### General Information

<table>
<thead>
<tr>
<th>Permit Number:</th>
<th>WI-0024708-10-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permittee Name:</td>
<td>City of Menomonie</td>
</tr>
</tbody>
</table>
| Address:             | City Hall  
800 Wilson Ave. |
| City/State/Zip:      | Menomonie WI 54751 |
| Discharge Location:  | Menomonie Wastewater Treatment Facility, 620 11th Ave. West, Menomonie WI 54751  
Lat: 44.87464º N / Lon: 91.93743º W |
| Receiving Water:     | The Red Cedar River, Located in the Wilson Watershed of the Lower Chippewa River Basin in Dunn County |
| Stream Flow (Q7,10): | 437 cfs |
| Stream Classification: | Warm Water Sport Fish, Non-public Water Supply |
| Design Flows:        | Daily Maximum 4.118 MGD |
|                      | Weekly Maximum 3.808 MGD |
|                      | Monthly Maximum 3.308 MGD |
|                      | Annual Average 2.798 MGD |
| Significant Industrial Loading?: | Yes – 3M Manufacturing, Cardinal Glass, Badger Iron and Con Agra/Swiss Miss Foods |
| Operator at Proper Grade?: | Yes – This is an Advanced facility with required subclasses: A1-Suspended Growth Processes, B-Solids Separation, C-Biological Solids/Sludges, D-Disinfection, P-Total Phosphorus, L-Laboratory and SS-Sanitary Sewage Collection System. Operator in Charge and multiple operators fully certified. |
| Approved Pretreatment Program?: | N/A |

### Facility Description

The Menomonie Wastewater Treatment Facility (WWTF) has an annual average design flow of 2.798 million gallons per day (MGD). The actual annual average flow for 2017 through 2019 was 1.54 MGD. The Menomonie WWTF treats domestic wastewater from the City of Menomonie and industrial wastewater from several industries including 3M Manufacturing, Cardinal Glass, Badger Iron and Con Agra/Swiss Miss Foods. Treatment for the Menomonie Wastewater Treatment Facility includes raw wastewater pumping, a 6 mm fine screen, grit removal, primary settling, biological and chemical phosphorus removal, activated sludge, secondary settling, and UV disinfection. Waste activated sludge (WAS) is thickened by dissolved air floatation. Thickened WAS and raw primary sludge are digested anaerobically. Class B anaerobically digested sludge is thickened by a gravity belt thickener and hauled to a sludge storage site until land application.

**Reason for Modification:** The facility submitted the Effluent Limitation E. Coli Operational Evaluation Report which provided data indicating Menomonie is capable of meeting the E. Coli limits, and as a result, the effluent fecal coliform
limits are no longer required and will be replaced with E. Coli limits. The new E. coli limits will be effective May 2023 and the associated compliance schedule will be removed. In addition, operational changes of switching to UV disinfection from chlorine disinfection allows for effluent chlorine monitoring and limitations to also be removed.

### SUBSTANTIAL COMPLIANCE DETERMINATION - OVERALL

<table>
<thead>
<tr>
<th>Compliance</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge Limits</td>
<td>Y</td>
</tr>
<tr>
<td>Sampling/testing requirements</td>
<td>Y</td>
</tr>
<tr>
<td>Groundwater standards</td>
<td>N/A</td>
</tr>
<tr>
<td>Reporting requirements</td>
<td>Y</td>
</tr>
<tr>
<td>Compliance schedules</td>
<td>Y</td>
</tr>
<tr>
<td>Other: Spill reporting</td>
<td>Y</td>
</tr>
<tr>
<td>Operator at proper grade?</td>
<td>Y</td>
</tr>
<tr>
<td>Enforcement considerations</td>
<td>N</td>
</tr>
</tbody>
</table>

**In substantial compliance?**  
**Concurrence:** Nick Lindstrom  
**Date:** 03/02/2020

### SUBSTANTIAL COMPLIANCE DETERMINATION – LAND APP

<table>
<thead>
<tr>
<th>Compliance</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge Limits</td>
<td>Y</td>
</tr>
<tr>
<td>Sampling/testing requirements</td>
<td>Y</td>
</tr>
<tr>
<td>Groundwater standards</td>
<td>N/A</td>
</tr>
<tr>
<td>Reporting requirements</td>
<td>Y</td>
</tr>
<tr>
<td>Compliance schedules</td>
<td>Y</td>
</tr>
<tr>
<td>Other:</td>
<td>N/A</td>
</tr>
<tr>
<td>Enforcement considerations</td>
<td>N</td>
</tr>
</tbody>
</table>

**In substantial compliance?**  
**Name:** Nick Lindstrom  
**Date:** 03/02/2020
### Sample Point Designation

<table>
<thead>
<tr>
<th>Sample Point Number</th>
<th>Discharge Flow, Units, and Averaging Period</th>
<th>Sample Point Location, Waste Type/sample Contents and Treatment Description (as applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>701</td>
<td>1.5 MGD (2017 – 2019)</td>
<td>Representative influent samples shall be collected at the Parshall flume after preliminary treatment.</td>
</tr>
<tr>
<td>001</td>
<td>1.54 MGD (2017 – 2019)</td>
<td>Representative effluent samples shall be collected after disinfection prior to discharge to the Red Cedar River.</td>
</tr>
<tr>
<td>002</td>
<td>347 dry US tons (2016 – 2018)</td>
<td>Representative sludge samples shall be collected and monitored quarterly for Lists 1, 2, 3 and 4 and annually for Radium-226. Sludge shall be monitored once in 2021 for PCBs.</td>
</tr>
<tr>
<td>101</td>
<td>N/A Field Blank</td>
<td>The field blank shall be collected using standard handling procedures every day that mercury samples are collected at influent and effluent. The samples should also be collected at the same time as samples are collected for effluent WET tests in the scheduled quarters.</td>
</tr>
</tbody>
</table>

### 1 Influent - Proposed Monitoring

**Sample Point Number: 701- INFLUENT AT PARSHALL FLUME**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Limit Type</th>
<th>Limit and Units</th>
<th>Sample Frequency</th>
<th>Sample Type</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Rate</td>
<td>MGD</td>
<td>Continuous</td>
<td>Continuous</td>
<td>Continuous</td>
<td></td>
</tr>
<tr>
<td>CBOD₅</td>
<td>mg/L</td>
<td>5/Week</td>
<td>24-Hr Flow Prop Comp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOD₅, Total</td>
<td>mg/L</td>
<td>Monthly</td>
<td>24-Hr Flow Prop Comp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suspended Solids, Total</td>
<td>mg/L</td>
<td>5/Week</td>
<td>24-Hr Flow Prop Comp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mercury, Total Recoverable</td>
<td>ng/L</td>
<td>Quarterly</td>
<td>24-Hr Flow Prop Comp</td>
<td>See subsection 1.2.1.2 in the permit for mercury monitoring requirements.</td>
<td></td>
</tr>
</tbody>
</table>

**Changes from Previous Permit:**

The addition of BOD₅ influent monitoring.

**Modified Changes from Current Permit:**

None.
Explanation of Limits and Monitoring Requirements

Influent monitoring requirements for flow rate, BOD<sub>5</sub> and Suspended Solids are established in s. NR 210.04(2), Wis. Adm. Code. As allowed by s. NR 210.05(1)(d), Wis. Adm. Code, the permittee has request that the Department substitute the parameter CBOD<sub>5</sub> for the parameter BOD<sub>5</sub> for effluent monitoring. Since CBOD<sub>5</sub> effluent monitoring is required, CBOD<sub>5</sub> influent monitoring is also required to show the 85% removal requirement in s. NR 210.05(1)(d)3, Wis. Adm. Code. BOD<sub>5</sub> influent monitoring is required because it is an important operational parameter and is needed to complete the Compliance Maintenance Annual Report (CMAR).

2 In-plant - Proposed Monitoring and Limitations

Sample Point Number: 101- MERCURY IN-PLANT SAMPLE

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Limit Type</th>
<th>Limit and Units</th>
<th>Sample Frequency</th>
<th>Sample Type</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury, Total Recoverable</td>
<td>ng/L</td>
<td>Quarterly</td>
<td>Blank</td>
<td></td>
<td>See subsection 2.2.1.1 in the permit for mercury monitoring requirements.</td>
</tr>
</tbody>
</table>

Changes from Previous Permit:
None.

Modified Changes from Current Permit:
None.

Explanation of Limits and Monitoring Requirements

Requirements for mercury field blanks are found in s. NR 106.145(9)(c), Wis. Adm. Code. Collection and monitoring of mercury field blanks is required on every day that mercury influent and effluent samples are collected. The purpose of the field blank is to determine whether sample contamination is occurring due to sample collection procedures.

3 Surface Water - Proposed Monitoring and Limitations

Sample Point Number: 001- EFFLUENT AFTER DISINFECTION

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Limit Type</th>
<th>Limit and Units</th>
<th>Sample Frequency</th>
<th>Sample Type</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Rate</td>
<td></td>
<td>MGD</td>
<td>Continuous</td>
<td>Continuous</td>
<td></td>
</tr>
<tr>
<td>CBOD&lt;sub&gt;5&lt;/sub&gt;</td>
<td>Weekly Avg</td>
<td>40 mg/L</td>
<td>5/Week</td>
<td>24-Hr Flow Prop Comp</td>
<td></td>
</tr>
<tr>
<td>Parameter</td>
<td>Limit Type</td>
<td>Limit and Units</td>
<td>Sample Frequency</td>
<td>Sample Type</td>
<td>Notes</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>------------------</td>
<td>------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>CBOD5</td>
<td>Monthly Avg</td>
<td>25 mg/L</td>
<td>5/Week</td>
<td>24-Hr Flow Prop Comp</td>
<td></td>
</tr>
<tr>
<td>Suspended Solids, Total</td>
<td>Weekly Avg</td>
<td>45 mg/L</td>
<td>5/Week</td>
<td>24-Hr Flow Prop Comp</td>
<td></td>
</tr>
<tr>
<td>Suspended Solids, Total</td>
<td>Monthly Avg</td>
<td>30 mg/L</td>
<td>5/Week</td>
<td>24-Hr Flow Prop Comp</td>
<td></td>
</tr>
<tr>
<td>pH Field</td>
<td>Daily Min</td>
<td>6.0 su</td>
<td>Daily</td>
<td>Grab</td>
<td></td>
</tr>
<tr>
<td>pH Field</td>
<td>Daily Max</td>
<td>9.0 su</td>
<td>Daily</td>
<td>Grab</td>
<td></td>
</tr>
<tr>
<td>E. coli</td>
<td>Geometric Mean - Monthly</td>
<td>126 #/100 ml</td>
<td>Weekly</td>
<td>Grab</td>
<td>Limit Effective May through September annually</td>
</tr>
<tr>
<td>E. coli</td>
<td>% Exceedance</td>
<td>10 Percent</td>
<td>Monthly</td>
<td>Calculated</td>
<td>Limit Effective May through September annually. See the E. coli Percent Limit section below. Enter the result in the DMR on the last day of the month.</td>
</tr>
<tr>
<td>Phosphorus, Total</td>
<td>Monthly Avg</td>
<td>1.0 mg/L</td>
<td>5/Week</td>
<td>24-Hr Flow Prop Comp</td>
<td>Interim limit in effect from permit effective date through December 31, 2023.</td>
</tr>
<tr>
<td>Phosphorus, Total</td>
<td>Monthly Avg</td>
<td>0.3 mg/L</td>
<td>5/Week</td>
<td>24-Hr Flow Prop Comp</td>
<td>Final Water Quality Based Effluent Limit goes into effect January 1, 2024. See phosphorus Schedule at subsection 5.1.</td>
</tr>
<tr>
<td>Phosphorus, Total</td>
<td>6-Month Avg</td>
<td>0.1 mg/L</td>
<td>5/Week</td>
<td>24-Hr Flow Prop Comp</td>
<td>Final Water Quality Based Effluent Limit goes into effect January 1, 2024. See phosphorus Schedule at subsection 5.1.</td>
</tr>
<tr>
<td>Phosphorus, Total</td>
<td>6-Month Avg</td>
<td>2.33 lbs/day</td>
<td>5/Week</td>
<td>Calculated</td>
<td>Final Water Quality Based Effluent Limit goes into effect January 1, 2024. See phosphorus Schedule at subsection 5.1.</td>
</tr>
<tr>
<td>Mercury, Total Recoverable</td>
<td>Daily Max</td>
<td>3.6 ng/L</td>
<td>Quarterly</td>
<td>Grab</td>
<td>This is an interim limit. See the permit for permit subsections 3.2.1.3 for mercury monitoring</td>
</tr>
<tr>
<td>Parameter</td>
<td>Limit Type</td>
<td>Limit and Units</td>
<td>Sample Frequency</td>
<td>Sample Type</td>
<td>Notes</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>------------</td>
<td>----------------</td>
<td>-----------------</td>
<td>--------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Nitrogen, Ammonia (NH3-N) Total</td>
<td>mg/L</td>
<td>Quarterly</td>
<td>24-Hr Flow Prop Comp</td>
<td>Monitoring Only.</td>
<td>requirements, 3.2.1.4 for mercury variance information and 5.2 for the Mercury PMP schedule.</td>
</tr>
<tr>
<td>Nitrogen, Total Kjeldahl</td>
<td>mg/L</td>
<td>Quarterly</td>
<td>24-Hr Flow Prop Comp</td>
<td>Monitoring Only.</td>
<td></td>
</tr>
<tr>
<td>Nitrogen, Nitrite + Nitrate Total</td>
<td>mg/L</td>
<td>Quarterly</td>
<td>24-Hr Flow Prop Comp</td>
<td>Monitoring Only.</td>
<td></td>
</tr>
<tr>
<td>Nitrogen, Total</td>
<td>mg/L</td>
<td>Quarterly</td>
<td>Calculated</td>
<td>Monitoring Only.</td>
<td>Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen.</td>
</tr>
<tr>
<td>Acute WET</td>
<td>TUa</td>
<td>Quarterly</td>
<td>24-Hr Flow Prop Comp</td>
<td>See subsection 3.2.1.5 in the permit for Whole Effluent Toxicity (WET) testing dates and WET requirements.</td>
<td></td>
</tr>
<tr>
<td>Chronic WET</td>
<td>TUc</td>
<td>Quarterly</td>
<td>24-Hr Flow Prop Comp</td>
<td>See subsection 3.2.1.5 in the permit for Whole Effluent Toxicity (WET) testing dates and WET requirements.</td>
<td></td>
</tr>
</tbody>
</table>

**Changes from Previous Permit**

Fecal coliform monitoring and limits have been replaced with *Escherichia coli* (*E. coli*) monitoring and limits. *E. coli* monitoring is required at the permit effective date. An interim fecal coliform limit of 400 #/100 ml as a monthly geometric mean will apply from the permit effective date through the end of a compliance schedule. At the end of the compliance schedule, E. coli limits of 126 #/100 ml as a monthly geometric mean and 410 #/100 ml as a daily maximum that may not be exceeded more than 10 percent of the time in any calendar month will apply. Weekly and monthly average total residual chlorine limits of 38 ug/L are required. Final water quality based effluent limits for total phosphorus go into effect this permit term on January 1, 2024. The limits are 0.3 mg/L as a monthly average, and 0.1 mg/L and 2.33 lbs/day as six-month averages. The existing interim total phosphorus limit of 1.0 mg/L applies from the permit effective date through December 31, 2023. The permittee has requested a continuation of a variance from the water quality standard for total recoverable mercury of 1.3 ng/L based on wildlife criterion. The proposed alternative mercury effluent limit is 3.6 ng/L. This variance must be approved by the US EPA. There are new time-frames for whole effluent toxicity (WET) testing.
**Modified Changes from Current Permit:**

Additional data indicate effluent fecal coliform limits are no longer required and will be replaced with E. Coli limits effective May 2023, and operational changes of switching to UV disinfection from chlorine disinfection allows for chlorine monitoring and limitations to also be removed.

**Explanation of Limits and Monitoring Requirements**

**Categorical Limits**

Limitations for CBOD₅, total suspended solids, pH, *Escherichia coli* (*E. coli*) and total residual chlorine for receiving water classified as fish and aquatic life are contained in Chapter NR 210 Sewage Treatment Works.

**Modified Disinfection** – Menomonie is required to disinfect its discharge to the Red Cedar River between May 1 and September 30 annually in order to protect recreational uses. Menomonie has switched from using chlorine to UV for seasonal disinfection. This allows for all chlorine limits and monitoring to be removed for this permit modification.

**Modified E. Coli** – Revisions to bacteria surface water quality criteria to protect recreational uses and accompanying *E. coli* WPDES permit implementation procedures became effective May 1, 2020. The new rule requires that WPDES permits for facilities with required disinfection include monitoring for *E. coli* while facilities are disinfecting during the recreation period, and establish effluent limitations for *E. coli* established in s. NR 210.06 (2), Wis. Adm. Code. The administrative code rule changes included the following actions: revised the bacteria water quality criteria from fecal coliform to *E. coli* to protect recreation in ch. NR 102, Wis. Adm. Code.; removed fecal coliform criteria for certain individual waters from ch. NR 104, Wis. Adm. Code.; revised permit requirements for publicly and privately owned sewage treatment works in ch. NR 210, Wis. Adm. Code.; and, updated approved analytical methods for bacteria in ch. NR 219, Wis. Adm. Code.

Fecal coliform monitoring is no longer required since the facility has shown the capability of meeting the new *E. coli* limitations. Because of this and beginning with the May 2023 disinfection season, limits for *E. coli* of 126 #/100 ml as a monthly geometric mean and may not be exceeded more than 10 percent of the time in any calendar month will apply for the remainder of the permit term, and the associated compliance schedule will be removed.

**Modified Chlorine** – Menomonie has switched from using chlorine to UV for seasonal disinfection. This allows for all chlorine limits and monitoring to be removed for this permit modification.

**Water Quality Based Limits and WET Requirements**

Refer to the WQBEL memo for the detailed calculations, prepared by the Water Quality Bureau dated January 3, 2020 used for this reissuance.

**Phosphorus** – Phosphorus requirements are based on the Phosphorus Rules that became effective December 1, 2010 as detailed in chapters NR 102 Water Quality Standards and NR 217 Effluent Standards and Limitations for Phosphorus. The permittee was issued a permit with water quality based effluent limits (WQBELs) for total phosphorus on January 22, 2015. The permittee was granted a nine-year schedule to meet the total phosphorus WQBELs. Limitations of 0.3 mg/L as a monthly average, and 0.1 mg/L and 2.33 lbs/day as six-month averages go into effect on January 1, 2024 at the end of the phosphorus schedule. The interim limit of 1.0 mg/L in the previous permit is continued in this permit from the permit effective date through December 31, 2023. The phosphorus schedule at section 5.1 of this permit is a continuation of the action items and due dates from the previous schedule.

**Mercury** – Requirements for mercury are included in s. NR 106.145, Wis. Adm. Code. (See [http://dnr.wi.gov/topic/Mercury/](http://dnr.wi.gov/topic/Mercury/)). The permittee has submitted an application seeking a continuation of a variance from the mercury water quality criterion of 1.3 ng/L based on wildlife criterion. If this variance request is approved by the US EPA, an alternative mercury effluent limitation of 3.6 ng/L as a daily maximum will apply throughout the permit term. As conditions of this variance the permittee will be required to maintain mercury effluent levels below 3.6 ng/L, implement a mercury pollutant minimization program (PMP) and submit annual progress reports on mercury PMP activities.
Ammonia – Current acute and chronic ammonia toxicity criteria for the protection of aquatic life are included in Tables 2C and 4B of ch. NR 105, Wis. Adm. Code. Subchapter IV of ch. NR 106 establishes the procedure for calculating water quality based effluent limitations (WQBELs) for ammonia. The computed daily maximum ammonia limit is less than the one day Upper 99th Percentile ($P_{99}$) of representative data so there is no need for a daily maximum limit. The weekly and monthly average ammonia nitrogen limits calculated for the previous permit reissuance (see January 3, 2020 WQBEL memo, Attachment #2) do not change because there have been no changes in the effluent and receiving water flow rates. These limits exceed the comparable $P_{99}$ values so there is no reasonable potential for the permittee’s discharge to exceed the calculated limitations and none are included in this permit. Due to the increased seasonal variability of ammonia nitrogen effluent results, monthly monitoring is recommended.

Total Nitrogen Monitoring (NO2+NO3, TKN and Total N) – The Department has included effluent monitoring for Total Nitrogen in the permit through the authority under §§ 283.55(1)(e), Wis. Stats., which allows the department to require the permittee to submit information necessary to identify the type and quantity of any pollutants discharged from the point source, and through s. NR 200.065(1)(h), Wis. Adm. Code, which allows for this monitoring to be collected during the permit term. Quarterly effluent monitoring for Total Nitrogen is included in the permit because of the potential for higher nitrogen loading resulting from higher flows (major facilities), higher concentrations, or both. More information on the justification to include total nitrogen monitoring in wastewater permits can be found in the “Guidance for Total Nitrogen Monitoring in Wastewater Permits” dated October 1, 2019.

Whole Effluent Toxicity – Whole effluent toxicity (WET) testing requirements and limits (if applicable) are determined in accordance with ss. NR 106.08 and NR 106.09 Wis. Adm. Code, as revised August 2016. (See the current version of the Whole Effluent Toxicity Program Guidance Document and checklist and WET information, guidance and test methods at http://dnr.wi.gov/topic/wastewater/wet.html. See subsection 3.2.1.4 in the permit for Whole Effluent Toxicity (WET) testing dates and WET requirements.

4 Land Application - Proposed Monitoring and Limitations

<table>
<thead>
<tr>
<th>Municipal Sludge Description</th>
<th>Sample Point</th>
<th>Sludge Class (A or B)</th>
<th>Sludge Type (Liquid or Cake)</th>
<th>Pathogen Reduction Method</th>
<th>Vector Attraction Method</th>
<th>Reuse Option</th>
<th>Amount Reused/Disposed (Dry Tons/Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>002</td>
<td>B</td>
<td>Liquid</td>
<td>Anaerobic Digestion</td>
<td>Incorporation</td>
<td>Land Application</td>
<td>347 dry US tons</td>
<td></td>
</tr>
</tbody>
</table>

Does sludge management demonstrate compliance? Yes

Is additional sludge storage required? No

Is Radium-226 present in the water supply at a level greater than 2 pCi/liter? Yes

If yes, special monitoring and recycling conditions will be included in the permit to track any potential problems in land applying sludge from this facility

Is a priority pollutant scan required? No

Priority pollutant scans are required once every 10 years at facilities with design flows between 5 MGD and 40 MGD, and once every 5 years if design flow is greater than 40 MGD.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Limit Type</th>
<th>Limit and Units</th>
<th>Sample Frequency</th>
<th>Sample Type</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solids, Total</td>
<td></td>
<td>Percent</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Arsenic Dry Wt</td>
<td>High Quality</td>
<td>41 mg/kg</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Arsenic Dry Wt</td>
<td>Ceiling</td>
<td>75 mg/kg</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Cadmium Dry Wt</td>
<td>High Quality</td>
<td>39 mg/kg</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Cadmium Dry Wt</td>
<td>Ceiling</td>
<td>85 mg/kg</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Copper Dry Wt</td>
<td>High Quality</td>
<td>1,500 mg/kg</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Copper Dry Wt</td>
<td>Ceiling</td>
<td>4,300 mg/kg</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Lead Dry Wt</td>
<td>High Quality</td>
<td>300 mg/kg</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Lead Dry Wt</td>
<td>Ceiling</td>
<td>840 mg/kg</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Mercury Dry Wt</td>
<td>High Quality</td>
<td>17 mg/kg</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Mercury Dry Wt</td>
<td>Ceiling</td>
<td>57 mg/kg</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Molybdenum Dry Wt</td>
<td>Ceiling</td>
<td>75 mg/kg</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Nickel Dry Wt</td>
<td>High Quality</td>
<td>420 mg/kg</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Nickel Dry Wt</td>
<td>Ceiling</td>
<td>420 mg/kg</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Selenium Dry Wt</td>
<td>High Quality</td>
<td>100 mg/kg</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Selenium Dry Wt</td>
<td>Ceiling</td>
<td>100 mg/kg</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Zinc Dry Wt</td>
<td>High Quality</td>
<td>2,800 mg/kg</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Zinc Dry Wt</td>
<td>Ceiling</td>
<td>7,500 mg/kg</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Nitrogen, Total Kjeldahl</td>
<td></td>
<td>Percent</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Nitrogen, Ammonium (NH4-N) Total</td>
<td></td>
<td>Percent</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Phosphorus, Total</td>
<td></td>
<td>Percent</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Phosphorus, Water Extractable</td>
<td></td>
<td>% of Tot P</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Potassium, Total Recoverable</td>
<td></td>
<td>Percent</td>
<td>Quarterly</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>Radium 226 Dry Wt</td>
<td></td>
<td>pCi/g</td>
<td>Annual</td>
<td>Composite</td>
<td></td>
</tr>
<tr>
<td>PCB Total Dry Wt</td>
<td>High Quality</td>
<td>10 mg/kg</td>
<td>Once</td>
<td>Composite</td>
<td>Jan 1, 2021 - Dec 31, 2021</td>
</tr>
<tr>
<td>PCB Total Dry Wt</td>
<td>Ceiling</td>
<td>50 mg/kg</td>
<td>Once</td>
<td>Composite</td>
<td>Jan 1, 2021 - Dec 31, 2021</td>
</tr>
</tbody>
</table>
Changes from Previous Permit:

Annual monitoring of the sludge for Radium-226 is required. New time-frame for PCB monitoring.

Explanation of Limits and Monitoring Requirements

Requirements for land application of municipal sludge are determined in accordance with ch. NR 204, Wis. Adm. Code. Ceiling and high-quality limits for metals in sludge are specified in s. NR 204.07(5). Requirements for pathogens are specified in s. NR 204.07(6) and in s. NR 204.07 (7) for vector attraction requirements. Limitations for PCBs are addressed in s. NR 204.07(3)(k). Radium requirements are addressed in s. NR 204.07(3)(n).

**Radium-226** – The sludge must be monitored for Radium-226 annually because the drinking water system operated by the permittee shows Radium-226 levels in excess of 2 pCi/L.

**WATER EXTRACTABLE PHOSPHORUS**

Water extractable phosphorus (WEP) is the coefficient for determining plant available phosphorus from measured total phosphorus. In Wisconsin, the Penn State Method is utilized and is expressed in percent. While a total P may be significant, the WEP may show that only a small percentage of the P is available to plants because of factors such as treatment processes and chemical addition that “tie-up” phosphorus limiting the amount of phosphorus that is plant available. As part of the Wisconsin’s nutrient management plan (NMP) requirements, the accounting of all fertilizers must be included over the NMP cycle. The fertilizer value of the waste needs to be communicated to the farmer and accounted for in the NMP.

5 Schedules

5.1 Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus

The permittee shall comply with the WQBELs for Phosphorus as specified. No later than 14 days following each compliance date, the permittee shall notify the Department in writing of its compliance or noncompliance. If a submittal is required, a timely submittal fulfills the notification requirement.

<table>
<thead>
<tr>
<th>Required Action</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Final Plans and Specifications</strong>: Unless the permit has been modified, revoked and reissued, or reissued to include Adaptive Management or Water Quality Trading measures or to include a revised schedule based on factors in s. NR 217.17, Wis. Adm. Code, the permittee shall submit final construction plans to the Department for approval pursuant to s. 281.41, Stats., specifying treatment plant upgrades that must be constructed to achieve compliance with final phosphorus WQBELs, and a schedule for completing construction of the upgrades by the complete construction date specified below. (Note: Permit modification, revocation and reissuance, and reissuance are subject to s. 283.53(2), Stats.).</td>
<td>01/01/2021</td>
</tr>
<tr>
<td><strong>Treatment Plant Upgrade to Meet WQBELs</strong>: The permittee shall initiate construction of the upgrades. The permittee shall obtain approval of the final construction plans and schedule from the Department pursuant to s. 281.41. Stats. Upon approval of the final construction plans and schedule by the Department pursuant to s. 281.41. Stats., the permittee shall construct the treatment plant upgrades in accordance with the approved plans and specifications.</td>
<td>04/01/2021</td>
</tr>
<tr>
<td><strong>Construction Upgrade Progress Report #1</strong>: The permittee shall submit a progress report on construction upgrades.</td>
<td>04/01/2022</td>
</tr>
<tr>
<td><strong>Construction Upgrade Progress Report #2</strong>: The permittee shall submit a progress report on construction upgrades.</td>
<td>04/01/2023</td>
</tr>
</tbody>
</table>
Complete Construction: The permittee shall complete construction of wastewater treatment system upgrades. 12/01/2023

Achieve Compliance: The permittee shall achieve compliance with final phosphorus WQBELs. 01/01/2024

5.1.1 Explanation of WBELs for Total Phosphorus Schedule
The Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus Schedule is a continuation of the phosphorus schedule from the previous permit. The required actions and due dates, beginning with “Final Plans and Specifications”, which are due January 1, 2021, and ending with “Achieve Compliance, which is due January 1, 2024, are the same as in the previous permit. The original Schedule allowed nine years because the permittee would need time to construct additional treatment processes to lower total phosphorus effluent concentrations to meet the phosphorus WQBELs contained in this permit. Per s. NR 217.17(2), Wis. Adm. Code, the length of the schedule was reevaluated for this permit term and the overall schedule length of nine years was found to be appropriate because it leads to compliance as soon as possible and the permittee will be installing tertiary filtration to meet the limits.

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

<table>
<thead>
<tr>
<th>Required Action</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annual Mercury Progress Reports:</strong> Submit an annual mercury progress report. The annual mercury progress report shall:</td>
<td>04/01/2021</td>
</tr>
<tr>
<td>Indicate which mercury pollutant minimization activities or activities outlined in the approved Pollutant Minimization Plan have been implemented;</td>
<td></td>
</tr>
<tr>
<td>Include an analysis of trends in monthly and annual total effluent mercury concentrations based on mercury sampling; and</td>
<td></td>
</tr>
<tr>
<td>Include an analysis of how influent and effluent mercury varies with time and with significant loading of mercury such as loads from industries into the collection system.</td>
<td></td>
</tr>
<tr>
<td>The first annual mercury progress report is to be submitted by the Due Date.</td>
<td></td>
</tr>
<tr>
<td><strong>Annual Mercury Progress Report #2:</strong> Submit a mercury progress report as defined above.</td>
<td>04/01/2022</td>
</tr>
<tr>
<td><strong>Annual Mercury Progress Report #3:</strong> Submit a mercury progress report as defined above.</td>
<td>04/01/2023</td>
</tr>
<tr>
<td><strong>Annual Mercury Progress Report #4:</strong> Submit a mercury progress report as defined above.</td>
<td>04/01/2024</td>
</tr>
<tr>
<td><strong>Final Mercury Report:</strong> Submit a final report documenting the success in reducing mercury concentrations in the effluent, as well as the anticipated future reduction in mercury sources and mercury effluent concentrations. The report shall summarize mercury pollutant minimization activities that have been implemented during the current permit term and state which, if any, pollutant minimization activities from the approved pollutant minimization plan were not pursued and why. The report shall include an analysis of trends in monthly and annual total effluent mercury concentrations based on mercury sampling during the current permit term. The report shall also include an analysis of how influent and effluent mercury varies with time and with significant loading of mercury such as loads from industries into the collection system. If the permittee intends to reapply for a mercury variance per s. NR 106.145, Wis. Adm. Code, for the reissued permit, a detailed pollutant minimization plan outlining the pollutant minimization activities proposed for the upcoming permit term shall be submitted along with the final report.</td>
<td>04/01/2025</td>
</tr>
</tbody>
</table>
5.2.1  **Explanation of Mercury PMP Schedule**

The Mercury PMP Schedule requires the permittee to implement its mercury pollutant minimization program, which is designed to reduce mercury contributions to the treatment plant from residential, commercial and industrial sources, and dental offices. Annual reports of progress on PMP plan implementation are required.

5.3  **Modified Explanation of Removal of Effluent Limitations for E. coli (Outfall 001) Schedule**

The permittee has shown the capability of meeting the new E. coli limits which allows the removal of the associated E. coli compliance schedule for this modification. Explanation of Effluent Limitations for *E. coli*

**Special Reporting Requirements**

The WQBELs for total phosphorus schedule requires two Construction Upgrade Progress Reports. The mercury PMP schedule requires Annual Mercury Progress Reports (4) and a Final Mercury Report. The Effluent Limitations for E.coli schedule requires a Status Update, Operational Evaluation Report and a Construction Upgrade Progress Report.

**Other Comments:**

None

**Attachments:**

- Water Quality Based Effluent Limits (WQBEL) – January 3, 2020
- E. coli WQBEL Memo – May 1, 2020
- WET Checklist Summary – WQBEL Memo, Pages 14 – 15
- Map – WQBEL Memo, Attachment #3
- Mercury Variance EPA Data Sheet
- Public Notice- Dunn County News, 710 E Main Street PO Box 40, Menomonie, WI 54751

**Modified Date:**

October 1, 2022

**Expiration Date:**

September 30, 2025

**Justification of Any Waivers from Permit Application Requirements**
None granted.

Prepared By:

Phillip Spranger, Wastewater Specialist

Date: May 11, 2020

Modified by: Angela Parkhurst

Date: July 13, 2022

cc: SWAMP