

KPDES



**KENTUCKY POLLUTANT
DISCHARGE ELIMINATION
SYSTEM**

PERMIT

PERMIT NO.: KY0004049

AI NO.: 3059

**AUTHORIZATION TO DISCHARGE UNDER THE
KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES)**

Pursuant to Authority in KRS 224,

United States Department of Energy (DOE)
5501 Hobbs Road
Kevil, Kentucky 42053

Fluor Federal Services, Inc. (FFS)
P O Box 369
Kevil, Kentucky 42053

Mid-America Conversion Services, LLC (MCS)
1020 Monarch Street
Lexington, Kentucky 40513

is authorized to discharge from a facility located at

Paducah Gaseous Diffusion Plant (PGDP)
Depleted Uranium Hexafluoride (DUF₆) Conversion Facility
5600 Hobbs Road
Kevil, McCracken County, Kentucky

to receiving waters named

Bayou and Little Bayou Creeks

in accordance with effluent limitations, monitoring requirements and other conditions set forth in this permit.

This permit shall become effective on September 1, 2017.

This permit and the authorization to discharge shall expire at midnight, August 30, 2022.

July 3, 2017

Date Signed

A handwritten signature in black ink that reads "Sara J. Anderson". The signature is written in a cursive, flowing style.

Peter T. Goodmann, Director

Division of Water

THIS KPDES PERMIT CONSISTS OF THE FOLLOWING SECTIONS.

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SECTION 1
EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1.1. Compliance Monitoring Locations (Outfalls)

The following table lists the outfalls authorized by this permit, the latitude and longitude of each and the DOW assigned KPDES outfall number. DOE and FFS are co-responsible parties for all outfalls identified in this permit. MCS is a co-responsible party for Outfall 017 only.

TABLE 1.				
No.	Type	Latitude (N)	Longitude (W)	Receiving Waters
001	Direct	37.121754	-88.821101	Bayou Creek
002	Direct	37.112374	-88.798742	Little Bayou Creek
004	Internal	37.116570	-88.821881	Outfall 008
006	Direct	37.120851	-88.824796	Bayou Creek
008	Direct	37.117038	-88.822726	Bayou Creek
009	Direct	37.110222	-88.820596	Bayou Creek
010	Direct	37.109418	-88.800120	Little Bayou Creek
011	Direct	37.107565	-88.800954	Little Bayou Creek
012	Direct	37.104992	-88.802089	Little Bayou Creek
013	Direct	37.102504	-88.804356	Little Bayou Creek
015	Direct	37.118831	-88.821057	Bayou Creek
016	Direct	37.114029	-88.821912	Bayou Creek
017	Direct	37.105899	-88.817898	Bayou Creek
019	Direct	37.130405	-88.795402	Little Bayou Creek
020	Direct	37.130405	-88.795402	Little Bayou Creek

1.2. Effluent Limitations and Monitoring Requirements

Beginning on the effective date and lasting through the term of this permit discharges from Outfall 001 shall comply with the effluent limitations

TABLE 2.									
EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs/day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow ¹	MGD	Report	Report	N/A	N/A	N/A	N/A	1/Day	Instantaneous
pH	SU	N/A	N/A	6.0	N/A	N/A	9.0	1/Week	Grab
TSS	mg/l	N/A	N/A	N/A	30	60	N/A	1/Week	Grab
O&G	mg/l	N/A	N/A	N/A	10	15	N/A	1/Week	Grab
TRC	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Week	Grab
Temperature	°F	N/A	N/A	N/A	N/A	N/A	Report	1/Week	Grab
PCBs ²	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Week	Grab
Trichloroethylene	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Week	Grab
Uranium	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Week	Grab
Total Alpha	ρCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Week	Grab
Total Beta	ρCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Week	Grab
Total Phosphorus	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Week	Grab
Technetium 99 ³	ρCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Quarter	Grab
Chronic WET	TU _c	N/A	N/A	N/A	N/A	N/A	1.00	1/Quarter	(⁴)
¹ 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.									
² See Section 6.2 of this permit for definition and required reporting levels.									
³ DOE Method Tc-02-RC Technetium-99 In Water – TEVA Resin shall be used for analysis of this parameter									
⁴ Three (3) 24-hour composite samples one each collected every other day for a period of five (5) days, i.e. days 1, 3, & 5									

Beginning on the effective date and lasting through the term of this permit discharges from Outfall 002 shall comply with the effluent limitations

TABLE 3.									
EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs/day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	1/Month	Instantaneous
pH	SU	N/A	N/A	6.0	N/A	N/A	9.0	1/Month	Grab
TSS	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
O&G	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
PCBs ¹	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Trichloroethylene	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Technetium 99 ²	pCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Uranium	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Alpha	pCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Beta	pCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Recoverable Copper	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Hardness (as mg/l CaCO ₃)	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
¹ See Section 6.2 of this permit for definition and required reporting levels.									
² DOE Method Tc-02-RC Technetium-99 In Water – TEVA Resin shall be used for analysis of this parameter									

Beginning on the effective date and lasting through the term of this permit discharges from Outfall 004 shall comply with the effluent limitations

TABLE 4.									
EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs./day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	2/Month	Instantaneous
Biochemical Oxygen Demand (BOD ₅)	mg/l	N/A	N/A	N/A	30	60	N/A	2/Month	Grab
TSS	mg/l	N/A	N/A	N/A	30	60	N/A	2/Month	Grab

Beginning on the effective date and lasting through the term of this permit discharges from Outfall 006 shall comply with the effluent limitations

TABLE 5.									
EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs/day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	1/Month	Instantaneous
pH	SU	N/A	N/A	6.0	N/A	N/A	9.0	1/Month	Grab
TSS	mg/l	N/A	N/A	N/A	30	60	N/A	1/Month	Grab
O&G	mg/l	N/A	N/A	N/A	10	15	N/A	1/Month	Grab
TRC	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab

Beginning on the effective date and lasting through the term of this permit discharges from Outfall 008 shall comply with the effluent limitations

TABLE 6.									
EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs/day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	1/Month	Instantaneous
pH	SU	N/A	N/A	6.0	N/A	N/A	9.0	1/Month	Grab
TSS	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
O&G	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
TRC	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Phosphorus	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Temperature	°F	N/A	N/A	N/A	N/A	N/A	Report	1/Month	Grab
PCBs ¹	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Trichloroethylene	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Technetium 99 ²	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Uranium	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Alpha	pCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Beta	pCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab

¹See Section 6.2 of this permit for definition and required reporting levels.

²DOE Method Tc-02-RC Technetium-99 In Water – TEVA Resin shall be used for analysis of this parameter

Beginning on the effective date and lasting through the term of this permit discharges from Outfalls 009, 012, 015 and 016 shall comply with the effluent limitations

TABLE 7.									
EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs/day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	1/Month	Instantaneous
pH	SU	N/A	N/A	6.0	N/A	N/A	9.0	1/Month	Grab
TSS	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
O&G	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
PCBs ¹	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Trichloroethylene	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Technetium 99 ²	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Uranium	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Alpha	pCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Beta	pCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab

¹See Section 6.2 of this permit for definition and required reporting levels.

²DOE Method Tc-02-RC Technetium-99 In Water – TEVA Resin shall be used for analysis of this parameter

Beginning on the effective date and lasting through the term of this permit discharges from Outfall 010 shall comply with the effluent limitations

TABLE 8.									
EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs/day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	1/Month	Instantaneous
pH	SU	N/A	N/A	6.0	N/A	N/A	9.0	1/Month	Grab
TSS	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
O&G	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
PCBs ¹	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Trichloroethylene	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Technetium 99 ²	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Uranium	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Alpha	ρCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Beta	ρCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Chronic WET	TU _c	N/A	N/A	N/A	N/A	N/A	1.00	1/Quarter ³	(⁴)
¹ See Section 6.2 of this permit for definition and required reporting levels.									
² DOE Method Tc-02-RC Technetium-99 In Water – TEVA Resin shall be used for analysis of this parameter									
³ Monitoring not required for this parameter when the effluent from the C-617 Lagoon is discharged through Outfall 011									
⁴ Three (3) 24-hour composite samples one each collected every other day for a period of five (5) days, i.e. days 1, 3, & 5									

Beginning on the effective date and lasting through the term of this permit discharges from Outfall 011 shall comply with the effluent limitations

TABLE 9.									
EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs/day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	1/Month	Instantaneous
pH	SU	N/A	N/A	6.0	N/A	N/A	9.0	1/Month	Grab
TSS	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
O&G	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
PCBs ¹	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Trichloroethylene	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Technetium 99 ²	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Uranium	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Alpha	ρCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Beta	ρCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Chronic WET	TU _c	N/A	N/A	N/A	N/A	N/A	1.00	(³)	(⁴)
¹ See Section 6.2 of this permit for definition and required reporting levels.									
² DOE Method Tc-02-RC Technetium-99 In Water – TEVA Resin shall be used for analysis of this parameter									
³ Monitoring required for this parameter only when the effluent from the C-617 Lagoon is discharged through this outfall									
⁴ Three (3) 24-hour composite samples one each collected every other day for a period of five (5) days, i.e. days 1, 3, & 5									

Beginning on the effective date and lasting through the term of this permit discharges from Outfall 013 shall comply with the effluent limitations

TABLE 10.									
EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs/day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	1/Month	Instantaneous
pH	SU	N/A	N/A	6.0	N/A	N/A	9.0	1/Month	Grab
TSS	mg/l	N/A	N/A	N/A	30	60	N/A	1/Month	Grab
O&G	mg/l	N/A	N/A	N/A	10	15	N/A	1/Month	Grab
PCBs ¹	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Trichloroethylene	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Technetium 99 ²	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Uranium	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Alpha	pCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Beta	pCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Recoverable Zinc	µg/l	N/A	N/A	N/A	Report	119	N/A	1/Month	Grab
Hardness (as mg/l CaCO ₃)	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab

¹See Section 6.2 of this permit for definition and required reporting levels.

²DOE Method Tc-02-RC Technetium-99 In Water – TEVA Resin shall be used for analysis of this parameter

Beginning on the effective date and lasting through the term of this permit discharges from Outfalls 019 and 020 shall comply with the effluent limitations

TABLE 11.									
EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs/day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	1/Month	Instantaneous
pH	SU	N/A	N/A	6.0	N/A	N/A	9.0	1/Month	Grab
TSS	mg/l	N/A	N/A	N/A	30	60	N/A	1/Month	Grab
O&G	mg/l	N/A	N/A	N/A	10	15	N/A	1/Month	Grab
PCBs ¹	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Trichloroethylene	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Technetium 99 ²	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Uranium	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Alpha	ρCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Beta	ρCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab

¹See Section 6.2 of this permit for definition and required reporting levels.

²DOE Method Tc-02-RC Technetium-99 In Water – TEVA Resin shall be used for analysis of this parameter

Beginning on the effective date and lasting through the term of this permit discharges from Outfall 017 shall comply with the effluent limitations

TABLE 12.									
EFFLUENT LIMITATIONS								MONITORING REQUIREMENTS	
Effluent Characteristic	Units	Loadings (lbs/day)		Concentrations				Frequency	Sample Type
		Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Maximum		
Flow	MGD	Report	Report	N/A	N/A	N/A	N/A	1/Month	Instantaneous
pH	SU	N/A	N/A	6.0	N/A	N/A	9.0	1/Month	Grab
TSS	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
O&G	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Hardness (as mg/l CaCO ₃)	mg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Recoverable Zinc	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
PCBs ¹	pg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Trichloroethylene	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Uranium	µg/l	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Technetium 99 ²	pCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Alpha	pCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Total Beta	pCi/L	N/A	N/A	N/A	Report	Report	N/A	1/Month	Grab
Acute WET	TU _A	N/A	N/A	N/A	N/A	N/A	1.00	1/Quarter	(²)

¹See Section 6.2 of this permit for definition and required reporting levels.

²DOE Method Tc-02-RC Technetium-99 In Water – TEVA Resin shall be used for analysis of this parameter

³Two (2) discrete grab samples shall be collected 12 hours apart.

1.3. Standard Effluent Requirements

The discharges to waters of the Commonwealth shall not produce floating solids, visible foam or a visible sheen on the surface of the receiving waters.

1.4. Non-Numeric Requirements

In addition to the numeric effluent limitations and monitoring requirements for the each outfall non-numeric requirements consisting of the selection, design, installation, and implementation of control measures and best management practices (BMPs) that are technologically available and economically practicable and achievable to reduce and/or eliminate the discharge of pollutants resulting from precipitation events shall apply. The operator shall implement and document compliance with these non-numeric requirements through the facility's Best Management Practices Plan (BMPP).

1.4.1. Control Measures

The control measures and BMPs selected, designed, installed, and implemented shall consider the following:

- 1) Prevention of stormwater contact with materials that may contaminate the stormwater;
- 2) Use of control measures in combination;
- 3) Assess pollutant types and quantity and their potential impact on water quality;
- 4) Minimizing impervious surfaces;
- 5) Optimizing onsite infiltration of runoff;
- 6) Use of vegetated swales and natural depressions to attenuate flows;
- 7) Conservation and/or restoration of riparian buffers; and
- 8) Use of treatment interceptors

The candidate control measures and BMPs shall be in accordance with good engineering practices and manufacturer's specifications unless justification and documentation of rationale for any deviation from the manufacturer's specification is provided in the BMPP.

1.4.2. Minimize Exposure

The exposure of cleaning, construction, demolition, disposal, fueling, loading and unloading, material storage, maintenance, material storage and processing areas to rain, snow, snowmelt, and runoff shall be minimized. The following activities should be considered when minimizing exposure:

- 1) Locating industrial materials and activities inside or protecting them with storm resistant coverings;
- 2) The use of specific control measures to prevent runoff of contaminated flows and divert run-on away from these areas (e.g. curbing, berms, and grading);
- 3) Locating raw materials, intermediate products, final products, wastes, etc. in areas where leaks or spills are contained;
- 4) Maintaining and storing equipment and vehicles indoors when feasible otherwise drain fluids and use drip pans and absorbents;
- 5) Conducting activities so that leaks or spills do not enter the stormwater drainage system;
- 6) Promptly containing and cleaning up leaks and spills using dry methods;
- 7) The strategic location of spill/overflow protection equipment for immediate accessibility;
- 8) Conducting equipment and vehicle cleaning operations so that overspray is captured and runoff or run-on are prevented (e.g. indoors, under cover or in bermed areas);
- 9) Minimizing impervious areas to prevent excessive runoff; and
- 10) Implementing other adequately protective alternate practices.

1.4.3. Good Housekeeping

All exposed areas shall be kept clean and well maintained, free of waste, garbage, and floatable debris. The generation of dust and off-site tracking of raw, final, or waste materials shall be minimized.

1.4.4. Maintenance

Regular inspections, testing, maintenance, and repair all equipment and systems shall be conducted to minimize the potential for leaks, spills, and other releases of pollutants. All control measures, structural and nonstructural, shall be diligently maintained in effective operating condition. Any defective control measure shall be repaired or replaced as expeditiously as practicable.

1.4.5. Spill Prevention and Response Procedures

The potential for leaks, spills and other releases shall be minimized by developing and implementing a plan for effective response. At a minimum this plan shall include the following:

- 1) Procedures for plainly labeling containers (e.g., "Used Oil," "Spent Solvents," "Fertilizers and Pesticides," etc.) to encourage proper handling and facilitate rapid response if spills or leaks occur;
- 2) Preventative measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling;
- 3) Procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. Employees who may cause, detect, or respond to a spill or leak must be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of your Stormwater Pollution Prevention Team; and
- 4) Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies and contact information shall be kept in locations that are readily accessible and available.

1.4.6. Management of Runoff and Run-on

Stormwater runoff and run-on shall be reduced to minimize the discharge of pollutants. Structural and non-structural control measures such as velocity dissipaters, diversion, infiltration, reuse, and/or containment shall be used to reduce the discharge of pollutants. Salt stockpiles shall be enclosed or covered and appropriate measures to minimize exposure during transfer shall be implemented.

1.4.7. Employee Training

All employees who work in areas where industrial materials or activities are exposed to stormwater shall be trained on the specific control measures used to achieve the effluent requirements, monitoring, inspection, planning, reporting, and documentation requirements in other parts of this permit.

SECTION 2
STANDARD CONDITIONS

2. STANDARD CONDITIONS

2.1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of KRS Chapter 224 and is grounds for enforcement action; for permit termination, revocation and reissuance, modification, or denial of a permit renewal application. Any person who violates applicable statutes, who fails to perform any duty imposed, or who violates any determination, permit, administrative regulation, or order of the cabinet promulgated pursuant thereto shall be liable for a civil penalty as provided at KRS 224.99.010.

2.2. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for a new permit.

2.3. 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.

2.4. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

2.5. 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 includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2.6. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, notification of planned changes or anticipated noncompliance does not stay any permit condition.

2.7. Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

2.8. Duty to Provide Information

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

2.9. Inspection and Entry

The permittee shall allow the Director or an authorized representative (including an authorized contractor acting as a representative of the Director), upon presentation of credentials and other documents as may be required by law, to:

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

2.10. Monitoring and Records

- (1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- (2) Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities which shall be retained for a period of at least five (5) years (or longer as required by 401 KAR 5:065, Section 2(10), 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 Director at any time.
- (3) Records of monitoring information shall include:
 - (i) The date, exact place, and time of sampling or measurements;
 - (ii) The individual(s) who performed the sampling or measurements;
 - (iii) The date(s) analyses were performed;
 - (iv) The individual(s) who performed the analyses;
 - (v) The analytical techniques or methods used; and
 - (vi) The results of such analyses.
- (4) Monitoring must be conducted according to test procedures approved under 401 KAR 5:065, Section 2(8) unless another method is required under 401 KAR 5:065, Section 2(9) or (10).
- (5) KRS 224.99-010 provides that any person who knowingly violates KRS 224.70-110 or other enumerated statutes, or who knowingly renders inaccurate any monitoring device or method required to be maintained under this permit, shall be guilty of a Class D felony and, upon conviction, shall be punished by a fine of not more than \$25,000, or by imprisonment for not more than one (1) year, or both. Each day upon which a violation occurs shall constitute a separate violation.

2.11. Signatory Requirement

- (1) All applications, reports, or information submitted to the Director shall be signed and certified pursuant to 401 KAR 5:060, Section 4.
- (2) KRS 224.99-010 provides that any person who knowingly provides false information in any document filed or required to be maintained under KRS Chapter 224 shall be guilty of a Class D felony and upon conviction thereof, shall be punished by a fine not to exceed twenty-five thousand dollars (\$25,000), or by imprisonment, or by fine and imprisonment, for each separate violation. Each day upon which a violation occurs shall constitute a separate violation.

2.12. Reporting Requirements

2.12.1. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

- (i) The alteration or addition to a permitted facility, may meet one of the criteria for determining whether a facility is a new source in KRS 224.16-050; or
- (ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under KRS 224.16-050; or
- (iii) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

2.12.2. Anticipated Noncompliance

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

2.12.3. Transfers

This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under KRS 224; see 401 KAR 5:070, Section 5; in some cases, modification or revocation and reissuance is mandatory.

2.12.4. Monitoring Reports

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

- (i) Monitoring results must be reported on a DMR or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.
- (ii) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 401 KAR 5:065, Section 2(8), or another method required for an industry-specific waste stream under 401 KAR 5:065, Section 2(9) or (10), the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.
- (iii) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

2.12.5. 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.

2.12.6. Twenty-four Hour Reporting

- (i) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances. 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 reoccurrence of the noncompliance.

(ii) The following shall be included as information which must be reported within twenty-four (24) hours under this paragraph:

(A) Any unanticipated bypass which exceeds any effluent limitation in the permit.

(B) Any upset which exceeds any effluent limitation in the permit.

(C) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within twenty-four (24) hours.

(iii) The Director may waive the written report on a case-by-case basis for reports under paragraph ii of this section if the oral report has been received within twenty-four (24) hours.

2.12.7. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under Sections 2.12.1, 2.12.4, 2.12.5 and 2.12.6, at the time monitoring reports are submitted. The reports shall contain the information listed in Section 2.12.6.

2.12.8. Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the Director, it shall promptly submit such facts or information.

2.13. Bypass

2.13.1. Definitions

(i) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

(ii) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

2.13.2. 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. These bypasses are not subject to the provisions of Section 2.13.1.

2.13.3. Notice

(i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, and if possible at least ten days before the date of the bypass.

(ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section 2.12.6.

2.13.4. Prohibition of Bypass

(i) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

(A) 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 is not 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 Section 2.13.3.

(ii) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the conditions listed above in Section 2.13.3.

2.14. Upset

2.14.1. Definition

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2.14.2. Effect of an Upset

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations, if the requirements of Section 2.14.3 are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

2.14.3. Conditions Necessary for a Demonstration of 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:

- (i) An upset occurred and that the permittee can identify the cause(s) of the upset;
- (ii) The permitted facility was at the time being properly operated;
- (iii) The permittee submitted notice of the upset as required in Section 2.12.6; and
- (iv) The permittee complied with any remedial measures required under Section 2.4.

2.14.4. Burden of Proof

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset, has the burden of proof.

SECTION 3
BEST MANAGEMENT PRACTICES (BMP) PLAN REQUIREMENTS

3. BEST MANAGEMENT PRACTICES (BMP) PLAN REQUIREMENTS

The permittee shall develop and implement a Best Management Practices Plan (BMPP) consistent with 401 KAR 5:065, Section 2(4).

3.1. 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 224.1-010(35) and who have operations which could result in (1) the release of a hazardous substance, pollutant, or contaminant, or (2) an environmental emergency, as defined in KRS 224.1-400, 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.

3.2. Plan

The permittee shall develop and implement a BMPP consistent with 401 KAR 5:065, Section 2(4) pursuant to KRS 224.70-110, which prevents or minimizes the potential for the release of "BMP pollutants" from ancillary activities through site runoff; spillage or leaks, sludge or waste disposal; or drainage from raw material storage.

3.3. Implementation

The permittee shall implement the BMPP upon the commencement of regulated activity. Modifications to the plan as a result of ineffectiveness or plan changes to the facility shall be implemented as soon as possible.

3.4. General Requirements

The BMPP shall:

- 1) Be documented in narrative form, and shall include any necessary plot plans, drawings, or maps.
- 2) Establish specific objectives for the control of toxic and hazardous pollutants.
 - a. 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.
 - b. 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.
- 3) Establish specific BMPs to meet the objectives identified under paragraph b of this section, addressing each component or system capable of causing a release of "BMP pollutants".
- 4) Include any special conditions established in part b of this section.
- 5) Be reviewed by engineering staff and the site manager.

3.5. 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:

- (1) BMP Committee

- (2) Reporting of BMP Incidents
- (3) Risk Identification and Assessment
- (4) Employee Training
- (5) Inspections and Records
- (6) Preventive Maintenance
- (7) Good Housekeeping
- (8) Materials Compatibility
- (9) Security
- (10) Materials Inventory

3.6. 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.

3.7. Hazardous Waste Management

The permittee shall assure the proper management of solids 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.

3.8. Documentation

The permittee shall maintain a copy of the BMPP at the facility and shall make the plan available upon request to EEC personnel.

3.9. BMP Plan Modification

The permittee shall modify the BMPP whenever there is a change in the facility or change in the operation of the facility that materially increases the potential for the release of "BMP pollutants".

3.10. Modification for Ineffectiveness

The BMPs and the BMPP shall be reviewed and appropriate modifications implemented to utilize other practicable measures if any of the following events occur:

- 1) As a result of either a fixed or episodic event-driven evaluation, the permittee determines the selected BMPs are not achieving the established performance benchmarks;
- 2) As a result of an evaluation or inspection by Cabinet personnel; or
- 3) A release of any petroleum-based product, toxic or hazardous substance.

SECTION 4
WET TESTING REQUIREMENTS

4. WET TESTING REQUIREMENTS

The permittee shall continue the series of chronic tests described below to evaluate wastewater toxicity of the discharge from Outfall 001.

The permittee shall initiate, within thirty (30) days of the effective date of this permit, the acute series of tests described below to evaluate wastewater toxicity of the discharge from Outfall 017.

The permittee shall initiate, within thirty (30) days of the effective date of this permit, the chronic series of tests described below to evaluate wastewater toxicity of the discharge from Outfall 021.

4.1. Sampling Requirements

Acute

Tests shall be conducted on each of two grab samples collected over the period of discharge, (i.e., discrete sample #1 taken at commencement of discharge, sample #2 taken approximately 12 hours later, sooner if discharge is expected to cease). The elapsed time between the collection of each grab sample and the initiation of each test shall not exceed 36 hours.

Chronic

Tests shall be conducted on a minimum of three (3) 24-hour composite samples shall be collected at a frequency of one (1) 24-hour composite every other day. For example, the first sample would be used for test initiation on 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. Each 24-hour composite shall be collected using a refrigerated automatic sampler. Each 24-hour composite sample shall consist of not less than forty-eight (48) discrete aliquots of effluent. Aliquots shall be of equal volume and time-proportional unless effluent flow is expected to vary by more than 10% from one hour to another or by 50% over the 24-hour collection period (as predicted from historical trends, significant rainfall events, etc.). With anticipated effluent flow variation of greater than 10% per hour or 50% overall, the frequency, and volume of each aliquot shall be flow-proportional. 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.

Samples shall be iced and maintained at not greater than 6 °C during collection, storage, transport and until used in the test by the laboratory.

4.2. Test Requirements

Acute

The Acute WET test requirements consists of two 48-hour static non-renewal toxicity tests with water flea (Ceriodaphnia dubia, Daphnia magna, or Daphnia pulex) and two 48-hour static non-renewal toxicity tests with fathead minnow (Pimephales promelas) performed on discrete grab samples of 100% effluent (1.00 TU_A) at the frequency specified. Testing of each sample shall begin within 36 hours of the collection of that sample.

Chronic

The Chronic WET test requirements consists of 1 short-term static-renewal water flea (Ceriodaphnia dubia) life-cycle test and 1 short-term static-renewal fathead minnow (Pimephales promelas) growth test on 100% effluent (1.00 TUC) at the frequency specified. The test shall begin within 36 hours of the collection of the day 1 sample. The test shall be renewed daily using: samples collected on days 1, 3; and 5 in accordance with test method specified in the Test Methods Section below.

4.3. Serial Dilutions

Effluent concentrations for the tests must include the percent effluent required by the permit and at least four additional effluent concentrations as in the following table.

TABLE 13.					
Required Percent Effluent	Dilution 1 Percent	Dilution 2 Percent	Dilution 3 Percent	Dilution 4 Percent	Dilution 5 Percent
100	20	40	60	80	100

Selection of different effluent concentrations must be approved by DOW prior to testing. Controls shall be conducted concurrently with effluent testing using synthetic water.

4.4. Controls

Acute

Control survival is 90% or greater in test organisms held in synthetic water.

Chronic

Control tests shall be conducted concurrent with effluent testing using synthetic water. The analysis will be deemed reasonable and good only if the minimum control requirements are met.

Any test that does not meet the control acceptability criteria shall be repeated as soon as practicable within the monitoring period.

Within 30 days prior to initiating an effluent toxicity test, a reference toxicant test must be completed for the method used; alternatively, the reference toxicant test may be run concurrent with the effluent toxicity test.

For the Ceriodaphnia test: at least 80% survival of all control organisms and an average of fifteen (15) or more young per surviving female in the control solutions; and 60% of surviving control females must produce three broods.

For the fathead minnow test: at least 80% survival in controls and the average dry weight per surviving organism in control chambers equals or exceeds 0.25 mg.

4.5. Test Methods

Acute

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), the most recently published edition of this publication, or as approved in advance by DOW.

Chronic

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 (4th Edition), EPA-821-R-02-013, the most recent edition of this publication, or as approved in advance by DOW.

4.6. Reduction to Single Species Testing

After at least six (6) consecutive passing toxicity tests using both, the water flea and the fathead minnow, a request for testing with only the most sensitive species may be submitted to DOW. Upon approval, the most sensitive species may be considered as representative and all subsequent compliance tests may be conducted using only that species unless directed at any time by DOW to change or revert to both.

4.7. Reporting Requirements

Results of all toxicity tests conducted with any species shall be reported according to the most recent format provided by DOW (See the Section for Submission of DMRs of this permit). Notification of failed test shall be made to DOW within five days of test completion. Test reports shall be submitted to DOW within thirty (30) days of completion. A control chart including the most recent reference toxicant test endpoints for the effluent test method (minimum of 5, up to 20 if available) shall be part of the report.

4.8. Test Results

If noncompliance occurs in an initial test, the permittee shall repeat the test using new samples. Results of this second round of testing will be used to evaluate the persistence of the toxic event and the possible need for a Toxicity Reduction Evaluation (TRE).

Acute

Noncompliance is demonstrated if the LC50 is less than 100 % effluent. If noncompliance occurs in an initial test, the permittee shall repeat the test using new grab samples collected approximately twelve (12) hours apart. Sampling must be initiated within ten (10) days of completing the failed test. The second round of testing shall include both species unless approved for only the most sensitive species by DOW.

Chronic

Noncompliance with the toxicity limit is demonstrated if the IC₂₅ (inhibition concentration) for reproduction or growth is less than 100 % effluent. If noncompliance occurs in an initial test, the permittee must repeat the test using a new set of three (3) composite samples. Sampling must be initiated within fifteen (15) days of completing the failed test. The second round of testing shall include both species unless approved for only the most sensitive species by DOW.

4.9. Accelerated Testing

If the second round of testing also demonstrates noncompliance, the permittee will be required to perform accelerated testing as specified in the following paragraphs.

Complete four (4) additional rounds of testing to evaluate the frequency and degree of toxicity within sixty (60) days of completing the second failed round of testing. Results of the initial and second rounds of testing specified above plus the four (4) additional rounds of testing will be used in deciding if a TRE shall be required.

If results from any two (2) of six (6) rounds of testing show a significant noncompliance with the Toxicity limit, i.e., ≥ 1.2 times the TU, or results from any four of the six tests show toxicity as defined above, a TRE will be required.

The permittee shall provide written notification to DOW within five (5) days of completing the accelerated testing, stating that: (1) toxicity persisted and that a TRE will be initiated; or (2) that toxicity did not persist and normal testing will resume.

Should toxicity prove not to be persistent during the accelerated testing period, but reoccur within twelve (12) months of the initial failure at a level ≥ 1.2 times the TU, then a TRE shall be required.

4.10. WET TRE

Having determined that a TRE is required, the permittee shall initiate and/or continue at least monthly testing with both species until such time as a specific TRE plan is approved by DOW. A TRE plan shall be developed by the permittee and submitted to DOW within thirty (30) days of determining a TRE is required. The plan shall be developed in accordance with the most recent Environmental Protection Agency (EPA) and DOW guidance. Questions regarding this process may be submitted to DOW.

The TRE 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 plan will establish an implementation schedule to begin immediately upon approval by DOW, to have duration of at least six (6) months, and not to exceed twenty-four (24) months. The implementation schedule shall include quarterly progress reports being submitted to DOW, due the last day of the month following each calendar quarter.

Upon completion of the TRE, the permittee shall submit a final report detailing the findings of the TRE and actions taken or 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 one-hundred-eighty (180) days.

Should the permittee determine the toxicant(s) and/or a workable treatment prior to the planned conclusion of the TRE, the permittee will notify DOW within five (5) days of making that determination and take appropriate actions to implement the solution within one-hundred-eighty (180) days of that notification.

SECTION 5
OTHER CONDITIONS

5. OTHER CONDITIONS

5.1. Schedule of Compliance

The permittee shall attain compliance with all requirements of this permit on the effective date of this permit unless otherwise stated below:

5.2. Other Permits

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.

5.3. Continuation of Expiring Permit

This permit shall be continued in effect and enforceable after the expiration date of the permit provided the permittee submits a timely and complete application in accordance with 401 KAR 5:060, Section 2(4).

5.4. Antidegradation

The conditions of Kentucky's Antidegradation Policy have been satisfied [401 KAR 10:029, Section 1]. This permitting action is a reissuance of a KPDES permit that does not authorize an expanded discharge

5.5. Reopener Clause

This permit shall be modified, or alternatively revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved in accordance with 401 KAR 5:050 through 5:080, 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.

5.6. 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.

5.7. Outfall Signage

The KPDES permit establishes monitoring points, effluent limitations, and other conditions to address discharges from the permitted facility. In an effort to better document and clarify these locations the permittee should place and maintain a permanent marker at each of the monitoring locations.

5.8. Certified Operators

The wastewater treatment plant the primary responsibility of Class II Wastewater Treatment Plant Certified Operator or higher.

SECTION 6

MONITORING AND REPORTING REQUIREMENTS

6. MONITORING AND REPORTING REQUIREMENTS

6.1. KPDES Outfalls

Discharge samples and measurements shall be collected at the compliance point for each KPDES Outfall identified in this permit. Each sample shall be representative of the volume and nature of the monitored discharge.

6.2. Sufficiently Sensitive Analytical Methods

Analytical methods utilized to demonstrate compliance with the effluent limitations established in this permit shall be sufficiently sensitive to detect pollutant levels at or below the required effluent limit. It is the responsibility of the permittee to demonstrate compliance with permit parameter limitations by utilization of sufficiently sensitive analytical methods.

PCBs mean the sum of the individual analytical results for PCB-1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254 and PCB-1260. The required report level for this parameter is 64 µg/l however, current analytical methods are unable to achieve this degree of sensitivity therefore the alternate reporting level is 500 ng/l.

6.3. Certified Laboratory Requirements

All laboratory analyses and tests required to demonstrate compliance with the conditions of this permit shall be performed by EEC certified general wastewater laboratories.

6.4. Submission of DMRs

Monitoring results obtained during each monitoring period must be reported. The completed DMR for each monitoring period must be submitted no later than the 28th day of the month following the monitoring period for which monitoring results were obtained.

The completed DMR for each monitoring period must be entered into the DOW approved electronic system no later than midnight on the 28th day of the month following the monitoring period for which monitoring results were obtained.

For more information regarding electronic submittal of DMRs, please visit the Division's website at: <http://water.ky.gov/permitting/Pages/netDMRInformation.aspx> or contact the DMR Coordinator at (502) 564-3410.



MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

AARON B. KEATLEY
COMMISSIONER

July 3, 2017

Bobby D. Smith, Program Manager
Fluor Federal Services, Inc.
Paducah Deactivation Project
P. O. Box 369
Kevil, Kentucky 42053

Re: Response to Public Comments
KPDES No.: KY0004049
AI No.: 3059
McCracken County, Kentucky

Dear Mr. Smith:

Your comments concerning the above-referenced draft permit have been reviewed and responses prepared in accordance with Kentucky Pollutant Discharge Elimination System (KPDES) regulation 401 KAR 5:075, Section 12. The comments have been briefly described below and our responses to those comments follow:

- COMMENT 1:** Language should be included in the permit to allow sample during normal working hours to avoid calling in sample collection personnel during weekends or lat night in response to the first rainfall event of the month.
- RESPONSE 1:** The Division of Water (DOW) does not agree such language is necessary as the permit does not specify that precipitation event sampling must occur in response to the first event of the month. The permittee can collect the once per month sample during any precipitation event during a given month.
- COMMENT 2:** The co-permittees request following paragraph be added to the standard conditions subsection 2.12.4 of the permit: "Pursuant to Section 121(e)(1) of CERCLA, notice of planned physical alterations or additions to the permitted facility is not required when such alterations or additions are made as an element of a CERCLA response action as ongoing and future onsite CERCLA actions are not subject, to federal, state, or local permitting requirements".
- RESPONSE 2:** DOW does not agree the additional language is necessary. Subsection 2.12.4 references KRS 224.16-050 which states: The cabinet shall not impose under any permit issued pursuant to this section any effluent limitation, monitoring requirement, or other condition which is more stringent than the effluent limitation, monitoring requirement, or other condition which would have been applicable under federal regulation if the permit were issued by the federal government.

COMMENT 3: The designated uses of domestic water supply, primary contact recreation, secondary contact recreation and warm water aquatic habitat listed in the fact sheet are inappropriate for Bayou and Little Bayou Creeks. Due to insufficient flow neither stream supports a year round fishery and neither stream serves as a domestic water supply.

RESPONSE 3: The stream use designations for Bayou and Little Bayou Creeks listed in the fact sheet are consistent with the requirements of 401 KAR 10:026, Section 5(2).

COMMENT 4: The permittee requests the removal of the monitoring and reporting requirements for total alpha and total beta. The proposed permit requires monitoring and reporting of uranium and technetium-99 which are the primary alpha and beta emitters respectively therefore monitoring and reporting total alpha and total beta is unnecessarily duplicative.

RESPONSE 4: Uranium and technetium-99 may be the primary alpha and beta emitters, but they are not the only ones; therefore, monitoring and reporting for total alpha and total beta will remain.

COMMENT 5: Outfall 021 is an unnecessary compliance point for whole effluent toxicity (WET) and should be removed from the permit. Outfalls 010 and 011 are more appropriate with chronic WET applied to Outfall 010 and acute applied to Outfall 011.

RESPONSE 5: Outfall 021 has been removed from the permit and chronic WET testing is now required for Outfalls 010 and 011, when the discharge from the C-617 Lagoon is directed to that Outfall. When the discharge from the C-617 Lagoon is not discharged through that Outfall, no WET testing is required.

COMMENT 6: Mixing zones should be granted for Outfalls 001, 010, 011 and 017.

RESPONSE 6: Pursuant to 401 KAR 10:031, Section 3(3) water quality-based effluent permit limitations (WQBELs) for the protection of aquatic life shall be calculated using the 7Q10 of the receiving stream. Both Bayou and Little Bayou Creeks have 7Q10 low flow conditions of zero (0) cfs; therefore, the granting of a mixing zone for these Outfalls has no effect on the permit limits.

COMMENT 7: The permit should allow for modification of the WET testing analytical procedures as described in EPA-821-E-02-13, Section 11.3.4 when pathogen interferences are indicated.

RESPONSE 7: Such language is unnecessary. If the co-permittee suspects pathogen interference, then DOW's WET coordinator should be contacted to receive guidance on how to proceed.

COMMENT 8: The permit should allow for collection of acute toxicity samples during normal business hours. By stipulating that the two grab samples shall be collected 12 hours apart would not allow for sampling during normal business hours. Request the permit condition allow collection samples no more than 24 hours apart.

RESPONSE 8: The permit requires two samples be collected during the period of discharge collected approximately 12 hours apart or sooner, if the discharge is expected to cease. In this case, acute WET testing is imposed on a precipitation driven discharge which are generally short-term discharges lasting only a few hours. Therefore, the language in the permit allows for sufficient flexibility in collecting the requisite number of samples.

COMMENT 9: Permit should allow chronic toxicity samples to be collected in a chilled container as opposed to a refrigerated system.

RESPONSE 9: The required test method for conducting chronic toxicity requires the sample to be collected and maintained at 0 to 6 °C (32 to 42 °F) until initiation of the test to inhibit microbial degradation, chemical transformation, and loss of highly volatile toxic substances. Unattended chilled samplers using ice can maintain sample temperatures at approximately 32 °F below ambient temperatures for approximately 24 hours. When the ambient temperature exceeds 65 degrees the sample temperature cannot be maintained between 0 and 6 °C until initiation of the test thus rendering the sample unusable.

COMMENT 10: The permit should not stipulate two required reporting limits for PCBs.

RESPONSE 10: The permit indicates the required reporting level for the aggregate PCBs concentration is 64 µg/l however current analytical methods are unable to achieve this degree of sensitivity therefore an alternate reporting level of 500 ng/l is acceptable.

COMMENT 11: In the fact sheet it appears DOW has calculated effluent limits for uranium, total alpha and total beta. The following statement should be added to the fact sheet: "Source, special nuclear, and by-product materials, as defined under the Atomic Energy Act, are not "pollutants" under the Clean Water Act. As such, those materials are not subject to KPDES permitting requirements."

RESPONSE 11: DOW did calculate effluent limits for uranium, total alpha, and total beta to demonstrate there was no reasonable potential for these parameters to violate water quality standards. The addition of the suggested statement is unnecessary as the permit does not include limits for uranium, total alpha, or total beta.

COMMENT 12: The following statement should be added to the basis for uranium, technetium-99, total alpha, and total beta wherever they appear in the fact sheet: "In addition, pursuant to an Agreed Order dated December 7, 2007, DOE and the Kentucky Environmental and Public Protection Cabinet agreed that if an amendment to Kentucky regulations to establish new water quality criteria for radionuclides were adopted, DOE's 2006 KPDES permit would be modified in a manner consistent with the amendment. After Kentucky amended its water quality criteria in 2009 such that water quality criteria for radionuclides became applicable at the point of withdrawal, DOE's 2006 permit was modified in the final 2009 version of the KPDES Number KY0004049 to eliminate numerical effluent limits for uranium, total alpha and total beta."

RESPONSE 12: The Division will not be including the suggested language in the final fact sheet. As written, all permit requirements are sufficiently explained and justified. The suggested language is unnecessary.

Any person aggrieved by the issuance of a permit final decision may demand a hearing pursuant to KRS 224.10-420(2) within thirty (30) days from the date of the issuance of this letter. Any demand for a hearing on the permit shall be filed in accordance with the procedures specified in KRS 224.10-420, 224.10-440, 224.10-470, and the regulations promulgated thereto. The request for hearing should be submitted in writing to the Energy and Environment Cabinet, Office of Administrative Hearings, 211 Sower Blvd., Frankfort, Kentucky 40601 and the Commonwealth of Kentucky, Energy and Environment Cabinet, Division of Water, 3, Frankfort, Kentucky 40601. For your record keeping purposes, it is recommended that these

requests be sent by certified mail. The written request must conform to the appropriate statutes referenced above.

If you have any questions regarding these responses, please contact Surface Water Permits Branch, at (502) 564-3410.

Further information on procedures and legal matters pertaining to the hearing request may be obtained by contacting the Office of Administrative Hearings at (502) 564-7312.

Sincerely,

A handwritten signature in black ink that reads "Sara J. Anderson". The signature is written in a cursive style with a large, looped initial "S".

Peter T. Goodmann, Director
Division of Water