Fact Sheet for Permit Modification

The permit was modified to update the chronic WET limitation and associated instream waste concentration in permit sections 3.2.1 and 3.2.1.5. Changes associated with the modification are highlighted in gray.

General Information

Permit Number:	**WI-0020192-09-1**	
Permittee Name:	**Hartford Water Pollution Control Facility**	
Address:	109 N Main St	
City/State/Zip:	Hartford WI 53027	
Discharge Location:	North bank of the Rubicon River, approx. 100 feet east of Liberty Avenue bridge (Lat: 43.33033º N, Long: 88.41067º W)	
Receiving Water:	Rubicon River (Rubicon River Watershed, Upper Rock River Basin) in Washington County	
Stream Flow ($Q_{7,10}$):	1.3 cfs	
Stream Classification:	Warmwater sport fish community, non-public water supply	
Design Flow(s)	Daily Maximum	10.0 MGD (from 1994 facility plan)
	Weekly Maximum	7.6 MGD (calculated using design flow worksheet)
	Monthly Maximum	5.5 MGD (from 1994 facility plan)
	Annual Average	3.6 MGD (from 1994 facility plan)
Significant Industrial Loading?	Yes, as stated in the 2016 permit application, there are six significant industrial users; Grande Cheese, Signcast Cooperation, Quadgraphics, Broan Nutone, Helgesen, Menasha Packaging, Hartford Finishing, and Tasman (currently not in operation).	
Operator at Proper Grade?	Yes, the OIC is certified in all of the plant's subclasses. Hartford is an Advanced plant in subclasses; A1, B, C, P, D, L, and SS.	
Approved Pretreatment Program?	Not Applicable	

Facility Description

The City of Hartford operates a 3.6 million gallon per day (MGD) activated sludge wastewater treatment facility that serves approximately 17,000 people and seven significant industries. Treatment consists of screening, grit removal, three-ring oxidation ditch that was recently upgraded to allow for biological phosphorus removal, final clarification, anthracite filters, and ultraviolet disinfection. Cascade steps at the end of the discharge flume provide additional aeration before the effluent is discharged to the Rubicon River. Biosolids processes include gravity settling, and liquid sludge storage before being land applied onto Department approved agricultural fields. Based on data reported in 2017, the plant is currently operating at about 63% of its design flow and 32% of its design BOD loading. The Department has found the facility to be in substantial compliance with the current permit (WI-0020192-08-0).

Sample Point Designation

Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, Waste Type/sample Contents and Treatment Description (as applicable)
701	2.29 MGD (2017 Average)	Influent: 24-hr flow proportional composite sample shall be taken from the wet well force main after bar screening. Flow is measured after the wet well.
001	N/A	Effluent: 24-hour flow proportional composite samples shall be taken just prior to ultraviolet disinfection. Grab samples shall be taken after step aeration.
003	400 dry U.S. tons (2016 permit application)	Class B, Aerobically digested liquid sludge; may be gravity (tank) thickened and/or belt thickened. Representative samples shall be taken from the storage tank prior to land application.
103	N/A	Field Blank: Collect total recoverable mercury field blanks using standard sample handling procedures.
604	0.032 MGD (2017 Average)	Sewered Waste: Wastewater discharged via sanitary sewer from Grande Cheese to Hartford WWTP. Composite samples shall be taken once per month when Grande Cheese is actively discharging to the WWTP.

1 Influent - Proposed Monitoring

1.1 Sample Point Number: 701- INFLUENT PLANT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
BOD5, Total		mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	3/Week	24-Hr Flow Prop Comp	
Mercury, Total Recoverable		ng/L	Quarterly	Grab	See section 1.2.1.1 of the permit.

1.1.1 Changes from Previous Permit:

Monitoring requirements for total phosphorus was initially included in the 2012 reissued (issuance no. 8) permit as a way to provide better characterization of influent wastewater. Review of the data submitted from 2012 through 2017 show fairly consistent trends in influent loadings. Monitoring of total phosphorus is removed from the proposed permit.

1.1.2 Explanation of Limits and Monitoring Requirements

BOD_5 and Total Suspended Solids: Tracking of BOD_5, and Suspended Solids are required for percent removal requirements found in s. NR 210.05, Wis. Adm. Code and in subsection 6.4.6 of the permit.

Mercury, Total Recoverable: 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.

2 Inplant - Proposed Monitoring and Limitations

2.1 Sample Point Number: 103- Field Blanks

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Mercury, Total Recoverable		ng/L	Quarterly	Blank	See section 2.2.1.1 of the permit.

2.1.1 Changes from Previous Permit:

No changes from previous permit.

2.1.2 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.

2.2 Sample Point Number: 604- Grande Cheese

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Monthly	Composite	
Chloride		mg/L	Monthly	Composite	

2.2.1 Changes from Previous Permit:

No changes from previous permit.

2.2.2 Explanation of Limits and Monitoring Requirements

In an effort to determine chloride loadings and source reduction measures from two major industrial chloride contributors, the City began monitoring the effluent from Grande Cheese in 2007. The City requested this monitoring and reporting remain in the proposed permit.

3 Surface Water - Proposed Monitoring and Limitations

3.1 Sample Point Number: 001- MECHANICAL PLANT EFFLUENT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
BOD5, Total	Weekly Avg	10 mg/L	3/Week	24-Hr Flow Prop Comp	Effective November - April
BOD5, Total	Weekly Avg	5.0 mg/L	3/Week	24-Hr Flow Prop Comp	Effective May - October
BOD5, Total	Monthly Avg	10 mg/L	3/Week	24-Hr Flow Prop Comp	Effective November - April
BOD5, Total	Monthly Avg	5.0 mg/L	3/Week	24-Hr Flow Prop Comp	Effective May - October
Suspended Solids, Total	Weekly Avg	10 mg/L	3/Week	24-Hr Flow Prop Comp	Year round limit
Suspended Solids, Total	Monthly Avg	10 mg/L	3/Week	24-Hr Flow Prop Comp	Year round limit
Suspended Solids, Total	Weekly Avg	401 lbs/day	3/Week	Calculated	Effective January, March, May, July, August, October, and December
Suspended Solids, Total	Weekly Avg	443 lbs/day	3/Week	Calculated	Effective February
Suspended Solids, Total	Weekly Avg	414 lbs/day	3/Week	Calculated	Effective April, June, September, and November
Suspended Solids, Total	Monthly Avg	295 lbs/day	3/Week	Calculated	Effective January, March, May, July, August, October, and December
Suspended Solids, Total	Monthly Avg	326 lbs/day	3/Week	Calculated	Effective February
Suspended Solids, Total	Monthly Avg	305 lbs/day	3/Week	Calculated	Effective April, June, September, and November
pH Field	Daily Max	9.0 su	Daily	Grab	
pH Field	Daily Min	6.0 su	Daily	Grab	
Dissolved Oxygen	Daily Min	7.0 mg/L	Daily	Grab	
Fecal Coliform	Geometric Mean - Wkly	780 #/100 ml	2/Week	Grab	Effective May - September
Fecal Coliform	Geometric Mean -	400 #/100 ml	2/Week	Grab	Effective May - September

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
	Monthly				
Nitrogen, Ammonia (NH3-N) Total	Daily Max	7.8 mg/L	4/Week	24-Hr Flow Prop Comp	Year round limit
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	7.8 mg/L	4/Week	24-Hr Flow Prop Comp	Effective October - March
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	4.9 mg/L	4/Week	24-Hr Flow Prop Comp	Effective April
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	3.6 mg/L	4/Week	24-Hr Flow Prop Comp	Effective May - September
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	4.3 mg/L	4/Week	24-Hr Flow Prop Comp	Effective November - March
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	2.7 mg/L	4/Week	24-Hr Flow Prop Comp	Effective April
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	1.2 mg/L	4/Week	24-Hr Flow Prop Comp	Effective May - September
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	3.8 mg/L	4/Week	24-Hr Flow Prop Comp	Effective October
Phosphorus, Total	Monthly Avg	0.6 mg/L	3/Week	24-Hr Flow Prop Comp	This is an interim limit. Final limits become effective July 1, 2020. See Phosphorus schedule in section 5.1.
Phosphorus, Total	Monthly Avg	0.225 mg/L	3/Week	24-Hr Flow Prop Comp	Final limit becomes effective July 1, 2020.
Phosphorus, Total	6-Month Avg	0.075 mg/L	3/Week	24-Hr Flow Prop Comp	Final limit becomes effective July 1, 2020. See section 6.4.2 of the permit for six-month average calculation and reporting.
Phosphorus, Total	6-Month Avg	2.25 lbs/day	3/Week	Calculated	Final limit becomes effective July 1, 2020. See section 6.4.2 of the permit for six-month average calculation and reporting.
Chloride	Weekly Avg	570 mg/L	4/Month	24-Hr Flow Prop Comp	This is an interim limit. Sampling shall be done on four consecutive days one week per month. See Chloride Variance section below and the Schedules

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
					section for applicable chloride target value.
Chloride		lbs/day	4/Month	Calculated	Chloride mass = daily concentration (mg/L) x daily flow (MGD) x 8.34
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	
Acute WET		TUa	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual in rotating quarters. See WET section below.
Chronic WET	Monthly Avg	1.1 TUc	See Listed Qtr(s)	24-Hr Flow Prop Comp	Seven times during the permit term in rotating quarters. See WET section below.
Mercury, Total Recoverable		ng/L	Quarterly	Grab	See Mercury section below
Temperature Maximum		deg F	Daily	Continuous	Monitoring in calendar year 2022 (January 1-December 31)

3.1.1 Changes from Previous Permit

BOD_5: Sample frequency reduced from 4/Week to 3/Week.

Total Suspended Solids – Sample frequency reduced from 4/Week to 3/Week and inclusion of TMDL mass limits.

Fecal Coliform: A weekly geometric mean of 780 #/100mL was added to the proposed permit as part of changes to the procedures in ch. NR 106, Wis. Adm. Code.

Ammonia Nitrogen: A weekly average limit of 7.8 mg/L for October – March was added.

Total Phosphorus: The existing technology-based limit of 1.0 mg/L was reduced to 0.6 mg/L and is included as an interim limit in the proposed permit. The new final water quality based effluent limits are 0.075 mg/L and 2.25 lbs/day as a six-month average (November-April and May-October) and 0.225 mg/L monthly average as specified in conjunction with the Phosphorus compliance schedule and are effective July 1, 2020.

Chloride – the interim mass limit was removed. It was included as an error in the current permit and monitoring only is included.

Total Nitrogen Monitoring (NO2+NO3, TKN and Total N): Quarterly monitoring added to the proposed permit.

Temperature Maximum: Daily continuous monitoring included for calendar year 2022 (fourth year of proposed permit).

Chronic WET: Monitoring increased from once a year (five times) to seven times during the permit term. The chronic WET limit was increased from 1.0 TUc to 1.1 TUc.

3.1.2 Explanation of Limits and Monitoring Requirements

Categorical Limits

- **BOD_5, Total Suspended Solids, pH, Dissolved Oxygen, and Fecal Coliforms:** Standard municipal wastewater requirements for BOD_5, total suspended solids, dissolved oxygen, pH, and fecal coliforms 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.

  Regulatory changes to s. NR 205.065, Wis. Adm. Code, became effective September 1, 2016 and require limits in this permit to be expressed as weekly average and monthly average limits whenever practicable. These changes are based on 40 CFR 122.45(d). Minor changes have been made to fecal coliform limitations from the previous permit in order to comply with this regulation.

Water Quality Based Limits and WET Requirements

Refer to the Water Quality-Based Effluent Limitations (WQBELs) memo for the City of Hartford prepared by Nick Lent dated January 4, 2018 and used for this reissuance and "Whole Effluent Toxicity for Hartford Water Pollution Control Facility", dated September 22, 2020 and prepared by Nicole Krueger.

- **Ammonia Total Nitrogen –** 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.

  Regulatory changes to s. NR 205.065, Wis. Adm. Code, became effective September 1, 2016 and require limits in this permit to be expressed as weekly average and monthly average limits whenever practicable. Therefore, a weekly average limit of 7.8 mg/L for October – March was added.

- **Total Phosphorus –** The proposed permit will be Hartford's second permit term under new administrative rules for phosphorus discharges that took effect December 1, 2010. Details regarding the administrative rules for phosphorus discharges may be found at: http://dnr.wi.gov/topic/surfacewater/phosphorus.html. The new phosphorus rules are contained in s. NR 102.06 and ch. NR 217, Subchapter III. Hartford's final water quality based effluent limits (WQBELs) for phosphorus are 0.075 mg/L and 2.25 lbs/day as a six-month average and 0.225 mg/L as a monthly average and are effective on July 1, 2020. A 0.6 mg/L monthly average interim limit is included and is effective until July 1, 2020.

- **Chloride –**The 1-day P99 effluent concentrations for chloride were below the applicable acute limitation, so a daily maximum limit is not required. The calculated 4-day P99 is above the applicable chronic limitation of 402 mg/L, so a chronic (weekly average) limit needs to be continued for the reissued permit. However, the permittee has re-applied for a variance from the chronic chloride water quality criterion, which requires EPA approval. An interim limit of 570 mg/L is included. As a condition of this variance a target value of 500 mg/L and the implementation of chloride source reduction measures, intended to lead to compliance with the target value by the end of the permit term, are also included in the proposed permit. See the schedules section for the chloride compliance schedule. Acute and chronic chloride toxicity criteria for the protection of aquatic life are included in Tables 1 and 5 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 chloride.

  Chloride Source Reduction Measures

  1. Continue to monitor and sample commercial and industrial customers for high chloride discharges. Determine progress or identify new sources based on mass balance updates.
  2. Refine chloride sampling program to confirm contributions from public authority. Collect samples from public schools and City owned buildings.

3. Update "Water Department Cross Connection Inspection Report" to mark off whether the inspected building (residential or commercial/industrial) includes a timed or on-demand water softening unit.
4. Implement industrial chloride source identification and reduction efforts as outlined in item 4a-4d in the submitted Source Reduction Measures Plan.
5. Continue chloride education programs including; letters to commercial and industrial contributors, letters with sewer and water bills, educational materials on the City's website, and educating public works department drivers on road salt/brine practices.
6. Investigate the feasibility and impacts of the imposition of installation restrictions on outside hose bibs connected to un-softened water.
7. Investigate the feasibility and impacts of adding a requirement for new and replacement softeners to be metered demand with a higher, greater than 3350 grains of hardness exchange per pound of salt, efficiency capability.
8. Investigate the feasibility of offering tune-up and high efficiency softener incentives in lieu of mandating softener tune ups for residential customers.

- **Whole Effluent Toxicity -** Whole effluent toxicity (WET) testing requirements 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). Annual Acute WET tests are scheduled in the following rotating quarters: October - December 2018; July - September 2019; January - March 2020; April - June 2021; and July - September 2022. Seven Chronic WET tests are scheduled in the following rotating quarters: October - December 2018; July - September 2019; January - March 2020; April - June 2021; October - December 2021; July - September 2022; and January - March 2023. The permit was modified to update the chronic WET limit from 1.0 TUc to 1.1 TUc and the instream waste concentration from 98% to 94%. Since the last permit issuance, the facility received updated receiving water flow rates from the United States Geological Survey (USGS) that demonstrate a higher annual 7-Q_{10} than previously known. Using these updated factors results in a calculated monthly average chronic WET limit of 1.1 TUc and an instream waste concentration of 94%, according to the requirements specified in s. NR 106.08, Wis. Adm. Code. To demonstrate compliance with the limit, Hartford must continue to monitor acute and chronic WET throughout the permit term. No changes have been made to the monitoring frequency based upon the updated information.
- **Mercury –** Representative data shows there is no reasonable potential for Hartford to exceed the water quality-based 1.3 ng/L monthly average limit, therefore no mercury limit is recommended in the proposed permit. Quarterly mercury monitoring is included in the proposed permit. Requirements for mercury are included in s. NR 106.145, Wis. Adm. Code (effective November 2002).
- **Temperature Maximum –** Available temperature data indicated the apparent need for sub-lethal weekly average temperature limitations for the months of October - January pursuant to the procedures in ch. NR 106, Wis. Adm. Code. Therefore, sub lethal weekly average effluent limitations should be included in the proposed permit. However, ch. NR 106.59(4), Wis. Adm. Code, allows publicly operated treatment works to perform a dissipative cooling (DC) demonstration, which if successful, justifies exclusion of sub lethal weekly average effluent temperature limits in municipal discharge permits. Hartford has submitted a successful DC demonstration which was approved by the Department in 2012 and the permittee has stated that there haven't been any significant changes in the expected effluent temperatures and industrial loading has recently decreased.

  The proposed permit includes daily temperature maximum monitoring in the fourth year of the permit, calendar year 2022, and will be used for the next permit reissuance. In addition**,** dissipative cooling requests must be re-evaluated every permit reissuance. The permittee is responsible to submit an updated DC request as part of the permit application. Such a request must either include:

a) A statement by the permittee that there have been no substantial changes in operation of, or thermal loadings to, the treatment facility and the receiving water; or
b) New information demonstrating DC to supplement the information used in the previous DC determination. If significant changes in operation or thermal loads have occurred, additional DC data must be submitted to the Department.

- **Total Nitrogen Monitoring (NO2+NO3, TKN and Total N):** Based on the "Guidance for Total Nitrogen Monitoring in WPDES Permits" dated October 2012, quarterly effluent monitoring for Total Nitrogen is required for municipal majors discharging to the Mississippi River Basin.

Total Maximum Daily Load (TMDL) Limitations

- **Total Suspended Solids** - Waste load allocations specified in TMDLs are expressed as WQBELs (water quality based effluent limits). Weekly average and monthly average mass limits for total suspended solids were required to comply with the Rock River TMDL, and were derived consistent with the assumptions and requirements of the EPA-approved WLA for the Rock River. There are no changes in the concentration limits. Since the treatment plant can easily meet the TMDL mass limits (see limits below), no compliance schedule is included. The approved total suspended solids TMDL limits for this permittee are included in the following table, expressed as weekly average and monthly average effluents limits, and are effective immediately:

Month	Monthly Average TSS Effluent Limit (lbs/day)	Weekly Average TSS Effluent Limit (lbs/day)
January	295	401
February	326	443
March	295	401
April	305	414
May	295	401
June	305	414
July	295	401
August	295	401
September	305	414
October	295	401
November	305	414
December	295	401

- **Total Phosphorus –** Waste load allocations specified in TMDLs are expressed as WQBELs (water quality based effluent limits). Monthly average mass limits for total phosphorus were required to comply with the Rock River TMDL, and were derived consistent with the assumptions and requirements of the EPA-approved WLA for the Rock River. The approved TMDL WLA and limits for Total Phosphorus are included below for informational purposes:

Total Phosphorus TMDL Wasteload Allocations

Month	Monthly Total Phosphorus WLA	Monthly Average Total Phosphorus Effluent Limit

	(lbs/month)	(lbs/day)
January	1761.31	56.82
February	2104.05	75.14
March	1822.41	58.79
April	1399.73	46.66
May	1264.27	40.78
June	1079.39	35.98
July	1131.29	36.49
August	1140.77	36.80
September	1219.57	40.65
October	1226.45	39.56
November	1242.46	41.42
December	1487.25	47.98

4 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)**
003	Class B	Liquid	Fecal Coliform	Injection	Land Application	400 dry U.S. tons (2017 permit application)
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? **No**						
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.						

4.1 Sample Point Number: 003- Aerobically digested 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	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
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 (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 2019. See PCB section below.
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	Once in 2019. See PCB section below.

4.1.1 Changes from Previous Permit:

Outfall 004 inactivated, no longer required was for bed-dried aerobically digested sludge. Permittee has not used outfall 004 since 2011 and does not have plans to use in the future.

The sample frequency for the "Other Sludge Requirements" in section 4.2.1 of the permit was updated from "Annual" to "Quarterly" in accordance with s. NR 204.06, Wis. Adm. Code.

4.1.2 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.

Land application of waste shall be done in accordance with the permit conditions and applicable codes. All land application sites shall be approved prior to their use. To receive a list of approved sites, or to be notified of potential approvals, contact the WDNR compliance staff.

5 Schedules

5.1 Chloride Target Value

As a condition of the variance to the water quality based effluent limitation(s) for chloride granted in accordance with s. NR 106.83(2), Wis. Adm. Code, the permittee shall perform the following actions.

Required Action	Due Date
Annual Chloride Progress Report: Submit an annual chloride progress report. The annual chloride progress report shall: Indicate which chloride source reduction measures or activities in the approved Source Reduction Plan have been implemented; Include an analysis of trends in weekly, monthly and annual average chloride concentrations and total mass discharge of chloride based on chloride sampling and flow data; and Include an analysis of how influent and effluent chloride varies with time and with significant loadings of chloride such as loads from industries or road salt intrusion into the collection system. Note that the interim limitation of 570 mg/L remains enforceable until new enforceable limits are established in the next permit issuance. The first annual chloride progress report is to be submitted by the Date Due.	01/31/2020
Annual Chloride Progress Report #2: Submit the chloride progress report as defined above.	01/31/2021
Annual Chloride Progress Report #3: Submit the chloride progress report as defined above.	01/31/2022
Annual Chloride Progress Report #4: Submit the chloride progress report as defined above.	01/31/2023
Final Chloride Report: Submit the final chloride report documenting the success in meeting the chloride target value of 500 mg/L, as well as the anticipated future reduction in chloride sources and chloride effluent concentrations. The report shall summarize chloride source reduction measures that have been implemented during the current permit term and state which, if any, source reduction measures from the approved Source Reduction Plan were not pursued and why. The report shall include an analysis of trends in weekly, monthly and annual average chloride concentrations and total mass discharge of chloride based on chloride sampling and flow data covering the current permit term. The report shall also include an analysis of how influent and effluent chloride varies with time and with significant loadings of chloride such as loads from industries or road salt intrusion into the collection system. Additionally, the report shall include proposed target values and source reduction measures for negotiations with the department if the permittee intends to seek a renewed chloride variance per s. NR 106.83, Wis. Adm. Code, for the reissued permit. Note that the target value is the benchmark for evaluating the effectiveness of the chloride source	03/31/2023

reduction measures, but is not an enforceable limitation under the terms of this permit.	
Annual Chloride Reports After Permit Expiration: In the event that this permit is not reissued on time, the permittee shall continue to submit annual chloride reports each year covering source reduction measures implemented and chloride concentration and mass discharge trends.	

5.1.1 Explanation of Schedule

Chloride Target Value

This compliance schedule is a condition of receiving a variance from the chronic water quality based chloride limit of 402 mg/L. Since a compliance schedule is being granted, an interim limit is required, and for Hartford that limit is established as 570 mg/L. The schedule requires that annual reports shall indicate which source reduction measures Hartford has implemented during each calendar year, and an analysis of chloride concentration and mass discharge data based on chloride sampling and flow data. The annual reports shall document progress made towards meeting the chloride target value of 500 mg/L by the end of the permit term.

5.2 Total Phosphorus WQBEL Compliance

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
Optimization Plan: The permittee shall prepare an Optimization Plan and submit it for Department approval. The plan shall include an evaluation of collected effluent data, possible source reduction measures and operational improvements to optimize performance to control phosphorus discharges. The plan shall contain a schedule for implementation of the measures and improvements. Once the plan is approved by the Department, the permittee shall take the steps called for in the Optimization Plan and follow the schedule of implementation as approved.	12/31/2018
Status Report: The permittee shall submit a report on the status of achieving compliance with the final water quality based effluent limits.	12/31/2019
Achieve Compliance: The permittee shall achieve compliance with final phosphorus WQBELs.	7/01/2020

5.2.1 Explanation of Schedule

Total Phosphorus WQBEL Compliance

This compliance schedule requires Hartford to continue to optimize phosphorus removal at the treatment plant and submit progress reports on the status of achieving compliance with the final water quality based effluent limits.

Attachments:

Substantial Compliance Determination, dated March 8, 2017 and prepared by Amy Garbe, Compliance Engineer

Water Quality Based Effluent Limits, dated January 4, 2018 and prepared by Nick Lent, Effluent Limits Calculator

Facility Specific Chloride Variance Data Sheet

Whole Effluent Toxicity for Hartford Water Pollution Control Facility", dated September 22, 2020 and prepared by Nicole Krueger.

Proposed Expiration Date:

September 30, 2023

Justification Of Any Waivers From Permit Application Requirements

No waivers were given from permit application requirements.

Prepared By:

Lisa Creegan, Wastewater Specialist

Date: September 23, 2020