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Office of Administrative Hearings

COMMONWEALTH OF KENTUCKY
ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
OFFICE OF ADMINISTRATIVE HEARINGS
FILE NO. DOW-28187-045
FILE NO. DOW-28193-039
FILE NO. DOW-28194-039
FILE NO. DOW-28195-039
FILE NO. DOW-28196-039

PADUCAH REMEDIATION SERVICES, LLC and UNITED STATES DEPARTMENT OF ENERGY, URANIUM DISPOSITION SERVICES, LLC, UNITED STATES ENRICHMENT CORPORATION, and KENTUCKY RESOURCES COUNCIL, INC. — **PETITIONERS**

vs.

AGREED ORDER

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET — **RESPONDENT**

* * * * * * * * * * * *

WHEREAS, the Environmental and Public Protection Cabinet (hereinafter "the Cabinet") is an executive agency of the Commonwealth charged with the statutory duty to issue Kentucky Pollutant Discharge Elimination System ("KPDES") permits pursuant to KRS 224.16-050 and regulations promulgated pursuant to that statute;

WHEREAS, Petitioners, Paducah Remediation Services, LLC ("PRS"), United States Department of Energy ("DOE") and Uranium Disposition Services, LLC ("UDS") are permittees under KPDES Permit No. KY0004049 (hereinafter "the Permit") issued by the Cabinet for the treatment and discharge of wastewater at the Paducah Gaseous Diffusion Plant (hereinafter, "PGDP", or "facility") in McCracken County, Kentucky, effective November 1, 2006, which is a renewal of the previous KPDES permit;

WHEREAS, Petitioner, United States Enrichment Corporation ("USEC"), is a Delaware corporation authorized to do business in the Commonwealth of Kentucky. USEC operates uranium enrichment facilities at the Paducah Gaseous Diffusion Plant, identified above, pursuant to a lease agreement with DOE;

WHEREAS, Petitioner, Kentucky Resources Council, Inc., is a non-profit environmental advocacy organization incorporated under the laws of the Commonwealth of Kentucky;

WHEREAS, each Petitioner has filed a petition for administrative hearing to challenge certain provisions of the Permit and the Cabinet has filed a response to each petition;

WHEREAS, all petitions filed by the Permittee Petitioners and the petition filed by USEC contest, among other things, the inclusion in the Permit of forty-five (45) water quality-based parameters not previously included in the Permit (the "45 contested parameters")[1];

WHEREAS, all petitions filed by the Permittee Petitioners and by USEC contest the inclusion in the permit of effluent limits on radionuclides;

WHEREAS, in the SAMPLING PLAN FOR CHARACTERIZATION OF THE 45 CONTESTED PARAMETERS, Section III of this Agreed Order, the Permittees have identified the sources of the waste streams to facility Outfalls 001, 015, 017 and 019/020, and the Cabinet has relied on the Permittees' identification of those sources in negotiating the terms of this Agreed Order;

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[1] The 45 contested parameters are: 1,1,2,2-Tetrachloroethane, 1,1-Dichloroethene, 1,2-Diphenylhydrazine, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 3,3'-Dichlorobenzidine, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, Acrylonitrile, Aldrin, alpha-BHC, alpha-Endosulfan, Benzidine, Benz(a)anthracene, Benzo(a)pyrene, Benzo(k)fluoranthene, beta-BHC, beta-Endosulfan, Bis(2-ethylhexyl)phthalate, Carbon Tetrachloride, Chlordane, Chrysene, Dibenz(a,h)anthracene, Dieldrin, Endrin, Free Cyanide, gamma-BHC (Lindane), Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, N-Nitrosodimethylamine, N-Nitroso-di-n-propylamine, N-Nitrosodiphenylamine, Pentachlorophenol, Tetrachloroethene, Total Recoverable Cadmium, Total Recoverable Copper, Total Recoverable Lead, Total Recoverable Mercury, Total Recoverable Selenium, Total Recoverable Silver, and Total Recoverable Thallium.

WHEREAS, the Permittee Petitioners have also challenged the Permit discharge limitations for Total Suspended Solids for Outfalls 015 and 017, Polychlorinated Biphenyls, Zinc and Trichlorethylene;

WHEREAS, the parties have engaged in mediation, and all parties wish to resolve the petitions for administrative hearing through satisfaction of all conditions set forth herein;

WHEREAS, the Cabinet will be seeking to amend its administrative regulations to establish new water quality criteria for radionuclides;

WHEREAS, the outcome of the process to amend the regulations with respect to the water quality criteria for radionuclides could render the appeal of the radionuclide effluent limits in the current Permit moot;

WHEREAS, the parties wish to conserve resources and promote judicial economy; and

WHEREAS, KRS 224.10-440 allows time frames for administrative hearings to be waived upon concurrence of the parties;

NOW THEREFORE, in the interest of resolving the claims and controversies raised in Petitioners' petitions for administrative hearing, Petitioners and the Cabinet hereby consent to entry of this Agreed Order and agree as follows:

Section I. GENERAL PROVISIONS

1. The Cabinet shall propose a draft Permit modification in accordance with the terms and conditions of this Agreed Order and the procedures set forth in 401 KAR 5:050 through 5:080. All Petitioners understand and agree that the draft modification of the Permit shall be subject to public notice, public comment and public hearing, and review of public comments in accordance with 401 KAR 5:075. The Cabinet's final decision to issue or deny the modification will be made in accordance with KRS Chapter 224 and 401 KAR Chapter 5.

2. Attached hereto as Exhibit 1 is a copy of the draft Permit containing the currently agreed-upon modifications which the Cabinet will propose and publish for public comment.

3. At the conclusion of the public comment period, the Cabinet will issue a final determination as provided by 401 KAR 5:075, unless it reopens the public comment period as provided by that regulation. If the Cabinet issues a final KPDES permit modifying the challenged Permit by changing only those provisions, and only as described, in paragraph 2, above, and Exhibit 1 of this Agreed Order, Petitioners waive their right to contest the final KPDES permit determination, except for the radionuclide requirements of the permit. In the event the Cabinet intends to issue a Permit modification that varies from the language in paragraph 2, above, and Exhibit 1, the Cabinet will notify the Petitioners prior to issuance of the final determination on the modification. The parties will meet to discuss the proposed changes. Following such discussion, if the Cabinet issues a Permit modification that varies from the language in paragraph 2, above, and Exhibit 1, each Petitioner reserves the right to request a hearing with respect to any provisions contained in the Permit modification that vary from those described in paragraph 2, above, and Exhibit 1, and any other provision of the modification. Notwithstanding the foregoing, the parties agree that the provisions of the Permit that have not been challenged by the Petitioners in this proceeding to date are not subject to challenge on issuance of the modified permit.

4. If the Permit is modified by changing only those provisions, and only as described, in paragraph 2, above, and Exhibit 1, then the petitions for administrative hearing filed by Petitioners shall be dismissed, with prejudice, upon final issuance of the Permit modification, except for those portions of the petitions respecting requirements of the Permit pertaining to radionuclides. If the Permit is modified, but not as described in paragraph 2 and Exhibit 1 of this

Agreed Order, the Petitioners shall file a motion to voluntarily dismiss those portions of their respective petitions, with prejudice, that have been rendered moot or have been resolved to the satisfaction of the Petitioners by the Permit modification, except for those portions of the petitions respecting requirements of the Permit pertaining to radionuclides. Each Petitioner may elect, in its sole discretion, to file a motion to voluntarily dismiss other portions of its petition.

5. Two new Best Management Practice (BMP) Plans have been proposed for the Permit. One is for Outfall 017 (June 2007), prepared by UDS, and one for the other Outfalls that are the subject of the permit (May 2007), prepared by PRS. These new BMP Plans have been accepted by the Cabinet. These BMP Plans shall become effective on the effective date of the modified Permit and replace the existing *Best Management Practices Plan, Paducah Gaseous Diffusion Plant, Paducah, Kentucky* dated May 2001, if (1) the Permit conditions relating to Polychlorinated Biphenyls, Trichloroethylene, Zinc, and Total Suspended Solids (TSS) are modified as described in paragraph 2, above, and Exhibit 1, or (2) these Permit conditions are not so modified, and the Permittees, in their sole discretion, nonetheless agree in writing that these new BMP Plans become effective and replace the existing plan.

6. DOE, UDS, PRS, and USEC agree to dismiss their challenges to the imposition of the new daily maximum limit on temperature at Outfalls 001 and 017. In consideration thereof, the Cabinet agrees to consider all mitigating factors, including all naturally occurring conditions demonstrated by the permittees, in determining its response to an exceedance of the daily maximum temperature limit in the Permit, including whether to issue a notice of violation.

7. The parties recognize that the sedimentation basins for Outfalls 001 and 019 are designed for 24-hour, 10-year and 24-hour, 25-year storm events, respectively. DOE, UDS, PRS, and USEC agree to dismiss their challenges to the imposition of the TSS limitations at

these outfalls based upon the Cabinet's recognition that precipitation events in excess of these design criteria, together with other necessary conditions identified in the regulation, may constitute an upset as specified in 401 KAR 5:065 Section 1 (14).

8. The Permittees shall use Cabinet-approved analytical methods for analyzing all parameters under the Permit, and shall report those parameters not detected above the Practical Quantification Limit (PQL) as "Below Detection Limit (BDL)." For the purpose of demonstrating compliance with the Permit average limits and loading limits, BDL shall be considered a reading of '0.' The acceptance of test results reflecting non-detection of parameters below the PQL as being below detection limit in this Permit and to resolve the present litigation is not to be used as evidence that the Cabinet believes that a parameter not detected at the PQL is Below Detection Limit in all instances. As appropriate, the Cabinet reserves the right to establish permit limits based on detection of pollutants at the (Method Detection Level (MDL) and below a PQL for purposes of any other permit action at this or other facilities.

9. By the signature of the President of UDS to this Agreed Order, UDS certifies based on inquiry of the person or persons who manage the system or persons directly responsible for gathering the information and upon information and belief of the President of UDS that the information submitted is to the best of his knowledge and belief, true, accurate and complete, that with the exception of any pollutants contained in surface water withdrawn and discharged to Outfall 17, the operation of the depleted uranium hexafluoride conversion facility will not contribute any of the 38 organic pollutants listed below (which is a subset of the 45 contested parameters) to the discharge from Outfall 017 and that none of the following 38 listed organic pollutants are feed stock or raw materials utilized by the operation nor intermediate product, final product, by-product, or waste generated by the facility:

1,1,2,2-Tetrachloroethane	Bis(2-ethlyhexyl)phthalate
1,1-Dichloroethene	Carbon Tetrachloride
1,2-Diphenylhydrazine	Chlordane
2,4,6-Trichlorophenol	Chrysene
Dibenz(a,h)anthracene	4,4'-DDE
	Endrin
2,4-Dinitrotoluene	3,3'-Dichlorobenzidine
4,4'-DDD	Dieldrin
4,4'-DDT	Acrylonitrile
Free Cyanide	gamma-BHC (Lindane)
Aldrin	alpha-BHC
Heptachlor	Heptachlor epoxide
alpha-Endosulfan	Hexachlorobenzene
Benzidine	Benz(a)anthracene
Hexachloroethane	Indeno(1,2,3-cd)pyrene
Benzo(a)pyrene	N-Nitrosodimethylamine
Benzo(k)fluoranthene	N-Nitroso-di-n-propylamine
Pentachlorophenol	beta-BHC
	beta-Endosulfan
Tetrachloroethene	N-Nitrosodiphenylamine

The Cabinet relies on this certification by UDS in negotiating the terms of this Agreed Order.

Section II. RESOLUTION OF THE RADIONUCLIDE REQUIREMENTS OF THE PERMIT

10.

a. For a period beginning on the effective date of this Agreed Order and ending three years after the effective date of the modified permit (hereinafter "the Abeyance Period"), the administrative appeal (further discovery, hearing, etc.) of the radionuclide-related requirements of the Permit will be held in abeyance except as provided below. Notwithstanding the foregoing, the Permittees may terminate the Abeyance Period on written notice of termination to all other parties if any one of the following events has occurred: (i) the Cabinet fails to propose amendment of its

administrative regulations to establish new water quality criteria for radionuclides within one year of the effective date of this Agreed Order; or (ii) the Cabinet abandons its proposed rulemaking to amend its administrative regulations to establish new water quality criteria for radionuclides; or (iii) the Cabinet proposes an amendment that would not, as currently anticipated, moot the current appeal of the radionuclide effluent limits; or (iv) sixty (60) days advance written notice to the Cabinet and Kentucky Resources Council, Inc. that DOE elects to abandon the Abeyance Period.

b. In the event an amendment to the administrative regulations to establish new water quality criteria for radionuclides is adopted, the Permit will be modified in a manner consistent with the amendment.

c. If such modification of the Permit renders moot those claims of Petitioners respecting radionuclide requirements, the Petitions will be dismissed, with prejudice. To the extent provided in subparagraph 10(a), above, the parties hereby agree to waive the time periods specified in KRS 224.10-440(3) for completion and transmittal of the Hearing Officer's report and recommended order to the Secretary.

d. During the Abeyance Period, to the extent allowed by law, the effectiveness of the radionuclide effluent limits will be stayed.

e. During the Abeyance Period, Permittees will continue to monitor and report the results of sample analyses for radionuclides in accordance with the Permit provisions effective on November 1, 2006.

f. The effective date of the current radionuclide effluent limits will be extended beyond the end of the Abeyance Period to the extent allowed by law, if such an

extension is requested by DOE and is necessary to allow Permittees to achieve compliance.

g. At the end of the Abeyance Period, the parties anticipate that the dispute over the current radionuclide effluent limits will either be rendered moot, and the Petitions dismissed, with prejudice, or the parties will proceed to adjudicate the issue in the appropriate forum. If the parties proceed to adjudicate the issue, the radionuclide effluent limits, to the extent allowed by law, will be stayed until a final decision has been rendered and all administrative reviews, and the initial judicial review, have been exhausted. The parties reserve their respective positions with regard to a stay of the radionuclide effluent limits during any subsequent judicial review.

h. The parties reserve their respective positions and rights, procedural and substantive, regarding the radionuclide effluent limit and monitoring requirements of the Permit, including positions set forth in their respective petitions and responses to the petitions. The parties also reserve their respective positions and rights, procedural and substantive, regarding all aspects of re-starting the adjudicatory process, including any issues relating to the appropriate adjudicatory forum.

i. Until there is a final adjudication and all administrative and judicial appeals have been exhausted, the current radionuclide effluent limits will not be considered an effective part of the permit for anti-backsliding purposes.

j. The Petitioners reserve their respective rights to participate in the Commonwealth's rulemaking to establish new radionuclide water quality criteria and to challenge the results of that process, including the imposition of any new radionuclide requirements in the Permit.

Section III. SAMPLING PLAN FOR CHARACTERIZATION OF THE 45 CONTESTED PARAMETERS

11. The parties agree to the following sampling plan for characterization of the 45 contested parameters ("Sampling Plan") in order that the Cabinet may determine whether the Permit shall contain effluent limits for, or contain a requirement for continued routine monitoring of, any or all of the 45 contested parameters.

a. Outfall 017

i) Sources of Effluent: The sources are storm water runoff from the depleted uranium hexafluoride ("DUF6") site and cylinder yards and non-contact process waters from the future DUF6 conversion facility.

ii) Prior to introduction of DUF6 to the conversion facility process, UDS will collect two grab samples during two distinct rainfall events and analyze the samples for all 45 contested parameters using the methods described in Part III of the Permit. One sample was collected in November 2006 and the second will be collected during a rainfall event in 2007.

iii) Once the DUF6 conversion facility is operational (i.e. DUF6 is introduced to the process) and begins discharging non-contact process waters, grab samples from Outfall 017 will be collected for two consecutive quarters during non-rainfall discharge events and will be analyzed for Total Recoverable Cadmium, Total Recoverable Copper, Total Recoverable Lead, Total Recoverable Mercury, Total Recoverable Selenium, Total Recoverable Silver, and Total Recoverable Thallium. The samples will be analyzed by the methods listed in Part III of the Permit.

b. Outfall 015

i) Sources of Effluent: The sources are untreated storm water runoff from the C-749 Uranium Scrap Burial Yard, from the C-404 Low-Level Radioactive Waste Burial Ground, and from the C-747 Burial Area.

ii) DOE will collect two grab samples from Outfall 015 during two distinct rainfall events and analyze the samples using the methods identified in Part III of the Permit. One sample was collected in November 2006 and the second was collected during a rainfall event in 2007.

c. Outfall 019/020

i) Sources of Effluent: The sources are storm water runoff from the C-746-U Landfill (Outfall 019) and treated leachate from the C-746-U and C-746-S Landfills (Outfall 020).

ii) DOE will collect two grab samples of effluent that is discharged from the sedimentation basin, primarily from surface run-off from the C-746-U Landfill, and two grab samples of effluent that is discharged from the C-746-U and C-746-S Leachate Treatment System and will analyze the samples using the methods identified in Part III of the Permit. One grab sample was collected in January 2007 for the surface run-off, and data previously collected from the treated leachate as part of the August 2006 Agreed Order entered in File No. DWM-27732-042 may be utilized for the grab sample from the leachate treatment system, provided it was analyzed using the analytical methods in Part III of the Permit.

d. Outfall 001

The monthly average flow through Outfall 001 into Bayou Creek is 10.53 mlpd (2.79 mgpd) – approximately 83,700,000 gallons per month.

i) Sources of Effluent: The four major sources (approximately 83,695,000 gallons per month) are the C-612 Groundwater Northwest Plume Pump and Treat System Effluent, the C-616 Lagoon Effluent, the C-613 Sedimentation Basin, and the East-West Diversion Ditch.

De minimis sources are several intermittent waste streams that can be discharged. These sources make up approximately 5000 gallons per month average. To allow for peak discharges, the KPDES Permit application listed approximately 20,000 gallons per month.

ii) DOE will collect one grab sample from the effluent at the compliance point of the Outfall while C-612, C-616, and C-613 are all discharging and there is no storm water discharge from the East-West Diversion Ditch.

iii) DOE will collect one grab sample from the effluent at the compliance point of the Outfall during a rainfall event and while C-612, C-616, and C-613 are all discharging.

Data from grab samples collected from Outfall 001 in November 2006 and January 2007 will be used to represent routine discharge conditions for discharge from C-616 and C-612.

e. *De minimis* discharge sources are several intermittent waste streams that may be discharged. *De minimis* discharges are excluded from this sampling due to the

negligible impact to the overall concentration in the outfall and the intermittent nature of the discharge.

De minimis* Waste Stream	**Similar to:**
Sump collections from rainwater and fire suppression	Storm water and surface water runoff
Recovered spill water (e.g. fire hydrant discharge, leachate hauling truck leak, monitoring well purge water tank leak)	Drinking water or other Waste Effluent Stream identified herein.
Equipment decontamination water (e.g. cleaning off drilling equipment)	NA
Landfill leachate – treated	Treated leachate at Outfall 019
Monitoring well purge water (including that received from Tennessee Valley Authority (TVA))	C-612 Groundwater Northwest Plume Pump and Treat System Effluent
Well development water (including that received from TVA)	C-612 Groundwater Northwest Plume Pump and Treat System Effluent
Water decanted from stored solid waste	Storm water runoff

*NOTE: Each of these wastes is characterized in accordance with the BMP Plan prior to discharge.

12. a. Decision Rules for Determining Whether to Discontinue Monitoring for the 45 Contested Parameters ("Decision Rules"):

i) If the Division of Water (DOW) determines that results of the above-described Sampling Plan are non-detect for a parameter at an outfall based upon results obtained using Analytical Methods identified in Part III of the Permit, then the Permit will be modified to terminate Permittees' obligation to continue monitoring for that parameter at that outfall.

ii) If results of the Sampling Plan show detection for a parameter at an outfall, the parameter will be re-sampled in accordance with the Sampling Plan for that parameter and outfall as described above. If DOW determines that the results from the re-sample are non-detect for a parameter at an outfall based upon results obtained using Analytical Methods described in Part III of the Permit, then

the Permit will be modified to terminate the Permittees' obligation to continue monitoring for that parameter at that outfall.

iii) If any of the re-sample results confirm the presence of a parameter at an outfall, monitoring of that parameter at that outfall will be continued as described in Part I of the Permit, unless the Permit is modified in accordance with 401 KAR 5:070.

b. For the purpose of supporting any modification of the Permit in accordance with the above Decision Rules, the Permittees shall submit verified written parameter-by-parameter summaries of the sampling performed according to the Sampling Plan, including sample collection dates, results of sample analyses and the analytical methods utilized including the PQL and Method Detection Limit (MDL) of the method, and shall identify the parameters they request be removed from the Permit. Pending a DOW determination and modification of the Permit in accordance with the above Decision Rules, the Permittees, applying the criteria in the above Decision Rules, may, at their discretion, discontinue monitoring of a parameter at an outfall, provided a summary which supports discontinuance has been submitted. However, should the data not support a discontinuation of monitoring applying the above Decision Rules, then DOW shall so notify the Permittees and monitoring and reporting of that parameter or those parameters shall be resumed as described in Part I of the Permit.

Section IV. MISCELLANEOUS PROVISIONS

13. Entry of this Agreed Order does not preclude the Cabinet from issuing, modifying, revoking and reissuing, denying, revoking or terminating the permit in accordance with 401 KAR 5:050 through 5:085, inclusive, for matters not resolved by this Agreed Order or

for noncompliance with the terms and conditions of the Permit as modified to incorporate the provisions of this Agreed Order. If the Cabinet undertakes to issue, modify, revoke and reissue, deny, revoke or terminate the permit for such reasons, Petitioners retain all their defenses and rights to contest such actions, except that Petitioners shall not use this Agreed Order as a defense.

14. This Agreed Order addresses only those effluent limitations, monitoring requirements and permit conditions specifically described herein. Nothing contained herein shall be construed to waive or to limit any remedy or cause of action by the Cabinet based on statutes or regulations under its jurisdiction, and the Petitioners reserve their defenses thereto. The Cabinet expressly reserves its right at any time to issue administrative orders and to take any other action it deems necessary, including the right to order all necessary remedial measures, assess penalties for violations, or recover all response costs incurred, and Petitioners reserve their defenses thereto.

15. The parties acknowledge and agree that the terms and conditions of this Agreed Order are facility-specific and are designed specifically for the unique characteristics of this facility and the factual circumstances of this case. This Agreed Order is therefore expressly inapplicable to any other site or facility in the Commonwealth of Kentucky.

16. This Agreed Order may not be amended except by agreement of all the parties and a written order of the Cabinet's Secretary. Petitioners may request an amendment, following written notification to all the parties, in writing to: Director, Division of Water, 14 Reilly Road, Frankfort, Kentucky 40601 and stating the reasons for the request. No amendment of this Agreed Order shall affect any provision of this Agreed Order unless expressly provided in the amended Agreed Order.

17. The Cabinet does not by its consent to the entry of this Agreed Order warrant or aver in any manner that the complete compliance of Petitioners DOE, UDS, and PRS with this Agreed Order will result in compliance with the provisions of KRS Chapter 224 and the regulations promulgated pursuant thereto. Notwithstanding the Cabinet's review and approval of any plans formulated pursuant to this Agreed Order, said Petitioners shall remain to the extent provided by law solely responsible for compliance with the terms of KRS Chapter 224 and the regulations promulgated pursuant thereto, this Agreed Order, and any permit requirements.

18. This Agreed Order shall be of no force and effect unless and until it is entered by the Secretary or her designee as evidenced by her signature thereon. The date of such entry shall be the effective date of this Agreed Order.

19. Should this Agreed Order contain any date by which Petitioners are to take any action, and should the Secretary enter the Agreed Order after that date, then Petitioners are nonetheless obligated to have taken the action by the date contained in this Order.

20. Nothing herein shall be construed as a waiver of or limitation on DOE's jurisdiction over source, by-product, or special nuclear materials under the Atomic Energy Act of 1954, as amended, 42 U.S.C. Section 2201, et seq.

21. This Agreed Order shall be a final order of the Cabinet.

AGREED TO BY:

G. Stephen Manning

G. Stephen Manning
Counsel for Petitioner
Paducah Remediation Services, LLC

11-19-07
Date

Bill Murphie, Manager, PPPO
United States Department of Energy

Date 11/19/07

Ray Miskelley, Counsel for Petitioner
United States Department of Energy

Date 11/19/07

Steve A. Polston, President
Uranium Disposition Services, LLC

Date 11/19/07

Robert A. Dutton, Counsel for Petitioner
Uranium Disposition Services, LLC

Date 15 November 2007

Carolyn M. Brown, Counsel for Petitioner
United States Enrichment Corporation

Date 11/21/07

Tom FitzGerald, Counsel for Petitioner
Kentucky Resources Council, Inc.

Date 11/26/07

APPROVAL RECOMMENDED BY:

Mary Stephens, Attorney
Office of Legal Services

Date 11-28-07

Director
Division of Water

Date 12/4/07

Brenda Lowe, Manager
Division of Water Legal Branch

Date

Shannan Stamper, Executive Director
Office of Legal Services

12/6/07
Date

Hereon seen:

Steve Blanton
Hearing Officer
Office of Administrative Hearings

12/7/07
Date

ORDER

WHEREFORE, the foregoing Agreed Order is entered as the final Order of the Environmental and Public Protection Cabinet this 7th day of December, 2007.

ENVIRONMENTAL AND PUBLIC
PROTECTION CABINET

for TERESA HILL, SECRETARY

CERTIFICATE OF SERVICE

I hereby certify that a true and accurate copy of the foregoing AGREED ORDER was mailed, postage prepaid, to the following on this the 7th day of December, 2007:

U.S. Department of Energy
Attn: Jeff Snook, P.O. Box 1410
Paducah, Kentucky 42001-1410

Ray Miskelley, Esq.
Laura Roenker, Esq.
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Lexington, Kentucky 40513
COUNSEL FOR PETITIONER
DEPARTMENT OF ENERGY

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Kevil, Kentucky 42053

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UNITED STATES ENRICHMENT CORPORATION

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213 St. Clair Street, Suite 200
Frankfort, Kentucky 40602
COUNSEL FOR PETITIONER
KENTUCKY RESOURCES COUNCIL

Robert A. Dutton
Areva NP, Inc.
2101 Horn Rapids Road
Richland, Washington 99354
COUNSEL FOR PETITIONER
URANIUM DISPOSITION SERVICES, INC.

and hand-delivered to:

Mary Stephens, Esq.
Environmental and Public Protection Cabinet
Office of Legal Services
Fifth Floor, Capital Plaza Tower
Frankfort, Kentucky 40601
COUNSEL FOR RESPONDENT

Distribution:
Director, Division of Water
Steve Blanton, Hearing Officer
Office of Administrative Hearings File Copy
LTS
GDM
Gwen B. McDonald
DOCKET COORDINATOR

Exhibit 1

KPDES

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT

PERMIT NO.: KY0004049
AI NO.: 3059

AUTHORIZATION TO DISCHARGE UNDER THE KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

Pursuant to Authority in KRS 224,

United States Department of Energy (DOE)
P.O. Box 1410
Paducah, Kentucky 42001-1410

Paducah Remediation Services, LLC
P.O. Box 340
Kevil, Kentucky 42053

Uranium Disposition Services, LLC
1020 Monarch Street, Suite 100
Lexington, Kentucky 40513

is authorized to discharge from a facility located at

Paducah Gaseous Diffusion Plant
Depleted Uranium Hexafluoride Conversion Facility
5600 Hobbs Road
West Paducah, Kentucky 42086

to receiving waters named

Outfalls 001, 015, and 017 discharges to Bayou Creek at mile points 5.6, 6.2, and 7.1, respectively.

Outfall 019 discharges to an Unnamed Tributary of Little Bayou Creek at mile point 0.25. Outfall 020 discharges through the same point as Outfall 019.

in accordance with effluent limitations, monitoring requirements, and other conditions set forth in PARTS I, II, III, IV, and V hereof. The permit consists of this cover sheet, and PART I 13 pages, PART II 6 pages, PART III 2 pages, PART IV 6 pages, and PART V 3 pages.

This permit became effective on November 1, 2006.

This modified permit shall become effective on:

This permit and the authorization to discharge shall expire at midnight,

Date Signed

David W. Morgan, Director
Division of Water

Lloyd R. Cress
Commissioner

A1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: Outfall 001 - The treated wastestreams of the C-752-A Waste Storage and Treatment Facility (100,000 gpy), C-752-C Decontamination Pad (100,000 gpy), C-753 Waste Treatment and Storage, C-616 Wastewater Treatment Facility currently leased to USEC (0.8 MGD), C-612 Northwest Plume Groundwater System (0.3 MGD), C-614 Northeast Plume Containment System, and C-613 Northwest Corner Storm Water Collection Basin (1500 gpm) and contributing sources of these units.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	N/A	N/A	1/day	Instantaneous
Total Suspended Solids (mg/l)	N/A	N/A	30	60	1/Week	Grab
Oil & Grease (mg/l)	N/A	N/A	10	15	1/Week	Grab
Total Residual Chlorine (mg/l)	N/A	N/A	0.011	0.019	1/Week	Grab
Temperature (°F)	N/A	N/A	Report	89	1/Week	Grab
PCBs (mg/l)	N/A	N/A	Report	Report	1/Week	Grab
Trichloroethylene (mg/l)	N/A	N/A	Report	Report	1/Week	Grab
Total Phosphorus (mg/l)	N/A	N/A	1.0	1.0	1/Week	Grab
Total Alpha (pCi/l)	N/A	N/A	Report	15	1/Week	Grab
Total Beta (pCi/l)	N/A	N/A	Report	50	1/Week	Grab
Uranium (µg/l)	N/A	N/A	Report	30	1/Week	Grab
Chronic Toxicity (TU_C)	N/A	N/A	N/A	1.00	1/Quarter	3 24-Hr Composites
Technetium-99 (pCi/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Hardness (as mg/l $CaCO_3$)	N/A	N/A	Report	Report	1/Quarter	Grab
1,1,2,2-Tetrachloroethane (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
1,1-Dichloroethylene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
1,2-Diphenylhydrazine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab

The pH of the effluent shall not be less than 6.0 standard units or greater than 9.0 standard units and shall be monitored 1/Week by grab sample.

The abbreviation N/A means Not Applicable.
The abbreviation PCBs means Polychlorinated Biphenyls.
If daily flow reading cannot be obtained as a result of equipment failure the Permittee shall provide either manual flow rates or estimated flow rates utilizing knowledge of operational conditions and historical flows. Flows determined in such a manner shall be considered compliant provided the Permittee is taking reasonable steps to resolve the equipment failure. The basis for the reported flow shall be identified.

A1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: Outfall 001 - The treated wastestreams of the C-752-A Waste Storage and Treatment Facility (100,000 gpy), C-752-C Decontamination Pad (100,000 gpy), C-753 Waste Treatment and Storage, C-616 Wastewater Treatment Facility currently leased to USEC (0.8 MGD), C-612 Northwest Plume Groundwater System (0.3 MGD), C-614 Northeast Plume Containment System, and C-613 Northwest Corner Storm Water Collection Basin (1500 gpm) and contributing sources of these units.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
2,4,6-Trichlorophenol (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
2,4-Dinitrotoluene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
3,3-Dichlorobenzidine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
4,4'-DDD (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
4,4'-DDE (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
4,4'-DDT (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Acrylonitrile (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Aldrin (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
alpha-BHC (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
alpha-Endosulfan (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzidine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzo(a)anthracene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzo(a)pyrene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzo(k)fluoranthene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Beta-BHC (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Beta-Endosulfan (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Bis(2-ethylhexyl)phthalate (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Carbon Tetrachloride (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Chlordane (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Chrysene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Dibenzo(a,h)anthracene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab

The abbreviation N/A means Not Applicable.

A1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: Outfall 001 - The treated wastestreams of the C-752-A Waste Storage and Treatment Facility (100,000 gpy), C-752-C Decontamination Pad (100,000 gpy), C-753 Waste Treatment and Storage, C-616 Wastewater Treatment Facility currently leased to USEC (0.8 MGD), C-612 Northwest Plume Groundwater System (0.3 MGD), C-614 Northeast Plume Containment System, and C-613 Northwest Corner Storm Water Collection Basin (1500 gpm) and contributing sources of these units.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		DISCHARGE LIMITATIONS Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Dieldrin (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Endrin (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Free Cyanide (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
gamma-BHC (Lindane) (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Heptachlor (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Heptachlor epoxide (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Hexachlorobenzene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Hexachloroethane (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Ideno(1,2,3-cd)pyrene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
N-Nitrosodimethylamine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
N-Nitrosodi-n-Propylamine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
N-Nitrosodiphenylamine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Pentachlorophenol (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Tetrachloroethylene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Cadmium (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Copper (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Lead (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Mercury (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Selenium (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Silver (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Thallium (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.
Samples taken in compliance with the monitoring requirements specified in A1 above shall be taken at the following location: nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.
The abbreviation N/A means Not Applicable.

A2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: Outfall 015 - Untreated storm water runoff from the C-749 Uranium Scrap Burial Yard, C-404 Low-Level Radioactive Waste Burial Ground, and the C-747 Burial Area.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	N/A	N/A	1/Month	Instantaneous
Total Suspended Solids (mg/l)	N/A	N/A	Report	Report	1/Month	Grab
Oil & Grease (mg/l)	N/A	N/A	10	15	1/Month	Grab
PCBs (mg/l)	N/A	N/A	Report	Report	1/Month	Grab
Total Alpha (ρCi/l)	N/A	N/A	Report	15	1/Month	Grab
Total Beta (ρCi/l)	N/A	N/A	Report	50	1/Month	Grab
Uranium (µg/l)	N/A	N/A	Report	30	1/Month	Grab
Acute Toxicity (TU_A)	N/A	N/A	N/A	1.00	1/Quarter	2 Grabs
Technetium-99 (ρCi/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Hardness (as mg/l $CaCO_3$)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Iron (mg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
1,1,2,2-Tetrachloroethane (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
1,1-Dichloroethylene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
1,2-Diphenylhydrazine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
2,4,6-Trichlorophenol (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab

The pH of the effluent shall not be less than 6.0 standard units or greater than 9.0 standard units and shall be monitored 1/Month by grab sample.

The abbreviation N/A means Not Applicable.
The abbreviation PCBs means Polychlorinated Biphenyls.

A2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: Outfall 015 - Untreated storm water runoff from the C-749 Uranium Scrap Burial Yard, C-404 Low-Level Radioactive Waste Burial Ground, and the C-747 Burial Area.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
2,4-Dinitrotoluene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
3,3-Dichlorobenzidine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
4,4'-DDD (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
4,4'-DDE (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
4,4'-DDT (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Acrylonitrile (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Aldrin (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
alpha-BHC (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
alpha-Endosulfan (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzidine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzo(a)anthracene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzo(a)pyrene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzo(k)fluoranthene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Beta-BHC (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Beta-Endosulfan (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Bis(2-ethylhexyl)phthalate (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Carbon Tetrachloride (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Chlordane (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Chrysene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Dibenzo(a,h)anthracene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Dieldrin (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab

The abbreviation N/A means Not Applicable.

A2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: Outfall 015 - Untreated storm water runoff from the C-749 Uranium Scrap Burial Yard, C-404 Low-Level Radioactive Waste Burial Ground, and the C-747 Burial Area.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		DISCHARGE LIMITATIONS Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Endrin (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Free Cyanide (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
gamma-BHC (Lindane) (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Heptachlor (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Heptachlor epoxide (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Hexachlorobenzene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Hexachloroethane (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Ideno(1,2,3-cd)pyrene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
N-Nitrosodimethylamine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
N-Nitrosodi-n-Propylamine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
N-Nitrosodiphenylamine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Pentachlorophenol (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Tetrachloroethylene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Cadmium (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Copper (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Lead (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Mercury (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Selenium (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Silver (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Thallium (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.
The abbreviation N/A means Not Applicable.
Samples taken in compliance with the monitoring requirements specified in A2 above shall be taken during a period of discharge during the normal working hours of 8:00 am to 5:00 pm Monday through Friday except holidays at the following location(s): nearest accessible point after final treatment, but prior to actual discharge or mixing with receiving waters.

A3. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: Outfall 017 - Untreated storm water runoff from the depleted uranium conversion facility site and cylinder yards, and distilled water treatment reject stream and cooling tower blowdown from the conversion facility.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	N/A	N/A	1/Month	Instantaneous
Temperature[1] (°F)	N/A	N/A	Report	89	1/Month	Grab
Total Suspended Solids (mg/l)	N/A	N/A	Report	Report	1/Month	Grab
Oil & Grease (mg/l)	N/A	N/A	10	15	1/Month	Grab
PCBs (mg/l)	N/A	N/A	Report	Report	1/Month	Grab
Total Recoverable Zinc (µg/l)	N/A	N/A	216	216	1/Month	Grab
Total Alpha (ρCi/l)	N/A	N/A	Report	15	1/Month	Grab
Total Beta (ρCi/l)	N/A	N/A	Report	50	1/Month	Grab
Uranium (µg/l)	N/A	N/A	Report	30	1/Month	Grab
Acute Toxicity[2] (TU_C)	N/A	N/A	N/A	1.00	1/Quarter	2 Grabs
Chronic Toxicity[1] (TU_A)	N/A	N/A	N/A	1.00	1/Month	3 24 Hr Composites
Technetium-99 (ρCi/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Hardness (as mg/l $CaCO_3$)	N/A	N/A	Report	Report	1/Quarter	Grab
1,1,2,2-Tetrachloroethane (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
1,1-Dichloroethylene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
1,2-Diphenylhydrazine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
2,4,6-Trichlorophenol (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab

The pH of the effluent shall not be less than 6.0 standard units or greater than 9.0 standard units and shall be monitored 1/Month by grab sample.

The abbreviation N/A means Not Applicable.
The abbreviation PCBs means Polychlorinated Biphenyls.

[1]The limits and monitoring for Temperature and Chronic Toxicity for Outfall 017 shall become effective upon completion of construction of the DUF6 facility and commencement of depleted uranium conversion and related discharge.
[2]The limits and monitoring for Acute Toxicity for Outfall 017 shall be terminated upon completion of construction of the DUF6 facility and commencement of depleted uranium conversion and related discharge.

A3. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: Outfall 017 - Untreated storm water runoff from the depleted uranium conversion facility site and cylinder yards, and distilled water treatment reject stream and cooling tower blowdown from the conversion facility.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
2,4-Dinitrotoluene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
3,3-Dichlorobenzidine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
4,4'-DDD (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
4,4'-DDE (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
4,4'-DDT (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Acrylonitrile (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Aldrin (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
alpha-BHC (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
alpha-Endosulfan (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzidine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzo(a)anthracene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzo(a)pyrene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzo(k)fluoranthene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Beta-BHC (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Beta-Endosulfan (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Bis(2-ethylhexyl)phthalate (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Carbon Tetrachloride (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Chlordane (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Chrysene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Dibenzo(a,h)anthracene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Dieldrin (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab

The abbreviation N/A means Not Applicable.

A3. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: Outfall 017 - Untreated storm water runoff from the depleted uranium conversion facility site and cylinder yards, and distilled water treatment reject stream and cooling tower blowdown from the conversion facility.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		DISCHARGE LIMITATIONS Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Endrin (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Free Cyanide (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
gamma-BHC (Lindane) (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Heptachlor (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Heptachlor epoxide (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Hexachlorobenzene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Hexachloroethane (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Ideno(1,2,3-cd)pyrene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
N-Nitrosodimethylamine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
N-Nitrosodi-n-Propylamine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
N-Nitrosodiphenylamine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Pentachlorophenol (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Tetrachloroethylene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Cadmium (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Copper (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Lead (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Mercury (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Selenium (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Silver (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Thallium (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

The abbreviation N/A means Not Applicable.

Samples taken in compliance with the monitoring requirements specified in A3 above shall be taken during a period of discharge during the normal working hours of 8:00 am to 5:00 pm Monday through Friday except holidays at the following location(s): nearest accessible point after final treatment, but prior to actual discharge or mixing with receiving waters.

A4. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: Outfall 019 - Storm water runoff from covered areas of the C-746-U landfill.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	N/A	N/A	1/Month	Instantaneous
Total Suspended Solids (mg/l)	N/A	N/A	30	60	1/Month	Grab
Oil & Grease (mg/l)	N/A	N/A	10	15	1/Month	Grab
PCBs (mg/l)	N/A	N/A	Report	Report	1/Month	Grab
Total Recoverable Zinc (µg/l)	N/A	N/A	216	216	1/Month	Grab
Total Alpha (ρCi/l)	N/A	N/A	Report	15	1/Month	Grab
Total Beta (ρCi/l)	N/A	N/A	Report	50	1/Month	Grab
Uranium (µg/l)	N/A	N/A	Report	30	1/Month	Grab
Acute Toxicity (TU_A)	N/A	N/A	N/A	1.00	1/Quarter	2 Grabs
Technetium-99 (ρCi/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Hardness (as mg/l $CaCO_3$)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Iron (mg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
1,1,2,2-Tetrachloroethane (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
1,1-Dichloroethylene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
1,2-Diphenylhydrazine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
2,4,6-Trichlorophenol (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab

The pH of the effluent shall not be less than 6.0 standard units or greater than 9.0 standard units and shall be monitored 1/month by grab sample.

The abbreviation N/A means Not Applicable.
The abbreviation PCBs means Polychlorinated Biphenyls.

A4. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: Outfall 019 - Storm water runoff from covered areas of the C-746-U landfill.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
2,4-Dinitrotoluene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
3,3-Dichlorobenzidine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
4,4'-DDD (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
4,4'-DDE (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
4,4'-DDT (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Acrylonitrile (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Aldrin (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
alpha-BHC (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
alpha-Endosulfan (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzidine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzo(a)anthracene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzo(a)pyrene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzo(k)fluoranthene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Beta-BHC (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Beta-Endosulfan (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Bis(2-ethylhexyl)phthalate (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Carbon Tetrachloride (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Chlordane (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Chrysene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Dibenzo(a,h)anthracene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Dieldrin (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

The abbreviation N/A means Not Applicable.

A4. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: Outfall 019 - Storm water runoff from covered areas of the C-746-U landfill.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Endrin (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Free Cyanide (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
gamma-BHC (Lindane) (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Heptachlor (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Heptachlor epoxide (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Hexachlorobenzene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Hexachloroethane (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Ideno(1,2,3-cd)pyrene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
N-Nitrosodimethylamine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
N-Nitrosodi-n-Propylamine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
N-Nitrosodiphenylamine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Pentachlorophenol (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Tetrachloroethylene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Cadmium (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Copper (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Lead (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Mercury (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Selenium (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Silver (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Thallium (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.
Samples taken in compliance with the monitoring requirements specified in A4 above shall be taken at the following location: nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.

The abbreviation N/A means Not Applicable.

A5. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: Outfall 020 - Leachate from the C-746-U contained landfill and the C-746-S closed residential landfill.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	N/A	N/A	1/Month	Instantaneous
Total Suspended Solids (mg/l)	N/A	N/A	30	60	1/Month	Grab
Oil & Grease (mg/l)	N/A	N/A	10	15	1/Month	Grab
Total Alpha (ρCi/l)	N/A	N/A	Report	15	1/Month	Grab
Total Beta (ρCi/l)	N/A	N/A	Report	50	1/Month	Grab
Uranium (µg/l)	N/A	N/A	Report	30	1/Month	Grab
Acute Toxicity (TU_A)	N/A	N/A	N/A	1.00	1/Quarter	2 Grabs
1,1,1-Trichloroethane (mg/l)	N/A	N/A	0.20	Report	1/Quarter	Grab
Trichloroethylene (mg/l)	N/A	N/A	0.0308	Report	1/Quarter	Grab
Nitrates (as mg/l N)	N/A	N/A	500	Report	1/Quarter	Grab
Chlorides (mg/l)	N/A	N/A	600	1200	1/Quarter	Grab
Total Recoverable Arsenic (µg/l)	N/A	N/A	150	Report	1/Quarter	Grab
Total Recoverable Nickel (µg/l)	N/A	N/A	94	Report	1/Quarter	Grab
Total Recoverable Zinc (µg/l)	N/A	N/A	216	216	1/Quarter	Grab
PCBs (mg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Technetium-99 (ρCi/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Hardness (as mg/l $CaCO_3$)	N/A	N/A	Report	Report	1/Quarter	Grab
Phosphorous (mg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
CBOD (mg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Dissolved Oxygen (mg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Iron (mg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
1,1,2,2-Tetrachloroethane (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
1,1-Dichloroethylene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
1,2-Diphenylhydrazine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
2,4,6-Trichlorophenol (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab

The pH of the effluent shall not be less than 6.0 standard units or greater than 9.0 standard units and shall be monitored 1/month by grab sample.

The abbreviation N/A means Not Applicable.
The abbreviation PCBs means Polychlorinated Biphenyls.
The abbreviation CBOD means Carbonaceous Biochemical Oxygen Demand.

A5. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: Outfall 020 - Leachate from the C-746-U contained landfill and the C-746-S closed residential landfill.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
2,4-Dinitrotoluene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
3,3-Dichlorobenzidine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
4,4'-DDD (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
4,4'-DDE (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
4,4'-DDT (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Acrylonitrile (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Aldrin (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
alpha-BHC (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
alpha-Endosulfan (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzidine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzo(a)anthracene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzo(a)pyrene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Benzo(k)fluoranthene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Beta-BHC (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Beta-Endosulfan (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Bis(2-ethylhexyl)phthalate (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Carbon Tetrachloride (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Chlordane (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Chrysene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Dibenzo(a,h)anthracene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Dieldrin (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

The abbreviation N/A means Not Applicable.

A5. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: Outfall 020 - Leachate from the C-746-U contained landfill and the C-746-S closed residential landfill.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		DISCHARGE LIMITATIONS Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Endrin (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Free Cyanide (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
gamma-BHC (Lindane) (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Heptachlor (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Heptachlor epoxide (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Hexachlorobenzene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Hexachloroethane (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Ideno(1,2,3-cd)pyrene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
N-Nitrosodimethylamine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
N-Nitrosodi-n-Propylamine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
N-Nitrosodiphenylamine (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Pentachlorophenol (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Tetrachloroethylene (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Cadmium (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Copper (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Lead (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Mercury (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Selenium (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Silver (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab
Total Recoverable Thallium (µg/l)	N/A	N/A	Report	Report	1/Quarter	Grab

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.
Samples taken in compliance with the monitoring requirements specified in A5 above shall be taken at the following location: nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.

The abbreviation N/A means Not Applicable.

B. Schedule of Compliance

Permittee shall comply with the effluent limitations by the effective date of the permit with the following exceptions.

The effluent limitations for Total Alpha, Total Beta, and Uranium shall become effective three years after the effective date of this modified permit.

C. Responsible Parties

The United States Department of Energy (DOE), Paducah Remediation Services, LLC (PRS), and Uranium Disposition Services, LLC (UDS) are co-permittees. The DOE is responsible for all outfalls addressed by this permit. UDS responsibility is limited to Outfall 017 only. PRS is responsible for the remaining Outfalls (001, 015, 019, and 020).

D. Additional Reporting Requirements

The Permittees will furnish the following reports/information to the KDOW as indicated:

A copy of the Annual Site Environmental Report (ASER), to be submitted on Compact Disc (CD) within 30 days of DOE approval of the report. This report will include at a minimum the following information:

- Quarterly in-stream surface water sampling data for PCBs and TCE at 19 locations in the Little Bayou Creek, Bayou Creek, and Ohio River.

- Semi-annual sediment monitoring for PCBs at 14 locations in the Little Bayou Creek and Bayou Creek.

A copy of the Annual PCB Log required by 40 CFR 761.180, to be submitted on Compact Disc on or before December 1st of each year.

STANDARD CONDITIONS FOR KPDES PERMIT

This permit has been issued under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits or licenses required by this Cabinet and other state, federal, and local agencies.

It is the responsibility of the permittee to demonstrate compliance with permit parameter limitations by utilization of sufficiently sensitive analytical methods.

The following KPDES permit conditions apply to all discharges authorized by this permit pursuant to 401 KAR 5:065, Section 1.

(1) Duty to comply.

(a) General requirement.
The permittee shall comply with all conditions of this permit. Any permit noncompliance shall constitute a violation of KRS Chapter 224, among which shall be the following remedies: enforcement action, permit revocation, revocation and reissuance, or modification; or denial of a permit renewal application.

(b) Specific duties.
1. The permittee shall comply with effluent standards or prohibitions established under 40 CFR Part 129 as of July 1, 2001, as adopted without change, within the time provided in the federal regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
2. Any person who violates a permit condition as set forth in the KPDES administrative regulations shall be subject to penalties under KRS 224.99-010(1) and (4).

(2) Duty to reapply.
If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit as required in 401 KAR 5:060, Section 1.

(3) Need to halt or reduce activity not a defense.
It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(4) Duty to mitigate.
The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(5) Proper operation and maintenance.
The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control and related appurtenances which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also shall include adequate laboratory controls, and appropriate quality assurance procedures. This provision shall require the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only if the operation is necessary to achieve compliance with the conditions of the permit.

(6) Permit actions.
The permit may be modified, revoked and reissued, or revoked for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or a notification of planned changes or anticipated noncompliance, shall not stay any permit condition.

(7) Property rights.
This permit shall not convey any property rights of any kind, or any exclusive privilege.

(8) Duty to provide information.
The permittee shall furnish to the cabinet, within a reasonable time, any information which the cabinet may request to determine whether cause exists for modifying, revoking and reissuing, or revoking this permit, or to determine compliance with this permit. The permittee shall also furnish to the cabinet, upon request, copies of records required to be kept by this permit.

(9) Inspection and entry.
The permittee shall allow the cabinet, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

(a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records pertinent to the KPDES program are or may be kept;
(b) Have access to and copy, at reasonable times, any records that are required to be be kept under the conditions of this permit;
(c) Inspect at reasonable times any facilities, equipment, including monitoring and control equipment, practices, or operations regulated or required under this permit; and
(d) Sample or monitor at reasonable times, for the purposes of assuring KPDES program compliance or as otherwise authorized by KRS Chapter 224, any substances or parameters at any location.

(10) Monitoring and records.

(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
(b) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report, or application. This period may be extended by request of the cabinet at any time.
(c) Records of monitoring information shall include:
1. The date, exact place, and time of sampling or measurements;
2. The individuals who performed the sampling or measurements;
3. The dates analyses were performed;
4. The individuals who performed the analyses;
5. The analytical techniques or methods used; and
6. The results of the analyses.

(d) Monitoring shall be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in the permit.
(e) Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the permit shall, upon conviction, be subject to penalties under KRS 224.99-010(4).

(11) Signatory requirement.
All applications, reports, or information submitted to the cabinet shall be signed and certified as indicated in 401 KAR 5:060, Section 9. Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be subject to penalties under KRS 224.99-010(4).

(12) Reporting requirements.

(a) Planned changes.
The permittee shall give notice to the cabinet as soon as possible of any planned physical alteration or additions to the permitted facility. Notice shall be required only if:
1. The alteration or addition to a permitted facility may meet one (1) of the criteria for determining whether a facility is a new source in 401 KAR 5:080, Section 5; or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification only applies to pollutants which are subject either to effluent limitations in the permit, or to notification requirements under 401 KAR 5:080, Section 5.

(b) Anticipated noncompliance.
The permittee shall give advance notice to the cabinet of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(c) Transfers.
The permit shall not be transferable to any person except after notice to the cabinet. The cabinet may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate other requirements as may be necessary under KRS Chapter 224.

(d) Monitoring reports.
Monitoring results shall be reported at the intervals specified in the permit. Monitoring results shall be reported as follows:
1. Monitoring results shall be reported on a Discharge Monitoring Report (DMR).
2. If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.
3. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the cabinet in the permit.

(e) Compliance schedules.
Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than fourteen (14) days following each schedule date.

(f) Twenty-four (24) hour reporting.
The permittee shall follow the provisions of 401 KAR 5:015 and shall orally report any noncompliance which may endanger health or the environment, within twenty-four (24) hours from the time the permittee becomes aware of the circumstances. This report shall be in addition to and not in lieu of any other reporting requirement applicable to the noncompliance. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The cabinet may waive the written report on a case-by-case basis if the oral report has been received within twenty-four (24) hours. The following shall be included as events which shall be reported within twenty-four (24) hours:
1. Any unanticipated bypass which exceeds any effluent limitation in the permit, as indicated in subsection (13) of this section.
2. Any upset which exceeds any effluent limitation in the permit.
3. Violation of a maximum daily discharge limitation for any of the pollutants listed by the cabinet in the permit to be reported within twenty-four (24) hours, as indicated in Section 2(7) of this administrative regulation.

(g) Other noncompliance.
The permittee shall report all instances of noncompliance not reported under paragraphs (d), (e), and (f) of this subsection, when monitoring reports are submitted. The reports shall contain the information listed in paragraph (f) of this subsection.

(h) Other information.
Where the permittee becomes aware that it failed to submit any relevant fact in a permit application, or submitted incorrect information in a permit application or in any report to the cabinet, it shall promptly submit these facts or information.

(13) Occurrence of a bypass.

(a) Bypass not exceeding limitations.
The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. This type of bypass shall not be subject to the provisions of paragraphs (b) and (c) of this subsection.

(b) Notice.

1. Anticipated bypass.
If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of the bypass. Compliance with this requirement constitutes compliance with 401 KAR 5:015, Section 1.
2. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in subsection (12)(f) of this section, twenty-four (24) hour notice. Compliance with this requirement constitutes compliance with 401 KAR 5:015, Section 4.

(c) Prohibition of a bypass.
1. Bypassing shall be prohibited, and the cabinet may take enforcement action against a permittee for bypass, unless:
a. The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition shall not be satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
c. The permittee submitted notices as required under paragraph (b) of this subsection.
2. The cabinet may approve an anticipated bypass, after considering its adverse effects, if the cabinet determines that it will meet the three (3) conditions listed in subparagraph 1a, b, and c of this paragraph.

(14) Occurrence of an upset.

(a) Effect of an upset.
An upset constitutes an affirmative defense to an action brought for noncompliance with technology-based permit effluent limitations if the requirements of paragraph (b) of this subsection are met.

(b) Conditions necessary for a demonstration of an upset.
A permittee who wishes to establish the affirmative defense of upset shall demonstrate through properly signed, contemporaneous operating logs, or other relevant evidence that:
1. An upset occurred and that the permittee can identify the causes of the upset;
2. The permitted facility was at the time being properly operated;
3. The permittee submitted notice of the upset as required in subsection (12)(f) of this section; and
4. The permittee complied with any remedial measures required under subsection (4) of this section.

(c) Burden of proof.
In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset shall have the burden of proof.

(15) Additional conditions applicable to specified categories of KPDES permits. The following conditions, in addition to others set forth in this administrative regulation, shall apply to all KPDES permits within the categories specified below:

(a) Existing manufacturing, commercial, mining, and silvicultural dischargers. In addition to the reporting requirements under subsections (12), (13), and (14) of this section, any existing manufacturing, commercial, mining, and silvicultural discharger shall notify the cabinet as soon as it knows or has reason to know:
1. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
a. 100 micrograms per liter (100 µg/l);
b. 200 micrograms per liter (200 µg/l) for acrolein and acrylonitrile; 500 micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one (1) milligram per liter (1 mg/l) for antimony;
c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 401 KAR 5:060, Section 2(7);
d. The level established by the cabinet in accordance with Section 2(6) of this administrative regulation.
2. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
a. 500 micrograms per liter (500 µg/l);
b. One (1) milligram per liter (1 mg/l) for antimony;
c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 401 KAR 5:060, Section 2(7); or
d. The level established by the cabinet in accordance with Section 2(6) of this administrative regulation.

(b) POTWs.
1. POTWs shall provide adequate notice to the cabinet of the following:
a. Any new introduction of pollutants into that POTW from an indirect discharger which would be subject to the KPDES administrative regulations if it were directly discharging those pollutants; or
b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
2. For purposes of this paragraph, adequate notice shall include information on the quality and quantity of effluent introduced into the POTWs and any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

PART III

OTHER REQUIREMENTS

A. Reporting of Monitoring Results

Monitoring results obtained during each monitoring period must be reported on a preprinted Discharge Monitoring Report (DMR) Form that will be mailed to you. The completed DMR for each monitoring period must be sent to the Division of Water at the address listed below (with a copy to the appropriate Regional Office) postmarked no later than the 28th day of the month following the monitoring period for which monitoring results were obtained.

Division of Water
Paducah Regional Office
130 Eagle Nest Drive
Paducah, Kentucky 42003

Environmental & Public Protection Cabinet
Dept. for Environmental Protection
Division of Water/KPDES Branch
14 Reilly Road, Frankfort Office Park
ATTN: Supervisor Frankfort, Kentucky 40601

B. Reopener Clause

This permit shall be modified, or alternatively revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under 401 KAR 5:050 through 5:086, if the effluent standard or limitation so issued or approved:

1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

2. Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of KRS Chapter 224 when applicable.

C. Cooling Water Additives, FIFRA, and Mollusk Control

The discharge of any product registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) in cooling water which ultimately may be released to the waters of the Commonwealth is prohibited, except Herbicides, unless specifically identified and authorized by the KPDES permit. In the event the permittee needs to use a biocide or chemical not previously reported for mollusk control or other purpose, the permittee shall submit sufficient information, a minimum of thirty (30) days prior to the commencement of use of said biocides or chemicals, to the Division of Water for review and establishment of appropriate control parameters. Such information requirements shall include:

1. Name and general composition of biocide or chemical,
2. Any and all aquatic organism toxicity data,
3. Quantities to be used,
4. Frequencies of use,
5. Proposed discharge concentrations, and
6. EPA registration number, if applicable.

OTHER REQUIREMENTS

D. Bayou Creek and Little Bayou Creek Watershed Monitoring Program

During the reissuance of the previous permit this program was imposed as permit condition to gauge the success of the DOE remediation of the Paducah Gaseous Diffusion Plant. Over the interim period the two watersheds have been extensively sampled to the point that further collection of aquatic organisms could result in a deleterious effect on the aquatic community. Therefore biological sampling will not be required as part of these programs, the permittee shall however continue with the physical/chemical assessment of these watersheds. The permittee shall submit a revised monitoring program for the 2007 calendar year by December 1, 2006.

E. Required EPA Analytical Methods For Selected Pollutants

The following Analytical Methods will be used to demonstrate compliance of the listed pollutant with water quality based limitations. These Methods will be performed with the appropriate Quality Assurance and Quality Controls.

Pollutant	EPA Method	Pollutant	EPA Method
Polychlorinated Biphenyls	8082	Total Recoverable Zinc	6020
1,1,2,2-Tetrachloroethane	8260	1,1-Dichloroethylene	8260
1,2-Diphenylhydrazine	8270SIM	2,4,6-Trichlorophenol	8041
2,4-Dinitrotoluene	8081	3,3-Dichlorobenzidine	8270SIM
4,4'-DDD	8081	4,4'-DDE	8081
4,4'-DDT	8081	Acrylonitrile	8260
Aldrin	8081	alpha-BHC	8081
alpha-Endosulfan	8081	Benzidine	8270SIM
Benzo(a)anthracene	8270SIM	Benzo(a)pyrene	8270SIM
Benzo(k)fluoranthene	8270SIM	Beta-BHC	8081
Beta-Endosulfan	8081	Bis(2-ethylhexyl)phthalate	8270SIM
Carbon Tetrachloride	8260	Chlordane	8081
Chrysene	8270SIM	Dibenzo(a,h)anthracene	8270SIM
Dieldrin	8081	Endrin	8081
Free Cyanide	9010	gamma-BHC (Lindane)	8081
Heptachlor	8081	Heptachlor epoxide	8081
Hexachlorobenzene	8270SIM	Hexachloroethane	8081
Ideno(1,2,3-cd)pyrene	8270SIM	N-Nitrosodimethylamine	8270SIM
N-Nitrosodi-n-Propylamine	8270SIM	N-Nitrosodiphenylamine	8270SIM
Pentachlorophenol	8041	Tetrachloroethylene	8260
Total Recoverable Cadmium	6020	Total Recoverable Copper	6020
Total Recoverable Lead	6020	Total Recoverable Mercury	1631E
Total Recoverable Selenium	6020	Total Recoverable Silver	6020
Total Recoverable Thallium	6020		

SIM stands for Selective Ion Monitoring. The SIMD is the Derivatized run under 8270. The Derivatized run means that the laboratory has to derivatize the sample extract to give them a greater response in order to achieve low Method Detection Limits.

PART IV
CHRONIC CONCERNS
Biomonitoring

In accordance with PART I of this permit, the permittee shall initiate, within 30 days of the effective date of this permit, or continue the series of tests described below to evaluate wastewater toxicity of the discharge from Outfalls 001 and 017[1].

1. Test Requirements

A. The permittee shall perform one (1) short-term fathead minnow (Pimephales promelas) growth test and one (1) short-term daphnid (Ceriodaphnia sp.) life-cycle test. Tests shall be conducted with appropriate replicates of 100% effluent, a control and a minimum of four (4) evenly spaced effluent concentrations. If the permit limit is less than 100% effluent and greater than or equal to 75% effluent, then one (1) concentration should be 100%. If the permit limit is less than 75% effluent, the permit limit concentration shall be bracketed with two (2) concentrations above and two (2) concentrations below. The selection of the effluent concentrations is subject to revision by the Division. Controls shall be tested concurrently with effluent testing using a synthetic water. The analysis will be deemed reasonable and good only if the minimum control requirements are met (i.e. $\geq$80% survival; 60% adults with 3 broods and 15 or more young/surviving female for the Ceriodaphnia test; an average 0.25 mg weight for the minnow growth test). Any test that does not meet the control acceptability criteria shall be repeated as soon as practicable within the monitoring period (i.e. monthly or quarterly). Noncompliance with the toxicity limit will be demonstrated if the IC_{25} (inhibition concentration) for reproduction or growth is less than 100% effluent

B. Tests shall be conducted on both species at the frequency specified in PART I of this permit.

A minimum of three (3) twenty-four hour composite samples will be collected at a frequency of one (1) sample every other day, or at a frequency to be determined by the permitting authority. For example, the first sample would be used for test initiation, day 1, and for test solution renewal on day 2. The second sample would be used for test solution renewal on days 3 and 4. The third sample would be used for test solution renewal on days 5, 6, and 7. The lapsed time from collection of the last aliquot of the composite and its first use for test initiation, or for test solution renewal shall not exceed 36 hours. Composite samples shall be refrigerated during collection and maintained at $\leq$ 6°C until used.

If after at least six (6) tests, it can be determined that Ceriodaphnia or the Fathead minnow is more sensitive, a request for testing of only that organism can be made to the Division. Upon approval, that organism can be chosen as representative and all subsequent tests can be conducted on only that organism.

[1]These requirements for Outfall 017 shall become effective upon completion and commencement of operation of the depleted uranium conversion facility.

2. Reporting Requirements

Results of all tests conducted with any organism shall be reported according to the most recent format provided by the Division of Water (Appendix 10 of 'Methods for Culturing and Conducting Toxicity Tests with *Pimephales promelas* and *Ceriodaphnia dubia* (Fifth Edition)' KDOW, January 2002). Test results shall be submitted to the Division of Water with the next regularly scheduled discharge monitoring report.

3. Chronic Toxicity

If noncompliance with the toxicity limit occurs (IC_{25} for reproduction or growth is less than 100% effluent), the permittee must conduct a second test within 15 days of the first failure. This test will be used in evaluating the persistence of the toxic event and the possible need for a toxicity reduction evaluation (TRE).

If the second test demonstrates noncompliance with the toxicity limit, the permittee will be required to perform accelerated testing as specified in the following paragraphs.

Complete four (4) additional tests within 90 days of failure of the second test to evaluate the frequency and degree of toxicity. The results of the two (2) tests specified above and of the four (4) additional tests will be used for purposes of this evaluation.

If results from two (2) of any six (6) tests show a significant noncompliance with the chronic limit ($\geq$1.2 times the TU_c), or results from four (4) of any six (6) tests show chronic toxicity (as defined in 1.A), a Toxicity Reduction Evaluation (TRE) will be required.

The permittee shall provide written notification, within five (5) days of the completion of accelerated testing to the Division of Water, that toxicity persisted and that a TRE would be initiated or that toxicity did not persist and the normal testing would resume.

Should toxicity not prove persistent during the accelerated testing, but reoccur within 12 months of the initial failure at a level • 1.2 time the TU_c, then a TRE shall be initiated without further accelerated testing.

4. Toxicity Reduction Evaluation (TRE)

Having determined the effluent to be toxic, the permittee shall develop and implement an acceptable plan for the identification and treatability of the toxicant(s) within 90 days of completion of accelerated testing. The plan shall be developed in accordance with EPA guidance provided in the following EPA publications and submitted for DEP review and comment:

Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program. March 27, 2001.

Toxicity Reduction Evaluation Guidance For Municipal Wastewater Treatment Plants. August, 1999.

Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures. February 1991.

Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures. February 1989.

Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures. February 1989.

Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs). March 1989.

Abstracts of Toxicity Reduction Evaluations. March 1989.

The plan shall include Toxic Identification Evaluation (TIE) procedures, treatability studies, and evaluations of: chemical usage including changes in types, handling and suppliers; operational and process procedures; housekeeping and maintenance activities; and raw materials. The TRE will establish an implementation schedule not to exceed 24 months for completion of these activities. The implementation schedule shall include monthly progress reports and a final report.

Upon the completion of the TRE, the permittee shall submit a final report detailing the findings of the TRE and the actions to be taken to prevent the reoccurrence of toxicity. This final report shall include: the toxicant(s), if any are identified; treatment options; operational changes; and the proposed resolutions including an implementation schedule not to exceed 180 days.

Should the permittee determine the toxicant(s) and/or a workable treatment prior to the conclusion of the TRE, the permittee will notify, within five (5) days, the Division of Water and take appropriate actions to implement the solution within 180 days of determination.

5. Test Methods

All test organisms, procedures and quality assurance criteria used shall be in accordance with Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (Fourth Edition), EPA-821-R-02-013, or the most recent edition of this publications.

ACUTE CONCERNS
Biomonitoring
Precipitation Dependant Discharges

In accordance with Part I of this permit, the permittee shall initiate, within 30 days of the effective date of this permit, or continue the series of tests described below to evaluate wastewater toxicity of the discharge from Outfalls 015, 017, and 019.

1. Test Requirements

   A. The permittee shall perform a 48-hour static toxicity test with Ceriodaphnia sp. and a 48-hour static toxicity test with fathead minnow (Pimephales promelas). Tests shall be conducted on each of two (2) grab samples taken over the period of discharge (e.g. discrete sample 1 taken at commencement of discharge, sample 2 taken prior to cessation of discharge). Tests shall be conducted with appropriate replicates of 100% effluent, a control and a minimum of four (4) evenly spaced effluent concentrations. The selection of the effluent concentrations is subject to revision by the Division. Testing of the effluent shall be initiated within 36 hours of each sample collection. Controls shall be conducted concurrently with effluent testing using a synthetic water. The analysis will be deemed reasonable and good only if control survival is 90% or greater in test organisms held in synthetic water. Any test that does not meet the control acceptability criteria shall be repeated as soon as practicable within the monitoring period (i.e. monthly or quarterly). Noncompliance with the toxicity limit will be demonstrated if the LC_{50} is less than 100% effluent.

   B. Tests shall be conducted on both species at the frequency specified in PART I of this permit.

      If after at least six (6) tests, it can be determined that Ceriodaphnia or the fathead minnow is more sensitive, a request for testing only that organism can be made to the Division. Upon approval, that organism can be chosen as representative and all subsequent tests can be conducted on only that organism.

2. Reporting Requirements

   Results of all tests conducted with any organism shall be reported according to the most recent format provided by the Division of Water (Appendix 10 of 'Methods for Culturing and Conducting Toxicity Tests with *Pimephales promelas* and *Ceriodaphnia dubia* (Fifth Edition)' KDOW, January 2002). Test results shall be submitted to the Division of Water with the next regularly scheduled discharge monitoring report.

3. Acute Toxicity

Two grab samples shall be collected during the discharge event (on or after the initiation of discharge, the second prior to the cessation). Compliance testing shall be conducted on the initial sample in accordance with Part IV of this Permit. Testing of the second sample shall be required if during the performance of the compliance testing preliminary results for the first sample indicate a potential failure. Performance of toxicity testing on the second sample shall be in accordance with the same criteria as that applied to the initial compliance test including the initiation of testing of the second sample within 36 hours of its collection.

If the second test demonstrates noncompliance with the toxicity limit, or any one of the next two routine samples, or any of the samples show a significant noncompliance with the acute limit ($\geq$1.2 times the TU_a), the permittee will be required to perform a Toxicity Reduction Evaluation (TRE). The permittee shall provide written notification, within five (5) days of such an event to the Division of Water also indicating that a TRE would be initiated.

4. Toxicity Reduction Evaluation (TRE)

Having determined the effluent to be toxic, the permittee shall develop and implement an acceptable plan for the identification and treatability of the toxicant(s) within 90 days of completion of accelerated testing. The plan shall be developed in accordance with EPA guidance provided in the following EPA publications and submitted for DEP review and comment:

Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program. March 27, 2001.

Toxicity Reduction Evaluation Guidance For Municipal Wastewater Treatment Plants. August, 1999.

Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures. February 1991.

Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures. February 1989.

Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures. February 1989.

Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs). March 1989.

Abstracts of Toxicity Reduction Evaluations. March 1989.

The plan shall include Toxic Identification Evaluation (TIE) procedures, treatability studies, and evaluations of: chemical usage including changes in types, handling and suppliers; operational and process procedures; housekeeping and maintenance activities; and raw materials. The TRE will establish an implementation schedule not to exceed 24 months for completion of these activities. The implementation schedule shall include monthly progress reports and a final report.

Upon the completion of the TRE, the permittee shall submit a final report detailing the findings of the TRE and the actions to be taken to prevent the reoccurrence of toxicity. This final report shall include: the toxicant(s), if any are identified; treatment options; operational changes; and the proposed resolutions, including an implementation schedule not to exceed 180 days.

Should the permittee determine the toxicant(s) and/or a workable treatment prior to the conclusion of the TRE, the permittee will notify, within five (5) days, the Division of Water and take appropriate actions to implement the solution within 180 days of determination.

5. Test Methods

All test organisms, procedures, and quality assurance criteria used shall be in accordance with Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, EPA-821-R-02-012 (5th edition) or the most recently published edition of this publication.

PART V

BEST MANAGEMENT PRACTICES

SECTION A. GENERAL CONDITIONS

1. Applicability

These conditions apply to all permittees who use, manufacture, store, handle, or discharge any pollutant listed as: (1) toxic under Section 307(a)(1) of the Clean Water Act; (2) oil, as defined in Section 311(a)(1) of the Act; (3) any pollutant listed as hazardous under Section 311 of the Act; or (4) is defined as a pollutant pursuant to KRS 224.01-010(35) and who have ancillary manufacturing operations which could result in (1) the release of a hazardous substance, pollutant, or contaminant, or (2) an environmental emergency, as defined in KRS 224.01-400, as amended, or any regulation promulgated pursuant thereto (hereinafter, the "BMP pollutants"). These operations include material storage areas; plant site runoff; in-plant transfer, process and material handling areas; loading and unloading operations, and sludge and waste disposal areas.

2. BMP Plan

The permittee shall develop and implement a Best Management Practices (BMP) plan consistent with 401 KAR 5:065, Section 2(10) pursuant to KRS 224.70-110, which prevents or minimizes the potential for the release of "BMP pollutants" from ancillary activities through plant site runoff; spillage or leaks, sludge or waste disposal; or drainage from raw material storage. A Best Management Practices (BMP) plan will be prepared by the permittee unless the permittee can demonstrate through the submission of a BMP outline that the elements and intent of the BMP have been fulfilled through the use of existing plans such as the Spill Prevention Control and Countermeasure (SPCC) plans, contingency plans, and other applicable documents.

3. Implementation

If this is the first time for the BMP requirement, then the plan shall be developed and submitted to the Division of Water within 90 days of the effective date of the permit. Implementation shall be within 180 days of that submission. For permit renewals the plan in effect at the time of permit reissuance shall remain in effect. Modifications to the plan as a result of ineffectiveness or plan changes to the facility shall be submitted to the Division of Water and implemented as soon as possible.

4. General Requirements

The BMP plan shall:

a. Be documented in narrative form, and shall include any necessary plot plans, drawings, or maps.

b. Establish specific objectives for the control of toxic and hazardous pollutants.

(1) Each facility component or system shall be examined for its potential for causing a release of "BMP pollutants" due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc.

(2) Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural condition (e.g., precipitation), or other circumstances which could result in a release of "BMP pollutants," the plan should include a prediction of the direction, rate of flow, and total quantity of the pollutants which could be released from the facility as result of each condition or circumstance.

c. Establish specific Best Management Practices to meet the objectives identified under paragraph b of this section, addressing each component or system capable of causing a release of "BMP pollutants."

d. Include any special conditions established in part b of this section.

e. Be reviewed by plant engineering staff and the plant manager.

5. Specific Requirements

The plan shall be consistent with the general guidance contained in the publication entitled "NPDES Best Management Practices Guidance Document," and shall include the following baseline BMPs as a minimum.

a. BMP Committee
b. Reporting of BMP Incidents
c. Risk Identification and Assessment
d. Employee Training
e. Inspections and Records
f. Preventive Maintenance
g. Good Housekeeping
h. Materials Compatibility
i. Security
j. Materials Inventory

6. SPCC Plans

The BMP plan may reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans under Section 311 of the Act and 40 CFR Part 151, and may incorporate any part of such plans into the BMP plan by reference.

7. Hazardous Waste Management

The permittee shall assure the proper management of solid and hazardous waste in accordance with the regulations promulgated under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1978 (RCRA) (40 U.S.C. 6901 et seq.) Management practices required under RCRA regulations shall be referenced in the BMP plan.

8. Documentation

The permittee shall maintain a description of the BMP plan at the facility and shall make the plan available upon request to EPPC personnel. Initial copies and modifications thereof shall be sent to the following addresses when required by Section 3:

Division of Water
Louisville Regional Office
9116 Leesgate Road
Louisville, Kentucky 40222-5084
ATTN: Supervisor

Kentucky Environmental and Public
Protection Cabinet
Dept. for Environmental Protection
Division of Water/KPDES Branch
14 Reilly Road, Frankfort Office Park
Frankfort, Kentucky 40601

9. BMP Plan Modification

The permittee shall amend the BMP plan whenever there is a change in the facility or change in the operation of the facility which materially increases the potential for the ancillary activities to result in the release of "BMP pollutants."

10. Modification for Ineffectiveness

If the BMP plan proves to be ineffective in achieving the general objective of preventing the release of "BMP pollutants," then the specific objectives and requirements under paragraphs b and c of paragraph 4, this Section, the permit, and/or the BMP plan shall be subject to modification to incorporate revised BMP requirements. If at any time following the issuance of this permit the BMP plan is found to be inadequate pursuant to a state or federal site inspection or plan review, the plan shall be modified to incorporate such changes necessary to resolve the concerns.

SECTION B. SPECIFIC CONDITIONS

11. Periodically Discharged Wastewaters Not Specifically Covered By Effluent Conditions

The permittee shall include in this BMP plan procedures and controls necessary for the handling of periodically discharged wastewaters such as intake screen backwash, meter calibration, fire protection, hydrostatic testing water, water associated with demolition projects, etc.

12 Acceptance of Tennessee Valley Authority (TVA) Shawnee Fossil Plant Wastewaters

The co-permittees shall include in this BMP plan procedures and controls necessary for the handling of wastewaters received from the Tennessee Valley Authority Shawnee Fossil Plant. Records of volumes and quality of wastewaters transferred and accepted, treatment of those wastewaters, and their final disposition shall be maintained by the co-permittees and produced upon request of the Division of Water.