requested to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish the Manager, upon request, copies of the records kept as a requirement of this permit. Based on the following regulation: [401 KAR 38:030] effective 6/13/2007.

III.E.8. Inspection and Entry

Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow the Cabinet or an authorized representative:

III.E.8.a To enter at reasonable times the Permittee's premises where the regulated facility or activity is located or conducted; or where records must be kept under the conditions of this permit;

III.E.8.b To have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

III.E.8.c To inspect, at reasonable times, any facilities' equipment, (including monitoring and control equipment), practices or operations regulated or required under this permit;

III.E.8.d To sample or monitor, at reasonable times, any substances or parameters at any location for the purposes of assuring permit compliance or as otherwise authorized by KRS Chapter 224. Split samples and copies of analytical data will be provided to the Permittee upon request.

Based on the following regulation: [401 KAR 38:030, Section 2] effective 6/13/2007.

III.E.9. Monitoring and Recordkeeping

III.E.9.a Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain representative samples of the wastes to be analyzed must be the appropriate method from 401 KAR 31:100. Laboratory methods shall be those specified in the most recent edition of Test Methods for Evaluating Solid Waste: Physical / Chemical Methods (SW-846) or a method approved by the Manager in accordance with the specified regulation(s) in this condition. All environmental monitoring data collected pursuant to Part II and IV of this permit shall be submitted to the Manager in either written or electronic format. Sampling data shall be submitted in accordance with the schedules described in this permit. Based on the following regulation: [401 KAR 31:100] effective 6/13/2007.

III.E.9.b The Permittee shall retain records of all monitoring information, 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 (3) years from the date of the sample, measurement, report, certification or application. In addition, the Permittee shall maintain records from all groundwater monitoring wells and associated groundwater surface elevations for the active life of the facility; and for disposal facilities for the post-closure care period as well. Based on the following regulations: [401 KAR 38:030, Section 1] effective 6/13/2007; [401 KAR 38:070, Section 6] effective 6/13/2007 and [401 KAR 34:050, Section 5] effective 6/13/2007.

III.E.9.c The retention period for all records required under this permit is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the Manager. Based on the following regulation: [401 KAR 34:050, Section 5] effective 6/13/2007.

- III.E.9.d Records of monitoring information shall include:
 - III.E.9.d.i The date, exact place and time of sampling or measurements;
 - III.E.9.d.ii The individual(s), third-party laboratory or testing service that performed the sampling or measurements;
 - III.E.9.d.iii The date(s) analyses were performed;
 - III.E.9.d.iv The individual(s), third-party laboratory or testing service that performed the analysis;
 - III.E.9.d.v The analytical techniques or methods used; and
 - III.E.9.d.vi The results of such analyses including the detection limits.

Based on the following regulation: [401 KAR 34:050, Section 5] effective 6/13/2007.

III.E.10. Reporting Planned Changes

The Permittee shall give notice to the Manager as soon as possible of any planned physical alterations or additions to the facility that could affect Solid Waste Management Units or Areas of Concern at the facility. Notice shall not be required for the following activities:

- III.E.10.a Planned activities that do not have the potential to increase contamination or mobilize site contamination beyond the unit boundary (including, but not limited to, general maintenance activities inside and outside buildings, and installation of signs or fence posts).
- III.E.10.b Planned activities that would not impede the Permittee from complying with the Corrective Action Provisions of this permit.
- III.E.10.c Planned activities that do not involve modification to the approved construction designs for an existing treatment, storage and disposal (TSD) unit.
- III.E.10.d SWMUs that have been designated No Further Action, as shown in Appendix A to this Permit.
- III.E.10.e Planned activities which are part of an emergency response operation.

III.E.10.f Releases at existing SWMUs derived from normal operation of the plant that are in compliance with applicable permits or other relevant regulatory requirements.

Based on the following regulation: [401 KAR 38:030, Section 1(5)] effective 6/13/2007.

III.E.11. Anticipated Non-compliance

The Permittee shall give to the Manager advance notice of any planned change in the permitted facility or activity that may result in non-compliance with permit requirements. Based on the following regulation: [401 KAR 38:030, Section 1] effective 6/13/2007.

III.E.12. Transfer of Permit

This Permit may be transferred to a new owner or operator only if it is modified or revoked pursuant to the specified regulation(s) in this condition, in order to identify the new Permittee and incorporate such other requirements as may be necessary under KRS Chapter 224. Before transferring ownership or operator of the facility during its operating life, the Permittee shall notify the new owner or operator in writing of the requirements of 401 KAR Chapters 38 and 34 and this permit. This permit is not transferable to any person except after notice to the Director. Based on the following regulations: [401 KAR 38:040, Section 1] effective 8/21/2008; [401 KAR 38:050, Section 2] effective 6/13/2007 and [401 KAR 34:020, Section 3] effective 6/13/2007.

III.E.13. Compliance Schedule

Reports of compliance or non-compliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than fourteen (14) days following each scheduled date as required by the specified regulation(s) in this condition. Based on the following regulation: [401 KAR 38:030, Section 1] effective 6/13/2007.

III.E.14. New Units

The Permittee shall not begin treatment or storage of hazardous wastes in any new or proposed hazardous waste management unit, until the Permittee has complied with the following:

III.E.14.a The Permittee has submitted to the Manager by certified mail or hand delivery a letter signed by the Permittee and a qualified Professional Engineer stating that the hazardous waste unit(s) has(have) been constructed in accordance with this permit and/or its modification(s); and

- III.E.14.b The Permittee has received confirmation that the appropriate Cabinet personnel has inspected the newly constructed building and tanks and has determined that the newly constructed units are in compliance with the conditions of this permit; or
- III.E.14.c The Permittee has received confirmation that the Cabinet has either waived the inspection, or has within fifteen (15) days, notified the Permittee of their intention not to inspect.

Based on the following statute and regulation effective 6/13/2007: [KRS 224.46-530(1)(g)] effective 7/15/1986 and [401 KAR 38:030, Section 1] effective 6/13/2007.

III.E.15. Sampling Notification

The Permittee shall, at a minimum, provide one week advance notification to the appropriate Division field personnel or Hazardous Waste Branch Staff for any sampling event required by this permit or its effects (excluding waste characterization sampling, unless specifically requested by the Division). Notification may be submitted in either written or electronic format. Based on the following statute: [KRS 224.46-530(1)(g)] effective 7/15/1986.

III.E.16. Two Hour Reporting

The Permittee shall report to the Manager any non-compliance with the permit, which may endanger human health or the environment. Any information shall be provided orally within two (2) hours from the time the Permittee becomes aware of the circumstances. The Kentucky twenty-four (24) hour Spill Reporting numbers are (502) 564-2380 or (800) 928-2380.

- III.E.16.a Information concerning release of any hazardous wastes or hazardous waste constituents that may cause an endangerment to public drinking water supplies; and
- III.E.16.b Any information of a release or discharge of hazardous waste constituents or of a fire or explosion at the permitted facility that could threaten human health or the environment outside the facility.
- III.E.16.c The description of the occurrence and its cause shall include:
 - III.E.16.c.i Name, address, and telephone number of the owner or operator and the reporter;
 - III.E.16.c.ii Name, address, telephone number, and EPA identification number of the facility;
 - III.E.16.c.iii Date, time, and type of incident;

- III.E.16.c.iv Name, and quantity of material(s) involved;
- III.E.16.c.v The extent of injuries, if any;
- III.E.16.c.vi An assessment of actual or potential hazard to the environment and human health outside the facility when this is applicable; and
- III.E.16.c.vii Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided within five (5) days of the time the Permittee become aware of the circumstances. The written submission shall contain a description of the non-compliance and its cause; the periods of non-compliance (including exact dates and times); whether the non-compliance has been corrected; and if the non-compliance has not been corrected, the anticipated time it is expected to continue; and steps planned or taken to reduce, eliminate, and prevent reoccurrence of the non-compliance. Based on the following regulation: [401 KAR 38:030, Section 1(5)] effective 6/13/2007.

III.E.17. Other Non-Compliance

The Permittee shall report all instances of non-compliance not reported above, at the time annual reports are submitted. New discoveries of hazardous wastes may be reported in this manner, when the Permittee can establish that no potential for the release of hazardous wastes or hazardous constituents was posed due to the past management of the hazardous wastes. The reports shall contain a description of the non-compliance and its cause; the periods of non-compliance (including exact dates and times); whether the non-compliance has been corrected; and if the non-compliance has not been corrected, the anticipated time it is expected to continue; and steps planned or taken to reduce, eliminate and prevent reoccurrence of the non-compliance. The report shall also include quantities of waste(s) discovered, all applicable hazardous waste codes, and a statement that no potential for the release of hazardous constituents was posed due to past management of the hazardous wastes. Based on the following regulation: [401 KAR 38:030, Section 1] effective 6/13/2007.

III.E.18. Permit Modification

The permit may be modified pursuant to the regulation(s) specified in this condition. The Division shall modify the permit pursuant to 401 KAR 38:040 to incorporate the Corrective Action Plans and Records of Decision. Based on the following regulations: [401 KAR 38:040, Section 3] effective 8/21/2008 and [401 KAR 34:060, Section 12] effective 6/13/2007.

III.E.19. Other Information

If the Permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Cabinet, such facts or information shall be submitted (or corrected) promptly. In addition, upon request, the Permittee shall furnish to the Manager any information related to compliance with the permit. Based on the following regulations: [401 KAR 38:070, Section 7] effective 6/13/2007 and [401 KAR 38:030, Section 1] effective 6/13/2007.

III.E.20. Signatory Requirement

All reports or information required by this permit, or otherwise submitted to the Manager, shall be signed and certified by a principal executive officer, a ranking elected official, a responsible corporate officer or by a duly authorized representative of that person as referenced and defined in the specified regulation(s) in this condition. Certifications shall include the language required under the regulations specified in this condition. Based on the following regulation: [401 KAR 38:070, Section 7] effective 6/13/2007 and [401 KAR 38:030, Section 1] effective 6/13/2007.

III.E.21. Revised Part A Submittal

The Permittee shall submit a revised Part A application if the Part A information changes in conjunction with any request for modification of this Permit. In addition, a revised Part A shall be submitted to the Manager ninety (90) days prior to change in the ownership or operational control of the facility, and the Part A shall be signed and certified by the new owner or operator. Based on the following regulation: [401 KAR 38:040, Section 2] effective 8/21/2008 and [401 KAR 38:030, Section 3] effective 6/13/2007.

III.F. CHANGES TO THE PERMIT

Pursuant to 401 KAR 38:040 Sections 2 and 3, the Division may modify the permit upon promulgation of statutory or regulatory changes whose purpose is the protection of health and welfare of the citizens of the Commonwealth or their environment. Based on the following regulations: [401 KAR 38:040, Section 2] effective 6/13/2007 and [401 KAR 38:010, Section 3] effective 6/13/2007.

III.G. CONFIDENTIAL INFORMATION

The Permittee may claim confidential any information required to be submitted by this permit in accordance with procedures in the specified regulations in this condition. Based on the following regulations: [401 KAR 38:070, Section 8] effective 6/13/2007 and [400 KAR 1:060] effective 5/14/1987.

PART IV
CORRECTIVE ACTION

IV.A. APPLICABILITY

The Cabinet, DOE and EPA, Region 4 have indicated an intention in the Federal Facility Agreement for the Paducah Site (Paducah Gaseous Diffusion Plant) to coordinate DOE's CERCLA response obligations with the corrective measures required in Part IV of this permit and Kentucky's hazardous waste statutes and regulations. (Appendix G – Referenced section of the FFA is hereby incorporated into the permit). In order to facilitate consistency between the interim dates in the FFA schedules of compliance and the interim compliance dates in Part IV – Appendix D of this permit, the Manager will issue modification to the Part IV – Appendix D of this permit coincident with the Manager's approval of annual revisions to the PGDP – Site Management Plan in accordance with [401 KAR 38:040, Section 3]. Modifications to Part IV – Appendix D of this permit that establish or revise a final cleanup date for the facility will proceed in accordance with [401 KAR 38:040, Section 2]. Based on the following regulations: [401 KAR 34:060, Section 12] effective 6/13/2007 and [401 KAR 38:040] effective 8/21/2008.

IV.A.1. List of Solid Waste Management Units

A list of Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) requiring a RCRA Facility Investigation (RFI) at this facility are listed in Appendix A-1 of this permit. SWMUs requiring no further action under this permit are listed in Appendix A-2 of this permit. SWMUs identified as "treatment, storage or disposal units" are listed in Appendix A-3 of this permit. SWMUs or AOCs that have SWMU Assessment Reports Under Review by the Manager are identified in Appendix A-4 of this permit. SWMUs that have been addressed by a Record of Decision and require a five-year review are identified in Appendix A-6 of this permit. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.A.2. Discovery of new Solid Waste Management Units

The Corrective Action conditions apply to any additional SWMUs or Areas of Concern (AOCs) discovered during the course of groundwater monitoring, field investigation, environmental audits or other means. As used in this part of the permit, the terms "discover" "discovery" or "discovered" refer to the date on which the Permittee either (1) visually observes evidence of a new SWMU or AOC, (2) visually observes evidence of a previously unidentified release of hazardous constituents to the environment, or (3) receives information which suggests the presence of a new release of hazardous waste or constituents to the

environment. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.A.3. Corrective Actions Beyond the Property Boundary

The Corrective Action conditions apply to 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 Manager that, despite the Permittee's best efforts, as determined by the Branch Manager, 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. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.B. NOTIFICATION AND ASSESSMENT REQUIREMENTS FOR NEWLY IDENTIFIED SWMUS AND AOCs

IV.B.1 Notification of Discovery

The Permittee shall notify the Manager in writing, within fifteen (15) calendar days of discovery, of any additional SWMUs or AOCs that are discovered under any conditions. The notification shall include, at a minimum, the location of the units and all available information pertaining to the nature of the release (e.g. media affected, hazardous constituents released, magnitude of release, etc.). If the Manager determines that further investigations are required, the permit shall be modified. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.B.2 Submittal of a SWMU Assessment Report

The Permittee shall prepare and submit to the Manager, within ninety (90) calendar days of notification, a SWMU Assessment Report (SAR) for each new SWMU identified at the facility. At a minimum, the SAR shall provide the following information:

- IV.B.2.a Location of unit(s) on a topographic map of appropriate scale as required under 401 KAR 38:090;
- IV.B.2.b Designation of type and function of unit(s);
- IV.B.2.c General dimensions, capacities and structural description of unit(s) (supply any available plans/drawings);
- IV.B.2.d Dates that the unit(s) was operated;

- IV.B.2.e Specification of all wastes that have been managed at/in the unit(s) to the extent available (include any available data on constituents in the wastes); and
- IV.B.2.f All available information pertaining to any release of hazardous waste or hazardous constituents from such unit(s) (to include groundwater data, soil analysis, air and/or surface water data).

Based on the following regulations: [401 KAR 34:060, Section 12] effective 6/13/2007 and [401 KAR 31:170] effective 6/13/2007.

IV.C. NOTIFICATION REQUIREMENTS FOR NEWLY DISCOVERED RELEASES AT PREVIOUSLY IDENTIFIED SWMUS AND AOCs

IV.C.1 Notification of Discovery

The Permittee shall notify the Manager in writing of any newly discovered release(s) of hazardous waste or hazardous constituents from previously identified SWMUs or AOCs for which further investigations were not required within fifteen (15) days of discovery. If the Manager determines that further investigation of the SWMUs or AOCs is needed, the Permittee shall be required to prepare a plan for such investigations. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.C.2 Requires Further Investigation Determination

If the Manager determines that further investigation of the SWMUs or AOCs is needed, the Permittee shall be required to prepare a plan for such investigations. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.D. CONFIRMATORY SAMPLING (CS)

IV.D.1 Confirmatory Sampling Work Plan Submittal

The Permittee shall prepare and submit to the Manager in accordance with Appendix D or within (90) calendar days of notification by the Branch Manager that a Confirmatory Sampling (CS) Work Plan is required for any newly discovered or identified SWMUs or AOCs. The CS Work Plan shall include schedules of implementation and completion of specific actions necessary to determine whether or not a release has occurred. It shall also address applicable requirements and affected media. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.D.2 Confirmatory Sampling Work Plan Approval

The CS Work Plan shall be approved by the Manager, in writing, prior to implementation. The Manager shall specify the start date of the CS Work Plan schedule in the letter approving the CS Work Plan. If the Manager disapproves the CS Work Plan, the Branch Manager will either:

- IV.D.2.a Notify the Permittee in writing of the CS Work Plan deficiencies and specify a due date for submission of a revised CS Work Plan,
- IV.D.2.b Revise the CS Work Plan and notify the Permittee of the revisions, or;
- IV.D.2.c Conditionally approve the CS Work Plan and notify the Permittee of the conditions.

Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.D.3 Confirmatory Sampling Work Plan Implementation

The Permittee shall implement the confirmatory sampling in accordance with the CS Work Plan. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.D.4 Confirmatory Sampling Work Plan Report

The Permittee shall prepare and submit to the Manager in accordance with Appendix D – “Schedule of Compliance”, or the schedule in the approved CS Work Plan, a Confirmatory Sampling (CS) Report identifying those SWMUs or AOCs that have released hazardous waste or hazardous constituents into the environment. The CS Report shall include all data, including raw data, and a summary and analysis of the data supporting the above determination. Submittal of a CS Report may be satisfied by the submittal of a Site Evaluation Report or a Site Investigation / Risk Assessment Report. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.D.5 RCRA Facility Investigation Work Plan

Based on the results of the CS Report, the Manager will determine the need for further investigations at the SWMUs or AOCs covered in the CS Report. If the Manager determines that such investigations are needed, the Permittee shall be required to prepare a RCRA Facility Investigation Work Plan. The Manager will notify the Permittee of any no further action decision. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.E. RCRA FACILITY INVESTIGATION (RFI)

IV.E.1 RCRA Facility Investigation Submittal

The Permittee shall prepare and submit to the Manager, within one hundred eighty (180) calendar days upon notification from the Manager that a RCRA Facility Investigation (RFI) Work Plan(s) is needed or, in accordance with Appendix D to Part IV – “Schedule of Compliance”, or the time frame established in the Confirmatory Sampling Report or in the Manager’s response to the report a RFI Work Plan(s) for any of the units identified in this permit. The SWMUs and AOCs identified in Appendix A-1 of this permit, which require further investigation, have been further segregated into Operable Units (OUs). These OUs and the corresponding SMWUs and AOCs are identified in Appendix A-5 of this permit.

IV.E.2 RCRA Facility Investigation Requirements

The RFI Work Plan(s) shall meet the requirements of Appendix B to Part IV of this permit – “RCRA Facility Investigation (RFI) Work Plan Outline” as applicable. The RFI Work Plan(s) shall include schedules of implementation and completion of specific actions necessary to determine the nature and extent of releases and the potential pathways of contaminant releases to the air, land, surface water, and groundwater. The Permittee shall provide sufficient justification and/or documentation that a release is not probable if a unit or a media/pathway associated with a unit (groundwater, surface water, soil, subsurface gasses, or air) is not included in the RFI Work Plan(s). Such deletions of a unit, media or pathway from the RFI(s) are subject to the approval of the Manager. The Permittee shall provide sufficient written justification for any omissions or deviations from the minimum requirements of Appendix B to Part IV of this permit. Such omissions or deviations are subject to the approval of the Manager. In addition, the scope of the RFI Work Plan(s) shall include all investigations necessary to ensure compliance with 401 KAR 34:060, Section 12. The RFI Work Plan(s) shall also include a schedule for submitting RFI Progress Reports. Submittal of a RFI Work Plan may be satisfied by the submittal of an RI/FS Work Plan. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.E.3 RCRA Facility Investigation Approval

The RFI Work Plan(s) must be approved by the Manager, in writing, prior to implementation. The Manager shall specify the start date of the RFI Work Plan schedule in the letter approving the RFI Work Plan(s). If the Manager disapproves the RFI Work Plan(s), the Branch Manager shall either:

- IV.E.3.a Notify the Permittee, in writing, of the RFI Work Plan's deficiencies and specify a due date for submission of a revised RFI Work Plan, or
- IV.E.3.b Revise the RFI Work Plan and notify the Permittee of the revisions and the start date of the schedule within the approved RFI Work Plan, or
- IV.E.3.c Conditionally approve the RFI Work Plan and notify the Permittee of the conditions.

Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.E.4 RCRA Facility Investigation Implementation

The Permittee shall implement the RFI in accordance with the schedule in Appendix D to Part IV – “Schedule of Compliance” or the approved RFI Work Plan(s) and Appendix B to Part IV – “RCRA Facility Investigation (RFI) Work Plan Outline”, as applicable. The Permittee shall notify the Manager at least one week prior to any sampling activity where time-specific schedules have not been previously approved by the Manager. This notification may describe an ongoing nature of the sampling activity. Notification may be submitted in either written or electronic format. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.E.5 RCRA Facility Investigation Progress Reports

If the time required to conduct the RFI(s) is greater than one hundred and eighty (180) calendar days, the Permittee shall provide the Manager with semi-annual RFI Progress Reports. These reports shall be submitted to the Manager on or before April 30 and October 30. The Progress Reports may be combined with multiple projects and shall contain the following information at a minimum:

- IV.E.5.a A description of the portion of the RFI completed,
- IV.E.5.b Summaries of findings,
- IV.E.5.c Summaries of any deviations from the approved RFI Work Plan during the reporting period,
- IV.E.5.d Summaries of all contacts with local community public interest groups,
- IV.E.5.e Summaries of any problems or potential problems encountered during the reporting period,
- IV.E.5.f Actions taken to rectify problems,

- IV.E.5.g Changes in relevant personnel,
- IV.E.5.h Projected work for the next reporting period,
- IV.E.5.i Summaries of laboratory/monitoring data, etc.; and
- IV.E.5.j The presence of high levels of hazardous wastes and hazardous constituents in soils and groundwater.

Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.E.6 RCRA Facility Investigation Report

The Permittee shall prepare and submit to the Manager, Draft and Final RCRA Facility Investigation Report(s) for the investigations conducted pursuant to the RFI Work Plan(s). The Draft RFI Report(s) shall be submitted to the Manager for review in accordance with the schedule in the approved RFI Work Plan(s). The Final RFI Report(s) shall be submitted to the Manager within sixty (60) calendar days of receipt of the Manager's comments on the draft RFI Report. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.E.7 RCRA Facility Investigation Report Specifications

The RFI Report(s) shall include an analysis and summary of all required investigations of SWMUs and AOCs and their results. The summary shall describe the type and extent of contamination at the facility, including sources and migration pathways, identify all hazardous constituents present in all media and describe actual or potential receptors. The RFI Report(s) shall also describe the extent of contamination (qualitative/quantitative) in relation to background levels indicative of the area. The objective of this task shall be to ensure that the investigation data are sufficient in quality (e.g., quality assurance procedures have been followed) and quantity to describe the nature and extent of contamination, potential threat to human health and/or the environment and to support a Corrective Measures Study or Remedial Measures, if necessary. The Manager will review the Final RFI Report(s) and notify the Permittee of the need for further investigations and /or the need for a Corrective Measures Study or Remedial Measures to meet the requirements of Interim Measures. The Manager will notify the Permittee of any No Further Action decision. Any further investigative action required by the Manager shall be prepared and submitted in accordance with a schedule specified by the Manager. Submittal of an RFI Report may be satisfied by the submittal of an RI Report. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.F. INTERIM MEASURES

IV.F.1 Interim Measures Work Plan Determination

Upon notification by the Manager, the Permittee shall prepare and submit a Removal Notification for any SWMU or AOC which the Manager determines poses a current or potential threat to human health or the environment. The Removal Notification shall include SARs (as warranted) in accordance with the conditions of this permit, a description of the factors the Permittee has considered in determining if a Removal Action is appropriate. The Removal Notification shall contain adequate specificity in defining the nature, extent and duration of the proposed action to permit meaningful review and comment. The Removal Notification shall be submitted within ninety (90) calendar days of such notification and contain a schedule for submission of an Engineering Evaluation / Cost Analysis (EE/CA) to further evaluate removal alternatives. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.F.2 Interim Measures Work Plan Public Comments

In accordance with Appendix D to Part IV – “Schedule of Compliance”, or the schedule in the approved Removal Notification, the Permittee shall prepare an EE/CA to further evaluate removal alternatives. Upon approval of an EE/CA by the Manager, the Permittee shall make the Removal Notification, the EE/CA, and the Administrative Record available for public comment. Public comments will be received by the Permittee and/or the Manager. If any data, information or arguments submitted during the public comment period appear to raise substantial new questions concerning the proposed removal action, the Manager may reopen or extend the comment period. The Manager may schedule a public hearing when a significant degree of public interest or opposition to the Removal Action is found. Within thirty (30) days of the close of the public comment period, the Permittee shall submit to the Manager an Action Memorandum which responds to public comments and describes the selected Removal Action. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.F.3 Interim Measures Work Plan Submittal

In accordance with Appendix D to Part IV – “Schedule of Compliance”, or within 90 days of notification by the Manager that an IM Work Plan is required, or within 30 days of approval of an Action Memorandum, the Permittee shall prepare and submit an Interim Measures (IM) Work Plan for any SWMU or AOC that the Manager determines is necessary. Interim measures should be designed to minimize or prevent the further migration of contaminants and limit human and environmental exposure to contaminants while long-term corrective action remedies are evaluated and, if necessary, implemented. Such interim measures

may be conducted concurrently with investigations required under the terms of this permit. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.F.4 Interim Measures Work Plan Implementation

The IM Work Plan shall ensure that the interim measures are designed to mitigate any current or potential threat(s) to human health or the environment and is consistent with and integrated into any long-term solution at the facility. The IM Work Plan shall include:

- IV.F.4.a Interim measures objectives;
- IV.F.4.b Procedures for implementation (including any designs, plans or specifications);
- IV.F.4.c Schedules for implementation.

Submittal of an IM Work Plan may be satisfied by the submittal of a Removal Action Work Plan or an Interim Remedial Action Work Plan. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.F.5 Interim Measures Work Plan Approval

The IM Work Plan must be approved by the Manager, in writing, prior to implementation. The Manager will specify the start date of the IM Work Plan schedule in the letter approving the IM Work Plan. If the Manager disapproves the IM Work Plan, the Manager will either;

- IV.F.5.a Notify the Permittee, in writing, of the IM Work Plan's deficiencies and specify a due date for submission of a revised IM Work Plan, or;
- IV.F.5.b Revise the IM Work Plan and notify the Permittee of the revisions and the start date of the schedule within the approved IM Work Plan, or;
- IV.F.5.c Conditionally approve the IM Work Plan and notify the Permittee of the conditions.

Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.F.6 Interim Measures Work Plan Implementation

The Permittee shall implement interim measures in accordance with the approved IM Work Plan. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.F.7 Interim Measures Work Plan Notification of Changes

The Permittee shall give notice to the Manager as soon as possible of any planned changes, reductions or additions to the IM Work Plan. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.F.8 Interim Measures Work Plan Approval

Final approval of corrective action which is achieved through interim measures shall be in accordance with a permit modification. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.F.9 Interim Measures Work Plan Progress Reports

If the time required for completion of interim measures is greater than one year, the Permittee shall provide the Manager with semi-annual progress reports. These reports shall be submitted to the Manager on or before the 30th day of October and April of each federal fiscal year. The Progress Reports may be combined with multiple projects and shall contain the following information at a minimum:

- IV.F.9.a A description of the portion of the interim measures completed;
- IV.F.9.b Summaries of all deviation from the IM Work Plan during the reporting period;
- IV.F.9.c Summaries of all problems or potential problems encountered during the reporting period;
- IV.F.9.d Projected work for the next reporting period;
- IV.F.9.e Copies of laboratory/monitoring data.

Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.F.10 Interim Measures Work Plan Final Report

The Permittee shall prepare and submit to the Manager, within ninety (90) calendar days of completion of interim measures, an Interim Measures Report. Submittal of an IM Report may be satisfied by the submittal of a Removal Action Report, Remedial Action Report or a Post-Construction Report. The IM Report shall contain the following information at a minimum:

- IV.F.10.a A description of interim measures implemented;
- IV.F.10.b Summaries of results;
- IV.F.10.c Summaries of all problems or potential problems encountered;

IV.F.10.d Summaries of accomplishments and/or effectiveness of the interim measures; and

IV.F.10.e Copies of all relevant laboratory/monitoring data.

Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.G. CORRECTIVE MEASURES STUDY

IV.G.1 Corrective Measures Study (CMS) Submittal

The Permittee shall prepare and submit a CMS Work Plan for those units requiring a CMS in accordance with the schedule in the Final RFI Report or within one hundred and eighty (180) calendar days of notification by the Manager that a CMS is required. The CMS shall be developed to meet the requirements of Appendix C – “Corrective Measures Study Outline”, as applicable. The CMS shall include schedules of implementation and completion of specific actions necessary to complete the study. The Permittee must provide sufficient justification and/or documentation for any unit deleted from the CMS. Such deletion of a unit is subject to the approval of the Manager. Implementation of the CMS shall be conducted in accordance with the approved CMS. The Permittee shall provide sufficient written justification for any omissions or deviations from the minimum requirements of Appendix C. Such omissions or deviations are subject to the approval of the Manager. Submittal of a CMS Work Plan may be satisfied by the submittal of an RI/FS Work Plan. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.G.2 Corrective Measures Study (CMS) Approval

The Manager will either approve or disapprove, in writing, the CMS Work Plan. If the Manager disapproves the CMS Work Plan, the Manager will either:

IV.G.2.a Notify the Permittee in writing of the CMS Work Plan’s deficiencies and specify a due date for submittal of a revised CMS Work Plan, or

IV.G.2.b Revise the CMS Work Plan and notify the Permittee of the revisions and the start date of the schedule within the approved CMS Work Plan, or

IV.G.2.c Conditionally approve the CMS Work Plan and notify the Permittee of the conditions.

Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.G.3 Corrective Measures Study (CMS) Implementation

The Permittee shall begin to implement the Corrective Measures Study or the RI/FS Work Plan in accordance with the approved schedules after the Permittee has received written approval from the for the CMS. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.G.4 Corrective Measures Study (CMS) Report

The Permittee shall prepare and submit to the Manager a draft and final CMS Report for the study conducted pursuant to the approved CMS Work Plan, or in accordance with Appendix D to Part IV – “Schedule of Compliance”. The draft CMS Report shall be submitted to the Manager per the schedule approved in the CMS Work Plan. The final CMS Report shall be submitted to the Manager within sixty (60) days of receipt of the Manager’s comments on the draft CMS Report. The final CMS Report shall:

- IV.G.3.a Summarize any bench-scale or pilot tests conducted;
- IV.G.3.b Include an evaluation of each remedial alternative;
- IV.G.3.c Present all information gathered under the approved CMS Work Plan; and
- IV.G.3.d Contain adequate information to support the Manager’s decision on the recommended remedy.

Submittal of a CMS Report may be satisfied by the submittal of a Feasibility Study Report. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.G.5 Corrective Measures Study (CMS) Report Approval

If the Manager determines that the Final CMS Report does not fully satisfy the information requirements, the Manager may disapprove the Final CMS Report. If the Manager disapproved the Final CMS Report, the Manager will notify the Permittee, in writing, of deficiencies in the Final CMS Report and specify a due date for submittal of a revised Final CMS Report. The Manager will notify the Permittee of any no further action decision. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.G.6 Additional Remedy Evaluation

Based on preliminary results and the Final CMS Report, the Manager may require the Permittee to evaluate additional remedies or particular elements of one or more proposed remedies. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.H. REMEDY APPROVAL AND PERMIT MODIFICATION

IV.H.1 Remedy Selection

A remedy shall be selected from the remedial alternative(s) evaluated in the CMS. It will be based, at a minimum, on specific site conditions, existing regulations and guidance and protection of human health and the environment. The selected remedy may include any interim measures implemented. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.H.2 Permit Modification Initiation

A permit modification may be initiated by the Manager after recommendation of a remedy. This modification will serve to incorporate a final remedy into this permit. Records of Decision for final remedies are incorporated into this permit as Appendix F to Part IV of this permit – “Records of Decision for Operable Units. Based on the following regulations: [401 KAR 34:060, Section 12] effective 6/13/2007 and [401 KAR 38:040, Section 2] effective 8/21/2008.

IV.I. MODIFICATION OF THE CORRECTIVE ACTION SCHEDULE OF COMPLIANCE

IV.I.1 Initiation of Modifications

If at any time, the determination that modification of the Corrective Action Schedule of Compliance is necessary, the Manager may initiate a modification to the Corrective Action Schedule of Compliance as outlined in Appendix D to Part IV – “Modification of the Corrective Action Schedule of Compliance”. Based on the following regulations: [401 KAR 34:060, Section 12] effective 6/13/2007 and [401 KAR 38:040, Section 2] effective 6/13/2007.

IV.I.2 Finalization of Modifications

Modifications that are initiated and finalized by the Manager, in accordance with proper procedure as outlined in Appendix E to Part IV – “Modification of the Corrective Action Schedule of Compliance” shall proceed as described in 401 KAR 38:040. Based on the following regulation: [401 KAR 38:040, Section 2] effective 8/21/2008.

IV.I.3 Modifications Not Constituting a Reissuance

Modifications to the corrective action schedule will not constitute a reissuance of the permit. Based on the following regulation: [401 KAR 38:040, Section 2] effective 6/13/2007.

IV.I.4 Class I Modifications

At the discretion of the Manager, modification to the Corrective Action Schedule of Compliance (Appendix D) that are initiated by the Permittee may proceed as a Class I modification in accordance with the regulation(s) specified in this paragraph. Class I modifications (to the Corrective Action Schedule of Compliance) will be limited to changes in interim dates. Based on the following regulations: [401 KAR 38:040, Sections 2 and 3] effective 8/21/2008 and [401 KAR 38:030, Sections 3 and 4] effective 6/13/2007.

IV.J. IMMINENT HAZARDS

IV.J.1 Notification

The Permittee shall report to the Manager any potential or existing imminent hazard to public health or the environment from any release of hazardous waste or hazardous constituents. Such information shall be reported orally within two (2) hours from such time the Permittee becomes aware of the circumstances. Based on the following regulations: [401 KAR 34:060, Section 12] effective 6/13/2007; [401 KAR 34:040, Section 7] effective 6/13/2007 and [401 KAR 38:030, Section 1] effective 6/13/2007.

IV.J.2 Reporting

A written report shall also be provided to the Manager within fifteen (15) calendar days of the time the Permittee becomes aware of the circumstances. The written report shall contain:

- IV.J.2.a A description of the release and its cause;
- IV.J.2.b The period of the release;
- IV.J.2.c Whether the release has been stopped;
- IV.J.2.d If not, the anticipated time it is expected to continue; and
- IV.J.2.e Steps taken or planned to reduce, eliminate and prevent recurrence of the release.

Based on the following regulation: [401 KAR 34:040, Section 7] effective 6/13/2007.

IV.K. WORK PLAN AND REPORT REQUIREMENTS

IV.K.1 Remedial Design Report Submittal

The Permittee shall submit a Remedial Design Report in accordance with the schedules in Appendix D to Part IV "Schedule of Compliance". The Remedial Design Report is an element of Corrective Measures Implementation as outlined

under Part IV – Corrective Action – Work Plan and Report Requirements of this permit.

IV.K.2 Remedial Action Work Plan Submittal

The Permittee shall submit a Remedial Action Work Plan in accordance with the schedules in Appendix D to Part IV – “Schedule of Compliance”. The Remedial Action Work Plan is an element of Corrective Measures Implementation as outlined under Part IV – Corrective Action – Work Plan and Report Requirements of this permit.

IV.K.3 Post-Construction Report Submittal

The Permittee shall submit a Post-Construction Report in accordance with the schedules in Appendix D to Part IV – “Schedule of Compliance”. The Post-Construction Report is an element of Corrective Measures Implementation as outlined under Part IV - Corrective Action – Work Plan and Report Requirements of this permit.

Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.K.4 Operations and Maintenance Plan Submittal

The Permittee shall submit an Operations and Maintenance Plan in accordance with the schedules in Appendix D to Part IV – “Schedule of Compliance.

IV.K.5 Final Remediation Report Submittal

The Permittee shall submit a Final Remediation Report in accordance with the schedules in Appendix D to Part IV – “Schedule of Compliance”. The Final Remediation Report is an element of Corrective Measures Implementation as outlined under Part IV – Corrective Action – Work Plan and Report Requirements of this permit.

IV.K.6 Approval and Implementation

All work plans and schedules shall be subject to approval by the Manager prior to implementation to assure that such work plans and schedules are consistent with the requirements of this permit and with applicable regulations and guidance. The Permittee shall revise all submittals and schedules as specified by the Manager. Upon approval, the Permittee shall implement all work plans and schedules as written. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.K.7 Extensions

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

Manager based on the Permittee's demonstration that sufficient justification for the extension exists. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.K.8 Amendment of Reports or Work Plans

If the Permittee or the Manager at any time determines that the SWMU Assessment Report (SAR) information, the Confirmatory Sampling (CS) Work Plan, or the RCRA Facility Investigation (RFI) Work Plan(s) no longer satisfy the requirements of this permit for prior or continuing releases of hazardous waste or hazardous constituents from Solid Waste Management Units and/or Areas of Concern, the Permittee must submit the amended SAR, CS Work Plan(s), or RFI Work Plan to the Manager within ninety (90) calendar days of such determination or from receiving notification from the Manager. Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.K.9 Signature and Certification

All reports shall be signed and certified in accordance with applicable requirements. Based on the following regulation: [401 KAR 38:070, Section 7] effective 6/13/2007.

IV.K.10 Report Submittal Requirements

Copies of all reports and work plans shall be provided by the Permittee to the Manager at the following address:

Manager, Hazardous Waste Branch
Division of Waste Management
200 Fair Oaks Lane, 2nd Floor
Frankfort, Kentucky 40601

Based on the following regulation: [401 KAR 34:060, Section 12] effective 6/13/2007.

IV.L. APPROVAL / DISAPPROVAL OF SUBMITTALS

The Manager will review the work plans, reports, schedules and other documents ("submittals") which require the Manager's approval in accordance with the conditions of this permit. The Manager will notify the Permittee, in writing, of any submittal that is disapproved, and the basis thereof. In the event the Permittee disagrees, in whole or in part, with the Manager's decision of a submittal or disapproval of any revised submittal required by the permit, the Permittee has the right to seek a hearing. Based on the following statute: [KRS 224.10-420(2)] effective 7/14/1992.

PART V
WASTE MINIMIZATION

V.A. GENERAL RESTRICTIONS

Pursuant to the specified regulation(s) in this condition, the Permittee must certify, no less often than annually, that:

- V.A.1 The Permittee has a program in place to reduce the volume and toxicity of hazardous waste generated to the degree determined by the Permittee to be economically practicable;
- V.A.2 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.

Based on the following regulation: [401 KAR 34:050, Section 4] effective 6/13/2007.

V.B. RECORDKEEPING REQUIREMENTS

The Permittee shall maintain copies of this certification in the facility operating record as required by the regulation(s) specified in this condition. Based on the following regulation: [401 KAR 34:050, Section 5] effective 6/13/2007.

V.C. OBJECTIVES

V.C.1 General Documentation

The Permittee shall maintain and update the following documents:

- V.C.1.a A policy dated and signed, by management, describing management support for waste minimization and for implementation of a waste minimization plan.
- V.C.1.b A description of employee awareness and training programs designed to involve employees in waste minimization planning and implementation to the maximum extent feasible; and
- V.C.1.c A description specifying how a waste minimization plan has been incorporated into management practices so as to ensure ongoing efforts with respect to product design, capital planning, production operations and maintenance.

Based on the following statute and regulations: [KRS 224.46-530(1)(g)] effective 7/15/1986 and [401 KAR 34:050, Sections 4 and 5] effective 6/13/2007.

V.C.2 Specific Documentation

The Permittee shall identify and document types, amounts and hazardous constituents of waste streams with the source and date of generation. Based on the following statute and regulation: [KRS 224.46-530(1)(g)] effective 7/15/1986 and [401 KAR 34:050, Sections 4 and 5] effective 6/13/2007.

V.C.3 Waste Minimization Assessment

The Permittee shall conduct a periodic waste minimization assessment as follows:

V.C.3.a The Permittee shall identify and document all points in a process where materials can be prevented from becoming a waste or can be recycled.

V.C.3.b The Permittee shall identify the potential for waste reduction and recycling techniques applicable to each waste generated at the facility, with a cost estimate for capital investment and implementation.

V.C.3.c The Permittee shall update and maintain a description of technically and economically practical waste reduction/recycling options to be implemented at the facility and a planned schedule for implementation.

V.C.3.d The Permittee shall prepare and maintain an adequate assessment for specific performance goals, preferably quantitative, for the source reduction of waste(s) by stream. Whenever possible, goals should be stated as weight of waste generated per standard unit of production, as defined by the generator.

Based on the following statute and regulations: [KRS 224.46-530(1)(g)] effective 7/15/1986 and [401 KAR 34:050, Section 4] effective 6/13/2007.

V.C.4 Waste Minimization Cost Documentation

The Permittee, on an annual basis, shall update a Cost Allocation System specific to the operation of the facility with respect to waste reduction. The following shall be addressed in preparation of the document:

V.C.4.a Identification of waste management costs for each waste, factoring in liability, transportation, recordkeeping, personnel, pollution control, treatment, disposal, compliance and oversight costs to the extent feasible.

V.C.4.b Description of how each department at the facility is held accountable for the wastes they generate.

V.C.4.c The comparison of waste management costs with costs of potential reduction and recycling techniques applicable to each waste at the facility.

Based on the following statute and regulation: [KRS 224.46-530(1)(g)] effective 7/15/1986 and [401 KAR 34:050, Section 4] effective 6/13/2007.

V.C.5 Waste Minimization Technologies and Updates

The Permittee shall update and maintain at the facility a description of efforts to seek and exchange technical information on waste minimization from, as applicable, other parts of the company, other firms, trade associations, technical assistance programs and professional consultants. Based on the following statute and regulation: [KRS 224.46-530(1)(g)] effective 7/15/1986 and [401 KAR 34:050, Section 4] effective 6/13/2007.

V.C.6 Waste Minimization Program Evaluation

The Permittee, on an annual basis, shall evaluate the waste minimization program specified in “Waste Minimization” (Part K), which is incorporated in this permit. The evaluation, at a minimum, shall contain the following:

- V.C.6.a Description of types and amounts of hazardous waste reduced or recycled.
- V.C.6.b Analysis and quantification of progress made relative to each performance goal established and each reduction technique to be implemented.
- V.C.6.c Amendments to waste minimization plan and explanation.
- V.C.6.d Explanation and documentation of reduction efforts completed or in progress before development of the waste minimization plan.
- V.C.6.e Explanation and documentation regarding impediments to hazardous waste reduction specific to the individual facility.

Based on the following statute and regulations: [KRS 224.46-530(1)(g)] effective 7/15/1986 and [401 KAR 34:050, Section 4] effective 6/13/2007.

PART VI
LAND DISPOSAL RESTRICTIONS

VI.A. GENERAL RESTRICTIONS

401 KAR Chapter 37 identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances in which an otherwise prohibited waste may continue to be placed on or in a land treatment, storage or disposal unit. The Permittee shall maintain compliance with the requirements of 401 KAR Chapter 37 unless the provisions of the September 1997 Agreed Order between DOE and the Commonwealth, File No. DWM 30059-042, are applicable. Where the Permittee has applied for an extension, waiver or variance under 401 KAR Chapter 37, the Permittee shall comply with all restrictions on land disposal under this Part once the effective date for the waste has been reached pending final approval of such application. Based on the following regulations: [401 KAR 37:005, 37:010, 37:020, 37:030, 37:040, 37:050, 37:060 and 37:110] effective 6/13/2007.

VI.B. PROHIBITIONS AND TREATMENT STANDARDS

VI.B.1 General Facility Standards

A restricted waste identified in 401 KAR Chapter 37 may not be placed in a land disposal unit without further treatment unless the requirements of 401 KAR Chapter 37 are met.

VI.B.2 Specific Facility Standards

The storage of hazardous wastes restricted from land disposal under 401 KAR Chapter 37 is prohibited unless the requirements of 401 KAR Chapter 37 are met or the provisions of the September 1997 Agreed Order between DOE and the Commonwealth (File # DWM-30039-042) are applicable.

PART VII
ORGANIC AIR EMISSION STANDARDS

VII.A. SUBPART AA

VII.A.1. Process Vents

On June 13, 2007, the Cabinet promulgated Organic Air Emission Standards (401 KAR 34:275) for hazardous waste treatment, storage and disposal facilities. This regulation contains emission standards for process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction and air or steam stripping operations that process hazardous waste with an annual average total organic concentration of at least ten (10) parts per million (ppm) by weight. Based on the following regulation: [401 KAR 34:275] effective 6/13/2007.

VII.A.2. Compliance

The Permittee shall comply with the applicable requirements of 401 KAR 34:275. Based on the following regulation: [401 KAR 34:275] effective 6/13/2007.

VII.A.3. Exemptions

The Permittee currently does not have any hazardous waste management units that are regulated under the specified regulation in this condition. Based on the following regulation: [401 KAR 34:275] effective 6/13/2007.

VII.A.4. Addition of Equipment

Prior to construction of any equipment with process vents subject to the requirements of 401 KAR 34:275, the Permittee shall supply the specific Part B information required pursuant to 401 KAR 38:040, and shall obtain a permit modification in accordance with the requirements of 401 KAR 38:040. Based on the following regulations: [401 KAR 34:275] effective 6/13/2007 and [401 KAR 38:040] effective 8/21/2008.

VII.B. SUBPART BB

VII.B.1. Equipment Leaks

On June 13, 2007, Air Emission Standards for Equipment Leaks (401 KAR 34:280) for hazardous waste treatment, storage and disposal facilities were promulgated. This regulation contains emission standards that address leaks from specific equipment (i.e. pumps, valves, compressors, etc.) that contains or contacts hazardous waste that has an organic concentration of at least ten (10) percent by weight. Based on the following regulation: [401 KAR 34:280] effective 6/13/2007.

VII.B.2. Compliance

The Permittee shall comply with the applicable requirements of 401 KAR 34.280. Based on the following regulation: [401 KAR 34:280] effective 6/13/2007.

VII.B.3. Limitations

The Permittee may manage only those hazardous wastes identified in the permit with the equipment which is included in Part N of this permit. The Permittee is prohibited from managing hazardous waste that is not identified in this permit. Based on the following regulation: [401 KAR 34:280] effective 6/13/2007.

VII.B.4. Monitoring

The valves listed in Part F shall be monitored monthly using Reference Method 21, and must maintain a reading of less than 10,000 ppm. Any valve for which a leak is not detected for two successive months shall be monitored the first month of each succeeding quarter until a leak is detected. If a leak is detected, the Permittee shall resume monitoring the valve monthly until a leak is not detected for two successive months. All leaks must be repaired and in compliance no later than fifteen (15) calendar days after leak detection, and a first attempt at repair must be made no later than five (5) calendar days after leak detection. Based on the following regulation: [401 KAR 34:280] effective 6/13/2007.

VII.B.5. Inspections

The pumps listed in Part F shall be inspected weekly and monitored monthly using Reference Method 21 and must maintain a reading less than 10,000 ppm. The pumps must comply with the leak detection and repair program. Based on the following regulation: [401 KAR 34:280] effective 6/13/2007.

VII.B.6. General Recordkeeping

The Permittee shall keep on file the following equipment information:

- VII.B.6.a Listing of an identification number for each piece of equipment that contains or contacts hazardous waste with organic concentration of at least 10 percent by weight;
- VII.B.6.b The respective hazardous waste management unit identification;
- VII.B.6.c Each piece of equipment's specific location at the facility;
- VII.B.6.d The type of equipment (i.e. valve, pump, compressor, pressure relief device, open-ended valve or line, flange, or other connector, associated air emission control device or system);
- VII.B.6.e The hazardous waste state at the equipment; and
- VII.B.6.f The method of compliance with the standard.

Based on the following regulation: [401 KAR 34:280] effective 6/13/2007.

VII.B.7. Specific Recordkeeping

The Permittee must identify each piece of leaking equipment and provide required record keeping. The Permittee shall keep on file and update design documentation and monitoring, operating and inspection information for all closed-vent systems and control devices. Based on the following regulation: [401 KAR 34:280] effective 6/13/2007.

VII.B.8. Exemptions

The Permittee shall comply with the information requirements for all applicable equipment and keep on file all information used in determining exemptions. Based on the following regulation: [401 KAR 34:280] effective 6/13/2007.

VII.B.9. Semiannual Reporting

The Permittee shall report semi-annually to the Director beginning six (6) months after the effective date of this permit:

- VII.B.9.a The information of valve, pump and/or compressor leaks that were not repaired in accordance with requirements,
- VII.B.9.b The dates of hazardous waste management unit shutdowns;
- VII.B.9.c Where control devices are in use;
- VII.B.9.d The dates in each month during the reporting period when a control device exceeded or operated outside the design specifications that were not corrected within 24 hours.

Based on the following regulation: [401 KAR 34:280] effective 6/13/2007.

VII.C. SUBPART CC

VII.C.1. Air Emission Standards

On June 13, 2007, Air Emission Standards for Tanks, Surface Impoundments and Containers for hazardous waste treatment, storage and disposal facilities were promulgated (401 KAR 34:281). This regulation contains organic air emission standards for tanks, containers, surface impoundments and miscellaneous units which manage hazardous waste containing an average organic concentration of greater than or equal to 500 ppmw at the point of waste origination determined by the procedures in 401 KAR 34:281 Section 3, except as specifically exempted under 401 KAR 34:281 Sections 1 and 2. Based on the following regulation: [401 KAR 34:281] effective 6/13/2007.

VII.C.2. Compliance

The Permittee shall comply with the applicable requirements of 401 KAR 34:281. Based on the following regulation: [401 KAR 34:281] effective 6/13/2007.

VII.C.3. Exemptions

The Permittee currently does not have any hazardous waste management units that are regulated under 401 KAR 34:281. Based on the following regulation: [401 KAR 34:281] effective 6/13/2007.

VII.C.4. Addition of Equipment

Prior to installing any tank, container, surface impoundment or miscellaneous unit subject to 40 CFR 264, Subpart CC, the Permittee shall apply for a permit modification under 401 KAR 38:040, and provide specific Part B application information required under 401 KAR 38:040, 401 KAR 38:090, 38:150, 38:160, 38:170 and 38:290, as applicable, with the modification request. Based on the following regulations: [401 KAR 38:040] effective 8/21/2008, [401 KAR 38:090] effective 6/13/2007, [401 KAR 38:150] effective 6/13/2007, [401 KAR 38:160] effective 6/13/2007, [401 KAR 38:170] effective 6/13/2007 and [401 KAR 34:281] effective 6/13/2007.

PART VIII
REFERENCED ATTACHMENT

- VIII.A** The facility Part A Permit Application is incorporated as Part A of this permit.
- VIII.B** The Facility Description is incorporated as Part B of this permit.
- VIII.C** The Waste Analysis Plan and facility waste characteristics are incorporated as Part C of this permit.
- VIII.D** The facility Process Information is incorporated as Part D of this permit.
- VIII.E** The facility C-404 Groundwater Monitoring and Corrective Action information are incorporated as Part E of this permit.
- VIII.F** The Procedures to Prevent Hazards at the facility are incorporated as Part F of this permit.
- VIII.G** The facility Contingency Plan is incorporated as Part G of this permit.
- VIII.H** The facility Personnel Training information is incorporated as Part H of this permit.
- VIII.I** The facility Closure Plan, Post-closure Plans and Financial Requirements is incorporated as Part I of this permit.
- VIII.J** Information concerning Other Federal and State Environmental Laws is incorporated as Part J of this permit.
- VIII.K** Information concerning the facilities' Waste Minimization program and is incorporated as Part K part of this permit.
- VIII.L** Information concerning Owner/Operator Certification Statements and is incorporated as Part L of this permit.
- VIII.M** Information submitted pursuant to 401 KAR 34:275 (Subpart AA) is incorporated as Part M of this permit.
- VIII.N** Information submitted pursuant to 401 KAR 34:280 (Subpart BB) is incorporated as Part N of this permit.
- VIII.O** Information submitted pursuant to 401 KAR 34:281 (Subpart CC) is incorporated as Part O of this permit.

Appendix A-1

Solid Waste Management Units and Areas of Concern Requiring an RFI

SWMU/AOC	DESCRIPTION
1	C-747-C Oil Landfarm
2	C-749 Uranium Burial Ground
4	C-747 Contaminated Burial Ground
5	C-746-F Classified Burial Ground
6	C-747-B Burial Area
7	C-747-A Burial Ground
8	C-746-K Inactive Sanitary Landfill
9*	C-746-S Residential Landfill
10*	C-746-T Inert Landfill
11	C-400 Trichloroethylene Leak Site
13	C-746-P Clean Scrap Yard
14	C-746-E Contaminated Scrap Yard
15	C-746-C Scrap Yard
16	C-746-D Classified Scrap Yard
17	C-616-E Sludge Lagoon
18	C-616-F Full Flow Lagoon
19	C-410-B HF Neutralization Lagoon
20	C-410-E HF Emergency Holding Pond
21	C-611-W Sludge Lagoon
22	C-611-Y Overflow Lagoon (includes KPDES 006)
23	C-611-V Lagoon (includes KPDES 005)
26	C-400 to C-404 Underground Transfer Line
27	C-722 Acid Neutralization Tank
28	C-712 Laboratory Equalization Tank
30	C-747-A Burn Area
31	C-720 Compressor Pit Water Storage Tank
32	C-728 Clean Waste Oil Tanks
33	C-728 Motor Cleaning Facility
38	C-615 Sewage Treatment Plant
40	C-403 Neutralization Tank
41	C-410-C Neutralization Tank
42	C-616 Chromate Reduction Facility
47	C-400 Technetium Storage Tank Area
55	C-405 Incinerator
56	C-540-A PCB Waste Staging Area
57	C-541-A PCB Waste Staging Area
58	N-S Diversion Ditch (Outside) (includes KPDES 002)
59	N-S Diversion Ditch (Inside)
60	C-375-E2 Effluent Ditch (KPDES 002)
61	C-375-E5 Effluent Ditch (KPDES 013)
62	C-375-S6 SW Ditch (KPDES 009)
63	C-375-W7 Oil Skimmer Ditch (KPDES 008 and KPDES 004)

Appendix A-1

Solid Waste Management Units and Areas of Concern Requiring an RFI

SWMU/AOC	DESCRIPTION
64	Little Bayou Creek
65	Bayou Creek
66	C-375-E3 Effluent Ditch (KPDES 010)
67	C-375-E4 Effluent Ditch (C-340 Ditch) (KPDES 001)
68	C-375-W8 Effluent Ditch (KPDES 015)
69	C-375-W9 Effluent Ditch (KPDES 001)
70	C-333-A Vaporizer
71	C-337-A Vaporizer
74	C-340 PCB Transformer Spill Site
75	C-633 PCB Spill Site
76	C-632-B Sulfuric Acid Storage Tank
77	C-634-B Sulfuric Acid Storage Tank
78	C-420 PCB Spill Site
79	C-611 PCB Spill Site
80	C-540-A PCB Spill Site
81	C-541-A PCB Spill Site
82	C-531 Electric Switchyard
83	C-533 Electric Switchyard
84	C-535 Switchyard
85	C-537 Switchyard
86	C-631 Pump house and Cooling Tower
87	C-633 Pump house and Cooling Tower
88	C-635 Pump house and Cooling Tower
89	C-637 Pump house and Cooling Tower
91	UF ₆ Cylinder Drop Test Pit
92	Fill area for dirt from the C-420 PCB Spill Site
93	Concrete Rubble Pile
94**	KOW Trickling Filter and Leach Field
95**	KOW Burn Area
97	C-601 Diesel Spill
98	C-400 Basement Sump
99A	C-745 Kellogg Building Site – Cylinder Yard
99B	C-745 Kellogg Building Site – Septic Tank/Leach Field
100	Fire Training Area
102B	Plant Storm Sewer associated with C-333-A, C-337-A, C-340, C-535 and C-537
105	Concrete Rubble Pile (3)
106	Concrete Rubble Pile (4)
107	Concrete Rubble Pile (5)
108	Concrete Rubble Pile (6)
109	Concrete Rubble Pile (7)
113	Concrete Rubble Pile (11)

Appendix A-1

Solid Waste Management Units and Areas of Concern Requiring an RFI

SWMU/AOC	DESCRIPTION
129	Concrete Rubble Pile (27)
135	C-333 PCB Soil Contamination (North Side)
137	C-746-A Inactive PCB Transformer Sump Area
138	C-100 Southside Berm
145	Residential/Inert Landfill Borrow Area (P-Landfill)
153	C-331 PCB Soil Contamination (West)
154	C-331 PCB Soil Contamination (Southeast)
155	C-333 PCB Soil Contamination (West)
156	C-310 PCB Soil Contamination (West Side)
157**	KOW Toluene Spill Area
158	Chilled-Water System Leak Site
159	C-746-H3 Storage Pad
160	C-745 Cylinder Yard Spoils (PCB Soils)
161	C-743-T-01 Trailer Site (Soil Backfill)
162	C-617-A Sanitary Water Line (Soil Backfill)
163	C-304 Building/HVAC Piping System (Soil Backfill)
164	KPDES Outfall Ditch 017 Flume - Soil Backfill
165	C-616-L Pipeline & Vault Soil Contamination
166	C-100 Trailer Complex Soil Contamination (East Side)
167	C-720 White Room Sump
168	KPDES Outfall Ditch 012
169	C-410-E HF Vent Surge Protection Tank
170	C-729 Acetylene Building Drain Pits
171	C-617-A Lagoons
172	C-726 Sandblasting Facility
175	Concrete Rubble Pile (28)
176	C-331 RCW Leak Northwest Side
177	C-331 RCW Leak East Side
178	C-724-A Paint Spray Booth
179	Plant Sanitary Sewer System
180	Outdoor Firing Range (WKWMA)
181	Outdoor Firing Range (PGDP)
182**	Western Portion of Yellow Waterline
183	McGraw UST
185	C-611-4 Horseshoe Lagoon (includes KPDES 014)
192	C-710 Acid Interceptor Pit
193	McGraw Construction Facilities (Southside Cylinder Yards)
194	McGraw Construction Facilities (Southside)
195	Curlee Road Contaminated Soil Mound
196	C-746-A Septic Tank
198	C-410-D Area Soil Contamination

Appendix A-1

Solid Waste Management Units and Areas of Concern Requiring an RFI

SWMU/AOC	DESCRIPTION
199	Big Bayou Creek Monitoring Station
200	Soil Contamination South of TSCA Waste Storage Facility
201	Northwest Groundwater Plume
202	Northeast Groundwater Plume
203	C-400 Discard Waste System
204	Dykes Road Historical Staging Area
205	Eastern Portion of Yellow Water Line
209	C-720 Compressor Shop Pit Sump
210	Southwest Groundwater Plume
211A	C-720 TCE Spill Site Northeast
211B	C-720 TCE Spill Site Southeast
212	C-745-A Radiological Contamination Area
213	OS-2
214	OS-3
215	OS-4
216	OS-5
217	OS-6
218	OS-7
219	OS-8
220	OS-9
221	OS-10
222	OS-11
223	OS-12
224	OS-13
225A	OS-14
225B	Contaminated Soil Area near C-533-1 DMSA OS-14
226	OS-15
227	OS-16
228	OS-17
229	OS-18
463	C-746-A East End Smelter
464	C-746-A West End Smelter
469	C-745-J Yard
470	C-746-V Yard
472	C-746-B Pad
474	West of Vortec Site
477	C-340 Metals Plant
478	C-410/420 Feed Plant
480	C-402 Lime House
482	C-415 Feed Plant Storage Building
483	Nitrogen Generating Facilities

Appendix A-1

Solid Waste Management Units and Areas of Concern Requiring an RFI

SWMU/AOC	DESCRIPTION
486	Rubble Pile WKWMA
487	Rubble Pile WKWMA
488	PCB Contamination Area by the C-410 Trailer Complex
489	Septic Tank North of the C-710 Laboratory
492	Contaminated Soil Area Near Outfall 010
493	Concrete Rubble Piles Near Outfall 001
494	Ash Receiver Area in C-410/420
495	C-410-I Ash Receiver Shed
496	C-410 Fluorine/Hydrogen Filters (Northeast Mezzanine)
497	C-410/420 F ₂ Cell Neutralization Room Vats
498	C-410/420 Sump at Columns D&E – 1&2
499	C-410/420 Sump at Column H-9&10
500	C-410/420 Sump at Column U-10&11
501	C-410/420 UF ₆ Scale Pit Sumps A&B
502	C-410/420 Sump at Column U-9
503	C-410/420 Sump at Column G-1
504	C-410/420 Sump at Column L-10
505	C-410/420 Sump at Column A-3N
506	C-410/420 Sump at Column Wa-9
507	C-410/420 Condensate Tank Pit
508	C-410/420 Settling Basin
509	C-410/420 Drain Pit
510	C-410/420 Sump at Column P&Q-2
511	C-410/420 Sump at Column Q&R-2
512	C-410/420 Sump at Column R-2
513	C-411 Cell Maintenance Room Sump Pit
517	Rubble and Debris Erosion Control Fill Area
518	Field South of C-746-P1 Clean Scrap Yard
520	Scrap Material West of C-746-A
522	C-340 Work Pit at Ground Floor Level (B-7 to B-9)
523	C-340 Metals Plant Pit at Ground Floor (F-6 to F-11)
524	C-340 Pickling System Sump (B-10 to B-11)
526	Internal Plant Drainage Ditches (includes KPDES 016)
529	C-340 Powder Plant Sump at Ground Floor Level
531	Aluminum Slag Reacting Area (C-746-H4) near the C-746-A Facility
533	TCE Spill Site from TCE Unloading Operations at C-400
536	Concrete Truck Washout Area
541	Contaminated Soil Area South of Outfall 011
549	Dirt/Concrete Rubble Pile near Outfall 008
550	Concrete Culvert Sections Located on the West Bank of the Ditch Leading to Outfall 001

Appendix A-1

Solid Waste Management Units and Areas of Concern Requiring an RFI

SWMU/AOC	DESCRIPTION
561	Soil Pile I
562	Soil Piles C, D, E, F, G, H, J, K and P in subunit 1 north of Soil Pile I on the west bank of Little Bayou Creek
563	Soil Piles 20, CC and BW in subunit 4 north of Outfall 012 west of Little Bayou Creek
564	Soil Pile AT in subunit 5 that consists of three soil areas on the east side of the North-South Diversion Ditch north of the P-, S- and T-Landfills
565	Rubble Area KY-19 (along Bayou Creek north of C-611 Water Treatment Plant)
567	Soil Pile K013 near Outfall 013, West of Little Bayou Creek

* Investigation and remediation activities are limited to groundwater issues.

** See Table A-7 (SWMUs to be Investigated and Remediated by the U.S. Army Corps of Engineers)

Appendix A-2

Solid Waste Management Units and Areas of Concern that Require No Further Action at this Time

SWMU/AOC	DESCRIPTION
12	C-747-A UF ₄ Drum Yard
24**	C-750-D UST
25**	C-750 1,000-Gallon Waste Oil Tank (UST)
29	C-746-B TRU Storage Area
34	C-746-M PCB Waste Storage Area
35	C-337 PCB Waste Storage Area
36	C-337 PCB Waste Staging Area
37	C-333 PCB Waste Staging Area
39	C-746-B PCB Waste Storage Area
43	C-746-B Waste Chemical Storage Area
45	C-746-R Waste Solvent Storage Area
46	C-409 Hazardous Waste Pilot Plant
48	Gold Dissolver Storage Tank (DMSA C400-03)
49	C-400 B Waste Solution Storage Tank
50	C-400-C Nickel Stripper Evaporation Tank
51	C-400-D Lime Precipitation Tank
52	C-400 Waste Decontamination Solution Storage Tanks
53	C-400 NaOH Precipitation Unit
54	C-400 Degreaser Solvent Recovery Unit
72**	C-200 Underground Gasoline Tanks
73**	C-710 Underground Gasoline Tank
90	C-720 Petroleum Naphtha Pipe
96	C-333 Cooling Tower Scrap Wood Pile
101	C-340 Hydraulic System
102A	Plant Storm Sewer – between the south side of the C-400 Building and Outfall 008
103	Concrete Rubble Pile (1)
104	Concrete Rubble Pile (2)
110	Concrete Rubble Pile (8)
111	Concrete Rubble Pile (9)
112	Concrete Rubble Pile (10)
114	Concrete Rubble Pile (12)
115	Concrete Rubble Pile (13)
116	Concrete Rubble Pile (14)
117	Concrete Rubble Pile (15)
118	Concrete Rubble Pile (16)
119	Concrete Rubble Pile (17)
120	Concrete Rubble Pile (18)
121	Concrete Rubble Pile (19)
122	Concrete Rubble Pile (20)
123	Concrete Rubble Pile (21)

Appendix A-2

Solid Waste Management Units and Areas of Concern that Require No Further Action at this Time

SWMU/AOC	DESCRIPTION
124	Concrete Rubble Pile (22)
125	Concrete Rubble Pile (23)
126	Concrete Rubble Pile (24)
127	Concrete Rubble Pile (25)
128	Concrete Rubble Pile (26)
130	C-611 550-Gal Gasoline UST
131	C-611 50-Gal Gasoline UST
132	C-611 2,000-Gal Oil UST
133	C-611 (unknown size) Grouted UST
134	C-611 1,000-Gal Diesel/Gasoline Tank
136	C-740 TCE Spill Site
139**	C-746-A1 UST
140**	C-746-A2 UST
141	C-720 Inactive TCE Degreaser
142**	C-750-A 10,000-Gal Gasoline Tank (UST)
143**	C-750-B 10,000-Gal Diesel Tank (UST)
144	C-746-A Hazardous and Mixed Waste Storage Facility
146	Concrete Rubble Pile (40)
147	Concrete Rubble Pile (41)
148	Concrete Rubble Pile (42)
149	Concrete Rubble Pile (43)
150	Concrete Rubble Pile (44)
151	Concrete Rubble Pile (45)
152	Concrete Rubble Pile (46)
173	C-746-A Trash Sorting Facility
174	C-745-K Low-Level Storage Area
184	Concrete Rubble Pile (29)
186	C-751 Fuel Facility
187	C-611 Septic System
188	C-333 Septic System
189	C-637 Septic System
190	C-337A Sewage Treatment Aeration Tank
191	C-333-A Sewage Treatment Aeration Tank
197	Concrete Rubble Pile (30)
206***	C-753-A Toxic Substance Control Act Waste Storage Building
208*	C-746-U Solid Waste Contained Landfill
230 *	C-310-A-01
231 *	C-310-02
232 *	C-310-03
233 *	C-310-04
234 *	C-310-05

Appendix A-2

Solid Waste Management Units and Areas of Concern that Require No Further Action at this Time

SWMU/AOC	DESCRIPTION
235 *	C-331-01
236 *	C-331-02
237 *	C-331-03
238 *	C-331-04
239 *	C-331-05
240 *	C-331-06
241 *	C-331-07
242 *	C-331-08
243 *	C-331-09
244 *	C-331-10
245 *	C-331-11
246 *	C-331-12
247 *	C-331-13
248 *	C-331-14
249 *	C-331-15
250 *	C-331-16
251 *	C-331-19
252 *	C-331-20
253 *	C-331-22
254 *	C-331-23
255 *	C-331-24
256 *	C-333-01
257 *	C-333-02
258 *	C-333-03
259 *	C-333-04
260 *	C-333-05
261 *	C-333-06
262 *	C-333-07
263 *	C-333-08
264 *	C-333-09
265 *	C-333-10
266 *	C-333-11
267 *	C-333-12
268 *	C-333-13
269 *	C-333-14
270 *	C-333-15
271 *	C-333-16 (West)
272 *	C-333-16 (East)
273 *	C-333-17
274 *	C-333-18
275 *	C-333-19

Appendix A-2

Solid Waste Management Units and Areas of Concern that Require No Further Action at this Time

SWMU/AOC	DESCRIPTION
276 *	C-333-20
277 *	C-333-21
278 *	C-333-22
279 *	C-333-23
280 *	C-333-24
281 *	C-333-25
282 *	C-333-26
283 *	C-333-27
284 *	C-333-28
285 *	C-333-29
286 *	C-333-30
287 *	C-333-31
288 *	C-333-34
289 *	C-333-35
290 *	C-333-37
291 *	C-333-38
292 *	C-333-39
293 *	C-333-40
294 *	C-333-41
295 *	C-333-42
296 *	C-333-43
297 *	C-335-01
298 *	C-335-02
299 *	C-335-03
300 *	C-335-04
301 *	C-335-05
302 *	C-335-06
303 *	C-335-07
304 *	C-335-08
305 *	C-335-09
306 *	C-335-11
307 *	C-335-12
308 *	C-337-01
309 *	C-337-02
310 *	C-337-03
311 *	C-337-04
312 *	C-337-05
313 *	C-337-06
314 *	C-337-07
315 *	C-337-08
316 *	C-337-09

Appendix A-2

Solid Waste Management Units and Areas of Concern that Require No Further Action at this Time

SWMU/AOC	DESCRIPTION
317 *	C-337-10
318 *	C-337-11
319 *	C-337-12
320 *	C-337-13
321 *	C-337-14
322 *	C-337-15
323 *	C-337-16
324 *	C-337-17
325 *	C-337-18
326 *	C-337-19
327 *	C-337-20
328 *	C-337-21
329 *	C-337-23
330 *	C-337-25
331 *	C-337-27
332 *	C-337-29
333 *	C-337-30
334 *	C-337-31
335 *	C-337-32
336 *	C-337-33
337 *	C-337-34
338 *	C-337-35
339 *	C-337-36
340 *	C-337-37
341 *	C-337-38
342 *	C-337-39
343 *	C-337-40
344 *	C-337-41
345 *	C-337-42
346 *	C-337-43
347 *	C-337-44
348 *	C-337-45
349 *	C-400-01
350 *	C-400-04
351 *	C-400-05
352 *	C-400-06
353 *	C-400-07
354 *	C-409-01
355 *	C-409-02
356 *	C-720-01
357 *	C-720-02

Appendix A-2

Solid Waste Management Units and Areas of Concern that Require No Further Action at this Time

SWMU/AOC	DESCRIPTION
358 *	C-720-03
359 *	C-720-04
360	C-535
361	C-727-90 day
362	G-310-04
363	G-331-03
364	G-331-05
365	G-333-02
366	G-333-03
367	G-333-04
368	G-333-08
369	G-333-10
370	C-333-20
371	G-335-01
372	G-337-02
373	G-337-03
374	G-337-13
375	G-337-14
376	G-337-15
377	G-337-22
378	G-340-01
379	G-340-03
380	G-340-04
381	G-340-05
382	G-340-06
383	G-400-01
384	G-400-02
385	G-409-25
386	G-410-01
387	G-416-01
388	C-416 Decontamination Pad
389	G-533-01
390	G-535-02
391	G-537-01
392	G-540-A-01
393	G-540-A-1-02
394	G-541-A-01
395	G-600-01
396	G-611-U-01
397	G-612-01
398	G-612-02

Appendix A-2

Solid Waste Management Units and Areas of Concern that Require No Further Action at this Time

SWMU/AOC	DESCRIPTION
399	G-612-A-01
400	G-635-01
401	G-710
402	G-710-04
403	G-710-20
404	G-710-24
405	G-720-22
406	G-743-T-17-01
407	G-743-T-17-02
408	G-745-B-01
409	G-745-T-01
410	G-746-G-01
411	G-746-G-1-01
412	G-746-G-2-01
413	G-746-G-3-01
414	G-746-F-01
415	G-746-S-01
416	G-746-X-01 (PCBs)
417	G-746-X-01 (Asbestos)
418	G-748-B-01
419	G-752-C-01
420	G-752-C-02
421	G-754-01
422	G-755-A-01
423	G-755-C-01
424	G-755-T-07-01
425	G-755-T-08
426	G-755-T-2-3-01
427	G-755-T-3-1-01
428	G-755-T-3-2-01
429	S-310-04
430	S-331-02
431	S-333-12
432	S-335-09
433	S-337-11
434	S-340-01
435	S-409-100
436	S-409-20
437	S-409-40
438	S-409-60
439	S-409-80

Appendix A-2

Solid Waste Management Units and Areas of Concern that Require No Further Action at this Time

SWMU/AOC	DESCRIPTION
440	S-410-05
441	S-540-A-2-01
442	S-612-01
443	S-709-01
444	S-709-02
445	S-710-05
446	S-710-06
447	S-710-09
448	S-710-16
449	S-710-18
450	S-710-32
451	S-710-41
452	S-710-44
453	S-710-46
454	S-743-T-17-01
455	S-755-T-16-01
456	S-755-T-16-02
457	S-755-T-16-03
458	S-755-T-2-3-01
459	S-755-T-3-1-01
460	S-755-T-3-2-01
461	S-755-T-3-2-02
462	S-755-T-3-2-03
465	Yard Rubble Pile and Crushate Storage Area (G Yard)
466	South of Dykes Road, Pond area
467	Concrete Cylinder Holders Storage Area on Western Kentucky Wildlife Management Agency
468	Area Northwest of Outfall 015
471	Outside C-746-B South Storage Area
473	C-746-B Pad, West
475	C-745-G5-01 (Paint Enclosure)
476	Concrete Crusher
479	C-204 Disintegrator Building
481	C-410-A Hydrogen Holder
484	C-611-M Storage Tank
485	C-611-N Sanitary Water Storage
490**	McGraw Fuel Facility Waste Oil Storage Tank
491	Mercury Spill at the C-611 Water Treatment Plant Vault
514	C-340 Magnesium Fluoride Reject Silo
515	C-340 "Dirty" Dust Collection System
516	C-340 Derby Preparation Area Sludge Collection System

Appendix A-2

Solid Waste Management Units and Areas of Concern that Require No Further Action at this Time

SWMU/AOC	DESCRIPTION
519	C-410 Sulfuric Acid Tank (C-634-B)
521	C-340 Saw System Degreaser
525	Concrete Water Tower Supports (KOW)
527	C-410 GSA/SAA at Column J-6
528	GSA/SAA at the Northwest corner of the C-745-G3 Paint Enclosure
530	Soil and Debris Storage Area by C-745-T Yard
532	Photographic Solution Treatment Area in the C-102 Building
534**	UST #18 within SWMU 193
535	S-755-T08-01 (Satellite Accumulation Area at C-755, Trailer 8)
537	S-400-001 (SAA Located Outside at the Southeast Corner of the C-400 Building)
538	S-MST-01-01 & S-MST-01-02 (Mobile Trailer 01)
539	S-MST-02-01 & S-MST-02-02 (Mobile Trailer 02)
540	S-MST-03-01 & S-MST-03-02 (Mobile Trailer 03)
542a	G-746-B-01, S-746-B-01, S-746-B-02 (GSA/SSAs located outside C-746-A)
542b	G-746-A-01, S-746-A-01, S-746-A-02 (GSA/SSAs located outside C-746-A)
543	T-746-S-01 (90 Day Storage Area)
544	T-752-C-01 (90 Day Storage Area)
545	C-755-T-22-01 and G-755-T-22
546	PGDP Post 67 Diesel Fuel Spill Area
547	PGDP Post 38 Diesel Spill Area
548	Staging Area for Concrete Piers, Wood and Rubble North Side of C-745-B Cylinder Yard
551	G-755-GSA-23 Located at C-755 near the East Fence Line
552	C-760 90-Day Accumulation Area
566	H-340-01
568	C-340 ST-90 Boxes
569	C-743-T-17 Sample Return Refrigerator
570	Sample Return Sealand

* This SWMU is permitted under a State of Kentucky Solid Waste Permit. The Kentucky Solid Waste program contains provisions for groundwater monitoring and closure.

** These SWMUs were addressed by the Kentucky Underground Storage Tank Program (Subtitle I).

*** These SWMUs are addressed by the Toxic Substance and Control Act (TSCA)

× These SWMUs are former DOE Materials Storage Areas (DMSAs).

Appendix A-3

Solid Waste Management Units which are permitted “Treatment, Storage or Disposal” Units

SWMU/AOC	DESCRIPTION
3*	C-404 Low Level Radioactive Waste Burial Ground
9	C-746-S Residential Landfill
10	C-746-T Inert Landfill
44	C-733 Hazardous Waste Storage Area
46A	C-746-Q Hazardous and Low-Level Mixed Waste Storage Facility
207	C-752-A Environmental Restoration Waste Storage Building
208	C-746-U Solid Waste Contained Landfill

* SWMU 3 was issued only a post-closure permit, was not permitted for construction and operation, and was not an engineered hazardous waste landfill.

Appendix A-4

Solid Waste Management Units or Areas of Concern that have SWMU Assessment Reports
Under Review by the Cabinet

SWMU/AOC	DESCRIPTION
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Appendix A-5

Burial Grounds Operable Unit
BGOU Remedial

SWMU/AOC	DESCRIPTION
2	C-749 Uranium Burial Ground
3	C-404 Low-Level Radioactive Waste Burial Ground
4	C-747 Contaminated Burial Ground
5	C-746-F Classified Burial Ground
6	C-747-B Burial Area
7	C-747-A Burial Ground
9	C-746-S Residential Landfill
10	C-746-T Inert Landfill
30	C-747-A Burn Area
145	Residential/Inert Landfill Borrow Area (P-Landfill)

Appendix A-5

Groundwater Operable Unit
Southwest Plume Sources

SWMU/AOC	DESCRIPTION
1	C-747-C Oil Land Farm
211A	C-720 TCE Spill Site Northeast
211B	C-720 TCE Spill Site Southeast

Appendix A-5

Groundwater Operable Unit
C-400 Action

SWMU/AOC	DESCRIPTION
11	C-400 TCE Leak Site
533	TCE Spill Site from TCE Unloading Operations at C-400

Appendix A-5

Groundwater Operable Unit
Dissolved-Phase Plumes

SWMU/AOC	DESCRIPTION
201	Northwest Groundwater Plume
202	Northeast Groundwater Plume
210	Southwest Groundwater Plume

Appendix A-5

Decontamination & Decommissioning Operable Unit
Inactive Facilities (C-410 D&D)

SWMU/AOC	DESCRIPTION
41	C-410-C Neutralization Tank
478	C-410/420 Feed Plant
494	Ash Receiver Area in C-410/420
495	C-410-I Ash Receiver Shed
496	C-410 Fluorine/Hydrogen Filters (Northeast Mezzanine)
497	C-410/420 F ₂ Cell Neutralization Room Vats
498	C-410/420 Sump at Column D&E – 1&2
499	C-410/420 Sump at Column H-9&10
500	C-410/420 Sump at Column U-10&11
501	C-410/420 UF ₆ Scale Pit Sumps A&B
502	C-410/420 Sump at Column U-9
503	C-410/420 Sump at Column G-1
504	C-410/420 Sump at Column L-10
505	C-410/420 Sump at Column A-3N
506	C-410/420 Sump at Column Wa-9
507	C-410/420 Condensate Tank Pit
508	C-410/420 Settling Basin
509	C-410/420 Drain Pit
510	C-410/420 Sump at Column P&Q-2
511	C-410/420 Sump at Column Q&R-2
512	C-410/420 Sump at Column R-2
513	C-411 Cell Maintenance Room Sump Pit

Appendix A-5

GDP Decontamination & Decommissioning Operable Unit
GDP D&D

SWMU/AOC	DESCRIPTION
28	C-712 Laboratory Equalization Tank
33	C-728 Motor Cleaning Facility
38	C-615 Sewage Treatment Plan
42	C-616 Chromate Reduction Facility
70	C-333-A Vaporizer
71	C-337-A Vaporizer
82	C-531 Electric Switchyard
83	C-533 Electric Switchyard
84	C-535 Electric Switchyard
85	C-537 Electric Switchyard
86	C-631 Pumphouse and Cooling Tower
87	C-633 Pumphouse and Cooling Tower
88	C-635 Pumphouse and Cooling Tower
89	C-637 Pumphouse and Cooling Tower
98	C-400 Basement Sump
137	C-746-A Inactive PCB Transformer Sump Area
159	C-746-H3 Storage Pad
164	KPDES Outfall Ditch 017 Flume – Soil Backfill
167	C-720 Whiteroom Sump
172	C-726 Sandblasting Facility
178	C-724-A Paint Spray Booth
179	Plant Sanitary Sewer System
192	C-710 Acid Interceptor Pit
203	C-400 Discard Waste System
209	C-720 Compressor Shop Pit Sump
463	C-746-A East End Smelter
482	C-415 Feed Plant Storage Building

Appendix A-5

GDP Decontamination & Decommissioning Operable Unit
DUF₆

SWMU/AOC	DESCRIPTION
183	McGraw UST
193	McGraw Construction Facilities (Southside Cylinder Yards)
194	McGraw Construction Facilities (Southside)
536	Concrete Truck Washout Area

Appendix A-5

Soils Operable Unit
Soils Remedial

SWMU/AOC	DESCRIPTION
1	C-747-C Oil Landfarm
13	C-746-P Clean Scrap Yard
14	C-746-E Contaminated Scrap Yard
15	C-746-C Scrap Yard
19	C-410-B HF Neutralization Lagoon
26	C-400 to C-404 Underground Transfer Line
27	C-722 Acid Neutralization Tank
56	C-540-A PCB Waste Staging Area
57	C-541-A PCB Waste Staging Area
76	C-632-B Sulfuric Acid Storage Tank
77	C-634-B Sulfuric Acid Storage Tank
80	C-540-A PCB Spill Site
81	C-541-A PCB Spill Site
99B	C-745 Kellogg Building Site – Septic Tank/Leach Field
138	C-100 Southside Berm
153	C-331 PCB Soil Contamination (West)
156	C-310 PCB Soil Contamination (West Side)
158	Chilled-Water System Leak Site
160	C-745 Cylinder Yard Spoils (PCB Soils)
163	C-304 Building/HVAC Piping System (Soil Backfill)
165	C-616-L Pipeline and Vault Soil Contamination
169	C-410-E HF Vent Surge Protection Tank
170	C-729 Acetylene Building Drain Pits
180	Outdoor Firing Range (WKWMA)
181	Outdoor Firing Range (PGDP)
194	McGraw Construction Facilities (Southside)
195	Curlee Road Contaminated Soil Mounds
196	C-746-A Septic System
200	Soil Contamination South of TSCA Waste Storage Facility
204	Dykes Road Historical Staging Area
211A	C-720 TCE Spill Site Northeast
212	C-745-A Radiological Contamination Area
213	OS-02
214	OS-03
215	OS-04
216	OS-05
217	OS-06
219	OS-08
221	OS-10
222	OS-11

Appendix A-5

Soils Operable Unit
Soils Remedial

SWMU/AOC	DESCRIPTION
224	OS-13
225A	OS-14
225B	Contaminated Soil Area near C-533-1 DMSA OS-14
227	OS-16
228	OS-17
229	OS-18
486	Rubble Pile WKWMA
487	Rubble Pile WKWMA
488	PCB Contamination Area by the C-410 Trailer Complex
489	Septic Tank North of C-710 Laboratory
492	Contaminated Soil Area Near Outfall 010
493	Concrete Rubble Piles Near Outfall 001
517	Rubble and Debris Erosion Control Fill Area
518	Field South of C-746-P1 Clean Scrap Yard
520	Scrap Material West of C-746-A
531	Aluminum Slag Reacting Area (C-746-H4) near the C-746-A Facility
541	Contaminated Soil Area South of Outfall 011
561	Soil Pile I
562	Soil Piles C, D, E, F, G, H, J, K and P in subunit 1 north of Soil Pile I on the west bank of Little Bayou Creek
563	Soil Piles 20, CC and BW in subunit 4 north of Outfall 012 west of Little Bayou Creek
564	Soil Pile AT in subunit 5 that consists of three soil areas on the east side of the North-South Diversion Ditch north of the P-, S- & T-Landfills
565	Rubble Area KY-19 (along Bayou Creek north of C-611 Water Treatment Plant
567	Soil Pile K013 near Outfall 013, West of Little Bayou Creek

Appendix A-5

Surface Water Operable Unit
Remedial Action

SWMU/AOC	DESCRIPTION
59	N-S Diversion Ditch (Inside)
64	Little Bayou Creek
65	Bayou Creek
93	Concrete Disposal Area East of Plant Security Area
105	Concrete Rubble Pile (3)
106	Concrete Rubble Pile (4)
107	Concrete Rubble Pile (5)
108	Concrete Rubble Pile (6)
109	Concrete Rubble Pile (7)
113	Concrete Rubble Pile (11)
129	Concrete Rubble Pile (27)
175	Concrete Rubble Pile (28)
185	C-611-4 Horseshoe Lagoon (includes KPDES 014)
199	Bayou Creek Monitoring Station
205	Eastern Portion of Yellow Water Line
549	Dirt/Concrete Rubble Pile near Outfall 008
550	Concrete Culvert Sections Located on the West Bank of the Ditch Leading to Outfall 001

Appendix A-5

Surface Water Operable Unit
Removal Action

SWMU/AOC	DESCRIPTION
58	N-S Diversion Ditch (Outside) (includes KPDES 003)
60	C-375-E2 Effluent Ditch (KPDES 002)
61	C-375-E5 Effluent Ditch (KPDES 013)
62	C-375-S6 SW Ditch (KPDES 009)
63	C-375-W7 Oil Skimmer Ditch (KPDES 008 and KPDES 004)
66	C-375-E3 Effluent Ditch (KPDES 010)
67	C-375-E4 Effluent Ditch (C-340 Ditch) (KPDES 011)
68	C-375-W8 Effluent Ditch (KPDES 015)
69	C-375-W9 Effluent Ditch (KPDES 001)
92	Fill area for dirt from the C-420 PCB Spill Site
97	C-601 Diesel Spill
102A	Plant Storm Sewer – between the south side of the C-400 Building and Outfall 008
102B	Plant Storm Sewer associated with C-333-A, C-337-A, C-340, C-535 and C-537
168	KPDES Outfall Ditch 012
526	Internal Plant Drainage Ditches (includes KPDES 016)

Appendix A-5

Final Comprehensive Site Operable Unit

SWMU/AOC	DESCRIPTION
8	C-746-K Inactive Sanitary Landfill
91	UF ₆ Cylinder Drop Test Pit
100	Fire Training Area

Appendix A-5

Post-Gaseous Diffusion Plant (GDP) Shutdown
GDP Groundwater Sources Operable Unit (C-400 Residuals and Remaining Sources)

SWMU/AOC	DESCRIPTION
11	C-400 TCE Leak Site
533	TCE Spill Site from TCE Unloading Operations at C-400

Appendix A-5

Post-Gaseous Diffusion Plant (GDP) Shutdown
GDP Lagoons and Ditches Operable Unit

SWMU/AOC	DESCRIPTION
17	C-616-E Sludge Lagoon
18	C-616-F Full-Flow Lagoon
21	C-611-W Sludge Lagoon
22	C-611-Y Overflow Lagoon (includes KPDES 006)
23	C-611-V Lagoon (includes KPDES 005)
171	C-617-A Lagoons

Appendix A-5

Additional Burial Ground Sources Operable Unit

SWMU/AOC	DESCRIPTION
472	C-746-B Pad
520	Scrap Material West of C-746-A

Appendix A-5

Soils and Slabs Operable Unit

SWMU/AOC	DESCRIPTION
11	C-400 TCE Leak Site
16	C-746-D Classified Scrap Yard
20	C-410-E Emergency Holding Pond slab and underlying soils
28	C-712 Laboratory Equalization Tank slab and underlying soils
31	C-720 Compressor Pit Water Storage Tank slab and underlying soils
32	C-728 Clean Waste Oil Tanks slab and underlying soils
33	C-728 Motor Cleaning Facility slab and underlying soils
38	C-615 Sewage Treatment Plant slab and underlying soils
40	C-403 Neutralization Tank slab and underlying soils
41	C-410-C Neutralization Tank slab and underlying soils
42	C-616 Chromate Reduction Facility slab and underlying soils
47	C-400 Technetium Storage Tank Area
55	C-405 Incinerator Building slab and underlying soils
70	C-333-A Vaporizer slab and underlying soils
71	C-337-A Vaporizer slab and underlying soils
74	C-340 PCB Transformer Spill Site
75	C-633 PCB Spill Site
77	C-643-B Sulfuric Acid Storage Tank slab and underlying soils
78	C-420 PCB Spill Site
79	C-611 PCB Spill Site
82	C-531 Switchyard slab and underlying soils
83	C-533 Switchyard slab and underlying soils
84	C-535 Switchyard slab and underlying soils
85	C-537 Switchyard slab and underlying soils
86	C-631 Pumphouse and Cooling Tower slab and underlying soils
87	C-633 Pumphouse and Cooling Tower slab and underlying soils
88	C-635 Pumphouse and Cooling Tower slab and underlying soils
89	C-637 Pumphouse and Cooling Tower slab and underlying soils
98	C-400 Basement Sump slab and underlying soils
99A	C-745 Kellogg Building Site - Cylinder Yard
135	C-333 PCB Soil Contamination (North Side)
137	C-746-A Inactive PCB Transformer Sump Area slab and underlying soils
154	C-331 PCB Soil Contamination (Southeast)
155	C-333 PCB Soil Contamination (West)
159	C-747-H3 Storage Pad slab and underlying soils
161	C-743-T-01 Trailer Site (Soil Backfill)
162	C-617-A Sanitary Water Line (Soil Backfill)
166	C-100 Trailer Complex Soil Contamination (East Side)
167	C-720 White Room Sump slab and underlying soils
172	C-726 Sandblasting Facility slab and underlying soils
176	C-331 RCW Leak Northwest Side

Appendix A-5

Soils and Slabs Operable Unit

177	C-331 RCW Leak East Side
178	C-724-A Paint Spray Booth slab and underlying soils
179	Plant Sanitary Sewer System
192	C-710 Acid Interceptor Pit slab and underlying soils
198	C-410-D Area Soil Contamination slab and underlying soils
203	C-400 Discard Waste System slab and underlying soils
209	C-720 Compressor Shop Pit Sump slab and underlying soils
211B	C-720 TCE Spill Site Southeast
218	OS-07 slab and underlying soils
220	OS-09 slab and underlying soils
223	OS-12 slab and underlying soils
226	OS-15
463	C-746-A East End Smelter slab and underlying soils
464	C-746-A West End Smelter building slab and underlying soils
469	C-745-J Yard
470	C-746-V Yard
474	West of Vortec Site
477	C-340 Metals Plant building slab and underlying soils
478	C-410/420 Feed Plant building slab and underlying soils
480	C-402 Lime House building slab and underlying soils
482	C-415 Feed Plant Storage Building slab and underlying soils
483	Nitrogen Generating Facilities slab and underlying soils
494	Ash Receiver Area in C-410/420 slab and underlying soils
495	C-410-I Ash Receiver Shed building slab and underlying soils
497	C-410/420 F ₂ Cell Neutralization Room Vats slab and underlying soils
498	C-410/420 Sump at Columns D&E – 1&2 slab and underlying soils
499	C-410/420 Sump at Column H-9&10 slab and underlying soils
500	C-410/420 Sump at Column U-10&11 slab and underlying soils
501	C-410/420 UF ₆ Scale Pit Sumps A&B slab and underlying soils
502	C-410/420 Sump at Column U-9 slab and underlying soils
503	C-410/420 Sump at Column G-1 slab and underlying soils
504	C-410/420 Sump at Column L-10 slab and underlying soils
505	C-410/420 Sump at Column A-3N slab and underlying soils
506	C-410/420 Sump at Column Wa-9 slab and underlying soils
507	C-410/420 Condensate Tank Pit slab and underlying soils
508	C-410/420 Settling Basin slab and underlying soils
509	C-410/420 Drain Pit slab and underlying soils
510	C-410/420 Sump at Column P&Q-2 slab and underlying soils
511	C-410/420 Sump at Column Q&R-2 slab and underlying soils
512	C-410/420 Sump at Column R-2 slab and underlying soils
513	C-411 Cell Maintenance Room Sump Pit slab and underlying soils
522	C-340 Work Pit at Ground Floor Level (B-7 to B-9) slab and underlying soils

Appendix A-5

Soils and Slabs Operable Unit

523	C-340 Metals Plant Pit Ground Floor (F-6 to F-11) slab and underlying soils
524	C-340 Pickling System Sump (B-10 to B-11) slab and underlying soils
529	C-340 Powder Plant Sump at Ground Floor Level slab and underlying soils

Appendix A-6

Solid Waste Management Units Addressed by Records of Decision

SWMU/AOC	DESCRIPTION
1	C-747-C Oil Landfarm
2	C-749 Uranium Burial Ground
8	C-746-K Inactive Sanitary Landfill
11	C-400 TCE Leak Site
59	N-S Diversion Ditch (Inside)
91	UF ₆ Cylinder Drop Test Pit
100	Fire Training Area
102B	Plant Storm Sewer associated with C-333-A, C-337-A, C-340, C-535 and C-537
201	Northwest Groundwater Plume
202	Northeast Groundwater Plume
211A	C-720 TCE Spill Site Northeast
211B	C-720 TCE Spill Site Southeast
533	TCE Spill Site from TCE Unloading Operations at C-400

Appendix A-7

Solid Waste Management Units that will be Investigated and Remediated by the U.S. Army
Corps of Engineers (COE)

SWMU/AOC	DESCRIPTION
94	KOW Trickling Filter and Leach Field
95	KOW Burn Area
157	KOW Toluene Spill Area
182	Western Portion of Yellow Waterline

APPENDIX B

RCRA FACILITY INVESTIGATION (RFI) WORKPLAN OUTLINE

I. RFI Workplan Requirements

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

- A. Project Management Plan. The Permittee shall prepare a Project Management Plan which will include a discussion of the technical approach, schedules and personnel. The Project Management Plan will also include a description of qualifications of personnel performing or directing the RFI, including contractor personnel. This plan shall also document the overall management approach to the RCRA Facility Investigation.
- B. Sampling and Analysis Plan(s). The Permittee shall prepare a plan to document all monitoring procedures: field sampling, sampling procedures, and sample analysis performed during the investigation to characterize the environmental setting, source, and releases of hazardous constituents, so as to ensure that all information and data are valid and properly documented. The Sampling Strategy and Procedures shall be in accordance with Characterization of Hazardous Waste Sites: A Methods Manual; Volume II; Available Sampling Methods, EPA-600/4-84-076, or EPA Region IV Engineering Support Branch's Standard Operating Procedure and Quality Assurance Manual (SOP). Any deviations from these references must be requested by the applicant and approved by the Director. The Sampling and Analysis Plan must specifically discuss the following unless the EPA-600/4-84-076 or SOP procedures are specifically referenced.
 1. Sampling Strategy
 - a. Selecting appropriate sampling locations, depths, etc.;
 - b. Obtaining all necessary ancillary data;
 - c. Determining conditions under which sampling should be conducted;
 - d. Determining which media are to be sampled (e.g., groundwater, air, soil, sediment, sub-surface gas);

- e. Determining which parameters are to be measured and where;
 - f. Selecting the frequency of sampling and length of sampling period;
 - g. Selecting the types of samples (e.g., composites vs. grabs) and number of samples to be collected.
2. Sampling Procedures
- a. Documenting field sampling operations and procedures, including:
 - i. Documentation of procedures for preparation of reagents or supplies which become an integral part of the sample (e.g., filters, preservatives, and absorbing reagents);
 - ii. Procedures and forms for recording the exact location and specific considerations associated with sample acquisition;
 - iii. Documentation of specific sample preservation method;
 - iv. Calibration of field instruments;
 - v. Submission of field-biased blanks, where appropriate;
 - vi. Potential interferences present at the facility;
 - vii. Construction materials and techniques, associated with monitoring wells and piezometers;
 - viii. Field equipment listing and sampling containers;
 - ix. Sampling order; and
 - x. Decontamination procedures.
 - b. Selecting appropriate sample containers;
 - c. Sampling preservation; and
 - d. Chain-of-custody, including:
 - i. Standardized field tracking reporting forms to establish sample custody in the field prior to shipment; and

- ii. Pre-prepared sample labels containing all information necessary for effective sample tracking.
- 3. Sample Analysis. Sample analysis shall be conducted in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (third edition and/or most recent update). The sample analysis section of the Sampling and Analysis Plan shall specify the following:
 - a. Chain-of-custody procedures, including:
 - i. Identification of a responsible party to act as sampling custodian at the laboratory facility authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered onto the sample custody records;
 - ii. Provision for a laboratory sample custody log consisting of serially numbered standard lab-tracking report sheets; and
 - iii. Specification of laboratory sample custody procedures for sample handling, storage and disbursement for analysis.
 - b. Sample storage;
 - c. Sample preparation methods;
 - d. Analytical Procedures, including:
 - i. Scope and application of the procedure;
 - ii. Sample matrix;
 - iii. Potential interferences;
 - iv. Precision and accuracy of the methodology; and
 - v. Method detection limits.
 - e. Calibration procedures and frequency;
 - f. Data reduction, validation, and reporting;
 - g. Internal quality control checks, laboratory performance and systems audits and frequency, including:
 - i. Method blank(s);
 - ii. Laboratory control sample(s);

- iii. Calibration check sample(s);
 - iv. Replicate sample(s);
 - v. Matrix-spiked sample(s);
 - vi. Control charts;
 - vii. Surrogate samples;
 - viii. Zero and span gases; and
 - ix. Reagent quality control checks.
 - h. Preventive maintenance procedures and schedules;
 - i. Corrective action (for laboratory problems); and
 - j. Turn-around time.
- C. Data Management Plan. The Permittee shall develop and initiate a Data Management Plan to document and track investigation data and results. This plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The plan shall also provide the format to be used to present the raw data and conclusions of the investigation.
- 1. Data Record. The data record shall include the following:
 - a. Unique sample or field measurement code;
 - b. Sampling or field measurement location and sample or measurement type;
 - c. Sampling or field measurement raw data;
 - d. Laboratory analysis ID number;
 - e. Property or component measures; and
 - f. Result of analysis (e.g., concentration).
 - 2. Tabular Displays. The following data shall be presented in tabular displays:
 - a. Unsorted (raw) data;
 - b. Results for each media, or for each constituent monitored;
 - c. Data reduction for statistical analysis, as appropriate;
 - d. Sorting of data by potential stratification factors (e.g., location, soil layer, topograph); and

- e. Summary data.
3. Graphical Displays. The following data shall be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transits, three dimensional graphs, etc.)
 - a. Display sampling location and sampling grid;
 - b. Indicate boundaries of sampling area, and area where more data are required;
 - c. Display geographical extent of contamination;
 - d. Illustrate changed in concentration in relation to distances from the source, time, depth or other parameters; and
 - e. Indicate features affecting inter-media transport and show potential receptors.

II. RCRA Facility Investigation (RFI) Requirements

The Permittee shall conduct those investigations necessary to: characterize the facility (Environmental Setting); define the source (Source Characterization); define the degree and extent of release of hazardous constituents (Contamination Characterization); and identify actual or potential receptors. The investigations should result in data of adequate technical content and quality to support the development and evaluation of the corrective action plan if necessary. The information contained in a RCRA Part B permit application may be referenced as appropriate. All sampling and analyses shall be conducted in accordance with the Sampling and Analysis Plan. All sampling locations shall be documented in a log and identified on a detailed site map.

- A. Environmental Setting. The Permittee shall collect information to supplement and/or verify Part B information on the environmental setting at the facility. The Permittee shall characterize the following as they relate to identified sources, pathways, and areas of releases of hazardous constituents from Solid Waste Management Units.
 1. Hydrogeology. The Permittee shall conduct a program to evaluate hydrogeologic conditions at the facility. This program shall provide the following information:
 - a. A description of the regional and facility specific geologic and hydrogeologic characteristics affecting groundwater flow beneath the facility, including:

- i. Regional and facility-specific stratigraphy: description of strata including strike and dip, identification of stratigraphic contacts;
 - ii. Structural geology: description of local and regional structural features (e.g., folding, faulting, tilting, jointing, etc.);
 - iii. Depositional history;
 - iv. Regional and facility-specific groundwater flow patterns;
 - v. Identification and characterization of areas and amounts of recharge and discharge.
- b. An analysis of any topographic features that might influence the groundwater flow system.
- c. Based on field data, tests, and cores, a representative and accurate classification and description of the hydrogeologic units which may be part of the migration pathways at the facility (i.e., the aquifers and any intervening saturated and unsaturated units), including:
 - i. Hydraulic conductivity and porosity (total and effective);
 - ii. Lithology, grain size, sorting, degree of cementation;
 - iii. An interpretation of hydraulic interconnections between saturated zones; and
 - iv. The attenuation capacity and mechanisms of the natural earth materials (e.g., ion exchange capacity, organic carbon content, mineral content, etc.).
- d. Based on data obtained from groundwater monitoring wells and piezometers installed upgradient and downgradient of the potential contaminant source, a representative description of water level or fluid pressure monitoring including:
 - i. Water-level contour and/or potentiometric maps;
 - ii. Hydrologic cross-sections showing vertical gradients;

- iii. The flow system, including the vertical and horizontal components of flow; and
 - iv. Any temporal changes in hydraulic gradients, for example, due to tidal or seasonal influences.
 - e. A description of man-made influences that may affect the hydrology of the site, identifying:
 - i. Local water supply and production wells with an approximate schedule of pumping; and
 - ii. Man-made hydraulic structures (pipelines, French drains, ditches, etc.).
- 2. Soils. The Permittee shall conduct a program to characterize the soil and rock units above the water table in the vicinity of contaminant release(s). Such characterization may include, but not be limited to, the following types of information as appropriate:
 - a. Surface soil distribution;
 - b. Soil profile, including ASTM classification of soils;
 - c. Transects of soil stratigraphy;
 - d. Hydraulic conductivity (saturated and unsaturated);
 - e. Relative permeability;
 - f. Bulk density;
 - g. Porosity;
 - h. Soil sorption capacity;
 - i. Cation exchange capacity (CEC);
 - j. Soil organic content;
 - k. Soil pH;
 - l. Particle size distribution;
 - m. Depth of water table;
 - n. Moisture content;
 - o. Effect of stratification on unsaturated flow;
 - p. Infiltration;
 - q. Evapotranspiration;
 - r. Storage capacity;

- s. Vertical flow rate; and
 - t. Mineral content.
3. Surface Water and Sediment. The Permittee shall conduct a program to characterize the surface water bodies in the vicinity of the facility. Such characterization may include, but not be limited to, the following activities and information:
- a. Description of the temporal and permanent surface water bodies including:
 - i. For lakes and estuaries: location, elevation, surface area, inflow, outflow, depth, temperature stratification, and volume;
 - ii. For impoundments: location, elevation, surface area, depth, volume, freeboard, and construction and purpose;
 - iii. For streams, ditches, and channels: location, elevation, flow, velocity, depth, width, seasonal fluctuations, flooding tendencies (i.e., 100 year event), discharge point(s), and general contents;
 - iv. Drainage patterns; and
 - v. Evapotranspiration.
 - b. Description of the chemistry of the natural surface water and sediments. This includes determining the pH, total dissolved solids, total suspended solids, biological oxygen demand, alkalinity, conductivity, dissolved oxygen profiles, nutrients, chemical oxygen demand, total organic carbon, specific contaminant concentrations, etc.
 - c. Description of sediment characteristics including:
 - i. Deposition area;
 - ii. Thickness profile; and
 - iii. Physical and chemical parameters (e.g., grain size, density, organic carbon content, ion exchange capacity, pH, etc.).
4. Air. The Permittee shall provide information characterizing the climate in the vicinity of the facility. Such information may include, but not be limited to:

- a. A description of the following parameters:
 - i. Annual and monthly rainfall averages;
 - ii. Monthly temperature averages and extremes;
 - iii. Wind speed and direction;
 - iv. Relative humidity/dew point;
 - v. Atmospheric pressure;
 - vi. Evaporation data;
 - vii. Development of inversions; and
 - viii. Climate extremes that have been known to occur in the vicinity of the facility, including frequency of occurrence (i.e., hurricanes).
- b. A description of topographic and man-made features which affect air flow and emission patterns, including:
 - i. Ridges, hills, or mountain areas;
 - ii. Canyons or valleys;
 - iii. Surface water bodies (e.g., rivers, lakes, bays, etc.); and
 - iv. Buildings.

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

1. Unit/Disposal Area Characteristics:
 - a. Location of unit/disposal area;
 - b. Type of unit/disposal area;
 - c. Design features;
 - d. Operating practices (past and present);
 - e. Period of operation;
 - f. Age of unit/disposal area;

- g. General physical conditions; and
 - h. Method used to close the unit/disposal area.
2. Waste Characteristics:
- a. Type of wastes placed in the unit;
 - i. Hazardous classification (e.g., flammable, reactive, corrosive, oxidizing or reducing agent);
 - ii. Quantity; and
 - iii. Chemical composition.
 - b. Physical and chemical characteristics such as:
 - i. Physical form (solid, liquid, gas);
 - ii. Physical description (e.g., powder, oily sludge);
 - iii. Temperature;
 - iv. pH;
 - v. General chemical class (e.g., acid, base, solvent);
 - vi. Molecular weight;
 - vii. Density;
 - viii. Boiling point;
 - ix. Viscosity;
 - x. Solubility in water;
 - xi. Cohesiveness of the waste; and
 - xii. Vapor pressure.
 - c. Migration and dispersal characteristics of the waste such as:
 - i. Sorption capability;
 - ii. Biodegradability, concentration, biotransformation;
 - iii. Photo-degradation rates;
 - iv. Hydrolysis rates; and
 - v. Chemical transformations.

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

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

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

- a. A description of the horizontal and vertical extent of any plume(s) of hazardous constituents originating from or within the facility;
- b. The horizontal and vertical direction of contamination movement;
- c. The velocity of contaminant movement.
- d. The horizontal and vertical concentration profiles of hazardous constituents in the plume(s);
- e. An evaluation of factors influencing the plume movement; and
- f. An extrapolation of future contaminant movement.

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

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

- a. A description of the vertical and horizontal extent of the contamination;
- b. A description of appropriate contaminant and soil chemical properties within the contaminant source area and plume.

This may include contaminant solubility, speciation, absorption, leachability, exchange capacity, biodegradability, hydrolysis, photolysis, oxidation and other factors that might affect contaminant migration and transformation;

- c. Specific contaminant concentrations;
 - d. The velocity and direction of contaminant movement; and
 - e. An extrapolation of future contaminant movement.
3. Surface Water and Sediment Contamination. The Permittee shall conduct a surface water investigation to characterize contamination in surface water bodies resulting from releases of hazardous constituents at the facility. The investigation may include, but not be limited to, the following information:
- a. A description of the horizontal and vertical extent of any plume(s) originating from the facility, and the extent of contamination in underlying sediments;
 - b. The horizontal and vertical direction of contaminant movement;
 - c. The contaminant velocity;
 - d. An evaluation of the physical, biological, and chemical factors influencing contaminant movement;
 - e. An extrapolation of future contaminant movement; and
 - f. A description of the chemistry of the contaminated surface waters and sediments. This includes determining the pH, total dissolved solids, specific contaminant concentrations, etc.
4. Air Contamination. The Permittee shall conduct an investigation to characterize gaseous releases of hazardous constituents into the atmosphere or any structures or buildings. This investigation may provide the following information:
- a. A description of the horizontal and vertical direction and velocity of contaminant movement;
 - b. The rate and amount of the release; and

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

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

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

- 1. Current local uses and planned future uses of groundwater:
 - a. Type of use (e.g., drinking water source: municipal or residential, agricultural, domestic/non-potable, and industrial); and
 - b. Location of groundwater users, to include withdrawal and discharge wells, within one mile of the impacted area.

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

- 2. Current local uses and planned future uses of surface waters directly impacted by the facility:
 - a. Domestic and municipal (e.g., potable and lawn/gardening watering);
 - b. Recreational (e.g., swimming, fishing);
 - c. Agricultural;
 - d. Industrial; and
 - e. Environmental (e.g., fish and wildlife propagation).
- 3. Human use of or access to the facility and adjacent lands, including but not limited to:
 - a. Recreation;
 - b. Hunting;
 - c. Residential;
 - d. Commercial; and
 - e. Relationship between population locations and prevailing wind direction.

4. A general description of the biota in surface water bodies on , adjacent to, or affected by the facility.
5. A general description of the ecology within the area adjacent to the facility.
6. A general demographic profile of the people who use or have access to the facility and adjacent land, including, but not limited to: age; sex; and sensitive subgroups.
7. A description of any known or documented endangered or threatened species near the facility.

APPENDIX C

CORRECTIVE MEASURES STUDY (CMS) OUTLINE

- I. Identification and Development of the Corrective Measure Alternatives
 - A. Description of Current Situation
 - B. Establishment of Corrective Action Objectives
 - C. Screening of Corrective Measures Technologies
 - D. Identification of the Corrective Measure Alternatives
- II. Evaluation of the Corrective Measure Alternatives
 - A. Technical/Environmental/Human Health/Institutional
 - B. Cost Estimate
- III. Justification and Recommendation of the Corrective Measure or Measures
 - A. Technical
 - B. Environmental
 - C. Human Health
- IV. Reports
 - A. Draft
 - B. Final
 - C. Public Review and Final Selection of Corrective Measure

APPENDIX C
CORRECTIVE MEASURES STUDY (CMS)

- I. Identification and Development of the Corrective Measures Alternatives. Based on the results of the RCRA Facility Investigation and consideration of the identified potential corrective measure technologies, the Permittee shall identify, screen and develop the alternatives for removal, containment, treatment, and/or other remediation of the contamination based on the objectives established for the corrective action.
 - A. Description of Current Situation. The Permittee shall submit an update to the information describing the current situation at the facility and the known nature and extent of the contamination as documented by the RCRA Facility Investigation (RFI) Report. The Permittee shall provide an update to information presented in the RFI regarding previous response activities and interim measures which have or are being implemented at the facility. The Permittee shall also make a facility-specific statement of the purpose for the response, based on the results of the RFI. The statement of purpose should identify the actual or potential exposure pathways that should be addressed by corrective measures.
 - B. Establishment of Corrective Action Objectives. The Permittee shall propose facility-specific objectives for the corrective action. These objectives shall be based on public health and environmental criteria, information gathered during the RFI, EPA guidance, and the requirements of any applicable Federal Statutes. At a minimum, all corrective actions concerning groundwater releases from regulated units must be consistent with, and as stringent as, those required under 401 KAR 34:060, Section 11.
 - C. Screening of Corrective Measure Technologies. The Permittee shall review the results of the RFI and assess the technologies which are applicable at the facility. The Permittee shall screen the corrective measure technologies to eliminate those that may prove infeasible to implement, that rely on technologies unlikely to perform satisfactorily or reliable, or that do not achieve the corrective measure objective within a reasonable time period. This screening process focuses on eliminating those technologies which have severe limitations for a given set of waste and site-specific conditions. The screening step may also eliminate technologies based on inherent technology limitations.

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

1. Site Characteristics. Site data should be reviewed to identify conditions that may limit or promote the use of certain technologies. Technologies whose use is clearly precluded by site characteristics should be eliminated from further consideration.
 2. Waste Characteristics. Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening process. Technologies clearly limited by these waste characteristics should be eliminated from consideration. Waste characteristics particularly affect the feasibility of in-situ methods, direct treatment methods, and land disposal (on/off-site).
 3. Technology Limitations. During the screening process, the level of technology development, performance record, and inherent construction, operation, and maintenance problems should be identified for each technology considered. Technologies that are unreliable, perform poorly, or are not fully demonstrated may be eliminated in the screening process. For example, certain treatment methods have been developed to a point where they can be implemented in the field without extensive technology transfer or development.
- D. Identification of the Corrective Measure Alternatives. The Permittee shall develop the Corrective Measure alternatives based on the corrective action objectives and analysis of potential corrective measure technologies. The Permittee shall rely on engineering practice to determine which of the previously identified technologies appear most suitable for the site. Technologies can be combined to form the overall corrective action alternatives. The alternatives developed should represent a workable number of option(s) that each appears to adequately address all site problems and corrective action objectives. Each alternative may consist of an individual technology or a combination of technologies. The Permittee shall document the reasons for excluding technologies.
- II. Evaluation of the Corrective Measure Alternatives. The Permittee shall describe each corrective measure alternative that passes through the initial screening and evaluate each corrective measure alternative and its components. The evaluation shall be based on technical, environmental, human health, and institutional concerns. The Permittee shall also develop cost estimates of each corrective measure.

A. Technical/Environmental/Human Health/Institutional. The Permittee shall provide a description of each corrective measure alternative which includes but is not limited to the following: preliminary process flow sheets; preliminary sizing and type of construction for buildings and structures; and rough quantities of utilities required. The Permittee shall evaluate each alternative in the four following areas:

1. Technical. The Permittee shall evaluate each corrective measure alternative based on performance, reliability, implementability, and safety.

a. The Permittee shall evaluate performance based on the effectiveness and useful life of the corrective measure:

i. Effectiveness shall be evaluated in terms of the ability to perform intended functions, such as containment, diversion, removal, destruction, or treatment. The effectiveness of each corrective measure shall be determined either through design specifications or by performance evaluation. Any specific waste or site characteristics which could potentially impede effectiveness shall be considered. The evaluation should also consider the effectiveness of combinations of technologies; and

ii. Useful life is defined as the length of time the level of desired effectiveness can be maintained. Most corrective measure technologies, with the exception of destruction, will deteriorate with time. Often, deterioration can be slowed through proper system operation and maintenance, but the technology eventually may require replacement. Each corrective measure shall be evaluated in terms of the projected service lives of its component technologies. Resource availability in the future life of the technology, as well as appropriateness of the technologies, must be considered in estimating the useful life of the project.

b. The Permittee shall provide information on the reliability of each corrective measure including their operation and maintenance requirements and their demonstrated reliability:

- i. Operation and maintenance requirements include the frequency and complexity of necessary operation and maintenance. Technologies requiring frequent or complex operation and maintenance activities should be regarded as less reliable than technologies requiring little or straightforward operating and maintenance. The availability of labor and materials to meet these requirements shall also be considered; and
 - ii. Demonstrated and expected reliability is a way of measuring the risk and effect of failure. The Respondent should evaluate whether the technologies have been used effectively under analogous conditions; whether the combination of technologies have been used together effectively; whether failure of any one technology has an immediate impact on receptors; and whether the corrective measure has the flexibility to deal with uncontrollable changes at the site.
- c. The Permittee shall describe the implementability of each corrective measure including the relative ease of installation (constructability) and the time required to achieve a given level of response:
- i. Constructability is determined by conditions both internal and external to the facility conditions and includes such items as location of underground utilities, depth to water table, heterogeneity of subsurface materials, and location of the facility (i.e., remote location vs. a congested urban area). The Permittee shall evaluate what measures can be taken to facilitate construction under these conditions. External factors which affect implementation include the need for special permits or agreements, equipment availability, and the location of suitable off-site treatment or disposal facilities; and
 - ii. Time has two components that shall be addressed: the time it takes to implement a corrective measure and the time it takes to actually see beneficial

results. Beneficial results are defined as the reduction of contaminants to some acceptable, pre-established level.

- d. The Permittee shall evaluate each corrective measure alternative with regard to safety. This evaluation shall include threats to the safety of nearby communities and environments as well as those to workers during implementation. Factors to consider are fire, explosion, and exposure to hazardous substances.
2. Environmental. The Permittee shall perform an Environmental Assessment for each alternative. The Environmental Assessment shall focus on the facility conditions and pathways of contamination actually addressed by each alternative. The Environmental Assessment for each alternative will include, at a minimum, an evaluation of: the short- and long-term beneficial and adverse effects of the response alternative; any adverse effects on environmentally sensitive areas; and an analysis of measures to mitigate adverse effects.
3. Human Health. The Permittee shall assess each alternative in terms of the extent to which it mitigates short- and long-term potential exposure to any residual contamination and protects human health both during and after implementation of the corrective measure. The assessment will describe the concentrations and characteristics of the contaminants on-site, potential exposure routes, and potentially affected population. Each alternative will be evaluated to determine the level of exposure to contaminants and the reduction over time. For management of mitigation measures, the relative reduction of impact will be determined by comparing residual levels of each alternative with existing criteria, standards, or guidelines acceptable to the Division.
4. Institutional. The Permittee shall assess relevant institutional needs for each alternative. Specifically, the effects of Federal, state, and local environmental and public health standards, regulations, guidance, advisories, ordinances, or community relations on the design, operation, and timing of each alternative. If the selected remedy is capping and closure in place, a notation must be made in the land deed.

- B. Cost Estimate. The Permittee shall develop an estimate of the cost of each corrective measure alternative (and for each phase or segment of the alternative). The cost estimate shall include both capital and operation and maintenance costs.
1. Capital costs consist of direct (construction) and indirect (non-construction and overhead) costs.
 - a. Direct capital costs include:
 - i. Construction Costs. Costs of materials, labor (including fringe benefits and worker's compensation), and equipment required to install the corrective measure.
 - ii. Equipment Costs. Costs of treatment, containment, disposal, and/or service equipment necessary to implement the action; these materials remain until the corrective action is complete;
 - iii. Land and Site-Development Costs. Expenses associated with purchase of land and development of existing property; and
 - iv. Buildings and Services Costs. Costs of process and non-process buildings, utility connections, purchased services, and disposal costs.
 - b. Indirect capital costs include:
 - i. Engineering Expenses. Costs of administration, design, construction supervision, drafting, and testing of corrective measure alternatives;
 - ii. Legal Fees and License or Permit Costs. Administrative and technical costs necessary to obtain licenses and permits for installation and operation;
 - iii. Land and Site Development Costs. Expenses associated with purchase of land and development of existing property; and
 - iv. Buildings and Services Costs. Cost of process and non-process buildings, utility connections, purchased services, and disposal costs.

- v. Startup and Shakedown Costs. Costs incurred during corrective measure startup; and
 - vi. Contingency Allowances. Funds to cover costs resulting from unforeseen circumstances, such as adverse weather conditions, strikes, and inadequate facility characterization.
2. Operation and maintenance costs are post-constructive costs necessary to ensure continued effectiveness of a corrective measure. The Permittee shall consider the following operation and maintenance cost components:
- a. Operating labor costs. Wages, salaries, training, overhead, and fringe benefits associated with the labor needed for post-closure operations;
 - b. Maintenance materials and labor costs. Costs for labor, parts, and other resources required for routine maintenance of facilities and equipment;
 - c. Auxiliary materials and energy. Costs of such items as chemicals and electricity for treatment plant operations, water and sewer service, and fuel;
 - d. Purchased services. Sampling costs, laboratory fees, and professional fees for which the need can be predicted;
 - e. Disposal and treatment costs. Costs of transporting, treating, and disposing of waste materials, such as treatment plant residues, generated during operations;
 - f. Administrative costs. Costs associated with administration of corrective measure operation and maintenance not included under other categories;
 - g. Insurance, taxes, and licensing costs. Costs of such items as liability and sudden accident insurance; real estate taxes on purchased land or right-of-way; licensing fees for certain technologies; and permit renewal and reporting costs;
 - h. Maintenance reserve and contingency funds. Annual payments into escrow funds to cover (1) costs of anticipated replacement or rebuilding of equipment and (2) any large unanticipated operation and maintenance costs; and

- i. Other costs. Items that do not fit any of the above categories.

III. Justification and Recommendation of the Corrective Measure or Measures. The Permittee shall justify and recommend a corrective measure alternative using technical, human health, and environmental criteria. This recommendation shall include summary tables which allow the alternative or alternatives to be understood easily. Tradeoffs among health risks, environmental effects, and other pertinent factors shall be highlighted. The Director will select the corrective measure alternative or alternatives to be implemented based on the results obtained from work completed under Sections II and III. At a minimum, the following criteria will be used to justify the final corrective measure or measures.

A. Technical

1. Performance: Corrective measure(s) which are most effective at performing their intended functions and maintaining the performance over extended periods of time will be given preference;
2. Reliability: Corrective measure(s) which do not require frequent or complex operation and maintenance activities and that have proved effective under waste and facility conditions similar to those anticipated will be given preference;
3. Implementability: Corrective measure(s) which can be constructed and operated to reduce levels of contamination to attain or exceed applicable standards in the shortest period of time will be preferred; and
4. Safety: Corrective measure(s) which pose the least threat to the safety of nearby residents and the environment as well as workers during implementation will be preferred.

B. Human Health. The corrective measure(s) must comply with existing Kentucky criteria, standards, or guidelines for the protection of human health. Corrective measures which provide the minimum level of exposure to contaminants and the maximum reduction in exposure with time are preferred.

C. Environmental. The corrective measure(s) posing the least adverse impact (or greatest improvement) over the shortest period of time on the environment will be favored.

IV. Reports. The Permittee shall prepare a Corrective Measure Study Report presenting the results obtained from Section I through III and recommending a

corrective measure alternative. Copies of the preliminary report shall be provided by the Permittee to the Director for review and approval.

A. Draft. The Report shall at a minimum include:

1. A description of the facility including site topographic map and preliminary layouts;
2. A summary of the corrective measure(s) and rationale for selection;
 - a. Description of the corrective measure(s) and rationale for selection;
 - b. Performance expectations;
 - c. Preliminary design criteria and rationale;
 - d. General operation and maintenance requirements; and
 - e. Long-term monitoring requirements.
3. A summary of the RCRA Facility Investigation and impact on the selected corrective measure(s);
 - a. Field studies (groundwater, surface water, soil, air); and
 - b. Laboratory studies (bench scale, pick scale).
4. Design and implementation precautions;
 - a. Special technical problems;
 - b. Additional engineering data required;
 - c. Permits and regulatory requirements;
 - d. Access, easements, right-of-way;
 - e. Health and safety requirements; and
 - f. Community relations activities.
5. Cost estimates and schedules;
 - a. Capital cost estimate;
 - b. Operation and maintenance cost estimate; and
 - c. Project schedule (design, construction, operation).

Copies of the draft shall be provided by the Permittee to the Director.

B. Final. The Permittee shall finalize the Corrective Measure Study Report incorporating comments received from the Division on the Draft

Corrective Measure Study Report. The report shall become final upon approval by the Director.

- C. Public Review and Final Selection of Corrective Measures. Upon receipt of the Final Corrective Measure Study Report, the Division shall announce its availability to the public for review and comment. At the end of the comment period, the Director shall review the comments and then inform the Permittee of the final decision as to the approved Corrective Measures to be implemented.

SCHEDULE OF COMPLIANCE

Schedule of Compliance	Due Date
Notification of newly identified SWMUs and AOCs	Within fifteen (15) calendar days of discovery
SWMU Assessment Report	Within ninety (90) calendar days of notification
Notification for newly discovered releases at previously identified SWMUs and AOCs	Within fifteen (15) calendar days of discovery
RFI Work Plan	Within one hundred and eighty (180) calendar days after receipt of notification by the Manager which SWMUs or AOCs require an RFI
RFI Progress Reports****	Quarterly, beginning ninety (90) calendar days from the start date specified by the Manager*
Draft RFI Report	In accordance with the approved RFI Work Plan
Final RFI Report	Within sixty (60) calendar days after receipt of the Manager's comments on the draft RFI report
Interim Measures Work Plan	Within ninety (90) calendar days of notification by the Manager
Interim Measures Progress Reports****	Quarterly, beginning 90 days from start date specified by the Manager**
Interim Measure Report	Within ninety (90) calendar days of completion
CMS Plan	Within one hundred and eighty (180) calendar days of notification by the Manager that a CMS is needed
Draft CMS Report	In accordance with the schedule defined in the approved CMS plan
Final CMS Report	Within sixty (60) calendar days of the Manager's comments on draft CMS report
Imminent Hazard Report	Orally within 2 hours; written within fifteen (15) calendar days
Waste Minimization Certification	Annually from effective date of permit
Vent Monitoring/Inspection Scheduled and Procedures	Within 30 calendar days prior to anticipated process start-up
Vent Emissions Non-Compliance and Unrepaired Equipment Leak Reports	Semi-annually beginning six (6) months after the effective date of the permit

SCHEDULE OF COMPLIANCE

Schedule of Compliance	Due Date
GWOU (Southwest Plume Sources – SWMU 1) D1 Remedial Action Completion Report	3/31/2016
GWOU (Southwest Plume Sources – SWMUs 211 A&B) D1 Remedial Design Report	8/4/2016 (If long-term monitoring is the remedy selected)
GWOU (Southwest Plume Sources – SWMUs 211 A&B) D1 Remedial Action Work Plan	9/3/2016 (If long-term monitoring is the remedy selected)
GWOU (C-400 Phase IIb Treatability Study) D1 Treatability Study Report	181 calendar days from completion of TS data collection
GWOU (C-400 Phase IIb Treatability Study) D1 Revised Proposed Plan	110 calendar days after approval of the TS Report
GWOU (C-400 Phase IIb Treatability Study) D1 Record of Decision	30 days after close of public comment period on the Proposed Plan
Groundwater Operable Unit D1 Interim Remedial Action Completion Report	9/30/2032
D&D OU (Disposition of Inactive PGDP Facilities) D1 C-410 Completion Notification Letter	6/30/2015
Waste Disposal Options D1 Proposed Plan	45 days after approval of the WDA Feasibility Study
Waste Disposal Options D1 Record of Decision	30 days after close of the public comment period on the Proposed Plan
Waste Disposal Options D1 Remedial Design Work Plan	60 days after Record of Decision signature
Surface Water Operable Unit D1 Remedial Action Completion Report	9/30/2032
Soils Operable Unit (Remedial Action 2) D1 Remedial Investigation Report	8/31/2015

Schedule of Compliance	Due Date
Soils Operable Unit D1 Remedial Action Completion Report	9/30/2030
BGOU (SWMUs 5 and 6 Remedial Action) D1 Record of Decision	30 days after close of the public comment period on the Proposed Plan
BGOU (SWMUs 5 and 6 Remedial Action) D1 Remedial Design Work Plan	60 days after Record of Decision signature
BGOU (SWMUs 5 and 6 Remedial Action) D1 Remedial Design Report	1 year after submittal of the Remedial Design Work Plan
BGOU (SWMUs 5 and 6 Remedial Action) D1 Remedial Action Work Plan	30 days after submittal of the Remedial Design Report
BGOU (SWMUs 5 and 6 Remedial Action) Field Start	90 days after approval of the Remedial Action Work Plan
BGOU (SWMU 4 Remedial Action) D1 Remedial Investigation Report Addendum	7/5/2016
BGOU (SWMU 4 Remedial Action) D1 Feasibility Study	60 days after EPA and KY approval of the Remedial Investigation Report
Burial Grounds Operable Unit D1 Remedial Action Completion Report	9/30/2031

The above reports must be signed and certified in accordance with 401 KAR 38:070, Section 7.

- * This applies to Work Plan execution that requires more than one hundred eighty (180) calendar days.
- ** This applies to Work Plan execution that requires more than one year.
- *** This requirement may be satisfied by the Permittee submission of FFA semi-annual reports (April 30 and October 30).

APPENDIX E

**MODIFICATION OF THE CORRECTIVE ACTION
SCHEDULE OF COMPLIANCE**

APPENDIX E

MODIFICATION OF THE CORRECTIVE ACTION

SCHEDULE OF COMPLIANCE

- I. If at any time the Manager determines that modification of the Corrective Action Schedule of Compliance is necessary, the Manager may initiate a modification to the Schedule of Compliance according to this procedure. If the Manager initiates a modification, he shall:
 - A. Notify the Permittee in writing of the proposed modification and the date by which comments on the proposed modification must be received; and
 - B. Publish a notice of the proposed modification in a locally distributed newspaper, mail a notice to all persons on the facility mailing list, and place a notice in the facility's information repository (i.e., a central source of all pertinent documents concerning the remedial action, usually maintained at the facility or some other public place, such as a public library, that is accessible to the public) if one is required.
 1. If the Manager receives no written comment on the proposed modification, the modification shall become effective five (5) calendar days after the close of the comment period.
 2. If the Manager receives written comment on the proposed modification, the Director shall make a final determination concerning the modification after the end of the comment period.
 - C. Notify the Permittee in writing of the final decision.
 1. If no written comment was received, the Manager shall notify individuals on the facility mailing list in writing that the modification has become effective and shall place a copy of the modified Corrective Action Schedule of Compliance in the information repository, if a repository is required for the facility.
 2. If written comment was received, the Manager shall provide notice of the final modification decision in a locally distributed newspaper and place a copy of the modified Corrective Action Schedule of Compliance in the information repository, if a repository is required for the facility.

- II. Modifications to the Corrective Action Schedule of Compliance do not constitute a reissuance of the permit.
- III. At the discretion of the Manager, modifications to the Corrective Action Schedule of Compliance that are initiated by the Permittee may proceed as a Class 1 modification in accordance with 401 KAR 38:040, Section 3. Any modification of final compliance dates (e.g. Surface Water OU Remedial Action Completion Report) shall proceed as a Class 3 modification in accordance with 401 KAR 38:030, Section 2.

APPENDIX F

RECORDS OF DECISION (ROD) FOR OPERABLE UNITS

The Records of Decision for the specific Operable Units listed in the Table of Contents can be found in the Administrative Records for those projects at the following website:

<http://www.paducaheic.com/Default.aspx>.