

Permit Fact Sheet

General Information

Permit Number:	WI-0000914-08-2
Permittee Name:	Wisconsin Electric Power Co Oak Cr Plnt Elm R
Address:	11060 S. Chicago Road
City/State/Zip:	Oak Creek WI 53201
Discharge Location:	Lake Michigan shoreline near Oak Creek, Wisconsin
Receiving Water:	Lake Michigan
StreamFlow (Q _{7,10}):	NA
Stream Classification:	<p>The designated uses that apply to Lake Michigan are in ch. NR 102, WATER QUALITY STANDARDS FOR WISCONSIN SURFACE WATERS, Wis. Adm. Code, are as follows. These uses have specific water quality criteria associated with them in administrative code.</p> <ul style="list-style-type: none"> • Fish and aquatic life—cold water community: s. NR 102.04(3)(a), Wis. Adm. Code • Recreational use: s. NR 102.04, Wis. Adm. Code • Public health and welfare: s. NR 102.04(7), Wis. Adm. Code • Wildlife: s. NR 102.04(9), Wis. Adm. Code <p>Related to the discussion of designated uses for Lake Michigan, ch. NR 104, USES AND DESIGNATED STANDARDS, Subchapter II — Interstate Waters, Wis. Adm. Code, lists additional uses for Lake Michigan; THESE ARE NOT DESIGNATED USES. Although these are not designated uses, the rule in s. NR 104.25, Wis. Adm. Code, specifies certain water quality criteria for Lake Michigan: All Lake Michigan waters shall meet the standards for public water supplies and the standards for recreational use and fish and aquatic life, in addition to the thermal criteria contained in s. NR 102.04.</p>

Facility Description

The facility comprises the Oak Creek Power Plant (OCPP, four subcritical pulverized coal-fired generating units) and Elm Road Generating Station (ERGS, two supercritical pulverized coal-fired generating units). It is operated by Wisconsin Electric Power Company (d/b/a We Energies, hereafter “WE”). For a more detailed description of the facility and its outfalls, please see the fact sheet for the permit version 0000914-08-0.

Changes in this modification are highlighted in **gray**.

Purpose of Modification

The purpose of this permit modification is to comply with the requirements of the schedule for compliance with the federal ELG for FGD wastewater.

Sample Point Designation

Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, Waste Type/sample Contents and Treatment Description (as applicable)
901		Offshore wedgewire screen system.
902		Emergency Intake: Intake structure at the intake channel used when intake is inoperable or anticipated inoperable due to clogging by frazil ice or other debris or for essential maintenance.
001		Alternative cooling water outfall for Unit 5 (outfall 003) and to recirculate effluent from Units 5-7 (outfalls 003, 004 and 005) back into the water intake channel to prevent ice.
003		Unit 5 condenser noncontact once through cooling water, equipment heat exchangers using noncontact once through cooling water, boiler water surge tank, drip tank, fire protection system drains, bottom ash hydrovactor water discharges, fly ash hydrovactor water dischargers (back-up system), boiler blowdown (alternate route), and storm water from plant roof drains.
004		Unit 6 condenser noncontact once through cooling water, equipment heat exchangers using noncontact once through cooling water, boiler water surge tank, drip tank, fire protection system drains, bottom ash hydrovactor water discharges, fly ash hydrovactor water dischargers (back-up system), and storm water from plant roof drains.
005		Unit 7 condenser noncontact once through cooling water, plus other process flows equipment heat exchangers using noncontact once through cooling water, fire protection system drains and storm water from plant roof drains.
006		Unit 8 condenser noncontact once through cooling water, equipment heat exchangers using noncontact once through cooling water, WPDES pump station emergency overflow, fire protection system drains and storm water from plant roof drains.
007		Oak Creek wastewater treatment system effluent. Treated process wastewater includes low volume waste sources, bottom ash transport water, coal pile runoff, limestone & gypsum area runoff, nonchemical metal cleaning wastes, former north plant area drainage, equipment heat exchangers using noncontact once through cooling water, Unit 7&8 surge tank drain and overflow, storm water runoff and landfill leachate
008		Storm water runoff from: open lands (no exposure) west of ERGS; and coal pile runoff basin emergency spillway overflow.
010		Coal dock pump station emergency overflow.
012		Water intake traveling screen backwash.
013		ERGS Unit 1 and Unit 2 condenser noncontact once through cooling water, discharge of treated wastewater from ERGS WWTP (sample points 107 and 110), discharges from water treatment

Sample Point Designation		
Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, Waste Type/sample Contents and Treatment Description (as applicable)
		equipment and boiler blowdown (sample points 108 and 109), equipment heat exchangers using noncontact once through cooling water and fire protection system drains.
014		Storm water runoff from coal pile and materials handling area
015		Stormwater runoff from limestone and gypsum storage areas
907		Sum of mass for 107, 108, 109, 110, and 007
105		Generator Unit 5 bottom ash and fly ash hydrovactor effluent which discharges from Outfall 003.
106		Generator Unit 6 bottom ash and fly ash hydrovactor effluent which discharges from Outfall 004.
107		FGD wastewater treatment system effluent prior to combining with any other waste stream.
108		Discharge from the ERGS demineralizer regeneration waste line prior to combining with any other waste stream.
109		ERGS Unit 1 boiler blowdown and/or ERGS Unit 2 boiler blowdown and/or ERGS water treatment ultrafiltration reject/backwash and RO first pass.
110		ERGS site wastewater treatment system effluent prior to combining with any other waste stream including FGD wastewater. Flows to the WWTP include low volume waste sources, nonchemical metal cleaning wastes, coal pile runoff, and limestone & gypsum area runoff.
171		Coal pile runoff that enters the OCPP WWTP or the ERGS WWTP
603		Generator Unit 5 fly ash and bottom ash hydrovactor influent. Intake water sample used to determine the net discharge of pollutants from Outfall 003
604		Generator Unit 6 fly ash and bottom ash hydrovactor influent. Intake water sample used to determine the net discharge of pollutants from Outfall 004.
605		Background monitoring for temperature.
606		Background monitoring for mercury and arsenic

1 Influent – Cooling Water Intake Structure - Proposed Monitoring

Sample Point Number: 901- Intake Structure

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

Changes from Previous Permit

No changes from previous permit

Sample Point Number: 902- Emergency Intake

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Per Occurrence	Estimated	

Changes from Previous Permit

No changes from previous permit

2 Inplant - Proposed Monitoring and Limitations

Sample Point Number: 105- 003 UNIT 5 BAH and FAH

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	2/Month	Total Daily	
Suspended Solids, Total		mg/L	2/Month	24-Hr Flow Prop Comp	
Suspended Solids (Net)	Daily Max	100 mg/L	2/Month	Calculated	
Suspended Solids (Net)	Monthly Avg	30 mg/L	2/Month	Calculated	

Changes from Previous Permit:

No changes from previous permit

Sample Point Number: 106- 004 UNIT 6 BAH and FAH

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	2/Month	Total Daily	
Suspended Solids, Total		mg/L	2/Month	24-Hr Flow Prop Comp	
Suspended Solids (Net)	Daily Max	100 mg/L	2/Month	Calculated	
Suspended Solids (Net)	Monthly Avg	30 mg/L	2/Month	Calculated	

Changes from Previous Permit:

No changes from previous permit

Sample Point Number: 107- FGD Wastewater

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Total Daily	
Arsenic, Total Recoverable	Daily Max	11 ug/L	Weekly	24-Hr Flow Prop Comp	This limit expires on 12/14/2023
Arsenic, Total Recoverable	Daily Max	18 ug/L	Weekly	24-Hr Flow Prop Comp	This limit becomes effective on 12/14/2023.
Arsenic, Total Recoverable	Monthly Avg	8.0 ug/L	Weekly	24-Hr Flow Prop Comp	
Mercury, Total Recoverable	Daily Max	0.103 ug/L	Weekly	Grab	This limit becomes effective on 12/14/2023.
Mercury, Total Recoverable	Daily Max	0.788 ug/L	Weekly	Grab	This limit expires on 12/14/2023
Mercury, Total Recoverable	Monthly Avg	0.356 ug/L	Weekly	Grab	This limit expires on 12/14/2023
Mercury, Total Recoverable	Monthly Avg	0.034 ug/L	Weekly	Grab	This limit becomes effective on 12/14/2023.
Suspended Solids, Total	Daily Max	100 mg/L	Weekly	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	30 mg/L	Weekly	24-Hr Flow Prop Comp	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Suspended Solids, Total		lbs/day	Weekly	Calculated	
Oil & Grease (Hexane)	Daily Max	20 mg/L	Weekly	Grab	
Oil & Grease (Hexane)	Monthly Avg	15 mg/L	Weekly	Grab	
Oil & Grease (Hexane)		lbs/day	Weekly	Calculated	
Nitrogen, Nitrite + Nitrate Total	Daily Max	4 mg/L	Weekly	Grab	This limit becomes effective on 12/14/2023.
Nitrogen, Nitrite + Nitrate Total	Monthly Avg	3 mg/L	Weekly	Grab	This limit becomes effective on 12/14/2023.
Selenium, Total Recoverable	Daily Max	70 ug/L	Weekly	Grab	This limit becomes effective on 12/14/2023.
Selenium, Total Recoverable	Monthly Avg	29 ug/L	Weekly	Grab	This limit becomes effective on 12/14/2023.

Changes from Previous Permit:

Sample Point: Description and sample point name changed

Arsenic: Daily max limit changed from 11 ug/L on 12/14/2023

Mercury: Daily max limit changed from 0.788 ug/L and monthly avg limit changed from 0.356 ug/L on 12/14/2023

Nitrogen, Nitrite + Nitrate and Selenium: Limits added

Explanation of Limits and Monitoring Requirements

Sample Point:

Technology based limitations for steam electric power generating are federally regulated under 40 CFR Part 423 and state regulated under ch. NR 290, Wis. Adm. Code. Chapter NR 290, Wis. Adm. Code, was last updated in 1986 and does not contain the 2015 or 2020 federal amendments. Section NR 220.13, Wis. Adm. Code, gives the department authority to incorporate updated federal effluent guidelines in an issued, reissued or modified WPDES permit.

Section 4.1 of this permit provides a compliance schedule for complying with the federal ELG for FGD wastewater. As part of complying with the federal ELG for FGD wastewater the permittee must meet all limits provided at 40 CFR 423.12(b)(11), 40 CFR 423.13(g)(1)(i), 40 CFR 423.15(a)(3). The permittee has requested to separate the FGD wastewater from all other waste streams in order to comply with the updated limits. Due to the separation of FGD wastewater from the ERGS process wastewater the sample point name and description have been revised to indicate the separation of these waste streams and to provide information on where samples must be taken.

Arsenic:

As part of complying with the federal ELG for FGD wastewater the daily maximum limit for arsenic has been changed to that provided at 40 CFR 423.13(g)(1)(i). This new limit becomes effective on 12/14/2023.

The antibacksliding requirements at ss. NR 207.12(1)(a), (1)(b), (4)(a), and (4)(b), Wis. Adm. Code, must be met in order to change the daily maximum arsenic limit from 11 to 18 ug/L. The requirement provided at s. NR 207.12(1)(a), Wis. Adm. Code, is satisfied due to this new limit being the limit provided in the federal ELGs. The requirement provided at s. NR 207.12(1)(b), Wis. Adm. Code, is satisfied due to this sample point not being an outfall and due to the limits at the outfall not changing. The antidegradation analysis is provided in the next paragraph. The requirement provided at s. NR 207.12(4)(a), Wis. Adm. Code, is satisfied due to the waste stream that was previously sampled at sample point 107 being split into two waste streams that are now sampled at sample point 107 and sample point 110. This permit modification is being made due to the facility satisfying the cause for modification that is provided at s. NR 203.136(1)(a), Wis. Adm. Code, and thus s. NR 207(4)(b), Wis. Adm. Code has been satisfied.

The antidegradation requirements are satisfied for this change due to this sample point not being an outfall and the limits at the outfall not changing.

Mercury:

As part of complying with the federal ELG for FGD wastewater the limits for mercury have been changed to those provided at 40 CFR 423.13(g)(1)(i).

Nitrogen, Nitrite + Nitrate and Selenium:

As part of complying with the federal ELG for FGD wastewater the limits for nitrate/nitrite as N and selenium were added in accordance with 40 CFR 423.13(g)(1)(i) Table 5.

Sample Point Number: 108- ERGS Demin. Regen. WW

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Total Daily	
Mercury, Total Recoverable		ng/L	Quarterly	Grab	
Suspended Solids, Total	Daily Max	100 mg/L	Weekly	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	30 mg/L	Weekly	24-Hr Flow Prop Comp	
Suspended Solids, Total		lbs/day	Weekly	Calculated	
Oil & Grease (Hexane)	Daily Max	20 mg/L	Weekly	Grab	
Oil & Grease (Hexane)	Monthly Avg	15 mg/L	Weekly	Grab	
Oil & Grease (Hexane)		lbs/day	Weekly	Calculated	

Changes from Previous Permit:

No changes from previous permit

Sample Point Number: 109- ERGS Blowdown, Water Treatment

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	2/Month	Total Daily	
Suspended Solids, Total	Daily Max	100 mg/L	2/Month	Grab	
Suspended Solids, Total	Monthly Avg	30 mg/L	2/Month	Grab	
Suspended Solids, Total		lbs/day	2/Month	Calculated	
Oil & Grease (Hexane)	Daily Max	20 mg/L	Annual	Grab	
Oil & Grease (Hexane)	Monthly Avg	15 mg/L	Annual	Grab	
Oil & Grease (Hexane)		lbs/day	Annual	Calculated	

Changes from Previous Permit:

No changes from previous permit

Sample Point Number: 110- ERGS Treated Process WW

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Total Daily	
Mercury, Total Recoverable		ug/L	Weekly	Grab	
Suspended Solids, Total		100 mg/L	Weekly	24-Hr Flow Prop Comp	
Suspended Solids, Total		30 mg/L	Weekly	24-Hr Flow Prop Comp	
Suspended Solids, Total		lbs/day	Weekly	Calculated	
Arsenic, Total Recoverable		ug/L	Weekly	24-Hr Flow Prop Comp	
Oil & Grease (Hexane)	Daily Max	20 mg/L	Weekly	Grab	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Oil & Grease (Hexane)	Monthly Avg	15 mg/L	Weekly	Grab	
Oil & Grease (Hexane)		lbs/day	Weekly	Calculated	

Changes from Previous Permit:

Sample Point: Sample point created

Explanation of Limits and Monitoring Requirements

Sample Point:

This sample point has been created due to FGD wastewater needing to be sampled prior to combining with other waste streams. For more information on why these waste streams were separated see the explanation under sample point 107 above.

Mercury and Arsenic:

In the current permit, (0000914-08-1), the waste streams proposed to be sampled at sample points 107 and 110 in this permit are commingled at sample point 107. The limits for mercury and arsenic that were previously included at sample point 107 do not apply for this sample point. Because these limit previously did apply to the combined waste stream, the department is required to demonstrate that antibacksliding and antidegradation requirements have been met. This determination is provided in the following two paragraphs.

In order to comply with the antibacksliding requirements the requirements at ss. NR 207.12(1)(a), (1)(b), (4)(a), and (4)(b), Wis. Adm. Code, must be met. The requirement provided at NR 207.12(1)(a), Wis. Adm. Code, is satisfied due to there being no mercury or arsenic limits provided in the federal ELGs for the types of wastewater that are being sampled at this sample point. The requirement provided at NR 207.12(1)(b), Wis. Adm. Code, is satisfied due to this sample point not being an outfall and due to the limits at the outfall not changing. The antidegradation analysis is provided in the next paragraph. The requirement provided at NR 207.12(4)(a), Wis. Adm. Code, is satisfied due to the waste stream that was previously sampled at sample point 107 being split into two waste streams that are now sampled at sample point 107 and sample point 110. This permit modification is being made due to the facility satisfying the cause for modification that is provided at s. NR 203.136(1)(a), Wis. Adm. Code, and thus s. NR 207(4)(b), Wis. Adm. Code has been satisfied.

The antidegradation requirements are satisfied for this change due to this sample point not being an outfall and the limits at the outfall not changing.

Sample Point Number: 171- Coal Pile Runoff to Treatment

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

Changes from Previous Permit:

No changes from previous permit

3 Surface Water - Proposed Monitoring and Limitations

Sample Point Number: 001- OCPP DEICING LINE

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

Changes from Previous Permit

No changes from previous permit

Sample Point Number: 003- UNIT 5 OCPP CONDENSER/OTHER

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Calculated	
pH Field	Daily Max	9.0 su	Weekly	Grab	
pH Field	Daily Min	6.0 su	Weekly	Grab	
Temperature Average		deg F	Daily	Continuous	
Temperature Maximum		deg F	Daily	Continuous	
Heat	Daily Avg	1,500 MBTU/hr	Daily	Calculated	
Mercury, Total Recoverable		ng/L	Quarterly	Grab	
Acute WET		TU _a	See Listed Qtr(s)	24-Hr Comp	Sample once during the permit term. See WET section 3.2.2.2
Chronic WET		TU _c	See Listed Qtr(s)	24-Hr Comp	Sample once during the permit term. See WET section 3.2.2.2
Phosphorus, Total	Monthly Avg	0.2 mg/L	Monthly	24-Hr Flow Prop Comp	

Changes from Previous Permit

No changes from previous permit

Sample Point Number: 004- UNIT 6 OCPP CONDENSER/OTHER

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Calculated	
pH Field	Daily Max	9.0 su	Weekly	Grab	
pH Field	Daily Min	6.0 su	Weekly	Grab	
Temperature Average		deg F	Daily	Continuous	
Temperature Maximum		deg F	Daily	Continuous	
Heat	Daily Avg	1,500 MBTU/hr	Daily	Calculated	
Mercury, Total Recoverable		ng/L	Quarterly	Grab	
Acute WET		TU _a	See Listed Qtr(s)	24-Hr Comp	Sample once during the permit term. See WET section 3.2.3.2
Chronic WET		TU _c	See Listed Qtr(s)	24-Hr Comp	Sample once during the permit term. See WET section 3.2.3.2
Phosphorus, Total	Monthly Avg	0.2 mg/L	Monthly	24-Hr Flow Prop Comp	

Changes from Previous Permit

No changes from previous permit

Sample Point Number: 005- UNIT 7 OCPP CONDENSER/OTHER

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Calculated	
pH Field	Daily Max	9.0 su	Weekly	Grab	
pH Field	Daily Min	6.0 su	Weekly	Grab	
Temperature Average		deg F	Daily	Continuous	
Temperature Maximum		deg F	Daily	Continuous	
Heat	Daily Avg	1,700 MBTU/hr	Daily	Calculated	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Mercury, Total Recoverable		ng/L	Quarterly	Grab	
Acute WET		TU _a	See Listed Qtr(s)	24-Hr Comp	Sample once during the permit term. See WET section 3.2.4.2
Chronic WET		TU _c	See Listed Qtr(s)	24-Hr Comp	Sample once during the permit term. See WET section 3.2.4.2
Phosphorus, Total	Monthly Avg	0.2 mg/L	Monthly	24-Hr Flow Prop Comp	

Changes from Previous Permit

No changes from previous permit

Sample Point Number: 006- UNIT 8 OCPP CONDENSER/OTHER

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Calculated	
pH Field	Daily Max	9.0 su	Weekly	Grab	
pH Field	Daily Min	6.0 su	Weekly	Grab	
Temperature Average		deg F	Daily	Continuous	
Temperature Maximum		deg F	Daily	Continuous	
Heat	Daily Avg	1,700 MBTU/hr	Daily	Calculated	
Mercury, Total Recoverable		ng/L	Quarterly	Grab	
Acute WET		TU _a	See Listed Qtr(s)	24-Hr Comp	Sample once during the permit term. See WET section 3.2.5.2
Chronic WET		TU _c	See Listed Qtr(s)	24-Hr Comp	Sample once during the permit term. See WET section 3.2.5.2
Phosphorus, Total	Monthly Avg	0.2 mg/L	Monthly	24-Hr Flow Prop Comp	

Changes from Previous Permit

No changes from previous permit

Sample Point Number: 007- OCPP WWTP

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Total Daily	
Suspended Solids, Total	Daily Max	100 mg/L	Weekly	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	30 mg/L	Weekly	24-Hr Flow Prop Comp	
Suspended Solids, Total		lbs/day	Weekly	Calculated	
Oil & Grease (Hexane)	Daily Max	20 mg/L	Weekly	Grab	
Oil & Grease (Hexane)	Monthly Avg	15 mg/L	Weekly	Grab	
Oil & Grease (Hexane)		lbs/day	Weekly	Calculated	
pH Field	Daily Max	9.0 su	Weekly	Grab	
pH Field	Daily Min	6.0 su	Weekly	Grab	
Mercury, Total Recoverable	Daily Max	3.7 ng/L	Quarterly	Grab	
Phosphorus, Total	Monthly Avg	0.4 mg/L	Monthly	24-Hr Flow Prop Comp	
Arsenic, Total Recoverable	Daily Max	1.2 ug/L	Monthly	24-Hr Flow Prop Comp	
Acute WET		TUa	See Listed Qtr(s)	24-Hr Comp	Sample annually in rotating quarters. See WET section 3.2.6.3.
Chronic WET		TUc	See Listed Qtr(s)	24-Hr Comp	Sample annually in rotating quarters. See WET section 3.2.6.3.

Changes from Previous Permit

No changes from previous permit

Sample Point Number: 008- STORM WATER AND COAL PILE

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gal/month	Per Occurrence	Estimated	
Suspended Solids, Total	Daily Max	50 mg/L	Per Occurrence	Grab	See section 3.2.7.1 of permit.

Changes from Previous Permit

No changes from previous permit

Sample Point Number: 010- OCPP EMERGENCY OVERFLOW

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gal/month	Per Occurrence	Estimated	

Changes from Previous Permit

No changes from previous permit

Sample Point Number: 012- OCPP SCREEN BACKWASH

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Monthly	Estimated	

Changes from Previous Permit

No changes from previous permit

Sample Point Number: 013- ERGS CONDENSER/OTHER

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Calculated	
Mercury, Total Recoverable	Daily Max	2.3 ng/L	Weekly	Grab	
Mercury, Total	Monthly Avg	1.3 ng/L	Weekly	Grab	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Recoverable					
Mercury, Total Recoverable	Monthly Avg	0.012 lbs/day	Weekly	Calculated	
Temperature Average		deg F	Daily	Continuous	
Temperature Maximum		deg F	Daily	Continuous	
Heat	Daily Avg	6,200 MBTU/hr	Daily	Calculated	
Chlorine, Total Residual	Daily Max	200 ug/L	Daily	Grab	
Chlorine, Total Residl Discharge Time	Daily Max	120 min/day	Daily	Total Daily	
pH Field	Daily Max	9.0 su	Weekly	Grab	
pH Field	Daily Min	6.0 su	Weekly	Grab	
Arsenic, Total Recoverable		ug/L	Monthly	24-Hr Flow Prop Comp	See section 3.2.10.6
Acute WET		TUa	See Listed Qtr(s)	24-Hr Flow Prop Comp	Sample annually in rotating quarters. See WET section 3.2.10.4.
Chronic WET		TUc	See Listed Qtr(s)	24-Hr Flow Prop Comp	Sample annually in rotating quarters. See WET section 3.2.10.4.
Phosphorus, Total	Monthly Avg	0.2 mg/L	Monthly	24-Hr Flow Prop Comp	

Changes from Previous Permit

No changes from previous permit

Sample Point Number: 014- Coal Storage Runoff

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Estimated	
Suspended Solids, Total	Daily Max	50 mg/L	Daily	Grab	See section 3.2.11.1 of permit.

Changes from Previous Permit

No changes from previous permit

Sample Point Number: 015- Limestone/gypsum area runoff

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Estimated	
Suspended Solids, Total		mg/L	Daily	Grab	

Changes from Previous Permit

No changes from previous permit

Sample Point Number: 603- Unit 5 OCPP Influent FAH & BAH

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Suspended Solids, Total		mg/L	2/Month	24-Hr Comp	

Changes from Previous Permit

No changes from previous permit

Sample Point Number: 604- Unit 6 OCPP Influent FAH & BAH

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Suspended Solids, Total		mg/L	2/Month	24-Hr Comp	

Changes from Previous Permit

No changes from previous permit

Sample Point Number: 605- Background for Temperature

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Temperature Average		deg F	Daily	Continuous	

Changes from Previous Permit

No changes from previous permit

Sample Point Number: 606- Background Mercury and Arsenic

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Mercury, Total Recoverable		ng/L	Quarterly	Grab	
Arsenic, Total Recoverable		ug/L	Monthly	24-Hr Flow Prop Comp	

Changes from Previous Permit

No changes from previous permit

Sample Point Number: 907- SUM OF MASS ERGS, OCPP

Changes from Previous Permit

No changes from previous permit

4 Schedules

4.1 Compliance with Federal ELG for FGD

Required Action	Due Date
Compliance with Federal ELG for FGD: Permittee shall comply with the applicable federal ELG requirements for FGD wastewater no later than 12/31/2023 or by the earlier of 36 months from the effective date of a new ELG rulemaking or the applicability dates for FGD wastewater. Since new ELG rules became effective 12/14/2020, the "compliance date" is 12/14/2023. This is also the date when all changed and added limits must start being met.	12/14/2023

4.2 Compliance with Federal ELG for Bottom Ash Transport Water

Required Action	Due Date
BATW Handling System: WE OCER has completed installation of the selected BATW Handling System for units 7 & 8. Facility ceased discharge of BATW in May 2021 & mechanical drag systems (compact submerged conveyors) were placed in service in June 2021. Sections 4.2, 4.3, and 4.4 of WPDES Permit No. WI-0000914-08-1 required the new technology to be installed by December 31, 2021. The project was completed prior to the permit deadline.	12/31/2021

4.3 Arsenic Pollutant Minimization Program

Required Action	Due Date
<p>Annual Arsenic Progress Report: The permittee shall submit to the Department an annual progress report that shall discuss which arsenic pollutant minimization measures have been implemented during the period from the permit effective date to December 31, 2019. The report shall include an analysis of trends in monthly, quarterly, and annual total intake and effluent arsenic concentrations and mass discharge of arsenic based on sampling and flow data. The report shall provide an update on the permittee's: (1) progress in implementing pollutant minimization measures, operational improvements, and facility modifications to optimize reductions in arsenic discharges and, (2) status of evaluating the feasible alternatives for meeting arsenic WQBELs. Note that the monthly average interim limitation of 1.2 ug/L remains enforceable until new enforceable limits are established at the next permit reissuance or modification. The first annual progress report is to be submitted by the Date Due.</p>	12/31/2019
<p>Annual Arsenic Progress Report #2: Submit a progress report as defined above for the previous calendar year.</p> <p>Repurpose: The progress report shall also include an evaluation on whether to repurpose relatively new wastewater treatment equipment from Pleasant Prairie Power Plant after it retires in 2018 to further reduce arsenic concentrations at OCPP Outfall 007. Equipment that will be evaluated include the ultrafiltration membranes, multi-media filters, and other ancillary equipment.</p>	12/31/2020
<p>Annual Arsenic Progress Report #3: Submit a progress report as defined above for the previous calendar year. The permittee shall also perform the following actions and include the evaluation and/or progress of implementation the identified actions in the annual report.</p> <p>1. Bottom Ash: Continue to evaluate bottom ash handling technologies for OCPP Units 7 & 8 including but not limited to: a dry bottom ash handling system, a recirculating BATW closed loop system, or a reuse system (e.g., in the FGD system). If an EPA rulemaking identifies a different BAT technology, that technology shall also be included in the evaluation. The selected technology shall be that which results in the lowest mass loading of (i.e. highest attainable condition for) mercury and arsenic to the receiving water. If the permittee demonstrates to the department that two or more technologies will result in comparable reductions in loading of mercury and arsenic and receives written department concurrence, the permittee may implement either technology. If the technology that would result in the greatest reduction in arsenic and mercury is infeasible for technical reasons and the department concurs with this determination in writing, the permittee may implement the technology expected to achieve the next greatest reduction in mercury and arsenic loading.</p> <p>Begin activities to design, engineer, and conduct pilot tests (if needed) of the selected BATW technology. If the project is reviewable under ch. NR 108, Wis. Adm. Code, plans and specifications must be submitted to the department for plan review, and construction of the project may not commence until the Department has approved the project plans. Implement the selected BATW solution at Units 7 & 8 by 12/31/2021. This requirement is a separate requirement from the requirement in section 4.2, and it will not be extended or changed based on the content or date of promulgation of the federal ELG. If construction authorization from the Public Service Commission is required prior to commencement of construction, the permittee must notify the department in writing and must seek this approval no later than 90 days after the effective date of this permit. If this authorization is required, the due date for this action shall be 24 months after construction authorization is granted or June 30, 2022, whichever is earlier. If construction authorization is not required, the due date for this action is December 31, 2021.</p> <p>2. FGD Implementation: Begin activities to expeditiously plan, design, procure, and install equipment</p>	12/31/2021

to meet the FGD limits established in EPA's forthcoming regulation on the ELG.	
3. Arsenic Treatment: Conduct an updated Evaluation of Treatment Technologies for Arsenic Removal at Outfall 007. This would be an update to the CH2M evaluation conducted in 2013 (and included in the arsenic variance application) to determine whether there are better, more cost-effective technologies available at the time of submittal. The evaluation would also address whether it is cost-effective to segregate and treat individual wastewaters. Updated cost estimates would be provided for feasible technologies.	
Annual Arsenic Progress Report #4: Submit a progress report as defined above for the previous calendar year. The permittee shall also evaluate and/or implement the following activities and include the evaluation and/or progress of implementation in the annual report. 1. FGD: Review the treatment technology evaluations for FGD wastewater treatment (e.g., evaporation, zero valent iron, and biological treatment) to help decide which technology to pursue at OCER. Conduct a pilot test, as needed, using the candidate treatment technology. Evaluate the impacts to arsenic reduction. 2. Bench Scale: Conduct bench-scale studies to test feasible technology alternative(s) that could be employed upstream of Outfall 007.	12/31/2022
Annual Arsenic Progress Report #5: Submit a progress report as defined above for the previous calendar year. Fuel Source Evaluation: Short-term Evaluation: Conduct an analysis of arsenic content of the current coal source and other available coal sources. Include a discussion of how differences in arsenic content of coal may impact effluent concentrations at Outfall 007. Long-term Evaluation: Describe the design life/expected remaining useful life of the generating units currently in operation. Discuss any plans, considerations, or potential plans for abandonment or repurposing of the units to use alternative fuel sources that may result in lower arsenic discharges via Outfall 007. Propose actions that will be taken to consider arsenic loading as a part of future decision making on long-term planning for fuel sources.	12/31/2023
Final Arsenic Report: Submit a final report documenting the success in reducing arsenic concentrations in the effluent, as well as any anticipated future reduction in arsenic sources and arsenic effluent concentrations. The report shall summarize arsenic pollutant minimization activities that have been implemented during the current permit term and state which, if any, pollutant minimization activities were not pursued and why. The report shall also include a trend analysis on effluent data for arsenic at outfall 013. Additionally, if the permittee intends to seek to re-apply for an arsenic variance per s. 283.15, Wis. Stats for the reissued permit, a detailed pollutant minimization plan outlining the pollutant minimization activities proposed for the upcoming permit term should be submitted along with the final report.	03/31/2024
Annual Arsenic Progress Reports After Permit Expiration: In the event that this permit is not reissued on time, the permittee shall continue to submit annual arsenic progress reports each year covering pollutant minimization activities implemented and arsenic data trends. The report is due no later than January 31 for the previous year's activities.	

4.4 Pollutant Minimization Plan for Mercury

Required Action	Due Date
Annual Mercury Progress Report: The permittee shall submit to the Department an annual progress report that shall discuss which mercury pollutant minimization measures have been implemented during the period from the permit effective date to December 31, 2019. The report shall include an	12/31/2019

<p>analysis of trends in monthly, quarterly, and annual total intake and effluent mercury concentrations and mass discharge of mercury based on sampling and flow data. The report shall provide an update on the permittee's: (1) progress in implementing pollutant minimization measures, operational improvements, and facility modifications to optimize reductions in mercury discharges and, (2) status of evaluating the feasible alternatives for meeting mercury WQBELs.</p> <p>Note that the monthly average interim limitation of 3.7 ng/L remains enforceable until new enforceable limits are established at the next permit reissuance or modification. The first annual progress report is to be submitted by the Date Due.</p>	
<p>Annual Mercury Progress Report #2: Submit a progress report as defined above for the previous calendar year.</p> <p>1. Source Identification: The first step will be to identify wastewaters that are potential sources of mercury influent to the Oak Creek Power Plant (OCPP) wastewater treatment facility. Following the source identification step, some of these wastewaters will be sampled and analytical work will be completed using the EPA 1631 low level mercury method. Based on the results of the sampling and analysis work, options for pollution prevention and wastewater treatment will be evaluated. Approaches to reduce mercury via source elimination or reduction will be evaluated to determine costs and cost-effectiveness.</p> <p>2. Repurpose: The progress report shall also include an evaluation on whether to repurpose relatively new wastewater treatment equipment from Pleasant Prairie Power Plant after it retires in 2018 to further reduce mercury concentrations at OCPP Outfall 007. Equipment that will be evaluated include the ultrafiltration membranes, multi-media filters, and other ancillary equipment.</p>	12/31/2020
<p>Annual Mercury Progress Report #3: Submit a progress report as defined above for the previous calendar year. The permittee shall also perform the following actions and include the evaluation and/or progress of implementation the identified actions in the annual report.</p> <p>1. Bottom Ash: Continue to evaluate bottom ash handling technologies for OCPP Units 7 & 8 including but not limited to: a dry bottom ash handling system, a recirculating BATW closed loop system, or a reuse system (e.g., in the FGD system). If an EPA rulemaking identifies a different BAT technology, that technology shall also be included in the evaluation. The selected technology shall be that which results in the lowest mass loading of (i.e. highest attainable condition for) mercury and arsenic to the receiving water. If the permittee demonstrates to the department that two or more technologies will result in comparable reductions in loading of mercury and arsenic and receives written department concurrence, the permittee may implement either technology. If the technology that would result in the greatest reduction in arsenic and mercury is infeasible for technical reasons and the department concurs with this determination in writing, the permittee may implement the technology expected to achieve the next greatest reduction in mercury and arsenic loading.</p> <p>Begin activities to design, engineer, and conduct pilot tests (if needed) of the selected BATW technology. If the project is reviewable under ch. NR 108, Wis. Adm. Code, plans and specifications must be submitted to the department for plan review, and construction of the project may not commence until the Department has approved the project plans. Implement the selected BATW solution at Units 7 & 8 by 12/31/2021. This requirement is a separate requirement from the requirement in section 4.2, and it will not be extended or changed based on the content or date of promulgation of the federal ELG. If construction authorization from the Public Service Commission is required prior to commencement of construction, the permittee must notify the department in writing and must seek this approval no later than 90 days after the effective date of this permit. If this authorization is required, the due date for this action shall be 24 months after construction authorization is granted or June 30, 2022, whichever is earlier. If construction authorization is not required, the due date for this action is December 31, 2021.</p>	12/31/2021

<p>28</p> <p>2. FGD Implementation: Begin activities to expeditiously plan, design, procure, and install equipment to meet the FGD limits established in EPA’s forthcoming regulation on the ELG.</p> <p>3. Mercury Treatment: Conduct an updated Evaluation of Treatment Technologies for Mercury Removal at Outfall 007. This would be an update to determine whether there are better, more cost-effective technologies available at the time of submittal. The evaluation would also address whether it is cost-effective to segregate and treat individual wastewaters. Updated cost estimates would be provided for feasible technologies.</p>	
<p>Annual Mercury Progress Report #4: Submit a progress report as defined above for the previous calendar year. The permittee shall also evaluate and/or implement the following activities and include the evaluation and/or progress of implementation in the annual report.</p> <p>1. FGD: Review the treatment technology evaluations for FGD wastewater treatment (e.g., evaporation, zero valent iron, and biological treatment) to help decide which technology to pursue at OCER. Conduct a pilot test, as needed, using the candidate treatment technology. Evaluate the impacts to mercury reduction.</p> <p>2. Bench Scale: Conduct bench-scale studies to test feasible technology alternative(s) that could be employed upstream of Outfall 007.</p>	12/31/2022
<p>Annual Mercury Progress Report #5: Submit a progress report as defined above for the previous calendar year. Fuel Source Evaluation: Short-term Evaluation: Conduct an analysis of mercury content of the current coal source and other available coal sources. Include a discussion of how differences in mercury content of coal may impact effluent concentrations at Outfall 007. Long-term Evaluation: Describe the design life/expected remaining useful life of the generating units currently in operation. Discuss any plans, considerations, or potential plans for abandonment of the units or repurposing of the units to use alternative fuel sources that may result in lower mercury discharges via Outfall 007. Propose actions that will be taken to consider mercury loading as a part of future decision making on long-term planning for fuel sources.</p>	12/31/2023
<p>Final Mercury Report: Submit a final report documenting the success in reducing mercury concentrations in the effluent, as well as any anticipated future reduction in mercury sources and mercury effluent concentrations. The report shall summarize mercury pollutant minimization activities that have been implemented during the current permit term and state which, if any, pollutant minimization activities were not pursued and why. The report shall also include a trend analysis on effluent data for mercury at outfall 013. Additionally, if the permittee intends to seek to re-apply for a mercury variance per s. 283.15, Wis. Stats for the reissued permit, a detailed pollutant minimization plan outlining the pollutant minimization activities proposed for the upcoming permit term should be submitted along with the final report.</p>	03/31/2024
<p>Annual Mercury Progress Reports After Permit Expiration: In the event that this permit is not reissued on time, the permittee shall continue to submit annual mercury progress reports each year covering pollutant minimization activities implemented and mercury data trends. The report is due no later than January 31 for the previous year’s activities.</p>	

Attachments:

Proposed Expiration Date:

September 30, 2024

Prepared By:

Sawyer Hanson

Wastewater Engineer

Date: [Enter Date](#)