



# WPDES PERMIT

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

**Tyco Fire Protection Products LP**

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility  
located at  
One Stanton Street  
to the  
**Menominee River in Marinette, Wisconsin**

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 – January 01, 2014**

**EXPIRATION DATE - December 31, 2018**

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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)
703	River water intake sampling point for Menominee River water supply taken into the facility for boiler water make-up

## 1.2 Monitoring Requirements

The permittee shall comply with the following monitoring requirements.

### 1.2.1 Sampling Point 703 - River Water Intake Monitoring

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Mercury, Total Recoverable		ng/L	Monthly	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.

#### 1.2.1.1 Influent Mercury Sampling

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 mercury sample result for any month.

## 2 In-Plant Requirements

### 2.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)
101	Treated metal finishing wastewater sampled after the physical chemical process wastewater treatment system prior to mixing with other wastewater. After sample point 101 the wastewater travels to Outfall 001
107	Sample point for reporting field blank sample results needed to check for possible contamination during sample collection of outfall 001 effluent

### 2.2 Monitoring Requirements and Limitations

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

#### 2.2.1 Sampling Point 101 - Metal Finishing Effluent

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Total Daily	Totalize continuous flow measurements for day
Suspended Solids, Total	Monthly Avg	31 mg/L	Daily	24-Hr Comp	
Suspended Solids, Total	Daily Max	60 mg/L	Daily	24-Hr Comp	
pH (Minimum)	Daily Min	4.0 su	Daily	Continuous	
pH (Maximum)	Daily Max	11 su	Daily	Continuous	
pH Total Exceedance Time Minutes	Monthly Total	446 minutes	Daily	Calculated	
pH Exceedances Greater Than 60 Minutes	Monthly Total	0 Number	Daily	Calculated	
Oil & Grease (Hexane)	Monthly Avg	26 mg/L	Weekly	Grab	
Oil & Grease (Hexane)	Daily Max	52 mg/L	Weekly	Grab	
Copper, Total Recoverable	Monthly Avg	2,070 µg/L	Weekly	24-Hr Comp	
Copper, Total Recoverable	Daily Max	3,380 µg/L	Weekly	24-Hr Comp	
Nickel, Total Recoverable	Monthly Avg	2,380 µg/L	Weekly	24-Hr Comp	
Nickel, Total Recoverable	Daily Max	3,980 µg/L	Weekly	24-Hr Comp	

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Phosphorus, Total	Rolling 12 Month Avg	1.0 mg/L	Weekly	24-Hr Comp	Phosphorus limitation first effective on July 1, 2015
Zinc, Total Recoverable	Monthly Avg	1,480 µg/L	Weekly	24-Hr Comp	
Zinc, Total Recoverable	Daily Max	2,610 µg/L	Weekly	24-Hr Comp	
Cadmium, Total Recoverable	Monthly Avg	260 µg/L	Monthly	24-Hr Comp	
Cadmium, Total Recoverable	Daily Max	690 µg/L	Monthly	24-Hr Comp	
Chromium, Total Recoverable	Monthly Avg	1,710 µg/L	Monthly	24-Hr Comp	
Chromium, Total Recoverable	Daily Max	2,770 µg/L	Monthly	24-Hr Comp	
Cyanide, Total	Monthly Avg	650 µg/L	Monthly	Grab	
Cyanide, Total	Daily Max	1,200 µg/L	Monthly	Grab	
Lead, Total Recoverable	Monthly Avg	430 µg/L	Monthly	24-Hr Comp	
Lead, Total Recoverable	Daily Max	690 µg/L	Monthly	24-Hr Comp	
Mercury, Total Recoverable		ng/L	Monthly	Grab	
Silver, Total Recoverable	Monthly Avg	240 µg/L	Monthly	24-Hr Comp	
Silver, Total Recoverable	Daily Max	430 µg/L	Monthly	24-Hr Comp	
Total Toxic Organics	Daily Max	2,130 µg/L	Monthly	24-Hr Comp	Certify monthly or monitor
Benzene		µg/L	Annual	Grab	
Bis(2-Ethylhexyl) phthalate		µg/L	Annual	24-Hr Comp	
Bromoform		µg/L	Annual	Grab	
Chlorobenzene		µg/L	Annual	Grab	
Chlorodibromomethane		µg/L	Annual	Grab	
Chloroform		µg/L	Annual	Grab	
Dichlorobromomethane (bromodichloromethane)		µg/L	Annual	Grab	
Di-n-butyl phthalate (dibutyl phthalate)		µg/L	Annual	24-Hr Comp	
Ethylbenzene		µg/L	Annual	Grab	
Methylene chloride		µg/L	Annual	Grab	
Tetrachloroethylene		µg/L	Annual	Grab	
1,1,1-Trichloroethane		µg/L	Annual	Grab	
Trichloro-ethylene		µg/L	Annual	Grab	
Toluene		µg/L	Annual	Grab	

### 2.2.1.1 Metals Analyses

Unless specified otherwise in the table above, metals analyses shall measure metals as total recoverable. Measurements of total metals and total recoverable metals shall be considered as equivalent.

### 2.2.1.2 Continuous pH Monitoring

The permittee shall maintain the pH of the discharge within the range of 6.0 to 9.5 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 9.5 s.u. shall not exceed 446 minutes in any calendar month;
- No individual pH excursion outside the range of 6.0 to 9.5 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 9.5 s.u. and the number of pH excursions outside the range of 6.0 to 9.5 that exceed 60 minutes in duration.

### 2.2.1.3 Total Toxic Organics Requirements

**TTO Summation:** Total Toxic Organics (TTO) means the sum of all quantifiable effluent concentrations greater than 10 ug/L of the toxic organic pollutants listed s. NR 215.03(1)-(5), Wis. Adm. Code.

**TTO Certification:** The permittee shall make a TTO certification statement monthly as printed on the Discharge Monitoring Report form, in accordance with s. NR 261.13(1)(a), Wis. Adm. Code, which states the following: "Based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitation for total toxic organics (TTO), I certify that to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the toxic organic management plan submitted to the Department of Natural Resources."

**Identified Toxic Organics:** When monitoring TTO, the permittee may limit testing to the toxic organic(s) identified in the table above as a TTO parameter.

**Process Modification/Planned Changes:** Use of a toxic organic other than those identified in the table above as a TTO parameter, that is listed in s. NR 215.03(1)-(5) and that has the potential for entering wastewaters discharged, is classified by the Department as a process modification. The permittee shall report such process modifications in accordance with the Standard Requirements section herein (see "Planned Changes" in the "System Operating Requirements" subsection of Standard Requirements), and include the toxic organic with those listed in the above table when monitoring TTO.

### 2.2.1.4 Flow Augmentation

The permittee shall not augment the use of process water or otherwise dilute the metal treatment effluent wastewater as a partial or total substitute for adequate treatment to achieve compliance with the above effluent limitations for sample point 101.

## 2.2.2 Sampling Point 107 - Effluent Field Blank

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

### 2.2.2.1 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.

### 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, WasteType/Sample Contents and Treatment Description (as applicable)
001	Combined discharge to the Menominee River of: treated process wastewater from metal cleaning and surface coating, NCCW, wastewater from the boiler house, groundwater infiltration into the wastewater forcemain, and roof drain water.
003	The discharge of treated remedial action wastewater to the Menominee River.

#### 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 - Process WW To Menominee R

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Total Daily	Totalize continuous flow measurements for day
Temperature	Daily Max	120 deg F	Daily	Continuous	
pH (Minimum)	Daily Min	4.0 su	Daily	Continuous	
pH (Maximum)	Daily Max	11 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	
Chloride	Daily Max	1,514 mg/L	2/Week	24-Hr Comp	
Chloride	Daily Max	10,100 lbs/day	2/Week	Calculated	
Chlorine, Total Residual	Daily Max	38 µg/L	2/Week	Grab	Total Residual Chlorine limitation effective January 1, 2017
Chlorine, Total Residual	Daily Max	0.25 lbs/day	2/Week	Calculated	Total Residual Chlorine limitation effective January 1, 2017
Copper, Total Recoverable	Daily Max	55 µg/L	2/Week	24-Hr Comp	
Copper, Total Recoverable	Daily Max	0.37 lbs/day	2/Week	Calculated	
Phosphorus, Total	Rolling 12 Month Avg	1.0 mg/L	2/Week	24-Hr Comp	

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Zinc, Total Recoverable	Daily Max	410 µg/L	2/Week	24-Hr Comp	
Zinc, Total Recoverable	Daily Max	2.8 lbs/day	2/Week	Calculated	
Arsenic, Total Recoverable	Daily Max	680 µg/L	Monthly	24-Hr Comp	
Arsenic, Total Recoverable	Daily Max	4.5 lbs/day	Monthly	Calculated	
Cadmium, Total Recoverable	Daily Max	42 µg/L	Monthly	24-Hr Comp	
Cadmium, Total Recoverable	Daily Max	0.28 lbs/day	Monthly	Calculated	
Cyanide, Total	Daily Max	92 µg/L	Monthly	Grab	
Cyanide, Total	Daily Max	0.61 lbs/day	Monthly	Calculated	
Hardness, Total as CaCO <sub>3</sub>		mg/L	Monthly	24-Hr Comp	
Mercury, Total Recoverable	Daily Max	15 ng/L	Monthly	Grab	
Nickel, Total Recoverable	Daily Max	1,500 µg/L	Monthly	24-Hr Comp	
Nickel, Total Recoverable	Daily Max	10 lbs/day	Monthly	Calculated	
Acute WET		TU <sub>a</sub>	Annual	24-Hr Comp	

### 3.2.1.1 Total Metals Analyses

Measurements of total metals and total recoverable metals shall be considered as equivalent.

### 3.2.1.2 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.

### 3.2.1.3 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.

#### 3.2.1.4 Mercury Monitoring

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

#### 3.2.1.5 Additives

The permittee shall record the dosage rate on a monthly basis of all water treatment additives used in the wastewater treatment process and water treatment additives discharged from the boiler house.

#### 3.2.1.6 Whole Effluent Toxicity (WET) Testing

**Primary Control Water:** Laboratory control water or the Menominee River upstream of the permittee's discharge.

**Acute 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.

**Acute WET Testing Frequency:** Tests are required during the following quarters: 4<sup>th</sup> quarter 2013, 3<sup>rd</sup> quarter 2014, 2<sup>nd</sup> quarter 2015, 1<sup>st</sup> quarter 2016, 2<sup>nd</sup> quarter 2017.

**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, 2<sup>nd</sup> 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  $LC_{50} \geq 100$ , then  $TU_a = 1.0$ . If  $LC_{50} < 100$ , then  $TU_a = 100 \div LC_{50}$ . 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  $IC_{25} \geq IWC$ , then  $rTU_c = 1.0$ . If  $IC_{25} < IWC$ , then  $rTU_c = IWC \div IC_{25}$ .

**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) 003 - Treated GW to Menominee R

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Total Daily	Totalize continuous flow measurements for day
pH (Minimum)	Daily Min	4.0 su	Daily	Continuous	
pH (Maximum)	Daily Max	11 su	Daily	Continuous	
pH Exceedances Greater Than 60 Minutes	Daily Max	0 Number	Daily	Continuous	
pH Total Exceedance Time Minutes	Monthly Total	446 minutes	Daily	Continuous	
Arsenic, Total Recoverable	Daily Max	680 µg/L	2/Week	24-Hr Comp	
Arsenic, Total Recoverable	Daily Max	0.6 lbs/day	2/Week	Calculated	
Phosphorus, Total	Rolling 12 Month Avg	1.0 mg/L	Monthly	24-Hr Comp	Phosphorus limit is first effective July 1, 2015
Suspended Solids, Total	Daily Max	40 mg/L	Monthly	24-Hr Comp	
Mercury, Total Recoverable	Daily Max	4.0 ng/L	Monthly	Grab	
Hardness, Total as CaCO <sub>3</sub>		mg/L	Monthly	24-Hr Comp	
Acute WET		TU <sub>a</sub>	Annual	24-Hr Comp	

#### 3.2.2.1 Total Metals Analyses

Measurements of total metals and total recoverable metals shall be considered as equivalent.

#### 3.2.2.2 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.

### 3.2.2.3 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.

### 3.2.2.4 Additives

The permittee shall record the dosage rate on a monthly basis of all water treatment additives used in the wastewater treatment process and water treatment additives discharged from the boiler house.

### 3.2.2.5 Whole Effluent Toxicity (WET) Testing

**Primary Control Water:** Laboratory control water or the Menominee River upstream of the permittee's discharge.

**Acute 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.

**Acute WET Testing Frequency:** Tests are required during the following quarters: 4<sup>th</sup> quarter 2013, 3<sup>rd</sup> quarter 2014, 2<sup>nd</sup> quarter 2015, 1<sup>st</sup> quarter 2016, 2<sup>nd</sup> quarter 2017.

**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, 2<sup>nd</sup> 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  $LC_{50} \geq 100$ , then  $TU_a = 1.0$ . If  $LC_{50}$  is  $< 100$ , then  $TU_a = 100 \div LC_{50}$ . 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  $IC_{25} \geq IWC$ , then  $rTU_c = 1.0$ . If  $IC_{25} < IWC$ , then  $rTU_c = IWC \div IC_{25}$ .

**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).

## 4 Schedules

### 4.1 Dechlorination

This compliance schedule requires the permittee to achieve compliance with the total residual chlorine limitation by January 1, 2017

Required Action	Due Date
<b>Evaluation of Chlorine Sources:</b> Evaluate sources of chlorine in the 001 discharge and submit recommendations for chlorine discharge control to the Department.	12/31/2014
<b>Plans and Specifications:</b> Submit plans and specifications for treatment plant modifications if necessary for control of total residual chlorine in the outfall 001 discharge.	12/31/2015
<b>Complete Construction:</b> Complete construction and begin compliance with the total residual chlorine daily maximum limitation.	01/01/2017

### 4.2 Mercury Pollutant Minimization Program

The permittee shall continue to implement a pollutant minimization program as defined in s. NR 106.145(7), Wis. Adm. Code.

Required Action	Due Date
<b>Implement the Mercury Pollutant Minimization Program:</b> The permittee shall continue implementation of the Mercury PMP as approved by the Department.	01/01/2014
<b>Submit Annual Status Reports:</b> The permittee shall submit to the Department an annual status report on the progress of the PMP as required by s. NR 106.145(7), Wis. Adm. Code. Submittal of the first annual status report is required by the Date Due.  Note: If the permittee wishes to apply for an alternative mercury effluent limitation, that application is due with the application for permit reissuance by 6 months prior to permit expiration. The permittee should submit or reference the PMP plan as updated by the Annual Status Report or more recent developments as part of that application.	12/31/2014
<b>Submit Annual Status Report #2:</b> Submit second annual status report.	12/31/2015
<b>Submit Annual Status Report #3:</b> Submit third annual status report.	12/31/2016
<b>Submit Annual Status Report #4:</b> Submit fourth annual status report.	12/31/2017
<b>Submit Annual Status Report #5:</b> Submit fifth annual status report.	12/31/2018

### 4.3 Total Toxic Organics Minimization Plan

The permittee shall submit an updated Total Toxic Organics (TTO) management plan

Required Action	Due Date
<b>Submit Updated TTO Plan:</b> Submit plan that insures that concentrated toxic organics are not dumped into the wastewater and that the facility is minimizing the discharge of toxic organic compounds via sample point 101 into the discharge to the river.	12/31/2014

## 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, except for s NR 205.07(1)(v) regarding bypasses which are specified below under the subsections titled ‘Bypassing’ and ‘Bypass Due to Essential Construction or Maintenance (Controlled Diversions)’. 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 BOD<sub>5</sub> 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 land application 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 Notification

- 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 an unanticipated 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.
- A written report describing the noncompliance shall also be submitted to the Department's regional office 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.

- The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

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 Bypassing

Except as provided in the subsection below titled 'Bypass Due to Essential Construction or Maintenance (Controlled Diversions)', any bypass of wastewater at the treatment works or overflow from the collection system is prohibited, and the Department may take enforcement action against a permittee for such occurrences under s. 283.89, Wis. Stats., unless all of the following occur:

- The bypass or overflow was unavoidable to prevent loss of life, personal injury, or severe property damage.
- There were no feasible alternatives to the bypass or overflow, such as the use of auxiliary treatment facilities, retention of untreated wastes, 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 or overflow which occurred during normal periods of equipment downtime or preventive maintenance.
- The permittee notifies the department of the unscheduled bypass or overflow. The permittee shall notify the department within 24 hours of initiation of the bypass or overflow occurrence by telephone, voicemail, fax or e-mail. Except for an approved blending event, within 5 days of conclusion of the bypass or overflow occurrence, the permittee shall submit to the department in writing, all of the following information:
  - Reason the bypass or overflow occurred, or explanation of other contributing circumstances that resulted in the overflow event. If the overflow or bypass is associated with wet weather, provide data on the amount and duration of the rainfall or snow melt for each separate event.
  - Date the bypass or overflow occurred.
  - Location where the bypass or overflow occurred.
  - Duration of the bypass or overflow and estimated wastewater volume discharged.
  - Steps taken or the proposed corrective action planned to prevent similar future occurrences.
  - Any other information the permittee believes is relevant.

### 5.2.3 Bypass Due to Essential Construction or Maintenance (Controlled Diversion)

A bypass which occurs due to essential construction or maintenance to assure efficient operation of the treatment works is allowed but only if the bypass complies with all effluent limitations in this permit. For these bypasses, any wastewater that is diverted around a treatment unit or treatment process shall be recombined with wastewater that is not diverted prior to discharge.

Any bypass due to essential maintenance or construction to assure efficient operation of the treatment works shall be documented in writing and the record shall be made available to the Department upon request.

#### **5.2.4 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.

#### **5.2.5 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.

#### **5.2.6 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.

#### **5.2.7 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.

#### **5.2.8 Flow Augmentation Prohibited**

The permittee shall not augment the use of process wastewater or otherwise dilute the wastewater as a partial or total substitute for adequate treatment to achieve compliance with metal finishing technology based limitations

### **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 Visible Foam or Floating Solids

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

### 5.3.5 Total Residual Chlorine Requirements (When De-Chlorinating Effluent)

Test methods for total residual chlorine, approved in ch. NR 219 - Table B, Wis. Adm. Code, normally achieve a limit of detection of about 20 to 50 micrograms per liter and a limit of quantitation of about 100 micrograms per liter. Reporting of test results and compliance with effluent limitations for chlorine residual and total residual halogens shall be as follows:

- Sample results which show no detectable levels are in compliance with the limit. These test results shall be reported on Wastewater Discharge Monitoring Report Forms as "< 100 µg/L". ( 0.1 mg/L = 100 µg/L)
- Samples showing detectable traces of chlorine are in compliance if measured at less than 100 µg/L, unless there is a consistent pattern of detectable values in this range. These values shall also be reported on Wastewater Discharge Monitoring Report Forms as "<100 µg/L." The facility operating staff shall record actual readings on logs maintained at the plant, shall take action to determine the reliability of detected results (such as re-sampling and/or calculating dosages), and shall adjust the chemical feed system if necessary to reduce the chances of detects.
- Samples showing detectable levels greater than 100 µg/L shall be considered as exceedances, and shall be reported as measured.
- To calculate average or mass discharge values, a "0" (zero) may be substituted for any test result less than 100 µg/L. Calculated values shall then be compared directly to the average or mass limitations to determine compliance.

### 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, 2<sup>nd</sup> 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 Watershed Management, 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 some or all of 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
  - (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.

## 6 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Dechlorination -Evaluation of Chlorine Sources	December 31, 2014	11
Dechlorination -Plans and Specifications	December 31, 2015	11
Dechlorination -Complete Construction	January 1, 2017	11
Mercury Pollutant Minimization Program -Implement the Mercury Pollutant Minimization Program	January 1, 2014	11
Mercury Pollutant Minimization Program -Submit Annual Status Reports	December 31, 2014	11
Mercury Pollutant Minimization Program -Submit Annual Status Report #2	December 31, 2015	11
Mercury Pollutant Minimization Program -Submit Annual Status Report #3	December 31, 2016	11
Mercury Pollutant Minimization Program -Submit Annual Status Report #4	December 31, 2017	11
Mercury Pollutant Minimization Program -Submit Annual Status Report #5	December 31, 2018	11
Total Toxic Organics Minimization Plan -Submit Updated TTO Plan	December 31, 2014	11
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	12

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

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