Permit Number: AR0037451
AFIN: 32-00042

AUTHORIZATION TO DISCHARGE WASTEWATER UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM AND THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT

In accordance with the provisions of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et seq.), and the Clean Water Act (33 U.S.C. § 1251 et seq.),

Entergy Arkansas, LLC
Independence Plant

is authorized to discharge combined wastewater (cooling tower blowdown, low volume wastewater, treated sanitary wastewater, coal pile runoff, ash landfill leachate, ash dust suppression water, bottom ash transport water, bottom ash purge water, and stormwater runoff from ash landfill, switchyard area, and process areas) from a facility located as follows: 555 Point Ferry Road, Newark, AR 72562, in Independence County, Arkansas.

Facility Coordinates: Latitude: 35° 40’ 39” N; Longitude: 91° 24’ 42” W

Discharge is to receiving waters named:

White River in Segment 4F of the White River Basin.

The outfall is located at the following coordinates:

Internal Outfall 01C:	Latitude: 35° 40’ 30” N;	Longitude: 91° 24’ 38” W
Internal Outfall 01H:	Latitude: 35° 40’ 14” N;	Longitude: 91° 24’ 13” W
Internal Outfall 01I:	Latitude: 35° 40’ 23” N;	Longitude: 91° 24’ 25” W
Outfall 002:	Latitude: 35° 39’ 13” N;	Longitude: 91° 24’ 23” W

Discharge shall be in accordance with effluent limitations, monitoring requirements, and other conditions set forth in this permit. Per Part III.D.10, the permittee must re-apply 180 days prior to the expiration date below for permit coverage to continue beyond the expiration date.

Effective Date:	November 1, 2020
Minor Modification Effective Date:	January 27, 2022
Major Modification Effective Date:	December 1, 2023
Expiration Date:	October 31, 2025

Stacie R. Wassell
Associate Director, Office of Water Quality
Arkansas Department of Energy and Environment
Division of Environmental Quality

November 15, 2023
Major Modification Issue Date

PART I
PERMIT REQUIREMENTS

SECTION A1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: INTERNAL OUTFALL 01C - treated sanitary wastewater

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 01C. Such discharges shall be limited and monitored by the permittee as specified below as well as Parts II and III. See Part IV for all definitions and calculations.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.		
Flow	N/A	N/A	Report, MGD	Report, MGD	daily	totalizer
Biochemical Oxygen Demand (BOD5)	N/A	N/A	30	45	once/month	grab
Total Suspended Solids (TSS)	N/A	N/A	30.0	45.0	once/month	grab

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken after the chlorine contact chamber and prior to entering the surge pond.

SECTION A2. RESERVED

SECTION A3. RESERVED

SECTION A4. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: INTERNAL OUTFALL 01H - combined treated wastewater consisting of low volume wastewater (turbine area sump drains, boiler blowdown, regeneration wastewater from demineralizer plant, and ash dust suppression water), sanitary wastewater, coal pile runoff, ash landfill leachate (combustion residual leachate), stormwater runoff from the ash landfill, process areas, and switchyard, bottom ash transport water[1], and bottom ash purge water[1]

During the period beginning on the effective date and lasting until the date of expiration , the permittee is authorized to discharge from Outfall 01H. Such discharges shall be limited and monitored by the permittee as specified below as well as Parts II and III. See Part IV for all definitions and calculations.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.		
Flow	N/A	N/A	Report, MGD	Report, MGD	continuous	recorder
Total Suspended Solids (TSS)	N/A	N/A	30.0	50.0	once/month	grab
Oil & Grease (O&G)	N/A	N/A	15	20	once/month	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/month	grab

[1] See Part IB and Parts II.23 and 24.

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken after the sedimentation ponds and prior to combining with cooling tower blowdown.

SECTION A5. RESERVED

SECTION A6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: INTERNAL OUTFALL 01I - cooling tower blowdown

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 01I. Such discharges shall be limited and monitored by the permittee as specified below as well as Parts II and III. See Part IV for all definitions and calculations.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.		
Flow	N/A	N/A	Report, MGD	Report, MGD	continuous	recorder
Total Phosphorus (TP)	N/A	N/A	5.0	5.0	once/month	grab
Free Available Chlorine (FAC)[1]	0.53	1.32	0.2	0.5	once/month	grab
Chromium, Total Recoverable (Cr)[2]	N/A	N/A	0.2	0.2	N/A[2]	N/A[2]
Zinc, Total Recoverable (Zn)[2]	N/A	N/A	1.0	1.0	N/A[2]	N/A[2]

[1] FAC samples shall be representative of periods of chlorination. See Parts II.11 and II.12.
[2] Monitoring for all priority pollutants, including Chromium and Zinc, is waived at Outfall 01I during this permit. See Part II.16.

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken prior to commingling with the discharge from Internal Outfall 01H.

SECTION A7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 002 - Combined wastewater consisting of treated sanitary wastewater, low volume wastewater, coal pile runoff, ash landfill leachate (combustion residual leachate), stormwater runoff from the ash landfill, switchyard area, and process areas, cooling tower blowdown, bottom ash tranport water[1], and bottom ash purge water[1]

During the period beginning on the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 002. Such discharges shall be limited and monitored by the permittee as specified below as well as Parts II and III. See Part IV for all definitions and calculations.

Effluent Characteristics	**Discharge Limitations**				**Monitoring Requirements**	
	Mass (lbs/day, unless otherwise specified)		Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.		
Flow	N/A	N/A	Report, MGD	Report, MGD	continuous	recorder
Temperature (T)[2]	N/A	N/A	100 ºF	105 ºF	continuous	recorder
Oil and Grease (O&G)	N/A	N/A	10	15	once/month	grab
Escherichia Coli Bacteria (E. coli)			(colonies/100ml)			
(May – September)	N/A	N/A	126	410	once/month	grab
(October – April)	N/A	N/A	630	2050	once/month	grab
pH	N/A	N/A	Minimum 6.0 s.u.	Maximum 9.0 s.u.	once/month	grab
Acute WET Testing[3, 4]						
Pimephales promelas (Acute)[3]	N/A					
Pass/Fail Lethality (48-Hr NOEC) **TEM6C**			Report (Pass=0/Fail=1)		once/quarter	composite
Survival (48-Hr NOEC) **TOM6C**			Report %		once/quarter	composite
Coefficient of Variation (48-Hr NOEC) **TQM6C**			Report %		once/quarter	composite
Pass/Fail Retest 1 (48-Hr NOEC) 22418			Report (Pass=0/Fail=1)		once/month[4]	composite
Pass/Fail Retest 2 (48-Hr NOEC) 22419			Report (Pass=0/Fail=1)		once/month[4]	composite
Pass/Fail Retest 3 (48-Hr NOEC) 51444			Report (Pass=0/Fail=1)		once/month[4]	composite
Daphnia pulex (Acute)[3]						
Pass/Fail Lethality (48-Hr NOEC) **TEM3D**			Report (Pass=0/Fail=1)		once/quarter	composite
Survival (48-Hr NOEC) **TOM3D**			Report %		once/quarter	composite
Coefficient of Variation (48-Hr NOEC) **TQM3D**			Report %		once/quarter	composite
Pass/Fail Retest 1 (48-Hr NOEC) 22415			Report (Pass=0/Fail=1)		once/month[4]	composite
Pass/Fail Retest 2 (48-Hr NOEC) 22416			Report (Pass=0/Fail=1)		once/month[4]	composite
Pass/Fail Retest 3 (48-Hr NOEC) 51443			Report (Pass=0/Fail=1)		once/month[4]	composite

[1] See Part IB and Parts II.23 and 24.
[2] See Part II.17 (Flow-weighted average temperatures).
[3] See Part II.18 (WET Testing Requirements).
[4] CONDITIONAL REPORTING: Use only if conducting retests due to a test failure (demonstration of significant toxic effects at or below the critical dilution). If testing on a quarterly basis, the permittee may substitute one of the retests in lieu of one routine toxicity test. If retests are not required, Report NODI=9 (Conditional Monitoring - Not Required This Period) under retest parameters. (reported on a quarterly DMR) This condition applies to *P. promelas* and *D. pulex*.

Oil, grease, or petrochemical substances shall not be discharged to the receiving waters to the extent that they produce globules or other residue or any visible, colored film on the surface or coat the banks and/or bottoms of the waterbody or adversely affect any of the associated biota. There shall be no visible sheen as defined in Part IV of this permit.

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples shall be taken from the discharge of the cooling tower blowdown sump after combining with the discharge from Internal Outfall 01H, and prior to discharge to the White River.

SECTION B. PERMIT COMPLIANCE SCHEDULE

Compliance with the requirement for no discharge of Bottom Ash Transport Water generated on and after December 31, 2025 is required by December 31, 2025. The permittee shall submit progress reports addressing the progress towards attaining the aforementioned requirement according to the following schedule:

ACTIVITY	DUE DATE
Achieve Final Compliance[1, 2]	December 31, 2025

[1] If the permittee is already in compliance with the requirement, only documentation demonstrating compliance with the requirement will be required for the progress report.

[2] A final Progress Report must be submitted no later than 30 days following the final compliance date and include a certification that the requirement was met on the effective date and is still being met.

All reports required by this compliance schedule shall be submitted to the Division within the time period specified in Part III.D.5 of the permit (no later than 14 days following each compliance schedule due date listed). Reports must be submitted via email to: water-enforcement-report@adeq.state.ar.us and water-permit-application@adeq.state.ar.us.

PART II
OTHER CONDITIONS

1. The operator of this wastewater treatment facility shall hold a Basic Industrial license from the State of Arkansas in accordance with APC&EC Rule No. 3.

2. In accordance with 40 C.F.R. §§ 122.62 (a)(2) and 124.5, this permit may be reopened for modification or revocation and/or reissuance to require additional monitoring and/or effluent limitations when new information is received that was not available at the time of the permit issuance that would have justified the application of different permit conditions at the time of permit issuance. The new information includes (but is not limited to):

   a. Actual or potential exceedance of State water quality criteria and/or narrative criteria are determined to be the result of the permittee's discharge(s) to a relevant water body;
   b. A Total Maximum Daily Load (TMDL) is established or revised for the water body;
   c. Effluent limitation guidelines (ELGs) applicable to the facility are promulgated or are revised in a way to make reopening the permit necessary to address compliance.

3. Other Specified Monitoring Requirements

   The permittee may use alternative appropriate monitoring methods and analytical instruments other than as specified in Part I Section A of the permit without a major permit modification under the following conditions:

   - The monitoring and analytical instruments are consistent with accepted scientific practices.
   - The requests shall be submitted in writing to the Permits Branch of the Office of Water Quality of the DEQ for use of the alternate method or instrument.
   - The method and/or instrument is in compliance with 40 C.F.R. Part 136 or approved in accordance with 40 C.F.R. § 136.5.
   - All associated devices are installed, calibrated, and maintained to ensure the accuracy of the measurements and are consistent with the accepted capability of that type of device. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Control/Quality Assurance program.

   Upon written approval of the alternative monitoring method and/or analytical instruments, these methods or instruments must be consistently utilized throughout the monitoring period. DEQ must be notified in writing and the permittee must receive written approval from DEQ if the permittee decides to return to the original permit monitoring requirements.

4. [Reserved]

5. [Reserved]

6. The term "bottom ash" means the ash, including boiler slag, which settles in the furnace or is dislodged from furnace walls. Economizer ash is included in this definition when it is collected with bottom ash. [ref. 40 C.F.R. § 423.11(f)]

7. The term "bottom ash transport water" means any wastewater that is used to convey bottom ash (as defined Part II.6), and has direct contact with the ash. Transport water does not include low volume, short duration discharges of wastewater from minor leaks (e.g., leaks from valve packing, pipe flanges, or piping) minor maintenance events (e.g., replacement of valves or pipe sections), or bottom ash purge water (see Part II.23). [ref. 40 C.F.R. § 423.11(p)]

8. The term "combustion residual leachate" means leachate from landfills or surface impoundments containing combustion residuals. Leachate is composed of liquid, including any suspended or dissolved constituents in the liquid, that has percolated through waste or other materials emplaced in a landfill, or that passes through the surface impoundment's containment structure (e.g., bottom, dikes, berms). Combustion residual leachate includes seepage and/or leakage from a combustion residual landfill or impoundment unit. Combustion residual leachate includes wastewater from landfills and surface impoundments located on non-adjoining property when under the operational control of the permitted facility. [ref. 40 C.F.R. § 423.11(r)]

9. The term "low volume waste sources" (low volume wastewater) means, taken collectively as if from one source, wastewater from all sources except those for which specific limitations or standards are otherwise established in 40 C.F.R. Part 423. Low volume waste sources include, but are not limited to, the following: Wastewaters from ion exchange water treatment systems, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, recirculating house service water systems, and wet scrubber air pollution control systems whose primary purpose is particulate removal. Sanitary wastes, air conditioning wastes, and wastewater from carbon capture or sequestration systems are not included in this definition. [ref. 40 C.F.R. § 423.11(b)]

10. The term "metal cleaning waste" means any wastewater resulting from cleaning (with or without chemical cleaning compounds) any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning. [ref. 40 C.F.R. § 423.11(d)]

11. The term "Free Available Chlorine" shall mean the value obtained using any of the "chlorine—free available" methods in Table IB in 40 C.F.R. § 136.3(a) where the method has the capability of measuring free available chlorine, or other methods approved by the permitting authority. [ref. 40 C.F.R. § 423.11(l)]

12. Free available chlorine shall not be discharged from any unit for more than two hours per day in any one day and not more than one unit at this facility may discharge free available chlorine at any one time unless the discharger demonstrates to the permitting authority that the units cannot operate at or below this level of chlorination.

13. There shall be no discharge of polychlorinated biphenyls transformer fluid.

14. The facility shall not utilize any cooling tower maintenance chemicals containing any of the priority pollutants listed in Appendix A of 40 C.F.R. Part 423 without first modifying this permit.

15. 126 priority pollutants listed in Appendix A to 40 C.F.R. Part 423

    The discharge from Internal Outfall 01I shall have no detectable amount of the 126 priority pollutants listed in Appendix A to 40 C.F.R. Part 423 (contained in chemicals added for cooling tower maintenance), except for Chromium and Zinc. "No detectable amount" means undetectable when analyzed in accordance with the analytical methods in 40 C.F.R. Part 136. Limits for Chromium and Zinc are included in Part IA, Section A6.

16. The monitoring requirement at Outfall 01I for all 126 priority pollutants listed in Appendix A of 40 C.F.R. Part 423, including Chromium and Zinc, is waived during this permit term based on 40 C.F.R. § 122.44(a)(2), and a certification dated June 12, 2019. This waiver is only valid for the term of this permit. The permittee must request this monitoring waiver when applying for a reissued permit. The monitoring waiver request must be accompanied by a signed certification that the facility does not use any cooling tower maintenance chemicals that contain any priority pollutant listed in Appendix A of 40 C.F.R. Part 423, including Chromium or Zinc. The signed certification shall include the statements in 40 C.F.R. § 122.22(d).

17. For the purpose of this permit, the daily maximum temperature discharged at Outfall 002 shall be calculated once per day as a flow weighted average temperature (FWAT). Each instantaneous flow and temperature shall be recorded each day at equal time intervals throughout the day at intervals not exceeding two hours. The FWAT shall be determined using the following formula:

$$\text{FWAT} = \frac{\sum (\text{Instantaneous Flow} \times \text{Instantaneous Temperature})}{\sum (\text{Instantaneous Flows})}$$

The monthly average temperature discharged from Outfall 002 shall be determined by the arithmetic average of all FWATs determined during the calendar month.

18. WHOLE EFFLUENT TOXICITY TESTING (48-HOUR ACUTE NOEC)

It is unlawful and a violation of this permit for a permittee or his designated agent to manipulate test samples in any manner, to delay sample shipment, or to terminate or to cause to terminate a toxicity test. Once initiated, all toxicity tests must be completed unless specific authority has been granted by EPA Region 6 or the State NPDES permitting authority (DEQ).

A. SCOPE AND METHODOLOGY

i. The permittee shall test the effluent for toxicity in accordance with the provisions in this section.

Applicable To Final Outfall	002
Reported On DMR As Final Outfall	Outfall 002
Critical Dilution (%)	27
Effluent Dilution Series (%)	11, 15, 20, 27, 36
Testing Frequency	Once/Quarter
Sample Type	"Composite Sample (defined in Paragraph B.iii)"
Test Species/Methods	40 C.F.R. §136

Daphnia pulex acute static renewal 48-hour definitive toxicity test using EPA-821-R-02-012, or the latest update thereof.

Pimephales promelas (Fathead minnow) acute static renewal 48-hour definitive toxicity test using EPA-821-R-02-012, or the latest update thereof.

ii. The NOEC (No Observed Effect Concentration) is herein defined as the greatest effluent dilution at and below which lethality that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Acute test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution.

iii. This permit may be reopened to require WET limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

B. REQUIRED TEST CONDITIONS AND TEST ACCEPTABILITY CRITERIA

The permittee shall repeat a test, including the control and all effluent dilutions, if the procedures and quality assurance requirements defined in the test methods or in this permit are not satisfied, including the following additional criteria:

Condition/Criteria	***Daphnia pulex***	***Pimephales promelas***
# of replicates per concentration	4 (minimum)	2 (minimum)
# of organisms per replicate	5 (minimum)	10 (minimum)
# of organisms per concentration	20 (minimum)	20 (minimum)
# of test concentrations per effluent	5 and a control	5 and a control
Sample Holding Time *	36 hours for first use	36 hours for first use
Test Acceptability Criteria	≥90% survival of all control organisms.	≥90% survival of all control organisms.
Coefficient of Variation **	40% or less, unless significant effects are exhibited.	40% or less unless significant effects are exhibited.

* If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples and the minimum number of effluent portions are waived during that sampling period. However, the permittee must collect an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent, and must meet the holding time between collection and first use of the sample. When possible, the effluent samples used for the toxicity tests shall be collected on separate days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item C of this section.

** Test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%.

i. Statistical Interpretation

The statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in the appropriate method manual listed in Part II or the most recent update thereof.

ii. Dilution Water

a. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness, and alkalinity to the closest downstream perennial water for;

(1) toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and

(2) toxicity tests conducted on effluent discharges where no receiving water is available due to zero flow conditions.

b. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

(1) a synthetic dilution water control which fulfills the test acceptance requirements was run concurrently with the receiving water control;

(2) the test indicating receiving water toxicity has been carried out to completion,

(3) the permittee includes all test results indicating receiving water toxicity with the full report and information required; and

(4) the synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

iii. Samples and Composites

a. The permittee shall collect two samples (flow-weighted composite if possible) from the outfall(s).

b. The permittee shall collect a second sample (composite samples if possible) for use during the 24-hour renewal of each dilution concentration for each test. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 36 hours for first use of the sample. The permittee

must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to 0-6 degrees Centigrade during collection, shipping, and/or storage. A holding time up to 72 hrs is allowed upon notification to DEQ of the need for additional holding time.

c. The permittee must collect the composite samples such that the effluent samples are representative of the discharge duration, and of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on an intermittent basis.

C. REPORTING

i. The permittee shall prepare a full report of the results of all tests conducted pursuant to this part in accordance with the Report Preparation Section of the most current publication of the method manual, for every valid or invalid toxicity test initiated, whether carried to completion or not. The permittee shall retain each full report and submit them to the Agency via NetDMR. For any test which fails, is considered invalid, or which is terminated early for any reason, the full report must be submitted for agency review.

ii. A valid test for each species must be reported during each reporting period specified in PART I of this permit unless the permittee is performing a TRE which may increase the frequency of testing and reporting. One set of WET data for each species is to be recorded on the DMR for each reporting period. Additional results are reported under the retest codes below.

iii. The permittee shall submit the results of each valid toxicity test on DMR for that reporting period in accordance with Part I of this permit, as follows below. Submit retest information clearly marked as such with the following month's DMR. Use a no data indicator (NODI) code of 9 (not required), for months when WET retests are not required. Only results of valid tests are to be reported on the DMR.

Reporting Requirement	**Parameter STORET CODE**	
	Daphnia pulex	*Pimephales promelas*
Enter a “1” if the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, otherwise enter a "0".	TEM3D	TEM6C
Report the NOEC value for survival	TOM3D	TOM6C
Report the highest (critical dilution or control) Coefficient of Variation	TQM3D	TQM6C
(If required) Retest 1 – Enter a “1” if the NOEC for survival is less than the critical dilution, otherwise enter “0”. (reported on quarterly DMR)*	22415	22418

Reporting Requirement	Parameter STORET CODE	
	Daphnia pulex	*Pimephales promelas*
(If required) Retest 2- Enter a "1" if the NOEC for survival is less than the critical dilution, otherwise enter "0". (reported on quarterly DMR)*	22416	22419
(If required) Retest 3- Enter a "1" if the NOEC for survival is less than the critical dilution, otherwise enter "0". (reported on quarterly DMR)*	51443	51444

* If retests are not required, Report NODI=9 (Conditional Monitoring - Not Required This Period).

iv. DMR parameters

Report the following parameters on the DMR:

Scheduled DMR: TEM6C, TOM6C, TQM6C, 22418, 22419, 51444, TEM3D, TOM3D, TQM3D, 22415, 22416, and 51443.

D. MONITORING FREQUENCY REDUCTION

i. The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters of testing for a test species, with no lethal effects demonstrated at or below the critical dilution. If granted, the monitoring frequency for that test species may be reduced to not less than once per year for the less sensitive species (usually the Fathead minnow) and not less than once per six months for the more sensitive test species (usually the Daphnia pulex).

ii. Certification - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria above. In addition, the permittee must provide a list with each test performed including test initiation date, species, and NOECs. Upon review and acceptance of this information, the agency will issue a letter of confirmation of the monitoring frequency reduction. A copy of the letter will be forwarded to the agency's compliance section to update the permit reporting requirements.

iii. Failures - If any test demonstrates lethal effects at or below the critical dilution at any time during the life of this permit, three monthly retests are required. If a frequency reduction had been granted, the monitoring frequency for the affected test species reverts to once per quarter until the permit is re-issued.

iv. This monitoring frequency reduction applies only until the expiration date of this permit, at which time the monitoring frequency for both test species reverts to once per quarter until the permit is re-issued.

v. For administratively continued facilities where permit renewal was held up by no fault of the permittee, the following language regarding WET testing frequency reduction applies after permit renewal:

The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters of testing after the expiration date of the previous permit, for one or both test species, provided that all of the following conditions are met:

a. The permittee tested quarterly upon the expiration date of that permit, and

b. The issuance of the renewed permit was not delayed by any fault of the permittee, and

c. No lethal effects are demonstrated at or below the critical dilution for the first four consecutive quarters of testing after the expiration date of the previous permit.

E. PERSISTENT TOXICITY

The requirements of this subsection apply only when a toxicity test demonstrates significant lethal effects at or below the critical dilution. Significant toxic effects are herein defined as a statistically significant difference at the 95% confidence level between the survival of the appropriate test organism in a specified effluent dilution and the control (0% effluent). If the initial WET test conducted fails, the permittee will conduct three retests. The purpose of retests is to determine the duration of a toxic event. A test that meets all test acceptability criteria and demonstrates significant toxic effects does not need additional confirmation. Such testing cannot confirm or disprove a previous test result. If any valid test demonstrates significant lethal effects to a test species at or below the critical dilution, the frequency of testing for this species is automatically increased to once per quarter with no option for frequency reduction.

i. Retest

The permittee shall conduct a total of three (3) additional tests for any species that demonstrates significant lethal effects at or below the critical dilution. The three additional tests shall be conducted monthly (one test per month) during the next three consecutive months. If testing on a quarterly basis, the permittee may substitute one of the additional tests in lieu of one routine toxicity test. A full report shall be prepared for each test required by this section in accordance with the reporting requirements previously outlined and available upon request from the Agency.

ii. Requirement to Initiate a Toxicity Reduction Evaluation

If persistent lethality is demonstrated by failure of one or more retests, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Part F of this section. The permittee shall notify DEQ in writing within 5 days of notification of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest. A TRE may also be required due to a demonstration of intermittent effects at or below the critical dilution, or for failure to perform the required retests.

F. TOXICITY REDUCTION EVALUATION (TRE)

A TRE is triggered following two test failures (a failure followed by one retest failure).

i. Within ninety (90) days of confirming lethality in the retests, the permittee shall submit a Toxicity Reduction Evaluation (TRE) Action Plan and Schedule for conducting a TRE to DEQ. The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A TRE is an investigation intended to determine those actions necessary to achieve compliance with water quality based effluent limits by reducing an effluent's toxicity to an acceptable level. A TRE is defined as a step wise process which combines toxicity testing and analyses of the physical and chemical characteristics of a toxic effluent to identify the constituents causing effluent toxicity and/or treatment methods which will reduce the effluent toxicity. The TRE Action Plan shall lead to the successful elimination of effluent toxicity at the critical dilution and include the following:

a. Specific Activities. The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, a Toxicity Identification Evaluation (TIE) and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity Identification Evaluations to characterize the nature of the constituents causing toxicity, the permittee shall perform multiple characterizations and follow the procedures specified in the documents "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures" (EPA 600/6-91/003) or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee shall perform multiple identifications and follow the methods specified in the documents "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081), as appropriate.

b. Sampling Plan (e.g., locations, methods, holding times, chain of custody, preservation, etc.). The effluent sample volume collected for all tests shall be adequate to perform the toxicity test, toxicity characterization, identification and confirmation procedures, and conduct chemical specific analyses when a probable toxicant has been identified; Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity. Where toxicity was demonstrated within 24 hours of test initiation, each composite sample shall be analyzed independently. Otherwise the permittee may substitute a composite sample, comprised of equal portions of the individual composite samples, for the chemical specific analysis;

c. Quality Assurance Plan (e.g., QA/QC implementation, corrective actions, etc.); and

d. Project Organization (e.g., project staff, project manager, consulting services, etc.).

ii. The permittee shall initiate the TRE Action Plan within thirty (30) days of plan and schedule submittal.

iii. The permittee shall submit a quarterly TRE Activities Report to DEQ in the months of January, April, July and October, containing information on toxicity reduction evaluation activities including:

a. Any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;

b. Any studies/evaluations and results on the treatability of the facility's effluent toxicity; and

c. Any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant toxicity at the critical dilution. A copy of the TRE Activities Report shall also be submitted to the state agency.

d. Any results and interpretation of any chemical specific analysis, and for any characterization, identification, and confirmation tests performed during the quarter.

e. Any changes to the initial TRE plan and schedule that are believed necessary.

iv. Finalizing a TRE

The permittee shall submit (to DEQ) a final report on TRE activities no later than twenty-eight (28) months from confirming toxicity in the retests, which provides information pertaining to the specific control mechanism selected that will, when implemented, result in reduction of effluent toxicity to no significant toxicity at the critical dilution. The report will also provide a specific corrective action schedule for implementing the selected control mechanism. A copy of the final report on TRE Activities shall also be submitted to the state agency.

A TRE may be stopped if there is no toxicity at the critical dilution for a period of 12 consecutive months (with at least monthly testing) following confirmation of toxicity in the retests. The permittee would submit a final report to DEQ at that time.

v. Quarterly testing during the TRE is a minimum monitoring requirement. EPA recommends that permittees required to perform a TRE not rely on quarterly testing alone to ensure success in the TRE, and that additional screening tests be performed to capture toxic samples for identification of toxicants. Failure to identify the specific chemical compound causing toxicity test failure will normally result in a permit limit for whole effluent toxicity limits per federal regulations at 40 C.F.R. § 122.44(d)(1)(v).

19. Cooling Water Intake Structure (CWIS) Flow Monitoring

A. The facility shall operate and maintain a closed-cycle recirculating cooling water system as defined in 40 C.F.R. § 125.92(c) in accordance with Best Management Practices (BMPs) that will minimize any Adverse Environmental Impacts (AEI) from the cooling water intake structure (CWIS).

B. The facility shall monitor the actual intake flows at a minimum frequency of daily. The monitoring must be representative of normal operating conditions, and must include measuring cooling water withdrawals, make-up water, and blow down volume. In lieu of daily intake flow monitoring, the facility may monitor the cycles of concentration at a minimum frequency of daily.

Actual intake flows may be calculated using the pump run time and pump capacity. The actual intake flows determined under this condition, and the daily flow monitoring of blowdown at Internal Outfall 01I, will satisfy the monitoring requirements under this condition. The daily monitoring records shall be retained until the subsequent permit is issued.

C. Pursuant to 40 C.F.R. § 125.98(b)(1), nothing in this permit authorizes take for the purposes of a facility's compliance with the Endangered Species Act.

20. Cooling Water Intake Structure (CWIS) Annual Certification Statement and Report

An annual certification statement and report must be submitted to the Division each year by the anniversary date of the effective date of the permit. The certification statement and report must be signed by the Responsible Official for the permit.

A. The report must include a summary of any modifications to, or changes in the operation of, the CWIS at your facility that impacts cooling water withdrawals. In addition, any revisions to the information required in 40 C.F.R. § 122.21 (r) must be submitted with the next permit renewal application.

B. If the information contained in the previous year's annual certification statement and report is still pertinent, a letter stating such, signed by the Responsible Official for the permit, may be submitted to the Division, along with any applicable data. The letter will meet the requirements of this part for an annual certification statement and report.

21. Visual inspections of the CWIS

Visual inspections of the on-shore portions of the CWIS shall be conducted during the period the CWIS is in operation. Inspections shall be conducted at least weekly to ensure that any technologies operated to comply with 40 C.F.R. § 125.94 are maintained and operated to function as designed. Records of the inspections shall be maintained on-site until the subsequent permit is issued.

22. Reporting and Recordkeeping for the CWIS

A. Records must be kept of all submissions that are part of the permit application until the subsequent permit is issued to document compliance with the requirements of this permit.

B. All records supporting the Director's Determination of BTA for Entrainment under 40 C.F.R. §125.98(f) must be retained until such time as the Director revises the Determination of BTA for Entrainment in the permit.

C. Discharge Monitoring Reports (DMRs), and results of all monitoring, demonstrations, and other information required by the permit sufficient to determine compliance with the permit conditions and requirements established under 40 C.F.R. §125.94 shall be submitted to the Director. The daily intake flows, and the weekly visual inspections, shall be submitted to DEQ with each monthly DMR.

23. Bottom Ash Transport Water

The discharge of bottom ash transport water generated on and after December 31, 2025 is prohibited. [ref. 40 C.F.R. § 423.13(k)(1)(i)]

24. Discharge of Bottom Ash Purge Water

The term “bottom ash purge water” means any water (including bottom ash transport water) being discharged subject to 40 C.F.R. § 423.13(k)(2)(i), if such a discharge occurs after the Compliance Deadline stated in Part II.23.

A. Bottom ash transport water will be considered to be bottom ash purge water after the Compliance Deadline stated in Part IB, and may be discharged from a properly installed, operated, and maintained bottom ash system, under the following conditions:

i. To maintain system water balance when precipitation-related inflows are generated from storm events exceeding a 10-year 24-hour storm event, and cannot be managed by installed spares, redundancies, maintenance tanks, and other secondary bottom ash system equipment; or

ii. To maintain system water balance when regular inflows from wastestreams other than bottom ash transport water exceed the ability of the bottom ash system to accept recycled water and segregating these other wastestreams is not feasible; or

iii. To maintain system water chemistry where installed equipment at the facility is unable to manage pH, corrosive substances, substances or conditions causing scaling, or fine particulates to below levels which impact system operation or maintenance; or

iv. To conduct maintenance not otherwise included in Parts II.25(A)(i), (ii), and (III) above, and not exempted from the definition of transport water as noted in Part II.7 above, and when water volumes cannot be managed by installed spares, redundancies, maintenance tanks, and other secondary bottom ash system equipment.

B. The total volume that may be discharged for the above activities shall be reduced or eliminated to the extent achievable using control measures (including best management practices) that are technologically available and economically achievable in light of best industry practice. The total volume of the discharge shall not exceed a 30-day rolling average of ten percent of the primary active wetted bottom ash system volume. The volume of daily discharges used to calculate the 30-day rolling average shall be calculated using measurements from flow monitors.

C. The volumes of the daily discharge of bottom ash purge water, and the flow data and calculations performed to ensure compliance with the requirements of Part II.24(B) above, shall be documented, and the documentation shall be maintained on-site for inspection by Division personnel.

25. Prohibition of the discharge of Metal Cleaning Waste

There shall be no discharge of metal cleaning waste, as defined in Part II.10.

PART III
STANDARD CONDITIONS

SECTION A – GENERAL CONDITIONS

1. **Duty to Comply**

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Water Act and the Arkansas Water and Air Pollution Control Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; and/or for denial of a permit renewal application. **Any values reported in the required Discharge Monitoring Report (DMR) which are in excess of an effluent limitation specified in Part I shall constitute evidence of violation of such effluent limitation and of this permit.**

2. **Penalties for Violations of Permit Conditions**

The Arkansas Water and Air Pollution Control Act provides that any person who violates any provisions of a permit issued under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year, or a fine of not more than twenty-five thousand dollars ($25,000) or by both such fine and imprisonment for each day of such violation. Any person who violates any provision of a permit issued under the Act may also be subject to civil penalty in such amount as the court shall find appropriate, not to exceed ten thousand dollars ($10,000) for each day of such violation. The fact that any such violation may constitute a misdemeanor shall not be a bar to the maintenance of such civil action.

3. **Permit Actions**

This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to the following:

A. Violation of any terms or conditions of this permit.
B. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts.
C. A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge.
D. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.
E. Failure of the permittee to comply with the provisions of APC&EC Rule No. 9 (Permit fees) as required by Part III.A.11 herein.

The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

4. **Toxic Pollutants**

Notwithstanding Part III.A.3, if any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under APC&EC Rule No. 2, as amended, or Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitations on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standards or prohibition and the permittee so notified.

The permittee shall comply with effluent standards, narrative criteria, or prohibitions established under APC&EC Rule No. 2, as amended, or Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. **Civil and Criminal Liability**

Except as provided in permit conditions for "Bypass of Treatment Facilities" (Part III.B.4), and "Upset" (Part III.B.5), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of this permit or applicable state and federal statues or regulations which defeats the regulatory purposes of the permit may subject the permittee to criminal enforcement pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

6. **Oil and Hazardous Substance Liability**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the Clean Water Act.

7. **State Laws**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Clean Water Act.

8. **Property Rights**

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

9. **Severability**

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

10. **Applicable Federal, State or Local Requirements**

Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable federal requirements such as endangered species, state or local statute, ordinance or regulation.

11. **Permit Fees**

The permittee shall comply with all applicable permit fee requirements (i.e., including annual permit fees following the initial permit fee that will be invoiced every year the permit is active) for wastewater discharge permits as described in APC&EC Rule No. 9 (Regulation for the Fee System for Environmental Permits). Failure to promptly remit all required fees shall be grounds for the Director to initiate action to terminate this permit under the provisions of 40 C.F.R. §§ 122.64 and 124.5(d), as adopted in APC&EC Rule No. 6 and the provisions of APC&EC Rule No. 8.

SECTION B – OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. **Proper Operation and Maintenance**

A. 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 backup 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.

B. The permittee shall provide an adequate operating staff which is duly qualified to carryout operation, maintenance, and testing functions required to ensure compliance with the conditions of this permit.

2. **Need to Halt or Reduce 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. Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or

discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power for the treatment facility is reduced, is lost, or alternate power supply fails.

3. **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 or the water receiving the discharge.

4. **Bypass of Treatment Facilities**

"Bypass" means the intentional diversion of waste streams from any portion of a treatment facility, as defined at 40 C.F.R. § 122.41(m)(1)(i).

A. Bypass not exceeding limitation

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 Parts III.B.4.B and 4.C.

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 days before the date of the bypass.
2. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Part III.D.6 (24-hour notice).

C. Prohibition of bypass

1. 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 the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal or preventive maintenance.
(c) The permittee submitted notices as required by Part III.B.4.B.

2. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in Part III.B.4.C(1).

5. **Upset Conditions**

A. 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 Part III.B.5.B of this section 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.

B. Conditions necessary for 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:

1. An upset occurred and that the permittee can identify the specific cause(s) of the upset.
2. The permitted facility was at the time being properly operated.
3. The permittee submitted notice of the upset as required by Part III.D.6.
4. The permittee complied with any remedial measures required by Part III.B.3.

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

6. **Removed Substances**

A. Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State. The Permittee must comply with all applicable state and Federal regulations governing the disposal of sludge, including but not limited to 40 C.F.R. Part 503, 40 C.F.R. Part 257, and 40 C.F.R. Part 258.

B. Any changes to the permittee's disposal practices described in the Fact Sheet, as derived from the permit application, will require at least 180 days prior notice to the Director to allow time for additional permitting. Please note that the 180 day notification requirement may be waived if additional permitting is not required for the change.

7. **Power Failure**

The permittee is responsible for maintaining adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failure either by means of alternate power sources, standby generators, or retention of inadequately treated effluent.

SECTION C – MONITORING AND RECORDS

1. **Representative Sampling**

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before

the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director. Intermittent discharge shall be monitored.

2. **Flow Measurement**

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained per the manufacturer's specifications to ensure the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than +/- 10% from true discharge rates throughout the range of expected discharge volumes and shall be installed at the monitoring point of the discharge.

Calculated Flow Measurement

For calculated flow measurements that are performed in accordance with either the permit requirements or a Division approved method (i.e., as allowed under Part II.3), the +/- 10% accuracy requirement described above is waived. This waiver is only applicable when the method used for calculation of the flow has been reviewed and approved by the Division.

3. **Monitoring Procedures**

Monitoring must be conducted according to test procedures approved under 40 C.F.R. Part 136, unless other test procedures have been specified in this permit. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals frequent enough to ensure accuracy of measurements and shall ensure that both calibration and maintenance activities will be conducted. An adequate analytical quality control program, including the analysis of sufficient standards, spikes, and duplicate samples to ensure the accuracy of all required analytical results shall be maintained by the permittee or designated commercial laboratory. At a minimum, spikes and duplicate samples are to be analyzed on 10% of the samples.

4. **Penalties for Tampering**

The Arkansas Water and Air Pollution Control Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year or a fine of not more than ten thousand dollars ($10,000) or by both such fine and imprisonment.

5. **Reporting of Monitoring Results**

40 C.F.R. § 127.11(a)(1) and 40 C.F.R. § 127.16(a) require that monitoring reports must be reported on a Discharge Monitoring Reports (DMR) and filed electronically. Signatory

Authorities must initially request access for a NetDMR account. Once a NetDMR account is established, access to electronic filing should use the following link https://cdx.epa.gov. Permittees who are unable to file electronically may request a waiver from the Director in accordance with 40 C.F.R. § 127.15. Monitoring results obtained during the previous monitoring period shall be summarized and reported on a DMR dated and submitted no later than the 25th day of the month, following the completed reporting period beginning on the effective date of the permit.

6. **Additional Monitoring by the Permittee**

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 C.F.R. Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated on the DMR.

7. **Retention of Records**

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 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.

8. **Record Contents**

Records and monitoring information shall include:

A. The date, exact place, time and methods of sampling or measurements, and preservatives used, if any.
B. The individual(s) who performed the sampling or measurements.
C. The date(s) and time analyses were performed.
D. The individual(s) who performed the analyses.
E. The analytical techniques or methods used.
F. The measurements and results of such analyses.

9. **Inspection and Entry**

The permittee shall allow the Director, 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 must be kept under the conditions of this permit.
B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit.

C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit.
D. Sample, inspect, or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

SECTION D – REPORTING REQUIREMENTS

1. **Planned Changes**

The Permittee shall give notice to the Director as soon as possible but no later than 180 days prior to any planned physical alterations or additions to the permitted facility [40 C.F.R. § 122.41(l)]. Notice is required only when:

A. The alteration or addition to a permitted facility may meet one of the criteria for new sources at 40 C.F.R. § 122.29(b).
B. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants subject to effluent limitations in the permit, or to the notification requirements under 40 C.F.R. § 122.42(b).

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.

3. **Transfers**

The permit is nontransferable 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 the Act.

4. **Monitoring Reports**

Monitoring results shall be reported at the intervals and in the form specified in Part III.C.5. **Discharge Monitoring Reports must be submitted even when no discharge occurs during the reporting period.**

5. **Compliance Schedule**

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 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

6. **Twenty-four Hour Report**

A. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain the following information:

1. A description of the noncompliance and its cause.
2. 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.
3. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

B. The following shall be included as information which must be reported within 24 hours:

1. Any unanticipated bypass which exceeds any effluent limitation in the permit.
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 Director in Part I of the permit to be reported within 24 hours to the Enforcement Branch of the Office of Water Quality of the DEQ.

C. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours to the Enforcement Branch of the Office of Water Quality of the DEQ.

7. **Other Noncompliance**

The permittee shall report all instances of noncompliance not reported under Parts III.D.4, 5, and 6, at the time monitoring reports are submitted. The reports shall contain the information listed at Part III.D.6.

8. **Changes in Discharge of Toxic Substances for Industrial Dischargers**

The Director shall be notified as soon as the permittee knows or has reason to believe:

A. 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 "notification levels" described in 40 C.F.R. § 122.42(a)(1).

B. That any activity has occurred or will occur which would result in any discharge on a non-routine or infrequent basis of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" described in 40 C.F.R. § 122.42(a)(2).

9. **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, or 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. Information shall be submitted in the form, manner and time frame requested by the Director.

10. **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 and obtain a new permit. The complete application shall be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Continuation of expiring permits shall implemented through procedures outlined by APC&EC Rule No. 6.

11. **Signatory Requirements**

All applications, reports, or information submitted to the Director shall be signed and certified as follows:

A. All **permit applications** shall be signed as follows:

1. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation.
(b) The manager of one or more manufacturing, production, or operation facilities, provided: the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

2. For a partnership or sole proprietorship: by a general partner or proprietor, respectively.

3. For a municipality, State, Federal, or other public agency, by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

   (a) The chief executive officer of the agency.
   (b) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

B. All **reports** required by the permit and **other information** requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   1. The authorization is made in writing by a person described above.
   2. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).
   3. The written authorization is submitted to the Director.

C. Certification. Any person signing a document under this section shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

12. **Availability of Reports**

Except for data determined to be confidential under 40 C.F.R. Part 2 and APC&EC Rule No. 6, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Division of Environmental Quality. As required by the Regulations, the name and address of any permit applicant or permittee, permit applications, permits, and effluent data shall not be considered confidential.

13. **Penalties for Falsification of Reports**

The Arkansas Air and Water Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this permit shall be subject to

civil penalties specified in Part III.A.2 and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

14. **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.

PART IV
DEFINITIONS

All definitions contained in Section 502 of the Clean Water Act and 40 C.F.R. § 122.2 shall apply to this permit and are incorporated herein by reference. Additional definitions of words or phrases used in this permit are as follows:

1. **"7-Day Average"** Also known as "average weekly" means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week. The 7-Day Average for Fecal Coliform Bacteria (FCB) or E-Coli is the geometric mean of the "daily discharges" of all effluent samples collected during a calendar week in colonies per 100 ml.
2. **"Act"** means the Clean Water Act, Public Law 95-217 (33.U.S.C. 1251 et seq.) as amended.
3. **"Administrator"** means the Administrator of the U.S. Environmental Protection Agency.
4. **"APC&EC"** means the Arkansas Pollution Control and Ecology Commission.
5. **"Applicable effluent standards and limitations"** means all State and Federal effluent standards and limitations to which a discharge is subject under the Act, including, but not limited to, effluent limitations, standards of performance, toxic effluent standards and prohibitions, and pretreatment standards.
6. **"Applicable water quality standards"** means all water quality standards to which a discharge is subject under the federal Clean Water Act and which has been (a) approved or permitted to remain in effect by the Administrator following submission to the Administrator pursuant to Section 303(a) of the Act, or (b) promulgated by the Director pursuant to Section 303(b) or 303(c) of the Act, and standards promulgated under (APC&EC) Rule No. 2, as amended.
7. **"Best Management Practices (BMPs)"** are activities, practices, maintenance procedures, and other management practices designed to prevent or reduce the pollution of waters of the State. BMPs also include treatment technologies, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw sewage. BMPs may include structural devices or nonstructural practices.
8. **"Bypass"** means the intentional diversion of waste streams from any portion of a treatment facility, as defined at 40 C.F.R. § 122.41(m)(1)(i).
9. **"Composite sample"** is a mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing a minimum of 4 effluent portions collected at equal time intervals (but not closer than one hour apart) during operational hours, within the 24-hour period, and combined proportional to flow or a sample collected at more frequent intervals proportional to flow over the 24-hour period.
10. **"Daily Discharge"** means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.
    A. **Mass Calculations**: For pollutants with limitations expressed in terms of mass, the "daily discharge" is calculated as the total mass of pollutant discharged over the sampling day.
    B. **Concentration Calculations**: For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.
11. **"Daily Maximum"** discharge limitation means the highest allowable "daily discharge" during the calendar month.

12. **"Director"** means the Director of the Division of Environmental Quality.
13. **"Dissolved oxygen limit"** shall be defined as follows:
    A. When limited in the permit as a minimum monthly average, shall mean the lowest acceptable monthly average value, determined by averaging all samples taken during the calendar month.
    B. When limited in the permit as an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
14. **"Division"** means the Division of Environmental Quality **(DEQ).**
15. **"E-Coli"** a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For E-Coli, report the Daily Maximum as the highest "daily discharge" during the calendar month, and the Monthly Average as the geometric mean of all "daily discharges" within a calendar month, in colonies per 100 ml.
16. **"Fecal Coliform Bacteria (FCB)"** a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For FCB, report the Daily Maximum as the highest "daily discharge" during the calendar month, and the Monthly Average as the geometric mean of all "daily discharges" within a calendar month, in colonies per 100 ml.
17. **"Grab sample"** means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.
18. **"Industrial User"** means a nondomestic discharger, as identified in 40 C.F.R. Part 403, introducing pollutants to a POTW.
19. **"Instantaneous flow measurement"** means the flow measured during the minimum time required for the flow-measuring device or method to produce a result in that instance. To the extent practical, instantaneous flow measurements coincide with the collection of any grab samples required for the same sampling period so that together the samples and flow are representative of the discharge during that sampling period.
20. **"Instantaneous Maximum"** when limited in the permit as an instantaneous maximum value, shall mean that no value measured during the reporting period may fall above the stated value.
21. **"Instantaneous Minimum"** an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
22. **"Monitoring and Reporting"**
    When a permit becomes effective, monitoring requirements are of the immediate period of the permit effective date. Where the monitoring requirement for an effluent characteristic is monthly or more frequently, the Discharge Monitoring Report (DMR) shall be submitted by the 25th of the month following the sampling. Where the monitoring requirement for an effluent characteristic is Quarterly, Semi-Annual, Annual, or Yearly, the DMR shall be submitted by the 25th of the month following the monitoring period end date.
    A. **MONTHLY:**
       is defined as a calendar month or any portion of a calendar month for monitoring requirement frequency of once/month or more frequently.
    B. **BI-MONTHLY:**
       is defined as two (2) calendar months or any portion of 2 calendar months for monitoring requirement frequency of once/2 months or more frequently.
    C. **QUARTERLY:**
       1. is defined as a **fixed calendar quarter** or any part of the fixed calendar quarter for a non-seasonal effluent characteristic with a measurement frequency of once/quarter.

Fixed calendar quarters are: January through March, April through June, July through September, and October through December.

2. is defined as a **fixed three month period** (or any part of the fixed three month period) of or dependent upon the seasons specified in the permit for a seasonal effluent characteristic with a monitoring requirement frequency of once/quarter that does not coincide with the fixed calendar quarter. Seasonal calendar quarters are: May through July, August through October, November through January, and February through April.

D. **SEMI-ANNUAL:**
is defined as the fixed time periods January through June, and July through December (or any portion thereof) for an effluent characteristic with a measurement frequency of once/6 months or twice/year.

E. **ANNUAL or YEARLY:**
is defined as a fixed calendar year or any portion of the fixed calendar year for an effluent characteristic or parameter with a measurement frequency of once/year. A calendar year is January through December, or any portion thereof.

23. **"Monthly Average"** means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. For Fecal Coliform Bacteria (FCB) or E-Coli, report the Monthly Average as the geometric mean of all "daily discharges" within a calendar month.
24. **"National Pollutant Discharge Elimination System"** means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements under Sections 307, 402, 318, and 405 of the Clean Water Act.
25. **"POTW"** means Publicly Owned Treatment Works;
26. **"Reduction of $CBOD_5$/BOD_5 and TSS in mg/l Formula"**
[(Influent – Effluent) / Influent] × 100
27. **"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 products.
28. **"Sewage sludge"** means the solids, residues, and precipitate separated from or created in sewage by the unit processes at a POTW. Sewage as used in this definition means any wastes, including wastes from humans, households, commercial establishments, industries, and stormwater runoff that are discharged to or otherwise enter a POTW.
29. **"Treatment works"** means any devices and systems used in storage, treatment, recycling, and reclamation of municipal sewage and industrial wastes, of a liquid nature to implement section 201 of the Act, or necessary to recycle reuse water at the most economic cost over the estimated life of the works, including intercepting sewers, sewage collection systems, pumping, power and other equipment, and alterations thereof; elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities, and any works, including site acquisition of the land that will be an integral part of the treatment process or is used for ultimate disposal of residues resulting from such treatment.
30. **Units of Measure:**
"MGD" shall mean million gallons per day.
"mg/l" shall mean milligrams per liter or parts per million (ppm).

"µg/l" shall mean micrograms per liter or parts per billion (ppb).
"cfs" shall mean cubic feet per second.
"ppm" shall mean parts per million.
"s.u." shall mean standard units.

31. **"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. Any upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventive maintenance, or careless of improper operations.
32. **"Visible sheen"** means the presence of a film or sheen upon or a discoloration of the surface of the discharge. A sheen can also be from a thin glistening layer of oil on the surface of the discharge.
33. **"Weekday"** means Monday – Friday.

Final Fact Sheet

All changes to the statement of basis are italicized.

This is a modified permit, and only the modified portion of the permit can be reopened for comment.

This Fact Sheet is for information and justification of the permit requirements only. Please note that it is not enforceable. This permitting decision is for the *modification* of discharge Permit Number AR0037451 with Arkansas Department of Energy and Environment – Division of Environmental Quality (DEQ) Arkansas Facility Identification Number (AFIN) 32-00042 to discharge to Waters of the State.

1. PERMITTING AUTHORITY

The issuing office is:

Division of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. APPLICANT

The applicant's mailing address is:

Entergy Arkansas, LLC
Independence Plant
P.O. Box 551
Little Rock, AR 72203-0551

The facility address is:

Entergy Arkansas, LLC
Independence Plant
555 Point Ferry Road
Newark, AR 72562

3. PREPARED BY

The permit was prepared by:

Guy Lester, P.E.
Staff Engineer
NPDES Discharge Permits Section
Office of Water Quality
(501) 682-0023
E-mail: lester@adeq.state.ar.us

Jessica Sears, P.E.
Engineer Supervisor
NPDES Discharge Permits Section
Office of Water Quality
(501) 682-0621
E-mail: Jessica.Sears@adeq.state.ar.us

4. PERMIT ACTIVITY

Previous Permit Effective Date:	November 1, 2020
Previous Permit Expiration Date:	October 31, 2025

THIS IS A MODIFIED PERMIT. IN ACCORDANCE WITH 40 C.F.R. § 122.62, ONLY THOSE PORTIONS OF THE PERMIT WHICH HAVE BEEN MODIFIED ARE OPEN FOR COMMENT AT THIS TIME.

The permittee submitted a permit modification application on March 8, 2023, with all additional information received by March 9, 2023 requesting revision of permit conditions concerning the prohibition of discharge of Bottom Ash Transport Water in consideration of the promulgation of Effluent Limitation Guidelines (ELGs) in 40 C.F.R. Part 423 on October 13, 2020. Section

5.A below notes the changes made to the permit as part of this modification. Section 11.E.3.b details the changes in the ELGs that justify the changes made in this permit modification. The current discharge permit is modified for the remainder of the 5-year term in accordance with regulations promulgated at 40 C.F.R. § 122.46(a).

DOCUMENT ABBREVIATIONS

In the document that follows, various abbreviations are used. They are as follows:

APC&EC - Arkansas Pollution Control and Ecology Commission
BAT - best available technology economically achievable
BCT - best conventional pollutant control technology
BMP - best management practice
BOD_5 - five-day biochemical oxygen demand
BPJ - best professional judgment
BPT - best practicable control technology currently available
$CBOD_5$ - carbonaceous biochemical oxygen demand
CD - critical dilution
CFR - Code of Federal Regulations
cfs - cubic feet per second
COD - chemical oxygen demand
COE - United States Corp of Engineers
CPP - continuing planning process
CWA - Clean Water Act
CWIS – cooling water intake structure
DMR - discharge monitoring report
DO - dissolved oxygen
ELG - effluent limitation guidelines
EPA - United States Environmental Protection Agency
ESA - Endangered Species Act
FCB - fecal coliform bacteria
gpm - gallons per minute
MGD - million gallons per day
MQL - minimum quantification level
NAICS - North American Industry Classification System
NH_3-N - ammonia nitrogen
$NO_3 + NO_2$-N - nitrate + nitrite nitrogen
NPDES - National Pollutant Discharge Elimination System
O&G - oil and grease
Rule 2 - APC&EC Rule No. 2
Rule 6 - APC&EC Rule No. 6
Rule 8 - APC&EC Rule No. 8
Rule 9 - APC&EC Rule No. 9
RP - reasonable potential
SIC - standard industrial classification
TDS - total dissolved solids
TMDL - total maximum daily load

TP - total phosphorus
TRC - total residual chlorine
TSS - total suspended solids
UAA - use attainability analysis
USF&WS - United States Fish and Wildlife Service
USGS - United States Geological Survey
WET - Whole effluent toxicity
WQMP - water quality management plan
WQS - Water Quality standards
WWTP - wastewater treatment plant

Compliance and Enforcement History:

The compliance and enforcement history for this facility can be reviewed by using the following web link:

https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0037451_Enforcement%20Review_20181211.pdf

5. SIGNIFICANT CHANGES FROM THE PREVIOUSLY ISSUED PERMIT

A. The permittee is responsible for carefully reading the permit in detail and becoming familiar with all of the changes made a part of the modification:

1. *The wastestream "bottom ash purge water" has been added to Part IA Sections A4 and A7.*
2. *"INTERIM" was deleted from the titles of Part IA Sections A4 and A7 because the requirements of these sections are effective immediately, and Part IA Sections A5 and A8 ("FINAL" Limitations) were removed.*
3. *The Schedule of Compliance in Part IB was revised to delete references to dates of submission for Progress that have already been submitted, and to change the compliance date for the prohibition of the discharge of Bottom Ash Transport Water to December 31, 2025, based on the updated compliance date in 40 C.F.R. § 423.13(k)(1)(i).*
4. *The definition of "bottom ash transport water" in Condition No. 7 of Part II.7 was revised, based on the updated definition in 40 C.F.R. § 423.11(p).*
5. *The compliance date for the prohibition of the discharge of the Bottom Ash Transport Water in Part II.23 was revised to December 31, 2025.*
6. *The definition of Bottom Ash Purge Water based on 40 C.F.R. § 423.11(cc), and the conditions under which it may be discharged, based on the revisions to 40 C.F.R. § 423.13(k)(2(i) was added as Part II.24.*
7. *All references to the Recycle Ponds have been removed, since they are no longer in use and were closed in accordance with the approved closure plan.*
8. *The WET Testing conditions in Part II.18 have been updated.*

B. The following is a list of changes made in the previous permit modification:

1. Internal Outfall 01F has been removed from the permit.
2. Metal cleaning waste has been removed from all discharge descriptions.
3. Part II.24, which prohibits discharge of metal cleaning waste, has been added to the permit.

6. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION

The outfall is located at the following coordinates based on Google Earth using WGS84:

Latitude: 35° 39' 13" N; Longitude: 91° 24' 23" W

The receiving waters named:

White River in Segment 4F of the White River Basin. The receiving stream with USGS Hydrologic Unit Code (H.U.C.) of 11010004 and Reach #001 is a Water of the State classified for primary and secondary contact recreation, raw water source for domestic (public and private), industrial, and agricultural water supplies; propagation of desirable species of fish and other aquatic life; and other compatible uses.

7. 303(d) LIST, TOTAL MAXIMUM DAILY LOADS, ENDANGERED SPECIES, AND ANTI-DEGRADATION CONSIDERATIONS

A. 303(d) List

The receiving stream is not on the 2018 303(d) list.

B. Applicable Total Maximum Daily Load (TMDL) Reports

There are no applicable TMDLs for the receiving stream.

C. Endangered Species

No comments on the *modification* application were received from the USF&WS during the 60-day review period required by 40 C.F.R. § 125.98(h). The permit and Fact Sheet were sent to the USF&WS for review during the public comment period.

The Arkansas Natural Heritage Commission notified OWQ that the following species of conservation concern are known to occur in the White River at or within five miles downstream of the outfall:

Lampsilis abrupta, Pink Mucket - federal concern (endangered)
Obovaria olivaria, Hickorynut - state concern

This reach of the White River has also been designated as Critical Habitat for *Theliderm cylindrica* (Rabbitsfoot) by the U.S. Fish & Wildlife Service.

The limits in the permit are designed to protect all beneficial uses of the receiving waters, including propagation of desirable species of fish and other aquatic life, as well as other species which are directly, or indirectly, affected by the receiving waters, which includes the above species of concern, and critical habitat. As noted above, the permit and Fact Sheet were sent to the USF&WS for review during the public comment period. No comments were received from the USF&WS. Therefore, OWQ has determined that the final permit limits will serve to help protect the species of concern identified above.

D. **Anti-Degradation**

The limitations and requirements set forth in this permit for discharge into waters of the State are consistent with the Anti-degradation Policy and all other applicable water quality standards found in APC&EC Rule No. 2.

8. **OUTFALL, TREATMENT PROCESS DESCRIPTION, AND FACILITY CONSTRUCTION**

The following is a description of the facility described in the application:

A. Average Flows

Internal Outfall 01C:	0.0075 MGD (design flow of sanitary treatment system)
Internal Outfall 01H:	5.7 MGD (highest monthly average flow over past two years)
Internal Outfall 01I:	1.9 MGD (highest monthly average flow over past two years)
Outfall 002:	6.9 MGD (highest monthly average flow over past two years)

B. Type of Treatment

Internal Outfall 01C:	Advantex packed-bed media system followed by chlorination
Internal Outfall 01H:	neutralization of wastewater from the boiler feedwater demineralization plant; equalization in a surge pond, followed by sedimentation in two sedimentation ponds; oil/water separator for wastewater from the turbine area floor drains
Internal Outfall 01I:	several cooling tower maintanance chemicals used for corrosion, scale, and pH control in the cooling towers, but no additional treatment of the cooling tower blowdown occurs prior to discharge to the cooling tower blowdown sump
Outfall 002:	combined discharge from internal outfalls, no additional treatment besides those listed above

C. Discharge Description

Internal Outfall 01C:	treated sanitary wastewater
Internal Outfall 01H:	combined treated wastewater discharged from the sedimentation ponds to the cooling tower blowdown sump consisting of the discharges from Internal Outfall 01C, turbine area sump drains, coal pile runoff, ash landfill leachate, stormwater runoff from process areas, switchyard, and ash landfill, *bottom ash transport water, and bottom ash purge water*.
Internal Outfall 01I:	discharge of cooling tower blowdown to the cooling tower blowdown sump.
Outfall 002:	discharge of combined wastestreams from Internal Outfall 01I and 01H to the White River

D. Facility Status: This facility was evaluated using the NPDES Permit Rating Worksheet (MRAT) to determine the correct permitting status. Since the facility's MRAT score of 600 is more than 80, this facility is classified as a major industrial.

E. Facility Construction: This permit does not authorize or approve the construction or modification of any part of the treatment system or facilities. Approval for such construction must be by permit issued under Rule 6.202.

9. ACTIVITY

Under the Standard Industrial Classification (SIC) code of 4911, or North American Industry Classification System (NAICS) code of 221112, the applicant's activities are the operation of steam electric power generating station. This station has two identical coal-fired units with a total gross generating capacity of 1780 megawatts. The facility uses a closed-cycle recirculating water system with two natural-draft cooling towers.

10. SOLIDS PRACTICES

Sludge generated by the sanitary sewage treatment unit is disposed as needed by a licensed septic tank hauler. Solids are removed from the sedimentation ponds as needed and disposed of in the on-site ash landfill (Solid Waste Permit No. 0200-S3N-R1). Sumps may be pumped out, and plant ditches may be cleaned out, as necessary, and the waste will be disposed of by an appropriate handler, in accordance with applicable laws and regulations.

11. DEVELOPMENT AND BASIS FOR PERMIT CONDITIONS

The Division of Environmental Quality has determined to issue a permit for the discharge described in the application. Permit requirements are based on federal regulations (40 C.F.R. Parts 122, 124, and Subchapter N), and regulations promulgated pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et seq.). All of the information contained in the application, including all of the submitted effluent testing data, was reviewed to determine the need for effluent limits and other permit requirements.

The following is an explanation of the derivation of the conditions of the permit and the reasons for them or, in the case of notices of intent to deny or terminate, reasons suggesting the decisions as required under 40 C.F.R. § 124.7.

Technology-Based Versus Water Quality-Based Effluent Limitations and Conditions

Following regulations promulgated at 40 C.F.R. § 122.44, the permit limits are based on either technology-based effluent limits pursuant to 40 C.F.R. § 122.44(a) or on State water quality standards and requirements pursuant to 40 C.F.R. § 122.44(d), whichever are more stringent as follows:

Parameter	Water Quality-Based		Technology-Based		Previous Permit		Final Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
Internal Outfall 01C								
BOD_5	N/A	N/A	30.0	45.0	30	45	30.0	45.0
TSS	N/A	N/A	30.0	45.0	30	45	30.0	45.0
Internal Outfall 01H								
TSS	N/A	N/A	30.0	50.0	30	50	30.0	50.0
O&G	N/A	N/A	15.0	20.0	15	20	15.0	20.0
pH	N/A	N/A	6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.	
Internal Outfall 01I								
TP	N/A	N/A	5.0	5.0	5.0	5.0	5.0	5.0
FAC	N/A	N/A	0.2	0.5	0.2	0.5	0.2	0.5
Total Recoverable Chromium[1]	N/A	N/A	0.2	0.2	0.2	0.2	0.2	0.2
Total Recoverable Zinc[1]	N/A	N/A	1.0	1.0	1.0	1.0	1.0	1.0
Outfall 002								
Temperature	100 ºF	105 ºF	N/A	N/A	100 ºF	105 ºF	100 ºF	105 ºF
O&G	10.0	15.0	N/A	N/A	10	15	10.0	15.0
E. coli								
(May-Sep)	126	410	N/A	N/A	126	410	126	410
(Oct-Apr)	630	2050	N/A	N/A	630	2050	630	2050
pH	6.0-9.0 s.u.		N/A		6.0-9.0 s.u.		6.0-9.0 s.u.	

[1] See Section 11.E.3 below.

A. **Justification for Limitations and Conditions of the *Final* Permit**

Parameter	Water Quality or Technology	Justification
Internal Outfall 01C		
BOD5	Technology	40 C.F.R. § 122.44(l) and previous permit (to ensure proper O&M of sanitary treatment system)
TSS	Technology	40 C.F.R. § 122.44(l) and previous permit (to ensure proper O&M of sanitary treatment system)
Internal Outfall 01H		
TSS	Technology	40 C.F.R. § 423.15(a)(3), 40 C.F.R. § 423.15(a)(4), 40 C.F.R. § 423.15(a)(11), 40 C.F.R. § 122.44(l), and previous permit
O&G	Technology	40 C.F.R. § 423.15(a)(3), 40 C.F.R. § 423.15(a)(4), 40 C.F.R. § 423.15(a)(11), 40 C.F.R. § 122.44(l), and previous permit
pH	Technology	40 C.F.R. § 423.15(a)(1), 40 C.F.R. § 122.44(l), and previous permit
Internal Outfall 01I		
TP	Technology	40 C.F.R. § 122.44(l) and previous permit (to limit use of cooling tower maintenance chemicals with high amounts of phosphorus)
FAC	Technology	40 C.F.R. § 423.15(a)(10)(i), 40 C.F.R. § 122.44(l), and previous permit
Chromium	Technology	40 C.F.R. § 423.15(a)(10)(i), 40 C.F.R. § 122.44(l), and previous permit
Zinc	Technology	40 C.F.R. § 423.15(a)(10)(i), 40 C.F.R. § 122.44(l), and previous permit
Outfall 002		
Temperature	Water Quality	Rule 2.502, CWA § 402(o), and previous permit
O&G	Water Quality	Rule 2.510, CWA § 402(o), and previous permit
E. coli	Water Quality	Rule 2.507, CWA § 402(o), and previous permit (due to treated sanitary wastewater in the discharge)
pH	Water Quality	Rule 2.504, CWA § 402(o), and previous permit

Note: Outfall 01G was deleted from the permit, and monitoring and reporting of priority metals at Outfall 002 was deleted from the permit, because the data for priority metals collected from Outfall 01G and Outfall 002 showed that the leachate from the ash landfill does not cause the discharge from Outfall 002 to show reasonable potential to cause or contribute to a violation of water quality standards for any of those metals.

B. **Anti-backsliding**

The permit is consistent with the requirements to meet Anti-backsliding provisions of the Clean Water Act (CWA), Section 402(o) [40 C.F.R. § 122.44(l)]. The final effluent limitations for reissuance permits must be as stringent as those in the previous permit, unless the less stringent limitations can be justified using exceptions listed in CWA 402(o)(2), CWA 303(d)(4), or 40 C.F.R. § 122.44(l)(2)(i).

The permit meets or exceeds the requirements of the previous permit.

C. **Limits Calculations**

1. Mass Limits:

In accordance with 40 C.F.R. § 122.45(f)(1), all pollutants limited in permits shall have limitations expressed in terms of mass if feasible. 40 C.F.R. § 122.45(f)(2) allows for pollutants which are limited in terms of mass to also be limited in terms of other units of measurement.

No mass limits are included for internal outfalls, except for Free Available Chlorine (FAC) at Internal Outfall 01I (cooling tower blowdown) pursuant to 40 C.F.R. § 423.13(d)(2), which states that FAC shall not be discharged more than two hours per day per unit.

The calculation of the loadings (lbs per day) for FAC from Internal Outfall 01I uses the following equation:

$$\text{lbs/day} = \text{Concentration (mg/l)} \times \text{Flow (MGD)} \times 8.34 \times 2 \text{ units} \times 2/24$$

The factor 2/24 is based on the requirement that FAC is only allowed to be discharged from the generating units for a maximum of 2 hours per day (1 day = 24 hours).

Flow = 1.9 MGD (highest monthly avg. flow for the past 2 years)
Concentration = 0.2 mg/l (monthly avg. concentration limit)
Concentration = 0.5 mg/l (daily max. concentration limit)

Mass limit (monthly avg.) = 0.53 lbs/day
Mass limit (daily max.) = 1.32 lbs/day

No mass limits have been included for pollutants discharged from Outfall 002 because of the variable nature of the stormwater flows that are co-mingled with the facility wastewaters.

2. Daily Maximum Limits:

Internal Outfall 01C

The daily maximum limits for BOD_5 and TSS are based on Section 5.4.2 of the Technical Support Document for Water Quality-Based Toxics Control:

daily maximum limits = monthly average limits × 1.5

Internal Outfall 01H

TSS and O&G daily maximums are based on 40 C.F.R. § 423.15(a)(11) and 40 C.F.R. § 423.15(a)(3), respectively.

pH daily maximum is based on 40 C.F.R. § 423.15(a)(1).

Internal Outfall 01I

TP daily maximum is based on the previous permit.

FAC, Chromium, and Zinc daily maximums are based on 40 C.F.R. § 423.15(a)(10)(i).

Outfall 002

Temperature daily maximum is based on the previous permit.
O&G daily maximum is based on Rule 2.510.
E coli daily maximum is based on Rule 2.507.
pH daily maximum is based on Rule 2.504.

3. Temperature Limitations (Outfall 002)

The temperature limitations are continued from previous permit.

The calculations performed to confirm that the discharge will not cause the receiving stream (Arkansas River) to exceed the temperature requirements in Rule 2.502 outside of the mixing zone may be found at the following web address:

https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0037451_Temperature%20Evaluation_20181218.pdf

D. Cooling Water Intake Structures (CWISs) - CWA § 316(b)

EPA promulgated the Existing Facilities Rule pursuant to Clean Water Act Section 316(b) on August 15, 2014. The rule became effective on October 14, 2014. This Existing Facilities Rule is found in Subpart J of 40 C.F.R. Part 125 (§§ 125.90 through 125.99). Subpart J establishes the 316(b) requirements that apply to CWIS at existing facilities for the purpose of minimizing adverse environmental impact associated with the use of CWIS. The requirements are established and implemented in NPDES permits.

Subpart J is applicable to existing facilities that commenced construction on or before January 17, 2002. Since this facility began operations in 1983, this facility is defined as an existing facility as defined in 40 C.F.R. § 125.92(k). Existing facilities are subject to Subpart J if all of the following items are true:

(1) The facility is a point source;
(2) The facility uses or proposes to use one or more CWIS with a cumulative design intake flow of greater than 2 million gallons per day (MGD) to withdraw water from waters of the United States; and
(3) Twenty-five percent (25%) or more of the water the facility withdraws on an actual intake flow basis is used exclusively for cooling purposes.

This facility is a point source, the design intake flow of the CWIS associated with this facility is 14.4 MGD, and the facility uses at least 25% of the water withdrawn exclusively for cooling purposes. Therefore, this facility is subject to Subpart J for

existing facilities. Subpart J requires the facility to choose one of seven options that represent Best Technology Available (BTA) for impingement mortality (IM), and also requires the permitting authority to determine BTA for entrainment (E) on a site-specific basis based on the information submitted in the permit application.

The facility operates one CWIS. The CWIS withdraws water from the White River, a Water of the U.S, pumps it through a 36-inch diameter pipe to the plant where it divides into two pipes, one to each cooling tower.

The CWIS consists of a concrete structure situated on the shore of the White River. It is an open-faced intake, perpendicular to the shoreline, with a total intake opening depth of 26 feet. Approximately 20 feet of intake screen is under water during normal flow conditions. The structure has two intake bays that are fitted with 2-inch galvanized steel bar racks at the opening of each bay. Each bay supports a traveling screen and pump positioned behind the bar racks. The traveling screens are 11 feet wide by 32 feet long. The individual screen panels are made of coated, woven stainless steel, and measure approximately 11 feet wide by 2 feet 11 inches high, and have a mesh size of 3/8 inch.

The screens are designed for a total maximum flow of 20,000 gallons per minute (28.8 MGD), from two single-speed pumps, with a corresponding average screen slot velocity of 0.5 feet/second, or less. However, process controls are in place that allow only one pump to operate at a time. This results in a Design Intake Flow (DIF) of 10,000 gallons per minute, or 14.4 MGD.

Pursuant to Subpart J, the operation of this type of cooling system and monitoring the actual intake flows or cycles of operation on a daily basis is a pre-approved BTA for minimizing impingement mortality with no biological (IM or E) monitoring required.

The facility included the information required in 40 C.F.R. §§ 122.21(r)(2) thru (8) with the renewal application. Based on the information submitted, the facility has chosen to comply with the BTA standard for impingement mortality by operating a closed-cycle recirculating cooling system. With this permit, DEQ establishes the BTA standard for entrainment to be the operation of a closed-cycle recirculating cooling system. In accordance with Part II.19.A of the permit, the facility is required to operate and maintain the closed-cycle recirculating cooling system and cooling towers in accordance with Best Management Practices (BMPs) that will minimize any Adverse Environmental Impacts (AEIs) from the CWIS.

Part II.19.B of the permit also requires the facility to monitor the actual intake flow at least daily. This monitoring must be representative of normal operating conditions, and must include measuring cooling water withdrawals, make-up water, and blow down volume. In lieu of daily intake flow monitoring, the facility may monitor the cycles of concentration at least daily. Actual intake flows may be calculated using the pump run time and pump capacity. The actual intake flows determined by this method, and the daily flow monitoring of blowdown at Outfall 002, will satisfy the monitoring requirements under Part II.19.B. Part II.19.B satisfies the reporting requirements of 40 C.F.R. § 125.94 (c)(1) and 40 C.F.R. § 125.97 (a) and (b).

In accordance with 40 C.F.R. § 125.98(b)(1), the following language is also included in Part II.19.C of the permit: "Nothing in this permit authorizes take for the purposes of a facility's compliance with the Endangered Species Act."

Part II.20 satisfies the requirements for an annual certification statement and report in 40 C.F.R. § 125.97 (c).

Part II.21 satisfies the requirements for weekly visual inspections in 40 C.F.R. § 125.96 (e).

Parts II.22.A and B satisfy the requirements for recordkeeping in 40 C.F.R. § 125.95(e) and 125.97(f), respectively.

Part II.22.C satisfies the requirements for reporting in 125.97(a).

E. Applicable Effluent Limitations Guidelines

Discharges from facilities of this type are covered by Federal effluent limitations guidelines (ELGs) promulgated under 40 C.F.R. Part 423 Steam Electric Power Generating Point Source Category. Updates to 40 C.F.R. Part 423 became effective on November 3, 2015.

Since the facility began commercial operation in 1983, after November 19, 1982, and before November 17, 2015, it is a new source, and the requirements of 40 C.F.R. § 423.15(a) are applicable. The requirements of 40 C.F.R. § 423.13 are also applicable, in accordance with the reference in 40 C.F.R. § 423.15(a).

Because the ash landfill only receives wastes generated by the facility, the ELGs in 40 C.F.R. Part 445 – Landfills Point Source Category do not apply to discharges from Internal Outfall 01H or Outfall 002, in accordance with 40 C.F.R. § 445.1(e).

1. Internal Outfall 01H

   40 C.F.R. §§ 423.15(a)(3), (6), and 423.13(k)(1)(i) are applicable to Internal Outfall 01H because the discharge consists of wastewater from low volume waste sources, and low volume wastewater (turbine area sump drains, boiler blowdown, regeneration wastewater from demineralizer plant), sanitary wastewater, coal pile runoff, ash landfill leachate (combustion residual leachate), and stormwater runoff from the ash landfill, process areas, and switchyard.

   See Section 11.E.3 below for additional information concerning 423.13(k)(1)(i) and bottom ash transport water.

2. Internal Outfall 01I

   40 C.F.R. §§ 423.12(b)(7) and (8), and 40 C.F.R. §§ 423.13(d)(1) and (2) are applicable to Internal Outfall 01I since the discharge consists of cooling tower blowdown. Therefore, a requirement that the discharge from Outfall 001 contain no detectable amount of the 126 priority pollutants listed in Appendix A of 40 C.F.R. Part 423, except

for Chromium and Zinc, has been included in Part II.15 of the permit. The monitoring requirements for all of the 126 priority pollutants, including Chromium and Zinc, have been waived during the term of this permit based on 40 C.F.R. § 122.44(a)(2)), and a certification submitted by the facility, dated June 12, 2019, that no cooling tower maintenance chemicals containing any of the priority pollutants are used at the facility.

3. Bottom Ash Transport Water – 40 C.F.R. § 423.13(k)(1)(i)

   a. On November 3, 2015, the EPA issued a final rule amending 40 C.F.R. Part 423, the effluent limitations guidelines and standards for the steam electric power generating point source category. The amendments addressed and contained limitations and standards on fly ash transport water, bottom ash transport water, flue gas desulfurization (FGD) wastewater, flue gas mercury control wastewater, and gasification wastewater. Of these wastestreams, only bottom ash transport water is generated at the facility.

      The 2015 updates included revisions and additions to special definitions in Parts 423.11 (f), (p), and (t). They also included the addition of Part 423.13 (k) to the ELGs representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT) to the discharge of bottom ash transport water. Part 423.15 New Source Performance Standards (NSPS) was also significantly revised to differentiate between New Sources as of November 19, 1982, and November 17, 2015 (423.15(a) and (b), respectively).

      Part 423.13 (k)(1)(i) prohibits the discharge of bottom ash transport water "as soon as possible after November 1, 2018, but no later than December 31, 2023."

      On June 6, 2017, Federal Register Vol. 82, No. 107 (FR) published a proposed revision to the 40 C.F.R. Part 423, on page 26019, which postponed the compliance dates noted above (see the link in Section 17.V below).

      The FR notes that the EPA received seven petitions for review of the rule, and the United States Judicial Panel on Multi-District Litigation issued an order on December 8, 2015, consolidating all of the petitions in the U.S. Court of Appeals for the Fifth Circuit. On April 12, 2017, the EPA Administrator sent a letter to those who submitted the reconsideration petitions, announcing his decision to reconsider the Rule. On April 14, 2017, the EPA requested that the Fifth Circuit hold the case in abeyance while the Agency undertakes reconsideration. On April 24, 2017, the Fifth Circuit granted the motion and placed the case in abeyance.

      On August 11, 2017, EPA sent a second letter to those who had submitted the reconsideration petitions for the 2015 Rule, announcing the Administrator's decision to conduct a new rulemaking to potentially revise the new, more stringent BAT limitations in the 2015 Rule that apply to two wastestreams: FGD wastewater and bottom ash transport water. On August 14, 2017, EPA filed a motion to govern further proceedings in the U.S. Court of Appeals for the Fifth Circuit, which explained that EPA intended to conduct further rulemaking to potentially revise the

new, more stringent requirements in the 2015 Rule applicable only to FGD wastewater and bottom ash transport water (as noted above, FGD wastewater is not a wastestream at the facility), and requested, in part, that the Court sever and hold in abeyance all judicial proceedings concerning portions of the 2015 Rule related to those particular requirements. On August 22, 2017, the Court granted EPA's motion.

On September 18, 2017, Federal Register Vol. 82, No. 179 (FR) published a final revision to the 40 C.F.R. Part 423, on page 43500, which postponed the compliance date for bottom ash transport water (and FGD wastewater) from November 1, 2018 to November 1, 2020. The December 31, 2023 compliance date for bottom ash transport water is unchanged. (see the link in Section 17.W below).

In consideration of the fact that the "no later than" compliance date of December 31, 2023 is unchanged for elimination of bottom ash transport water from discharges, and that date is prior to the expiration date of the permit, the following additional requirements concerning the discharge of bottom ash transport water have been included in the permit:

1. "INTERIM" and "FINAL" limitation and monitoring requirement tables have been included for Internal Outfall 01H (Part IA, Sections A4, and A5, respectively) and for Outfall 002 (Part IA, Sections A7, and A8, respectively).

2. The description "bottom ash transport water" has been included in the discharge descriptions of Part IA, Sections A2, A4, and A7, and excluded from the discharge descriptions of Part IA, Sections A3, A5, and A8. This is the only difference between the corresponding Sections.

3. The effective periods of Part IA, Sections A2, A4, and A7 of the permit have been specified as "from the effective date of the permit, until December 30, 2023".

4. The effective periods of Part IA, Sections A2, A4, and A7 of the permit have been specified as "from December 31, 2023, and lasting until the date of expiration".

5. A specific condition (Part II.23) was added to the permit which prohibits discharge of bottom ash transport water generated on or after December 31, 2023.

6. A compliance schedule was added to Part IB of the permit which requires periodic progress reports on meeting the no discharge requirement for bottom ash transport water, and a final certification that this requirement was met prior to December 31, 2023.

To allow for possible permit action in the event of the issuance of a revised rule, the reopener clause in Part II.2 of the permit has been revised to specifically reference newly promulgated and effective ELGs as a cause for reopening and modifying the permit.

b. *On October 13, 2020, the EPA issued a final rule amending 40 C.F.R. Part 423, the effluent limitations guidelines and standards for the steam electric power generating point source category applicable to Bottom Ash Transport Water for existing sources that discharge directly to surface water (with some exceptions). The final rule established the following:*

For Bottom Ash Transport Water, Best Available Technology Economically Achievable (BAT) is a high recycle rate system with a site-specific volumetric purge (defined as Bottom Ash Purge Water) which cannot exceed 10 percent of the Bottom Ash Transport Water system's volume where the purge volume and associated effluent limitations are established by the permitting authority.

40 C.F.R. § 423.13(k)(1)(i) was revised to change the final allowable compliance date for the prohibition of the discharge of the Bottom Ash Transport Water to December 31, 2025, and to include reference to the following allowances for the discharge of Bottom Ash Transport Water that has been deemed to be Bottom Ash Purge Water (in accordance with the definitions in 40 C.F.R. §§ 423.11(p) and (cc)), if discharged on or after the date determined by the permitting authority for meeting the discharge limitation:

40 C.F.R. § 423.13(k)(2)(i)(A) The discharge of pollutants in bottom ash transport water from a properly installed, operated, and maintained bottom ash system is authorized under the following conditions:

(1) To maintain system water balance when precipitation-related inflows are generated from storm events exceeding a 10-year storm event of 24-hour or longer duration (e.g., 30-day storm event) and cannot be managed by installed spares, redundancies, maintenance tanks, and other secondary bottom ash system equipment; or

(2) To maintain system water balance when regular inflows from wastestreams other than bottom ash transport water exceed the ability of the bottom ash system to accept recycled water and segregating these other wastestreams is not feasible; or

(3) To maintain system water chemistry where installed equipment at the facility is unable to manage pH, corrosive substances, substances or conditions causing scaling, or fine particulates to below levels which impact system operation or maintenance; or

(4) To conduct maintenance not otherwise included in paragraphs (k)(2)(i)(A)(1), (2), or (3) of this section and not exempted from the definition of transport water in § 423.11(p), and when water volumes cannot be managed by installed spares, redundancies, maintenance tanks, and other secondary bottom ash system equipment.

(B) The total volume that may be discharged for the above activities shall be reduced or eliminated to the extent achievable using control measures (including best management practices) that are technologically available and economically achievable in light of best industry practice. The total volume of the discharge authorized in this subsection shall be determined on a case-by-case basis by the permitting authority and in no event shall such discharge exceed a 30-day rolling average of ten percent of the primary active wetted bottom ash system volume. The volume of daily discharges used to calculate the 30-day rolling average shall be calculated using measurements from flow monitors.

These ELGs have been implemented by Parts II.23 and 24 of the permit (with minor revisions to wording for clarity). Recordkeeping requirements have also been included as Part II.24.C

F. **Priority Pollutant Scan (PPS)**

DEQ has reviewed and evaluated the effluent in accordance with the potential toxicity of each analyzed pollutant using the procedures outlined in the Continuing Planning Process (CPP).

The concentration of each pollutant after mixing with the receiving stream was compared to the applicable water quality standards as established in the Arkansas Water Quality Standards (AWQS), Rule No. 2 (Rule 2.508) and criteria obtained from the "Quality Criteria for Water, 1986 (Gold Book)".

Under Federal Regulation 40 C.F.R. § 122.44(d), as adopted by Rule No. 6, if a discharge poses the reasonable potential to cause or contribute to an exceedance above a water quality standard, the permit must contain an effluent limitation for that pollutant. Effluent limitations for the toxicants listed below have been derived in a manner consistent with the Technical Support Document (TSD) for Water Quality-based Toxics Control (EPA, March 1991), the CPP, and 40 C.F.R. § 122.45(c).

The following items were used in calculations:

Parameter	Value	Source
Discharge Flow = Q	6.9 MGD = 10.68 cfs	Application
7Q10 Background Flow	1,150 cfs	USGS Station 07061000
LTA Background Flow	3,450 cfs	Calculated
TSS	3.30 mg/l	CPP
Hardness as CaCo3	116.0 mg/l	CPP
pH	7.0 s.u.	Neutral

The following pollutants were reported above detection levels:

Pollutant	Concentration Reported, µg/l[1]	MQL, µg/l
Arsenic	9.1	0.5
Chromium, (3+)	23	10
Chromium (6+)	21	10
Copper	37	0.5
Lead	5.2	0.5
Mercury	0.006	0.005
Nickel	21	0.5
Silver	0.65	0.5
Zinc	25	20

[1] Maximum values of 20 data points each reported on DMRs from December 2013 through September 2018.

Instream Waste Concentrations (IWCs) were calculated in the manner described in Appendix D of the CPP and compared to the applicable Criteria. The following tables summarize the results of the analysis. The complete evaluation can be viewed on the Division's website at the following address:

https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0037451_Metals%20Toxicity%20Evaluation_20181218.pdf

1. **Aquatic Toxicity Evaluation**

   a. Acute Criteria Evaluation

Pollutant	Concentration Reported (C_e) µg/l	Instream Waste Concentration (IWC)	Criteria[1]	Reasonable Potential (Yes/No)
		Acute, µg/l	Acute, µg/l	
Chromium, Tri	23	4.73	2883.32	No
Chromium, Hex	21	4.46	15.71	No
Copper	37	5.35	47.33	No
Lead	5.2	0.91	354.64	No
Mercury	0.006	0.00008	7.05	No
Nickel	21	3.10	2918.69	No
Silver	0.65	0.09	14.77	No
Zinc	25	21.51	361.89	No

[1] Criteria are from Rule 2.508.

b. Chronic Criteria Evaluation

Pollutant	Concentration Reported (C_e) µg/l	Instream Waste Concentration (IWC)	Criteria[1]	Reasonable Potential (Yes/No)
		Chronic, µg/l	Chronic, µg/l	
Chromium, Tri	23	2.66	935.29	No
Chromium, Hex	21	2.58	10.58	No
Copper	37	1.76	31.16	No
Lead	5.2	0.43	13.47	No
Mercury	0.006	0.00021	0.012	No
Nickel	21	1.07	324.14	No
Zinc	25	21.14	330.46	No

[1] Criteria are from Rule 2.508.

2. **Human Health (Bioaccumulation) Evaluation**

Pollutant	Concentration Reported (C_e) µg/l	Instream Waste Concentration (IWC)	Criteria[1]	Reasonable Potential (Yes/No)
Arsenic	9.1	0.46	1.4	No
Total Chromium (Tri + Hex)	44	1.97	100[2]	No
Copper	37	0.56	13,000	No
Lead	5.2	0.27	50	No
Mercury	0.006	0.00002	2[2]	No
Nickel	21	0.39	46,000	No
Zinc	25	21.01	260,000	No

[1] Adapted from "National Recommended Water Quality Criteria – Human Health Criteria Table", EPA website (https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table), unless otherwise specified. The respective WQC from the noted reference are Consumption of Organism Only values. The values from the reference are for a lifetime risk factor of 10^{-6}. These values have been multiplied by 10 to correspond to human health criteria lifetime risk factor of 10^{-5} as stated in Rule 2.508.

[2] Criteria are Primary Drinking Water Maximum Contaminant Levels.

DEQ has determined from the submitted information that the discharge does not pose the reasonable potential to cause or contribute to an exceedance above a listed Criteria.

12. WHOLE EFFLUENT TOXICITY

Section 101(a)(3) of the Clean Water Act states that ".....it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited." In addition, DEQ is required under 40 C.F.R. § 122.44(d)(1), adopted by reference in Rule 6, to include conditions as necessary to achieve water quality standards as established under Section 303 of the Clean Water Act. Arkansas has established a narrative criteria which states "toxic materials shall not be present in receiving waters in such quantities as to be toxic to human, animal, plant or aquatic life or to interfere with the normal propagation, growth and survival of aquatic biota."

Whole effluent toxicity (WET) testing is the most direct measure of potential toxicity which incorporates the effects of synergism of effluent components and receiving stream water quality characteristics. It is the national policy of EPA to use bioassays as a measure of toxicity to allow evaluation of the effects of a discharge upon a receiving water (49 Federal Register 9016-9019, March 9, 1984). EPA Region 6 and the State of Arkansas are now implementing the Post Third Round Policy and Strategy established on September 9, 1992.

Whole effluent toxicity testing of the effluent is thereby required as a condition of this permit to assess potential toxicity. The whole effluent toxicity testing procedures stipulated as a condition of this permit are as follows:

TOXICITY TESTS	FREQUENCY
48 hour Acute WET	once/quarter

Requirements for measurement frequency are based on the CPP.

Since 7Q10 is greater than 100 cfs (ft^3/sec) and dilution ratio is greater than 100:1, acute WET testing requirements will be included in the permit.

The calculations for dilution used for the acute WET testing are as follows:

Critical Dilution (CD) = (Qd / (Qd + Qb)) × 100

Qd = Average Flow = 6.9 MGD = 10.68 cfs
7Q10 = 1,150 cfs
Qb = Background flow= 0.1 × 0.25 × 7Q10 = 28.75 cfs
CD = ((10.68) / (10.68+28.75)) × 100 = 27%

Toxicity tests shall be performed in accordance with protocols described in "Methods for Measuring the Acute Toxicity of Effluent to Freshwater and Marine Organisms", EPA/600/4-90/027. A minimum of five effluent dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations are 10%, 15%, 20%, 27%, and 36% (See the CPP). The low-flow effluent concentration (critical dilution) is defined as 27% effluent. The requirement for acute WET tests is based on the magnitude of the facility's discharge with respect to receiving stream flow. The stipulated test species *Daphnia pulex* and the Fathead minnow (*Pimephales promelas*) are representative of

organisms indigenous to the geographic area of the facility; the use of these is consistent with the requirements of the State water quality standards. The WET testing frequency has been established to provide data representative of the toxic potential of the facility's discharge, in accordance with the regulations promulgated at 40 C.F.R. § 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity shall be reported according to EPA-821-R-02-012, October 2002 and shall be submitted as an attachment to the Discharge Monitoring Report (DMR).

This permit may be reopened to require further WET testing studies, Toxicity Reduction Evaluation (TRE) and/or effluent limits if WET testing data submitted to the Division shows toxicity in the permittee's discharge. Modification or revocation of this permit is subject to the provisions of 40 C.F.R. § 122.62, as adopted by reference in APC&EC Rule No. 6. Increased or intensified toxicity testing may also be required in accordance with Section 308 of the Clean Water Act and Section 8-4-201 of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

Administrative Records

Permit Number:	AR0037451	AFIN:	32-00042	Outfall Number:	002
Date of Review:	12/27/2018	Reviewer:	A. Bates/M. Barnett		
Facility Name:	Entergy Arkansas, Inc. - Independence Plant				
Previous Dilution series:	10, 13, 17, 23, 31%	Proposed Dilution Series:	11, 15, 20, 27, 36%		
Previous Critical Dilution:	23%	Proposed Critical Dilution:	27%		
Previous TRE activities:	None				
Frequency recommendation by species					
Pimephales promelas (Fathead minnow):		once per quarter			
Daphnia pulex (water flea):		once per quarter			

TEST DATA SUMMARY

	Vertebrate (*Pimephales promelas*)		Invertebrate (*Daphnia pulex*)	
TEST DATE	Lethal NOEC		Lethal NOEC	
12/31/2013	31		31	
6/30/2014	31		31	
12/31/2014	31		31	
6/30/2015	31		31	
12/31/2015	31		31	
6/30/2016	31		31	
12/31/2016	31		31	
6/30/2017	31		31	
9/30/2017	31		31	
12/31/2017	31		31	
3/31/2018	31		31	
6/30/2018	31		31	
9/30/2018	31		31	

REASONABLE POTENTIAL CALCULATIONS

	Vertebrate Lethal		**Invertebrate Lethal**	
Min NOEC Observed	31		31	
TU at Min Observed	3.23		3.23	
Count	13		13	
Failure Count				
Mean	3.226		3.226	
Std. Dev.	0.000		0.000	
CV	0		0	
RPMF	0		0	
Reasonable Potential	0.000		0.000	
100/Critical dilution	370.370		370.370	
Does Reasonable Potential Exist	No		No	

PERMIT ACTION

P. promelas acute - monitoring
D. pulex acute - monitoring

13. **STORMWATER REQUIREMENTS**

The federal regulations at 40 C.F.R. § 122.26(b)(14) require certain industrial sectors to have NPDES permit coverage for stormwater discharges from the facility. All stormwater runoff at this facility is treated and discharged through Outfall 002. Therefore, additional BMPs or coverage under the Industrial Stormwater General Permit is not required.

14. SAMPLE TYPE AND FREQUENCY

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity [40 C.F.R. § 122.48(b)] and to ensure compliance with permit limitations [40 C.F.R. § 122.44(i)(l)].

Requirements for sample type and sampling frequency have been based on the current discharge permit.

Parameter	Previous Permit		Final Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Internal Outfall 01C				
Flow	once/day	totalizer	once/day	totalizer
BOD_5	once/month	grab	once/month	grab
TSS	once/month	grab	once/month	grab
Internal Outfall 01H				
Flow	continuous	recorder	continuous	recorder
TSS	once/month	grab	once/month	grab
O&G	once/month	grab	once/month	grab
pH	once/month	grab	once/month	grab
Internal Outfall 01I				
Flow	continuous	recorder	continuous	recorder
TP	once/month	grab	once/month	grab
FAC	once/month	grab	once/month	grab
Chromium[1]	N/A	N/A	N/A	N/A
Zinc[1]	N/A	N/A	N/A	N/A
Outfall 002				
Flow	continuous	recorder	continuous	recorder
Temperature	continuous	recorder	continuous	recorder
O&G	once/week	grab	once/month	grab
E coli	once/month	grab	once/month	grab
pH	once/week	grab	once/month	grab
Acute WET	once/ quarter	composite	once/ quarter	composite

[1] Monitoring for all 126 priority pollutants, including Chromium and Zinc, is waived at Outfall 001 during this permit term based on 40 C.F.R. § 122.44(a)(2), and a certification from the facility, dated January 24, 2019, that no cooling tower maintenance chemicals containing any priority pollutant is used at the facility. See Part II.15.

15. PERMIT COMPLIANCE SCHEDULE

A Schedule of Compliance for the prohibition of the discharge of Bottom Ash Transport Water generated on or after December 31, 2025 has been included in this permit to meet the requirement in 40 C.F.R. § 423.13(k)(1)(i).

16. MONITORING AND REPORTING

The applicant is at all times required to monitor the discharge on a regular basis and report the results monthly. The monitoring results will be available to the public.

17. SOURCES

The following sources were used to draft the permit:

A. Request for modification of NPDES Permit No. AR0037451, received *March 9, 2023*.
B. APC&EC Rule No. 2.
C. APC&EC Rule No. 3.
D. APC&EC Rule No. 6 which incorporates by reference certain federal regulations included in Title 40 of the Code of Federal Regulations at Rule 6.104.
E. 40 C.F.R. Parts 122 and 125.
F. 40 C.F.R. Part 423.
G. Discharge permit file AR0037451.
H. Discharge Monitoring Reports (DMRs).
I. "2018 Integrated Water Quality Monitoring and Assessment Report", DEQ.
J. "2018 List of Impaired Waterbodies (303(d) List)", DEQ, May 2020.
K. "Low-Flow Characteristics and Regionalization of Low-Flow Characteristics for Selected Streams in Arkansas", U.S. Dept. of the Interior, U.S. Geological Survey, Scientific Investigations Report 2008-5065.
L. Continuing Planning Process (CPP).
M. Technical Support Document for Water Quality-based Toxic Control.
N. EPA website: National Recommended Water Quality Criteria – Human Health Criteria Table.
O. Cooling tower cleaning chemical usage certification, dated April 4, 2017.
P. Metals data from Arkansas Monitoring Station WHI0029.
Q. Toxicity Evaluation.
R. Temperature data from Arkansas Monitoring Station WHI0029.
S. Temperature Evaluation.
T. Inspection Report #098494, dated August 9, 2017.
U. Compliance Review Memo dated December 11, 2018.
V. Federal Register Vol. 82, No. 107, pp. 26017-26019, June 6, 2017.
W. Federal Register Vol. 82, No. 179 pp 43494-43500, September 18, 2017.
X. EPA Comment letter, dated March 25, 2020.
Y. Arkansas Natural Heritage Commission comment letter, dated June 22, 2020.
Z. Entergy - Arkansas Environmental Support comment letter, dated July 28, 2020.
AA. Certification of No Discharge of Metal Cleaning Wastewater, dated January 7, 2022.
BB. EPA No Comment letter, dated September 6, 2023.

18. PUBLIC NOTICE

The public notice of the draft permit was published for public comment on October 1, 2023. The last day of the comment period was thirty (30) days after the publication date. No public comments were received on the draft permit.

Copies of the draft permit and public notice were sent via email to the Corps of Engineers, the Regional Director of the U.S. Fish and Wildlife Service, the Department of Parks, Heritage, and Tourism, the EPA, and the Arkansas Department of Health.

5. **PERMIT FEE**

In accordance with Rule No. 9.403(A)(1), the annual fee for the permit is $15,000.

In accordance with Rule No. 9.403(A)(1)(c)(i), the modification fee for the permit is $5,000.

6. **POINT OF CONTACT**

For additional information, contact:

Guy Lester, P.E.
Permits Branch, Office of Water Quality
Division of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317
Telephone: (501) 682-0023