

# Permit Modification Fact Sheet

Changes from the previous permit fact sheet are highlighted in grey.

## General Information

Permit Number:	WI-0020371-10-1											
Permittee Name:	CITY OF REEDSBURG											
Address:	134 South Locust Street (Existing Facility) (New Facility – New Build Site)											
City/State/Zip:	Reedsburg WI 53959											
Discharge Location:	Existing Discharge Location: 802 Division Street, Reedsburg WI. NE 1/4 of Section 15, T12N, R4E. N 43° 31' 15.5" W 89° 59' 59", Outfall located on North bank of Baraboo River ¼ mile West of the S. Dewey St. bridge.  New Discharge Location: Outfall located on Baraboo River downstream of existing discharge, final location to be determined subject to department approval.											
Receiving Water:	Baraboo River (Narrows Creek/Baraboo River Watershed, LW22- Lower Wisconsin River Basin) in Sauk County											
StreamFlow (Q <sub>7,10</sub> ):	The following 7-Q <sub>10</sub> and 7-Q <sub>2</sub> values were developed by USGS on February 24, 1994 for the station located at NE ¼ of NE ¼ of Section 9, T12N-R4E in Sauk County, which is 300ft upstream of Hay Creek. 7-Q <sub>10</sub> = 50 cfs (cubic feet per second).  Monthly 7-Q <sub>10</sub> flows were developed by USGS and 7-Q <sub>2</sub> flows are based upon the ratio 7-Q <sub>2</sub> :7-Q <sub>10</sub> of 1.48:1.											
	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>
<b>7-Q<sub>10</sub> (cfs)</b>	63	64	84	130	92	70	60	57	64	70	84	64
<b>7-Q<sub>2</sub> (cfs)</b>	93	94	124	192	136	104	89	84	95	104	124	95
Stream Classification:	Warmwater sport fish community, non-public water supply.											
Design Flow(s) (Existing Facility)	Annual Average		2.65 MGD									
Design Flow(s) (New Facility)	Daily Maximum		7.136 MGD									
	Weekly Maximum		5.476 MGD									
	Monthly Maximum		4.252 MGD									
	Annual Average		2.945 MGD									
Significant Industrial Loading?	Yes: Saputo Cheese, Foremost Farms, Lakeside Foods, Saputo Greenway, Cellox Seats, Primex and Plateco.											
Operator at Proper Grade?	Yes: A1, A2, B, C, D, L, P, and SS											

Approved Pretreatment Program?	N/A
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## Facility Description

The City of Reedsburg operates a wastewater treatment facility providing secondary treatment and nutrient removal to a combination of domestic, commercial and industrial wastewater.

### Current Facility Description:

Treatment units include influent screening and grit removal; primary settling; trickling filter; intermediate clarifier; activated sludge; chemical phosphorus removal; final clarifiers and seasonal ultraviolet effluent disinfection. The facility is designed to treat an average daily flow of 2.65 MGD. The POTW serves the community of Reedsburg and receives industrial and commercial discharge. The treated water is disinfected with ultraviolet light then discharged via outfall 001. Outfall 001 is in the NE 1/4 of Section 15 in the City of Reedsburg (T12N, R4E) in Sauk County (see map in WQBEL memo). Reedsburg has a Class A and Class B biosolids outfall.

Future New Facility Description: The City of Reedsburg is in the process of building a new facility at a new site. The discharge location is the same receiving water but downstream from the current outfall location. The final plans for the wastewater treatment plant and exact outfall location are subject to final approvals. If the outfall location changes significantly the new facility limitations included in this permit would be modified. When the new plant is completed and discharge at the new outfall (Outfall 011) begins, all monitoring and limits in the permit are effective. The permittee will report "0" (zero) flow for the Outfalls not currently in operation (Outfall 001 or Outfall 011). For land application outfalls this permit contains the four anticipated outfalls that will be needed for the new plant, but these outfalls are inactive. Department approval is required to activate these outfalls. Final monitoring and limitations for the new WWTF land application outfalls will be determined prior to discharge but after plant operations are finalized. No land application discharge is allowed from the new plant until the department approves activation of the new outfalls.

## Substantial Compliance Determination

After a desk top review of all discharge monitoring reports, CMARs, land app reports, compliance schedule items, and a site visit on April 12, 2023, this facility has been found to be in substantial compliance with their current permit.

Sample Point Designation		
Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)
701	2.00 MGD (2022)	Influent Current Facility: 24-Hr flow proportional samples shall be collected in the influent channel prior to all return flows. Flow meter located in influent channel.
105		In-Plant Monitoring Current Facility: Collect the mercury field blank using standard sample handling procedures.
001	2.04 MGD (2022)	Effluent Current Facility: 24-Hr flow proportional samples collected after final clarification and prior to UV disinfection for composite samples and after the UV system for grab samples, prior to discharge to the Baraboo River. Flow meter located in the effluent channel.

<b>Sample Point Designation</b>		
<b>Sample Point Number</b>	<b>Discharge Flow, Units, and Averaging Period</b>	<b>Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)</b>
004		Current facility: Pasteurization, Cake, Class A, Representative sludge samples shall be collected from the sludge storage building.
005		Current facility: Class B, Representative sludge samples shall be collected from the sludge storage building. This outfall/sample point is to be used in the event that the facility cannot meet the requirements of the Class A sludge (at outfall 004).
006	New Outfall for Existing Facility	Current facility: Class B, Representative sludge samples shall be collected from the sludge tank. This outfall/sample point is to be used in the event of equipment issues creating, storing Class B cake, or equipment issues with the bioset reactor.
007	New Outfall for Existing Facility	Current facility: Pasteurization, Cake, Class A, Representative sludge samples shall be collected from sludge storage building for pathogen retest. This outfall is used when Class A sludge is stored and retested prior to distribution.
710	New Facility Outfall	Influent New WWTF: 24-Hr flow proportional samples and flow meter located at headworks of new WWTF. Outfall inactive, department approval required to activate.
115	New Facility Outfall	In-Plant Monitoring New WWTF: Collect the mercury field blank using standard sample handling procedures. New WWTF. *Inactive department approval required to activate.
011	New Facility Outfall	Effluent New WWTF: 24-Hr flow proportional samples collected prior to discharge to the Baraboo River. Sampler and flow meter location to be finalized prior to activation of outfall. Department approval required to activate outfall. Monitoring and limits effective upon activation of outfall.
040	New Facility Outfall	New WWTF Land Application: Land Application Outfalls for the New Facility will be added with a permit modification after final plans are complete. No discharge of sludge may occur from the New Facility without department approval. *Inactive department approval required to activate.
050	New Facility Outfall	New WWTF Land Application: Land Application Outfalls for the New Facility will be added with a permit modification after final plans are complete. No discharge of sludge may occur from the New Facility without department approval. *Inactive department approval required to activate.
060	New Facility Outfall	New WWTF Land Application: Land Application Outfalls for the New Facility will be added with a permit modification after final plans are complete. No discharge of sludge may occur from the New Facility without department approval. *Inactive department approval required to activate.

Sample Point Designation		
Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)
070	New Facility Outfall	New WWTF Land Application: Land Application Outfalls for the New Facility will be added with a permit modification after final plans are complete. No discharge of sludge may occur from the New Facility without department approval. *Inactive department approval required to activate.

## Existing Facility Outfalls

Upon completion of construction and at the commencement of discharge at the new treatment facility, monitoring and limits at Outfall 001 will no longer apply as long as there is no flow. When no discharge occurs through Outfall 001 flow rate shall be reported as "0" (zero). Outfall 001, 105, 701 and Sample Point 005 along with Land application Outfalls 004, 005, 006 and 007 will be removed at the next permit reissuance.

## Influent - Proposed Monitoring

### Sample Point Number: 701- INFLUENT – Existing Facility

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD <sub>5</sub> , Total		mg/L	5/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	5/Week	24-Hr Flow Prop Comp	
Mercury, Total Recoverable		ng/L	Monthly	Grab	See Mercury Monitoring Section.

### Changes from Previous Permit:

No changes were required.

### Explanation of Limits and Monitoring Requirements

**BOD<sub>5</sub> and Total Suspended Solids:** Tracking of BOD<sub>5</sub> and Suspended Solids are required for percent removal requirements found in s. NR 210.05, Wis. Adm. Code and Section 5.4.6 of the permit. These are standard monitoring requirements for a municipal treatment facility of this size.

**Mercury, Total Recoverable:** All major municipal dischargers with an average flow of greater than or equal to 1 MGD are required to monitor for influent mercury per s. NR 145(3)(a)2, Wis. Adm. Code. Mercury monitoring is included in the proposed permit pursuant to s. NR 106.145, Wis. Adm. Code. Required field blanks for Mercury monitoring per ss. NR 106.145(9) and (10), Wis. Adm. Code, requirements. The permittee shall collect a mercury field blank for each set of

mercury samples (a set of samples may include a combination of influent, effluent or other samples all collected on the same day). The permittee shall report results of influent and effluent samples and field blanks to the Department on Discharge Monitoring Reports.

## Inplant - Proposed Monitoring and Limitations

### Sample Point Number: 105- GEN PLANT (Hg blank) – Existing Facility

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

### Changes from Previous Permit:

No changes were required.

### Explanation of Limits and Monitoring Requirements

Required field blanks for Mercury monitoring per ss. NR 106.145(9) and (10), Wis. Adm. Code, requirements. The permittee shall collect a mercury field blank for each set of mercury samples (as set of samples may include a combination of influent, effluent or other samples all collected on the same day). The permittee shall report results of influent and effluent samples and field blanks to the Department on Discharge Monitoring Reports.

## Surface Water - Proposed Monitoring and Limitations

### Sample Point Number: 001- EFFLUENT – Existing Facility

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD5, Total	Weekly Avg	37 mg/L	5/Week	24-Hr Flow Prop Comp	June
BOD5, Total	Weekly Avg	32 mg/L	5/Week	24-Hr Flow Prop Comp	July - August
BOD5, Total	Weekly Avg	39 mg/L	5/Week	24-Hr Flow Prop Comp	September
BOD5, Total	Weekly Avg	45 mg/L	5/Week	24-Hr Flow Prop Comp	October - May
BOD5, Total	Monthly Avg	30 mg/L	5/Week	24-Hr Flow Prop Comp	
BOD5, Total	Weekly Avg	810 lbs/day	5/Week	Calculated	June

**Monitoring Requirements and Limitations**

<b>Parameter</b>	<b>Limit Type</b>	<b>Limit and Units</b>	<b>Sample Frequency</b>	<b>Sample Type</b>	<b>Notes</b>
BOD5, Total	Weekly Avg	720 lbs/day	5/Week	Calculated	July - August
BOD5, Total	Weekly Avg	850 lbs/day	5/Week	Calculated	September
Suspended Solids, Total	Weekly Avg	37 mg/L	5/Week	24-Hr Flow Prop Comp	June
Suspended Solids, Total	Weekly Avg	32 mg/L	5/Week	24-Hr Flow Prop Comp	July - August
Suspended Solids, Total	Weekly Avg	39 mg/L	5/Week	24-Hr Flow Prop Comp	September
Suspended Solids, Total	Weekly Avg	45 mg/L	5/Week	24-Hr Flow Prop Comp	October - May
Suspended Solids, Total	Monthly Avg	30 mg/L	5/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Weekly Avg	810 lbs/day	5/Week	Calculated	June
Suspended Solids, Total	Weekly Avg	720 lbs/day	5/Week	Calculated	July - August
Suspended Solids, Total	Weekly Avg	850 lbs/day	5/Week	Calculated	September
Nitrogen, Ammonia (NH3-N) Total	Daily Max	34 mg/L	3/Week	24-Hr Flow Prop Comp	November - April
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	34 mg/L	3/Week	24-Hr Flow Prop Comp	November - April
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	37 mg/L	3/Week	24-Hr Flow Prop Comp	June
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	28 mg/L	3/Week	24-Hr Flow Prop Comp	July
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	29 mg/L	3/Week	24-Hr Flow Prop Comp	August
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	48 mg/L	3/Week	24-Hr Flow Prop Comp	September
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	35 mg/L	3/Week	24-Hr Flow Prop Comp	October
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	17 mg/L	3/Week	24-Hr Flow Prop Comp	December – February and October
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	22 mg/L	3/Week	24-Hr Flow Prop Comp	March and November

<b>Monitoring Requirements and 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 (NH3-N) Total	Monthly Avg	28 mg/L	3/Week	24-Hr Flow Prop Comp	April
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	18 mg/L	3/Week	24-Hr Flow Prop Comp	June
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	14 mg/L	3/Week	24-Hr Flow Prop Comp	July - August
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	23 mg/L	3/Week	24-Hr Flow Prop Comp	September
E. coli	Geometric Mean - Monthly	126 #/100 ml	2/Week	Grab	Limit Effective May through September annually.
E. coli	% Exceedance	10 Percent	2/Week	Calculated	Limit Effective May through September annually. See the E. coli Percent Limit section. Enter the result in the DMR on the last day of the month.
pH Field	Daily Max	9.0 su	5/Week	Grab	
pH Field	Daily Min	6.0 su	5/Week	Grab	
Phosphorus, Total	Monthly Avg	1.0 mg/L	3/Week	24-Hr Flow Prop Comp	
Phosphorus, Total	Monthly Avg	33 lbs/day	3/Week	Calculated	See TMDL section.
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 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 section.
Mercury, Total Recoverable	Daily Max	5.5 ng/L	Monthly	Grab	This is an alternative mercury effluent limit. See Mercury sections and section 5.1 of the permit for Mercury PMP schedule.

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Nitrogen, Total Kjeldahl		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Nitrite + Nitrate Total		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Total		mg/L	Quarterly	Calculated	Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen.
Acute WET		TUa	See Listed Qtr(s)	24-Hr Flow Prop Comp	See WET section
Chronic WET	Monthly Avg	4.0 TUc	See Listed Qtr(s)	24-Hr Flow Prop Comp	See WET section
PFOS		ng/L	Annual	Grab	Monitoring only. See PFOS/PFOA Minimization Plan Determination of Need schedule.
PFOA		ng/L	Annual	Grab	Monitoring only. See PFOS/PFOA Minimization Plan Determination of Need schedule.

## Changes from Previous Permit

**Fecal Coliform and *E. coli*:** Fecal coliform monitoring and limits have been replaced with *Escherichia coli* (*E. coli*) monitoring and limits.

**PFOS and PFOA** – Monitoring once every two months was included in the permit in accordance with s. NR 106.98(2)(b), Wis. Adm. Code. The monitoring frequency for PFOS and PFOA has been reduced from 1/ 2 Months to Annual.

## Explanation of Limits and Monitoring Requirements

Refer to the Water Quality-Based Effluent Limitations (WQBELs) memo for City of Reedsburg, prepared by Sarah Luck dated May 23, 2023 and used for this reissuance.

- BOD<sub>5</sub>, Total Suspended Solids, and pH:** BOD and TSS limits for summer are water quality based using a waste load allocation because of multiple dischargers on the Baraboo River. Standard municipal wastewater requirements for BOD<sub>5</sub> and total suspended solids along with pH are included based on ch. NR 210, Wis. Adm. Code ‘Sewage Treatment Works’ requirements for discharges to fish and aquatic life streams. Chapter NR 102, Wis. Adm. Code ‘Water Quality Standards for Surface Waters’ also specifies requirements for pH for fish and aquatic life streams.

- ***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. *E. coli* limits of 126 #/100 ml as a monthly geometric mean that may not be exceeded 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.
- **Nitrogen, Ammonia**: Current acute and chronic ammonia toxicity criteria for the protection of aquatic life are included in Table 2C and Table 4B of ch. NR 105, Wis. Adm. Code (effective March 1, 2004). Subchapter IV of ch. NR 106 establishes procedures for calculating water quality-based effluent limitations (WQBELs) for ammonia (effective March 1, 2004). The current daily maximum, weekly average, and monthly average ammonia limits are retained in the proposed permit. The weekly average limits are included per s. NR 205.165(c), Wis. Adm. Code.
- **Phosphorus**: The 1.0 mg/L monthly average limit is set at the technology-based limit and is retained to prevent backsliding.

**Wisconsin River Total Maximum Daily Load (TMDL)**: The permitted facility is located within the Wisconsin River Basin Total Maximum Daily Load (TMDL), which was approved by EPA April 26, 2019. The TMDL establishes Waste Load Allocations (WLAs) for point source dischargers and determines the maximum amounts of phosphorus that can be discharged and still protect water quality. The final effluent limits and monitoring expressed in the permit were derived from and comply with the applicable water quality criterion and are consistent with the assumptions and requirements of the EPA-approved WLA in the TMDL, which is 8073 lbs/yr for the permitted facility.

The approved TMDL expresses WLAs as lbs/year and lbs/day (maximum annual load divided by 365 days). As outlined in Section 4.6 of the department's *TMDL Development and Implementation Guidance: Integrating the WPDES and Impaired Waters Program*, mass limits must be given in the permit that are consistent with the TMDL WLA and the phosphorus impracticability agreement that was approved by USEPA in 2012 (see NPDES MOA Addendum dated July 12, 2012 at <https://prodoasint.dnr.wi.gov/swims/downloadDocument.do?id=167886175>). Continuously discharging facilities covered by the WRB TMDL are given monthly average mass limits. If the equivalent effluent concentration is less than or equal to 0.3 mg/L, six-month average mass limits (averaging period of May through October and November through April) are also included. The equivalent effluent concentration of 1.0 mg/L was calculated for the facility, thus, TMDL based mass limits are expressed as a monthly average.

Facilities with WRB TMDL based effluent limits for phosphorus must report the 12-month rolling sum of total monthly discharge (lbs/yr). If reported 12-month rolling sums exceed the facility's max annual WLA, the facility's mass limits (monthly average and six-month average) may be recalculated using more appropriate CVs or monitoring frequencies when the permit is reissued to bring discharge levels into compliance with the facility's given WLA.

**Site-Specific Criteria (SSC) for Lakes Petenwell, Castle Rock, and Wisconsin**: The Wisconsin River Basin TMDL report includes two sets of wasteload allocations. The WLA in Appendix J of the report are based on the current promulgated water quality criteria, and the allocations in Appendix K are based on proposed site-specific criteria (SSC) for Lakes Petenwell, Castle Rock, and Wisconsin. If the total phosphorus limits were to be calculated based on the proposed SSC in Appendix K, this would result in phosphorus limits that are different from those calculated above. If the WLA presented in Appendix K based on the proposed SSC were used, the

annual allocation would be 2954 lbs/year. Using the same calculation methods as those used for the Appendix J WLA, the recommended mass effluent limit would be 12 lbs/day as a monthly average will be effective per the schedule upon completion of the new treatment facility. Note: The monthly average limit of 33 lbs/day is retrained while discharge occurs at the existing facility.

Implementation of the WLA contained in Appendix K can only occur if the SSC are promulgated by the State of Wisconsin and approved by USEPA. If this occurs, WDNR will notify stakeholders that adoption of the SSC has occurred and submit the necessary documentation to USEPA to confirm that the SSC-based WLAs will be implemented in future WPDES permits. From that point forward, SSC WLAs would be implemented in WPDES permits via permit modification or reissuance.

- **Mercury, Total Recoverable:** Effluent data indicates that a mercury limit is required. The new facility discharges to the same receiving water therefore the same limits are warranted. An analysis was completed to determine the mercury concentration from the City of Reedsburg at the receiving water outfall. These data were used to determine that there is reasonable potential to exceed the calculated mercury limitation of 1.3 ng/L. However, s. NR 106.145, Wis. Adm. Code, provides for a variance from water quality standards for this substance in light of its presence in the environment and Reedsburg is requesting this variance. An Alternative Mercury Effluent Limit (AMEL) is established. The permit requires Reedsburg to perform quarterly, field blank and effluent monitoring, maintain mercury discharge concentrations at or below 5.5 ng/L as a daily maximum AEL, and implement a Pollutant Minimization Program designed to minimize mercury influent to the plant. Requirements for mercury are included in s. NR 106.145, Wis. Adm. Code., and s. NR 106.145(4), Wis. Adm. Code, establishes eligibility for alternative mercury effluent limits.
- **Acute and Chronic WET:** Whole effluent toxicity (WET) testing requirements are determined in accordance with ss. NR 106.08 and NR 106.09 Wis. Adm. Code, as revised in 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>). Acute and Chronic WET tests are scheduled in the rotating quarters once annually as listed in the permit. In accordance with the requirements specified in s. NR 106.08, Wis. Adm. Code, a chronic WET limit is required. A minimum annual chronic WET monitoring is required when a limit is present in accordance with Federal regulations at 40 CFR 122.44(i).
- **Temperature and Chloride:** When the representative data is compared to the calculated limits, the data shows there is no reasonable potential for the permittee to exceed the calculated limits for temperature and chlorides. Therefore, no limits are included in the proposed permit. The proposed permit includes temperature and chloride monitoring for one year upon commencement of discharge at the new WWTF.
- **PFOS and PFOA – NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers** became effective on August 1, 2022. At the first reissuance of a WPDES permit after August 1, 2022, the new rule requires WPDES permits for major municipal dischargers with an average flow rate greater than 1 MGD but less than 5 MGD, at a minimum sample effluent once every two-months for PFOS and PFOA pursuant s. NR 106.98(2)(b), Wis. Adm. Code.

A sample frequency of 1/2 months means one sample is taken during any two-month period. Examples of 1/2 month sample would be every other month (Jan, March, May, etc.) or back-to-back months with a break in between (February & March, May & June, Aug & Sept, etc.). DMR Short Forms will be generated for the following time periods: January-February, March-April, May-June, July-August, September-October, and November-December. At a minimum one sample result will be present on each form.

The initial determination of the need for sampling shall be conducted for up to two years in order to determine if the permitted discharge has the reasonable potential to cause or contribute to an exceedance of the PFOS or PFOA standards under s. NR 102.04(8)(d)1, Wis. Adm. Code.

Pursuant to s. NR 205.066, Wis. Adm. Code, the department may specify the monitoring frequency for PFOS and PFOA on a case-by-case basis after the initial 24 months of sampling.

After a review of the data submitted with the Year 2 Report on Effluent Discharges, the department has determined that it is warranted to reduce the sampling frequency in this case. The department is requiring continued monitoring of these compounds to complete the permit term to ensure that the current effluent quality is maintained. At the next permit reissuance, the department will make another determination as to whether further reduction or removal of monitoring is warranted, based on the continued sampling results.

- **Municipal Effluent Limits** – In accordance with the federal regulation 40 CFR 122.45(d), limits in this permit are to be expressed as weekly average and monthly average limits whenever practicable. No additional limits were required to comply with the regulation.
- **Monitoring Frequency** - The Monitoring Frequencies for Individual Wastewater Permits guidance (April 12, 2021) recommends that standard monitoring frequencies be included in individual wastewater permits based on the size and type of the facility, in order to characterize effluent quality and variability, to detect events of noncompliance, and to ensure fairness and consistency in permits issued across the state. Guidance and requirements in administrative code were considered when determining the appropriate monitoring frequencies for pollutants that have final effluent limits in effect during this permit term. The facility will no longer be operational within the proposed permit term, therefore no changes to monitoring frequencies were recommended at the existing facility.

## New Facility – New Build Site

Upon completion of construction and at the commencement of discharge at the new treatment facility, all monitoring and limits at Outfall 710, 115, 011, and new plants Land Application outfalls are effective. Prior to the commencement of discharge and when no discharge occurs through Outfall 006, flow rate shall be reported as “0” (zero).

## Sample Point Number: 710- Influent – New Facility

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD <sub>5</sub> , Total		mg/L	Daily	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	Daily	24-Hr Flow Prop Comp	
Mercury, Total Recoverable		ng/L	Monthly	Grab	See Mercury Monitoring Section.

## Changes from Previous Permit:

New influent sampling point

## Explanation of Limits and Monitoring Requirements

**BOD<sub>5</sub> and Total Suspended Solids:** Tracking of BOD<sub>5</sub> and Suspended Solids are required for percent removal requirements found in s. NR 210.05, Wis. Adm. Code and Section 5.4.6 of the permit. These are standard monitoring requirements for a municipal treatment facility of this size.

**Mercury, Total Recoverable:** All major municipal dischargers with an average flow of greater than or equal to 1 MGD are required to monitor for influent mercury per s. NR 145(3)(a)2, Wis. Adm. Code. Mercury monitoring is included in the proposed permit pursuant to s. NR 106.145, Wis. Adm. Code. Required field blanks for Mercury monitoring per ss. NR 106.145(9) and (10), Wis. Adm. Code, requirements. The permittee shall collect a mercury field blank for each set of mercury samples (a set of samples may include a combination of influent, effluent or other samples all collected on the same day). The permittee shall report results of influent and effluent samples and field blanks to the Department on Discharge Monitoring Reports.

## Inplant - Proposed Monitoring and Limitations

### Sample Point Number: 115- GEN PLANT (Hg blank) – New Facility

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

### Changes from Previous Permit:

New Hg blank Sample Point number.

### Explanation of Limits and Monitoring Requirements

Required field blanks for Mercury monitoring per ss. NR 106.145(9) and (10), Wis. Adm. Code, requirements. The permittee shall collect a mercury field blank for each set of mercury samples (as set of samples may include a combination of influent, effluent or other samples all collected on the same day). The permittee shall report results of influent and effluent samples and field blanks to the Department on Discharge Monitoring Reports.

### Sample Point Number: 011- EFFLUENT – New Facility

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD5, Total	Weekly Avg	41 mg/L	5/Week	24-Hr Flow Prop Comp	May and October
BOD5, Total	Weekly Avg	27 mg/L	5/Week	24-Hr Flow Prop Comp	June
BOD5, Total	Weekly Avg	22 mg/L	5/Week	24-Hr Flow Prop Comp	July
BOD5, Total	Weekly Avg	21 mg/L	5/Week	24-Hr Flow Prop Comp	August
BOD5, Total	Weekly Avg	29 mg/L	5/Week	24-Hr Flow Prop Comp	September

**Monitoring Requirements and Limitations**

<b>Parameter</b>	<b>Limit Type</b>	<b>Limit and Units</b>	<b>Sample Frequency</b>	<b>Sample Type</b>	<b>Notes</b>
BOD5, Total	Weekly Avg	45 mg/L	5/Week	24-Hr Flow Prop Comp	November through April
BOD5, Total	Monthly Avg	30 mg/L	5/Week	24-Hr Flow Prop Comp	
BOD5, Total	Weekly Avg	1,007 lbs/day	5/Week	Calculated	May
BOD5, Total	Weekly Avg	667 lbs/day	5/Week	Calculated	June
BOD5, Total	Weekly Avg	534 lbs/day	5/Week	Calculated	July
BOD5, Total	Weekly Avg	524 lbs/day	5/Week	Calculated	August
BOD5, Total	Weekly Avg	722 lbs/day	5/Week	Calculated	September
BOD5, Total	Weekly Avg	988 lbs/day	5/Week	Calculated	October
Suspended Solids, Total	Weekly Avg	41 mg/L	5/Week	24-Hr Flow Prop Comp	May and October
Suspended Solids, Total	Weekly Avg	27 mg/L	5/Week	24-Hr Flow Prop Comp	June
Suspended Solids, Total	Weekly Avg	22 mg/L	5/Week	24-Hr Flow Prop Comp	July
Suspended Solids, Total	Weekly Avg	21 mg/L	5/Week	24-Hr Flow Prop Comp	August
Suspended Solids, Total	Weekly Avg	29 mg/L	5/Week	24-Hr Flow Prop Comp	September
Suspended Solids, Total	Weekly Avg	45 mg/L	5/Week	24-Hr Flow Prop Comp	November through April
Suspended Solids, Total	Monthly Avg	30 mg/L	5/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Weekly Avg	1,007 lbs/day	5/Week	Calculated	May
Suspended Solids, Total	Weekly Avg	667 lbs/day	5/Week	Calculated	June
Suspended Solids, Total	Weekly Avg	534 lbs/day	5/Week	Calculated	July
Suspended Solids, Total	Weekly Avg	524 lbs/day	5/Week	Calculated	August
Suspended Solids, Total	Weekly Avg	722 lbs/day	5/Week	Calculated	September

**Monitoring Requirements and Limitations**

<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	Weekly Avg	998 lbs/day	5/Week	Calculated	October
Nitrogen, Ammonia (NH3-N) Total	Daily Max	34 mg/L	5/Week	24-Hr Flow Prop Comp	June through April
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	24 mg/L	5/Week	24-Hr Flow Prop Comp	January and June
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	25 mg/L	5/Week	24-Hr Flow Prop Comp	February
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	29 mg/L	5/Week	24-Hr Flow Prop Comp	March
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	18 mg/L	5/Week	24-Hr Flow Prop Comp	April
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	19 mg/L	5/Week	24-Hr Flow Prop Comp	July and December
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	20 mg/L	5/Week	24-Hr Flow Prop Comp	August
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	17 mg/L	5/Week	24-Hr Flow Prop Comp	September and October
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	23 mg/L	5/Week	24-Hr Flow Prop Comp	November
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	11 mg/L	5/Week	24-Hr Flow Prop Comp	January and February
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	13 mg/L	5/Week	24-Hr Flow Prop Comp	March
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	8.3 mg/L	5/Week	24-Hr Flow Prop Comp	April
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	12 mg/L	5/Week	24-Hr Flow Prop Comp	June
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	9.2 mg/L	5/Week	24-Hr Flow Prop Comp	July
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	9.5 mg/L	5/Week	24-Hr Flow Prop Comp	August
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	7.9 mg/L	5/Week	24-Hr Flow Prop Comp	September
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	7.7 mg/L	5/Week	24-Hr Flow Prop Comp	October

**Monitoring Requirements and Limitations**

<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 (NH3-N) Total	Monthly Avg	10 mg/L	5/Week	24-Hr Flow Prop Comp	November
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	8.8 mg/L	5/Week	24-Hr Flow Prop Comp	December
E. coli	Monthly Avg	126 #/100 ml	2/Week	Grab	Limit effective May through September annually.
E. coli	Monthly Avg	10 Percent	2/Week	Calculated	Limit effective May through September annually.
pH Field	Daily Max	9.0 su	Daily	Grab	
pH Field	Daily Min	6.0 su	Daily	Grab	
Dissolved Oxygen	Daily Min	5 mg/L	5/week	Grab	
Phosphorus, Total	Monthly Avg	1.0 mg/L	5/Week	24-Hr Flow Prop Comp	
Phosphorus, Total	Monthly Avg	12 lbs/day	5/Week	Calculated	See TMDL section.
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 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 section.
Chloride		mg/L	Monthly	24-Hr Flow Prop Comp	Monitoring for one year for after the new facility is exclusively discharging via this outfall.
Temperature Maximum		deg F	3/Week	24-Hr Flow Prop Comp	Monitoring for one year after the new facility is exclusively discharging via Outfall 011.
Mercury, Total Recoverable	Daily Max	5.5 ng/L	Monthly	Grab	This is an alternative mercury effluent limit. See Mercury sections and

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
					section 5.1 of the permit for Mercury PMP schedule.
Nitrogen, Total Kjeldahl		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Nitrite + Nitrate Total		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Total		mg/L	Quarterly	Calculated	Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen.
Acute WET		TUa	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual Acute WET tests required after the new facility is exclusively discharging via this outfall.
Chronic WET		TUc	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual Chronic WET tests required after the new facility is exclusively discharging via this outfall.
PFOS		ng/L	Annual	Grab	Monitoring only. See PFOS/PFOA Minimization Plan Determination of Need schedule.
PFOA		ng/L	Annual	Grab	Monitoring only. See PFOS/PFOA Minimization Plan Determination of Need schedule.

## Changes from Previous Permit

New facility limits and monitoring.

## Explanation of Limits and Monitoring Requirements

Refer to the Water Quality-Based Effluent Limitations (WQBELs) memo for City of Reedsburg, prepared by Sarah Luck dated May 23, 2023 and used for this reissuance.

- BOD<sub>5</sub>, Total Suspended Solids, and pH:** BOD and TSS limits for summer are water quality based using a waste load allocation because of multiple dischargers on the Baraboo River. Standard municipal wastewater requirements for BOD<sub>5</sub> and total suspended solids along with pH are included based on ch. NR 210, Wis. Adm. Code ‘Sewage Treatment Works’ requirements for discharges to fish and aquatic life streams. Chapter NR 102, Wis. Adm. Code ‘Water Quality Standards for Surface Waters’ also specifies requirements for pH for fish and aquatic life streams. Changes to BOD and TSS limits reflect changes to design flow.

- ***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. *E. coli* limits of 126 #/100 ml as a monthly geometric mean that may not be exceeded 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.
- **Nitrogen, Ammonia**: Current acute and chronic ammonia toxicity criteria for the protection of aquatic life are included in Table 2C and Table 4B of ch. NR 105, Wis. Adm. Code (effective March 1, 2004). Subchapter IV of ch. NR 106 establishes procedures for calculating water quality-based effluent limitations (WQBELs) for ammonia (effective March 1, 2004). The daily maximum, weekly average, and monthly average ammonia limits in the proposed permit were based on the design flow and proposed discharge location for the new build facility.
- **Phosphorus**: The 1.0 mg/L monthly average limit is set at the technology-based limit and is retained to prevent backsliding. This is not an interim limit. No changes to phosphorus TBEL limits due to building of the new facility.

**Wisconsin River Total Maximum Daily Load (TMDL)**: The permitted facility is located within the Wisconsin River Basin Total Maximum Daily Load (TMDL), which was approved by EPA April 26, 2019. The TMDL establishes Waste Load Allocations (WLAs) for point source dischargers and determines the maximum amounts of phosphorus that can be discharged and still protect water quality. The final effluent limits and monitoring expressed in the permit were derived from and comply with the applicable water quality criterion and are consistent with the assumptions and requirements of the EPA-approved WLA in the TMDL, which is 8,073 lbs/yr for the permitted facility.

The approved TMDL expresses WLAs as lbs/year and lbs/day (maximum annual load divided by 365 days). As outlined in Section 4.6 of the department's *TMDL Development and Implementation Guidance: Integrating the WPDES and Impaired Waters Program*, mass limits must be given in the permit that are consistent with the TMDL WLA and the phosphorus impracticability agreement that was approved by USEPA in 2012 (see NPDES MOA Addendum dated July 12, 2012 at <https://prodoasint.dnr.wi.gov/swims/downloadDocument.do?id=167886175>). Continuously discharging facilities covered by the WRB TMDL are given monthly average mass limits. If the equivalent effluent concentration is less than or equal to 0.3 mg/L, six-month average mass limits (averaging period of May through October and November through April) are also included. The equivalent effluent concentration of 1.0 mg/L was calculated for the facility, thus, TMDL based mass limits are expressed as a monthly average.

Facilities with WRB TMDL based effluent limits for phosphorus must report the 12-month rolling sum of total monthly discharge (lbs/yr). If reported 12-month rolling sums exceed the facility's max annual WLA, the facility's mass limits (monthly average and six-month average) may be recalculated using more appropriate CVs or monitoring frequencies when the permit is reissued to bring discharge levels into compliance with the facility's given WLA.

**Site-Specific Criteria (SSC) for Lakes Petenwell, Castle Rock, and Wisconsin**: The Wisconsin River Basin TMDL report includes two sets of wasteload allocations. The WLA in Appendix J of the report are based on the current promulgated water quality criteria, and the allocations in Appendix K are based on proposed site-specific criteria (SSC) for Lakes Petenwell, Castle Rock, and Wisconsin. If the total phosphorus limits were to be calculated based on the proposed SSC in Appendix K, this would result in phosphorus limits that are different from those calculated above. If the WLA presented in Appendix K based on the proposed SSC were used, the

annual allocation would be 2,954 lbs/year. Using the same calculation methods as those used for the Appendix J WLA, the recommended mass effluent limit would be 12 lbs/day as a monthly average and is effective upon activation of this outfall.

Implementation of the WLA contained in Appendix K can only occur if the SSC are promulgated by the State of Wisconsin and approved by USEPA. If this occurs, WDNR will notify stakeholders that adoption of the SSC has occurred and submit the necessary documentation to USEPA to confirm that the SSC-based WLAs will be implemented in future WPDES permits. From that point forward, SSC WLAs would be implemented in WPDES permits via permit modification or reissuance.

- **Mercury, Total Recoverable:** Effluent data indicates that a mercury limit is required. The new facility discharges to the same receiving water therefore the same limits are warranted. An analysis was completed to determine the mercury concentration from the City of Reedsburg at the receiving water outfall. These data were used to determine that there is reasonable potential to exceed the calculated mercury limitation of 1.3 ng/L. However, s. NR 106.145, Wis. Adm. Code, provides for a variance from water quality standards for this substance in light of its presence in the environment and Reedsburg is requesting this variance. An Alternative Mercury Effluent Limit (AMEL) is established. The permit requires Reedsburg to perform quarterly, field blank and effluent monitoring, maintain mercury discharge concentrations at or below 5.5 ng/L as a daily maximum AEL, and implement a Pollutant Minimization Program designed to minimize mercury influent to the plant. Requirements for mercury are included in s. NR 106.145, Wis. Adm. Code., and s. NR 106.145(4), Wis. Adm. Code, establishes eligibility for alternative mercury effluent limits. No changes to the mercury limits or variance due to the commencement of discharge from the new facility because the outfall is on the same receiving water.
- **Acute and Chronic WET:** Whole effluent toxicity (WET) testing requirements are determined in accordance with ss. NR 106.08 and NR 106.09 Wis. Adm. Code, as revised in 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>). Acute and Chronic WET tests are scheduled in the rotating quarters once annually as listed in the permit. In accordance with the requirements specified in s. NR 106.08, Wis. Adm. Code, a chronic WET limit is required. A minimum annual chronic WET monitoring is required when a limit is present in accordance with Federal regulations at 40 CFR 122.44(i). WET testing will shift from the existing facility to the new facility after construction.
- **Temperature and Chloride:** When the representative data is compared to the calculated limits, the data shows there is no reasonable potential for the permittee to exceed the calculated limits for temperature and chlorides. Therefore, no limits are included in the proposed permit. The proposed permit includes temperature and chloride monitoring for one year upon commencement of discharge to Outfall 011, the new WWTF.
- **PFOS and PFOA** – NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. At the first reissuance of a WPDES permit after August 1, 2022, the new rule requires WPDES permits for major municipal dischargers with an average flow rate greater than 1 MGD but less than 5 MGD, at a minimum sample effluent once every two-months for PFOS and PFOA pursuant s. NR 106.98(2)(b), Wis. Adm. Code. Monitoring remains in effect at the new facility unless the initial determination indicates limits are needed or monitoring is no longer required.

A sample frequency of 1/2 months means one sample is taken during any two-month period. Examples of 1/2 month sample would be every other month (Jan, March, May, etc.) or back-to-back months with a break in between (February & March, May & June, Aug & Sept, etc.). DMR Short Forms will be generated for the following time periods: January-February, March-April, May-June, July-August, September-October, and November-December. At a minimum one sample result will be present on each form.

The initial determination of the need for sampling shall be conducted for up to two years in order to determine if the permitted discharge has the reasonable potential to cause or contribute to an exceedance of the PFOS or PFOA standards under s. NR 102.04(8)(d)1, Wis. Adm. Code.

Pursuant to s. NR 205.066, Wis. Adm. Code, the department may specify the monitoring frequency for PFOS and PFOA on a case-by-case basis after the initial 24 months of sampling.

After a review of the data submitted with the Year 2 Report on Effluent Discharges, the department has determined that it is warranted to reduce the sampling frequency in this case. The department is requiring continued monitoring of these compounds to complete the permit term to ensure that the current effluent quality is maintained. At the next permit reissuance, the department will make another determination as to whether further reduction or removal of monitoring is warranted, based on the continued sampling results.

- Municipal Effluent Limits** – In accordance with the federal regulation 40 CFR 122.45(d), limits in this permit are to be expressed as weekly average and monthly average limits whenever practicable. No additional limits were required to comply with the regulation.
- Monitoring Frequency** - The Monitoring Frequencies for Individual Wastewater Permits guidance (April 12, 2021) recommends that standard monitoring frequencies be included in individual wastewater permits based on the size and type of the facility, in order to characterize effluent quality and variability, to detect events of noncompliance, and to ensure fairness and consistency in permits issued across the state. Guidance and requirements in administrative code were considered when determining the appropriate monitoring frequencies for pollutants that have final effluent limits in effect during this permit term. The facility is completing a new facility build. This new facility has high design flows. At the commencement of discharge from the new facility the standard sample frequencies for a permittee of this size are warranted.

## Land Application - Proposed Monitoring and Limitations

Municipal Sludge Description						
Sample Point	Sludge Class (A or B)	Sludge Type (Liquid or Cake)	Pathogen Reduction Method	Vector Attraction Method	Reuse Option	Amount Reused/Disposed (Dry Tons/Year)
004	A	Cake	Fecal Coliform and Pasteurization	pH Adjustment	Land Application	1800 (2016)
005	B	Cake	Fecal Coliform	Incorporation	Land Application	0
006	B	Liquid	Fecal Coliform	Incorporation	Land Application	new
007	A	Cake	Fecal Coliform and Pasteurization	pH Adjustment	Land Application	new
040 and 070	A	TBD	TBD	TBD	TBD	inactive
050 and 060	B	TBD	TBD	TBD	TBD	inactive

Municipal Sludge Description						
Sample Point	Sludge Class (A or B)	Sludge Type (Liquid or Cake)	Pathogen Reduction Method	Vector Attraction Method	Reuse Option	Amount Reused/Disposed (Dry Tons/Year)
Does sludge management demonstrate compliance? <b>Yes</b> , at current WWTF						
Is additional sludge storage required? <b>No</b> , at current WWTF						
Is Radium-226 present in the water supply at a level greater than 2 pCi/liter? <b>No</b>						
If yes, special monitoring and recycling conditions will be included in the permit to track any potential problems in landapplying sludge from this facility						
Is a priority pollutant scan required? <b>No</b>						
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.						

**Sample Point Number: 004- CLASS A SLUDGE; 005- CLASS B SLUDGE**

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Solids, Total		Percent	Quarterly	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Quarterly	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Quarterly	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Quarterly	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Quarterly	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Quarterly	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Quarterly	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Quarterly	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Quarterly	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Quarterly	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Quarterly	Composite	

<b>Monitoring Requirements and 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>
Selenium Dry Wt	High Quality	100 mg/kg	Quarterly	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Quarterly	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Quarterly	Composite	
Nitrogen, Total Kjeldahl		Percent	Quarterly	Composite	
Nitrogen, Ammonium (NH4-N) Total		Percent	Quarterly	Composite	
Phosphorus, Total		Percent	Quarterly	Composite	
Phosphorus, Water Extractable		% of Tot P	Quarterly	Composite	
Potassium, Total Recoverable		Percent	Quarterly	Composite	
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	Once in 2024
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	Once in 2024

### **Changes from Previous Permit:**

No changes were required.

### **Explanation of Limits and Monitoring Requirements**

Outfall 004 is used when Class A sludge is discharged immediately. 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), Wis. Adm. Code. Requirements for pathogens are specified in s. NR 204.07 (6) and in s. NR 204.07 (7), Wis. Adm. Code for vector attraction requirements. Limitations for PCBs are addressed in s. NR 204.07 (3) (k), Wis. Adm. Code.

### **Sample Point Number: 006- CLASS B LIQUID SLUDGE**

<b>Monitoring Requirements and 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>
Solids, Total		Percent	Quarterly	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Quarterly	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Quarterly	Composite	

<b>Monitoring Requirements and 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 Dry Wt	High Quality	1,500 mg/kg	Quarterly	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Quarterly	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Quarterly	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Quarterly	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Quarterly	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Quarterly	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Quarterly	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Quarterly	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Quarterly	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Quarterly	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Quarterly	Composite	
Nitrogen, Total Kjeldahl		Percent	Quarterly	Composite	
Nitrogen, Ammonium (NH <sub>4</sub> -N) Total		Percent	Quarterly	Composite	
Phosphorus, Total		Percent	Quarterly	Composite	
Phosphorus, Water Extractable		% of Tot P	Quarterly	Composite	
Potassium, Total Recoverable		Percent	Quarterly	Composite	
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	

### **Changes from Previous Permit:**

New outfall added in the event that there are equipment issues creating and storing Class B Cake or equipment issues with the bioset reactor.

### **Explanation of Limits and Monitoring Requirements**

In the event of equipment issues and liquid Class B sludge is discharged, Outfall 006 shall be used. 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), Wis. Adm. Code. Requirements for pathogens are specified in s. NR 204.07 (6) and in s. NR 204.07 (7), Wis. Adm. Code for vector attraction requirements. Limitations for PCBs are addressed in s. NR 204.07 (3) (k), Wis. Adm. Code.

## Sample Point Number: 007- CLASS A SLUDGE RETEST

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Solids, Total		Percent	Quarterly	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Quarterly	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Quarterly	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Quarterly	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Quarterly	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Quarterly	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Quarterly	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Quarterly	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Quarterly	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Quarterly	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Quarterly	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Quarterly	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Quarterly	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Quarterly	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Quarterly	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Quarterly	Composite	
Nitrogen, Total Kjeldahl		Percent	Quarterly	Composite	
Nitrogen, Ammonium (NH <sub>4</sub> -N) Total		Percent	Quarterly	Composite	
Phosphorus, Total		Percent	Quarterly	Composite	
Phosphorus, Water Extractable		% of Tot P	Quarterly	Composite	
Potassium, Total Recoverable		Percent	Quarterly	Composite	
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	

## Changes from Previous Permit:

New outfall added for Class A sludge when sludge is stored and a retest is required prior to storage.

## 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), Wis. Adm. Code. Requirements for pathogens are specified in s. NR 204.07 (6) and in s. NR 204.07 (7), Wis. Adm. Code for vector attraction requirements. Limitations for PCBs are addressed in s. NR 204.07 (3) (k), Wis. Adm. Code.

## 1 Schedules

### 1.1 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.

Required Action	Due Date
<p>Annual Mercury Progress Reports: Submit an annual mercury progress report related to the pollutant minimization activities for the previous year. The annual mercury progress report shall:</p> <p>Indicate which mercury pollutant minimization activities or activities outlined in the Pollutant Minimization Program Plan have been implemented and state which, if any, activities from the Pollutant Minimization Program Plan were not pursued and why;</p> <p>Include an assessment of whether each implemented pollutant minimization activity appears to be effective or ineffective at reducing pollutant discharge concentrations and identify actions planned for the upcoming year;</p> <p>Identification of barriers that have limited program effectiveness and adjustments to the program that will be implemented during the next year to help address these barriers;</p> <p>Include an analysis of trends in total effluent mercury concentrations based on mercury sampling; and</p> <p>Include an analysis of how influent and effluent mercury varies with time and with significant loading of mercury.</p> <p>The first annual mercury progress report is to be submitted by the Due Date.</p>	01/31/2025
Annual Mercury Progress Report #2: Submit a mercury progress report, related to the pollutant minimization activities for the previous year, as defined above.	01/31/2026
Annual Mercury Progress Report #3: Submit a mercury progress report, related to the pollutant minimization activities for the previous year, as defined above.	01/31/2027
Annual Mercury Progress Report #4: Submit a mercury progress report, related to the pollutant minimization activities for the previous year, as defined above.	01/31/2028
<p>Final Mercury Report: 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.</p> <p>The report shall:</p>	06/30/2028

<p>Summarize mercury pollutant minimization activities that have been implemented during the current permit term and state which, if any, activities from the Pollutant Minimization Program Plan were not pursued and why;</p> <p>Include an assessment of which pollutant minimization activities appear to have been effective or ineffective. Evaluate any needed changes to the pollutant reduction strategy accordingly;</p> <p>Identification of barriers that have limited program effectiveness and adjustments to the program that will be implemented during the next variance term (if applicable) to help address these barriers;</p> <p>Include an analysis of trends in mercury concentrations based on sampling and data during the current permit term; and</p> <p>Include an analysis of how influent and effluent mercury varies with time and with significant loadings of mercury.</p> <p>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 Program Plan outlining the pollutant minimization activities proposed for the upcoming permit term shall be submitted along with the final report. An updated pollutant minimization plan shall:</p> <p>Include an explanation of why or how each pollutant minimization activity will result in reduced discharge of the target pollutant;</p> <p>Evaluate any new available information on pollutant sources, timing, and concentration to update the mass balance assumptions and expected sources of the pollutant, and</p> <p>Identify any information needs that would help to better determine pollutant sources and make plans to collect that information.</p>	
<p>Annual Mercury Reports After Permit Expiration: In the event that this permit is not reissued by the date the permit expires, the permittee shall continue to submit annual mercury reports for the previous year following the due date of Annual Mercury Progress Reports listed above. Annual Mercury Progress reports shall include the information as defined above.</p>	

## 1.2 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.

Required Action	Due Date
Construction Progress Report: The permittee shall submit a progress report on construction of the new facility.	12/31/2024
Construction Progress Report: The permittee shall submit a progress report on construction of the new facility.	12/31/2025
Construction Progress Report: The permittee shall submit a progress report on construction of the new facility.	12/31/2026
Construction Progress Report: The permittee shall submit a progress report on construction of the new facility.	12/31/2027

Complete Construction: The permittee shall complete construction of wastewater treatment system upgrades. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	11/01/2028
Construction Complete Notification: The permittee shall notify the department at least 60 days prior to completion of construction. This notification shall include an anticipated start date for discharge for the new facility to activate sampling points and discharge outfalls.	
Achieve Compliance: The permittee shall achieve compliance with final phosphorus WQBELs. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	12/31/2028
Abandonment of existing outfalls: The permittee shall notify the department upon abandonment of the permitted outfalls for the existing facility. These outfalls will be inactivated after abandonment and removed in the next permit term. Prior to inactivation the permittee must report "0" zero flow on DMRs when no discharge occurs.	12/31/2028

### 1.3 PFOS/PFOA Minimization Plan Determination of Need

Required Action	Due Date
<p>Report on Effluent Discharge: Submit a report on effluent PFOS and PFOA concentrations and include an analysis of trends in monthly and annual average PFOS and PFOA concentrations. This analysis should also include a comparison to the applicable narrative standard in s. NR 102.04(8)(d), Wis. Adm. Code.</p> <p>This report shall include all additional PFOS and PFOA data that may be collected including any influent, intake, in-plant, collection system sampling, and blank sample results.</p>	07/30/2024
<p>Report on Effluent Discharge and Evaluation of Need: Submit a final report on effluent PFOS and PFOA concentrations and include an analysis of trends in monthly and annual average PFOS and PFOA concentrations of data collected over the last 24 months. The report shall also provide a comparison on the likelihood of the facility needing to develop a PFOS/PFOA minimization plan.</p> <p>This report shall include all additional PFOS and PFOA data that may be collected including any influent, intake, in-plant, collection system sampling, and blank sample results.</p> <p>The permittee shall also submit a request to the department to evaluate the need for a PFOS/PFOA minimization plan.</p> <p>If the Department determines a PFOS/PFOA minimization plan is needed based on a reasonable potential evaluation, the permittee will be required to develop a minimization plan for Department approval no later than 90 days after written notification was sent from the Department. The Department will modify or revoke and reissue the permit to include PFOS/PFOA minimization plan reporting requirements along with a schedule of compliance to meet WQBELs. Effluent monitoring of PFOS and PFOA shall continue as specified in the permit until the modified permit is issued.</p> <p>If, however, the Department determines there is no reasonable potential for the facility to discharge PFOS or PFOA above the narrative standard in s. NR 102.04(8)(d), Wis. Adm. Code, no further action is required and effluent monitoring of PFOS and PFOA shall continue as specified in the permit.</p>	07/30/2025

### 1.4 Land Application Management Plan

A management plan is required for the land application system.

Required Action	Due Date
<p>Land Application Management Plan Submittal: Submit a management plan for the new facility to optimize the land application system performance and demonstrate compliance with ch. NR 204, Wis. Adm. Code, by the Due Date. This management plan shall 1) specify information on pretreatment processes (if any); 2) identify land application sites; 3) describe site limitations; 4) address vegetative cover management and removal; 5) specify availability of storage; 6) describe the type of transporting and spreading vehicle(s); 7) specify monitoring procedures; 8) track site loading; 9) address contingency plans for adverse weather and odor/nuisance abatement; and 10) include any other pertinent information. Once approved, all landspreading activities shall be conducted in accordance with the plan. Any changes to the plan must be approved by the Department prior to implementing the changes. This plan must be submitted 60 days prior to land application from the new facility.</p>	

## Explanation of Schedules

### Mercury Pollutant Minimization Program

Reedsburg has applied for a variance from the mercury water quality criterion for the protection of wildlife (1.3 ng/L). As a condition of receiving a mercury variance, s. NR 106.145(7), Wis. Adm. Code, requires the permittee to continue to develop and implement a Mercury Pollutant Minimization Program (PMP). The schedule requires the permittee to implement the Mercury PMP and submit annual status reports on PMP activities. Annual status reports are required to be submitted by January 31st of the following year, regardless of whether or not the permit expires without being reissued.

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

Subsection NR 217.17, Wis. Adm. Code, allows the department to provide a schedule of compliance for water quality based phosphorus limits where the permittee cannot immediately achieve compliance. This compliance schedule requires the permittee to comply with the final water quality based phosphorus limits within the permit term through construction of a new treatment plant. The duration of this compliance schedule will be the timeline for construction of the new treatment plant or the end of the permit term, whichever comes first.

### PFOS/PFOA Minimization Plan Determination of Need

As stated above, NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. S. NR 106.98, Wis. Adm. Code, specifies steps to generate data in order to determine the need for reducing PFOS and PFOA in the discharge. Data generated per the effluent monitoring requirements will be used to determine the need for developing a PFOS/PFOA minimization plan. As part of the schedule, the permittee is required to submit two annual Reports on Effluent Discharge.

If the Department determines that a minimization plan is needed, the permit will be modified or revoked/reissued to include additional requirements.

### Land Application Management Plan

An updated land application management plan shall be submitted to the department for approval.

## Other Comments:

None.

## Special Reporting Requirements

None

## Attachments:

~~Water Quality Based Effluent Limits with Map(s) dated May 23, 2023 Revised for updated Outfall 011 design flow rates.~~

~~Mercury Variance Docs~~

PFOS and PFOA Water Quality-Based Effluent Limitations for the Reedsburg Wastewater Treatment Facility -WPDES Permit No. (WI-0020371) in Sauk County, by Amy Garbe, PE, Wastewater Engineer, dated January 26, 2026

## Proposed Expiration Date:

December 31, 2028

## Justification Of Any Waivers From Permit Application Requirements

None

**Prepared By:** Jennifer Jerich Wastewater Specialist

**Date:** 11/2/2022

**Updated (based on fact check comments):** 8/8/2023

**Updated (based on public notice comments):** 10/13/2023 and 12/20/2023; updates for clarity and consistency between documents. See NFD.

**Revised By:** Sarah Donoughe, Wastewater Specialist-Adv

**Date:** January 28, 2026

DATE: January 26, 2026

TO: Sarah Donoughe – NER

FROM: Kari Fleming – WY/3

SUBJECT: PFOS and PFOA Water Quality-Based Effluent Limitations for the Reedsburg Wastewater Treatment Facility -WPDES Permit No. (WI-0020371) in Sauk County

This is in response to your request for an evaluation of the need for PFOS and PFOA limitations for the Reedsburg Wastewater Treatment Facility. This municipal wastewater treatment facility (WWTF) discharges to the Baraboo River, located in the Narrows Creek and Baraboo River Watershed in the Lower Wisconsin River Basin.

The current permit, effective since December 2023, has monitoring only for PFOS and PFOA. The following review is based on new regulations which are now in effect throughout the state of Wisconsin and recommendations are made in accordance with chapters NR 102, 104, 105, 106, 207, and 217 of the Wisconsin Administrative Code, where applicable.

**Receiving Water Information**

- Name: Baraboo River
- Classification: Warm Water Sport Fish (WWSF) community, non-public water supply.
- Flow: The following 7-Q10 and 7-Q2 values were developed by USGS on February 24, 1994 for the station at NE ¼ of NE ¼ of Section 9, T12N-R4E in Sauk County, which is 300 ft upstream of Hay Creek:
  - 7-Q10 = 50 cfs (cubic feet per second)
  - 7-Q2 = 74 cfs
  - 90-Q10 = 62.9 cfs
  - Harmonic Mean Flow = 135 cfs

The Harmonic Mean has been estimated based on average flow and the 7-Q<sub>10</sub> using an equation from U.S. EPA's *Technical Support Document for Water Quality-Based Toxics Control* (March 1991, EPA/505/2-90-001, pgs. 88-89).

- % of Flow used to calculate limits: 25%

**Effluent Information**

- Flow: Average Design Flow = 2.945 MGD (million gallons per day)  
For reference, the actual average flow from January 2024 to November 2025 was 2.04 MGD.
- Effluent characterization: This facility is categorized as a major municipality.

The following table lists the statistics for effluent PFOS and PFOA levels from February 2021 and February 2024 through December 2025.

	PFOS** ng/L	PFOA ng/L
1-day P <sub>99</sub>	NA	4.54
4-day P <sub>99</sub>	NA	3.66
30-day P <sub>99</sub>	NA	3.17



Mean*	1.30	2.91
Std	0.86	0.59
Sample Size	13	13
Range	<1.15-3.4	2.07-4.1

\*Results below the level of detection (LOD) were included as zeroes in calculation of average.

\*\*There were less than 11 detected results so P<sub>99</sub>'s could not be calculated

### Water Quality Based Limit – PFOS and PFOA

Administrative rules for PFOS and PFOA took effect on August 1, 2022. These rule revisions include additions to ch. NR 102 (s. NR 102.05), Wis. Adm. Code, which establish PFOS and PFOA standards for surface waters. Revisions to ch. NR 106 (s. NR 106, Subchapter VIII), Wis. Adm. Code establish procedures for determining water quality based effluent limits for PFOS and PFOA, based on the applicable standards in ch. NR 102, Wis. Adm. Code.

#### PFOS

Due to PFOS being a bioaccumulating compound of concern (BCC), no mixing zone is allowed pursuant to s. NR 106.98(4), Wis. Adm. Code. Therefore, the effluent limit for PFOS is set equal to criterion (8 ng/L).

#### PFOA

The conservation of mass equation is described in s. NR 106.06(4)(b)1. Wis. Adm. Code, and includes variables of water quality criterion (WQC), receiving water flow rate (Q<sub>s</sub>), effluent flow rate (Q<sub>e</sub>), and upstream PFOA concentrations (C<sub>s</sub>) provided below.

$$\text{Limitation} = [(WQC)(Q_s + (1-f) Q_e) - (Q_s - f Q_e) (C_s)] / Q_e$$

Where:

WQC = 95 ng/L for the Baraboo River

Q<sub>s</sub> = 25% of the harmonic mean pursuant s. NR 106.06(4)(c)10., Wis. Adm. Code = 33.75 cfs

C<sub>s</sub> = background concentration of PFOA in the receiving water pursuant to s. NR 106.06(4)(e), Wis. Adm. Code

Q<sub>e</sub> = effluent flow rate = 2,945 MGD = 4.56 cfs

f = the fraction of effluent withdrawn from the receiving water = 0

After substituting the appropriate variables, the calculated PFOA limit is 798 ng/L.

#### Reasonable Potential Determination

In accordance with s. NR 106.98(4)(a), Wis. Adm. Code, **the discharge does not have reasonable potential to cause or contribute to an exceedance of the water quality criterion for PFOS** because the arithmetic average of reported effluent PFOS data is less than 1/5<sup>th</sup> of the calculated WQBEL (8 ng/L). Therefore, a WQBEL is not required.

**The discharge does not have reasonable potential to cause or contribute to an exceedance of the water quality criterion for PFOA** because the 30-day P<sub>99</sub> of reported effluent PFOA data is less than the calculated WQBEL (798 ng/L). Therefore, a WQBEL is not required.

#### Conclusions

The discharge has no reasonable potential to cause or contribute to an exceedance of the water quality

criterion for PFOS nor PFOA. Therefore, no WQBELs are required.

Pursuant to s. NR 205.066, Wis. Adm. Code, the department may specify the monitoring frequency for PFOS and PFOA on a case-by-case basis after the initial 24 months of sampling. **After a review of the available data, the department has determined that it is warranted to reduce the sampling frequency in this case to annually.**

If there are any questions or comments on these recommendations, please contact Amy Garbe by telephone at (608) 716-9968 or by email at Amy.Garbe@wisconsin.gov.

Attachments (2) – P99 Calculations

PREPARED BY:

  
\_\_\_\_\_  
Amy Garbe, P.E., Wastewater Engineer

date: 1/26/26

cc: Tanner Connors, Basin Engineer – SCR/Fitchburg  
Nate Willis, P.E., PFAS Implementation Coordinator – CO

Attachment 1 – PFOS Data

Sample Date	PFOS Effluent Result [ng/L]
Feb-21	0.77
Feb-24	3.13
Apr-24	2.5
Jun-24	2.58
Aug-24	<1.94
Oct-24	3.4
Dec-24	2.17
Feb-25	<1.15
Apr-25	<1.19
Jun-25	<1.19
Aug-25	<1.23
Oct-25	1.26
Dec-25	1.13

Attachment 2 – PFOA P99 Calculation

EFFLUENT VARIABILITY ANALYSIS -				
=	=	=	=	=
SUBSTANCE:				
NUMBER OF VALUES:				
TOTAL	-----			
DETECTED	13			
NON-DETECTED	0			
d	0			
m	2.91077			
mean of all data	2.91077			
s	0.58779			
n	-----	-----	-----	
	1	4	30	
d^n	0	0	0	
p	0.99	0.99	0.99	
Z_p	2.32679	2.32679	2.32679	
1+(s/m)^2	1.04078	1.04078	1.04078	
(sigma_d)^2	0.03997	0.03997	0.03997	
mu_d	1.04843	1.04843	1.04843	
(sigma_dn)^2	0.03997	0.01014	0.00136	
mu_dn	1.04843	1.06335	1.06774	
P_99 exponent	1.51361	1.29768	1.15349	
P_99	-----	-----	-----	
	4.54	3.66	3.17	
	-----	-----	-----	

Data Summary	
Feb-21	2.81
Feb-24	2.91
Apr-24	2.8
Jun-24	4.1
Aug-24	2.59
Oct-24	3.74
Dec-24	2.97
Feb-25	2.07
Apr-25	2.92
Jun-25	3.4
Aug-25	2.54
Oct-25	2.22
Dec-25	2.77