AUTHORIZATION TO DISCHARGE UNDER
THE OKLAHOMA POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT NUMBER: OK0035149
ID NUMBER: I-46000340

In compliance with the Oklahoma Pollutant Discharge Elimination System (OPDES) Act, 27A O.S. § 2-6-201 *et seq.*, Oklahoma Uniform Environmental Permitting Act, 27A O.S. § 2-14-101 *et seq.*, and the rules of the Oklahoma Department of Environmental Quality promulgated thereunder,

Grand River Dam Authority
P.O. Box 669
Chouteau, OK 74337

is authorized to discharge from their facility, located at:

Section 28, Township 20N, Range 19EIM
Mayes County, Oklahoma
or at 8142 Highway 412B, Chouteau, OK 74337

to receiving waters identified as: The Neosho River (WBID# OK121600010280_00) in Segment 121600 of the Middle Arkansas River Basin, from:

Outfall 001:
Latitude 36.177291° N, Longitude 95.279451° W (GPS: NAD83)
SE¼, SE¼, SE¼ of Section 28, Township 20N, Range 19EIM
Mayes County, Oklahoma

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III, hereof.

The above-referenced facility is authorized to retain wastewater in one (1) total retention (T01) and ten (10) flow-through surface impoundments (F01 – F10) as described in the Appendix. Direct discharge of wastewater from impoundment T01 to waters of the State is specifically prohibited. Surface impoundments shall be maintained in accordance with Parts I, II, and IV, hereof.

Issuance of this permit in no way or in any respect affects the permittee's civil or criminal responsibility regarding disposal of wastewater, except with respect to the permittee's legal responsibility under the OPDES Act and DEQ Rules.

This permit replaces and supersedes the previous permit issued on January 3, 2019.

The issuance date of this permit is Month Date Year.

This permit shall become effective Month Date Year.

This permit and authorization to discharge shall expire at midnight Month Date Year.

For the Oklahoma Department of Environmental Quality:

Carol Paden, P.E., Manager
Industrial Permits Section
Water Quality Division

Shellie R. Chard, Director
Water Quality Division

PART I
EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Effluent Limitations and Monitoring Requirements for Outfall 001

During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from Outfall 001. The discharge from Outfall 001 consists of combined cooling tower blowdown, low volume wastes, non-chemical metal cleaning wastes, coal pile runoff, stormwater runoff, hydro-testing water, and infrequent occasions of treated sanitary wastewater. Such discharge shall be limited and monitored by the permittee as specified below.

Effluent Limitations – Outfall 001

Parameters	Mass Loading Limits (lbs/day unless otherwise specified)		Concentration Limits (mg/L unless otherwise specified)	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum
Flow STORET: 50050	Report (MGD)	Report (MGD)	---	---
Total Suspended Solids (TSS) STORET: 00530	Report	4068	Report	45
Phosphorus, Total STORET: 00670	Report	181	Report	2.0
Total Residual Oxidants (TRO) STORET: 34044	---	---	---	ND [1]
pH STORET: 00400	Between 6.5 s.u. – 9.0 s.u.			

[1] ND is Not Detectable (defined as <0.1 mg/L instantaneous daily maximum) as measured by approved EPA 40 C.F.R. Part 136 methods for total residual chlorine. See Section V.D.2.e of the fact sheet for further details. For the purposes of Oklahoma DEQ Water Quality OPDES permit compliance, the testing and reporting of total residual chlorine (TRC) is considered an acceptable measure and result for total residual oxidants (TRO).

Monitoring Requirements – Outfall 001

Parameters	Measurement Frequency [1]	Sample Type
Flow	Continuous	Record
Total Suspended Solids (TSS)	1/week	Grab
Phosphorus, total	2/month	Grab
Total Residual Oxidants (TRO)	1/week	Grab
pH	Continuous	Record

[1] When discharging.

NOTE: See Parts II and III for Additional Requirements.

There shall be no discharge of a visible sheen of oil or globules of oil or grease on or in the water. Oil and grease shall not be present in quantities that adhere to stream banks and coat bottoms of water courses.

Surface waters of the State shall be maintained free from oil and grease and taste and odors.

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

The discharge shall not contain chemical, physical, or biological substances in concentrations that are irritating to skin or sense organs or are toxic or cause illness upon ingestion by human beings.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location:

Outfall 001: At the weir adjacent to the sampling station at the SE corner of the Cooling Water Basin (F10), and prior to discharging to the Grand Neosho River in the SE¼, SE¼, SE¼, Section 28, T20N, R19EIM, Mayes Co., or at 36.177291° N, Longitude 95.279451° W (GPS: NAD83).

2. Effluent Limitations and Monitoring Requirements for Internal Monitoring Point (IMP) 101

During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from IMP 101. The discharge from IMP 101 consists of coal pile runoff from the Coal Pile Runoff Basin (F02). Such discharge shall be limited and monitored by the permittee as specified below.

Effluent Limitations – IMP 101

Parameters	Mass Loading Limits (lbs/day unless otherwise specified)		Concentration Limits (mg/L unless otherwise specified)	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum
Flow STORET: 50050	Report (MGD)	Report (MGD)	---	---
Total Suspended Solids (TSS) STORET: 00530	---	---	Report	50 (1)

(1) As provided in 40 C.F.R. § 423.12(b)(10), a discharge from IMP 101 resulting from a 10-year, 24-hour or greater rainfall event or greater is **not** subject to the 50 mg/L max daily TSS limitation in 40 C.F.R. § 423.12(b)(9). Burden of proof of such an occurrence will be on the permittee.

Monitoring Requirements – IMP 101

Parameters	Measurement Frequency (1)	Sample Type
Flow	Daily	Estimate
Total Suspended Solids (TSS)	2/week	Grab

(1) When discharging.

NOTE: See Parts II and III for Additional Requirements.

Special provision for coal pile runoff associated with 10-year, 24-hour rainfall event or greater: As specified in 40 C.F.R. § 423.12(b)(10), "Any untreated overflow from facilities designed, constructed, and operated to treat the volume of coal pile runoff which is associated with a 10 year, 24 hour rainfall event shall not be subject to the limitations in paragraph (b)(9) of this section."

10-year 24-hour rainfall event: "The term '10-year, 24 hour rainfall event' means a rainfall event with a probable recurrence interval of once in ten years as defined by the National Weather Service in Technical Paper No. 40, 'Rainfall Frequency Atlas of the United States," May 1961, or equivalent regional rainfall probability information developed therefrom."

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location:

IMP 101: At the outlet weir at the northwest corner of cell 2 of Coal Pile Runoff Basin and prior to discharging to Impoundment F06, in the NE¼, SW¼, NW¼ of Section 28, Township 20N, Range 19EIM, Mayes County, Oklahoma, at Latitude 36.185927° N, Longitude 95.294427° W (GPS: NAD83).

3. Effluent Limitations and Monitoring Requirements for Internal Monitoring Point (IMP) 102

During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from IMP 102. The discharge from IMP 102 consists of treated low volume wastes and some metal cleaning wastes. Such discharge shall be limited and monitored by the permittee as specified below.

Effluent Limitations – IMP 102

Parameters	Mass Loading Limits (lbs/day unless otherwise specified)		Concentration Limits (mg/L unless otherwise specified)	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum
Flow STORET: 50050	Report (MGD)	Report (MGD)	---	---
Total Suspended Solids (TSS) STORET: 00530	---	---	30	100
Oil and Grease STORET: 00552	---	---	15	20
Copper, total STORET: 01042	---	---	1.0	1.0
Iron, total STORET: 01045	---	---	1.0	1.0

Monitoring Requirements – IMP 102

Parameters	Measurement Frequency [1]	Sample Type
Flow	Daily	Estimate
Total Suspended Solids (TSS)	1/month	Grab
Oil and Grease	1/month	Grab
Copper, total	1/month	Grab
Iron, total	1/month	Grab

[1] When discharging.

NOTE: See Parts II and III for Additional Requirements.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location:

IMP 102: At the flow-measuring weir at the outlet of the three (3) concrete pipes conveying flow from impoundment F04 to F06, in the NE¼, NW¼, SW¼ of Section 28, Township 20N, Range 19EIM, Mayes County, Oklahoma, at Latitude 36.183582° N, Longitude 95.293798° W (GPS: NAD83).

4. Effluent Limitations and Monitoring Requirements for Internal Monitoring Point (IMP) 103

IMP 103, which monitored the discharge from F11, has been removed. Surface impoundment F11 has not had low volume wastes sent to it for over 15 years, and the impoundment only collects direct rainfall. This impoundment only discharges to impoundment F06 on rare occasions during heavy rain events. Additionally, surface impoundment F11 will now be listed as a stormwater impoundment for informational purposes only.

5. Effluent Limitations and Monitoring Requirements for Internal Monitoring Point (IMP) 104

During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from IMP 104. The discharge from IMP 104 consists of cooling tower blowdown and associated recirculated cooling water. Such discharge shall be limited and monitored by the permittee as specified below.

Effluent Limitations – IMP 104

Parameters	Mass Loading Limits (lbs/day unless otherwise specified)		Concentration Limits (mg/L unless otherwise specified)	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum
Flow STORET: 50050	Report (MGD)	Report (MGD)	---	---
Free Available Oxidants (FAO) STORET: 34045	---	---	0.2	0.5

(1) For the purposes of Oklahoma DEQ Water Quality OPDES permit compliance, the testing and reporting of free available chlorine (FAC) is considered an acceptable measure and result for free available oxidants (FAO). See Section V.D.2.e of the fact sheet for further details.

Monitoring Requirements – IMP 104

Parameters	Measurement Frequency (1)	Sample Type
Flow	Daily	Estimate
Free Available Oxidants (FAO)	1/year	Grab

(1) When discharging.

NOTE: See Parts II and III for Additional Requirements.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location:

IMP 104: At the weir at the end of the cooling tower blowdown discharge line prior to entrance into Cooling Water Basin (F10), in the SE¼, SE¼, SE¼ of Section 28, Township 20N, Range 19EIM, Mayes County, Oklahoma, at Latitude 36.178198° N, Longitude 95.279571° W (GPS: NAD83).

6. Acute Biomonitoring Requirements for Outfall TX1

a. Whole effluent toxicity reporting and monitoring requirements – During the period beginning the effective date of the permit and lasting through the expiration date, the permittee is authorized to discharge from Outfall TX1 (functionally identical to Outfall 001). The discharge consists of combined cooling tower blowdown, low volume wastes, non-chemical metal cleaning wastes, coal pile runoff, stormwater runoff, hydro-testing water, and infrequent occasions of treated sanitary wastewater. Such discharge shall be limited and monitored by the permittee as specified below.

The permittee is encouraged to perform required biomonitoring activities as early in the reporting period as is practical to ensure sufficient time remains in the reporting period should retests/repeat tests be necessary.

All laboratory analyses for the biomonitoring parameters specified in this permit must be performed by a laboratory accredited by the Oklahoma Department of Environmental Quality for those parameters.

Acute Whole Effluent Toxicity Reporting and Monitoring Requirements (Outfall TX1)

Effluent Characteristic				Reporting/Monitoring Requirements [1]		
	Test	Critical Dilution [2]	Parameter	48-hour Min	Testing Frequency [3]	Sample Type
Routine Testing	*Daphnia pulex*, 48-hour acute LC_{50} static renewal, freshwater	100%	Pass/Fail Survival [TIM3D]	Report	1/quarter [4]	24-hr comp
			LC_{50} Effluent Conc. [TAM3D]	Report		
			% Mortality at 100% Effluent [TJM3D]	Report		
	Pimephales promelas (Fathead minnow), 48-hour acute LC_{50} static renewal, freshwater	100%	Pass/Fail Survival [TIM6C]	Report	1/quarter [4]	24-hr comp
			LC_{50} Effluent Conc. [TAM6C]	Report		
			% Mortality at 100% Effluent [TJM6C]	Report		
Retesting	Retest #1 [22415] [5]			Report	As Required [6]	24-hr comp
	Retest #2 [22416] [5]			Report		

(1) See Part II, Section I, Whole Effluent Toxicity Testing, for additional monitoring and reporting conditions.
(2) All acute WET testing shall use the dilution series specified in Part II, Section I, Item 1.
(3) See provision for monitoring frequency reduction after the first year (Part II, Section I, Item 5.)
(4) Results of retests conducted pursuant to prior test failure shall not be substituted on DMRs in lieu of routine test results (See Part II, Section I, Item 2.a.)
(5) Applies to either or both test species according to results of test failure triggering monthly retests.
(6) Monthly retesting required only if routine test for reporting period (for either species) fails. Fill out ONLY these two retest parameters on the retest DMRs, do not change the original results, and enter the correct submission date.

D. pulex whole effluent toxicity reporting and monitoring requirements apply beginning the effective date of the permit, and the first reporting period is _____ to _____. The first report is due on _____.

P. promelas (Fathead minnow) whole effluent toxicity reporting and monitoring requirements apply beginning the effective date of the permit, and the first reporting period is _____ to _____. The first report is due on _____.

WET testing summary reports: Reports of all WET testing initiated, regardless of whether such tests are carried to completion, shall follow the requirements of Part II, Section I, Item 4.

b. Concurrent testing is a provision for acute Whole Effluent Toxicity (WET) testing –

Concurrent analyses of TDS and constituent ion species are required for each individual effluent sample collected for *Daphnia pulex* WET testing or retesting. TDS constituent ion species are: K^+ (potassium), Na^+ (sodium), Ca^{2+} (calcium), Mg^{2+} (magnesium), Cl^- (chloride), HCO_3^- (bicarbonate), and SO_4^{2-} (sulfate). Reporting of concurrent testing results shall be in accordance with the following requirements in the table below.

Concurrent Effluent Testing for Acute WET Tests
Reporting Requirements (Outfall TX1)

Effluent Characteristic	Concentration			Monitoring Requirements	
	Daily Min	Monthly Average	Daily Max	Monitoring Frequency [1]	Sample Type
Total Dissolved Solids (mg/L) [2] [STORET 70300]	Report	Report	Report	1/quarter	24-hr comp

[1] See provision for WET testing monitoring frequency reduction after the first year (Part II, Section I, Item 5.)

[2] One sample for concurrent analysis required for TDS: Report only those effluent samples collected for WET testing of the *Daphnia pulex.*
The concurrent TDS sample is taken at the beginning of the biomonitoring test. Only one sample is necessary and it must be sent to a state accredited analytical laboratory for the TDS analyses. The analyses must include the constituent ion species listed for TDS above the concurrent table.
The sample must be a composite that is properly preserved and refrigerated to maintain a temperature at or below 6°C but not frozen prior to arrival and processing. This result may be included in the results for Outfall 001, if required.

c. Sampling location – Samples taken in compliance with the monitoring requirements specified above for Outfall TX1 shall be taken at the following location: at the same location as for Outfall 001.

7. Chronic Biomonitoring Requirements for Outfall TX1

a. Whole effluent toxicity reporting and monitoring requirements – During the period beginning the effective date of the permit and lasting through the expiration date, the permittee is authorized to discharge from Outfall TX1 (functionally identical to Outfall 001). The discharge consists of combined cooling tower blowdown, low volume wastes, non-chemical metal cleaning wastes, coal pile runoff, stormwater runoff, hydro-testing water, and infrequent occasions of treated sanitary wastewater. Such discharge shall be limited and monitored by the permittee as specified below.

The permittee is encouraged to perform required biomonitoring activities as early in the reporting period as is practical to ensure sufficient time remains in the reporting period should retests/repeat tests be necessary.

All laboratory analyses for the biomonitoring parameters specified in this permit must be performed by a laboratory accredited by the Oklahoma Department of Environmental Quality for those parameters.

Chronic Whole Effluent Toxicity Reporting and Monitoring Requirements (Outfall TX1)

Effluent Characteristic				Reporting/Monitoring Requirements [1]		
	Test	Critical Dilution [2]	Parameter	7-day Min	Testing Frequency [3]	Sample Type
Routine Testing	*Ceriodaphnia dubia*, 7-day chronic NOEC static renewal, freshwater	14%	Pass/Fail Survival [TLP3B]	Report	1/quarter [4]	24-hr comp
			NOECL Survival [TOP3B]	Report		
			% Mortality at Critical Dilution [TJP3B]	Report		
			Pass/Fail Reproduction [TGP3B]	Report		
			NOECS Reproduction [TPP3B]	Report		
			% Coeff. of Variation [TQP3B]	Report		
	Pimephales promelas (Fathead minnow), 7-day chronic NOEC static renewal, freshwater	14%	Pass/Fail Survival [TLP6C]	Report	1/quarter [4]	24-hr comp
			NOECL Survival [TOP6C]	Report		
			% Mortality at Critical Dilution [TJP6C]	Report		
			Pass/Fail Reproduction [TGP6C]	Report		
			NOECS Reproduction [TPP6C]	Report		
			% Coeff. of Variation [TQP6C]	Report		
Retesting	Retest #1 [22415] [5]			Report	As Required [6]	24-hr comp
	Retest #2 [22416] [5]			Report		

(1) See Part II, Section J, Whole Effluent Toxicity Testing, for additional monitoring and reporting conditions.
(2) All chronic WET testing shall use the dilution series specified in Part II, Section J, Item 1.
(3) See provision for monitoring frequency reduction after the first year (Part II, Section J, Item 5.)
(4) Results of retests conducted pursuant to prior test failure shall not be substituted on DMRs in lieu of routine test results (See Part II, Section J, Item 2.a.)
(5) Applies to either or both test species according to results of test failure triggering monthly retests.
(6) Monthly retesting required only if routine test for reporting period (for either species) fails. Fill out ONLY these two retest parameters on the retest DMRs, do not change the original results, and put the correct submission date in the lower right hand corner of the DMR.

C. dubia whole effluent toxicity reporting and monitoring requirements apply beginning the effective date of the permit, and the first reporting period is _____ to _____. The first report is due on _____.

P. promelas (Fathead minnow) whole effluent toxicity reporting and monitoring requirements apply beginning the effective date of the permit, and the first reporting period is _____ to _____. The first report is due on _____.

WET testing summary reports: Reports of all WET testing initiated, regardless of whether such tests are carried to completion, shall follow the requirements of Part II, Section J, Item 4.

b. Concurrent testing is a provision for chronic Whole Effluent Toxicity (WET) testing –

Concurrent analyses of TDS and constituent ion species are required for each individual effluent sample collected for *Ceriodaphnia dubia* WET testing or retesting. TDS constituent ion species are: K^+ (potassium), Na^+ (sodium), Ca^{2+} (calcium), Mg^{2+} (magnesium), Cl^- (chloride), HCO_3^- (bicarbonate), and SO_4^{2-} (sulfate). Reporting of concurrent testing results shall be in accordance with the following requirements in the table below.

Concurrent Effluent Testing for Chronic WET Tests
Reporting Requirements (Outfall TX1)

Effluent Characteristic	Concentration			Monitoring Requirements	
	Daily Min	Monthly Average	Daily Max	Monitoring Frequency [1]	Sample Type
Total Dissolved Solids (mg/L) [2] [STORET 70300]	Report	Report	Report	1/quarter	24-hr comp

[1] See provision for WET testing monitoring frequency reduction after the first year (Part II, Section J, Item 5.)

[2] One sample for concurrent analysis required for TDS: Report only those effluent samples collected for WET testing of the *Ceriodaphnia dubia.*
The concurrent TDS sample is taken at the beginning of the biomonitoring test. Only one sample is necessary and it must be sent to a state accredited analytical laboratory for the TDS analyses. The analyses must include the constituent ion species listed for TDS above the concurrent table.
The sample must be a composite that is properly preserved and refrigerated to maintain a temperature at or below 6°C but not frozen prior to arrival and processing. This result may be included in the results for Outfall 001, if required.

c. Sampling location – Samples taken in compliance with the monitoring requirements specified above for Outfall TX1 shall be taken at the following location: at the same location as for Outfall 001.

SECTION B. BACKGROUND MONITORING REQUIREMENTS – MONITORING DESIGNATION 999 (UPSTREAM)

Not applicable.

SECTION C. SCHEDULE OF COMPLIANCE

The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule: None

SECTION D. REPORTING OF MONITORING RESULTS

Monitoring results shall be reported in accordance with the provisions of Part III, Section E(4) of the permit. Monitoring results obtained during the previous month shall be summarized and electronically reported on an electronic Discharge Monitoring Report (eDMR) form due to the Oklahoma Department of Environmental Quality, Water Quality Division, Wastewater Compliance Tracking Section no later than the 15th day of the month following the completed monthly test. If no discharge occurs during the reporting period, an eDMR form stating "No Discharge" shall be electronically submitted according to the above schedule. Instructions on how to register as a "Preparer" or "Signatory" for eDMRs, as well as how to prepare and submit eDMRs, can be found on DEQ's website at: https://www.deq.ok.gov/water-quality-division/electronic-reporting/. Assistance is also available by contacting DEQ at (405) 702-8100 or deqreporting@deq.ok.gov.

The first report is due on _____.

PART II
OTHER PERMIT REQUIREMENTS

A. REGULATORY NOTICE

The permittee is hereby given notice that this permit is in all respects subject to compliance with and actions under any and all applicable and relevant terms, conditions, provisions and requirements and any and all amendments of the laws of the State of Oklahoma, the rules of the Oklahoma Department of Environmental Quality, and Oklahoma's Water Quality Standards. The absence of any express reference within this permit of any particular statutory requirement, rule(s), regulation(s), or standard(s) shall in no respect be deemed or construed to exempt or preclude the application of such requirement, rule(s), regulation(s), or standard(s) to this permit or the permittee. By the Director's approval, grant and issuance of this permit, permittee acknowledges receipt of true, correct and current copies of Oklahoma's Water Quality Standards, and the rules of the Oklahoma Department of Environmental Quality.

B. REOPENER CLAUSE

This permit may be reopened for modification or revocation and reissuance to require additional monitoring and/or effluent limitations where actual or potential exceedances of State water quality criteria are determined to be the result of the permittee's discharge to the receiving water(s), or a Total Maximum Daily Load is established for the receiving stream(s), or when required as technology advances. The permit may also be reopened to require modifications of the facility's cooling water intake structure as needed to meet the requirements of the 316(b) rules of the Clean Water Act. Modification or revocation and reissuance of the permit shall follow regulations listed at 40 C.F.R. § 124.5.

C. LABORATORY ACCREDITATION

All laboratory analyses for the parameters specified in this permit must be performed by a laboratory accredited by the Oklahoma Department of Environmental Quality for those parameters.

D. ANALYTICAL REQUIREMENTS

Unless otherwise specified in this permit, effluent and/or upstream monitoring shall be conducted according to analytical, apparatus and materials, sample collection, preservation, handling, etc., procedures listed in 40 C.F.R. Part 136 in effect on the effective date of this permit. Appendices A, B, and C to 40 C.F.R. Part 136 are specifically referenced as part of this requirement. Amendments to 40 C.F.R. Part 136 promulgated and incorporated by reference in OAC 252:606 after the effective date of this permit shall supersede these requirements as applicable.

E. MINIMUM QUANTIFICATION LEVEL (MQL)

If any individual analytical test result taken for compliance with this permit is less than the corresponding minimum quantification level listed in OAC 252:606 Appendix H, a value of zero (0) may be used for that individual result for the DMR calculations and reporting requirements.

F. POLYCHLORINATED BIPHENYL COMPOUNDS

There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid at any of the outfalls.

G. LIMITS ON DISCHARGE OF CHLORINATED WASTEWATER

Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available chlorine or total residual chlorine at any one time unless the permittee can demonstrate to the permitting agency that the units in a particular location cannot operate at or below this level of chlorination.

H. Priority Pollutants in Cooling Tower Blowdown

The permittee shall provide written notification to the Department at least thirty (30) days prior to commencing the use of new cooling water treatment chemical(s). Safety Data Sheets (SDS's) for all such newly proposed cooling tower maintenance/treatment chemicals shall be furnished with the notification. If proposed new cooling water treatment chemicals contain any of the priority pollutants listed in 40 C.F.R. Part 423, Appendix A, the permittee shall also provide engineering calculations for the expected level of the pollutant in the cooling tower blowdown from each affected outfall or internal monitoring point, as appropriate.

I. Acute Whole Effluent Toxicity Testing

1. Scope and Methodology

a. The permittee shall test the effluent for toxicity in accordance with the provisions in this section, which apply individually and separately to the outfalls listed below. No samples or portions of samples from one outfall may be composited with samples or portions of samples from another outfall. The permittee shall bio-monitor for *Daphnia pulex* and *Pimephales promelas* in accordance with the WET testing frequencies prescribed in Part I.

The permittee is encouraged to perform required biomonitoring activities as early in the reporting period as is practical to ensure sufficient time remains in the reporting period should retests/repeat tests be necessary.

All laboratory analyses for the biomonitoring parameters specified in this permit must be performed by a laboratory accredited by the Oklahoma Department of Environmental Quality for those parameters.

Provisions for performance-based monitoring frequency reductions are contained in Item 5 of this section.

Intervals between test initiation dates shall be a function of the required testing frequency, as follows:

- Monthly: No less than 20 days and no more than 40 days.
- Quarterly: No less than 2 months and no more than 4 months.
- Semi-annually: No less than 4 months and no more than 8 months.

APPLICABLE TO OUTFALL(S):	001
REPORTED ON DMR AS OUTFALL(S):	TX1
CRITICAL DILUTION:	100%
EFFLUENT DILUTION SERIES (ALL TESTS):	**100%**, 75%, 56%, 42%, and 32%
SAMPLE TYPE:	Defined at Part I
TEST SPECIES/METHODS:	40 C.F.R. Part 136, except for changes required by EPA, Region 6.

Daphnia pulex acute static renewal 48-hour definitive toxicity test, Method 2021.0, EPA-821-R-02-012 (October 2002), or latest update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

Pimephales promelas (Fathead minnow) acute static renewal 48-hour definitive toxicity test, Method 2000.0, EPA-821-R-02-012 (October 2002), or latest update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

b. Acute test failure –Acute test failure (LC_{50} test) is defined as 50% or more lethality (toxicity) at 48 hours to test organisms at any effluent concentration. The 48-hour LC_{50} effluent value must be >100% to indicate a passing test. Any 48-hour LC_{50} effluent value of 100% or less (or equivalently, a survival value of less than 50.1% in any test dilution) will constitute a test failure.

c. Reopener clause – This permit may be reopened to require whole effluent toxicity limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

2. Testing Requirements due to Test Failure

Upon becoming aware of the failure of any test, the permittee shall immediately notify the DEQ Water Quality Division biomonitoring coordinator, and shall provide written notification within 5 working days, of the test failure with a summary of the results of, and any other pertinent circumstances associated with, the failed test.

a. Whenever there is a test failure for *Daphnia pulex* and/or *Pimephales promelas* during routine testing, the frequency of testing for *Daphnia pulex* and/or *Pimephales promelas* shall automatically increase to, or continue at, as appropriate, the WET testing frequency prescribed in Part I for the remaining life of the permit. In addition, two (2) additional monthly tests (retests) of *Daphnia pulex* and/or *Pimephales promelas* are required. The two additional tests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two additional tests for routine toxicity testing. A full laboratory report for the failed routine test and both additional tests, if required, shall be prepared and submitted to DEQ in accordance with procedures outlined in Item 4 of this section.

b. Persistent toxicity – If either of the two additional tests results in an LC_{50} value less than or equal to 100%, persistent toxicity is exhibited. Then the permittee shall initiate a Toxicity Reduction Evaluation (TRE) as specified in Item 6 of this section. The TRE initiation date will be the test completion date of the first failed retest. The permittee may request a temporary exemption to this TRE-triggering criterion only if the permittee is under a compliance schedule defined in an OPDES permit or an enforcement order to effect aquatic toxicity reduction measures.

c. Intermittent toxicity – If both additional tests result in an LC_{50} value of greater than 100%, persistent toxicity is not exhibited. However, if any routine test failure occurs within 18 months of a prior test failure, intermittent toxicity is exhibited, and the permittee may be required by DEQ to initiate a TRE, as described in Item 6 of this section, based on the severity and pattern of such toxic effect over time.

d. Suspension of Retesting Requirement During TRE - Retesting requirements in Item 2.a are temporarily suspended upon submittal of a TRE Action Plan. Such suspension of retesting requirements applies only to the species under evaluation by a TRE and only to the period during which a TRE is being performed.

3. Required Toxicity Testing Conditions

a. Test acceptance – 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:

(1) The toxicity test control (0% effluent) must have survival equal to or greater than 90%.

(2) The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for the *Daphnia pulex* and Fathead minnow survival tests.

(3) The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant toxicity is exhibited in the *Daphnia pulex* and Fathead minnow survival tests.

(4) As documented at test termination, no more than forty (40) percent of the daphnid test organisms in any replicate of any effluent dilution or in any replicate of the control (0% effluent) shall be male.

If the above criteria or criteria listed in Item 1.a are not met the test will be considered invalid. Test failure may not be construed or reported as invalid due to a coefficient of variation value for toxicity of greater than 40% for replicates tested at the critical dilution. A repeat test shall be conducted and the biomonitoring enforcement coordinator notified, within the reporting period of any test determined to be invalid.

b. The permittee shall follow the requirements listed below in determining success or failure of a WET test:

The statistical analyses in the *Daphnia pulex* and the Fathead minnow survival tests, used to determine the LC_{50} shall be in accordance with the methods described in EPA-821-R-02-012, or the most recent update thereof.

c. The permittee shall use dilution water that meets the following standards:

(1) 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. In OAC 252:606-6-36, for discharges to a receiving stream classified as intermittent or to a receiving stream with no flow due to zero flow, the permittee shall substitute synthetic dilution water of similar pH, hardness and alkalinity to the closest downstream perennial water where the toxicity test is conducted. In the event that the receiving stream has sufficient flow for a sample to be collected, the facility will return to receiving stream water instead of synthetic.

(2) If the receiving water is unsatisfactory as a result of instream toxicity (fails to meet the test acceptance criteria in Item 3.a), the permittee must submit the test results exhibiting receiving water toxicity with the full test report required in Item 4 below and may thereafter substitute synthetic dilution water for the receiving water in all subsequent tests, provided the unacceptable receiving water test met the following stipulations:

(a) a synthetic dilution water control which fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;

(b) the test indicating receiving water toxicity was carried out to completion (i.e., 48 hours);

(c) the synthetic dilution water had 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; and

(d) the receiving water test must be conducted at the start of each permitting cycle.

d. The permittee shall collect samples that are representative of their effluent by following the criteria listed below:

(1) Unless grab sampling is specifically authorized in Part I of the permit, the permittee shall collect two flow-weighted 24-hour composite samples representative of the flows during normal operation from the outfall(s) listed at Item 1.a above. If grab sampling is authorized, all the requirements listed below for composite sampling also pertain to grab sampling. In such cases, collection of the grab sample is considered equivalent to collection of the last portion of a composite sample. Unless otherwise specified in Part I of the permit, a 24-hour composite sample consists of a minimum of 12 effluent portions collected at equal time intervals representative of a 24-hour operating day and combined proportional to flow, or a sample continuously collected proportional to flow over a 24-hour operating day.

(2) The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 36 hours. The permittee must initiate the toxicity test within 36 hours after the collection of the last portion of the first composite sample. The first composite sample shall be used to initiate each test. The second composite sample shall be used for 24-hour static renewal of each dilution concentration for each test. Samples shall be chilled to maintain a temperature at or below 6° C but not frozen during collection, shipping, and/or storage.

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

(4) If it is anticipated that flow from the outfall being tested may cease, prior to collection of the second composite sample, the permittee must ensure that the first composite sample is of sufficient volume to complete the required testing with daily renewal of effluent. The abbreviated composite sample collection duration, the static renewal protocol associated with an abbreviated sample collection, and a summary of the circumstances justifying collection of an abbreviated sample must be adequately documented in the full test report required in Item 4 below. DEQ reserves the right to require a retest and/or consider the permittee in violation of this permit if the basis offered for justification of an abbreviated sample is insufficient, flawed, or in any way reflects an effort on the part of the permittee to avoid test failure by use of an abbreviated sample.

4. Reporting

a. The permittee shall retain each full report pursuant to the records retention provisions of Part III of this permit. The permittee shall also submit to the DEQ biomonitoring enforcement coordinator a copy of the full laboratory test reports at TX1 in accordance with the Report Preparation Section of EPA-821-R-02-012 for every valid or invalid toxicity test initiated, whether carried to completion or not, including any test which is considered invalid, is terminated early for any reason, or which indicates receiving water toxicity. The reports shall be received no later than the 15th day of the month following the end of the testing period.

b. A valid test for *Daphnia pulex* and/or *Pimephales promelas* (excluding retests) at TX1 must be reported on the DMR for 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. An electronic DMR and a copy of the lab report must be received by the 15th day of the month following the end of the testing period.

If a test is determined to be invalid, the repeat test must be conducted in the coinciding testing period; if the first sample of the repeat test is taken after the last day of the final month in a testing period, the facility will be out of compliance with the reporting period. If a lethal failure is experienced for *Daphnia pulex* and/or *Pimephales promelas*, two (2) monthly WET retests are required during the two-month period following the month in which the test failure is experienced.

If more than one valid test (excluding retests) is performed on a species during a reporting period, the permittee shall report the lowest lethality LC_{50} effluent concentrations for all such tests as the 7-day minimum on the DMR for the reporting period in question, specifying the dates of each test in the comments section of the DMR. Under no circumstance shall the monitoring/reporting period dates at the top of the DMR form be altered.

c. If any test results in anomalous LC_{50} findings (i.e., it indicates an interrupted dose response across the dilution series), DEQ recommends that the permittee contact the DEQ biomonitoring coordinator for a technical review of the test results prior to submitting the full laboratory test report and DMR. A summary of all tests initiated during the reporting period, including invalid tests, repeat tests, and retests, shall be attached to the reporting period DMR for DEQ review.

A test is a REPEAT test if it is performed as the result of a previously invalid test. A test is a RETEST if it is performed as the result of a previously failed test, the exception being where the test is the first (valid) test of a reporting period, in which case it is reported as such on the DMR for that period.

(1) The reporting period test summary attached to the DMR shall be organized as follows:

(a) Invalid tests (basis for test invalidity must be described)

(b) Valid tests (other than retests) initiated during current reporting period

(c) Valid retests for tests failed during previous reporting period (if not submitted in the previous reporting period test summary)

(d) Valid retests for tests failed during current reporting period.

(2) The following information shall be listed in the reporting period test summary for each valid test in categories (b) through (d) in Item 4.b(1) above:

(a) Test species

(b) Date of test initiation at laboratory

(c) Results of all concurrent effluent analyses specified in Part I of this permit

(d) All test result parameters for the test species specified in Item 4.c below.

d. The permittee shall report the following results for all VALID routine toxicity tests (excluding retests) on the DMR(s) for that reporting period in accordance with Item 4.b above and Part III of this permit.

Daphnia pulex

(1) Parameter TIM3D: If the *Daphnia pulex* 48-hour LC_{50} for survival is equal to or less than 100%, report a "1"; otherwise, report a "0".

(2) Parameter TAM3D: Report the *Daphnia pulex* 48-hour LC_{50} value for survival.

(3) Parameter TJM3D: Report the *Daphnia pulex* 48-hour percent mortality in the 100% effluent concentration.

Pimephales promelas (Fathead Minnow)

(1) Parameter TIM6C: If the Fathead minnow 48-hour LC_{50} for survival is equal to or less than 100%, report a "1"; otherwise, report a "0".

(2) Parameter TAM6C: Report the Fathead minnow 48-hour LC_{50} value for survival.

(3) Parameter TJM6C: Report the Fathead minnow 48-hour percent mortality in the 100% effluent concentration.

e. The permittee shall report the following results for all VALID toxicity retests on the DMR(s) for that reporting period.

(1) Retest #1 (STORET 22415): If the first monthly retest following failure of a routine test for *Daphnia pulex* and/or Fathead minnow results in a 48-hour LC_{50} for survival equal to or less than 100%, report a "1"; otherwise, report a "0".

(2) Retest #2 (STORET 22416): If the second monthly retest following failure of a routine test for *Daphnia pulex* and/or Fathead minnow results in a 48-hour LC_{50} for survival equal to or less than 100%, report a "1"; otherwise, report a "0".

Results of all retests shall be reported on a copy of the DMR for the reporting period (see Item 4.b above) in which the triggering routine test failure is experienced. Such retest results (using STORET codes 22415 and 22416 only) shall be received no later than the 15th day of the month at the end of the testing period for the retest. The full report for the retest (see Item 4.a above) shall be submitted along with the retest DMR. Even if a retest cannot be conducted before the end of the reporting period for which it is required (due to test initiation interval requirements), the retest results shall still be reported for the reporting period in which the triggering test failure is experienced. Under no circumstance shall the monitoring/reporting period dates for a supplemental retest DMR ever be modified. The permittee shall indicate the retest date in the comments section of the supplemental DMR and insert the date the DMR is submitted in the lower right hand corner. In this manner, both retests are reported for the same reporting period as the failed routine test triggering the retests. If retesting is not required during a given reporting period, the permittee shall leave the DMR retest fields blank.

5. Monitoring Frequency Reduction

a. The permittee may apply for a testing frequency reduction upon the successful completion of the first year of testing for *Daphnia pulex* and/or Fathead minnow with no lethal effects demonstrated at or below the critical dilution. Certification in accordance with Item 5.b of this section shall be submitted with the application for monitoring frequency reduction. If granted, the monitoring frequency may be reduced to a minimum of once per 6 months (actual testing must occur during the periods June 1 through September 30 and December 1 through March 31) for the approved test specie(s).

b. Certification – The permittee must certify in writing that no lethal test failures have occurred for the species for which the monitoring frequency reduction is being requested and that all tests meet all test acceptability criteria in Item 3.a above. In addition, the permittee must provide a summary of all tests initiated during the period of certification including test initiation dates, species, test acceptability parameters, LC_{50} concentrations, percent mortality at the 100% effluent dilution, and coefficients of variation for the control and 100% effluent dilution. If the certification is approvable, DEQ will issue a letter of confirmation of the monitoring frequency reduction. A copy of the confirmation letter will be forwarded to DEQ's Permit Compliance Tracking Section to update the permit reporting requirements and TX1S will be activated while TX1Q will be deactivated. DEQ may refuse to approve the certification if it determines that, during the period for which the certification is submitted, there were errors in meeting test acceptability requirements, errors in statistical interpretation affecting test results reported on DMRs, late submissions of test reports or submissions of substantively incomplete test reports. If the certification is not approved, the permittee shall continue biomonitoring of the affected test species at a frequency of once per quarter until the permit is reissued.

c. Lethal failures after a monitoring frequency reduction – If any lethal endpoint test is failed at any time after the granting of a monitoring frequency reduction, two monthly retests are required for that species in accordance with Item 2 above and the monitoring frequency for the affected test species shall be increased to the WET testing frequency prescribed in Part I before the frequency reduction was granted and shall remain for the life of the permit. TX1Q will be reactivated and TX1S will be discontinued for the life of the permit. If the permittee is performing a TRE this section does not apply.

6. Toxicity Reduction Evaluation (TRE)

a. Within ninety (90) days of confirming toxicity in the retests for a test species, the permittee shall submit to DEQ a TRE Action Plan and Schedule for conducting a Toxicity Reduction Evaluation (TRE). The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation 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 and include the following:

(1) Specific Activities. DEQ requires that a thorough audit of the design, operation and maintenance of the entire plant be done at the **outset** of the Toxicity Identification Evaluation (TIE) and/or TRE, rather than later in the process.

The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, identifications and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity Characterization Procedures, 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) and "Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I" (EPA-600/6-91/005F), 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.

The documents referenced above may be available through the

National Technical Information Service (NTIS)

U.S. Department of Commerce
National Technical Information Service
5301 Shawnee Rd., Alexandria, VA 22312
E-mail: orders@ntis.gov
(800) 553-NTIS (6847), or at the

National Service Center for Environmental Publications (NSCEP)

U.S. EPA/NSCEP
P.O. Box 42419
Cincinnati, Ohio 45242-0419
E-mail: nscep@bps-lmit.com
1-(800) 490-9198

(2) 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 to 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 48 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.

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

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

b. The permittee shall initiate the TRE Action Plan within thirty (30) days of submitting the plan and schedule. The permittee shall assume all risks for failure to achieve the required toxicity reduction.

c. The permittee shall submit to DEQ a quarterly TRE Activities Report with the Discharge Monitoring Report in months to be specified in their TRE plan, containing the following information:

(1) all data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;

(2) all studies/evaluations and results on the treatability of the facility's effluent toxicity; and

(3) all data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant toxicity at any dilution.

d. The permittee shall submit to DEQ a Final Report on Toxicity Reduction Evaluation Activities no later than twenty-eight (28) months after confirming toxicity in the retests. The final report shall provide information pertaining to the specific control mechanism(s) selected that will, when implemented, result in reduction of effluent toxicity to a 48-hour LC_{50} effluent value of greater than 100%. The final report shall also provide a schedule for implementing the selected control mechanism(s).

e. Quarterly testing during the TRE is the minimum monitoring requirement. DEQ recommends that permittees performing a TRE not rely on quarterly testing alone. Failure to identify the specific chemical compound(s) causing toxicity test failure will normally result in a permit limit for whole effluent toxicity per federal regulations at 40 C.F.R. § 122.44(d)(1)(v).

J. CHRONIC WHOLE EFFLUENT TOXICITY TESTING

1. Scope and Methodology

a. The permittee shall test the effluent for toxicity in accordance with the provisions in this section, which apply individually and separately to the outfalls listed below. No samples or portions of samples from one outfall may be composited with samples or portions of samples from another outfall. The permittee shall bio-monitor for *Ceriodaphnia dubia* and *Pimephales promelas* in accordance with the WET testing frequencies prescribed in Part I.

The permittee is encouraged to perform required biomonitoring activities as early in the reporting period as is practical to ensure sufficient time remains in the reporting period should retests/repeat tests be necessary.

All laboratory analyses for the biomonitoring parameters specified in this permit must be performed by a laboratory accredited by the Oklahoma Department of Environmental Quality for those parameters.

Provisions for performance-based monitoring frequency reductions are contained in Item 5 of this section.

Intervals between test initiation dates shall be a function of the required testing frequency, as follows:

- Monthly: No less than 20 days and no more than 40 days.
- Quarterly: No less than 2 months and no more than 4 months.
- Semi-annually: No less than 4 months and no more than 8 months.

APPLICABLE TO OUTFALL(S):	001
REPORTED ON DMR AS OUTFALL(S):	TX1
CRITICAL DILUTION:	14%
EFFLUENT DILUTION SERIES (ALL TESTS):	19%, **14%**, 11%, 7.9%, 5.9%
SAMPLE TYPE:	Defined at Part I
TEST SPECIES/METHODS:	40 C.F.R. Part 136, except for changes required by EPA, Region 6.

Ceriodaphnia dubia chronic static renewal 7-day survival and reproduction test, Method 1002.0, EPA-821-R02-013 (October 2002), or most recent update thereof. A minimum of ten (10) replicates consisting of a single (1) organism each must be used in the control and in each effluent dilution of this test. This test should be terminated when 60% of the surviving females in the control produce three broods or at the end of eight days, whichever comes first. If this criterion is not met at the end of 8 days, the test must be repeated.

Pimephales promelas (Fathead minnow) chronic static renewal 7-day larval survival and growth test, Method 1000.0, EPA-821-R-02-013 (October 2002), or most recent update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

b. Chronic lethal effect test failure – The $NOEC_L$ (No Observed Lethal Effect Concentration) is defined as the greatest effluent dilution at and below which lethality (toxicity) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure (chronic $NOEC_L$ test) is defined as a demonstration of a statistically significant lethal (toxic) effect at test completion to a test species at or below the critical dilution.

c. Chronic sub-lethal effect test failure – The $NOEC_S$ (No Observed Sub-lethal Effect Concentration) is defined as the greatest effluent dilution at and below which sub-lethality (toxicity: inhibited reproduction in the *Ceriodaphnia dubia* test or inhibited growth in the Fathead minnow test) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic sub-lethal test failure (chronic $NOEC_S$ test) is defined as a demonstration of a statistically significant sub-lethal effect at test completion to a test species at or below the critical dilution.

d. Reopener clause – This permit may be reopened to require whole effluent toxicity limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

2. Testing Requirements due to Test Failure

Upon becoming aware of the failure of any test, the permittee shall immediately notify the DEQ Water Quality Division biomonitoring coordinator, and shall provide written notification within 5 working days, of the test failure with a summary of the results of, and any other pertinent circumstances associated with, the failed test.

a. Whenever there is a test failure for *Ceriodaphnia dubia* and/or *Pimephales promelas* during routine testing, the frequency of testing for *Ceriodaphnia dubia* and/or *Pimephales promelas* shall automatically increase to, or continue at, as appropriate, the WET testing frequency prescribed in Part I for the remaining life of the permit. In addition, two (2) additional monthly tests (retests) of *Ceriodaphnia dubia* and/or *Pimephales*

promelas are required. The two additional tests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two additional tests for routine toxicity testing. A full laboratory report for the failed routine test and both additional tests, if required, shall be prepared and submitted to DEQ in accordance with procedures outlined in Item 4 of this section.

b. Persistent toxicity – If either of the two additional tests results in an $NOEC_L$ and/or $NOEC_S$ value less than the critical dilution, persistent lethality and/or sub-lethality is exhibited. Then the permittee shall initiate a Toxicity Reduction Evaluation (TRE) as specified in Item 6 below. The TRE initiation date will be the test completion date of the first failed retest. The permittee may request a temporary exemption to this TRE-triggering criterion only if the permittee is under a compliance schedule defined in an OPDES permit or an enforcement order to effect aquatic toxicity reduction measures.

c. Intermittent toxicity – If both additional tests result in an $NOEC_L$ and/or $NOEC_S$ value greater than or equal to the critical dilution, persistent lethality and/or sub-lethality is not exhibited. However, if any routine lethal and/or sub-lethal effect test failure occurs within 18 months of a prior lethal and/or sub-lethal effect test failure, intermittent lethality and/or sub-lethality is exhibited, and the permittee may be required by DEQ to initiate a TRE, as described in Item 6 below, based on the severity and pattern of such lethal and/or sub-lethal effect over time.

d. Suspension of retesting requirements during a TRE – Retesting requirements in Item 2.a are temporarily suspended upon submittal of a TRE Action Plan. Such suspension of retesting requirements applies only to the species under evaluation by a TRE and only to the period during which a TRE is being performed.

3. Required Toxicity Testing Conditions

a. Test acceptance – 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:

(1) The toxicity test control (0% effluent) must have survival equal to or greater than 80%.

(2) The mean number of *Ceriodaphnia dubia* neonates produced per surviving female in the control (0% effluent) must be 15 or more.

(3) Sixty (60) percent of the surviving *Ceriodaphnia dubia* females in the control must produce three broods.

(4) The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.

(5) The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for the young of surviving females in the *Ceriodaphnia dubia* reproduction test and for the survival and growth endpoints of the Fathead minnow test.

(6) The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or sub-lethal effects are exhibited for the young of surviving females in the *Ceriodaphnia dubia* reproduction test and for the growth and survival endpoints of the Fathead minnow test.

(7) As documented at test termination, no more than forty (40) percent of the *Ceriodaphnia dubia* test organisms in any replicate of any effluent dilution or in any replicate of the control (0% effluent) shall be male.

(8) The Percent Minimum Significant Difference (PMSD) shall be in the range of 13-47 for *Ceriodaphnia dubia* reproduction. If the test PMSD is less than 13, 13 may be substituted for the PMSD.

(9) The PMSD shall be in the range of 12-30 for Fathead minnow growth. If the test PMSD is less than 12, 12 may be substituted for the PMSD.

If the above criteria or criteria listed in Item 1.a are not met the test will be considered invalid. Test failure may not be construed or reported as invalid due to a coefficient of variation value for toxicity of greater than 40% for replicates tested at the critical dilution. A repeat test shall be conducted and the biomonitoring enforcement coordinator notified, within the reporting period of any test determined to be invalid.

b. The permittee shall follow the requirements listed below in determining success or failure of a WET test:

(1) The statistical analyses in the *Ceriodaphnia dubia* survival test, used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in EPA-821-R-02-013 or most recent update thereof.

(2) The statistical analyses in the *Ceriodaphnia dubia* reproduction test and the Fathead minnow larval survival and growth test, 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 EPA-821-R-02-013 or most recent update thereof.

(3) If the conditions of test acceptability are met in Item 3.a above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report an $NOEC_L$ of not less than the critical dilution for the DMR reporting requirements found in Item 4 below.

c. The permittee shall use dilution water that meets the following standards:

(1) 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. In OAC 252:606-6-36, for discharges to a receiving stream classified as intermittent or to a receiving stream with no flow due to zero flow, the permittee shall substitute synthetic dilution water of similar pH, hardness and alkalinity to the closest downstream perennial water where the toxicity test is conducted. In the event that the receiving stream has sufficient flow for a sample to be collected, the facility will return to receiving stream water instead of synthetic.

(2) If the receiving water is unsatisfactory as a result of instream toxicity (fails to meet the test acceptance criteria in Item 3.a), the permittee must submit the test results exhibiting receiving water toxicity with the full test report required in Item 4 below and may thereafter substitute synthetic dilution water for the receiving water in all subsequent tests, provided the unacceptable receiving water test met the following stipulations:

(a) a synthetic dilution water control which fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;

(b) the test indicating receiving water toxicity was carried out to completion (i.e., 7 days);

(c) the synthetic dilution water had 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; and

(d) the receiving water test must be conducted at the start of each permitting cycle.

d. The permittee shall collect samples that are representative of their effluent by following the criteria listed below:

(1) Unless grab sampling is specifically authorized in Part I of the permit, the permittee shall collect three flow-weighted 24-hour composite samples representative of the flows during normal operation from the outfall(s) listed at Item 1.a above. If grab sampling is authorized, all requirements specified below for composite sampling also pertain to grab sampling. In such cases, collection of the grab sample is considered equivalent to collection of the last portion of a composite sample. Unless otherwise specified in Part I of the permit, a 24-hour composite sample consists of a minimum of 12 effluent portions collected at equal time intervals representative of a 24-hour operating day and combined proportional to flow or a sample continuously collected proportional to flow over a 24-hour operating day.

(2) The first composite sample shall be used to initiate each test. The permittee must initiate the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Collection of the second and third composite samples must be timed so as to permit an approximately equal use distribution of the three composite samples for daily static renewals. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 72 hours. Samples shall be chilled to maintain a temperature at or below 6° C but not frozen during collection, shipping, and/or storage.

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

(4) If it is anticipated that flow from the outfall being tested may cease prior to collection of the third composite sample, the permittee must ensure that the second composite sample is of sufficient volume to complete the required testing with daily renewal of effluent. The abbreviated composite sample collection duration, the static renewal protocol associated with an abbreviated sample collection, and a summary of the circumstances justifying collection of an abbreviated sample must be adequately documented in the full test report required in Item 4 below. The DEQ reserves the right to require a retest and/or consider the permittee in violation of this permit if the basis offered for justification of an abbreviated sample is insufficient, flawed, or in any way reflects an effort on the part of the permittee to avoid test failure by use of an abbreviated sample.

4. Reporting

a. The permittee shall retain each full report pursuant to the records retention provisions of Part III of this permit. The permittee shall also submit to the DEQ biomonitoring enforcement coordinator a copy of the full laboratory test reports at TX1 in accordance with the Report Preparation Section of EPA-821-R-02-013 for every valid or invalid toxicity test initiated, whether carried to completion or not, including any test which is considered invalid, is terminated early for any reason, or which indicates receiving water toxicity. The reports shall be received no later than the 15th day of the month following the end of the testing period.

b. A valid test for *Ceriodaphnia dubia / Pimephales promelas* (excluding retests) at TX1 must be reported on the DMR for 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. An electronic DMR and a copy of the lab report must be received by the 15th day of the month following the end of the testing period.

If a test is determined to be invalid, the repeat test must be conducted in the coinciding quarter; if the first sample of the repeat test is taken after the last day of the final month in a testing period, the facility will be out of compliance with the reporting period. If a lethal and/or sub-lethal test failure is experienced for *Ceriodaphnia dubia / Pimephales promelas*, two (2) monthly WET retests are required during the two-month period following the month in which the test failure is experienced.

If more than one valid test (excluding retests) is performed on a species during a reporting period, the permittee shall report the lowest lethality and sub-lethality NOEC effluent concentrations for all such tests as the 7-day minimum on the DMR for the reporting period in question, specifying the dates of each test in the comments section of the DMR. Under no circumstance shall the monitoring/reporting period dates at the top of the DMR form be altered.

c. If any test results in anomalous $NOEC_L$ or $NOEC_S$ finding (i.e., it indicates an interrupted dose response across the dilution series), DEQ recommends that the permittee contact the DEQ biomonitoring coordinator for a technical review of the test results prior to submitting the full laboratory test report and DMR. A summary of all tests initiated during the reporting period, including invalid tests, repeat tests, and retests, shall be attached to the reporting period DMR for DEQ review.

A test is a REPEAT test if it is performed as the result of a previously invalid test. A test is a RETEST if it is performed as the result of a previously failed test, the exception being where the test is the first (valid) test of a reporting period, in which case it is reported as such on the DMR for that period.

(1) The reporting period test summary attached to the DMR shall be organized as follows:

(a) Invalid tests (basis for test invalidity must be described)

(b) Valid tests (other than retests) initiated during current reporting period

(c) Valid retests for tests failed during previous reporting period (if not submitted in the previous reporting period test summary)

(d) Valid retests for tests failed during current reporting period

(2) The following information shall be listed in the reporting period test summary for each valid test in categories (b) through (d) in Item 4.b(1) above:

(a) Test species

(b) Date of test initiation at laboratory

(c) Results of all concurrent effluent analyses specified in Part I of this permit

(d) All test result parameters for the test species specified in Item 4.c below.

d. The permittee shall report the following results for all VALID toxicity tests (excluding retests) on the DMR(s) for that reporting period in accordance with Item 4.b above and Part III of this permit.

Ceriodaphnia dubia

(1) Parameter TLP3B: If the *Ceriodaphnia dubia* $NOEC_L$ for survival is less than the critical dilution, report a "1"; otherwise, report a "0".

(2) Parameter TOP3B: Report the *Ceriodaphnia dubia* $NOEC_L$ value for survival.

(3) Parameter TJP3B: Report the *Ceriodaphnia dubia* percent mortality in the critical dilution at test completion.

(4) Parameter TGP3B: If the *Ceriodaphnia dubia* $NOEC_S$ for reproduction is less than the critical dilution, report a "1"; otherwise, report a "0".

(5) Parameter TPP3B: Report the *Ceriodaphnia dubia* $NOEC_S$ value for reproduction.

(6) Parameter TQP3B: Report the highest coefficient of variation (critical dilution or control) for *Ceriodaphnia dubia* reproduction.

Pimephales promelas (Fathead Minnow)

(1) Parameter TLP6C: If the Fathead minnow $NOEC_L$ for survival is less than the critical dilution, report a "1"; otherwise, report a "0".

(2) Parameter TOP6C: Report the Fathead minnow $NOEC_L$ value for survival.

(3) Parameter TJP6C: Report the Fathead minnow percent mortality in the critical dilution at test completion.

(4) Parameter TGP6C: If the Fathead minnow $NOEC_S$ for growth is less than the critical dilution, report a "1"; otherwise, report a "0".

(5) Parameter TPP6C: Report the Fathead minnow $NOEC_S$ value for growth.

(6) Parameter TQP6C: Report the highest coefficient of variation (critical dilution or control) for Fathead minnow survival and growth.

e. The permittee shall report the following results for all VALID toxicity retests on the DMR(s) for that reporting period.

(1) Retest #1 (STORET 22415): If the first monthly retest following failure of a routine test for *Ceriodaphnia dubia* / Fathead minnow results in an $NOEC_L$ and/or $NOEC_S$ less than the critical dilution, report a "1"; otherwise, report a "0".

(2) Retest #2 (STORET 22416): If the second monthly retest following failure of a routine test for *Ceriodaphnia dubia/* Fathead minnow results in an $NOEC_L$ and/or $NOEC_S$ less than the critical dilution, report a "1"; otherwise, report a "0".

Results of all retests shall be reported on a copy of the DMR for the reporting period (see Item 4.b above) in which the triggering routine test failure is experienced. Such retest results (using STORET codes 22415 and 22416 only) shall be received no later than the 15th day of the month at the end of the testing period for the retest. The full report for the retest (see Item 4.a above) shall be submitted along with the retest DMR. Even if a retest cannot be conducted before the end of the reporting period for which it is required (due to test initiation interval requirements), the retest results shall still be reported for the reporting period in which the triggering test failure is experienced. Under no circumstance shall the monitoring/reporting period dates for a supplemental retest DMR ever be modified. The permittee shall indicate the retest date in the comments section of the supplemental DMR and insert the date the DMR is submitted in the lower right hand corner. In this manner, both retests are reported for the same reporting period as the failed routine test triggering the retests. If retesting is not required during a given reporting period, the permittee shall leave the DMR retest fields blank.

5. Monitoring Frequency Reduction

a. The permittee may apply for a testing frequency reduction upon the successful completion of the first year of testing for *Ceriodaphnia dubia* and/or Fathead minnow with no lethal or sub-lethal effects demonstrated at or below the critical dilution. Certification in accordance with Item 5.b of this section shall be submitted with the application for monitoring frequency reduction. If granted, the monitoring frequency may be reduced to a

minimum of once per 6 months (actual testing must occur during the periods June 1 through September 30 and December 1 through March 31) for the approved test specie(s).

b. Certification – The permittee must certify in writing that no lethal or sub-lethal test failures have occurred for the species for which the monitoring frequency reduction is being requested and that all tests meet all test acceptability criteria in Item 3.a above. In addition, the permittee must provide a summary of all tests initiated during the period of certification including test initiation dates, species, test acceptability parameters, $NOEC_L$ values percent mortality at the critical dilution, $NOEC_S$ values, and coefficients of variation for the control and critical dilutions. If the certification is approvable, DEQ will issue a letter of confirmation of the monitoring frequency reduction. A copy of the confirmation letter will be forwarded to DEQ's Permit Compliance Tracking Section to update the permit reporting requirements and TX1S will be activated while TX1Q will be deactivated. DEQ may refuse to approve the certification if it determines that, during the period for which the certification is submitted, there were errors in meeting test acceptability requirements, errors in statistical interpretation affecting test results reported on DMRs, late submissions of test reports or submissions of substantively incomplete test reports. If the certification is not approved, the permittee shall continue biomonitoring of the affected test species at a frequency of once per quarter until the permit is reissued.

c. Lethal and/or sub-lethal failures after a monitoring frequency reduction – If any lethal or sub-lethal endpoint test is failed at any time after the granting of a monitoring frequency reduction, two monthly retests are required for that species in accordance with Item 2 above and the monitoring frequency for the affected test species shall be increased to the WET testing frequency prescribed in Part I before the frequency reduction was granted and shall remain for the life of the permit. TX1Q will be reactivated and TX1S will be discontinued for the life of the permit. If the permittee is performing a TRE this section does not apply.

6. Toxicity Reduction Evaluation (TRE)

a. Within ninety (90) days of confirming toxicity in the retests for a test species, the permittee shall submit to DEQ a TRE Action Plan and Schedule for conducting a Toxicity Reduction Evaluation (TRE). The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation 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 and include the following:

(1) Specific Activities. DEQ requires that a thorough audit of the design, operation and maintenance of the entire plant be done at the **outset** of the Toxicity Identification Evaluation (TIE) and/or TRE, rather than later in the process.

The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, identifications and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity Characterization Procedures, 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) and "Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I" (EPA-600/6-91/005F), 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.

The documents referenced above may be available through the

National Technical Information Service (NTIS)

U.S. Department of Commerce
National Technical Information Service
5301 Shawnee Rd., Alexandria, VA 22312
E-mail: orders@ntis.gov
(800) 553-NTIS (6847), or at the

National Service Center for Environmental Publications (NSCEP)

U.S. EPA/NSCEP
P.O. Box 42419
Cincinnati, Ohio 45242-0419
E-mail: nscep@bps-lmit.com
1-(800) 490-9198

(2) 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 to 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 48 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.

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

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

b. The permittee shall initiate the TRE Action Plan within thirty (30) days of submitting the plan and schedule. The permittee shall assume all risks for failure to achieve the required toxicity reduction.

c. The permittee shall submit to DEQ a quarterly TRE Activities Report with the Discharge Monitoring Report in months to be specified in their TRE plan, containing the following information:

(1) all data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;

(2) all studies/evaluations and results on the treatability of the facility's effluent toxicity; and

(3) all data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant toxicity at any dilution.

d. The permittee shall submit to DEQ a Final Report on Toxicity Reduction Evaluation Activities no later than twenty-eight (28) months after confirming lethality and/or sub-lethality in the retests. The final report shall provide information pertaining to the specific control mechanism(s) selected that will, when implemented, result in reduction of effluent toxicity to the level at which there is no significant lethality and/or sub-lethality at the critical dilution. The final report shall also provide a schedule for implementing the selected control mechanism(s).

e. Quarterly testing during the TRE is the minimum monitoring requirement. DEQ recommends that permittees performing a TRE not rely on quarterly testing alone. Failure to identify the specific chemical compound(s) causing toxicity test failure will normally result in a permit limit for whole effluent toxicity per federal regulations at 40 C.F.R. § 122.44(d)(1)(v).

K. Cooling Water Intake Structure (CWIS) and Cooling System Requirements

1. The facility shall maintain and follow the Cooling System Maintenance and Operation Plan (CSMOP) for the cooling water intake structure and cooling system.

   The plan must describe how the intake structure and associated cooling system will be maintained to ensure the facility continues to meet the final BTA determinations, must be reviewed annually and revised if necessary, and must be made available to DEQ on request. The plan must also include provisions relating to the following:

   a. Weekly visual monitoring in accordance with 40 C.F.R. § 125.96(e) (if weekly visual monitoring is not feasible given the location or nature of the intake, the plan should provide justification for why this monitoring is not feasible and include an appropriate alternative);
   b. Recordkeeping in accordance with 40 C.F.R. § 125.97(d);
   c. BTA monitoring as required by the selected compliance option.

2. DEQ has determined that the operation of a closed-cycle recirculating system is the Best Technology Available (BTA) for minimizing impingement mortality and entrainment at this facility. Therefore, the facility shall operate and maintain the system in accordance with the Cooling System Maintenance and Operation Plan.

3. The permittee shall monitor cycles of concentration at a frequency of daily, and shall report the monitoring results once per year. The monitoring results shall be included with the annual certification statement described below. Any analytical testing that is performed for compliance with these monitoring requirements must be performed by a state-accredited laboratory.

4. 40 C.F.R. § 125.97(c) requires permittees to submit an annual certification statement and report signed by a responsible corporate official, indicating whether or not the facility has substantially modified operation of any units at the facility that impacts cooling water withdrawal and/or CWIS operation. If no such changes have been made, the permittee may simply state as such in a letter to the DEQ. If such modifications have been made, the permittee must provide a summary of those changes in the report. Additionally, if such modifications have been made, the next permit application submitted by the permittee must include revisions to any applicable parts of the information required by 40 C.F.R. § 122.21(r).

   The period for the annual certification statement and BTA compliance monitoring data shall be the calendar year, January 1 through December 31. The first report is due on January 31, 2026.

5. In accordance with 40 C.F.R. § 125.95(c), the permittee may submit a request to reduce the amount of CWIS-related information required by 40 C.F.R. § 122.21(r) that will be submitted with the next permit application. Such a request must identify each element of the 40 C.F.R. § 122.21(r) information that has not substantially changed since the previous data submittal. The request must be submitted at least 2 years and six months prior to the expiration date of the permit. If a timely request is not received, the permittee shall submit all 40 C.F.R. § 122.21(r) information with the next permit renewal application.

6. Six months prior to the expiration date of the permit, the permittee shall submit all relevant cooling water intake data for the previous five years.

7. Nothing in this permit authorizes take for the purposes of a facility's compliance with the Endangered Species Act.

L. SURFACE IMPOUNDMENT REQUIREMENTS

1. A minimum freeboard of two (2) feet shall be maintained for surface impoundments F01 through F11. A minimum freeboard of three (3) feet shall be maintained for surface impoundment T01.

2. The permit may be reopened to implement and/or require impoundment modifications, additions, extensions, and/or operational changes; monitoring and reporting; reclassification of wastes; sludge management plans; best management practices; closure plans; and/or other appropriate actions.

3. At such time as any of the impoundments (F01-F11, and T01) are to be permanently taken out of service or at such time as the contents of any of the impoundments (F01-F11, and T01) pose a risk to the environment or waters of the state, the owner or operator of the facility shall be required to follow all closure requirements contained in OAC 252:616-13.

4. In all other respects, surface impoundments F01 through F11, and T01 shall be subject to standard conditions for surface impoundments contained in OAC 252:616, Subchapters 5, 7, and 13, including but not limited to requirements for construction, operation, maintenance, monitoring and closure.

M. TANK SYSTEM REQUIREMENTS

Not applicable since there are no tank systems that contain industrial wastewater at this facility.

N. OTHER DISPOSAL METHODS

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewater shall be disposed of at a state-approved industrial waste disposal site or to a company for recycling. Disposal of any waste or wastewater shall be in a manner such as to prevent any pollutant from such materials from entering waters of the State or waters of the United States.

If any such industrial wastes are removed from the facility, the permittee shall keep accurate records which include the following information:

1. Name and address of company hauling waste.
2. The type and amount of waste hauled.
3. The final disposal site of waste hauled.

The permittee shall retain the above records for a period of at least five (5) years. Upon request, the above records shall be made available to the staff of DEQ for inspection, review, and copying.

O. DEFINITIONS

1. The term "once through cooling water" means water passed through the main cooling condensers in one or two passes for the purpose of removing waste heat.

2. "The term "total residual chlorine" (or "total residual oxidants" for intake water with bromides) means the value obtained using any of the "chlorine—total residual" methods in Table IB in 40 C.F.R. § 136.3(a), or other methods approved by the permitting authority."

3. "The term "free available chlorine" means 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."

4. "The term 'low volume waste sources' means, taken collectively as if from one source, wastewater from all sources except those for which specific limitations or standards are otherwise established in this part. 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."

5. "The term 'chemical metal cleaning waste' means any wastewater resulting from the cleaning of any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning."

6. "The term 'metal cleaning waste' means any wastewater resulting from the 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."

7. "The term 'fly ash' means the ash that is carried out of the furnace by the gas stream and collected by mechanical precipitators, electrostatic precipitators, and/or fabric filters. Economizer ash is included when it is collected with fly ash."

8. "The term 'bottom ash' means the ash that drops out of the furnace gas stream in the furnace and in the economizer sections. Economizer ash is included when it is collected with bottom ash."

9. "The term 'recirculated cooling water' means water which is passed through a cooling device for the purpose of removing such heat from the water and then passed again, except for blowdown, through the main condenser."

10. "The term 'blowdown' means the minimum discharge of recirculating water for the purpose of discharging materials contained in the water, the further buildup of which would cause concentration in amounts exceeding limits established by best engineering practices."

11. "The term '10-year, 24 hour rainfall event' means a rainfall event with a probable recurrence interval of once in ten years as defined by the National Weather Service in Technical Paper No. 40, 'Rainfall Frequency Atlas of the United States," May 1961, or equivalent regional rainfall probability information developed therefrom."

12. "The term 'coal pile runoff' means the rainfall runoff from or through any coal storage pile."

APPENDIX

Description of Surface Impoundments

S.I. [1]	Impoundment Description and Wastewater Classification OAC 252:616-1-2	Liner Description	Holding Capacity OAC 252:616-7-1(6)	Wastewater Destination
F01	**Flue Gas Desulfurization (FGD) Basin:** FGD building drains and lime wastes – Class III	Native Clay	3,232,000 gallons 243'x390'x4.5'	F03
F02	**Coal Pile Runoff Basin:** coal pile runoff – Class III	Native Clay	Cell #1: 1,033,000 gallons - 253'×394'×6' and Cell #2: 1,167,000 gallons - 240'x240'x6'	F06 and reuse for coal pile dust suppression
F03	**Wastewater Holding Basin:** various low volume wastes and discharge from F01 – Class III	Native Clay	3,149,000 gallons 243'×330'×9.5'	F04
F04	**Wastewater Overflow Basin:** low volume waste discharges from F03 and Unit 1 bottom ash blowdown – Class III	Native Clay	7,345,000 gallons 210'×858'×9.5' [2]	F06 and reuse for coal pile dust suppression and bottom ash removal makeup water
F05	**Sewage Treatment Lagoon:** sanitary wastes – Class IV	Native Clay	2,047,000 gallons 315'×315'×6.5'	F09
F06	**Coal Pile Overflow Basin:** discharges from F02, F04, and F11 – Class III	Native Clay	13,595,000 gallons 840'×760'×6'	F07
F07	**Southwest Holding Basin:** stormwater runoff and discharge from F06 – Class III	Native Clay	73,038,000 gallons 790'×1392'×11'	F08
F08	**Borrow Pits:** stormwater runoff and discharge from F07 – Class III	Native Clay	1,519,000 gallons 750'x1900'×4.5' [2]	F09
F09	**Southeast Holding Basin:** storm water runoff and discharge F08 – Class III	Native Clay	47,459,000 gallons 1000′x 1060′x 10′	F10
F10	**Cooling Water Basin:** cooling tower blowdown, storm water runoff, and discharge from F09 – Class III	Native Clay	52,360,000 gallons 1000′x 1000′x 14′	Final discharge through Outfall 001
F11 [2]	**Stormwater Basin:** Direct non-contact stormwater – Class III	Native Clay	1,528,000 gallons 235′x 235′x 7′	F06 during heavy rain events
T01	**Water Treatment Plant Backwash Lagoon:** filter and clarifier backwash – Class III	Native Clay	167,000 gallons 132′x 105′x 4′	Decanted and reused

[1] Designation T refers to total retention surface impoundment. Designation F refers to flow through surface impoundment.
[2] Surface impoundment F11 is a stormwater only impoundment, and it is listed for informational purposes only.

Location of Surface Impoundments

S.I.	Legal Description	General Location and Description
F01	NW¼, SE¼, NW¼, Section 28, Township 20N, Range 19EIM, Mayes County, Oklahoma	Northwest corner of ash landfill
F02	NE¼, SW¼, NW¼, Section 28, Township 20N, Range 19EIM, Mayes County, Oklahoma	North of F11 and NW of F03
F03	SE¼, SW¼, NW¼, Section 28, Township 20N, Range 19EIM, Mayes County, Oklahoma	North of F04, West of F01, and SE of F02
F04	SE¼, SW¼, NW¼, and NE¼, NW¼, SW¼, Section 28, Township 20N, Range 19EIM, Mayes County, Oklahoma	Between ash landfill and F06, south of F03
F05	NW¼, SW¼, NE¼, Section 28, Township 20N, Range 19EIM, Mayes County, Oklahoma	400 ft. East of NE corner of ash landfill
F06	SW¼, SW¼, NW¼ and NW¼, NW¼, SW¼ Section 28, Township 20N, Range 19EIM, Mayes County, Oklahoma	West of F04 and North of F07
F07	N½, SW¼, SW¼ and S½, NW¼, SW¼, Section 28, Township 20N, Range 19EIM, Mayes County, Oklahoma	Southwest of ash landfill, South of F06, and West of F08
F08	S½, NE¼, SW¼, the N½, SE¼, SW¼, the SW¼, NW¼, SE¼, and the NW¼, SW¼, SE¼, Section 28, Township 20N, Range 19EIM, Mayes County, Oklahoma	South of ash landfill between F07 and F09
F09	NE¼, SW¼, SE¼, Section 28, Township 20N, Range 19EIM, Mayes County, Oklahoma	Immediately West of F10
F10	SE¼, SE¼, Section 28, Township 20N, Range 19EIM, Mayes County, Oklahoma	Southeast corner of plant site, at Northwest corner of intersection of Highways 412 and 412B
F11	SE¼, SW¼, NW¼. Section 28, Township 20N, Range19EIM, Mayes County, Oklahoma	Northeast corner of F06 and South of F02
T01	NE½, SW¼, SE¼, Section 21, Township 20N, Range 19EIM, Mayes County, Oklahoma	Immediately northwest of cooling towers