



# WPDES PERMIT

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

**Wisconsin KD MVR Project LLC**

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility  
located at N8247 Spruce Rd, Casco, WI

to

**Unnamed Tributary (WBIC 91900) to Casco Creek (WBIC 91600),  
in the Kewaunee River Watershed, in the Twin-Door-Kewaunee Basin**

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

\_\_\_\_\_  
Heidi Schmitt Marquez  
Wastewater Field Supervisor

\_\_\_\_\_  
Date Permit Signed/Issued

**PERMIT TERM: EFFECTIVE DATE - August 01, 2026**

**EXPIRATION DATE - June 30, 2031**

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# 1 In-Plant Requirements

## 1.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
101	IN PLANT: Liquid nitrogen fertilizer generated by the treatment of digested manure from Kinnard Farms. Treatment is provided by the Varcor treatment system process, which consists of membrane bioreactor (MBR), ultrafiltration (UF), and reverse osmosis (RO) units that separate digested manure into liquid nitrogen fertilizer, dewatered solids/sludge fertilizer, and treated effluent discharged to an Unnamed Tributary to Casco Creek.
102	IN PLANT: Dewatered solids/sludge generated by the treatment of digested manure from Kinnard Farms. Treatment is provided by the Varcor treatment system process, which consists of membrane bioreactor (MBR), ultrafiltration (UF), and reverse osmosis (RO) units that separate digested manure into liquid nitrogen fertilizer, dewatered solids/sludge fertilizer, and treated effluent discharged to an Unnamed Tributary to Casco Creek.

## 1.2 Monitoring Requirements and Limitations

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

### 1.2.1 Sampling Point 101 - Liquid Nitrogen Fertilizer

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

### 1.2.2 Sampling Point 102 - Dewatered Solids/Sludge

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		tons/day	Daily	Total Daily	

## 2 Surface Water Requirements

### 2.1 Sampling Point(s)

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

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
001	EFFLUENT: Anaerobically digested manure from Kinnard Farms that is sent through the Varcor treatment system process, which consists of membrane bioreactor (MBR) and ultrafiltration (UF) units followed by a 2-stage/2-pass reverse osmosis (RO) system for solids separation and nitrogen treatment and capture. This process generates liquid nitrogen fertilizer, dewatered solids/sludge intended for distribution as a fertilizer, and treated effluent discharged to an Unnamed Tributary to Casco Creek. Representative samples of treated effluent and RO permeate shall be collected from the clean process water tank, which is after treatment through the RO system, but prior to discharge to the Unnamed Tributary to Casco Creek.

### 2.2 Monitoring Requirements and Effluent Limitations

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

#### 2.2.1 Sampling Point (Outfall) 001 - Treated Manure Effluent

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD <sub>5</sub> , Total	Daily Max	7.5 mg/L	Weekly	24-Hr Flow Prop Comp	Limit is effective November through April each year.
BOD <sub>5</sub> , Total	Daily Max	9.7 mg/L	Weekly	24-Hr Flow Prop Comp	Limit is effective May through October each year.
BOD <sub>5</sub> , Total	Weekly Avg	4.6 mg/L	Weekly	24-Hr Flow Prop Comp	Limit is effective November through April each year.
BOD <sub>5</sub> , Total	Weekly Avg	5.9 mg/L	Weekly	24-Hr Flow Prop Comp	Limit is effective May through October each year.
BOD <sub>5</sub> , Total	Monthly Avg	4.6 mg/L	Weekly	24-Hr Flow Prop Comp	Limit is effective November through April each year.
BOD <sub>5</sub> , Total	Monthly Avg	5.9 mg/L	Weekly	24-Hr Flow Prop Comp	Limit is effective May through October each year.
BOD <sub>5</sub> , Total	Weekly Avg	14 lbs/day	Weekly	Calculated	Limit is effective November through April each year.
BOD <sub>5</sub> , Total	Weekly Avg	18 lbs/day	Weekly	Calculated	Limit is effective May through October each year.

<b>Monitoring Requirements and Effluent Limitations</b>					
<b>Parameter</b>	<b>Limit Type</b>	<b>Limit and Units</b>	<b>Sample Frequency</b>	<b>Sample Type</b>	<b>Notes</b>
Suspended Solids, Total	Daily Max	16 mg/L	Weekly	24-Hr Flow Prop Comp	Limit effective throughout the permit term, as it represents a minimum control level.
Suspended Solids, Total	Weekly Avg	10 mg/L	Weekly	24-Hr Flow Prop Comp	Limit effective throughout the permit term, as it represents a minimum control level.
Suspended Solids, Total	Monthly Avg	10 mg/L	Weekly	24-Hr Flow Prop Comp	Limit effective throughout the permit term, as it represents a minimum control level.
Suspended Solids, Total	Daily Max	22 lbs/day	Weekly	Calculated	
Suspended Solids, Total	Monthly Avg	13 lbs/day	Weekly	Calculated	
Suspended Solids, Total		lbs/month	Monthly	Calculated	Calculate the Total Monthly Discharge of TSS and report on the last day of the month on the eDMR. See TMDL Calculations section below.
Suspended Solids, Total		lbs/yr	Monthly	Calculated	Calculate the 12-month rolling sum of total monthly mass of TSS discharged and report on the last day of the month on the eDMR. See TMDL Calculations section.
pH Field	Daily Min	6.0 mg/L	5/Week	Grab	
pH Field	Daily Max	9.0 mg/L	5/Week	Grab	
Dissolved Oxygen	Daily Min	8.0 mg/L	5/Week	Grab	
Nitrogen, Ammonia Variable Limit		mg/L	Weekly	See Table	Daily maximum ammonia limit varies with effluent pH. Look up the variable ammonia limit from the 'Variable Ammonia Limitation' table and report the variable limit in the Ammonia Variable Limit column on the eDMR.

<b>Monitoring Requirements and Effluent Limitations</b>					
<b>Parameter</b>	<b>Limit Type</b>	<b>Limit and Units</b>	<b>Sample Frequency</b>	<b>Sample Type</b>	<b>Notes</b>
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total	Daily Max - Variable	mg/L	Weekly	24-Hr Flow Prop Comp	Report the daily maximum Ammonia result in the Nitrogen, Ammonia (NH <sub>3</sub> -N) Total column of the eDMR. See the Variable Daily Maximum Ammonia Limits section.
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total	Weekly Avg	3.6 mg/L	Weekly	24-Hr Flow Prop Comp	Limit effective June through September each year.
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total	Weekly Avg	6.0 mg/L	Weekly	24-Hr Flow Prop Comp	Limit effective October through March each year.
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total	Weekly Avg	6.1 mg/L	Weekly	24-Hr Flow Prop Comp	Limit effective April and May each year.
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total	Monthly Avg	1.5 mg/L	Weekly	24-Hr Flow Prop Comp	Limit effective June through September each year.
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total	Monthly Avg	2.5 mg/L	Weekly	24-Hr Flow Prop Comp	Limit effective October through May each year.
Nitrogen, Total Kjeldahl		mg/L	Monthly	24-Hr Flow Prop Comp	Monitoring only.
Nitrogen, Nitrite + Nitrate Total		mg/L	Monthly	24-Hr Flow Prop Comp	Monitoring only.
Nitrogen, Total		mg/L	Monthly	Calculated	Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen.
Nitrogen, Total		lbs/month	Monthly	Calculated	Report the total nitrogen mass discharged per month. Value entered on the last day of the month.
Nitrogen, Total	Annual Total	637,404 lbs/yr	Annual	Calculated	The sum of total monthly mass discharged may not exceed limit.
E. coli	Monthly Avg	126 #/100 ml	Weekly	Grab	Limit is effective May through September each year.
E. coli	% Exceedance	10 Percent	Monthly	Calculated	Limit is effective May through September each year. See the 'E. coli Percent Limit' section. Enter the result in the DMR on the last day of the month.

<b>Monitoring Requirements and Effluent Limitations</b>					
<b>Parameter</b>	<b>Limit Type</b>	<b>Limit and Units</b>	<b>Sample Frequency</b>	<b>Sample Type</b>	<b>Notes</b>
Phosphorus, Total		mg/L	Weekly	24-Hr Flow Prop Comp	Monitoring only for mass limit calculation purposes.
Phosphorus, Total	Monthly Avg	0.9 lbs/day	Weekly	Calculated	
Phosphorus, Total	6-Month Avg	0.3 lbs/day	Weekly	Calculated	
Phosphorus, Total		lbs/month	Monthly	Calculated	Calculate the Total Monthly Discharge of phosphorus and report on the last day of the month on the DMR. See TMDL Calculations section.
Phosphorus, Total		lbs/yr	Monthly	Calculated	Calculate the 12-month rolling sum of total monthly mass of phosphorus discharged and report on the last day of the month on the DMR. See TMDL Calculations section.
Chlorine, Total Residual	Daily Max	19 µg/L	Daily	Grab	
Chlorine, Total Residual	Weekly Avg	7.3 µg/L	Daily	Grab	
Chlorine, Total Residual	Monthly Avg	7.3 µg/L	Daily	Grab	
Arsenic, Total Recoverable	Daily Max	345 µg/L	Monthly	24-Hr Flow Prop Comp	
Arsenic, Total Recoverable	Weekly Avg	153 µg/L	Monthly	24-Hr Flow Prop Comp	
Arsenic, Total Recoverable	Monthly Avg	14 µg/L	Monthly	24-Hr Flow Prop Comp	
Cadmium, Total Recoverable	Daily Max	1.5 µg/L	Monthly	24-Hr Flow Prop Comp	
Cadmium, Total Recoverable	Weekly Avg	0.82 µg/L	Monthly	24-Hr Flow Prop Comp	
Cadmium, Total Recoverable	Monthly Avg	0.82 µg/L	Monthly	24-Hr Flow Prop Comp	
Chromium, Total Recoverable	Daily Max	449 µg/L	Monthly	24-Hr Flow Prop Comp	
Chromium, Total Recoverable	Weekly Avg	42 µg/L	Monthly	24-Hr Flow Prop Comp	
Chromium, Total Recoverable	Monthly Avg	42 µg/L	Monthly	24-Hr Flow Prop Comp	
Copper, Total Recoverable	Daily Max	3.1 µg/L	Monthly	24-Hr Flow Prop Comp	
Copper, Total Recoverable	Weekly Avg	3.1 µg/L	Monthly	24-Hr Flow Prop Comp	

<b>Monitoring Requirements and Effluent Limitations</b>					
<b>Parameter</b>	<b>Limit Type</b>	<b>Limit and Units</b>	<b>Sample Frequency</b>	<b>Sample Type</b>	<b>Notes</b>
Copper, Total Recoverable	Monthly Avg	3.1 µg/L	Monthly	24-Hr Flow Prop Comp	
Lead, Total Recoverable	Daily Max	21 µg/L	Monthly	24-Hr Flow Prop Comp	
Lead, Total Recoverable	Weekly Avg	7.2 µg/L	Monthly	24-Hr Flow Prop Comp	
Lead, Total Recoverable	Monthly Avg	7.2 µg/L	Monthly	24-Hr Flow Prop Comp	
Nickel, Total Recoverable	Daily Max	112 µg/L	Monthly	24-Hr Flow Prop Comp	
Nickel, Total Recoverable	Weekly Avg	16 µg/L	Monthly	24-Hr Flow Prop Comp	
Nickel, Total Recoverable	Monthly Avg	16 µg/L	Monthly	24-Hr Flow Prop Comp	
Zinc, Total Recoverable	Daily Max	27 µg/L	Monthly	24-Hr Flow Prop Comp	
Zinc, Total Recoverable	Weekly Avg	27 µg/L	Monthly	24-Hr Flow Prop Comp	
Zinc, Total Recoverable	Monthly Avg	27 µg/L	Monthly	24-Hr Flow Prop Comp	
Hardness, Total as CaCO <sub>3</sub>		mg/L	Monthly	24-Hr Flow Prop Comp	
Chloride	Daily Max	770 mg/L	4/Month	24-Hr Flow Prop Comp	Samples should be collected on four consecutive days each month.
Chloride	Weekly Avg	400 mg/L	4/Month	24-Hr Flow Prop Comp	Samples should be collected on four consecutive days each month.
Chloride	Monthly Avg	400 mg/L	4/Month	24-Hr Flow Prop Comp	Samples should be collected on four consecutive days each month.
Temperature Maximum	Daily Max	76 deg F	Daily	Grab	Limit is effective December through February each year.
Temperature Maximum	Daily Max	77 deg F	Daily	Grab	Limit is effective March and November each year.
Temperature Maximum	Daily Max	79 deg F	Daily	Grab	Limit is effective April each year.
Temperature Maximum	Daily Max	80 deg F	Daily	Grab	Limit is effective October each year.
Temperature Maximum	Daily Max	82 deg F	Daily	Grab	Limit is effective May and September each year.
Temperature Maximum	Daily Max	84 deg F	Daily	Grab	Limit is effective June and August each year.

<b>Monitoring Requirements and Effluent Limitations</b>					
<b>Parameter</b>	<b>Limit Type</b>	<b>Limit and Units</b>	<b>Sample Frequency</b>	<b>Sample Type</b>	<b>Notes</b>
Temperature Maximum	Daily Max	85 deg F	Daily	Grab	Limit is effective July each year.
Temperature Maximum	Weekly Avg	49 deg F	Daily	Grab	Limit is effective November through January each year.
Temperature Maximum	Weekly Avg	50 deg F	Daily	Grab	Limit is effective February each year.
Temperature Maximum	Weekly Avg	52 deg F	Daily	Grab	Limit is effective March each year.
Temperature Maximum	Weekly Avg	55 deg F	Daily	Grab	Limit is effective April each year.
Temperature Maximum	Weekly Avg	65 deg F	Daily	Grab	Limit is effective May each year.
Temperature Maximum	Weekly Avg	76 deg F	Daily	Grab	Limit is effective June each year.
Temperature Maximum	Weekly Avg	81 deg F	Daily	Grab	Limit is effective July and August each year.
Temperature Maximum	Weekly Avg	73 deg F	Daily	Grab	Limit is effective September each year.
Temperature Maximum	Weekly Avg	61 deg F	Daily	Grab	Limit is effective October each year.
Acute WET		TU <sub>a</sub>	See Listed Qtr(s)	24-Hr Flow Prop Comp	
Chronic WET		TU <sub>c</sub>	See Listed Qtr(s)	24-Hr Flow Prop Comp	

### 2.2.1.1 Variable Daily Maximum Ammonia Limitations

Daily maximum ammonia limits vary based on the effluent pH value. pH sampling shall occur on the same day total ammonia (NH<sub>3</sub>-N) sampling occurs and as required by the permit. Report the applicable Variable Ammonia Limit from the 'Variable Ammonia Limitation Table' below on the Electronic Discharge Monitoring Report (eDMR) in the 'Nitrogen, Ammonia Variable Limit' column. Compare ammonia limits in the Variable Ammonia Limitation Table below to the reported ammonia result and report number of exceedances on the eDMR.

Note that pH values should be rounded to the 0.1 s.u. before using the table below. For example, if the pH field reading is 8.04, the value of 8.0 should be used.

Variable Ammonia Limitation Table

Effluent pH s.u.	Limit mg/L	Effluent pH s.u.	Limit mg/L	Effluent pH s.u.	Limit mg/L
6.0 ≤ pH ≤ 6.1	55	7.0 < pH ≤ 7.1	33	8.0 < pH ≤ 8.1	7.0
6.1 < pH ≤ 6.2	54	7.1 < pH ≤ 7.2	30	8.1 < pH ≤ 8.2	5.8
6.2 < pH ≤ 6.3	53	7.2 < pH ≤ 7.3	27	8.2 < pH ≤ 8.3	4.8
6.3 < pH ≤ 6.4	51	7.3 < pH ≤ 7.4	23	8.3 < pH ≤ 8.4	3.9
6.4 < pH ≤ 6.5	50	7.4 < pH ≤ 7.5	20	8.4 < pH ≤ 8.5	3.2
6.5 < pH ≤ 6.6	48	7.5 < pH ≤ 7.6	17	8.5 < pH ≤ 8.6	2.7
6.6 < pH ≤ 6.7	45	7.6 < pH ≤ 7.7	15	8.6 < pH ≤ 8.7	2.2
6.7 < pH ≤ 6.8	43	7.7 < pH ≤ 7.8	12	8.7 < pH ≤ 8.8	1.9
6.8 < pH ≤ 6.9	40	7.8 < pH ≤ 7.9	10	8.8 < pH ≤ 8.9	1.6
6.9 < pH ≤ 7.0	37	7.9 < pH ≤ 8.0	8.5	8.9 < pH ≤ 9.0	1.3

### 2.2.1.2 pH – Grab Sample Analyses

When pH Field limit(s) or monitoring are included in a permit, the permittee shall comply with the following conditions:

- The permittee shall perform pH testing required in this permit using an approved method from ch. NR 219, Wis. Adm. Code, Table B,
- The permittee shall utilize a pH probe/meter that incorporates and uses automatic temperature compensation,
- The permittee shall analyze pH samples as soon as possible after collection not to exceed 15 minutes (this may mean transporting samples to an offsite laboratory is not an option), and
- The permittee shall calibrate the pH probe/meter daily, using unexpired 4, 7, and 10 buffers prior to use.

### 2.2.1.3 Dissolved Oxygen (DO) – Grab Sample Analyses

When dissolved oxygen (DO) grab limit(s) or monitoring are included in a permit, the permittee shall comply with the following conditions:

- The permittee shall perform DO testing required in this permit using an approved method from ch. NR 219, Wis. Adm. Code, Table B,
- The permittee shall utilize a DO probe/meter that incorporates and uses automatic temperature compensation,
- The permittee shall set the barometric pressure on the DO meter to local elevation and not sea level,
- The permittee shall analyze DO samples as soon as possible after collection not to exceed 15 minutes (this may mean transporting samples to an offsite laboratory is not an option), and
- The permittee shall calibrate the DO probe/meter daily prior to use.

### 2.2.1.4 *E. coli* Percent Limit

No more than 10 percent of *E. coli* bacteria samples collected in any calendar month may exceed 410 #/100 ml. Bacteria samples may be collected more frequently than required. All samples shall be reported on the monthly discharge monitoring reports (DMRs). The following calculation should be used to calculate percent exceedances.

$$\frac{\text{\# of Samples greater than 410 \# / 100 mL}}{\text{Total \# of samples}} \times 100 = \% \text{ Exceedance}$$

### 2.2.1.5 Total Metals Analyses

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

### 2.2.1.6 Total Residual Chlorine – Grab Sample Analyses

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

- The permittee shall perform TRC testing using an approved method from ch. NR 219, Wis. Adm. Code, Table B,
- The permittee shall collect samples in a glass bottle and completely fill the bottle with sample so there is no visual headspace,
- The permittee shall analyze TRC samples as soon as possible after collection, not to exceed 15 minutes (this may mean transporting to an offsite laboratory is not an option),
- The permittee shall verify their detection limit at least annually, and
- The permittee shall follow all TRC requirements in their permit.

### 2.2.1.7 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), 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.

### 2.2.1.8 Effluent Temperature Limitations

Limits for Temperature, Maximum: The effluent limitations for “Temperature, Maximum” are effective upon reissuance of the permit, July 1, 2026. Monitoring is required daily upon permit reissuance. Daily maximum temperatures shall be reported so that applicable daily maximum limits can be compared to the reported daily maximum temperatures and applicable weekly average limits can be compared to the weekly averages of the reported daily maximum temperatures.

**Effluent Limitations for 'Temperature Maximum':**

Month	Calculated Effluent Limit	
	Weekly Average Effluent Limitation (°F)	Daily Maximum Effluent Limitation (°F)
JAN	49	76
FEB	50	76
MAR	52	77
APR	55	79
MAY	65	82
JUN	76	84
JUL	81	85
AUG	81	84
SEP	73	82
OCT	61	80
NOV	49	77
DEC	49	76

**2.2.1.9 Northeast Lakeshore Total Maximum Daily Load (TMDL) Calculations**

**Approved TMDL:** The Northeast Lakeshore TMDL Waste Load Allocation (WLA) for total phosphorus and total suspended solids was approved by the U.S. Environmental Protection Agency on October 30, 2023. TMDL total lbs/month and lbs/yr effluent results shall be calculated as follows: TMDL total lbs/month and lbs/yr effluent results shall be calculated as follows:

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

**12-Month Rolling Sum of Total Monthly Discharge (lbs/yr):** = the sum of the most recent 12 consecutive months of Total Monthly Discharges.

**2.2.1.10 TMDL Limitations for Total Phosphorus**

The approved TMDL phosphorus WLA for this permittee is, as granted through a request for reserve capacity that was approved by the Department on February 23, 2026, **84 lbs/yr**, which results in calculated phosphorus mass limits of **0.900 lbs/day as a monthly average and 0.300 lbs/day as a 6-month average**. For facilities with a 6-month average mass limit: The 6-month average limit is expressed as a seasonal average with averaging periods occurring from May through October and November through April. Compliance with the 6-month average limit is evaluated at the end of each 6-month period on April 30<sup>th</sup> and October 31<sup>st</sup> annually. The 12-month rolling sum of total monthly phosphorus (lbs/yr) shall be reported each month for direct comparison to the facility's WLA.

The approved TMDL phosphorus WLA, as granted through a request for reserve capacity, for this permittee is **84 lbs/yr**, which results in calculated phosphorus mass limits of **0.900 lbs/day as a monthly average and 0.300 lbs/day as a 6-month average**. The 6-month average limit is expressed as a seasonal average with averaging periods occurring from May through October and November through April. Compliance with the 6-month average limit is evaluated at the end of each 6-month period on April 30<sup>th</sup> and October 31<sup>st</sup> annually.

The 12-month rolling sum of total monthly phosphorus (lbs/yr) shall be reported each month for direct comparison to the facility's WLA.

### 2.2.1.11 TMDL Limitations for Total Suspended Solids

The approved TMDL TSS WLA for this permittee, as granted through a request for reserve capacity that was approved by the Department on February 23, 2026, is **2,630 lbs/year**, and results in calculated TSS mass limits of 22 lbs/day as a daily maximum limit and 13 lbs/day as a monthly average limit. The 12-month rolling sum of total monthly TSS (lbs/yr) shall be reported each month for direct comparison to the facility's WLA.

### 2.2.1.12 Nitrogen Series Monitoring

Monitoring for Total Kjeldahl Nitrogen (TKN), Nitrite + Nitrate Nitrogen, and Total Nitrogen shall be conducted monthly in order to collect additional information about the discharge.

Nitrogen Series monitoring shall continue after the permit expiration date (until the permit is reissued) in accordance with the monitoring requirements specified in the last full calendar year of this permit, and would be required on a monthly basis until the permit is reissued.

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

### 2.2.1.13 Additives

The permittee shall report the dosage rate of all additives used on a monthly basis in the General Remarks section of the electronic Discharge Monitoring Report (eDMR) form. The additives may be changed during the term of the permit following procedures in the 'Additives' subsection of the Standard Requirements.

### 2.2.1.14 Whole Effluent Toxicity (WET) Testing

**Primary Control Water for Acute Tests:** synthetic (standard) laboratory water

**Primary Control Water for Chronic Tests:** receiving water (Unnamed Tributary (WBIC 91900), upstream of Casco Creek)

**Instream Waste Concentration (IWC):** 100%

**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 during the following quarters:

- **April - June 2027**
- **July - September 2029**

Acute WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the last full calendar year of this permit. For example, the next test would be required in July 1 – September 30, 2031.

**Chronic** tests are required during the following quarters:

- **April - June 2027**
- **July - September 2029**
- **October - December 2030**

Chronic WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the last full calendar year of this permit. For example, the next test would be required in **January 1 - March 31, 2032**.

**Testing:** WET testing shall be performed during normal/typical operating conditions. Permittees are not allowed to cease their discharge (for no other reason than the scheduled WET test), 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, 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 (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 that 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 Schedules

#### 3.1 Wastewater Operator Certification

In accordance with s. NR 114.56(1)(b) and NR 114.57(1)(c), Wis. Adm. Code, obtain the required certification in the subclass(es) identified in the schedule for proper operation and maintenance of the wastewater treatment system.

Required Action	Due Date
<b>Basic Level Certification:</b> The designated operator-in-charge (OIC) shall complete the required exam for the Unique Treatment System category, subclass U, with a passing score and satisfy the one year of subclass specific experience. The OIC shall submit a summary report by the due date providing a written description of the one year of subclass-specific experience.	08/01/2027
<b>Advanced Level Certification:</b> The designated operator-in-charge (OIC) shall complete the required exam for the Unique Treatment System category, subclass U, with a passing score and satisfy the four years of subclass specific experience. The OIC shall submit a summary report by the due date providing a written description of the four years of subclass-specific experience required for the advanced level.	08/01/2030

#### 3.2 Operations and Maintenance (O&M) Management Program

Develop a plan to manage the site in accordance with WPDES permit requirements.

Required Action	Due Date
<b>Management Plan - Draft:</b> Submit a draft for Department review of a written management plan for the site that describes operational and maintenance details for the site related to the Varcor treatment system. The plan should include how each of the three materials generated by the treatment system are handled and managed. The three materials include: treated effluent from the treatment system; liquid nitrogen fertilizer; and dry/separated solids to be used as a fertilizer. The plan should ensure that the site and treatment system are properly operated, managed, and maintained at all times. The plan should include a detailed description of all procedures to ensure that all facilities and systems of treatment that are installed or used by the permittee to achieve compliance with the conditions of the permit are properly operated and maintained. The wastewater treatment facility shall be under the direct supervision of a state certified operator as required in s. NR 108.06 (2). Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training as required in ch. NR 114 and adequate laboratory and process controls, including appropriate quality assurance procedures. See s. NR 205.07(1)(j), Wis. Adm. Code, for additional information. In addition, the permittee shall furnish the department, within a reasonable time, any information which the department may request to determine compliance with the permit in accordance with s. NR 205.07(1)(L).	03/01/2027
<b>Management Plan - Final:</b> Submit a final version of the management plan for the site that includes all information identified to be included in the draft version of the plan required in the first entry of this Schedule.	08/01/2027
<b>Management Plan - Changes:</b> Subsequent changes made to the management plan after department approval shall be submitted as plan amendments for review and approval by the department prior to implementation of the proposed changes and inclusion in the revised plan.	

## 4 Standard Requirements

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

### 4.1 Reporting and Monitoring Requirements

#### 4.1.1 Monitoring Results

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

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

If the permittee monitors any pollutant more frequently than required by this permit, the results of such monitoring shall be included on the Wastewater Discharge Monitoring Report pursuant s. NR 205.07(1)(r)2., Wis. Adm. Code.

For the purpose of meeting sampling frequency requirements, a week is defined as a calendar week, which begins on Sunday and ends on Saturday. The calendar week shall be used as the basis for reporting monitoring data on discharge monitoring reports.

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

#### 4.1.2 Sampling and Testing Procedures

Sampling and laboratory testing procedures shall be performed in accordance with Chapters NR 218 and NR 219, Wis. Adm. Code, and completed by a laboratory certified or registered in accordance with the requirements of ch. NR 149, Wis. Adm. Code. Groundwater sampling shall be performed in accordance with procedures contained in s. NR 140.16, Wis. Adm. Code, and the WDNR publications, Groundwater Sampling Desk Reference (PUBL-DG-037-96) and Groundwater Sampling Field Manual (PUBL-DG-038-96). The analytical methodologies used shall enable the laboratory to quantitate all substances for which monitoring is required at levels below the effluent limitation and/or groundwater standard. If the required level cannot be met by any of the methods available in ch. NR 219, Wis. Adm. Code, then the method with the lowest limit of detection shall be selected. Additional test procedures may be specified in this permit.

#### 4.1.3 Sample Types

The permittee shall use the following definitions from s. NR 218.04, Wis. Adm. Code as prescribed in the WPDES permit for the appropriate method and manner of obtaining samples:

**24-hour Composite Sample:** A combination of individual samples taken at intervals of not more than one hour such that the volumes of each of the individual samples and of the combination are proportional to the volumes of flow during each interval and during the 24-hour period respectively.

- **24-hour Flow Proportional Composite Sample:** A combination of individual grab samples taken over a 24-hr period, where the individual grab samples are of equal volume and taken at intervals after a specified volume of discharge has occurred.
- **24-hour Time Proportional Composite Sample:** A combination of individual grab samples taken over a 24-hr period, where the individual grab samples are of equal volume and taken at consistent intervals not exceeding 15 minutes.

**Composite Sample:** A combination of individual samples of equal volume taken at approximately equal intervals not exceeding one hour over a specified period of time.

- **3-hr Composite Sample:** A combination of three (3) individual grab samples of equal volume taken at one-hour intervals.

**Continuous Sample:** A composite of successive individual samples of equal volume taken automatically at equal intervals not exceeding 15 minutes. Where the term is used in connection with monitoring temperature or pH it means continuous in-line recording or monitoring at intervals of not more than 15 minutes.

Continuous sample is synonymous with in-line measurements and may apply to flow, temperature, pH, and dissolved oxygen measurements only. The in-line instrument takes automatic readings at intervals of not more than 15 minutes during a 24-hour period.

**Grab Sample:** A single sample taken at one moment of time or a combination of several smaller samples of equal volume taken in less than a 2-minute period. Where the term is used in connection with monitoring temperature or pH it means a single measurement.

#### 4.1.4 Recording of Results

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

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

#### 4.1.5 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<sub>5</sub> and 2.5 mg/L Total Suspended Solids shall be considered to be limits of quantitation.
- For the purposes of reporting a calculated result, average or a mass discharge value, the permittee may substitute a "0" (zero) for any pollutant concentration that is less than the limit of detection. However, if the effluent limitation is less than the limit of detection, the department may substitute a value other than zero for

results less than the limit of detection, after considering the number of monitoring results that are greater than the limit of detection and if warranted when applying appropriate statistical techniques.

- If no discharge occurs through an outfall, flow related parameters (e.g. flow rate, hydraulic application rate, volume, etc.) should be reported as “0” (zero) at the required sample frequency specified for the outfall. For example: if the sample frequency is daily, “0” would be reported for any day during the month that no discharge occurred.

#### **4.1.6 Records Retention**

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

#### **4.1.7 Other Information**

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

#### **4.1.8 Reporting Requirements – Alterations or Additions**

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

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

### **4.2 System Operating Requirements**

#### **4.2.1 Noncompliance Reporting**

The permittee shall report the following types of noncompliance by a telephone call and/or an electronic message (email) 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 recurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

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

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

#### 4.2.2 Bypass

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

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

#### 4.2.3 Scheduled Bypass

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

#### 4.2.4 Controlled Diversions

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

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

- A controlled diversion may not result in a wastewater treatment facility overflow; and
- All instances of controlled diversions shall be documented in wastewater treatment facility records and such records shall be available to the department on request.

#### **4.2.5 Proper Operation and Maintenance**

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

#### **4.2.6 Operator Certification**

The wastewater treatment facility shall be under the direct supervision of a state certified operator. In accordance with s. NR 114.53, Wis. Adm. Code, every WPDES permitted treatment plant shall have a designated operator-in-charge holding a current and valid certificate. The designated operator-in-charge shall be certified at the level and in all subclasses of the treatment plant, except laboratory. Treatment plant owners shall notify the department of any changes in the operator-in-charge within 30 days. Note that s. NR 114.52(22), Wis. Adm. Code, lists types of facilities that are excluded from operator certification requirements (i.e. private sewage systems, pretreatment facilities discharging to public sewers, industrial wastewater treatment that consists solely of land disposal, agricultural digesters and concentrated aquatic production facilities with no biological treatment).

#### **4.2.7 Spill Reporting**

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

#### **4.2.8 Planned Changes**

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

#### **4.2.9 Duty to Halt or Reduce Activity**

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

### **4.3 Surface Water Requirements**

#### **4.3.1 Permittee-Determined Limit of Quantitation Incorporated into this Permit**

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

### 4.3.2 Appropriate Formulas for Effluent Calculations

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

**Weekly/Monthly/Six-Month/Annual Average Concentration** = the sum of all daily results for that week/month/six-month/year, divided by the number of results during that time period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April, except in cases of Water Quality Trading, wherein the applicable periods are January through June and July through December.]

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

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

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

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

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

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

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

### 4.3.3 Effluent Temperature Requirements

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

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

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

### 4.3.4 Visible Foam or Floating Solids

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

### 4.3.5 Surface Water Uses and Criteria

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

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

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

#### **4.3.6 *E. coli***

The monthly limit for *E. coli* shall be expressed as a geometric mean. In calculating the geometric mean, a value of 1 is used for any result of 0.

#### **4.3.7 Seasonal Disinfection**

Disinfection shall be provided from May 1 through September 30 of each year. Monitoring requirements and the limitations for Fecal Coliform (interim) and *E. coli* apply only during the period in which disinfection is required. Whenever chlorine is used for disinfection or other uses, the limitations and monitoring requirements for residual chlorine shall apply. A dechlorination process shall be in operation whenever chlorine is used.

#### **4.3.8 Total Residual Chlorine Requirements**

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

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

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

#### 4.3.9 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.

#### 4.3.10 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.

#### 4.3.11 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 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Wastewater Operator Certification -Basic Level Certification	August 1, 2027	13
Wastewater Operator Certification -Advanced Level Certification	August 1, 2030	13
Operations and Maintenance (O&M) Management Program -Management Plan - Draft	March 1, 2027	13
Operations and Maintenance (O&M) Management Program -Management Plan - Final	August 1, 2027	13
Operations and Maintenance (O&M) Management Program -Management Plan - Changes	See Permit	13
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	14

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

All other submittals required by this permit shall be submitted to: Northeast Region, 2984 Shawano Ave, Green Bay, WI 54313-6727.