



WPDES PERMIT

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

Dairyland Power Coop Alma Site

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility
located at
500 Old State Hwy 35, Alma, Wisconsin, 54610
to
the Mississippi River in Buffalo 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 _____
Susan Sylvester
Director, Bureau of Water Quality

Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE - July 01, 2016

EXPIRATION DATE – June 30, 2021

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1 Influent Requirements

1.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)
703	Intake screening system and intake water monitoring

1.2 Cooling Intake Water Description and Authorization

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

The cooling water is used in a once-through cooling system. The intake was installed in 1977 and has had no major construction since. The intake is located on the east shore of the Mississippi River and oriented parallel to the river flow. A skimmer wall is located at the face of the intake and drops down to EL. 659.0 feet. The invert of the structure is EL. 640.0 feet. The invert of each of the four fourteen feet wide traveling screens is also at the El. 640.0 feet. The maximum design intake volume is 322.6 MGD and is operated continuously at 322.6 MGD. The intake screen is 3/8 inch mesh with a screen flow-through area of 1120 square feet at flat pool. The maximum design intake through-screen velocity is 0.7299 ft/sec. The traveling screens are rotated and are cleaned using a double pressure spray wash system. The low pressure spray jets operate at 346 gpm at 25 psi to remove fish from the screens and into a fish sluice for return to the Mississippi River. Approximately 99.9% of the water withdrawn is used for cooling.

1.3 Water Intake BTA Determination

Dairyland Power submitted its Alma site application for permit reissuance, before the October 14, 2014 effective date of the Final Regulations on Cooling Water Intake Structures. As a result and pursuant to 40 CFR 125.98(b)(6), the Best Technology Available (BTA) determination for the eighth permit issuance will be an interim BTA determination made using the Department's best professional judgment. The Department's best professional judgment is that the facility does not meet interim BTA; therefore, additional information is required.

Note: this is an interim BTA determination based on the Department's February 2, 2009 guidance for evaluation cooling water intake structures using best professional judgment. Because the Dairyland Power Cooperation Alma Site permit expired before the October 14, 2014 effective date of the new federal regulations for existing facilities, those requirements are not applicable until the next permit reissuance. Nevertheless, for informational purposes, this permit includes references to the new federal regulations in 40 CFR Parts 122 and 125, and some of the requirements are included at the Department's discretion to begin implementation of the new rule in this permit.

1.4 Future BTA

BTA determinations for entrainment and impingement mortality at cooling water intake structures will be made in each permit reissuance, in accordance with 40 CFR §125.90-98. In subsequent permit reissuance applications, the permittee shall provide all the information required in 40 CFR §122.21(r). Exemptions from some application requirements are possible in accordance with 40 CFR §125.95(c) and §125.98(g), where information already submitted is sufficient. If 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.

Note: The Department is in the process of promulgating ch. NR 111, Wis. Code, on cooling water intake structures. The objective of ch. NR 111 is to incorporate federal requirements for cooling water intake structures into the state's

administrative code. If ch. NR 111 is promulgated prior to the expiration of this permit, the permittee may be subject to ch. NR 111 application requirements for the next permit reissuance.

1.5 Monitoring Requirements

The permittee shall comply with the following monitoring requirements.

1.5.1 Sampling Point 703 - Influent from Mississippi R.

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Temperature Average		deg F	Daily	Continuous	
Mercury, Total Recoverable		µg/L	Monthly	Grab	See Section 1.5.1.2

1.5.1.1 Visual or Remote Inspections

The permittee shall conduct a visual inspection or employ a remote monitoring device during periods when the cooling water intake is in operation. The inspection frequency shall be weekly to ensure the intakes are maintained and operated to function as designed. Alternative procedures may be established for use during periods of inclement weather if weather interferes with the inspection method.

1.5.1.2 Mercury Monitoring

The Department highly recommends that the permittee collect a monthly sample that is representative of the intake water from the river and have it analyzed for low level mercury to help determine the intake mercury contribution to the discharge. This permit does not require that the permittee report an influent sample result for any month.

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

1.5.1.3 Intake Screen Discharges and Removed Substances

Floating debris and accumulated trash shall be removed from the condenser water intake screen backwash discharge and shall be stored and disposed of in a manner to prevent any pollutant from the materials from entering the waters of the State pursuant to s. NR 205.07(03), Wis. Adm. Code. Fine debris, aquatic organisms, and vegetation that cannot reasonably be sorted from living fish may be returned to the surface waters with the backwash via outfalls 003 and 004.

1.5.2 Compliance Monitoring Requirements

1.5.2.1 Entrainment Characterization

Two years of entrainment characterization is required by the compliance schedule under 40 CFR 122.21(r)(9). Per Section 4.2 of this permit the department may wave the second year of entrainment data collection if the first year's data is substantially similar to historical data.

1.6 Reporting Requirements

1.6.1 Discharge Monitoring Reports

During any year that the facility is conducting April-October entraining sampling, Dairyland Power shall submit to the Department an annual report on the entrainment mortality compliance monitoring.

1.6.2 Annual Certification Statement and Report

Submit an annual certification statement signed by the authorized representative with information on the following:

- (a) Water intake structure technologies are being maintained and operated as set forth in this permit, or a justification to allow a modification of the practices. Include a summary of the inspections required under paragraph 1.5.1.1 **Visual or Remote Inspections**.
- (b) If there are substantial modifications to the operation of any unit that impacts the cooling water withdrawals or operation of the water intake structure, provide a summary of those changes.
- (c) If the information contained in the previous year's annual certification is still applicable, the certification may simply state as such.
- (d) An update on the progress of developing 40 CFR 122.2(r) information.

1.7 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 Part 125.98 (b) (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, WasteType/Sample Contents and Treatment Description (as applicable)
001	East bank of the Mississippi River, South of J.P. Madgett screenhouse. N44° 18.363' W91° 54.787'. Non-contact condenser cooling water from J.P. Madgett. No treatment provided.
002	East bank of the Mississippi River, South of J.P. Madgett screenhouse. N44° 18.435' W91° 54.797'. Coal pile runoff from Alma 1-5. Treatment consists of settling.
003	East bank of the Mississippi River, South of J.P. Madgett screenhouse. N44° 18.370' W91° 54.815'. J.P. Madgett intake screen backwash. No treatment provided.
004	East bank of the Mississippi River at the J.P. Madgett screenhouse. N44° 18.370' W91° 54.815'. J.P. Madgett fish return, screen backwash. No treatment provided.
005	East bank of the Mississippi River, South of J.P. Madgett screenhouse. N44° 18.370' W91° 54.815'. J.P. Madgett intake de-icing water. No treatment provided.
006	East bank of the Mississippi River, South of J.P. Madgett screenhouse. N44° 18.183' W91° 54.808'. Boiler blowdown, demineralization wastewater, bottom ash contact wastewater, metal cleaning wastewater, and other power plant low volume wastewaters. Treatment consists of pH adjustments and settling.
007	South of the bottom ash dewatering building. Outfall discharges to the Mississippi river backwater area. N44° 17.948' W91° 54.719'. J.P. Madgett coal pile runoff. Treatment consists of settling.

2.2 Monitoring Requirements and Effluent Limitations

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

2.2.1 Sampling Point (Outfall) 001 - CONDENSER COOLING WATER - JPM

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
Temperature Maximum		deg F	Daily	Continuous	
Temperature Difference		deg F	Daily	Calculated	
pH Field	Daily Max	9.0 su	Weekly	Grab	
pH Field	Daily Min	6.0 su	Weekly	Grab	

2.2.1.1 Effluent Temperature Monitoring

For manually measuring effluent temperature, grab samples should be collected at 6 evenly spaced intervals during the 24-hour period. Alternative sampling intervals may be approved if the permittee can show that the maximum effluent temperature is captured during the sampling interval. For monitoring temperature continuously, collect

measurements in accordance with s. NR 218.04(13). This means that discrete measurements shall be recorded at intervals of not more than 15 minutes during the 24-hour period. In either case, report the maximum temperature measured during the day on the DMR. For seasonal discharges collect measurements either manually or continuously during the period of operation and report the daily maximum effluent temperature on the DMR. Monitoring is required daily upon permit reissuance. Daily maximum temperatures shall be reported so that applicable daily maximum limits can be compared to the reported daily maximum temperatures and applicable weekly average limits can be compared to the weekly averages of the reported daily maximum temperatures.

2.2.2 Sampling Point (Outfall) 002 - COAL PILE RUNOFF - ALMA

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Estimated	See section 2.2.2.1.
Suspended Solids, Total	Daily Max	50 mg/L	Weekly	24-Hr Comp	Sample required during any week with a coal pile runoff discharge to the river.
pH Field	Daily Max	9.0 su	Weekly	Grab	Sample required during any week with a coal pile runoff discharge to the river.
pH Field	Daily Min	6.0 su	Weekly	Grab	Sample required during any week with a coal pile runoff discharge to the river.

2.2.2.1 Coal Pile Decommissioning

Outfall 002 will remain active while the permittee decommissions the Alma Station generating units #1 through #5. Upon completion of the decommissioning, the permittee shall abandon the coal pile in accordance with s. NR 213.07, Wis.

2.2.3 Sampling Point (Outfall) 003 - INTAKE SCREEN BACKWASH - JPM

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

2.2.4 Sampling Point (Outfall) 004 - FISH RETURN - JPM

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

2.2.5 Sampling Point (Outfall) 005 - DE-ICING WATER - JPM

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

2.2.6 Sampling Point (Outfall) 006 - TREATED PROCESS WW

Monitoring Requirements and Effluent 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	Daily	24-Hr Comp	
Suspended Solids, Total	Monthly Avg	30 mg/L	Daily	24-Hr Comp	
Temperature Maximum		deg F	3/Week	Grab	See table in Section 2.2.6.3 for Daily Maximum and Weekly Average Temperature limits.
Oil & Grease (Hexane)	Daily Max	20 mg/L	Quarterly	Grab	
Oil & Grease (Hexane)	Monthly Avg	15 mg/L	Quarterly	Grab	
Phosphorus, Total	Annual Avg	0.1 mg/L	Monthly	Grab	This is the final effluent limit that will become effective on 01/01/2020. An interim annual average limit of 0.12 mg/L shall be effective through 12/31/2019.
Phosphorus, Total	Monthly Avg	0.3 mg/L	Monthly	Grab	
Mercury, Total Recoverable	Daily Max	4.6 ng/L	Monthly	Grab	Sample Point Number 101 will be used to report the effluent field blank.
Iron, Total Recoverable	Daily Max	1.0 mg/L	Daily	24-Hr Comp	Sample required on any day with a metal cleaning waste water discharge to the river.
Copper, Total Recoverable	Daily Max	100 µg/L	See Permit Note	24-Hr Comp	Sample required on any day with a metal cleaning waste water discharge to the river.
Copper, Total Recoverable	Daily Max	1.2 lbs/day	See Permit Note	Calculated	Sample required on any day with a metal cleaning waste water discharge to the river.
Acute WET		TU _a	See Listed Qtr(s)	24-Hr Comp	See WET footnote below.

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Chronic WET		rTU _c	See Listed Qtr(s)	24-Hr Comp	See WET footnote below.
pH (Continuous)			Daily	Continuous	See "Continuous pH Monitoring" below for pH limits and allowed excursions

2.2.6.1 Mercury Monitoring

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

2.2.6.2 Effluent Temperature Monitoring

For manually measuring effluent temperature, grab samples should be collected at 6 evenly spaced intervals during the 24-hour period. Alternative sampling intervals may be approved if the permittee can show that the maximum effluent temperature is captured during the sampling interval. For monitoring temperature continuously, collect measurements in accordance with s. NR 218.04(13). This means that discrete measurements shall be recorded at intervals of not more than 15 minutes during the 24-hour period. In either case, report the maximum temperature measured during the day on the DMR. For seasonal discharges collect measurements either manually or continuously during the period of operation and report the daily maximum effluent temperature on the DMR.

2.2.6.3 Effluent Temperature Limitations

Determination of Need for Effluent Limits: The effluent limitations for “Temperature, Maximum” become effective on June 1, 2021 as specified in the Schedules section. Monitoring is required 3X/week upon permit reissuance. Daily maximum temperatures shall be reported so that applicable daily maximum limits can be compared to the reported daily maximum temperatures and applicable weekly average limits can be compared to the weekly averages of the reported daily maximum temperatures. After completion of at least one year of temperature data collection the permittee may request that the Department make a determination of the need for limits under s. NR 106.56, Wis. Adm. Code. Within 60 days of such request the Department will make that determination. If the Department determines that effluent limitations are unnecessary based on the procedures in NR 106.56, the Department shall notify the permittee that the limitations are unnecessary pursuant to NR106.56. A permit modification will be required to remove the temperature limits and schedule from this permit. If, after reviewing the data, the Department determines that effluent limitations for “Temperature, Maximum” are necessary based on the procedures in NR 106.56, the requirement to meet the effluent limitations according to the Schedules section will not be removed nor will the monitoring frequency be reduced. Permittees may then wish to pursue a re-evaluation of the limits based on NR 106 – ‘Subchapters V and VI Effluent Limitations for Temperature’ or NR 102.26 – Site Specific Ambient Temperature. If the re-calculation of limits results in revisions to the temperature limits, a permit modification will be required to include the revised limits in the permit.

Month	Weekly Average Limit (°F)	Daily Maximum Limit (°F)
January	59	86
February	59	87
March	60	87

April	60	90
May	69	89
June	77	90
July	83	90
August	80	89
September	76	89
October	63	88
November	54	89
December	59	90

2.2.6.4 Phosphorus Water Quality Based Effluent Limitation(s)

The final water quality based effluent limit for phosphorus is 0.10 mg/L as an annual average and will take effect per the Compliance Schedule unless:

- (A) As part of the application for the next reissuance, or prior to filing the application, the permittee submits either: 1.) a watershed adaptive management plan and a completed Watershed Adaptive Management Request Form 3200-139; or 2.) an application for water quality trading; or 3.) an application for a variance; or 4.) new information or additional data that supports a recalculation of the numeric limitation; and
- (B) The Department modifies, revokes and reissues, or reissues the permit to incorporate a revised limitation before the expiration of the compliance schedule*.

Note: The permittee may also submit an application for a variance within 60 days of this permit reissuance, as noted in the permit cover letter, in accordance with s. 283.15, Stats.

If Adaptive Management or Water Quality Trading is approved as part of the permit application for the next reissuance or as part of an application for a modification or revocation and reissuance, the plan and specifications submittal, construction, and final effective dates for compliance with the total phosphorus WQBEL may change in the reissued or modified permit. In addition, the numeric value of the water quality based effluent limit may change based on new information (e.g. a TMDL) or additional data. If a variance is approved for the next reissuance, interim limits and conditions will be imposed in the reissued permit in accordance with s. 283.15, Stats., and applicable regulations. A permittee may apply for a variance to the phosphorus WQBEL at the next reissuance even if the permittee did not apply for a phosphorus variance as part of this permit reissuance.

Additional Requirements: If a water quality based effluent limit has taken effect in a permit, any increase in the limit is subject to s. NR 102.05(1) and ch. NR 207, Wis. Adm. Code. When a six-month average effluent limit is specified for Total Phosphorus the applicable averaging periods are May through October and November through April.

*Note: The Department will prioritize reissuances and revocations, modifications, and reissuances of permits to allow permittees the opportunity to implement adaptive management or nutrient trading in a timely and effective manner.

2.2.6.5 Alternative Approaches to Phosphorus WQBEL Compliance

Rather than upgrading its wastewater treatment facility to comply with WQBELs for total phosphorus, the permittee may use Water Quality Trading or the Watershed Adaptive Management Option, to achieve compliance under ch. NR 217, Wis. Adm. Code, provided that the permit is modified, revoked and reissued, or reissued to incorporate any such alternative approach. The permittee may also implement an upgrade to its wastewater treatment facility in combination with Water Quality Trading or the Watershed Adaptive Management Option to achieve compliance, provided that the permit is modified, revoked and reissued, or reissued to incorporate any such alternative approach. If the Final Compliance Alternatives Plan concludes that a variance will be pursued, the Plan shall provide information regarding the basis for the variance.

2.2.6.6 Submittal of Permit Application for Next Reissuance and Adaptive Management or Pollutant Trading Plan or Variance Application

The permittee shall submit the permit application for the next reissuance at least 6 months prior to expiration of this permit. If the permittee intends to pursue adaptive management to achieve compliance with the phosphorus water quality based effluent limitation, the permittee shall submit with the application for the next reissuance: a completed Watershed Adaptive Management Request Form 3200-139, the completed Adaptive Management Plan and final plans for any system upgrades necessary to meet interim limits pursuant to s. NR 217.18, Wis. Adm. Code. If the permittee intends to pursue pollutant trading to achieve compliance, the permittee shall submit an application for water quality trading with the application for the next reissuance. If system upgrades will be used in combination with pollutant trading to achieve compliance with the final water quality-based limit, the reissued permit will specify a schedule for the necessary upgrades. If the permittee intends to seek a variance, the permittee shall submit an application for a variance with the application for the next reissuance.

2.2.6.7 Continuous pH Monitoring

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

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

2.2.6.8 Whole Effluent Toxicity (WET) Testing

Primary Control Water: Mississippi River

Instream Waste Concentration (IWC): 9

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

- **Acute:** 100, 50, 25, 12.5, 6.25% and any additional selected by the permittee.
- **Chronic:** 100, 30, 10, 3, 1% (if the IWC \leq 30%) or 100, 75, 50, 25, 12.5% (if the IWC >30%) and any additional selected by the permittee.

WET Testing Frequency:

Acute tests shall be conducted twice during the permit term in rotating quarters in order to collect seasonal information about the discharge. Tests are required during the following quarters.

- **Acute:** First quarter in 2017, second quarter in 2020

Acute WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the fourth calendar year of this permit. For example, the next test would be required in the third quarter 2022.

Chronic tests shall be conducted twice during the permit term in rotating quarters in order to collect seasonal information about the discharge. Tests are required during the following quarters.

- **Chronic:** First quarter in 2017, second quarter in 2020

Chronic WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the fourth calendar year of this permit. For example, the next test would be required in third quarter 2022.

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

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

Determination of Positive Results: An acute toxicity test shall be considered positive if the Toxic Unit - Acute (TU_a) is greater than 1.0 for either species. The TU_a shall be calculated as follows: If LC₅₀ ≥ 100, then TU_a = 1.0. If LC₅₀ is < 100, then TU_a = 100 ÷ LC₅₀. A chronic toxicity test shall be considered positive if the Relative Toxic Unit - Chronic (rTU_c) is greater than 1.0 for either species. The rTU_c shall be calculated as follows: If IC₂₅ ≥ IWC, then rTU_c = 1.0. If IC₂₅ < IWC, then rTU_c = IWC ÷ IC₂₅.

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

2.2.7 Sampling Point (Outfall) 007 - COAL PILE RUNOFF - JPM

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Estimated	
Suspended Solids, Total	Daily Max	50 mg/L	Weekly	24-Hr Comp	Sample required during any week with a coal pile runoff discharge to the river.
pH Field	Daily Max	9.0 su	Weekly	Grab	Sample required during any week with a coal pile runoff discharge to the river.
pH Field	Daily Min	6.0 su	Weekly	Grab	Sample required during any week with a coal pile runoff discharge to the river.

3 Land Treatment Requirements

3.1 Sampling Point(s)

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

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, Waste Description/Sample Contents and Treatment Description (as applicable)
008	Seepage from the Alma 1-5 coal pile runoff basin to groundwater.
009	Seepage from the J.P. Madgett coal pile runoff basin to groundwater.

3.2 Monitoring Requirements and Limitations

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

3.2.1 Sampling Point (Outfall) 008 - COAL PILE RUNOFF BSN - ALMA, Other

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Monthly	Estimated	See Section 3.2.1.1.

Daily Log – Monitoring Requirements and Limitations				
All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under “Records Retention” in the Standard Requirements section, and if requested, made available to the Department.				
Parameters	Limit	Units	Sample Frequency	Sample Type
Start to End Time		Date, Hour	Daily	Log

Annual Report – Monitoring Requirements and Limitations				
The Annual Report is due by January 31 st of each year for the previous calendar year.				
Parameters	Limit	Units	Sample Frequency	Sample Type
Total Volume Per Zone		Gallons	Annual	Total Annual

3.2.1.1 Coal Pile Decommissioning

Outfall 008 will remain active while the permittee decommissions the Alma Station generating units #1 through #5. Upon completion of the decommissioning the permittee shall abandon the coal pile in accordance with s. NR 213.07, Wis. Adm. Code.

3.2.2 Sampling Point (Outfall) 009 - COAL PILE RUNOFF BSN - JPM, Other

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

Daily Log – Monitoring Requirements and Limitations				
All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under “Records Retention” in the Standard Requirements section, and if requested, made available to the Department.				
Parameters	Limit	Units	Sample Frequency	Sample Type
Start to End Time		Date, Hour	Daily	Log

Annual Report – Monitoring Requirements and Limitations				
The Annual Report is due by January 31 st of each year for the previous calendar year.				
Parameters	Limit	Units	Sample Frequency	Sample Type
Total Volume Per Zone		Gallons	Annual	Total Annual

4 Schedules

4.1 Mercury schedule

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

Required Action	Due Date
Implement the Mercury Pollutant Minimization Plan: The permittee shall continue to implement the Mercury PMP as approved by the Department. The permittee shall submit to the Department an annual status report on the progress of the Mercury PMP as required by s. NR 106.145(7), Wis Adm. Code. Submittal of the annual status report is required by the date due.	01/01/2017
Submit Annual Status Report: The permittee shall submit to the Department an annual status report on the progress of the Mercury PMP as required by s. NR 106.145(7), Wis Adm. Code. Submittal of the annual status report is required by the date due.	01/01/2018
Submit Annual Status Report: The permittee shall submit to the Department an annual status report on the progress of the Mercury PMP as required by s. NR 106.145(7), Wis Adm. Code. Submittal of the annual status report is required by the date due.	01/01/2019
Submit Annual Status Report: The permittee shall submit to the Department an annual status report on the progress of the Mercury PMP as required by s. NR 106.145(7), Wis Adm. Code. Submittal of the annual status report is required by the date due.	01/01/2020
Submit Annual Status Report: The permittee shall submit to the Department an annual status report on the progress of the Mercury PMP as required by s. NR 106.145(7), Wis Adm. Code. Submittal of the annual status report is required by the date due.	01/01/2021

4.2 Intake structure submittals

The permittee has submitted an intake study plan to the Department to evaluate entrainment. The permittee shall submit the results according to the schedule below.

Required Action	Due Date
Submit results of Entrainment Study: The permittee shall submit the results of the entrainment study conducted in 2015.	10/01/2016
Annual Certification: The Permittee shall submit an Annual Certification Statement and Report as described in Section 1.6.2.	01/31/2017
Annual Certification: The Permittee shall submit an Annual Certification Statement and Report as described in Section 1.6.2.	01/31/2018
Annual Certification: The Permittee shall submit an Annual Certification Statement and Report as described in Section 1.6.2.	01/31/2019
Annual Certification: The Permittee shall submit an Annual Certification Statement and Report as described in Section 1.6.2.	01/31/2020
Submit Application Materials: The permittee shall submit the application materials required in 40 CFR Part 122.21(r). Note: the Department may wave the second year of entrainment data collection if the first year's data is substantially similar to historical data. The submittals are required on or before the due date.	04/01/2020

Inform the Department of Proposed Alternative: The permittee shall inform the department of the proposed alternatives for impingement and entrainment BTA compliance.	01/01/2021
Annual Certification: The Permittee shall submit an Annual Certification Statement and Report as described in Section 1.6.2.	01/31/2021

4.3 Temperature Limits Compliance

This compliance schedule requires the permittee to achieve compliance by the specified date.

Required Action	Due Date
Preliminary Compliance Report: The permittee shall submit a preliminary compliance report indicating alternatives to achieve the final temperature limits. Informational note: refer to NR 106 Subchapters V & VI or NR 102.26, Wis. Adm. Code, for information regarding the reevaluation of limits.	06/01/2017
Action Plan: The permittee shall submit an action plan for complying with all applicable effluent temperature limits.	06/01/2018
Initiate Actions: The permittee shall initiate actions identified in the Action Plan.	06/01/2019
Status Report: The permittee shall submit to the Department an annual status report on the progress of initiating items in the Action Plan.	06/01/2020
Complete Actions: The permittee shall complete actions necessary to achieve compliance with effluent temperature limits.	06/01/2021

4.4 Phosphorus

No later than 30 days following each compliance date, the permittee shall notify the Department in writing of its compliance or noncompliance with the required action. If a submittal is part of the required action then a timely submittal fulfills the written notification requirement.

Required Action	Due Date
Operational Evaluation Report: The permittee shall prepare an operational evaluation report and submit it for Department approval. The report shall include an evaluation of collected effluent data, possible source reduction measures, operational improvements or other minor modifications that would enable compliance with the final phosphorus WQBEL (water quality based effluent limit) or some improved level of effluent quality using the existing wastewater treatment system. If the operational evaluation report concludes that the facility can achieve the final phosphorus WQBELs using the existing treatment system with only source reduction measures, operational improvements or minor facility modifications, the report shall contain a schedule for implementation of the improvements or other report recommendations necessary to meet final phosphorus WQBELs. The implementation schedule shall be based on providing compliance with the final phosphorus WQBEL as soon as reasonably possible. Once the report is approved by the Department, the permittee shall take the steps called for in the operational evaluation report and follow the schedule of implementation as approved. If the Department approved report concludes that the facility cannot achieve the phosphorus limit with source reduction measures, operational improvements or other minor facility modifications, the permittee shall initiate a Facility Planning Study and comply with the remaining schedule of compliance. Regardless of the conclusion of the operational evaluation report, the report shall also include a plan and implementation schedule for optimizing the treatment plant's removal of phosphorus during the period prior to complying with the WQBELs. Once the operational evaluation report is approved by the Department, the permittee shall proceed with	04/01/2017

implementation of the optimization plan and follow the schedule of implementation as approved.	
Facility Plan: The permittee shall submit a Facility Plan that evaluates feasible alternatives for meeting the phosphorus WQBELs. Alternatives may include: upgrading wastewater treatment facilities, selecting the Watershed Adaptive Management Option pursuant to s. NR 217.18, Wis. Adm. Code, using Water Quality Trading in conjunction with or in place of facility upgrading, site-specific water quality criteria development, or a variance from water quality standards pursuant to s. 283.15, Stats.	01/01/2018
Final Plans and Specifications: If the facility plan concluded that upgrading of the permittee's wastewater treatment system is necessary to meet final water quality based effluent limits, submit construction plans and specifications for Department approval.	01/01/2019
Construction Progress Report: Submit a progress report on meeting the final WQBEL for phosphorus.	07/01/2019
Complete Construction: Complete construction of wastewater treatment system upgrades. Comply with the final phosphorus limits.	01/01/2020

5 Standard Requirements

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

5.1 Reporting and Monitoring Requirements

5.1.1 Monitoring Results

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

Monitoring results shall be reported on an electronic discharge monitoring report (eDMR). The eDMR shall be certified electronically by a principal executive officer, a ranking elected official or other duly authorized representative. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

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

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

5.1.2 Sampling and Testing Procedures

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

5.1.3 Recording of Results

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

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

5.1.4 Reporting of Monitoring Results

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

- Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 0.1 mg/L, report the pollutant concentration as < 0.1 mg/L.
- Pollutant concentrations equal to or greater than the limit of detection, but less than the limit of quantitation, shall be reported and the limit of quantitation shall be specified.
- For purposes of calculating NR 101 fees, the 2 mg/l lower reporting limits for BOD₅ and Total Suspended Solids shall be considered to be limits of quantitation
- For the purposes of reporting a calculated result, average or a mass discharge value, the permittee may substitute a 0 (zero) for any pollutant concentration that is less than the limit of detection. However, if the effluent limitation is less than the limit of detection, the department may substitute a value other than zero for results less than the limit of detection, after considering the number of monitoring results that are greater than the limit of detection and if warranted when applying appropriate statistical techniques.

5.1.5 Records Retention

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

5.1.6 Other Information

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

5.2 System Operating Requirements

5.2.1 Noncompliance Reporting

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

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

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

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

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

5.2.2 Bypass

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

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

5.2.3 Scheduled Bypass

Whenever the permittee anticipates the need to bypass for purposes of efficient operations and maintenance and the permittee may not meet the conditions for controlled diversions in the 'Controlled Diversions' section of this permit, the permittee shall obtain prior written approval from the Department for the scheduled bypass. A permittee's written request for Department approval of a scheduled bypass shall demonstrate that the conditions for unscheduled bypassing are met and include the proposed date and reason for the bypass, estimated volume and duration of the bypass, alternatives to bypassing and measures to mitigate environmental harm caused by the bypass. The department may require the permittee to provide public notification for a scheduled bypass if it is determined there is significant public interest in the proposed action and may recommend mitigation measures to minimize the impact of such bypass.

5.2.4 Controlled Diversions

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

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

5.2.5 Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit. The wastewater treatment facility shall be under the direct supervision of a state certified operator as required in s. NR 108.06(2), Wis. Adm. Code. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training as required in ch. NR 114, Wis. Adm. Code, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

5.2.6 Spill Reporting

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

5.2.7 Planned Changes

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

5.2.8 Duty to Halt or Reduce Activity

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

5.3 Surface Water Requirements

5.3.1 Permittee-Determined Limit of Quantitation Incorporated into this Permit

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

5.3.2 Appropriate Formulas for Effluent Calculations

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

Weekly/Monthly/Six-Month/Annual Average Concentration = the sum of all daily results for that week/month/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.]

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

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

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

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

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

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

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

5.3.3 Effluent Temperature Requirements

Weekly Average Temperature – The permittee shall use the following formula for calculating effluent results to determine compliance with the weekly average temperature limit (as applicable): Weekly Average Temperature = 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. ‘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.

5.3.4 Energy Emergency Events

The Department will use enforcement discretion whenever there are exceedances of effluent temperature limitations for the electric generating facility during an energy emergency warning or when an energy emergency event has been declared under a Federal Energy Regulatory Commission order (Standard EOP-002, North American Electric Reliability Corporation).

5.3.5 Visible Foam or Floating Solids

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

5.3.6 Surface Water Uses and Criteria

In accordance with NR 102.04, Wis. Adm. Code, surface water uses and criteria are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land

development or other activities shall be controlled so that all surface waters including the mixing zone meet the following conditions at all times and under all flow and water level conditions:

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

5.3.7 Compliance with Phosphorus Limitation

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

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

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

$$\text{Average concentration of P in mg/L} = \frac{\text{Total lbs of P discharged (most recent 12 months)}}{\text{Total flow in MG (most recent 12 months)} \times 8.34}$$

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

5.3.8 Exceedance of a Whole Effluent Toxicity (WET) Limit

This standard requirement applies only to acute or chronic WET monitoring that is accompanied by a WET limit. Within 30 days of a WET limit exceedance, the permittee shall submit the following. The 30 day period shall begin the day after the test which showed a positive result.

- The findings of a toxicity reduction evaluation (TRE) or other investigation to identify the cause(s) of the toxicity;
- Actions the permittee has taken or will take to mitigate the impact of the discharge, to correct the noncompliance, and to prevent the recurrence of toxicity;
- Where corrective actions including a TRE have not been completed, an expeditious schedule under which corrective actions will be implemented; and
- If no actions have been taken, the reason for not taking action.

5.4 Land Treatment Requirements for Industrial Discharges

NR 214, Wisconsin Administrative Code: The requirements of this section are based on ss. NR 214.12-16, Wis. Adm. Code, and apply to wastewater discharges to designed and constructed absorption pond, ridge & furrow, spray irrigation, overland flow and subsurface absorption treatment systems.

5.4.1 Formulas for Land Treatment Calculations

The permittee shall use the following formulas for land treatment calculations, unless an alternate calculation method is approved by the Department in the Land Treatment Management Plan.

5.4.1.1 Monthly Average Hydraulic Application Rate

Determine the monthly average hydraulic application rate (in gal/acre/day) for each outfall by calculating the total gallons of wastewater applied onto the site for the month, dividing that total by the number of wetted acres loaded during the month, and then dividing this resulting value by the number of days in the month. Enter this calculated monthly value on the Discharge Monitoring Report form in the box for the last day of the month, in the "Hydraulic Application Rate" column.

5.4.1.2 Annual Total Nitrogen per Cell or per Zone

$$\frac{(\text{annual ave. concentration in mg/L}) (\text{tot. annual flow in million gallons per cell or zone}) (8.34)}{\text{acreage of cell or zone}} = \text{lbs/ac/yr}$$

5.4.1.3 Annual Total Chloride per Cell or per Zone

$$\frac{(\text{annual ave. concentration in mg/L}) (\text{tot. annual flow in million gallons per cell or zone}) (8.34)}{\text{acreage of cell or zone}} = \text{lbs/ac/yr}$$

5.4.2 Land Treatment Annual Report

Annual Land Treatment Reports are due by January 31st of each year for the previous calendar year.

5.4.3 Chloride Requirements for Land Treatment Systems

Since chloride is not significantly treated by the soil, the chloride level of the wastewater treated on land shall be minimized to the extent that is technically and economically feasible. The goal is to protect groundwater quality and prevent exceedance of the 125 mg/L groundwater preventive action limit.

6 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Mercury schedule -Implement the Mercury Pollutant Minimization Plan	January 1, 2017	13
Mercury schedule -Submit Annual Status Report	January 1, 2018	13
Mercury schedule -Submit Annual Status Report	January 1, 2019	13
Mercury schedule -Submit Annual Status Report	January 1, 2020	13
Mercury schedule -Submit Annual Status Report	January 1, 2021	13
Intake structure submittals -Submit results of Entrainment Study	October 1, 2016	13
Intake structure submittals -Annual Certification	January 31, 2017	13
Intake structure submittals -Annual Certification	January 31, 2018	13
Intake structure submittals -Annual Certification	January 31, 2019	13
Intake structure submittals -Annual Certification	January 31, 2020	13
Intake structure submittals -Submit Application Materials	April 1, 2020	13
Intake structure submittals -Inform the Department of Proposed Alternative	January 1, 2021	14
Intake structure submittals -Annual Certification	January 31, 2021	14
Temperature Limits Compliance -Preliminary Compliance Report	June 1, 2017	14
Temperature Limits Compliance -Action Plan	June 1, 2018	14
Temperature Limits Compliance -Initiate Actions	June 1, 2019	14
Temperature Limits Compliance -Status Report	June 1, 2020	14
Temperature Limits Compliance -Complete Actions	June 1, 2021	14
Phosphorus -Operational Evaluation Report	April 1, 2017	15
Phosphorus -Facility Plan	January 1, 2018	15
Phosphorus -Final Plans and Specifications	January 1, 2019	15
Phosphorus -Construction Progress Report	July 1, 2019	15
Phosphorus -Complete Construction	January 1, 2020	15
Annual Land Treatment Reports	by January 31st of each year for the previous calendar year	22
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	16

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:

Central Office, 101 South Webster Street, P.O. Box 7921, Madison, WI 53707-7921