



WPDES PERMIT

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
**PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE
ELIMINATION SYSTEM**

Ahlstrom NA Specialty Solutions LLC

De Pere Plant

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility
located at

200 Main Avenue, De Pere

to

The Lower Fox River (Fox River/Appleton Watershed – Lower Fox River Basin) in Brown County

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

Nate Willis
Wastewater Section Manager

Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE - January 01, 2025

EXPIRATION DATE – December 31, 2030

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1 Influent Requirements - Water Intake Structure (WIS)

1.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
701	SURFACE WATER INTAKE: Lower Fox River water intake located on the west shore of Fox River downstream from the Main Ave bridge. Flow shall be estimated based on river level on a daily basis.

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.

1.2.1 Sampling Point 701 - FOX RIVER INFLUENT

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

1.2.1.1 WIS - 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 water intake system present at the facility which consists of the following:

- Location: West shore of Fox River, 44°26'52'' N and 88°04'02'' W
- General Description: River water passively flows through vertical bar screens at four openings in the building. Each of these four openings is flooded at approximately 8.08 feet in height and 6.45 feet in width and leads to a channel equipped with a gate that can close off flow to isolate the channel. At the screen end of each channel is a 20" diameter pipe that takes the water to one of two 10-foot rotating horizontal cylindrical screens with spray headers to continuously clean the rotating screen. Screened water is collected in one of two filtered water tanks (wet wells) where it is pumped to the mill. The bottom third of the screen is flooded in the wet well and screened material is returned to the river along with wet well overflow via gravity at Outfall 003. The wet well pumps include one fixed speed and one with a variable frequency drive (VFD).
- Major Components: Vertical bar rack, rotating screen with spray for cleaning, overflow return, VFD
- Maximum Design Intake Flow (DIF): 5.2 MGD
Maximum Design Intake Velocity: 22.8 fps.

1.2.1.2 Water Intake BTA (Best Technology Available) Determination

The Department conditionally approves the water intake, as described above in subsection 1.2.1.1, as BTA for minimizing impingement mortality and entrainment in accordance with the requirements in section s. 283.31(6), Wis. Stats. This approval is conditional upon completion of the actions required in the Schedules section of this permit.

1.3 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 Water Intake Structure

BTA determinations for entrainment and impingement mortality at water intake structures will be made in each permit reissuance, in accordance with ch. NR 111, Wis. Adm. Code. **In subsequent permit reissuance applications, the permittee shall provide all the information required in ss. NR 111.41(1), (2), and (13) and applicable provisions of ss. NR 111.41 (3) to (7) if, on a whole facility basis, the amount of water used exclusively for cooling is above 25% on an AIF-basis and the design intake flow exceeds 2 MGD at the time of permit application submittal.**

Exemptions from some permit application requirements are possible in accordance with s. NR 111.42, Wis. Adm. 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.

1.3.2 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.

1.3.3 Endangered Species Act

Nothing in this permit authorizes take for the purpose of a facility's compliance with the Endangered Species Act. Refer to 40 CFR §125.98 (b) (1) and (2).

2 Surface Water Requirements

2.1 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 Point Number	Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
003	EFFLUENT: Excess, screened intake river water not used for cooling or processes within the facility shall be monitored at pit prior to discharge to the Fox River via Outfall 003. Flow shall be estimated based on the rate of flow into intake channels minus metered measurements for flow fed to the mill accelerator.
010	FLUSHING: Fire protection flush water shall be monitored at the point of discharge, prior to entering any pipe, ditch, channel, tunnel, conduit swale, or storm sewer that will discharge to surface water or wetlands. The permittee shall take representative samples of the discharge that consists solely of flush water before mixing with any other water. The permittee is only required to collect samples when there is a discharge to surface water or wetlands; if there are no discharges within the reporting period the permittee shall report no discharge on the eDMR.
011	DEWATERING: Flood waters pumped from the facility's property shall be monitored prior to discharge to the Fox River. Flow shall be calculated based on pump capacity and discharge duration.
012	LOW-IMPACT DISCHARGE: Building wash water shall be monitored after solids collection (socks, booms, and/or fabric filters) and prior to discharge to the Fox River. Flow shall be estimated based on rate of water application. Monitoring at 012 is only required if washing activities take place during the permit term.
013	WLA COMPLIANCE POINT: Combined loads of BOD ₅ , Total Suspended Solids, and Phosphorus from Outfalls 010 and 012 to the Lower Fox River. Since daily loads from Outfalls 010 and 012 are combined mathematically, no effluent sampling is required at Sampling Point 013.

2.2 Monitoring Requirements and Effluent Limitations

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

2.2.1 Sampling Point (Outfall) 003 - Excess Intake Discharge

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Estimated	Measure flow in daily increments until operation ends and report daily flow on the eDMR.
Copper, Total Recoverable		µg/L	Quarterly	Grab	Sampling shall occur when copper is utilized for treatment.
Hardness, Total as CaCO ₃		mg/L	Quarterly	Grab	Sample concurrently with copper.

2.2.2 Sampling Point (Outfall) 010 - Fire Protection

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Estimated	See permit section 2.2.2.1.
BOD ₅ , Total		mg/L	Weekly	Grab	
BOD ₅ , Total		lbs/day	Weekly	Calculated	
Suspended Solids, Total	Daily Max	40 mg/L	Weekly	Grab	
Suspended Solids, Total		lbs/day	Weekly	Calculated	
Suspended Solids, Total		lbs/yr	Annual	Calculated	
pH Field	Daily Min	6.0 su	Weekly	Grab	
pH Field	Daily Max	9.0 su	Weekly	Grab	
Chlorine, Total Residual	Daily Max	38 µg/L	Weekly	Grab	
Dissolved Oxygen	Daily Min	5.0 mg/L	Weekly	Grab	
Phosphorus, Total		mg/L	Weekly	Grab	
Phosphorus, Total		lbs/day	Weekly	Calculated	
Phosphorus, Total		lbs/yr	Annual	Calculated	

2.2.2.1 Flow Rate

The permittee shall estimate the total daily flow rate of the water discharge. The flow rate may be estimated based on water balance, an uncalibrated weir, readings of a water meter on the discharge, computation from the operating period of one or more calibrated pumps handling the flow, calculations from the velocity and cross section of the discharge or any other approved flow estimating methods in s. NR 218.04(15), Wis. Adm. Code. The permittee may request, in writing, the approval of an additional method for estimating flow.

2.2.3 Sampling Point (Outfall) 011 - Flood Water Dewatering

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Per Occurrence	Calculated	

2.2.4 Sampling Point (Outfall) 012 - Low-Impact Building Wash Water

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Once	Estimated	
BOD ₅ , Total	Daily Max	30 mg/L	Once	Grab	
BOD ₅ , Total		lbs/day	Once	Calculated	
Suspended Solids, Total	Daily Max	40 mg/L	Once	Grab	

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Suspended Solids, Total		lbs/day	Once	Calculated	
Suspended Solids, Total		lbs/yr	Annual	Calculated	
pH Field	Daily Min	6.0 su	Once	Grab	
pH Field	Daily Max	9.0 su	Once	Grab	
Chlorine, Total Residual	Daily Max	38 µg/L	Once	Grab	
Phosphorus, Total		mg/L	Once	Grab	
Phosphorus, Total		lbs/day	Once	Calculated	
Phosphorus, Total		lbs/yr	Annual	Calculated	

2.2.5 Sampling Point (Outfall) 013 - 010 & 012 Combined Load

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
WLA Previous Day River Flow		cfs	Daily	Gauge Station	Monitoring Only - May 1 through October 31.
WLA Previous 4 Day Avg River Flow		cfs	Daily	Calculated	Monitoring Only - May 1 through October 31.
WLA Previous Day River Temp		deg F	Daily	Measure	Monitoring Only - May 1 through October 31.
WLA BOD ₅ Value		lbs/day	Daily	See Table	May 1 through October 31. Use the "WLA Previous Day River Temp" and "WLA Previous 4-day Avg River Flow" to look up the "WLA BOD ₅ Value" (allocation) from Tables 1 - 5 in permit section 2.2.5.1.
WLA Adjusted Value		lbs/day	Daily	Calculated	May 1 through October 31. Multiply the "WLA BOD ₅ Value" times 1.20.
WLA BOD ₅ Discharged	Daily Max - Variable	lbs/day	Daily	Calculated	May 1 through October 31. Enter the daily mass of BOD ₅ discharged from Outfall 011. Compare to "WLA Adjusted Value" to determine compliance.
WLA 7 Day Sum Of WLA Values		lbs/day	Daily	Calculated	May 1 through October 31. Enter the sum of the "WLA BOD ₅ Value" for each 7-consecutive-day period.

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
WLA 7 Day Sum Of BOD ₅ Discharged	Daily Max - Variable	lbs/day	Daily	Calculated	May 1 through October 31. Enter the sum of the "WLA BOD ₅ Discharged" for each 7-consecutive-day period. Compare to the "WLA 7 Day Sum of WLA Values" to determine compliance.
Suspended Solids, Total	Annual Total	29,003 lbs/yr	Annual	Calculated	
Phosphorus, Total	Annual Total	313 lbs/yr	Annual	Calculated	

2.2.5.1 BOD₅ Wasteload Allocation Requirements

Each year during the months of May through October the combined daily discharge of 5-day biochemical oxygen demand (BOD₅) from Outfalls 010 and 012 as calculated for SP 013 is limited to the following wasteload allocated water quality related effluent limitations.

Definitions:

- Point source allocation values (pounds per day of BOD₅) in the wasteload tables below represent water quality related effluent limitations. The flow and temperature conditions used to determine a point allocation value for a given day shall be the representative measurement of the flow averaged over the previous 4 days and temperature of the previous day.
- A representative measurement of flow shall be defined as the daily average flow value derived from continuous river flow monitoring data for the Fox River collected at the Rapid Croche Dam, or other alternative method or site approved by the Department. Daily average flow values reported by the Lower Fox River Discharge Association and the Kaukauna Utilities for the Rapide Croche Dam location are acceptable for use with the waste load tables.
- A representative measurement of temperature shall be defined as the daily average temperature value derived from continuous river temperature monitoring data for the Fox River collected at the Rapide Croche Dam. Daily average temperature values reported by the Lower Fox River Discharge Association and the Kaukauna Utilities for the Rapide Croche Dam location are acceptable for use with the waste load tables.

Determination of Effluent Limitations: For purposes of determining compliance with the wasteload allocated water quality related effluent limitations, the following conditions shall be met:

- The sum of the actual daily discharges of BOD₅ for any 7-consecutive-day period may not exceed the sum of the daily point source allocation values from the tables for the same 7-consecutive-day period.
- For any one-day period, the actual discharge of BOD₅ shall not exceed 120% of the point source allocation value from the tables for that day.

Monitoring Requirements: The same 24-hour period shall be utilized for the collection of composite and continuous samples for river flow and temperature and all effluent characteristics, including effluent flow and BOD₅.

Reporting Requirements: During the months of May through October inclusive the permittee shall report the following information:

- The daily average river flow value (cfs);
- The daily average river temperature value (°F);
- The daily point source allocation value (lbs. BOD₅ per day);
- The actual daily discharge value of BOD₅ (lbs. BOD₅ per day);

- The sum of the actual daily discharge values of BOD₅ (lbs. BOD₅) for each 7-consecutive-day period (present day's discharge plus the 6 previous day's discharge);
- The sum of the daily point source allocation values (lbs. BOD₅) for each 7-consecutive-day period (present day's allocation plus the 6 previous day's allocation);
- The daily adjusted point source allocation value (percent adjustment factor x point source allocation value); and
- If there is no lbs/day BOD₅ value available, but there was a discharge, for one or more days of the seven consecutive days, add the values from the table only from those days corresponding to days actual measured values are available. If there is no discharge, use a zero for that day. For all days on which there is no measured value the permittee shall submit a written explanation to the Watershed Engineer.

Wasteload Allocated Water Quality Related Effluent Limitations Restriction: In no case shall the waste-load allocated water quality related effluent limitations be less stringent than the applicable categorical effluent limitations.

2.2.5.1.1 Point Source Wasteload Allocation Values (pounds per day of BOD₅) for May

River Temperature at Rapide Croche Dam (previous day average in °F)	River Flow at Rapide Croche Dam (previous four-day average in cfs)														
	750 OR LESS	751 TO 1000	1001 TO 1250	1251 TO 1500	1501 TO 1750	1751 TO 2000	2001 TO 2250	2251 TO 2500	2501 TO 2750	2751 TO 3000	3001 TO 3500	3501 TO 4000	4001 TO 5000	5001 TO 8000	8001 OR MORE
86.0 OR GREATER	1086	1086	1086	1086	1086	1086	1086	1086	1443	1894	2713	4067	5173	5173	5173
82.0 TO 85.0	1086	1086	1086	1086	1086	1086	1086	1233	1596	2030	2815	4105	5173	5173	5173
78.0 TO 81.0	1086	1086	1086	1086	1086	1086	1211	1508	1869	2293	3047	4265	5173	5173	5173
74.0 TO 77.0	1086	1086	1086	1086	1086	1238	1505	1828	2206	2639	3390	4576	5173	5173	5173
70.0 TO 73.0	1086	1086	1086	1086	1266	1538	1858	2226	2641	3103	3880	5072	5173	5173	5173
66.0 TO 69.0	1086	1086	1086	1245	1557	1909	2302	2735	3206	3716	4548	5173	5173	5173	5173
62.0 TO 65.0	1086	1086	1125	1512	1933	2387	2872	3388	3935	4511	5173	5173	5173	5173	5173
58.0 TO 61.0	1086	1086	1355	1879	2429	3002	3599	4219	4860	5173	5173	5173	5173	5173	5173
54.0 TO 57.0	1086	1086	1699	2379	3077	3790	4517	5173	5173	5173	5173	5173	5173	5173	5173
50.0 TO 53.0	1086	1342	2189	3045	3909	4781	5173	5173	5173	5173	5173	5173	5173	5173	5173
46.0 TO 49.0	1086	1808	2859	3910	4960	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173
42.0 TO 45.0	1572	2467	3741	5006	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173
41.0 OR LESS	2283	3353	4868	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173

2.2.5.1.2 Point Source Wasteload Allocation Values (pounds per day of BOD₅) for June

River Temperature at Rapide Croche Dam (previous day average in °F)	River Flow at Rapide Croche Dam (previous four-day average in cfs)														
	750 OR LESS	751 TO 1000	1001 TO 1250	1251 TO 1500	1501 TO 1750	1751 TO 2000	2001 TO 2250	2251 TO 2500	2501 TO 2750	2751 TO 3000	3001 TO 3500	3501 TO 4000	4001 TO 5000	5001 TO 8000	8001 OR MORE
86.0 OR GREATER	2018	1868	1701	1587	1524	1509	1542	1619	1738	1894	2713	4067	5173	5173	5173
82.0 TO 85.0	1909	1782	1648	1567	1535	1552	1615	1722	1870	2030	2815	4105	5173	5173	5173
78.0 TO 81.0	1761	1674	1596	1570	1592	1661	1776	1933	2130	2293	3047	4265	5173	5173	5173
74.0 TO 77.0	1648	1604	1585	1616	1696	1822	1991	2202	2452	2639	3390	4576	5173	5173	5173
70.0 TO 73.0	1568	1569	1614	1707	1847	2032	2260	2528	2834	3103	3880	5072	5173	5173	5173
66.0 TO 69.0	1086	1086	1086	1245	1557	1909	2302	2735	3206	3716	4548	5173	5173	5173	5173
62.0 TO 65.0	1086	1086	1125	1512	1933	2387	2872	3388	3935	4511	5173	5173	5173	5173	5173
58.0 TO 61.0	1086	1086	1355	1879	2429	3002	3599	4219	4860	5173	5173	5173	5173	5173	5173
54.0 TO 57.0	1086	1086	1699	2379	3077	3790	4517	5173	5173	5173	5173	5173	5173	5173	5173
50.0 TO 53.0	1086	1342	2189	3045	3909	4781	5173	5173	5173	5173	5173	5173	5173	5173	5173
46.0 TO 49.0	1086	1808	2859	3910	4960	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173
42.0 TO 45.0	1572	2467	3741	5006	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173
41.0 OR LESS	2283	3353	4868	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173

2.2.5.1.3 Point Source Wasteload Allocation Values (pounds per day of BOD₅) for July and August

River Temperature at Rapide Croche Dam (previous day average in °F)	River Flow at Rapide Croche Dam (previous four-day average in cfs)														
	750	751	1001	1251	1501	1751	2001	2251	2501	2751	3001	3501	4001	5001	8001
	OR	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	OR
	LESS	1000	1250	1500	1750	2000	2250	2500	2750	3000	3500	4000	5000	8000	MORE
86.0 OR GREATER	2018	1868	1701	1587	1524	1509	1542	1619	1738	1898	2208	2741	3764	5173	5173
82.0 TO 85.0	1909	1782	1648	1567	1535	1552	1615	1722	1870	2058	2409	2995	4091	5173	5173
78.0 TO 81.0	1761	1674	1596	1570	1592	1661	1776	1933	2130	2366	2787	3462	4683	5173	5173
74.0 TO 77.0	1648	1604	1585	1616	1696	1822	1991	2202	2452	2739	3235	4006	5173	5173	5173
70.0 TO 73.0	1568	1569	1614	1707	1847	2032	2260	2528	2834	3176	3753	4627	5173	5173	5173
66.0 TO 69.0	1524	1572	1682	1841	2046	2294	2583	2912	3277	3678	4340	5173	5173	5173	5173
62.0 TO 65.0	1513	1611	1791	2019	2291	2605	2960	3353	3782	4245	4997	5173	5173	5173	5173
61.0 OR LESS	1537	1687	1940	2240	2583	2968	3391	3852	4347	4875	5173	5173	5173	5173	5173

2.2.5.1.4 Point Source Wasteload Allocation Values (pounds per day of BOD₅) for September and October

River Temperature at Rapide Croche Dam (previous day average in °F)	River Flow at Rapide Croche Dam (previous four-day average in cfs)														
	750 OR LESS	751 TO 1000	1001 TO 1250	1251 TO 1500	1501 TO 1750	1751 TO 2000	2001 TO 2250	2251 TO 2500	2501 TO 2750	2751 TO 3000	3001 TO 3500	3501 TO 4000	4001 TO 5000	5001 TO 8000	8001 OR MORE
86.0 OR GREATER	1086	1086	1086	1086	1287	1639	2020	2426	2855	3304	4008	4988	5173	5173	5173
82.0 TO 85.0	1086	1086	1086	1104	1375	1678	2008	2364	2742	3141	3768	4647	5173	5173	5173
78.0 TO 81.0	1086	1086	1086	1266	1482	1730	2006	2307	2630	2973	3518	4286	5173	5173	5173
74.0 TO 77.0	1086	1102	1226	1385	1579	1803	2056	2334	2634	2953	3462	4182	5173	5173	5173
70.0 TO 73.0	1130	1199	1331	1500	1702	1935	2196	2482	2790	3117	3638	4374	5173	5173	5173
66.0 TO 69.0	1166	1263	1436	1645	1887	2160	2461	2787	3135	3502	4082	4896	5173	5173	5173
62.0 TO 65.0	1184	1332	1576	1857	2172	2516	2889	3286	3706	4144	4831	5173	5173	5173	5173
58.0 TO 61.0	1221	1442	1790	2174	2592	3040	3516	4017	4539	5080	5173	5173	5173	5173	5173
54.0 TO 57.0	1313	1629	2112	2632	3185	3768	4379	5014	5173	5173	5173	5173	5173	5173	5173
50.0 TO 53.0	1498	1930	2580	3267	3987	4736	5173	5173	5173	5173	5173	5173	5173	5173	5173
46.0 TO 49.0	1811	2382	3231	4116	5034	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173
42.0 TO 45.0	2289	3021	4101	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173
41.0 OR LESS	2969	3885	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173	5173

2.2.5.2 Total Maximum Daily Load (TMDL) Limitations

Approved TMDL: The total maximum daily load (TMDL) and watershed management plan for total suspended solids (TSS) and total phosphorus (TP) in the Lower Fox River Basin was approved by the U.S. EPA on May 18, 2012. Wasteload allocations (WLAs) from the approved plan equal 29,003 pounds per year (lbs/yr) for TSS and 313 lbs/yr for TP, expressed as annual total limits in this permit.

3 Schedules

3.1 Impingement Technology Performance Optimization Study

The permittee shall notify the department in writing of its compliance or noncompliance with the interim or final requirements of schedules no later than 14 days following each interim date and the final date of compliance, in accordance with s. NR 106.117(3)(f), Wis. Adm. Code.

Required Action	Due Date
Impingement Technology Performance Optimization Study Plan: The permittee shall submit a study plan for the Impingement Technology Performance Optimization Study required in order to comply with the facility's chosen Impingement Mortality Standard specified in s. NR 111.12 (1)(a)(6), Wis. Adm. Code (system of technologies). The study shall be designed to meet all requirements outlined in s. NR 111.41(5)(b), Wis. Adm. Code. If the study does not meet the requirements of code or the department determines that the terms and conditions of this permit need to be updated in order for the facility to comply with impingement mortality standards, the department may modify or revoke and reissue this permit. The study must also contain an analysis of the use of fine mesh screens as an alternative compliance method for Impingement Mortality Standards.	12/31/2026
Commence Impingement Reduction Verification Sampling: The permittee shall commence the study in accordance with the approved study plans by the listed date.	07/01/2027
Optimization Study Progress Report 1: The permittee shall submit a progress report to the department outlining which portions of the study have been completed and data that has been collected thus far.	07/01/2028
Optimization Study Progress Report 2: The permittee shall submit a progress report to the department outlining which portions of the study have been completed and data that has been collected thus far.	07/01/2029
Final Report: The permittee shall submit the final Impingement Technology Performance Optimization Study to the department. The final report shall meet all requirements outlined in s. NR 111.41(5)(b), Wis. Adm. Code.	06/30/2030

4 Standard Requirements

Chapter 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), Wis. Adm. Code.

4.1 Reporting and Monitoring Requirements

4.1.1 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.

4.1.2 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 completed by a laboratory certified or registered in accordance with the requirements of ch. NR 149, Wis. Adm. Code. Groundwater sampling shall be performed in accordance with procedures contained in s. NR 140.16, Wis. Adm. Code, and the WDNR publications, Groundwater Sampling Desk Reference (PUBL-DG-037-96) and Groundwater Sampling Field Manual (PUBL-DG-038-96). The analytical methodologies used shall enable the laboratory to quantitate all substances for which monitoring is required at levels below the effluent limitation and/or groundwater standard. If the required level cannot be met by any of the methods available in ch. 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.

4.1.3 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.

4.1.4 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 fees under ch. NR 101, Wis. Adm. Code, a reporting limit of 2.0 mg/L for BOD₅ and 2.5 mg/L 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.

4.1.5 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.

4.1.6 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.

4.1.7 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.

4.2 System Operating Requirements

4.2.1 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.**

4.2.2 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 preventive 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.

4.2.3 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.

4.2.4 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.

4.2.5 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.

4.2.6 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-in-charge 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).

4.2.7 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.

4.2.8 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.

4.2.9 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.

4.3 Surface Water Requirements

4.3.1 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.

4.3.2 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/six-month/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, except in cases of Water Quality Trading, wherein the applicable periods are January through June and July through December.]

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.

4.3.3 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.

4.3.4 Visible Foam or Floating Solids

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

4.3.5 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:

- 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.
- 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.
- 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.
- 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.

4.3.6 Total Residual Chlorine Requirements

When total residual chlorine (TRC) limit(s) or monitoring are included in a permit, the permittee shall comply with the following conditions:

- The permittee shall perform TRC monitoring required in this permit using an approved method from ch. NR 219, Wis. Adm. Code, which produces a detection limit that is less than or equal to the permitted limit or produces the lowest economically feasible detection limit if the approved methods cannot meet the permit limit. If the facility cannot achieve a detection limit less than or equal to the permit limit using the approved methods, contact the laboratory accreditation program for guidance.
- The permittee shall determine the limit of detection (LOD) as specified in s. NR 149.48 (2)(b), Wis. Adm. Code, or the permittee shall contact the laboratory accreditation program for information on how to determine a verified detection limit allowed just for TRC. If the verified detection limit is determined using the special procedure, then the LOD and limit of quantitation (LOQ) shall be set to be equal to the verified detection limit determined from this special procedure.
- The permittee shall determine compliance with the TRC limit(s) as follows:
 - a) If the facility determines a statistical LOD as specified in s. NR 149.48 (2)(b), Wis. Adm. Code, and the measured TRC levels are less than the LOD, the permittee shall report the results as less than the LOD (<LOD). For this situation the LOQ shall be established at 3.33 times the LOD or at the concentration of the lowest standard in the calibration curve. TRC levels that are < LOD are in compliance with the TRC limit.

- b) If the facility determines the verified detection limit using the laboratory accreditation program special procedure, this verified detection limit shall be reported as the LOD and LOQ. If the measured TRC levels are less than the LOD, the permittee shall report the results as < LOD. TRC levels that are < LOD are in compliance with the TRC limit.
- c) If the facility determines the statistical LOD as specified in s. NR 149.48 (2)(b), Wis. Adm. Code, and the measured TRC levels are greater than the statistical LOD but less than the LOQ, TRC levels are in compliance with the TRC limit - except when the measured levels are consistently reported between the LOD and LOQ. When the measured TRC levels are consistently reported between the LOD and LOQ, the facility shall take action to determine the reliability of detected results (such as resampling and/or re-calculating dosages) and shall adjust the chemical feed system if necessary to reduce the chances of detecting levels between the statistical LOD and LOQ.
- d) If the facility determines the statistical LOQ as specified in s. NR 149.48 (2)(b), Wis. Adm. Code, or determines the verified detection limit using the laboratory accreditation program special procedure, TRC measured levels that are greater than the statistical LOQ and the TRC limit, are not in compliance with the TRC limit. The permittee shall report the level as a limit exceedance.
- e) If the facility determines the statistical LOD as specified in s. NR 149.48 (2)(b), Wis. Adm. Code, and the measured level is < LOD, then a "0" (zero) value may be substituted for any test result less than the statistical LOD when calculating the average or mass discharge values. Calculated values shall then be compared directly to the average or mass limits to determine compliance.
- f) If the facility determines the verified detection limit using the laboratory accreditation program special procedure and the measured level is < LOD (set equal to the verified detection limit), then a "0" (zero) value may be substituted for any test result less than the LOD when calculating the average or mass discharge values. Calculated values shall then be compared directly to the average or mass limits to determine compliance.

5 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Impingement Technology Performance Optimization Study -Impingement Technology Performance Optimization Study Plan	December 31, 2026	9
Impingement Technology Performance Optimization Study -Commence Impingement Reduction Verification Sampling	July 1, 2027	9
Impingement Technology Performance Optimization Study -Optimization Study Progress Report 1	July 1, 2028	9
Impingement Technology Performance Optimization Study -Optimization Study Progress Report 2	July 1, 2029	9
Impingement Technology Performance Optimization Study -Final Report	June 30, 2030	9
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	10

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 other submittals required by this permit shall be submitted to:

Northeast Region, 2984 Shawano Ave, Green Bay, WI 54313-6727