

WPDES PERMIT

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES permit to discharge under the wisconsin pollutant discharge elimination system

ERCO Worldwide (USA) Inc. - Port Edwards

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility located at 101 Highway 73 South, Nekoosa, WI 54457-8235

to

the Wisconsin River in Wood County Via Outfall 001 at 44.3349934°N, -89.886411°W

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

The permittee shall not discharge after the date of expiration. If the permittee wishes to continue to discharge after this expiration date an application shall be filed for reissuance of this permit, according to Chapter NR 200, Wis. Adm. Code, at least 180 days prior to the expiration date given below.

State of Wisconsin Department of Natural Resources For the Secretary

By

Amy Garbe, PE Acting Wastewater Section Manager

Date Permit Signed/Issued for Modification

PERMIT TERM: EFFECTIVE DATE - April 01, 2023 EFFECTIVE DATE OF MODIFICATION: July 01, 2025 **EXPIRATION DATE - March 31, 2028**

TABLE OF CONTENTS

1 INFLUENT REQUIREMENTS - COOLING WATER INTAKE STRUCTURE (CWIS)	1
 1.1 SAMPLING POINT(S) 1.2 MONITORING REQUIREMENTS AND BTA DETERMINATIONS 1.2.1 Sampling Point 701 - River Water Intake 	1 1 1
1.3 COOLING WATER INTAKE STRUCTURE STANDARD REQUIREMENTS	3
1.3.2 Visual or Remote Inspections	3
1.3.3 Reporting Requirements for Cooling Water Intake	3
1.3.4 Intake Screen Discharges and Removed Substances	4
1.3.5 Endangered Species Act	4
2 IN-PLANT REQUIREMENTS	5
2.1 SAMPLING POINT(S)	5
2.2 MONITORING REQUIREMENTS AND LIMITATIONS	5
2.2.1 Sampling Point 101 - Process Wastewater Treatment	5
2.2.2 Sampling Point 102 - Intake Water Strainer Bleedoff	7
2.2.3 Sampling Point 103 - Process Wastewater and NCCW	
2.2.4 Sampling Point 105 - Mercury Field Blank-Composite 2.2.5 Sampling Point 107 Intercept Well Mercury Pernoval	7
2.2.5 Sampling Point 107 - Intercept weti Mercury Removal 2.2.6 Sampling Point 108 - Field Blank - Grab	/ ۶
2 SUDEACE WATED DEQUIDEMENTS	
3 SURFACE WATER REQUIREMENTS	9
3.1 SAMPLING POINT(S)	9
3.2 MONITORING REQUIREMENTS AND EFFLUENT LIMITATIONS 3.2.1 Sampling Point (Outfall) 001 Combined Wastewater Discharge	9
5.2.1 Sampling Folm (Oujall) 001 - Combinea Wastewaler Discharge	>
4 SCHEDULES	15
4.1 MERCURY POLLUTANT MINIMIZATION PROGRAM	15
4.2 WATER INTAKE REQUIREMENTS	16
4.3 INTAKE STRUCTURE REQUIRED UPDATES	16
4.4 PFOS/PFOA MINIMIZATION PLAN DETERMINATION OF NEED	17
4.5 PHOSPHORUS REFRIGERATED SAMPLER 4.6 TEMPED ATURE MONITODING	1/
	16
5 STANDARD REQUIREMENTS	19
5.1 REPORTING AND MONITORING REQUIREMENTS	19
5.1.1 Monitoring Results	19
5.1.2 Sampling and Testing Procedures 5.1.3 Percending of Persults	19
5.1.5 Recording of Monitoring Results	19
5.1.5 Records Retention	20
5.1.6 Other Information	20
5.1.7 Reporting Requirements – Alterations or Additions	20
5.2 SYSTEM OPERATING REQUIREMENTS	21
5.2.1 Noncompliance Reporting	21
5.2.2 Bypass	21
5.2.3 Scheduled Bypass	21
5.2.4 Controlled Diversions	22
5.2.5 Proper Operation and Maintenance	22
5.2.0 Operator Certification	22
5.2.7 Spin Reporting 5.2.8 Planned Changes	22
5.2.9 Duty to Halt or Reduce Activity	23
	20

WPDES Permit No. WI-0003565-09-1 ERCO Worldwide (USA) Inc

5.3 SURFACE WATER REQUIREMENTS	23
5.3.1 Permittee-Determined Limit of Quantitation Incorporated into this Permit	23
5.3.2 Appropriate Formulas for Effluent Calculations	23
5.3.3 Effluent Temperature Requirements	24
5.3.4 Visible Foam or Floating Solids	24
5.3.5 Surface Water Uses and Criteria	24
5.3.6 Compliance with Phosphorus Limitation	24
5.3.7 Additives	25
5.3.8 PFOS and PFOA Requirements	25
5.3.9 Whole Effluent Toxicity (WET) Monitoring Requirements	25
5.3.10 Whole Effluent Toxicity (WET) Identification and Reduction	25
5.3.11 Reopener Clause	26
6 SUMMARY OF REPORTS DUE	27

1 Influent Requirements - Cooling Water Intake Structure (CWIS)

1.1 Sampling Point(s)

	Sampling Point Designation						
Sampling	oling Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicabl						
Point							
Number							
701	INTAKE: Wisconsin River cooling water intake structure for non contact cooling, irrigation, cooling tower water makeup, and fire protection located approximately 580 feet in the west southwest direction from the plant in the Wisconsin River, extending approximately 105 feet from the shoreline and approximately 10 feet below the normal water elevation. Grab and continuous samples shall be collected from the spigot located in the strainer building after the strainers.						

1.2 Monitoring Requirements and BTA Determinations

The permittee shall comply with the following monitoring requirements. The intake(s) has been reviewed for compliance with BTA (Best Technology Available) standards and the BTA determination(s) is listed below.

Monitoring Requirements and Limitations							
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes		
Flow Rate	Daily Max - Variable	MGD	Daily	Calculated	See permit subsection 1.3.3		
Flow Rate, Variable Limit		MGD	Daily	Calculated	See permit subsection 1.3.3		
Intake Water Used Exclusively For Cooling		% Flow	Annual	Calculated	See permit subsection 1.3.3		
Suspended Solids, Total		mg/L	Weekly	Grab	See permit subsection 1.2.1.1		
Mercury, Total Recoverable		ng/L	Quarterly	Grab	See permit subsection 1.2.1.1 and 1.2.1.2		
pH (Minimum)		su	Daily	Continuous	See permit subsection 1.2.1.1		
pH (Maximum)		su	Daily	Continuous	See permit subsection 1.2.1.1		
pH Total Exceedance Time Minutes		minutes	Daily	Continuous	See permit subsection 1.2.1.1		
pH Exceedances Greater Than 60 Minutes		Number	Daily	Continuous	See permit subsection 1.2.1.1		

1.2.1 Sampling Point 701 - River Water Intake

1.2.1.1 Intake Water Monitoring Optional

Water intake monitoring of the Wisconsin River for total suspended solids (TSS), mercury, and pH is not a requirement, but is recommended. Data on the background mercury concentration is used to determine if there is an addition of mercury in the effluent, and to calculate the water quality based effluent limit. The pH monitoring of the intake may explain an apparent violation of the effluent pH if the water intake pH is not in compliance. The TSS monitoring of the intake may be compared to the TSS at Sampling Point 102 to determine the relative significance of the strainer backwash discharge at Sampling Point 102. Current sampling is done after strainers. To allow more accurate future assessments for compliance with s. NR 205.07(3)(a), Wis. Adm. Code, it is recommended that TSS samples for Sampling Point 701 be acquired prior to the strainers so a precise concentration comparison can be made between TSS from the river water and TSS from the strainer bleedoff.

1.2.1.2 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day) as appropriate. The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

1.2.1.3 CWIS - Authority to Operate and Description

The permittee shall at all times properly operate and maintain all water intake facilities. The permittee shall give advance notice to the Department of any planned changes in the location, design, operation, or capacity of the intake structure. The permittee is authorized to use the cooling water intake system which consists of the following:

- Location: The source of water is the Wisconsin River in Wood County, WI. The intake structure is located at 44°20'9.58"N and 89°53'9.37"W.
- The Wisconsin River water intake provides water for noncontact cooling water, irrigation, fire protection and make-up water for the recirculating cooling tower. It consists of the following components:

(a) A 24 inch diameter pipeline, supported by piling approximately 1 foot above the riverbed, extends 105 feet out into the Wisconsin River to a depth of about 10 feet.

(b) A T-27HCE screen comprised of two slotted screen sections, each 33 ¹/₂ inches in length and 27 inches in diameter, and a T-27MF screen comprised of one slotted screen section of 68 inches in length and 27 inches in diameter. Both screens have slot openings of ¹/₂ inch by 1 inch, with an open screened area of 87.57%.

(c) The intake line enters a caisson at the plant, from which the water is pumped by two vertical turbine pumps. The caisson is manually cleaned of any debris and sediment, which is disposed of in a landfill.

(d) A water strainer filter is used to remove any fine material in the water. A backwash system removes the fine material captured in the strainer and is monitored for TSS at Sampling Point 102. Backwash is returned to the river at Outfall 001.

- Maximum Design Intake Flow (DIF): 9.072 MGD (based on pump capacity)
- Maximum Design Intake Pipe Velocity: 4.47 feet/second. Permittee is required to reduce this velocity to 0.5 feet/second by April 01, 2025, as specified in the Intake Structure Required Updates schedule.

1.2.1.4 Cooling Water Intake BTA (Best Technology Available) Determination

The ERCO cooling water intake, as described above in subsection 1.2.1.3, meets BTA for entrainment but does not meet BTA for impingement. This is therefore conditionally approved as BTA for minimizing adverse environmental impact in accordance with the requirements in section s. 283.31(6), Wis. Stats. and section 316(b) of the Clean Water Act. Given that the maximum design velocity of the intake structure pipe is 4.47ft/s, the Department concluded ERCO

is not in compliance with the chosen performance standard for impingement of a 0.5 ft/s or less maximum design velocity. This approval is therefore conditional upon the modification of the intake structure or operation of intake structure to make the maximum design intake velocity less than 0.5 feet per second (fps) at every point up to a screen of mesh with a maximum opening dimension of 0.56 inches. The department also concluded that ERCO's utilization of a four-cell crossflow cooling tower meets the best technology available to achieve the maximum reduction in entrainment for now.

1.3 Cooling Water Intake Structure Standard Requirements

The following requirements and provisions apply to all water intake structures identified as sampling points in subsection 1.1.

1.3.1 Future BTA for Cooling Water Intake Structure

BTA determinations for entrainment and impingement mortality at cooling water intake structures will be made in each permit reissuance, in accordance with s. NR 111.40 Wis. Code. The permittee shall submit and maintain all the information required by the applicable provisions of s. NR 111.15 Wis. Code. In subsequent permit reissuance applications, the permittee shall provide all the information required in s. NR 111.41, Wis. Code if the permittee's intake structure meets the applicability criteria in s. NR 111.02, Wis. Adm. Code.

Exemptions from some permit application requirements are possible in accordance with s. NR 111.42(1)(a), Wis. Code, where information already submitted is sufficient. If an exemption is desired, a request for reduced application material requirements must be submitted at least 2 years and 6 months prior to permit expiration. Past submittals and previously conducted studies may satisfy some or all of the application material requirements.

(Optional) Consider submitting an alternatives analysis report for entrainment with the next permit application. This alternatives analysis for entrainment BTA could narratively address and consider the factors listed in s. NR 111.13 (2)(a) and may consider the factors listed in s. NR 111.13 (3), Wis. Adm. Code. The analysis could evaluate closed-cycle recirculating systems, fine mesh screens with a mesh size of 2mm or smaller, variable speed pumps, water reuse or alternate sources of cooling water, and any additional technology identified by permittee.

1.3.2 Visual or Remote Inspections

The permittee shall conduct weekly inspections of the intake structure that, at a minimum, consist of monitoring the river water caisson level. If the caisson level cannot be maintained at or above the minimum level of 28 inches and the river level itself is not lower than normal, ERCO will contact divers to investigate and clear any significant obstructions as soon as the weather permits. Bi-weekly inspections at the intake structure to observe whether the intake structure has been exposed are required for daily max variable flow rate limit purposes.

1.3.3 Reporting Requirements for Cooling Water Intake

- The permittee shall report the percentage intake water used exclusively for cooling once annually.
- Flow Rate- MGD shall be reported Daily. Flow rate will be calculated such that:

$$Q_{701} = Q_{001} - Q_{101}$$
; where Q denotes flow rate.

• Daily Max Variable Flow Rate Limit is only in effect when surface water elevation falls below the top of the water intake screen. When the limit is in effect, the permittee shall perform a visual inspection of the intake to estimate screen open area and calculate the flow limit such that:

 Q_{701} _limit = 0.5 fps x A x P x 0.65 where: Q_{701} _limit = variable flow limit in MGD A = wetted screen area in ft^2

P = screen open area percentage divided by 100

 $0.65 = \text{conversion factor going from ft}^3/\text{s to MGD}$

Note: This limit is being calculated at the intake structure slotted screens as an interim point while a point that meets requirement for impingement mortality as specified in the Intake Structure Required Updates schedule is established. The point at which this limit is calculated will be reassessed after updates to the structure are made.

1.3.3.1 Annual Certification Statement and Report

Submit an annual certification statement signed by the authorized representative with information on the following, no later than January 31st for the previous year:

- Certification that water intake structure technologies are being maintained and operated as set forth in this permit, or a justification to allow a modification of the practices. Include a summary of the required Visual or Remote Inspections.
- If there are substantial modifications to the operation of any unit that impacts the cooling water withdrawals or operation of the water intake structure, provide a summary of those changes.
- If the information contained in the previous year's annual certification is still applicable, the certification may simply state as such.

1.3.4 Intake Screen Discharges and Removed Substances

Floating debris and accumulated trash collected on the cooling water intake trash rack shall be removed and disposed of in a manner to prevent any pollutant from the material from entering the waters of the State pursuant to s. NR 205.07 (3) (a), Wis. Adm. Code, except that backwashes may contain fine materials that originated from the intake water source such as sand, silt, small vegetation or aquatic life.

1.3.5 Endangered Species Act

Nothing in this permit authorizes take for the purpose of a facility's compliance with the Endangered Species Act or with Wisconsin's endangered species law. Refer to s. NR 111.16(4), Wis. Adm. Code.

2 In-Plant Requirements

2.1 Sampling Point(s)

Sampling Point Designation					
Sampling	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)				
Point					
Number					
101	IN PLANT: At in-plant Sampling Point 101 (Sulfide - Hg Removal System), batch effluent from the				
	sulfide treatment mercury removal system Tank 187 (process wastewater from chemical production				
	processes and storm water collected within process containment areas) and batch effluent from the pH				
	adjustment system for deionizers Tank 726 (non-mercury bearing liquid waste) shall be sampled prior to				
	mixing with other wastewater discharges as described under permit subsection 2.2. Categorical limits				
100	for chlor-alkali chemical manufacturing apply at this sample point.				
102	IN PLANT: At in-plant Sampling Point 102 (Intake Water Strainer Bleedoff), bleedoff from the cooling				
	water intake strainer shall be sampled prior to mixing with other wastewater discharges. Flow rate shall				
	be measured via magnetic meter for calculation of flow discharged at Outfall 001. Composite samples				
102	shall be collected using a 24 hour flow proportional sampler located in the strainer building.				
103	IN PLANT: Combination of treated process wastewater effluent, noncontact cooling water, and boiler				
	blowdown, located prior to mixing with the bleedoff from the cooling water intake strainer. Prior to				
	Sampling Point 103, sodium bisulfite is added for dechlorination to eliminate residual chlorine from the				
	river water chlorination system. Flow rate shall be gathered via a rectangular flow weir and the use of a				
105	calibration curve for calculation of flow.				
105	FIELD BLANK: In-plant Sample Point 105 is included in the permit to satisfy the need for a field blank				
	when mercury monitoring is conducted utilizing a composite sample type.				
107	IN PLANT: At Sampling Point 107 (Intercept Well Mercury Removal), effluent from the intercept well				
	mercury removal filtration system that treats contaminated groundwater intercepted by the cell room				
	groundwater collection system shall be sampled prior to mixing with any other wastewater discharge.				
	Flow shall be continuously measured via magnetic meter. Effluent from this sampling point is				
	comprised of contaminated groundwater pumped from the collection system to remediate the mercury				
	contaminant plume and to prevent it from moving off site and is discharged to the sulfide wastewater				
	treatment system.				
108	FIELD BLANK: In-plant Sample Point 108 is included in the permit to satisfy the need for a field blank				
	when mercury monitoring is conducted utilizing a grab sample type.				

2.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

2.2.1 Sampling Point 101 - Process Wastewater Treatment

Monitoring Requirements and Limitations						
Parameter	Limit Type	Limit and	Sample	Sample	Notes	
		Units	r requency	Туре		
Flow Rate		MGD	Daily	Calculated	See permit subsection	
					2.2.1.1	
Suspended Solids,		mg/L	Weekly	Grab Comp	See permit subsection	
Total				-	2.2.1.2	

Suspended Solids, Total	Daily Max	124 kg/day	Weekly	Calculated	
Suspended Solids,	Monthly Avg	62 kg/day	Weekly	Calculated	
Mercury, Total Recoverable		ng/L	Weekly	Grab Comp	See permit subsection 2.2.1.2, 2.2.1.4
Chlorine, Total Residual		µg/L	Weekly	Grab	See permit subsection 2.2.1.3
Chlorine, Total Residual	Daily Max	622 grams/day	Weekly	Calculated	
Chlorine, Total Residual	Monthly Avg	369 grams/day	Weekly	Calculated	
pH (Average)	Daily Max	9.0 su	Weekly	Grab	See permit subsection 2.2.1.3
pH (Average)	Daily Min	6.0 su	Weekly	Grab	See permit subsection 2.2.1.3

2.2.1.1 Flow

The total daily flow shall be a summation of the volumes of the batch treated process wastewater that is discharged in a 24-hour period from the sulfide treatment mercury removal system (Tank (TK)VS187) plus the pH adjustment system (TK726).

2.2.1.2 Grab Composite Sample

A composite sample for total suspended solids and mercury shall be made by combining a grab sample from each batch of treated process wastewater that is discharged in a 24-hour period from the sulfide treatment mercury removal system (TK187) and the pH adjustment system (TK726). Effluent grab samples from both treatment systems shall be combined on a flow proportional basis and settled solids resuspended prior to analysis.

2.2.1.3 Grab Sample with Calculated Average

A grab sample for pH and total residual chlorine shall be collected from each batch of treated process wastewater that is discharged in a 24-hour period from the sulfide treatment mercury removal system (TK187) and the pH adjustment system (TK726). Both the pH and total residual chlorine must be analyzed within 15 minutes. Report the average pH and total residual values, calculated on a flow proportional basis using all the individual grab values collected during a 24-hour period.

Average Flow proportional value = $\Sigma (\underline{TK187 \text{ value} \times \text{ gallons}}) + \Sigma (\underline{TK726 \times \text{ gallons}})$ $\Sigma TK187 \text{ gallons} + \Sigma TK726 \text{ gallons}$

2.2.1.4 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day) as appropriate. The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

Monitoring Requirements and Limitations						
Parameter	Notes					
		Units	Frequency	Туре		
Flow Rate		MGD	Daily	Continuous		
Suspended Solids,		mg/L	Weekly	24-Hr Flow		
Total		-		Prop Comp		

2.2.2 Sampling Point 102 - Intake Water Strainer Bleedoff

2.2.3 Sampling Point 103 - Process Wastewater and NCCW

Monitoring Requirements and Limitations						
Parameter Limit Type Limit and Sample Sample Notes						
		Units	Frequency	Туре		
Flow Rate		MGD	Daily	Total Daily		

2.2.3.1 Flow

Flow shall be measured utilizing a rectangular flow weir. Using the level in the 1st Effluent Pit, which is measured with a bubble tube device with only local indication, and a calibrated curve developed after the installation of the new stainless steel weir in 1995, daily total flow shall be calculated.

2.2.4 Sampling Point 105 - Mercury Field Blank-Composite

Monitoring Requirements and Limitations							
ParameterLimit TypeLimit andSampleSample							
		Units	Frequency	Туре			
Mercury, Total		ng/L	Weekly	Blank	See permit subsection		
Recoverable		-			2.2.4.1		

2.2.4.1 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day) as appropriate for a composite sample. A field blank means an aliquot of mercury-free reagent water that is placed in a sample container, shipped to the field, and treated as a sample in all respects, including contact with the sampling devices and exposure to sampling site conditions, filtration, storage, preservation, and all analytical procedures (s. NR 106.145(9)(c), Wis. Adm. Code). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

2.2.5 Sampling Point 107 - Intercept Well Mercury Removal

Monitoring Requirements and Limitations							
Parameter Limit Type Limit and Sample Sample							
		Units	Frequency	Туре			
Flow Rate		MGD	Daily	Continuous			
Mercury, Total		ng/L	Monthly	Grab	See permit subsection		
Recoverable					2.2.5.1		

2.2.5.1 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day) as appropriate. The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

2.2.6 Sampling Point 108 - Field Blank - Grab

Monitoring Requirements and Limitations							
Parameter Limit Type Limit and Sample Sample Notes							
		Units	Frequency	Туре			
Mercury, Total		ng/L	Weekly	Blank	See permit subsection		
Recoverable		-	-		2.2.6.1.		

2.2.6.1 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day) as appropriate for grab samples. A field blank means an aliquot of mercury-free reagent water that is placed in a sample container, shipped to the field, and treated as a sample in all respects, including contact with the sampling devices and exposure to sampling site conditions, filtration, storage, preservation, and all analytical procedures (s. NR 106.145(9)(c), Wis. Adm. Code). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

3 Surface Water Requirements

3.1 Sampling Point(s)

The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

Sampling Point Designation						
Sampling	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)					
Point						
Number						
001	EFFLUENT: At sampling point 001, the combined flows of noncontact cooling water, treated process					
	wastewater (mercury removal system and pH adjustment system), boiler blowdown, cooling tower					
	blowdown, municipal water supply system water, bromine scrubber pH adjustment, brine wastewater					
	pH adjustment, deionizer wastewater pH adjustment, sulfate removal system purge, treated effluent from					
	intercept well mercury removal system, and cooling water intake strainer bleedoff shall be sampled prior					
	to discharge to the Wisconsin River via Outfall 001. Composite samples shall be collected from the 24-					
	hour composite sampling collection system located near the west wall in the Wastewater Monitoring					
	Building. Flows shall be calculated using rates monitored at Sample Points 102 and 103. Grab samples					
	shall be collected at the sample spigot located near the south wall in the Wastewater Monitoring					
	Building. Temperature shall be continuously measured at the 2nd pit, where all flows are comingled,					
	once the continuous temperature system is installed per the Temperature Monitoring Compliance					
	Schedule. pH shall be continuously measured at the 2nd pit.					

3.2 Monitoring Requirements and Effluent Limitations

The permittee shall comply with the following monitoring requirements and limitations.

3.2.1 Sampling Point (Outfall) 001 - Combined Wastewater Discharge

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and	Sample	Sample	Notes
		Units	Frequency	Туре	
Flow Rate		MGD	Daily	Calculated	See permit subsection
					3.2.1.1
Temperature		deg F	Daily	Continuous	See permit subsection
					3.2.1.2
Mercury, Total	Daily Max	42 ng/L	Weekly	24-Hr Comp	See permit subsection
Recoverable		_		_	3.2.1.3, 3.2.1.4, 3.2.1.5,
					3.2.1.6
Mercury, Total	Daily Max	1.19	Weekly	Calculated	
Recoverable		grams/day			
Phosphorus, Total	Monthly Avg	0.63 mg/L	Monthly	24-Hr Comp	See permit subsection
					3.2.1.7
Phosphorus, Total	6-Month Avg	0.21 mg/L	Monthly	24-Hr Comp	See permit subsection
					3.2.1.7
Phosphorus, Total	6-Month Avg	6.4 lbs/day	Monthly	Calculated	See permit subsection
					3.2.1.7
Phosphorus, Total	Monthly Avg	19 lbs/day	Monthly	Calculated	

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and	Sample	Sample	Notes
		Units	Frequency	Туре	
Phosphorus, Total		lbs/month	Monthly	Calculated	Calculate the Total
					Monthly Discharge of
					phosphorus and report on
					the last day of the month on
					the DMR. See permit
		11 /			subsection 3.2.1.7
Phosphorus, Iotal		lbs/yr	Monthly	Calculated	Calculate the 12-month
					rolling sum of total monthly
					discharged and report on
					the last day of the month on
					the DMR See permit
					subsection 3.2.1.7
Chloride	Daily Max	1,500 mg/L	Monthly	24-Hr Comp	
Chloride	Monthly Avg	1,500 mg/L	Monthly	24-Hr Comp	
Chloride	Daily Max	74,000 lbs/day	Monthly	Calculated	
pH (Minimum)	Daily Min	4.0 su	Daily	Continuous	See permit subsection
					3.2.1.8
pH (Maximum)	Daily Max	11 su	Daily	Continuous	See permit subsection 3.2.1.8
pH Total Exceedance	Monthly Total	446 minutes	Daily	Continuous	See permit subsection
Time Minutes					3.2.1.8
pH Exceedances	Daily Max	0 Number	Daily	Continuous	See permit subsection
Greater Than 60					3.2.1.8
Minutes			***		~
Halogen, Total	Daily Max	38 µg/L	Weekly	Grab	See permit subsection
Residual as CI2		20 /	XX7 11	0.1	3.2.1.10
Halogen, Total	Monthly Avg	38 µg/L	weekiy	Grab	See permit subsection
Residual as CI2		n a /I	Overterly	Croh	5.2.1.10 Monitoring only See
rros		ng/L	Quarterry	Glab	DEOS/DEOA Minimization
					Plan Determination of Need
					schedule and permit
					subsection 3.2.1.11 and
					3.2.1.12
PFOA		ng/L	Quarterly	Grab	Monitoring only. See
					PFOS/PFOA Minimization
					Plan Determination of Need
					schedule and permit
					subsection 3.2.1.11 and
					3.2.1.12
Acute WET		TUa	See Listed	24-Hr Comp	See permit subsection
			Otr(s)		3.2.1.13

3.2.1.1 Flow and Parameter Monitoring For Outfall 001

The calculated flow for Outfall 001 shall be equal to the sum of the measured flows at Sampling Points 102 and 103. The permittee may monitor at Sampling Point 103 for the same parameters in Table 3.2.1 and report them as a representative sample for the effluent of Outfall 001.

3.2.1.2 Effluent Temperature Monitoring

For manually measuring effluent temperature, grab samples should be collected at 6 evenly spaced intervals during the 24-hour period. Alternative sampling intervals may be approved if the permittee can show that the maximum effluent temperature is captured during the sampling interval. For monitoring temperature continuously, collect measurements in accordance with s. NR 218.04(13), Wis. Adm. Code. This means that discrete measurements shall be recorded at intervals of not more than 15 minutes during the 24-hour period. In either case, report the maximum temperature measured during the day on the DMR. A continuous temperature sampler must be installed by April 01, 2024 as established in the Temperature Monitoring schedule.

3.2.1.3 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wis. Adm. Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day) as appropriate. The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

A 24-hour composite sampler may be used for the mercury analysis to collect a representative effluent sample of all the various wastewater sources that may discharge intermittently during the day from batch processes. Alternative, the collection of a series of individual grab samples during the day may be manually composited to create a representative sample as outlined in subsection 3.2.1.6.

3.2.1.4 Mercury Variance – Implement Pollutant Minimization Program Plan

This permit contains a variance to the water quality-based effluent limit (WQBEL) for mercury approved in accordance with s. 283.15, Stats. As conditions of this variance the permittee shall (a) maintain effluent quality at or below the interim effluent limitation specified in the table above, (b) implement the mercury pollutant minimization measures specified below, (c) follow the Pollutant Minimization Program Plan dated March 29, 2022, and (d) perform the actions listed in the schedule (See the Schedules section herein):

- Annual review of raw materials
- Mercury remediation protocol continuation
- Maintain the Preventative Maintenance (PM) program
- Routing of storm water to the mercury wastewater treatment plant
- Maintain Universal Waste Management trainings and procedures
- Continue using sulfide wastewater treatment system
- Study, develop and implement strategies to continue removing mercury until water quality based effluent limits are met

3.2.1.5 Alternative Effluent Limit for Mercury

Pursuant to NR106.06(6)(c)2.c, Wis. Adm. Code, due to the elevated mercury in the Wisconsin River, a monthly average mercury limit of 7.2 ng/L applies for this discharge. However, if the mercury variance application that was

submitted is approved by EPA, an alternative effluent limitation (AEL) of 42 ng/L, equal to the 1-day P99 of representative data, as a daily maximum will be included in the permit in place of the water quality-based effluent limit of 7.2 ng/L. A daily maximum mass limit of 1.19 g/day alternative effluent limitation is also established because compliance of the concentration limit could be achieved by dilution with the NCCW.

3.2.1.6 Calculated Mercury Concentration

The permittee may use a calculated effluent mercury concentration when the measured concentration at Outfall 001 is known to be unrepresentative if sampling contamination problems are suspected of impacting the monitoring result. The calculated concentration may also be used to confirm the measured concentration. The effluent concentration may be calculated using the individual mercury sources, including Sampling Point 101 (process wastewater) and other waste streams where mercury contribution is known (as indicated in the Outfall 001 description in 3.1), and accounting for dilution with the other wastewater sources that represent the combined discharge at Outfall 001. Whenever a calculated concentration is reported on the DMR instead of a measured value, a note shall be attached explaining the circumstances and values used in the calculation. The following formula shall be used to calculate the mercury concentration at Outfall 001:

 \sum (ng/L Hg × MGD flow) from all known individual sources MGD Outfall 001

The following conditions apply to the calculation:

ng/L Hg in all Cooling Water = 7.2 ng/L (or the average of data from Sampling Point 701 that complies with the mercury monitoring requirements in paragraph 3.2.1.3).

MGD of wastewater sources without daily flow values = representative average flow.

3.2.1.7 Total Maximum Daily Load (TMDL) Limitations for Adm. Total Phosphorus:

The Wisconsin River Basin TMDL for total phosphorus was approved by the U.S. Environmental Protection Agency on April 26, 2019. Additional Site-Specific Criteria (SSC) for Lakes Petenwell, Castle Rock, and Wisconsin and the related Waste Load Allocation (WLA) included in Appendix K of the TMDL report were adopted by rule in s. NR 102.06 (7), Wis. Adm. Code, on June 1, 2020, and approved by the U.S. Environmental Protection Agency on July 9, 2020. The permittee's approved SSC-based WLA is 1998 lbs/year, and results in calculated phosphorus mass limits of 6.4 lbs/day as a six-month average and 19 lbs/day as a monthly average.

For facilities with a 6-month average mass limit: The 6-month average limit is expressed as a seasonal average with averaging periods occurring from May through October and November through April. Compliance with the 6-month average limit is evaluated at the end of each 6-month period on April 30th and October 31st annually. The 12-month rolling sum of total monthly phosphorus (lbs/yr) shall be reported each month for direct comparison to the facility's WLA.

Effluent results shall be calculated as follows:

Total Monthly Discharge (lbs/month): = monthly average concentration $(mg/L) \times total flow for the month (MG/month) \times 8.34.$

12-Month Rolling Sum of Total Monthly Discharge (lbs/yr): = the sum of the most recent 12 consecutive months of Total Monthly Discharges.

Sample Preservation: Pursuant Table F of s. NR 219.04, Wis. Adm. Code, aqueous phosphorus samples must be preserved at ≤ 6 °C, and should not be frozen unless data demonstrating that sample freezing does not adversely impact sample integrity is maintained on file and accepted as valid by the regulatory authority. Also, for purposes of NPDES monitoring, the specification of " ≤ 6 °C" is used in place of the "4 °C" and "< 4 °C" sample temperature requirements listed in some methods. It is not necessary to measure the sample temperature to three significant figures are specified so that rounding down to 6 °C may not be used to meet the ≤ 6 °C requirement. The preservation temperature does not apply to samples that are analyzed immediately (less than 15 minutes). A refrigerated sampler must be installed by April 01, 2025 as established in the Phosphorus Refrigerated Sampler schedule, but until then samples must be analyzed within 15 minutes.

3.2.1.8 Continuous pH Monitoring

The permittee shall maintain the pH of the discharge within the range of 6.0 to 9.0 standard units (s.u.) except excursions are permitted subject to the following conditions:

- The pH is monitored continuously;
- The total time during which the pH is outside the range of 6.0 to 9.0 s.u. shall not exceed 446 minutes in any calendar month;
- No individual pH excursion outside the range of 6.0 to 9.0 s.u. shall exceed 60 minutes in duration;
- No individual pH excursion shall be outside the range of 4.0 to 11.0 s.u.; and
- On a daily basis, the permittee shall report the minimum and maximum pH, the total time that the pH is outside the range of 6.0 to 9.0 s.u. and the number of pH excursions outside the range of 6.0 to 9.0 that exceed 60 minutes in duration.

Note: The permittee is granted an alternative pH limit of 0.5 s.u. above the pH of the intake water reported at Sampling Point 701 when the influent pH exceeds the effluent limit. An increase of 0.5 s.u. is allowable in accordance with s. NR 102.04 (4) (c), Wis. Adm. Code.

3.2.1.9 Additives

The permittee shall maintain a record of the dosage rate of all additives used on a monthly basis. The additives may be changed during the term of the permit following procedures in the 'Additives' subsection of the Standard Requirements.

3.2.1.10 Halogen, Total Residual as Chlorine

Acceptable test methods for determining Halogens, Total Residual as Cl2 are the same as those for measuring Chlorine, Total Residual. These methods are listed for Chlorine, Total Residual in chapter NR 219, Table B, Wisconsin Administrative Code. The preferred test methods are the Spectrophotometric, DPD; the Electrode; and the Back Titration with amperometric endpoint.

3.2.1.11 PFOS/PFOA Sampling and Reporting Requirements

For grab samples, as defined per s. NR 218.04(10), Wis. Adm. Code, a single sample at a location as defined by the sample point description shall be taken. If extra equipment besides the sample bottle is used to collect the sample, it is recommended that a one-time equipment blank is collected with the first sample. An equipment blank would be collected by passing laboratory-verified PFAS-free water over or through field sampling equipment before the collection of a grab sample to evaluate potential contamination from the equipment used during sample.

If any equipment blanks are performed, these results shall be reported in the comments section of the eDMR and shall also documented in the reports submitted as part of the PFOS/PFOA Minimization Plan Determination of Need schedule of the permit.

3.2.1.12 PFOS/PFOA Minimization Plan Determination of Need

The permittee shall monitor PFOS and PFOA as specified in the table above and report on the effluent concentrations including trends in monthly and annual average PFOS and PFOA concentrations as specified in the PFOS/PFOA Minimization Plan Determination of Need Schedule.

If, after reviewing the data, the Department determines that a minimization plan for PFOS and PFOA is necessary based on the procedures in s. NR 106.98(4), Wis. Adm. Code, the department will notify the permittee in writing that a PFOS and PFOA minimization plan that satisfies the requirements in s. NR 106.99, Wis. Adm. Code, is required. The permittee shall submit an initial plan for department approval no later than 90 days after written notification was sent from the department in accordance with s. NR 106.985(2)(a), Wis. Adm. Code. Pursuant to s. NR 106.985(2)(b),

Wis. Adm. Code, as soon as possible after department approval of the PFOS and PFOA minimization plan, the department will modify or revoke and reissue the permit in accordance with public notice procedures under ch. 283, Wis. Stats., and ch. NR 203, Wis. Adm. Code, to include the PFOS and PFOA minimization plan and other related terms and conditions.

If, however, the Department determines that a PFOS and PFOA minimization plan is unnecessary based on the procedures in s. NR 106.98(4), Wis. Adm. Code, the Department shall notify the permittee that no further action is required. Per s. NR 106.98(3)(a), Wis. Adm. Code, the department may reduce monitoring frequency to once every 3 months (quarterly) on a case-by-case basis, but only after at least 12 representative results have been generated. If the permittee requests a reduction in monitoring and the department agrees a reduction would be appropriate, the permit may be modified in accordance with public notice procedures under ch. 283, Wis. Stats., and ch. NR 203, Wis. Adm. Code, to incorporate this change.

3.2.1.13 Whole Effluent Toxicity (WET) Testing

Primary Control Water: Wisconsin River upstream and out of the influence of the mixing zone and any other known discharge.

Instream Waste Concentration (IWC): 4%

Acute Mixing Zone Concentration: N/A

Dilution series: At least five effluent concentrations and dual controls must be included in each test.

Acute: 100, 50, 25, 12.5, 6.25% and any additional selected by the permittee.

WET Testing Frequency:

Acute tests are required during the following quarters:

Acute: Rotating quarters. April 1st – June 30th, 2023; July 1st – September 30th, 2024; October 1st – December 31st, 2025; January 1st – March 31st, 2026; April 1st – June 30th, 2027.

Acute WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the last full calendar year of this permit. For example, the next test would be required on April 1^{st} – June 30^{th} , 2028.

Testing: WET testing shall be performed during normal operating conditions. Permittees are not allowed to turn off or otherwise modify treatment systems, production processes, or change other operating or treatment conditions during WET tests.

Reporting: The permittee shall report test results on the Discharge Monitoring Report form, and also complete the "Whole Effluent Toxicity Test Report Form" (Section 6, "State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition"), for each test. The original, complete, signed version of the Whole Effluent Toxicity Test Report Form shall be sent to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., P.O. Box 7921, Madison, WI 53707-7921, within 45 days of test completion. The Discharge Monitoring Report (DMR) form shall be submitted electronically by the required deadline.

Determination of Positive Results: An acute toxicity test shall be considered positive if the Toxic Unit - Acute (TU_a) is greater than 1.0 for either species. The TU_a shall be calculated as follows: $TU_a = 100 \div LC_{50}$.

Additional Testing Requirements: Within 90 days of a test which showed positive results, the permittee shall submit the results of at least 2 retests to the Biomonitoring Coordinator on "Whole Effluent Toxicity Test Report Forms". The 90-day reporting period shall begin the day after the test which showed a positive result. The retests shall be completed using the same species and test methods specified for the original test (see the Standard Requirements section herein).

4 Schedules

4.1 Mercury Pollutant Minimization Program

As a condition of the variance to the water quality based effluent limitation(s) for mercury granted in accordance with s. NR 106.145(6), Wis. Adm. Code, the permittee shall perform the following actions.

Required Action	Due Date
Annual Mercury Progress Reports: Submit an annual mercury progress report related to the pollutant minimization activities for the previous year. The annual mercury progress report shall:	01/31/2024
Indicate which mercury pollutant minimization activities or activities outlined in the Pollutant Minimization Program Plan have been implemented and state which, if any, activities from the Pollutant Minimization Program Plan were not pursued and why;	
Include an assessment of whether each implemented pollutant minimization activity appears to be effective or ineffective at reducing pollutant discharge concentrations and identify actions planned for the upcoming year;	
Identification of barriers that have limited program effectiveness and adjustments to the program that will be implemented during the next year to help address these barriers;	
Include an analysis of trends in total effluent mercury concentrations based on mercury sampling; and	
Include an analysis of how influent and effluent mercury varies with time and with significant loading of mercury.	
The first annual mercury progress report is to be submitted by the Due Date.	
Annual Mercury Progress Report #2: Submit a mercury progress report, related to the pollutant minimization activities for the previous year, as defined above.	01/31/2025
Annual Mercury Progress Report #3: Submit a mercury progress report, related to the pollutant minimization activities for the previous year, as defined above.	01/31/2026
Annual Mercury Progress Report #4: Submit a mercury progress report, related to the pollutant minimization activities for the previous year, as defined above.	01/31/2027
Final Mercury Report: Submit a final report documenting the success in reducing mercury concentrations in the effluent, as well as the anticipated future reduction in mercury sources and mercury effluent concentrations.	01/31/2028
The report shall:	
Summarize mercury pollutant minimization activities that have been implemented during the current permit term and state which, if any, activities from the Pollutant Minimization Program Plan were not pursued and why;	
Include an assessment of which pollutant minimization activities appear to have been effective or ineffective. Evaluate any needed changes to the pollutant reduction strategy accordingly;	
Identification of barriers that have limited program effectiveness and adjustments to the program that will be implemented during the next variance term (if applicable) to help address these barriers;	
Include an analysis of trends in mercury concentrations based on sampling and data during the current permit term; and	
Include an analysis of how influent and effluent mercury varies with time and with significant	

loadings of mercury.

If the permittee intends to reapply for a mercury variance per s. NR 106.145, Wis. Adm. Code, for the reissued permit, a detailed Pollutant Minimization Program Plan outlining the pollutant minimization activities proposed for the upcoming permit term shall be submitted along with the final report. An updated pollutant minimization plan shall:

Include an explanation of why or how each pollutant minimization activity will result in reduced discharge of the target pollutant;

Evaluate any new available information on pollutant sources, timing, and concentration to update the mass balance assumptions and expected sources of the pollutant, and

Identify any information needs that would help to better determine pollutant sources and make plans to collect that information.

Annual Mercury Reports After Permit Expiration: In the event that this permit is not reissued by the date the permit expires, the permittee shall continue to submit annual mercury reports for the previous year following the due date of Annual Mercury Progress Reports listed above. Annual Mercury Progress reports shall include the information as defined above.

4.2 Water Intake Requirements

The permittee shall submit annual certification statements as specified by Section 1.3.3.1, Annual Certification Statement and Report, in accordance with the following schedule.

Required Action	Due Date
Annual Certification Statements and Reports: Submit an annual certification statement and report on the water intake structures. The annual certification shall include a summary of maintence and operation of water intake structure technologies, a summary of visual or remote inspections conducted, and a summary of any substantial modifications to the the operation of any units that will impact cooling water withdrawls or operation of the water intake structure.	01/31/2024
The first annual certification statement and report is to be submitted by the Due Date.	
Annual Certification Statement #2: Submit a second annual certification statement as defined above.	01/31/2025
Annual Certification Statement #3: Submit a third annual certification statement as defined above.	01/31/2026
Annual Certification Statement #4: Submit a fourth annual certification statement as defined above.	01/31/2027
Annual Certification Statement #5: Submit a fifth annual certification statement as defined above.	01/31/2028
Annual Certification Statements After Expiration: In the event that this permit is not reissued on time, the permittee shall continue to submit annual certification statements each year by the date specified in Section 1.3.3.1.	

4.3 Intake Structure Required Updates

To comply with code and meet cooling water intake structure BTA, the following updates are required.

Required Action	Due Date
Submit Plans and Sepcifications for Review : Create a plan to meet the requirement for impingement mortality standard established in s. NR 111.12, Wis. Adm. Code. Submit this plan to the Department.	04/01/2024
Modifications to Meet BTA: the permittee shall complete intake structure modifications as approved by the Department to meet requirement for impingement mortality standard established in s. NR 111.12, Wis. Adm. Code.	04/01/2025

4.4 PFOS/PFOA Minimization Plan Determination of Need

The permittee shall submit a PFOS/PFOA Minimization Plan Determination of Need report as specified by Section 3.2.1.12, in accordance with the following schedule.

Required Action	Due Date
Report on Effluent Discharge: Submit a report on effluent PFOS and PFOA concentrations and include an analysis of trends in monthly and annual average PFOS and PFOA concentrations. This analysis should also include a comparison to the applicable narrative standard in s. NR 102.04(8)(d), Wis. Adm. Code.	04/01/2024
This report shall include all PFOS and PFOA data collected including any voluntary influent, intake, in-plant, collection system sampling, and blank sample results.	
Report on Effluent Discharge and Evaluation of Need: Submit a final report on effluent PFOS and PFOA concentrations and include an analysis of trends in monthly and annual average PFOS and PFOA concentrations of data collected over the last 24 months. The report shall also provide a comparison on the likelihood of the facility needing to develop a PFOS/PFOA minimization plan.	04/01/2025
This report shall include all PFOS and PFOA data collected including any voluntary influent, intake, in-plant, collection system sampling, and blank sample results.	
The permittee shall also submit a request to the department to evaluate the need for a PFOS/PFOA minimization plan.	
If the department determines a PFOS/PFOA minimization plan is needed based on a reasonable potential evaluation, the permittee will be required to develop a minimization plan for department approval no later than 90 days after written notification was sent from the department. The department will modify or revoke and reissue the permit to include PFOS/PFOA minimization plan reporting requirements along with a schedule of compliance to meet WQBELs. Effluent monitoring of PFOS and PFOA shall continue as specified in the permit until the modified permit is issued.	
If, however, the department determines there is no reasonable potential for the facility to discharge PFOS or PFOA above the narrative standard in s. NR 102.04(8)(d), Wis. Adm. Code, no further action is required and effluent monitoring of PFOS and PFOA shall continue as specified in the permit.	

4.5 Phosphorus Refrigerated Sampler

The permittee shall preserve aqueous Phosphorus samples at ≤6 °C pursuant s. NR 219.04 Wis. Adm. Code.

Required Action	Due Date
Status Report on Acquisition of Refrigerated Sampler: Submit an update regarding the acquisition	04/01/2024
of the refrigerated sampler and expected timeline for installation.	

WPDES Permit No. WI-0003565-09-1 ERCO Worldwide (USA) Inc

Phosphorus Refrigerated Sampler : Refrigerated sampler shall be installed to preserve aqueous	04/01/2025
Phosphorus samples at =6 $^{\circ}$ C.	

4.6 Temperature Monitoring

For monitoring temperature continuously, collect measurements in accordance with s. NR 218.04(13).

Required Action	Due Date
Continuous Temperature Monitoring: To accurately report the highest temperature in any given day, a continuous temperature monitoring system shall be installed and set-up in accordance to NR 218.04(13).	04/01/2024

5 Standard Requirements

NR 205, Wisconsin Administrative Code (Conditions for Industrial Dischargers): The conditions in ss. NR 205.07(1) and NR 205.07(3), Wis. Adm. Code, are included by reference in this permit. The permittee shall comply with all of these requirements. Some of these requirements are outlined in the Standard Requirements section of this permit. Requirements not specifically outlined in the Standard Requirement section of this permit can be found in ss. NR 205.07(1) and NR 205.07(3).

5.1 Reporting and Monitoring Requirements

5.1.1 Monitoring Results

Monitoring results obtained during the previous month shall be summarized and reported on a Department Wastewater Discharge Monitoring Report. The report may require reporting of any or all of the information specified below under 'Recording of Results'. This report is to be returned to the Department no later than the date indicated on the form. A copy of the Wastewater Discharge Monitoring Report Form or an electronic file of the report shall be retained by the permittee.

Monitoring results shall be reported on an electronic discharge monitoring report (eDMR). The eDMR shall be certified electronically by a responsible executive or officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

If the permittee monitors any pollutant more frequently than required by this permit, the results of such monitoring shall be included on the Wastewater Discharge Monitoring Report.

The permittee shall comply with all limits for each parameter regardless of monitoring frequency. For example, monthly, weekly, and/or daily limits shall be met even with monthly monitoring. The permittee may monitor more frequently than required for any parameter.

5.1.2 Sampling and Testing Procedures

Sampling and laboratory testing procedures shall be performed in accordance with Chapters NR 218 and NR 219, Wis. Adm. Code and shall be performed by a laboratory certified or registered in accordance with the requirements of ch. NR 149, Wis. Adm. Code. Groundwater sample collection and analysis shall be performed in accordance with ch. NR 140, Wis. Adm. Code. The analytical methodologies used shall enable the laboratory to quantitate all substances for which monitoring is required at levels below the effluent limitation. If the required level cannot be met by any of the methods available in NR 219, Wis. Adm. Code, then the method with the lowest limit of detection shall be selected. Additional test procedures may be specified in this permit.

5.1.3 Recording of Results

The permittee shall maintain records which provide the following information for each effluent measurement or sample taken:

- the date, exact place, method and time of sampling or measurements;
- the individual who performed the sampling or measurements;
- the date the analysis was performed;
- the individual who performed the analysis;
- the analytical techniques or methods used; and
- the results of the analysis.

5.1.4 Reporting of Monitoring Results

The permittee shall use the following conventions when reporting effluent monitoring results:

- Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 0.1 mg/L, report the pollutant concentration as < 0.1 mg/L.
- Pollutant concentrations equal to or greater than the limit of detection, but less than the limit of quantitation, shall be reported and the limit of quantitation shall be specified.
- For purposes of calculating NR 101 fees, the 2 mg/l lower reporting limits for BOD₅ and Total Suspended Solids shall be considered to be limits of quantitation
- For the purposes of reporting a calculated result, average or a mass discharge value, the permittee may substitute a "0" (zero) for any pollutant concentration that is less than the limit of detection. However, if the effluent limitation is less than the limit of detection, the department may substitute a value other than zero for results less than the limit of detection, after considering the number of monitoring results that are greater than the limit of detection and if warranted when applying appropriate statistical techniques.
- If no discharge occurs through an outfall, flow related parameters (e.g. flow rate, hydraulic application rate, volume, etc.) should be reported as "0" (zero) at the required sample frequency specified for the outfall. For example: if the sample frequency is daily, "0" would be reported for any day during the month that no discharge occurred.

5.1.5 Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings or electronic data records for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit for a period of at least 3 years from the date of the sample, measurement, report or application, except for sludge management forms and records, which shall be kept for a period of at least 5 years.

5.1.6 Other Information

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

5.1.7 Reporting Requirements – Alterations or Additions

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

- The alteration or addition to the permitted facility may meet one of the criteria for determining whether a facility is a new source.
- The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification requirement applies to pollutants which are not subject to effluent limitations in the existing permit.
- The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use of disposal sites not

reported during the permit application process nor reported pursuant to an approved land application plan. Additional sites may not be used for the land application of sludge until department approval is received.

5.2 System Operating Requirements

5.2.1 Noncompliance Reporting

The permittee shall report the following types of noncompliance by a telephone call to the Department's regional office within 24 hours after becoming aware of the noncompliance:

- any noncompliance which may endanger health or the environment;
- any violation of an effluent limitation resulting from a bypass;
- any violation of an effluent limitation resulting from an upset; and
- any violation of a maximum discharge limitation for any of the pollutants listed by the Department in the permit, either for effluent or sludge.

A written report describing the noncompliance shall also be submitted to the Department as directed at the end of this permit within 5 days after the permittee becomes aware of the noncompliance. On a case-by-case basis, the Department may waive the requirement for submittal of a written report within 5 days and instruct the permittee to submit the written report with the next regularly scheduled monitoring report. In either case, the written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

A scheduled bypass approved by the Department under the 'Scheduled Bypass' section of this permit shall not be subject to the reporting required under this section.

NOTE: Section 292.11(2)(a), Wisconsin Statutes, requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the Department of Natural Resources **immediately** of any discharge not authorized by the permit. **The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill. To report a hazardous substance spill, call DNR's 24-hour HOTLINE at 1-800-943-0003.**

5.2.2 Bypass

Except for a controlled diversion as provided in the 'Controlled Diversions' section of this permit, any bypass is prohibited and the Department may take enforcement action against a permittee for such occurrences under s. 283.89, Wis. Stats. The Department may approve a bypass if the permittee demonstrates all the following conditions apply:

- The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance. When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, costs and affordability of implementation and risks to public health, the environment and, where the permittee is a municipality, the welfare of the community served; and
- The bypass was reported in accordance with the 'Noncompliance Reporting' section of this permit.

5.2.3 Scheduled Bypass

Whenever the permittee anticipates the need to bypass for purposes of efficient operations and maintenance and the permittee may not meet the conditions for controlled diversions in the 'Controlled Diversions' section of this permit,

the permittee shall obtain prior written approval from the Department for the scheduled bypass. A permittee's written request for Department approval of a scheduled bypass shall demonstrate that the conditions for unscheduled bypassing are met and include the proposed date and reason for the bypass, estimated volume and duration of the bypass, alternatives to bypassing and measures to mitigate environmental harm caused by the bypass. The department may require the permittee to provide public notification for a scheduled bypass if it is determined there is significant public interest in the proposed action and may recommend mitigation measures to minimize the impact of such bypass.

5.2.4 Controlled Diversions

Controlled diversions are allowed only when necessary for essential maintenance to assure efficient operation provided the following requirements are met:

- Effluent from the wastewater treatment facility shall meet the effluent limitations established in the permit. Wastewater that is diverted around a treatment unit or treatment process during a controlled diversion shall be recombined with wastewater that is not diverted prior to the effluent sampling location and prior to effluent discharge;
- A controlled diversion may not occur during periods of excessive flow or other abnormal wastewater characteristics;
- A controlled diversion may not result in a wastewater treatment facility overflow; and
- All instances of controlled diversions shall be documented in wastewater treatment facility records and such records shall be available to the department on request.

5.2.5 Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training as required in ch. NR 114, Wis. Adm. Code, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

5.2.6 Operator Certification

The wastewater treatment facility shall be under the direct supervision of a state certified operator. In accordance with s. NR 114.53, Wis. Adm. Code, every WPDES permitted treatment plant shall have a designated operator-incharge holding a current and valid certificate. The designated operator-in-charge shall be certified at the level and in all subclasses of the treatment plant, except laboratory. Treatment plant owners shall notify the department of any changes in the operator-in-charge within 30 days. Note that s. NR 114.52(22), Wis. Adm. Code, lists types of facilities that are excluded from operator certification requirements (i.e. private sewage systems, pretreatment facilities discharging to public sewers, industrial wastewater treatment that consists solely of land disposal, agricultural digesters and concentrated aquatic production facilities with no biological treatment).

5.2.7 Spill Reporting

The permittee shall notify the Department in accordance with ch. NR 706 (formerly NR 158), Wis. Adm. Code, in the event that a spill or accidental release of any material or substance results in the discharge of pollutants to the waters of the state at a rate or concentration greater than the effluent limitations established in this permit, or the spill or accidental release of the material is unregulated in this permit, unless the spill or release of pollutants has been reported to the Department in accordance with s. NR 205.07 (1)(s), Wis. Adm. Code.

5.2.8 Planned Changes

In accordance with ss. 283.31(4)(b) and 283.59, Stats., the permittee shall report to the Department any facility expansion, production increase or process modifications which will result in new, different or increased discharges of pollutants. The report shall either be a new permit application, or if the new discharge will not violate the effluent limitations of this permit, a written notice of the new, different or increased discharge. The notice shall contain a description of the new activities, an estimate of the new, different or increased discharge of pollutants and a description of the effect of the new or increased discharge on existing waste treatment facilities. Following receipt of this report, the Department may modify this permit to specify and limit any pollutants not previously regulated in the permit.

5.2.9 Duty to Halt or Reduce Activity

Upon failure or impairment of treatment facility operation, the permittee shall, to the extent necessary to maintain compliance with its permit, curtail production or wastewater discharges or both until the treatment facility operations are restored or an alternative method of treatment is provided.

5.3 Surface Water Requirements

5.3.1 Permittee-Determined Limit of Quantitation Incorporated into this Permit

For pollutants with water quality-based effluent limits below the Limit of Quantitation (LOQ) in this permit, the LOQ calculated by the permittee and reported on the Discharge Monitoring Reports (DMRs) is incorporated by reference into this permit. The LOQ shall be reported on the DMRs, shall be the lowest quantifiable level practicable, and shall be no greater than the minimum level (ML) specified in or approved under 40 CFR Part 136 for the pollutant at the time this permit was issued, unless this permit specifies a higher LOQ.

5.3.2 Appropriate Formulas for Effluent Calculations

The permittee shall use the following formulas for calculating effluent results to determine compliance with average concentration limits and mass limits and total load limits:

Weekly/Monthly/Six-Month/Annual Average Concentration = the sum of all daily results for that week/month/sixmonth/year, divided by the number of results during that time period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Weekly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the week.

Monthly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the month.

Six-Month Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the six-month period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Annual Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the entire year.

Total Monthly Discharge: = monthly average concentration (mg/L) x total flow for the month (MG/month) x 8.34.

Total Annual Discharge: = sum of total monthly discharges for the calendar year.

12-Month Rolling Sum of Total Monthly Discharge: = the sum of the most recent 12 consecutive months of Total Monthly Discharges.

5.3.3 Effluent Temperature Requirements

Weekly Average Temperature – If temperature limits are included in this permit, Weekly Average Temperature shall be calculated as the sum of all daily maximum results for that week divided by the number of daily maximum results during that time period.

Cold Shock Standard – Water temperatures of the discharge shall be controlled in a manner as to protect fish and aquatic life uses from the deleterious effects of cold shock pursuant to Wis. Adm. Code, s. NR 102.28. 'Cold Shock' means exposure of aquatic organisms to a rapid decrease in temperature and a sustained exposure to low temperature that induces abnormal behavior or physiological performance and may lead to death.

Rate of Temperature Change Standard – Temperature of a water of the state or discharge to a water of the state may not be artificially raised or lowered at such a rate that it causes detrimental health or reproductive effects to fish or aquatic life of the water of the state pursuant to Wis. Adm. Code, s. NR 102.29.

5.3.4 Visible Foam or Floating Solids

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

5.3.5 Surface Water Uses and Criteria

In accordance with NR 102.04, Wis. Adm. Code, surface water uses and criteria are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all surface waters including the mixing zone meet the following conditions at all times and under all flow and water level conditions:

- a) Substances that will cause objectionable deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.
- b) Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in waters of the state.
- c) Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.
- d) Substances in concentrations or in combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

5.3.6 Compliance with Phosphorus Limitation

Compliance with the concentration limitation for phosphorus shall be determined as a rolling twelve-month average and shall be calculated as follows:

First, determine the pounds of phosphorus for an individual month by multiplying the average of all the concentration values for phosphorus (in mg/L) for that month by the total flow for the month in Million Gallons times the conversion factor of 8.34.

Then, the monthly pounds of phosphorus determined in this manner shall be summed for the most recent 12 months and inserted into the numerator of the following equation.

Average concentration of P in mg/L = Total lbs of P discharged (most recent 12 months)

Total flow in MG (most recent 12 months) X 8.34

The compliance calculation shall be performed each month with a reported discharge volume after substituting data from the most recent month(s) for the oldest month(s). A calculated value in excess of the concentration limitation will be considered equivalent to a violation of a monthly average.

5.3.7 Additives

In the event that the permittee wishes to commence use of a water treatment additive, or increase the usage of the additives greater than indicated in the permit application, the permittee must get a written approval from the Department prior to initiating such changes. This written approval shall provide authority to utilize the additives at the specific rates until the permit can be either reissued or modified in accordance with s. 283.53, Stats. Restrictions on the use of the additives may be included in the authorization letter.

5.3.8 PFOS and PFOA Requirements

The laboratory performing the analysis on any samples shall be certified for the applicable PFAS compounds in the aqueous matrix by the Wisconsin Laboratory Certification Program established under s. 299.11, Wis. Stats., in accordance with s. NR 149.41, Wis. Adm. Code. If the EPA Office of Water publishes a 1600 series isotope dilution method for the analysis of PFAS in wastewater, the department recommends the use of the EPA method.

The department may reject any sample results if results are produced by a laboratory that is not in compliance with certification requirements under ch. NR 149, Wis. Adm. Code.

5.3.9 Whole Effluent Toxicity (WET) Monitoring Requirements

In order to determine the potential impact of the discharge on aquatic organisms, static-renewal toxicity tests shall be performed on the effluent in accordance with the procedures specified in the "State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition" (PUB-WT-797, November 2004) as required by NR 219.04, Table A, Wis. Adm. Code). All of the WET tests required in this permit, including any required retests, shall be conducted on the Ceriodaphnia dubia and fathead minnow species. Receiving water samples shall not be collected from any point in contact with the permittee's mixing zone and every attempt shall be made to avoid contact with any other discharge's mixing zone.

5.3.10 Whole Effluent Toxicity (WET) Identification and Reduction

Within 60 days of a retest which showed positive results, the permittee shall submit a written report to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., PO Box 7921, Madison, WI 53707-7921, which details the following:

- A description of actions the permittee has taken or will take to remove toxicity and to prevent the recurrence of toxicity;
- A description of toxicity reduction evaluation (TRE) investigations that have been or will be done to identify potential sources of toxicity, including the following actions:
 - (a) Evaluate the performance of the treatment system to identify deficiencies contributing to effluent toxicity (e.g., operational problems, chemical additives, incomplete treatment)
 - (b) Identify the compound(s) causing toxicity. Conduct toxicity screening tests on the effluent at a minimum of once per month for six months to determine if toxicity recurs. Screening tests are WET tests using fewer effluent concentrations conducted on the most sensitive species. If any of the screening tests contain toxicity, conduct a toxicity identification evaluation (TIE) to determine the cause. TIE methods are available from USEPA "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).

- (c) Trace the compound(s) causing toxicity to their sources (e.g., industrial, commercial, domestic)
- (d) Evaluate, select, and implement methods or technologies to control effluent toxicity (e.g., in-plant or pretreatment controls, source reduction or removal)
- Where corrective actions including a TRE have not been completed, an expeditious schedule under which corrective actions will be implemented;
- If no actions have been taken, the reason for not taking action.

The permittee may also request approval from the Department to postpone additional retests in order to investigate the source(s) of toxicity. Postponed retests must be completed after toxicity is believed to have been removed.

5.3.11 Reopener Clause

Pursuant to s. 283.15(11), Wis. Stat. and 40 CFR 131.20, the Department may modify or revoke and reissue this permit if, through the triennial standard review process, the Department determines that the terms and conditions of this permit need to be updated to reflect the highest attainable condition of the receiving water.

6 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Mercury Pollutant Minimization Program -Annual Mercury Progress Reports	January 31, 2024	15
Mercury Pollutant Minimization Program -Annual Mercury Progress Report #2	January 31, 2025	15
Mercury Pollutant Minimization Program -Annual Mercury Progress Report #3	January 31, 2026	15
Mercury Pollutant Minimization Program -Annual Mercury Progress Report #4	January 31, 2027	15
Mercury Pollutant Minimization Program -Final Mercury Report	January 31, 2028	15
Mercury Pollutant Minimization Program -Annual Mercury Reports After Permit Expiration	See Permit	16
Water Intake Requirements -Annual Certification Statements and Reports	January 31, 2024	16
Water Intake Requirements - Annual Certification Statement #2	January 31, 2025	16
Water Intake Requirements - Annual Certification Statement #3	January 31, 2026	16
Water Intake Requirements - Annual Certification Statement #4	January 31, 2027	16
Water Intake Requirements - Annual Certification Statement #5	January 31, 2028	16
Water Intake Requirements -Annual Certification Statements After Expiration	See Permit	16
Intake Structure Required Updates -Submit Plans and Sepcifications for Review	April 1, 2024	17
Intake Structure Required Updates -Modifications to Meet BTA	April 1, 2025	17
PFOS/PFOA Minimization Plan Determination of Need -Report on Effluent Discharge	April 1, 2024	17
PFOS/PFOA Minimization Plan Determination of Need -Report on Effluent Discharge and Evaluation of Need	April 1, 2025	17
Phosphorus Refrigerated Sampler -Status Report on Acquisition of Refrigerated Sampler	April 1, 2024	17
Phosphorus Refrigerated Sampler -Phosphorus Refrigerated Sampler	April 1, 2025	18
Temperature Monitoring -Continuous Temperature Monitoring	April 1, 2024	18
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	19

Report forms shall be submitted electronically in accordance with the reporting requirements herein. Any facility plans or plans and specifications for municipal, industrial, industrial pretreatment and non industrial wastewater systems shall be submitted to the Bureau of Water Quality, P.O. Box 7921, Madison, WI 53707-7921. All <u>other</u> submittals required by this permit shall be submitted to:

West Central Region-WI Rapids, 473 Griffith Avenue, Wisconsin Rapids, WI 54494-7859