WPDES PERMIT

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM

Superior Refining Company LLC

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

2407 Stinson Avenue, Superior, WI 54880

to

Newton Creek (St. Louis and Lower Nemadji River Watershed)
in Douglas 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 - August 01, 2026 **EXPIRATION DATE - July 31, 2031**

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1 Influent Requirements

1.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)**
701	All voluntary monitoring of the water supply for mercury shall be reported at this sample point. Sampling is performed at the city tap within Superior Refining Company's wastewater treatment plant.

1.2 Monitoring Requirements

The permittee shall comply with the following monitoring requirements.

1.2.1 Sampling Point 701 - Water Supply Mercury Results

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Mercury, Total Recoverable		ng/L	Quarterly	Grab	

1.2.1.1 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 In-Plant Requirements

2.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)**
105	DMR Sample Point for reporting results of mercury field blanks.
107	Samples are taken at the sample point inside SRC's WWTP prior to discharge to the pipe that connects to the City of Superior's sewer system.

2.2 Monitoring Requirements and Limitations

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

2.2.1 Sampling Point 105 - MERCURY FIELD BLANK

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Mercury, Total Recoverable		ng/L	Quarterly	Blank	

2.2.1.1 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.

2.2.2 Sampling Point 107 - DISCHARGE TO CITY

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Estimated	
BOD_5, Total		mg/L	Weekly	Grab	
BOD_5, Total		lbs/day	Weekly	Calculated	
Suspended Solids, Total		mg/L	Weekly	Grab	
Suspended Solids, Total		lbs/day	Weekly	Calculated	
pH (Maximum)		su	Daily	Grab	
pH (Minimum)		su	Daily	Grab	
Dissolved Oxygen		mg/L	Weekly	Grab	
Nitrogen, Ammonia (NH_3-N) Total		mg/L	Monthly	Grab	

Nitrogen, Ammonia (NH_3-N) Total		lbs/day	Monthly	Calculated	
Phosphorus, Total		mg/L	Weekly	Grab	
Phosphorus, Total		lbs/day	Weekly	Calculated	
Barium, Total Recoverable		µg/L	Quarterly	Grab	
Barium, Total Recoverable		lbs/day	Quarterly	Calculated	
Arsenic, Total Recoverable		µg/L	Monthly	Grab	
Arsenic, Total Recoverable		grams/day	Monthly	Calculated	
Selenium, Total Recoverable		µg/L	Monthly	Grab	
Selenium, Total Recoverable		lbs/day	Monthly	Calculated	
Mercury, Total Recoverable		ng/L	Monthly	Grab	
Mercury, Total Recoverable		mg/day	Monthly	Calculated	
Chloride		mg/L	Weekly	Grab	
Chloride		lbs/day	Weekly	Calculated	
Temperature Maximum		deg F	Daily	Grab	
Acute WET		TU_a	Monthly	Grab	
Chronic WET		TUc	Monthly	Grab	
COD		mg/L	Weekly	Grab	
COD		lbs/day	Weekly	Calculated	
Oil & Grease (Hexane)		mg/L	Weekly	Grab	
Oil & Grease (Hexane)		lbs/day	Weekly	Calculated	
Phenols, Total		mg/L	Weekly	Grab	
Phenols, Total		lbs/day	Weekly	Calculated	
Sulfide, Total		mg/L	Weekly	Grab	
Sulfide, Total		lbs/day	Weekly	Calculated	
Chromium, Total Recoverable		mg/L	Weekly	Grab	
Chromium, Total Recoverable		lbs/day	Weekly	Calculated	
Chromium $^{+6}$		mg/L	Weekly	Grab	
Chromium $^{+6}$		lbs/day	Weekly	Calculated	
PFOA		ng/L	Monthly	Grab	
PFOS		ng/L	Monthly	Grab	

2.2.2.1 Monitoring Prior to Surface Water Discharge

Prior to initiating the discharge to surface water the permittee shall complete at least one round of monitoring for all the parameters in Table 2.2.2 above and shall receive approval from the department to initiate the discharge to surface water.

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2.2.2.2 Monitoring After Exceedance

If any of the Outfall 001 limits in Table 3.2.1 are exceeded, the permittee shall cease the discharge to surface water until approval to resume the discharge is received from the department. All the monitoring requirements in table 2.2.2 above become effective again after an exceedance of any limits at Outfall 001 resulting in cease of discharge to surface water and remain effective until the permittee receives approval from the department to resume the discharge to surface water.

2.2.2.3 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), 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.

2.2.2.4 PFOS/PFOA Sampling and Reporting Requirements

When effluent PFOS and PFOA samples are collected using a composite sample, per s. NR 106.995, Wis. Adm. Code, an equipment blank shall be collected by passing laboratory-verified PFAS-free water over or through field sampling equipment before the collection of field samples to evaluate potential contamination from the equipment used during sample. An equipment blank only needs to be collected once per sampling setup. Additional equipment blanks will only need to be collected when any portion of the sampling equipment that comes in contact with the sample is replaced. The permittee shall notify the department in the comment section of the DMR if sampling equipment is/isn’t changed during the reporting period.

3 Surface Water Requirements

3.1 Sampling Point(s)

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

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)**
001	Process area wastewater, boiler blowdown, water softener reject, process area stormwater runoff, construction area stormwater runoff, and stormwater collected in Fire Water Pond 2, Fire Water Pond 3, Fire Water Pond 5, Stormwater Collection Pond 4, WWTP Recycle Pond 7, and WWTP Recycle Pond 8 prior to discharge to Newton Creek.
002	Stormwater sampled after Storm Water Collection Pond 4 (emergency overflow conditions only). Water from Pond 4 is now routed through the treatment system with eventual monitoring and discharge through Outfall 001. Note: Discharge to surface water through this outfall would be considered a bypass and is prohibited. Monitoring requirements are provided to evaluate the impacts from any emergency overflow events should they occur.
004	Outfall 004 limits and requirements apply only to periodic direct discharge of treated hydrostatic test water to Newton Creek sampled prior to discharge. The hydrostatic test water shall be treated via an oil water separator prior to sampling and discharge.

3.2 Monitoring Requirements and Effluent Limitations

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

3.2.1 Sampling Point (Outfall) 001 - PRIMARY OUTFALL

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
BOD_5, Total	Daily Max	30 mg/L	Weekly	24-Hr Flow Prop Comp	
BOD_5, Total	Monthly Avg	15 mg/L	Weekly	24-Hr Flow Prop Comp	
BOD_5, Total	Daily Max	860 lbs/day	Weekly	Calculated	
BOD_5, Total	Monthly Avg	478 lbs/day	Weekly	Calculated	
Suspended Solids, Total	Daily Max	30 mg/L	Weekly	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	20 mg/L	Weekly	24-Hr Flow Prop Comp	
Suspended Solids, Total	Daily Max	599 lbs/day	Weekly	Calculated	
Suspended Solids, Total	Monthly Avg	382 lbs/day	Weekly	Calculated	

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
pH (Maximum)	Daily Max	9.0 su	Daily	Continuous	
pH (Minimum)	Daily Min	6.0 su	Daily	Continuous	
pH Total Exceedance Time Minutes	Monthly Total	446 minutes	Daily	Continuous	
pH Exceedances Greater Than 60 Minutes	Daily Max	0 Number	Daily	Continuous	
Dissolved Oxygen	Daily Min	4.0 mg/L	Weekly	Grab	
Nitrogen, Ammonia (NH_3-N) Total	Daily Max	9.0 mg/L	Monthly	24-Hr Flow Prop Comp	
Nitrogen, Ammonia (NH_3-N) Total	Monthly Avg	5.6 mg/L	Monthly	24-Hr Flow Prop Comp	
Nitrogen, Ammonia (NH_3-N) Total	Daily Max	573 lbs/day	Monthly	Calculated	
Nitrogen, Ammonia (NH_3-N) Total	Monthly Avg	261 lbs/day	Monthly	Calculated	
Phosphorus, Total	6-Month Avg	0.15 lbs/day	Weekly	Calculated	
Phosphorus, Total	6-Month Avg	0.075 mg/L	Weekly	24-Hr Flow Prop Comp	
Phosphorus, Total	Monthly Avg	0.225 mg/L	Weekly	24-Hr Flow Prop Comp	
Barium, Total Recoverable	Weekly Avg	170 µg/L	Quarterly	Grab	
Barium, Total Recoverable	Weekly Avg	0.52 lbs/day	Quarterly	Calculated	
Arsenic, Total Recoverable	Monthly Avg	13 µg/L	Monthly	24-Hr Flow Prop Comp	
Arsenic, Total Recoverable	Monthly Avg	17.6 grams/day	Monthly	Calculated	
Selenium, Total Recoverable	Weekly Avg	47 µg/L	Monthly	24-Hr Flow Prop Comp	
Selenium, Total Recoverable	Weekly Avg	63.5 grams/day	Monthly	Calculated	
Mercury, Total Recoverable	Monthly Avg	1.3 ng/L	Monthly	Grab	
Mercury, Total Recoverable	Monthly Avg	1.76 mg/day	Monthly	Calculated	
Chloride	Weekly Avg	400 mg/L	Weekly	24-Hr Flow Prop Comp	
Chloride	Weekly Avg	1,190 lbs/day	Weekly	Calculated	
Temperature Maximum	Daily Max	81 deg F	Daily	Continuous	This limit applies in April
Temperature Maximum	Weekly Avg	54 deg F	Daily	Continuous	This limit applies in January, February, November, and December

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Temperature Maximum	Weekly Avg	57 deg F	Daily	Continuous	This limit applies in March
Temperature Maximum	Weekly Avg	63 deg F	Daily	Continuous	This limit applies in April and October
Temperature Maximum	Weekly Avg	70 deg F	Daily	Continuous	This limit applies in May
Temperature Maximum	Weekly Avg	77 deg F	Daily	Continuous	This limit applies in June
Temperature Maximum	Weekly Avg	81 deg F	Daily	Continuous	This limit applies in July
Temperature Maximum	Weekly Avg	79 deg F	Daily	Continuous	This limit applies in August
Temperature Maximum	Weekly Avg	73 deg F	Daily	Continuous	This limit applies in September
Acute WET		TU_a	Monthly	24-Hr Flow Prop Comp	See section 3.2.1.8 for additional information
Chronic WET	Monthly Avg	1.0 TUc	Monthly	24-Hr Flow Prop Comp	See section 3.2.1.8 for additional information
COD		mg/L	Weekly	24-Hr Flow Prop Comp	
COD	Daily Max	6,426 lbs/day	Weekly	Calculated	
COD	Monthly Avg	3,335 lbs/day	Weekly	Calculated	
Oil & Grease (Hexane)		mg/L	Weekly	24-Hr Flow Prop Comp	
Oil & Grease (Hexane)	Daily Max	261 lbs/day	Weekly	Calculated	
Oil & Grease (Hexane)	Monthly Avg	139 lbs/day	Weekly	Calculated	
Phenols, Total		mg/L	Weekly	24-Hr Flow Prop Comp	
Phenols, Total	Daily Max	6.4 lbs/day	Weekly	Calculated	
Phenols, Total	Monthly Avg	3.1 lbs/day	Weekly	Calculated	
Sulfide, Total		mg/L	Weekly	24-Hr Flow Prop Comp	
Sulfide, Total	Daily Max	5.6 lbs/day	Weekly	Calculated	
Sulfide, Total	Monthly Avg	2.5 lbs/day	Weekly	Calculated	
Chromium, Total Recoverable		mg/L	Weekly	24-Hr Flow Prop Comp	
Chromium, Total Recoverable	Daily Max	13 lbs/day	Weekly	Calculated	
Chromium, Total Recoverable	Monthly Avg	7.6 lbs/day	Weekly	Calculated	
Chromium $^{+6}$		mg/L	Weekly	24-Hr Flow Prop Comp	
Chromium $^{+6}$	Daily Max	1.0 lbs/day	Weekly	Calculated	
Chromium $^{+6}$	Monthly Avg	0.49 lbs/day	Weekly	Calculated	

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
4,4'-DDE		µg/L	Once	Grab	
4,4'-DDT		µg/L	Once	Grab	
BHC, alpha		µg/L	Once	Grab	
Chlordane		µg/L	Once	Grab	
Dieldrin		µg/L	Once	Grab	
Dioxin, 2,3,7,8-TCDD		ng/L	Once	Grab	
Heptachlorepoxide		µg/L	Once	Grab	
Hexachlorobenzene		µg/L	Once	Grab	
PCB Total		µg/L	Once	Grab	
Toxaphene		µg/L	Once	Grab	
PFOA		ng/L	Monthly	Grab	
PFOS	Monthly Avg	8 ng/L	Monthly	Grab	

3.2.1.1 Effective Date of Monitoring and Limits

The above monitoring requirements become effective once the permittee has received approval from the department to initiate or resume the discharge to surface water.

3.2.1.2 Ceasing Discharge

If any of the limits above are exceeded the permittee shall cease the discharge to surface water until approval to resume the discharge is received from the department.

3.2.1.3 Mercury Monitoring

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

3.2.1.4 Effluent Temperature Monitoring

For monitoring temperature continuously, collect measurements in accordance with s. NR 218.04(13), Wis. Adm. Code. This means that discrete measurements shall be recorded at intervals of not more than 15 minutes during the 24-hour period. In either case, report the maximum temperature measured during the day on the DMR. For seasonal discharges collect measurements either manually or continuously during the period of operation and report the daily maximum effluent temperature on the DMR.

3.2.1.5 PFOS/PFOA Sampling and Reporting Requirements

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

If any equipment blanks are performed, these results shall be reported in the comments section of the eDMR.

3.2.1.6 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.

3.2.1.7 Additives

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

3.2.1.8 Whole Effluent Toxicity (WET) Testing

Primary Control Water for Acute Tests: Laboratory water

Primary Control Water for Chronic Tests: Laboratory water

Instream Waste Concentration (IWC): 100%

Acute Mixing Zone Concentration: N/A

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

- **Acute:** 100, 50, 25, 12.5, 6.25% and any additional selected by the permittee.
- **Chronic:** 100, 75, 50, 25, 12.5% and any additional selected by the permittee.

WET Testing Frequency:

Acute tests are required monthly for one year starting on the effective date of this permit. After one year if no toxicity is discovered acute tests will be required quarterly, if toxicity is found monthly monitoring shall continue.

Chronic tests are required monthly for one year starting on the effective date of this permit. After one year if no toxicity is discovered chronic tests will be required quarterly, if toxicity is found monthly monitoring shall continue.

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 (fathead minnow (Pimephales promelas) and waterflea (Ceriodaphnia dubia)). The TU_a shall be calculated as follows: $TU_a = 100 \div LC_{50}$. A chronic toxicity test shall be considered positive if the Toxic Unit - Chronic (TU_c) is greater than **1.0** for either species. The TU_c shall be calculated as follows: $TU_c = 100 \div IC_{25}$.

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).

3.2.2 Sampling Point (Outfall) 002 - POND 4 EMERGENCY BYPASS

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
PFOA		ng/L	Per Occurrence	Grab	Monitoring required whenever discharging
PFOS		ng/L	Per Occurrence	Grab	Monitoring required whenever discharging
Flow Rate		MGD	Per Occurrence	Estimated	Monitoring required whenever discharging
Oil & Grease (Hexane)		mg/L	Per Occurrence	Grab	Monitoring required whenever discharging

3.2.2.1 Pond 4 Emergency Bypass

NR 205.07(1)(u), Wis. Code, any bypass is prohibited. Monitoring requirements are provided to evaluate the impacts from any emergency overflow events should they occur.

3.2.3 Sampling Point (Outfall) 004 - HYDROSTATIC TEST WATER

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Per Occurrence	Estimated	
Suspended Solids, Total	Daily Max	30 mg/L	Per Occurrence	Grab	
Suspended Solids, Total	Monthly Avg	20 mg/L	Per Occurrence	Grab	
Dissolved Oxygen	Daily Min	4.0 mg/L	Per Occurrence	Grab	
Oil & Grease (Hexane)	Daily Max	15 mg/L	Per Occurrence	Grab	
pH Field	Daily Max	9.0 su	Per Occurrence	Grab	

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
pH Field	Daily Min	6.0 su	Per Occurrence	Grab	

4 Schedules

4.1 Toxicity Evaluation

The permittee shall complete the following actions if a WET test fails

Required Action	Due Date
Toxicity Reduction Evaluation Plan: Submit part one of a Toxicity Reduction Evaluation (TRE) plan describing procedures to be used to identify the source(s) responsible for the effluent toxicity. This action shall be completed within one month of a failed WET test.	
Toxicity Reduction Evaluation #1: Implement part one of the TRE plan, make a reasonable attempt to identify the source(s) of the toxicity, and submit a report to the Department presenting the results of the evaluation. This action shall be completed within 13 months of a failed WET test.	
Toxicity Reduction Evaluation Plan : Submit part two of a Toxicity Reduction Evaluation (TRE) plan describing actions to be taken to reduce or eliminate the toxicity identified in part one of the TRE and the dates by which those actions will be implemented. This action shall be completed within 14 months of a failed WET test	
Toxicity Reduction Evaluation #2: Complete all actions identified in the TRE plan and achieve compliance with the effluent toxicity limitation. This action shall be completed within 24 months of a failed WET test.	

5 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.

5.1 Reporting and Monitoring Requirements

5.1.1 Monitoring Results

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

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

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

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

5.1.2 Sampling and Testing Procedures

Sampling and laboratory testing procedures shall be performed in accordance with Chapters NR 218 and NR 219, Wis. Adm. Code, and 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.

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 fees under ch. NR 101, Wis. Adm. Code, a reporting limit of 2.0 mg/L for BOD_5 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.

5.1.5 Records Retention

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

5.1.6 Other Information

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

5.1.7 Reporting Requirements – Alterations or Additions

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

- The alteration or addition to the permitted facility may meet one of the criteria for determining whether a facility is a new source.
- The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification requirement applies to pollutants which are not subject to effluent limitations in the existing permit.
- The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use of disposal sites not reported during the permit application process nor reported pursuant to an approved land application plan. Additional sites may not be used for the land application of sludge until department approval is received.

5.2 System Operating Requirements

5.2.1 Noncompliance Reporting

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

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

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

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

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

5.2.2 Bypass

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

- The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or 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.

5.2.3 Scheduled Bypass

Whenever the permittee anticipates the need to bypass for purposes of efficient operations and maintenance and the permittee may not meet the conditions for controlled diversions in the 'Controlled Diversions' section of this permit, the permittee shall obtain prior written approval from the Department for the scheduled bypass. A permittee's written request for Department approval of a scheduled bypass shall demonstrate that the conditions for unscheduled bypassing are met and include the proposed date and reason for the bypass, estimated volume and duration of the

bypass, alternatives to bypassing and measures to mitigate environmental harm caused by the bypass. The department may require the permittee to provide public notification for a scheduled bypass if it is determined there is significant public interest in the proposed action and may recommend mitigation measures to minimize the impact of such bypass.

5.2.4 Controlled Diversions

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

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

5.2.5 Proper Operation and Maintenance

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

5.2.6 Operator Certification

The wastewater treatment facility shall be under the direct supervision of a state certified operator. In accordance with s. NR 114.53, Wis. Adm. Code, every WPDES permitted treatment plant shall have a designated operator-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).

5.2.7 Spill Reporting

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

5.2.8 Planned Changes

In accordance with ss. 283.31(4)(b) and 283.59, Stats., the permittee shall report to the Department any facility expansion, production increase or process modifications which will result in new, different or increased discharges of pollutants. The report shall either be a new permit application, or if the new discharge will not violate the effluent limitations of this permit, a written notice of the new, different or increased discharge. The notice shall contain a

description of the new activities, an estimate of the new, different or increased discharge of pollutants and a description of the effect of the new or increased discharge on existing waste treatment facilities. Following receipt of this report, the Department may modify this permit to specify and limit any pollutants not previously regulated in the permit.

5.2.9 Duty to Halt or Reduce Activity

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

5.3 Surface Water Requirements

5.3.1 Permittee-Determined Limit of Quantitation Incorporated into this Permit

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

5.3.2 Appropriate Formulas for Effluent Calculations

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

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

5.3.3 Effluent Temperature Requirements

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

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

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

5.3.4 Visible Foam or Floating Solids

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

5.3.5 Surface Water Uses and Criteria

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

- 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.

5.3.6 Compliance with Phosphorus Limitation

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

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

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

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

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.

5.3.7 Additives

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

5.3.8 Whole Effluent Toxicity (WET) Monitoring Requirements

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

5.3.9 Whole Effluent Toxicity (WET) Identification and Reduction

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

- A description of actions the permittee has taken or will take to remove toxicity and to prevent the recurrence of toxicity;
- A description of toxicity reduction evaluation (TRE) investigations that have been or will be done to identify potential sources of toxicity, including the following actions:
    a) Evaluate the performance of the treatment system to identify deficiencies contributing to effluent toxicity (e.g., operational problems, chemical additives, incomplete treatment)
    b) Identify the compound(s) causing toxicity. Conduct toxicity screening tests on the effluent at a minimum of once per month for six months to determine if toxicity recurs. Screening tests are WET tests using fewer effluent concentrations conducted on the most sensitive species. If any of the screening tests contain toxicity, conduct a toxicity identification evaluation (TIE) to determine the cause. TIE methods are available from USEPA “Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures (EPA/600/6-91/003) and “Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I” (EPA/600/6-91/005F).
    c) Trace the compound(s) causing toxicity to their sources (e.g., industrial, commercial, domestic)
    d) Evaluate, select, and implement methods or technologies to control effluent toxicity (e.g., in-plant or pretreatment controls, source reduction or removal)
- Where corrective actions including a TRE have not been completed, an expeditious schedule under which corrective actions will be implemented;
- If no actions have been taken, the reason for not taking action.

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

5.3.10 PFOS and PFOA Requirements

The laboratory performing the analysis on any samples shall be certified for the applicable PFAS compounds in the aqueous matrix by the Wisconsin Laboratory Certification Program established under s. 299.11, Wis. Stats., in accordance with s. NR 149.41, Wis. Adm. Code. All laboratories are required to utilize EPA Method 1633A for sampling PFAS in sludge.

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

6 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Toxicity Evaluation -Toxicity Reduction Evaluation Plan	See Permit	12
Toxicity Evaluation -Toxicity Reduction Evaluation #1	See Permit	12
Toxicity Evaluation -Toxicity Reduction Evaluation Plan	See Permit	12
Toxicity Evaluation -Toxicity Reduction Evaluation #2	See Permit	12
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	13

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 S Webster St, P.O. Box 7921, Madison, WI 53707-7921