



State Pollutant Discharge Elimination System (SPDES) DISCHARGE PERMIT

SIC Code:	3053	NAICS Code:	339991	SPDES Number:	NY0257826
Discharge Class (CL):	01	DEC Number:	6-2320-00005/00004		
Toxic Class (TX):	T	Effective Date (EDP):			
Major-Sub Drainage Basin:	08 - 01	Expiration Date (ExDP):			
Water Index Number:	O-19-40	Item No.:	805 - 114.1	Modification Dates (EDPM):	
Compact Area:	IJC				

This SPDES permit is issued in compliance with Title 8 of Article 17 of the Environmental Conservation Law of New York State and in compliance with the Clean Water Act, as amended, (33 U.S.C. ' 1251 et.seq.)

PERMITTEE NAME AND ADDRESS					
Name:	Lydall Performance Materials (US), Inc.			Attention:	Jeffery Peebles, Plant Manager
Street:	216 Wohlsen Way			State:	PA Zip Code: 17603
City:	Lancaster			Phone:	(315) 346-3215
Email:	jpeebles@alkegen.com				

is authorized to discharge from the facility described below:

FACILITY NAME, ADDRESS, AND PRIMARY OUTFALL											
Name:	Lydall Performance Materials (US), Inc. - Beaver Falls										
Address / Location:	9635 Main Street						County:	Lewis			
City:	Beaver Falls				State:	NY		Zip Code:	13305		
Facility Location:	Latitude:	43 °	53 '	12.6 " N	& Longitude:	75 °	26 '	09.9 " W			
Primary Outfall No.:	001	Latitude:	43 °	53 '	11.3 " N	& Longitude:	75 °	26 '	09.4 " W		
Wastewater Description:	Combined Discharge	Receiving Water:	Beaver River			NAICS:	339991	Class:	C	Standard:	C

and the additional outfalls listed in this permit, in accordance with: effluent limitations; monitoring and reporting requirements; other provisions and conditions set forth in this permit; and 6 NYCRR Part 750-1 and 750-2.

This permit and the authorization to discharge shall expire on midnight of the expiration date shown above and the permittee shall not discharge after the expiration date unless this permit has been renewed or extended pursuant to law. To be authorized to discharge beyond the expiration date, the permittee shall apply for permit renewal not less than 180 days prior to the expiration date shown above.

DISTRIBUTION:

BWP Permit Coordinator
Regional Water Engineer
EPA Region II
NYSDOH - Watertown
International Joint Commission

Permit Administrator:	Jessica Hart	
Address:	Dulles State Office Building 317 Washington Street Watertown, New York, 13601-3787.	
Signature	Date	

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SUMMARY OF ADDITIONAL OUTFALLS

Outfall	Wastewater Description	NAICS Code	Outfall Latitude	Outfall Longitude
01A	Process Wastewater and Noncontact Cooling Water	339991	° ' " N	- ° ' " W
Receiving Water: Internal Outfall			Class: NA	
Outfall	Wastewater Description	NAICS Code	Outfall Latitude	Outfall Longitude
01B	River Intake Water used for Effluent Cooling	339991	° ' " N	° ' " W
Receiving Water: Internal Outfall			Class: NA	

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DEFINITIONS

TERM	DEFINITION
7-Day Geo Mean	The highest allowable geometric mean of daily discharges over a calendar week.
7-Day Average	The average of all daily discharges for each 7-days in the monitoring period. The sample measurement is the highest of the 7-day averages calculated for the monitoring period.
12-Month Rolling Average (12 MRA)	The current monthly value of a parameter, plus the sum of the monthly values over the previous 11 months for that parameter, divided by the number of months for which samples were collected in the 12-month period.
30-Day Geometric Mean	The highest allowable geometric mean of daily discharges over a calendar month, calculated as the antilog of: the sum of the log of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
Action Level	Action level means a monitoring requirement characterized by a numerical value that, when exceeded, triggers additional permittee actions and department review to determine if numerical effluent limitations should be imposed.
Compliance Level / Minimum Level	A compliance level is an effluent limitation. A compliance level is given when the water quality evaluation specifies a Water Quality Based Effluent Limit (WQBEL) below the Minimum Level. The compliance level shall be set at the Minimum Level (ML) for the most sensitive analytical method as given in 40 CFR Part 136, or otherwise accepted by the Department.
Daily Discharge	The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants expressed in units of mass, the 'daily discharge' is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the 'daily discharge' is calculated as the average measurement of the pollutant over the day.
Daily Maximum	The highest allowable Daily Discharge.
Daily Minimum	The lowest allowable Daily Discharge.
Effective Date of Permit (EDP or EDPM)	The date this permit is in effect.
Effluent Limitations	Effluent limitation means any restriction on quantities, quality, rates and concentrations of chemical, physical, biological, and other constituents of effluents that are discharged into waters of the state.
Expiration Date of Permit (ExDP)	The date this permit is no longer in effect.
Instantaneous Maximum	The maximum level that may not be exceeded at any instant in time.
Instantaneous Minimum	The minimum level that must be maintained at all instants in time.
Monthly Average	The highest allowable average of daily discharges over a calendar month, calculated as the sum of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
Outfall	The terminus of a sewer system, or the point of emergence of any waterborne sewage, industrial waste or other wastes or the effluent therefrom, into the waters of the State.
Range	The minimum and maximum instantaneous measurements for the reporting period must remain between the two values shown.
Receiving Water	The classified waters of the state to which the listed outfall discharges.
Sample Frequency / Sample Type / Units	See NYSDEC's "DMR Manual for Completing the Discharge Monitoring Report for the SPDES" for information on sample frequency, type and units.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	DESCRIPTION	RECEIVING WATER	EFFECTIVE	EXPIRING
001	Combined Discharge from Outfalls 01A and 01B	Beaver River	EDP	ExDP

PARAMETER	EFFLUENT LIMITATION					MONITORING REQUIREMENTS				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location		
								Inf.	Eff.	
Temperature	Daily Maximum	90	°F			Continuous	Recorder		X	

OUTFALL	DESCRIPTION	RECEIVING WATER	EFFECTIVE	EXPIRING
01A	Process Wastewater, Noncontact Cooling Water	Internal Outfall	EDP	ExDP

PARAMETER	EFFLUENT LIMITATION					MONITORING REQUIREMENTS				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location		
								Inf.	Eff.	
Flow	Monthly Average	Monitor	MGD			Continuous	Recorder		X	
Flow	Daily Maximum	Monitor	MGD			Continuous	Recorder		X	
pH	Daily Minimum	6.0	SU			Continuous	Recorder		X	1
	Daily Maximum	9.0	SU							1
Temperature	Daily Maximum	Monitor	°F			Continuous	Recorder		X	
BOD ₅	Monthly Average	Monitor	mg/L	260	lbs/d	1/Week	24-hr. Comp.		X	
BOD ₅	Daily Maximum	Monitor	mg/L	460	lbs/d	1/Week	24-hr. Comp.		X	
Total Suspended Solids	Monthly Average	Monitor	mg/L	200	lbs/d	1/Week	24-hr. Comp.		X	
Total Suspended Solids	Daily Maximum	Monitor	mg/L	410	lbs/d	1/Week	24-hr. Comp.		X	
Settleable Solids	Daily Maximum	Monitor	ml/L			2/Week	Grab		X	
Total Phosphorus (as P)	Monthly Average	Monitor	mg/L			1/Month	24-hr. Comp.		X	
Total Zinc	Daily Maximum	Monitor	mg/L	10	lbs/d	1/Month	24-hr. Comp.		X	
Total Phenols	Daily Maximum	Monitor	mg/L	1.5	lbs/d	1/Month	Grab		X	2,3

WHOLE EFFLUENT TOXICITY (WET) TESTING	Limit	Units	Action Level	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
WET - Acute Invertebrate	See footnote		15	TUa	Quarterly	See footnote		X	4
WET - Acute Vertebrate	See footnote		15	TUa	Quarterly	See footnote		X	4
WET - Chronic Invertebrate	See footnote		100	TUc	Quarterly	See footnote		X	4
WET - Chronic Vertebrate	See footnote		100	TUc	Quarterly	See footnote		X	4

PERMIT LIMITS, LEVELS AND MONITORING (Continued)

OUTFALL	DESCRIPTION	RECEIVING WATER	EFFECTIVE	EXPIRING
01B	River Intake Water used for Effluent Cooling	Internal Outfall	EDP	ExDP

PARAMETER	EFFLUENT LIMITATION					MONITORING REQUIREMENTS				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location		
								Inf.	Eff.	
Flow	Monthly Average	Monitor	MGD			Continuous	Recorder		X	
Flow	Daily Maximum	Monitor	MGD			Continuous	Recorder		X	

FOOTNOTES:

1. Allowable pH Excursions Under Continuous Monitoring

Where pH is continuously measured and recorded, the permittee shall be allowed excursions from the permitted range subject to the following limitations:

- The total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and
- No individual excursion from the range of pH values shall exceed 60 minutes.
- No excursion shall cause or contribute to a contravention of water quality standards.

2. At least 8 individual manual grab samples must be collected over the course of 24 hours analyzed separately, and the concentrations shall be averaged. Alternatively, grab samples may be collected in the field and composited in the laboratory and analyzed as a single sample if the results are equivalent to the arithmetic averaging of individual grab samples. Where effluent flows do not vary more than 10 percent over the course of composite sample collection, composite samples may be composed of equal size grab samples taken at equal time intervals. Where effluent flows do vary more than 10 percent over the course of sample collection, composite samples must be flow-proportioned.

3. Total phenols shall be determined by colorimetric or spectrophotometric analysis using the most sufficiently sensitive method approved under 40 CFR Part 136 for total recoverable phenols.

4. Whole Effluent Toxicity (WET) Testing:

Testing Requirements – Chronic WET testing is required, but report both the acute and chronic results. Testing shall be performed in accordance with 40 CFR Part 136 and TOGS 1.3.2 unless prior written approval has been obtained from the Department. The test species shall be *Ceriodaphnia dubia* (water flea - invertebrate) and *Pimephales promelas* (fathead minnow - vertebrate). Receiving water collected upstream from the discharge should be used for dilution. All tests conducted should be static-renewal (two 24-hr composite samples with one renewal for Acute tests and three 24-hr composite samples with two renewals for Chronic tests). The appropriate dilution series should be used to generate a definitive test endpoint, otherwise an immediate rerun of the test may be required. WET testing shall be coordinated with the monitoring of chemical and physical parameters limited by this permit so that the resulting analyses are also representative of the sample used for WET testing. The ratio of critical receiving water flow to discharge flow (i.e. dilution ratio) is 50:1 for acute, and 100:1 for chronic.

Monitoring Period - WET testing shall be performed quarterly (calendar quarters) during calendar years ending in **6** and **1**.

Reporting - Toxicity Units shall be calculated and reported on the DMR as follows: $TU_a = (100)/(48\text{-hr LC50})$ [note that Acute data is generated by both Acute and Chronic testing] and $TU_c = (100)/(7\text{-day NOEC})$ or $(100)/(7\text{-day IC25})$ when Chronic testing has been performed or $TU_c = (TU_a) \times (10)$ when only Acute testing has been performed

and is used to predict Chronic test results, where the 48-hr LC50, 7-day NOEC and/or IC25 are all expressed in % effluent. This must be done, including the Chronic prediction from the Acute data, for both species unless otherwise directed. For Chronic results, report the most sensitive endpoint (i.e. survival, growth and/or reproduction) corresponding to the lowest 7-day NOEC or IC25 and resulting highest TUc. For Acute results, report a TUa of 0.3 if there is no statistically significant mortality in 100% effluent as compared to the control. Report a TUa of 1.0 if there is statistically significant mortality in 100% effluent as compared to the control, but insufficient mortality to generate a 48-hr LC50. Also, in the absence of a 48-hr LC50, use 1.0 TUa for the Chronic prediction from the Acute data, and report a TUc of 10.0.

The complete test report including all bench sheets, statistical analyses, reference toxicity data, daily average flow at the time of sampling and other appropriate supporting documentation, shall be submitted within 28 days following the end of each test period with your WET DMR and to the WET@dec.ny.gov email address. A summary page of the test results for the invertebrate and vertebrate species indicating TUa, 48-hr LC50 for Acute tests and/or TUc, NOEC, IC25, and most sensitive endpoints for Chronic tests, should also be included at the beginning of the test report.

WET Testing Action Level Exceedances - If an action level is exceeded then the Department may require the permittee to conduct additional WET testing including Acute and/or Chronic tests. Additionally, the permittee may be required to perform a Toxicity Identification/Reduction Evaluation (TI/RE) in accordance with Department guidance. Enforceable WET limits may also apply. The permittee shall be notified in writing by their Regional DEC office of additional requirements. The written notification shall include the reason(s) why such testing, TI/RE and/or limits are required.

BIOLOGICAL MONITORING REQUIREMENTS

All submissions under this section shall provide:

- One (1) electronic copy to the Energy Unit Leader¹;
- One (1) copy of the cover letter to the Division of Water State Pollution Discharge Elimination System (SPDES) Compliance Information Section; and
- One (1) copy of the cover letter to the Regional Water Engineer, unless otherwise noted.

Intake Maintenance and Monitoring Standard Operating Plan

1. Within 3 months of the Effective Date of the Permit (EDP+3 months), the permittee must submit an approvable Intake Maintenance and Monitoring Standard Operating Plan (SOP) to assure impingement mortality by the cooling water intake structure is minimized. The SOP must include procedures and operational methods and record keeping requirements to be implemented at the Lydall Performance Materials - Beaver Falls facility to ensure that the intake velocity at the intake structure does not exceed 0.5 fps under all operating scenarios.

Entrainment Characterization Study

2. Within 6 months of EDP (EDP + 6 months), the permittee must submit an *Entrainment Characterization Study* which must be generally consistent with the following guidelines:
 - i. Duration one year.
 - ii. Intensity - At a minimum, one continuous 24-hour collection will be made in every, seven-day calendar period during March 1 to October 31 1-year period. The collections will be scheduled to take place within the first two days of each period so that the remainder of the period is available for an alternate collection, should plant operation or equipment malfunction and prevent entrainment collection on the day initially scheduled. If for any reasons, a collection cannot be made within a given seven-day period, the subsequent collection shall proceed as scheduled.
 - iii. All samples will be analyzed for ichthyoplankton and juvenile fish.
 - iv. Proposed methods for sample processing, quality control, quality assurance, and splitting will be described in the scope of work submitted for DEC approval.
 - v. At 6 months the permittee shall submit a status report describing the sampling activities that took place during the prior 6 months, and any events that affected sampling efforts.
 - vi. The final report shall include entrainment data collected and a summary table that includes estimates of the total numbers of fish entrained by species and life stage, for the study period based upon (1) continuous operation of all pumps at full rated flow and (2) actual operational and flow data for the study period. The information must be submitted in tabular, graphic, and electronic (Excel or similar) formats.

Once approved by the Department, the permittee must conduct the *Entrainment Characterization Study* according to the approved schedule. The *Impingement Mortality and Entrainment Characterization Study* and approved schedule will become an enforceable condition of this SPDES permit.

Design and Construction Technology Review

3. Within six (6) months after the Department's approval of the *Entrainment Characterization Study* final report, the permittee must submit an approvable *Design and Construction Technology Review* that includes:
 - a. An analysis of all feasible technologies and/or operational measures capable of being installed and implemented at Lydall Performance Materials- Beaver Falls. For each feasible alternative include:
 - i. A detailed description of the alternative (including preliminary drawings and site maps, if appropriate);
 - ii. A discussion of the engineering feasibility of the alternative;
 - iii. An assessment of the mitigative benefits in reducing impingement mortality and entrainment abundance for all life stages of fish through utilization of the alternative;
 - iv. A breakdown of all applicable costs including costs associated with capital improvements, operation and maintenance, and construction downtime;
 - v. An estimate of the time required to implement the alternative; and
 - vi. An evaluation of any adverse environmental impacts to aquatic biota, habitat, or water quality that may result from construction, installation, and use of the alternative.

¹ Energy Unit Leader, NYSDEC, Bureau of Ecosystem Health, 625 Broadway 5th Floor, Albany, NY 12233-4756

4. Within 1 month of the Department's approval of the *Design and Construction Technology Review*, the permittee must submit, for Department review and consideration, a proposed suite of technologies or operational measures that meets the requirements of 6 NYCRR Part 704.5 and Section 316(b) CWA:
- a. Alone, or in combination, these technologies or operational measures *minimize* impingement mortality and entrainment of fish at Lydall Performance Materials- Beaver Falls.
 - b. The reductions in entrainment and impingement mortality resulting from the proposed technologies and/or operational measures can be no less stringent, and if possible, should be substantially greater than the following performance requirements:
 - i. Entrainment must be reduced by at least 60 percent from the calculation baseline;
 - ii. Impingement mortality must be reduced by at least 80 percent from the calculation baseline.

NOTE: Based on this and other relevant information, the Department will select technologies and/or operational measures that meet the requirements of 6 NYCRR Part 704.5 and Section 316(b) CWA, 40 CFR 125 Subpart J and will modify this SPDES permit to require the use of these selected technologies and/or operational measures.

Technology Installation and Operation Plan

5. Within 3 months of the effective date of the permit modification requiring technologies and/or operational measures to meet requirements of 6 NYCRR Part 704.5, Section 316(b) CWA, the permittee must submit an approvable *Technology Installation and Operation Plan*. This plan must include:
- a. a schedule for installing and implementing the technologies and/or operational measures selected to meet requirements of 6 NYCRR Part 704.5 and Section 316(b) CWA; and
 - b. the methodology for assessing the efficacy of these technologies and operational measures.

Verification Monitoring Study- Plan and Report

6. Within 3 months of Department approval of the *Technology Installation and Operation Plan*, the permittee must submit an approvable *Verification Monitoring Study Plan*. This plan must include details of procedures to confirm that the necessary reductions in impingement and entrainment required by this permit are being achieved, and must include the following:
- a. A description of the frequency and duration of in-plant monitoring, the parameters to be monitored, and the basis for determining these to verify the full-scale performance of BTA measures.
 - b. A schedule of implementation.
 - c. A draft proposed Standard Operation Procedure (SOP) that describes the sampling protocols for these monitoring studies.

The Study Plan and SOP must be updated as required by the Department. Upon receipt of Department approval, the permittee must complete the *Verification Monitoring Study* in accordance with the approved schedule and plan. The *Verification Monitoring Study Plan* and approved schedule will become an enforceable condition of this SPDES permit.

7. Within 6 months of the completion of the *Verification Monitoring Study* the permittee must submit an approvable *Verification Monitoring Report* to the Energy Unit Leader that demonstrates compliance with 6 NYCRR Part 704.5 and Section 316(b) CWA.

Contingency Plan to Meet BTA Requirements

8. If the BTA measures do not meet the required reductions in impingement and entrainment mortality, within 6 months of the Department's notice, a Contingency Plan to meet the BTA requirements of 6 NYCRR Part 704.5 and Section 316(b) of the CWA, must be submitted for the Department's review and approval. Upon Department approval, the

Contingency Plan shall become part of the TIOP and an enforceable condition of this permit. Any contingency proposed must result in a reduction in impingement mortality and entrainment equivalent to the reductions that would be achieved if the facility operated a wet closed-cycle cooling system.

Additional Reporting Requirements

9. The permittee must maintain records of all data, reports and analysis pertaining to compliance with 6 NYCRR Part 704.5, and Section 316(b) CWA for a period no less than 10 years from the Effective Date of the Permit.

General Requirement

10. Modification of the facility cooling water intake must not occur without prior Department approval. The permittee must submit written notification, including detailed descriptions and plans, to the NYSDEC Energy Unit; the Director of the Bureau of Water Compliance Program; and both the Regional Permit Administrator and the Regional Water Engineer, Region 6, at least 60 days prior to any proposed change which would result in the alteration of the permitted operation, location, design, construction or capacity of the cooling water intake structure. The permittee must submit with the written notification a demonstration that the change reflects the best technology available for minimizing adverse environmental impacts pursuant to 6 NYCRR Part 704.5, Section 316(b) CWA, and Commissioner Policy #52. As determined by NYS DEC, a permit modification application in accordance with 6 NYCRR Part 621 may be required.

BEST MANAGEMENT PRACTICES (BMPs) FOR INDUSTRIAL FACILITIES

Note that for some facilities, especially those with few employees or limited industrial activities, some of the below BMPs may not be applicable. It is acceptable in these cases to indicate "Not Applicable" for the portion(s) of the BMP Plan that do not apply to your facility, along with an explanation.

1. **General** - The permittee shall develop, maintain, and implement a Best Management Practices (BMP) plan to prevent releases of significant amounts of pollutants to the waters of the State through plant site runoff; spillage and leaks; sludge or waste disposal; and stormwater discharges including, but not limited to, drainage from raw material storage. The BMP plan shall be documented in narrative form and shall include the 13 minimum BMPs and any necessary plot plans, drawings, or maps. Other documents already prepared for the facility such as a Safety Manual or a Spill Prevention, Control and Countermeasure (SPCC) plan may be used as part of the plan and may be incorporated by reference. A copy of the current BMP plan shall be submitted to the Department as required in item (2.) below and a copy must be maintained at the facility and shall be available to authorized Department representatives upon request.
2. **Compliance Deadlines** – The initial BMP plan shall be submitted in accordance with the Schedule of Submittals to the Regional Water Engineer. The BMP plan shall be implemented within 6 months of submission, unless a different time frame is approved by the Department. The BMP plan **shall be reviewed annually** and shall be modified whenever (a) changes at the facility materially increase the potential for releases of pollutants; (b) actual releases indicate the plan is inadequate, or (c) a letter from the Department identifies inadequacies in the plan. The permittee shall certify in writing, as an attachment to the December Discharge Monitoring Report (DMR), that the annual review has been completed. Subsequent modifications to or renewal of this permit does not reset or revise these deadlines unless a new deadline is set explicitly by such permit modification or renewal.
3. **Facility Review** - The permittee shall review all facility components or systems (including but not limited to material storage areas; in-plant transfer, process, and material handling areas; loading and unloading operations; storm water, erosion, and sediment control measures; process emergency control systems; and sludge and waste disposal areas) where materials or pollutants are used, manufactured, stored or handled to evaluate the potential for the release of pollutants to the waters of the State. In performing such an evaluation, the permittee shall consider such factors as the probability of equipment failure or improper operation, cross-contamination of storm water by process materials, settlement of facility air emissions, the effects of natural phenomena such as freezing temperatures and precipitation, fires, and the facility's history of spills and leaks. The relative toxicity of the pollutant shall be considered in determining the significance of potential releases. The review shall address all substances present at the facility that are identified in the SPDES application Form NY-2C (available at https://www.dec.ny.gov/docs/permits_ej_operations_pdf/form2c.pdf) or that are required to be monitored for by the SPDES permit.
4. **13 Minimum BMPs:** Whenever the potential for a release of pollutants to State waters is determined to be present, the permittee shall identify BMPs that have been established to prevent or minimize such potential releases. Where BMPs are inadequate or absent, appropriate BMPs shall be established. In selecting appropriate BMPs, the permittee shall consider good industry practices and, where appropriate, structural measures such as secondary containment and erosion/sediment control devices and practices. USEPA guidance for development of stormwater elements of the BMP is available in *Developing Your Stormwater Pollution Prevention Plan A Guide for Industrial Operators*, February 2009, EPA 833-B-09-002. As a minimum, the plan shall include the following BMPs:
 1. BMP Pollution Prevention Team
 2. Reporting of BMP Incidents
 3. Risk Identification & Assessment
 4. Employee Training
 5. Inspections and Records
 6. Security
 7. Preventive Maintenance
 8. Good Housekeeping
 9. Materials/Waste Handling, Storage, & Compatibility
 10. Spill Prevention & Response
 11. Erosion & Sediment Control
 12. Management of Runoff
 13. Street Sweeping

BMPs FOR INDUSTRIAL FACILITIES (Continued)

5. **Stormwater Pollution Prevention Plans (SWPPPs) Required for Discharges of Stormwater from Construction Activity to Surface Waters** - A SWPPP shall be developed prior to commencing any construction activity that will result in soil disturbance of one or more acres of uncontaminated area². (Note: the disturbance threshold is 5000 SF in the New York City East of Hudson Watershed). The SWPPP shall conform to the current version of the SPDES General Permit for Stormwater Discharges from Construction Activity (CGP), including the *New York Standards and Specifications for Erosion and Sediment Control* and *New York State Stormwater Management Design Manual*. The permittee shall submit a copy of the SWPPP and any amendments thereto to the local governing body and any other authorized agency having jurisdiction or regulatory control over the construction activity **at least 30 days prior to soil disturbance**. The SWPPP shall be maintained on-site and submitted to the Department only upon request. When a SWPPP is required, a properly completed *Notice of Intent* (NOI) form shall be submitted (available at www.dec.ny.gov/chemical/43133.html) prior to soil disturbance. Note that submission of the NOI is required for informational purposes; the permittee is not eligible for and will not obtain coverage under any SPDES general permit for stormwater discharges. SWPPPs must be developed for subsequent site disturbances in accordance with the above requirements. The permittee is responsible for ensuring that the provisions of each SWPPP are properly implemented.
6. **Required Sampling For "Hot Spot" Identification** - Development of the BMP plan shall include sampling of waste stream segments for the purpose of pollutant "hot spot" identification. The economic achievability of effluent limits will not be considered until plant site "hot spot" sources have been identified, contained, removed or minimized through the imposition of site specific BMPs or application of internal facility treatment technology. For the purposes of this permit condition a "hot spot" is a segment of an industrial facility (including but not limited to soil, equipment, material storage areas, sewer lines etc.) which contributes elevated levels of problem pollutants to the wastewater and/or stormwater collection system of that facility. For the purposes of this definition, problem pollutants are substances for which treatment to meet a water quality or technology requirement may, considering the results of waste stream segment sampling, be deemed unreasonable. For the purposes of this definition, an elevated level is a concentration or mass loading of the pollutant in question which is sufficiently higher than the concentration of that same pollutant at the compliance monitoring location so as to allow for an economically justifiable removal and/or isolation of the segment and/or B.A.T. treatment of wastewaters emanating from the segment.

² Uncontaminated area means soils which are free of contamination by any toxic or non-conventional pollutants identified in the tables of SPDES Application Form NY-2C. Disturbance of any size contaminated area(s) and the resulting discharge of contaminated stormwater is not authorized by this permit unless the discharge is under State or Federal oversight as part of a remedial program or after review by the Regional Water Engineer; nor is such discharge authorized by any SPDES general permit for stormwater discharges.

MERCURY MINIMIZATION PROGRAM (MMP) - Type IV

On January 5, 2024, the permittee submitted a Conditional Exclusion Certification, certifying that the facility does not have any of the mercury sources listed in Part III.A.3. of DOW 1.3.10.

1. **General** - The permittee must develop, implement, and maintain a mercury minimization program (MMP), containing the elements set forth below.
2. **MMP Elements** - The MMP must be a written document and must include any necessary drawings or maps of the facility and/or collection system. Other related documents already prepared for the facility may be used as part of the MMP and may be incorporated by reference. At a minimum, the MMP must include the following elements³ as described in detail below:
 - a. **Conditional Exclusion Certification** - A certification (Appendix D of *DOW 1.3.10*), signed in accordance with 750-1.8 Signature of SPDES forms, must be submitted once every five (5) years to the Regional Water Engineer and to the Bureau of Water Permits certifying that the facility is neither a mercury source nor receives flows from a mercury source. Criteria to determine if a facility has a mercury source are as follows:
 - The facility is or receives discharge from 1) individually permitted combined sewer overflow (CSOs)⁴ communities and/or 2) Type II sanitary sewer overflow (SSO)⁵ facilities;
 - One or more effluent samples which exceed 12 ng/L, including samples taken as a result of the SPDES application process;
 - Internal or tributary waste stream samples exceed the GLCA effluent limitation **AND** the final effluent samples are less than the GLCA due primarily to dilution by uncontaminated or less contaminated waste streams. Both components of this criterion may include samples taken as a result of the SPDES application process;
 - A permit application or other information indicates that mercury is handled on site and could be discharged through outfalls;
 - Outfalls which contain legacy mercury contamination;
 - The facility's collection system receives discharges from a dental and/or categorical industrial user (CIU)⁶ that may discharge mercury;
 - The facility accepts hauled wastes; or,
 - The facility is defined as a categorical industry that may discharge mercury. This may also include dentists, universities, hospitals, or laboratories which have their own SPDES permit.
 - b. **Control Strategy** - The control strategy must contain the following minimum elements:
 - i. **Equipment and Materials** – Equipment and materials (e.g., thermometers, thermostats) used by the permittee, which may contain mercury, must be evaluated by the permittee. As equipment and materials containing mercury are updated/replaced, the permittee must use mercury-free alternatives, if possible.
 - ii. **Bulk Chemical Evaluation** – For chemicals, used at a rate which exceeds 1,000 gallons/year or 10,000 pounds/year, the permittee must obtain a manufacturer's certificate of analysis, a chemical analysis performed by a certified laboratory, and/or a notarized affidavit which describes the substances' mercury concentration and the detection limit achieved. If possible, the permittee must only use bulk chemicals utilized in the wastewater treatment process which contain <10 ppb mercury.

³Neither monitoring nor outreach is required for facilities meeting the criteria for MMP Type IV, but monitoring and/or outreach can be included in the permittee's control strategy.

⁴CSO permits are included under the 05 and 07 permit classifications.

⁵These are overflow retention facilities (ORFs) and are included under the 05 and 07 permit classifications.

⁶CIUs include those listed under Federal Regulation in 40 CFR Part 400.

MERCURY MINIMIZATION PROGRAM (MMP) – Type IV (Continued)

- c. **Status Report** - An **annual** status report must be developed and maintained on site, in accordance with the [Schedule of Additional Submittals](#), summarizing:
- i. Review of criteria to determine if the facility has a potential mercury source;
 - a. If the permittee no longer meets the criteria for MMP Type IV, the permittee must notify the Department for a permittee-initiated permit modification;
 - ii. All actions undertaken, pursuant to the control strategy, during the previous year; and
 - iii. Actions planned, pursuant to the control strategy, for the upcoming year.

The permittee must maintain a file with all MMP documentation. The file must be available for review by Department representatives and copies must be provided upon request in accordance with 6 NYCRR 750-2.1(i) and 750-2.5(c)(4).

3. **MMP Modification** - The MMP must be modified whenever:
- a. Changes at the facility, or within the collection system, increase the potential for mercury discharges;
 - b. A letter from the Department identifies inadequacies in the MMP.

The Department may use information in the annual status reports, in accordance with 2.c of this MMP, to determine if the permit limitations and MMP Type is appropriate for the facility.

DEFINITIONS:

Potential mercury source – a source identified by the permittee that may reasonably be expected to have total mercury contained in the discharge. Some potential mercury sources include switches, fluorescent lightbulbs, cleaners, degreasers, thermometers, batteries, hauled wastes, universities, hospitals, laboratories, landfills, Brownfield sites, or raw material storage.

DISCHARGE NOTIFICATION REQUIREMENTS

- (a) The permittee shall install and maintain identification signs at all outfalls to surface waters listed in this permit, unless the Permittee has obtained a waiver in accordance with the Discharge Notification Act (DNA). Such signs shall be installed before initiation of any new discharge location.
- (b) Subsequent modifications to or renewal of this permit does not reset or revise the deadline set forth in (a) above, unless a new deadline is set explicitly by such permit modification or renewal.
- (c) The Discharge Notification Requirements described herein do not apply to outfalls from which the discharge is composed exclusively of storm water, or discharges to ground water.
- (d) The sign(s) shall be conspicuous, legible and in as close proximity to the point of discharge as is reasonably possible while ensuring the maximum visibility from the surface water and shore. The signs shall be installed in such a manner to pose minimal hazard to navigation, bathing or other water related activities. If the public has access to the water from the land in the vicinity of the outfall, an identical sign shall be posted to be visible from the direction approaching the surface water.

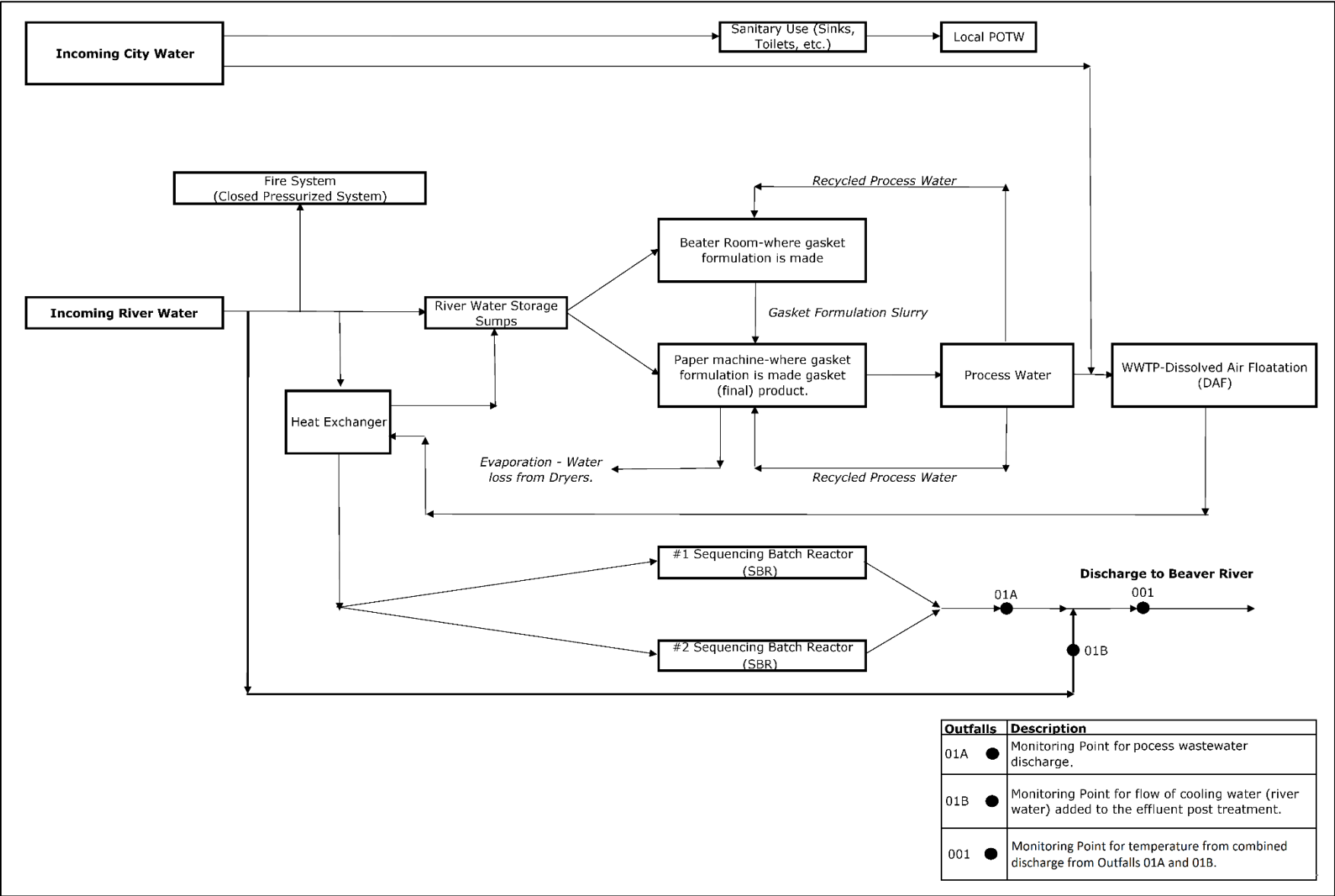
The signs shall have **minimum** dimensions of eighteen inches by twenty-four inches (18" x 24") and shall have white letters on a green background and contain the following information:

<p>N.Y.S. PERMITTED DISCHARGE POINT</p> <p>SPDES PERMIT No.: NY_____</p> <p>OUTFALL No. : _____</p> <p>For information about this permitted discharge contact:</p> <p>Permittee Name: _____</p> <p>Permittee Contact: _____</p> <p>Permittee Phone: () - ### - #####</p> <p>OR:</p> <p>NYSDEC Division of Water Regional Office Address:</p> <p>NYSDEC Division of Water Regional Phone: () - ### - #####</p>
--

- (e) Upon request, the permittee shall make available electronic or hard copies of the sampling data to the public. In accordance with the RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS page of your permit, each DMR shall be maintained (either electronically or as a hard copy) on record for a period of five years.
- (f) The permittee shall periodically inspect the outfall identification sign(s) in order to ensure they are maintained, are still visible, and contain information that is current and factually correct. Signs that are damaged or incorrect shall be replaced within 3 months of inspection.

MONITORING LOCATIONS

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) specified below:



GENERAL REQUIREMENTS

- A. The regulations in 6 NYCRR Part 750 are hereby incorporated by reference and the conditions are enforceable requirements under this permit. The permittee shall comply with all requirements set forth in this permit and with all the applicable requirements of 6 NYCRR Part 750 incorporated into this permit by reference, including but not limited to the regulations in paragraphs B through H as follows:
- B. General Conditions
- | | |
|--|---|
| 1. Duty to comply | 6 NYCRR 750-2.1(e) & 2.4 |
| 2. Duty to reapply | 6 NYCRR 750-1.16(a) |
| 3. Need to halt or reduce activity not a defense | 6 NYCRR 750-2.1(g) |
| 4. Duty to mitigate | 6 NYCRR 750-2.7(f) |
| 5. Permit actions | 6 NYCRR 750-1.1(c), 1.18, 1.20 & 2.1(h) |
| 6. Property rights | 6 NYCRR 750-2.2(b) |
| 7. Duty to provide information | 6 NYCRR 750-2.1(i) |
| 8. Inspection and entry | 6 NYCRR 750-2.1(a) & 2.3 |
- C. Operation and Maintenance
- | | |
|-----------------------------------|--------------------------------------|
| 1. Proper Operation & Maintenance | 6 NYCRR 750-2.8 |
| 2. Bypass | 6 NYCRR 750-1.2(a)(17), 2.8(b) & 2.7 |
| 3. Upset | 6 NYCRR 750-1.2(a)(94) & 2.8(c) |
- D. Monitoring and Records
- | | |
|---------------------------|--|
| 1. Monitoring and records | 6 NYCRR 750-2.5(a)(2), 2.5(a)(6), 2.5(c)(1), 2.5(c)(2), & 2.5(d) |
| 2. Signatory requirements | 6 NYCRR 750-1.8 & 2.5(b) |
- E. Reporting Requirements
- | | |
|---|-----------------------------------|
| 1. Reporting requirements for non-POTWs | 6 NYCRR 750-2.5, 2.6, 2.7, & 1.17 |
| 2. Anticipated noncompliance | 6 NYCRR 750-2.7(a) |
| 3. Transfers | 6 NYCRR 750-1.17 |
| 4. Monitoring reports | 6 NYCRR 750-2.5(e) |
| 5. Compliance schedules | 6 NYCRR 750-1.14(d) |
| 6. 24-hour reporting | 6 NYCRR 750-2.7(c) & (d) |
| 7. Other noncompliance | 6 NYCRR 750-2.7(e) |
| 8. Other information | 6 NYCRR 750-2.1(f) |
- F. Sludge Management
- The permittee shall comply with all applicable requirements of 6 NYCRR Part 360.
- G. SPDES Permit Program Fee
- The permittee shall pay to the Department an annual SPDES permit program fee within 30 days of the date of the first invoice, unless otherwise directed by the Department, and shall comply with all applicable requirements of ECL 72-0602 and 6 NYCRR Parts 480, 481 and 485. Note that if there is inconsistency between the fees specified in ECL 72-0602 and 6 NYCRR Part 485, the ECL 72-0602 fees govern.
- H. Water Treatment Chemicals (WTCs)
- New or increased use and discharge of a WTC requires prior Department review and authorization. At a minimum, the permittee must notify the Department in writing of its intent to change WTC use by submitting a completed *WTC Notification Form* for each proposed WTC. The Department will review that submittal and determine if a SPDES permit modification is necessary or whether WTC review and authorization may proceed outside of the formal permit administrative process. The majority of WTC authorizations do not require SPDES permit modification. In any event, use and discharge of a WTC shall not proceed without prior authorization from the Department. Examples of WTCs include biocides, coagulants, conditioners, corrosion inhibitors, defoamers, deposit control agents, flocculants, scale inhibitors, sequestrants, and settling aids.
1. WTC use shall not exceed the rate explicitly authorized by this permit or otherwise authorized by the Department.
 2. The permittee shall maintain a logbook of all WTC use, noting for each WTC the date, time, exact location, and amount of each dosage, and, the name of the individual applying or measuring the chemical. The logbook must also document that adequate process controls are in place to ensure excessive levels of WTCs are not used.
 3. The permittee shall submit a completed WTC Annual Report Form each year that they use and discharge WTCs. This form shall be submitted in electronic format and attached to either the December DMR or the annual monitoring report required below. The *WTC Notification Form* and *WTC Annual Report Form* are available from the Department's website at: <http://www.dec.ny.gov/permits/93245.html>

RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

- A. The monitoring information required by this permit shall be retained for a period of at least five years from the date of the sampling for subsequent inspection by the Department or its designated agent.
- B. Discharge Monitoring Reports (DMRs): Completed DMR forms shall be submitted for each 1 month reporting period in accordance with the DMR Manual available on Department's website.

DMRs must be submitted electronically using the electronic reporting tool (NetDMR) specified by NYSDEC. Instructions on the use of NetDMR can be found at <https://www.dec.ny.gov/chemical/103774.html>. **Hardcopy paper DMRs will only be accepted if a waiver from the electronic submittal requirements has been granted by DEC to the facility.**

The first monitoring period begins on the effective date of this permit, and, unless otherwise required, the reports are due no later than the 28th day of the month following the end of each monitoring period.

- C. Additional information required to be submitted by this permit shall be summarized and reported to the Regional Water Engineer and Bureau of Water Permits at the following addresses:

Department of Environmental Conservation
Regional Water Engineer, Region 6
State Office Building, Watertown, New York, 13601-3787 Phone: (315) 785-2513

Department of Environmental Conservation
Division of Water, Bureau of Water Permits
625 Broadway, Albany, New York 12233-3505 Phone: (518) 402-8111

- D. Schedule of Additional Submittals:

The permittee shall submit the following information to the Regional Water Engineer and to the Bureau of Water Permits, unless otherwise instructed:

Outfall(s)	SCHEDULE OF ADDITIONAL SUBMITTALS - Required Action	Due Date
01A	<u>WATER TREATMENT CHEMICAL (WTC) ANNUAL REPORT FORM</u> The permittee shall submit a completed WTC Annual Report Form each year that Water Treatment Chemicals are used. The form shall be attached to the December DMR.	Annually by January 28 th
	<u>BMP PLAN</u> The permittee shall submit an initial BMP plan and annually review the completed BMP plan on an annual basis. The BMP plan shall be modified whenever: (a) changes at the facility materially increase the potential for releases of pollutants, (b) actual releases indicate the plan is inadequate, or (c) a letter from the Department identifies inadequacies in the plan. The permittee shall certify in writing, as an attachment to the December Discharge Monitoring Report (DMR), that the annual review has been completed. All BMP plan revisions must be submitted to the Regional Water Engineer within 30 days.	EDP + 6 Months, Annually thereafter on January 28 th
01A	<u>WHOLE EFFLUENT TOXICITY (WET) TESTING</u> WET testing shall be performed as required in the footnote of the permit limits table. The toxicity test report including all information requested of this permit shall be attached to your WET DMRs and sent to the WET@dec.ny.gov email address.	Within 28 days following the end of each monitoring period

Outfall(s)	SCHEDULE OF ADDITIONAL SUBMITTALS - Required Action	Due Date
	<p><u>BIOLOGICAL MONITORING REQUIREMENTS</u></p> <ol style="list-style-type: none"> 1. Submit an approvable Intake Maintenance and Monitoring SOP. 2. Submit an approvable Entrainment Characterization Study Plan. 3. Submit an approvable Design and Construction Technology Review (DCTR). 4. Submit a proposed suite of technologies or operational measures for Department review and consideration. 5. Submit an approvable Technology Installation and Operation Plan (TIOP). 6. Submit an approvable Verification Monitoring Study Plan (VMP). 7. Submit an approvable report to the Energy Unit Leader that demonstrates compliance with 6 NYCRR Part 704.5 and 316(b) of the Clean Water Act. 8. Submit a contingency plan if BTA measures don't achieve reductions in entrainment <p><i>*From the suite of technologies and/or operational measures submitted for review, the Department will select technologies and/or operational measures that meet the requirements of 6NYCRR Part 704, section 704.5 and Section 316(b) of the Clean Water Act. Subsequent to these selections the Department will modify this permit.</i></p>	<p>EDP + 3 months</p> <p>EDP + 6 months</p> <p>6 months of Entrainment Report Approval</p> <p>DCTR approval + 1 month</p> <p>EDPM* + 3 months</p> <p>TIOP approval + 3 months</p> <p>VMP approval +6 months</p> <p>Upon Departmental notice</p>
01A	<p><u>MERCURY MINIMIZATION PLAN</u></p> <p>The permittee must complete and maintain onsite an annual mercury minimization status report in accordance with the requirements of this permit.</p>	<p>Maintained Onsite</p> <p>EDP + 12 months, annually thereafter</p>

Outfall(s)	SCHEDULE OF ADDITIONAL SUBMITTALS - Required Action	Due Date
01A	<p><u>EMERGING CONTAMINANT SHORT-TERM MONITORING</u> The permittee shall collect grab samples of both the influent and effluent from the facility's treatment system(s) associated with the identified outfall for Per- and Polyfluoroalkyl Substances (PFAS) utilizing EPA draft analytical method 1633 and 1,4-Dioxane (1,4-D) utilizing EPA Method 8270D SIM or 8270E SIM. The samples must represent normal discharge conditions and treatment operations and shall be obtained on a monthly basis for at least 3 consecutive months. The results shall be reported through the "Emerging Contaminants Survey for Industrial Facilities" found at: https://dec.ny.gov/environmental-protection/water/emerging-contaminants.</p> <p>The permittee shall initiate track down of potential sources by completing the "Emerging Contaminants Investigation Checklist for Industrial Facilities" available at the above link. The Department may periodically request updates and/or additional monitoring to check progress on track down investigations. Elements of the checklist may be used as permit conditions in future permit modifications.</p>	<p>EDP + 15 months</p> <p>Within 90 days of DEC written notification</p>
01A	<p><u>MERCURY - CONDITIONAL EXCLUSION CERTIFICATION</u> Permittee must submit a mercury Conditional Exclusion Certification form every five years in order to maintain MMP Type IV status. The permittee must resample the effluent for mercury and submit the analysis results using EPA Method 1631E with the Conditional Exclusion Certification. The Conditional Exclusion Certification form is available at: https://dec.ny.gov/docs/water_pdf/tog1310condexclcert.pdf</p>	<p>January 3, 2028, and every 5 years thereafter</p>

Unless noted otherwise, the above actions are one-time requirements.

- E. Monitoring and analysis shall be conducted using sufficiently sensitive test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.
- F. More frequent monitoring of the discharge(s), monitoring point(s), or waters of the State than required by the permit, where analysis is performed by a certified laboratory or where such analysis is not required to be performed by a certified laboratory, shall be included in the calculations and recording of the data on the corresponding DMRs.
- G. Calculations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.
- H. Unless otherwise specified, all information recorded on the DMRs shall be based upon measurements and sampling carried out during the most recently completed reporting period.
- I. Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section 502 of the Public Health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquiries regarding laboratory certification should be directed to the New York State Department of Health, Environmental Laboratory Accreditation Program.

SPDES Permit Fact Sheet

Lydall Performance Materials (US), Inc.

SPDES Permit NY0257826



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ACRONYMS

1,4-D	1,4-Dioxane
1Q10	1-Day, 10-Year Low Flow
7Q10	7-Day, 10-Year Low Flow
30Q10	30-Day, 10-Year Low Flow
A(A)	Aquatic Acute
A(C)	Aquatic Chronic
AL	Action Level
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practices
BOD ₅	5-Day Biochemical Oxygen Demand
BPJ	Best Professional Judgement
BPT	Best Practicable Control Technology Currently Available
BTA	Best Technology Available
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
CV	Coefficient of Variation
CWA	Clean Water Act
CWIS	Cooling Water Intake Structure
DAF	Dissolved Air Floatation
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
DOW	Division of Water
EBPS	Environmental Benefit Permit Strategy
ECHO	Enforcement and Compliance History On-Line
ECL	Environmental Conservation Law
EDP	Effective Date of Permit
EDPM	Effective Date of Permit Modification
ELG	Effluent Limitations Guidelines
ENB	Environmental Notice Bulletin
EPA, USEPA	US Environmental Protection Agency
ExDP	Expiration Date of Permit
°F	Fahrenheit Degrees
FERC	Federal Energy Regulatory Commission
GLWQA	Great Lakes Water Quality Agreement
GV	Water Quality Guidance Value established by NYSDEC in TOGS 1.1.1
HEW	Human, Aesthetic, Wildlife
IJC	International Joint Commission
lbs/d	Pounds per Day
MDV	Multiple Discharge Variance
mg/L	Milligrams per Liter
MGD	Million Gallons per Day
ml/L	Milliliter per Liter
MMP	Mercury Minimization Program
MSGP	Multi-Sector General Permit for Stormwater Associated with Industrial Activity
NAICS	North American Industry Classification System
NCCW	Noncontact Cooling Water
ng/L	Nanograms per Liter

NOD	Nitrogenous Oxygen Demand
NSPS	New Source Performance Standards
NYCRR	New York Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
PFAS	Per-and Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonic Acid
PIC	Projected Instream Concentration
POTW	Publicly Owned Treatment Works
PWL	Priority Waterbodies List
RFI	Request for Information
RIBS	Rotating Intensive Basin Sampling
RPA	Reasonable Potential Analysis
RSAT	River-Based Effluent Limit Screening Analysis Tool
SBR	Sequencing Batch Reactor
SEQR	State Environmental Quality Review
SIC	Standard Industrial Classification
SPDES	State Pollutant Discharge Elimination System
SU	Standard Units
TBELs	Technology-based Effluent Limitations
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
TOGS	Technical and Operational Guidance Series
TSD	Technical Support Document
TSS	Total Suspended Solids
TUa	Acute Toxicity Unit
TUc	Chronic Toxicity Unit
ug/L	Micrograms per Liter
USGS	United States Geologic Survey
WET	Whole Effluent Toxicity
WIN	Waters Index Number
WI/PWL	Waterbody Inventory/ Priority Waterbodies List
WLA	Wasteload Allocation
WMDL	Watershed Maximum Daily Load
WQ	Water Quality
WQBELs	Water Quality-Based Effluent Limitations
WWA	Water Withdrawal Application
WWTP	Wastewater Treatment Plant

SUMMARY OF PERMIT CHANGES

A State Pollutant Discharge Elimination System (SPDES) permit modification and renewal pursuant to New York's Environmental Benefit Permitting Strategy (EBPS) has been drafted for Lydall Performance Materials LLC. The changes to the permit are summarized below:

- Designated internal outfalls for monitoring locations upstream of Outfall 001.
- Reduced the monthly average and daily maximum BOD₅ effluent limits from 287 and 524 lbs/day to 260 and 460 lbs/day at Outfall 01A.
- Reduced the monthly average and daily maximum total suspended solids effluent limits from 248 and 511 lbs/day to 200 and 410 lbs/day at Outfall 01A.
- Reduced the action level for zinc from 24 lbs/day to a daily maximum effluent limit of 10 lbs/day at Outfall 01A.
- Reduced the daily maximum total phenols effluent limit from 2.6 lbs/day to 1.5 lbs/day and revised the monitoring frequency to once per month at Outfall 01A.
- Removed the monthly average reporting requirement for settleable solids. Daily maximum shall continue to be reported.
- Removed the monthly average reporting requirements for temperature. Daily maximum shall continue to be reported.
- Revised phosphorus reporting from daily maximum to monthly average.
- Changed the flow monitoring units at Outfall 01B from GPD to MGD.
- Added a new requirement to develop and implement a Best Management Practices (BMP) Plan.
- Added a new monitoring requirements for Whole Effluent Toxicity (WET) testing at Outfall 01A.
- Added new biological monitoring requirements for the cooling water intake structure to support a best technology available (BTA) determination.
- Added new requirement for emerging contaminant monitoring.
- Added a new Schedule of Submittals.
- Updated permit pages to reflect current NYSDEC format, nomenclature, and latest general conditions.

This fact sheet summarizes the information used to determine the effluent limitations (limits) and other conditions contained in the permit. General background information including the regulatory basis for the effluent limitations and other conditions are in the [Appendix A](#) linked throughout this fact sheet.

ADMINISTRATIVE HISTORY

- 01/01/2010 The permit was administratively renewed with a new five-year term and expiration date of 12/31/2014.
- 08/03/2010 The last full technical review was performed and the SPDES permit was modified. The 08/03/2010 permit modification has formed the basis of this permit.
- 01/01/2015 The permit was administratively renewed with a new five-year term and expiration date of 12/31/2019.
- 05/30/2019 The permit was transferred from Interface Solutions, Inc. to Lydall Performance Materials, Inc.
- 12/31/2020 The permit was administratively renewed with a new five-year term and expiration date of 12/31/2024.
- 10/01/2022 The Department issued a Request for Information (RFI) to modify and renew the SPDES permit due to the facility's EBPS score¹. At the time of the RFI, the facility had an EBPS score of 170 and a Region 6 ranking of 14.
- 11/21/2022 Lydall Performance Materials requested a time extension for the submittal a NY-2C permit application and supporting documentation to thoroughly gather and analyze the information requested in the RFI. The Department granted the request on 12/01/2022.
- 03/31/2023 Lydall Performance Materials submitted a NY-2C permit application.

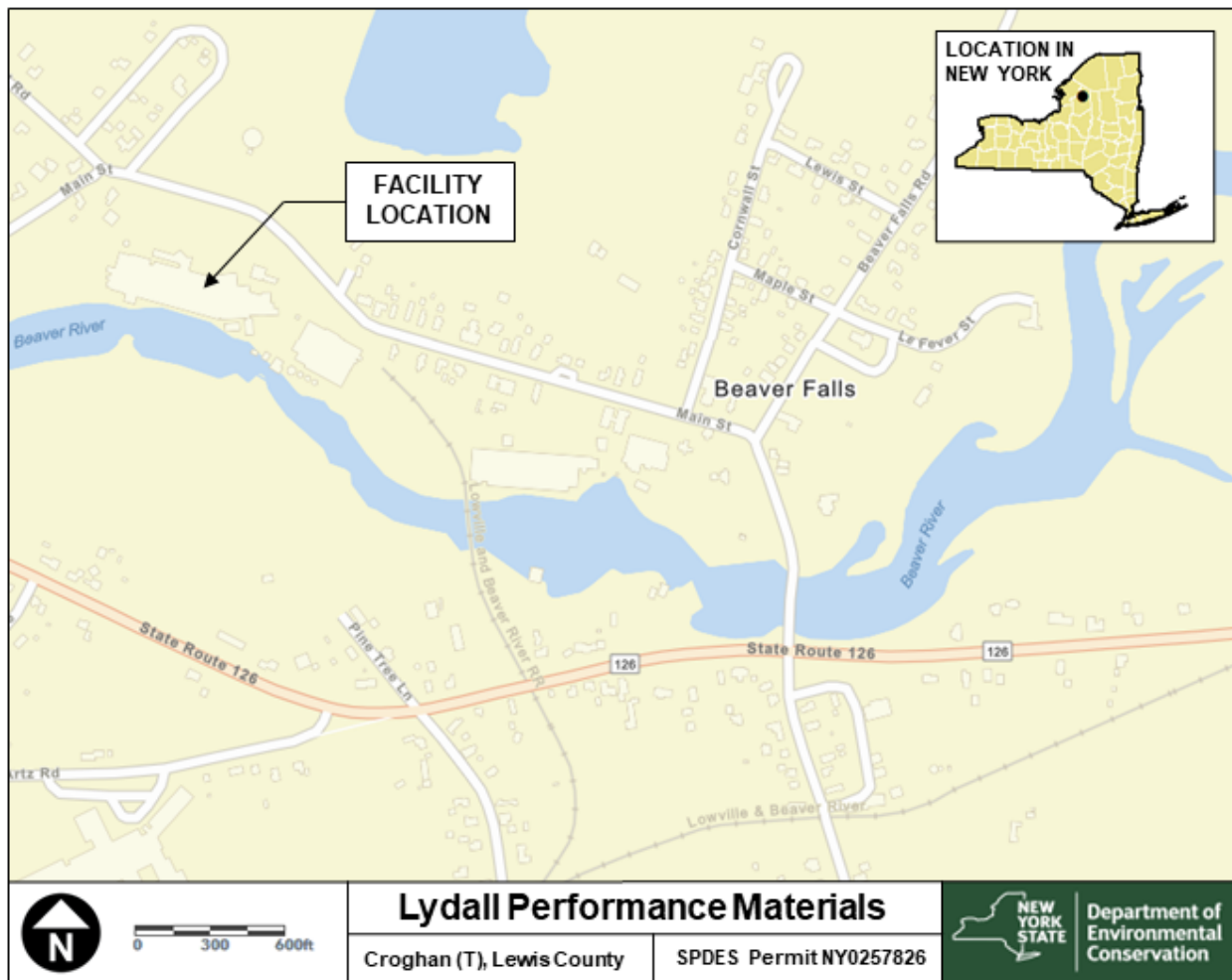
The Notice of Complete Application, published in the [Environmental Notice Bulletin](#) and newspapers, contains information on the public notice process.

¹ Pursuant to 6 NYCRR 750-1.18 and NYS Environmental Benefit Permit Strategy (EBPS)

FACILITY INFORMATION

Lydall Performance Materials is in the hamlet of Beaver Falls, Town of Croghan, Lewis County, New York. This is an industrial facility (SIC code 3053, Gaskets, Packing, and Sealing Devices) that manufactures paper gaskets and specialty paperboard from purchased cellulose and synthetic fibers. The facility uses paper-mill style processes for manufacturing products.

Figure 1. Facility Location Map

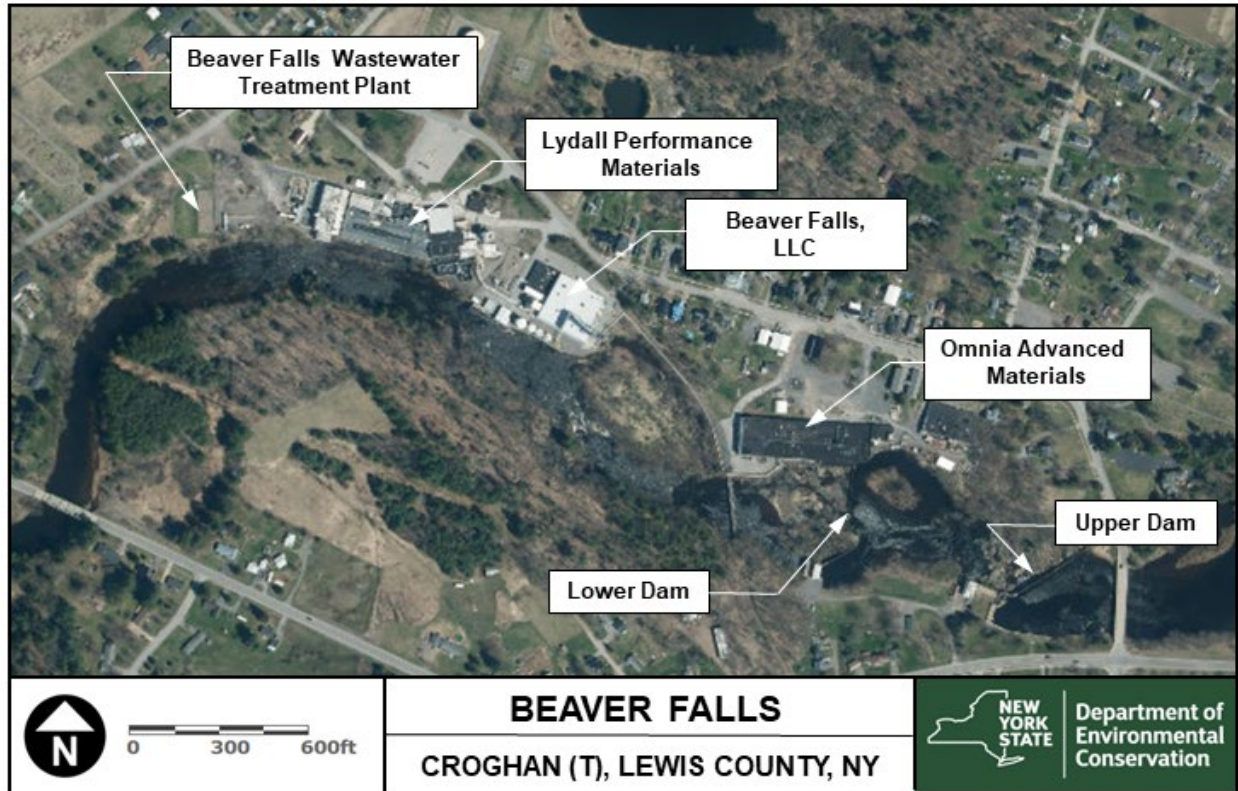


There are three other nearby SPDES permitted discharges to the Beaver River that must be considered when evaluating receiving water quality. Omnia Advanced Materials manufactures specialty paper. The facility operates under SPDES Permit NY0002755 and discharges treated process wastewater.

Beaver Falls, LLC, is a 95 Megawatt (MW) combined cycle power plant that supplies electricity to the energy grid and supplies steam to the two paper mills. This facility operates under SPDES Permit NY0236101 and discharges noncontact cooling water.

The Beaver Falls Sewer District Wastewater Treatment Plant is a publicly owned treatment works (POTW), owned and operated by the Town of Croghan, and treats residential sanitary sewage. The facility operates under SPDES Permit NY0270091.

Figure 2. Hamlet of Beaver Falls



Site Overview

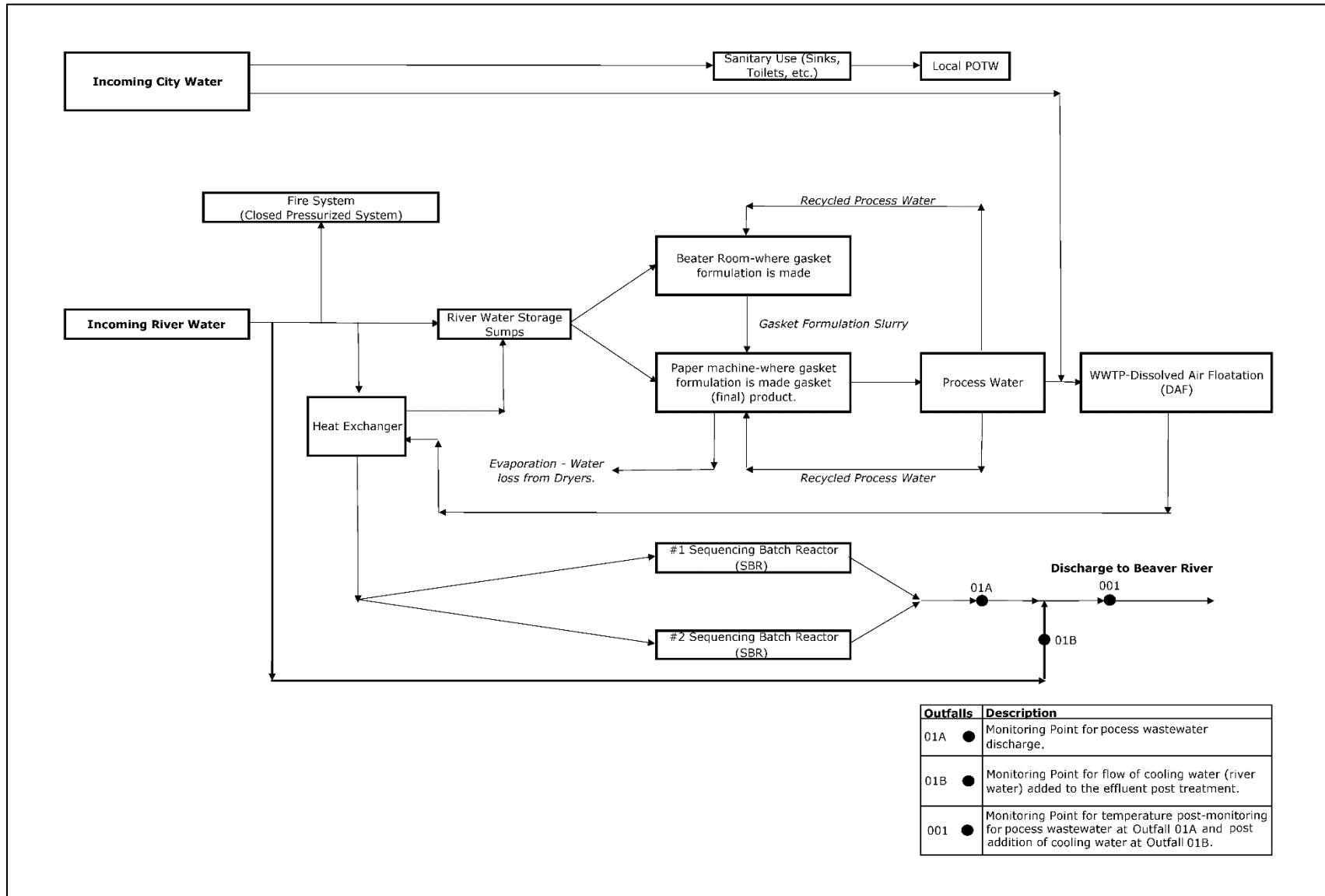
Manufacturing processes utilized by Lydall Performance Materials at the Beaver Falls facility is categorized under 40 CFR 430, *The Pulp, Paper, and Paperboard Point Source Category*, and is subject to federal Categorical Effluent Limitation Guidelines (ELG) (see the [USEPA ELG Calculation Table](#) summary table towards the end of this fact sheet).

The facility is further categorized under 40 CFR 430, Subpart L, *Tissue, Filter, Non-Woven, and Paperboard From Purchased Pulp Subcategory* and falls under *Non-integrated Mills Where Paperboard is Produced from Purchased Pulp*.

Lydall Performance Materials is a non-integrated mill because it purchases pulp. An integrated mill means that both pulp and paper/paperboard is produced at the same plant.

About 10,000 gallons per day (0.010 MGD) of potable water is provided by the Town of Croghan for sanitary and some manufacturing. Sanitary wastewater is discharged to the local POTW.

Figure 3. Process Flow Diagram



Most of the water used for manufacturing, noncontact cooling, and fire protection water is withdrawn from the Beaver River upstream of the facility at the Upper Beaver Falls (Upper Boise Cascade) Dam. The facility maintains a Water Withdrawal Permit (WWA 11863) issued by NYSDEC authorizing withdrawals up to 3,478 gallons per minute (5 MGD). The average annual withdrawal (2010 - 2022) reported by the permittee was around 0.65 MGD.

Effluent (treated wastewater) consists of process wastewater and noncontact cooling water (NCCW). Process wastewater is treated by dissolved air floatation (DAF) and neutralization. After the DAF, wastewater is combined with noncontact cooling water and is further treated by two sequencing batch reactors (SBRs). After treatment by the SBRs, effluent is cooled during warmer weather by adding a portion of the raw intake water before discharge through Outfall 001. Sludge is aerobically digested, belt pressed, and hauled to a regional landfill for disposal by a licensed hauler.

Figure 4. Outfall Location



Production rates used to calculate applicable ELGs is 7942.7 tons per year. The daily average production rate of 35.46 tons per day or 70.92 lbs/1000 lbs is based on 224 production days each year.

Enforcement History

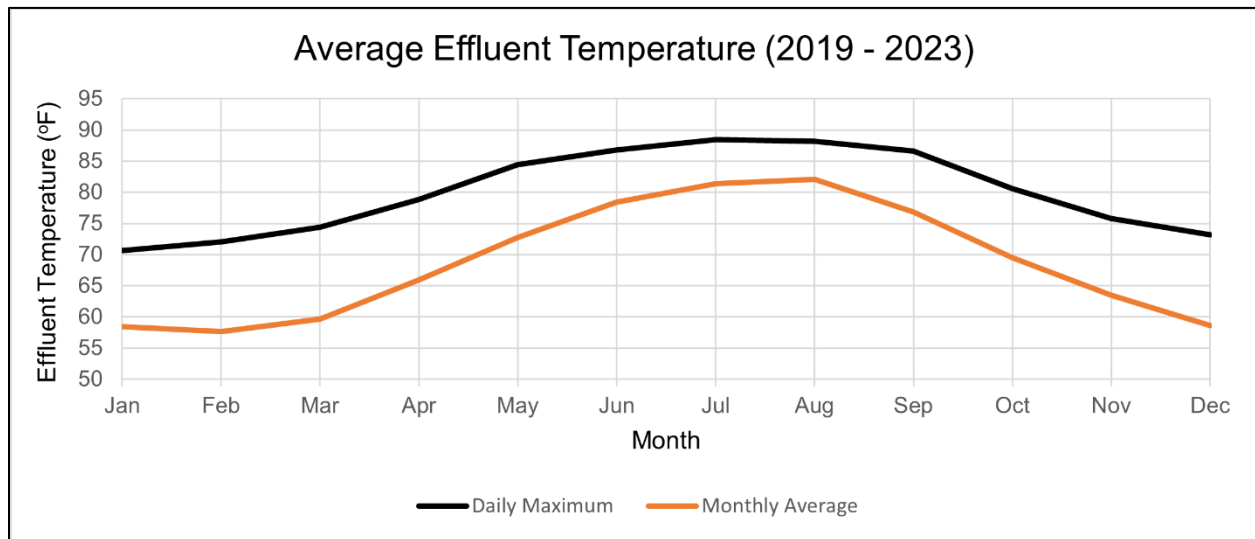
Compliance and enforcement information can be found on the EPA's [Enforcement and Compliance History Online \(ECHO\)](#) website. The facility has had no effluent violations or compliance actions by NYSDEC within the past 5 years (2019 - 2023).

Existing Effluent Quality

The [Pollutant Summary Table](#) presents the existing effluent quality and effluent limitations. The existing effluent quality was determined from Discharge Monitoring Reports (DMRs) and the SPDES permit application submitted by the permittee for the five-year period of 01/01/2019 to 12/31/2023. [Appendix A Link](#)

From 2019 - 2023, the facility discharged a monthly average of 0.59 MGD and an average daily maximum of 1.15 MGD of treated process wastewater. Effluent temperature follows a seasonal cycle in accordance with 6 NYCRR Part 704.2(a) for thermal discharges.

Figure 5. Effluent Temperature



Internal Outfalls

Internal outfalls are authorized under 40 CFR Part 122.45(h), and are being specified to ensure that the technology-based effluent limits (TBELs) are not diluted or disguised when combined with other wastewater discharges.

Treated processes wastewater is combined with raw intake water which is used to cool the effluent before being discharged through Outfall 001. Internal Outfall 01A will be designated as a sampling point for the treated process wastewater and internal Outfall 01B will be the designated monitoring point for the raw intake water used for effluent cooling. Effluent temperature will be monitored at Outfall 001 before being discharged to the Beaver River. This is a new permit requirement. The current permit has one outfall listed with multiple designated monitoring locations.

Biocide Certification

In accordance with 40 CFR 430.124, the facility provided certification dated 03/31/2023 stating that chlorophenolic-containing biocides are not used at the facility. Therefore, effluent limitations and monitoring requirements for Pentachlorophenol and Trichlorophenol are not required.

Interstate Water Pollution Control Agencies

Outfall 001 is located within the Great Lakes watershed and International Joint Commission (IJC) compact area. [Appendix A Link](#)

The IJC Great Lakes Water Quality Agreement (GLWQA), first signed in 1972, and updated in 1978, 1983, 1987, and 2012, is an agreement between the United States and Canada to restore and maintain the chemical, physical and biological integrity of the waters of the Great Lakes Basin Ecosystem.

One of the objectives of the GLWQA is to limit the total phosphorus loading to Lake Ontario to 7,000 metric tonnes per year (7,716 US tons) which is equivalent to 15,432,000 lbs/year or about 42,280 lbs/day. The goal is to achieve an interim total phosphorus level of 0.01 mg/L in the open waters of Lake Ontario.

For industrial facilities, the GLWQA states in Annex 3 (1978) the regulation of phosphorus introduction to the Great Lakes should be regulated to the maximum extent possible. The permittee's treatment system (DAF followed by SBRs) provides appropriate phosphorus treatment. Phosphorus monitoring is being continued in the draft permit to support the objectives of the GLWQA and to aid in the calculation of phosphorus loadings to Lake Ontario.

RECEIVING WATER INFORMATION

The facility discharges via the following outfalls:

Table 1. Discharge Information

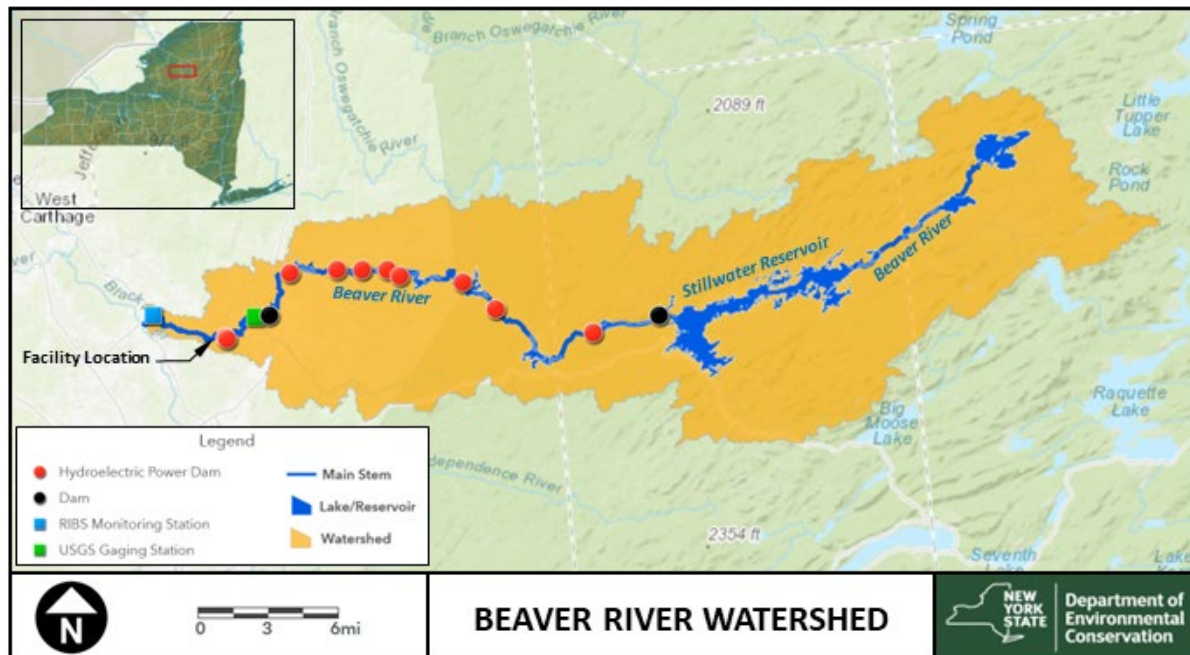
Outfall No.	Critical Flow (MGD)	SIC	Wastewater Type	Receiving Water
001	1.35	3053	Combined Discharge from Outfalls 01A and 01B	Beaver River, Class C
01A (Internal)	1.15	3053	Process Wastewater, Noncontact Cooling Water	Beaver River, Class C
01B (Internal)	0.20	3053	River Intake Water used for Effluent Cooling	Beaver River, Class C

Consistent with NYSDEC Technical and Operational Guidance Series (TOGS) 1.2.1 - Industrial Permit Writing, critical effluent flows to evaluate water quality from were set to the long-term average of the daily maximum flows based on the past five years (2019 - 2023) of effluent monitoring obtained from Discharge Monitoring Reports (DMRs) submitted by the permittee.

Reach Description

The Beaver River is in the Black River watershed and is the second largest tributary to the Black River. The Beaver River has a drainage area of about 326 square miles and flows around 54 miles from its headwaters in the Adirondack Mountains just above Lake Lila to the confluence with the Black River near Naumburg.

Figure 6. Beaver River Watershed



Flows in the lower portion of the Beaver River are regulated by the Hudson River-Black River Regulating District at Stillwater Reservoir, which accounts for about 53% of the Beaver River watershed area. Downstream of Stillwater Reservoir, the Beaver River is further regulated at ten (10) hydroelectric power projects with a total energy producing capacity of 47.3 Megawatts (MW). The eight upper dams are collectively known as the Beaver River Project.

The segment of the Beaver River at the discharge location has a drainage area of 319 square miles and is specified in 6 NYCRR Part 805, Table 1 - Item 114.1, Waters Index Number (WIN) O-19-40, and is classified as a Class C waterbody.

The best usage of Class C waters is fishing. These waters shall be suitable for fish, shellfish and wildlife propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.

The classifications of individual surface waters are specified in 6 NYCRR Parts 800 - 941. The best uses and standards of quality and purity applicable to specific water classes are specified in 6 NYCRR Parts 701-706.

See the [Outfall and Receiving Water Summary Table](#) and [Appendix A](#) for additional information.

Impaired Waterbody Information

The Beaver River segment (PWL No. 0801-0197) at the discharge location is not listed on the 2018 New York State Section 303(d) List of Impaired/TMDL Waters, and therefore, there are no applicable wasteload allocations (WLAs) for this discharge.

Critical Receiving Water Flow Information

NYSDEC uses critical low flows to evaluate effluent limitations to ensure water quality standards are maintained. The 1Q10, 7Q10 and 30Q10 flows can be thought of as the lowest 1-Day, 7-Day and 30-Day average flows that are expected to occur on average once every 10 years.

The 1Q10 flow is used to assess for aquatic acute A(A), the 7Q10 for aquatic chronic A(C), and the 30Q10 for human, aesthetic, wildlife (HEW) water quality standards.

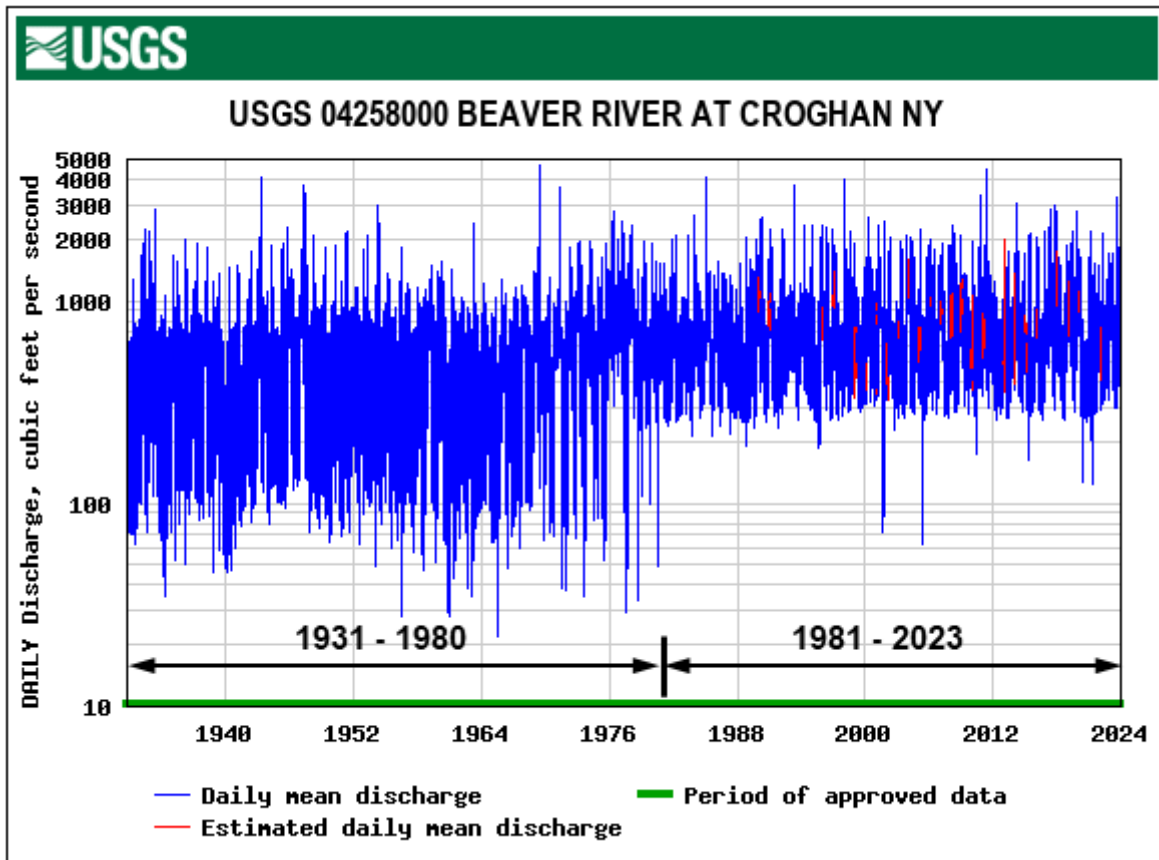
The 1Q10, 7Q10 and 30Q10 flows were calculated using the USGS Hydrologic Toolbox software based on the Log-Pearson Type III Distribution at United States Geological Survey (USGS) gaging station USGS 04258000, Beaver River at Croghan NY, located about 2.6 miles upstream of the facility.

Although the gage has daily flow records going back to 1930, the period of record used for the analysis was from 1981 - 2023 to capture current regulating practices and Federal Energy Regulatory Commission (FERC) licensing requirements.

The FERC license (FERC Project No. 2645) for the Beaver River Project requires minimum flow releases at all 8 hydroelectric projects upstream of Croghan for fish passage through bypass reaches. The license also requires a continuous minimum base flow of 250 CFS, with limited exceptions for periods of low flow where additional steps to maintain the base flow to the extent feasible must be taken at the High Falls Project, which is the last hydroelectric project above Croghan. Minimum base flow requirements is to ensure adequate water is available in Beaver Falls for mill processing, hydro power generating, and sewage discharge requirements.

The effect of regulation practices and minimum base flow licensing requirements can be clearly seen in Figure 7 and appears to have started around 1981. Using the full period of record for the analysis would skew the results. Limiting the analysis to the past 42 water years (04/01/1981 to 03/31/2023) reflects current conditions and is sufficient to calculate statistically meaningful low flow probabilities.

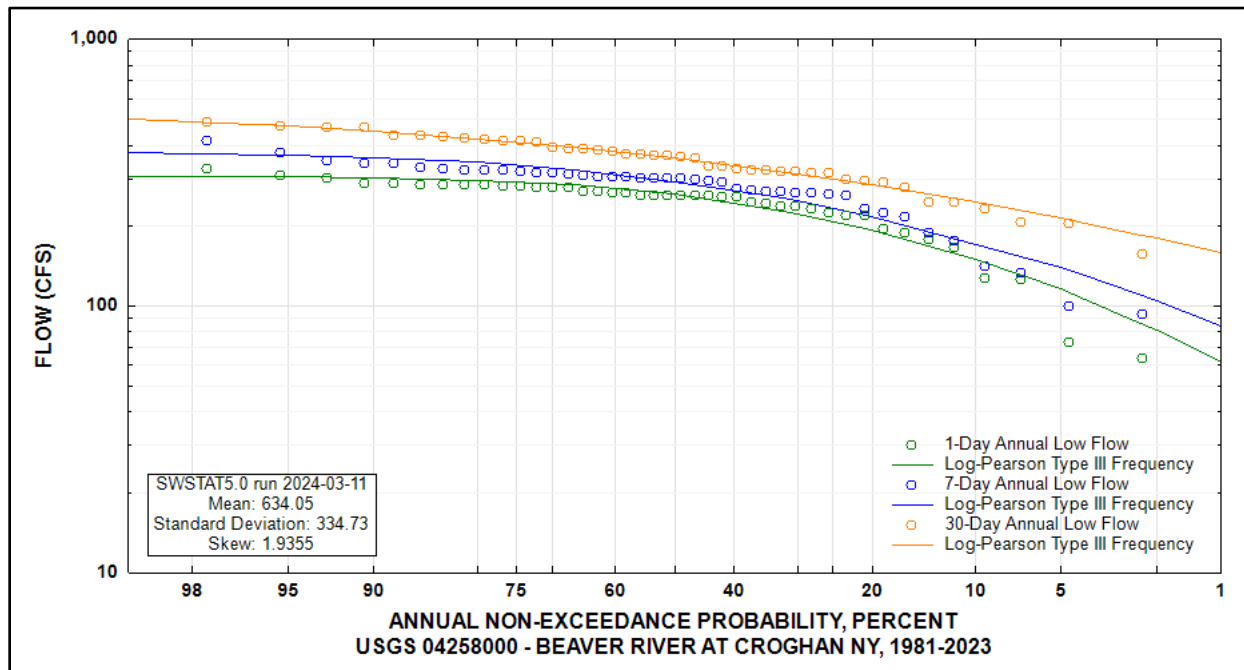
Figure 7. Beaver River Daily Flows (1931 - 2023)



The calculated flows were transferred to the discharge location using the ratio of the respective drainage areas:

Gage Name:	Beaver River at Croghan NY
Gage ID:	USGS 04258000
Period of Record Used:	April 1, 1981 - March 31, 2023
Drainage Area at Gage (mi ²):	291
1Q10 Flow at Gage (CFS):	149
7Q10 Flow at Gage (CFS):	173
30Q10 Flow at Gage (CFS):	244
Drainage Area at Facility (mi ²):	319
1Q10 Flow at Facility (CFS):	163
7Q10 Flow at Facility (CFS):	190
30Q10 Flow at Facility (CFS):	267

Figure 8. Low Flow Frequency Curves (1981 - 2023)



To convert flow from cubic feet per second (CFS) to million gallons per day (MGD), a multiplier of 0.6463 is applied. The critical flows in MGD at the discharge location become:

Table 2. Critical Receiving Water Flows

Outfall	1Q10 (MGD)	7Q10 (MGD)	30Q10 (MGD)
001	105	123	173

The 1Q10, 7Q10, and 30Q10 flows are used to calculate the acute, chronic, and human, aesthetic, wildlife (HEW) dilution ratios, respectively, by the following formula:

$$\text{Dilution} = (\text{Facility Flow} + \text{Low Flow}) / \text{Facility Flow}$$

Since the facility withdraws most of its water used for manufacturing from the same waterbody just upstream of Outfall 001, to account for the water withdrawn, the flow balance becomes:

$$\text{Dilution} = (\text{Facility Flow} + \text{Low Flow} - \text{Water Withdrawn}) / \text{Facility Flow}$$

Since the facility discharge is roughly equal to the water withdrawn, dilution reduces to:

$$\text{Dilution} = \text{Low Flow} / \text{Facility Flow}$$

Table 3. Flow-Based Dilution Ratios

Outfall No.	Design Flow (MGD)	Acute Dilution Ratio A(A)	Chronic Dilution Ratio A(C)	Human, Aesthetic, Wildlife Dilution Ratio (HEW)	Basis
001	1.35	78	91	128	Gage Analysis
01A	1.15	91	107	150	Gage Analysis
01B	0.20	525	615	865	Gage Analysis

In accordance NYSDEC Technical Operations Guidance Series (TOGS) 1.3.1, for large rivers and current NYSDEC permitting practice, maximum dilution ratios of 50:1 and 100:1 for aquatic acute and chronic mixing zone criteria, respectively, shall be used as the limiting conditions for evaluating water quality. HEW is set to a maximum allowance of 100:1.

Table 4. Maximum Allowable Dilution Ratios

Outfall No.	Acute Dilution Ratio A(A)	Chronic Dilution Ratio A(C)	Human, Aesthetic, Wildlife Dilution Ratio (HEW)	Basis
001	50:1	91:1	100:1	TOGS 1.3.1
01A	50:1	100:1	100:1	TOGS 1.3.1
01B	50:1	100:1	100:1	TOGS 1.3.1

Receiving Water Quality Information

NYSDEC continuously collects water quality information on rivers, streams, lakes, estuaries, and coastal waters in New York. The Rotating Integrated Basin Studies (RIBS) Program monitors rivers, lakes and streams. The RIBS program is designed so that all 17 major drainage basins in the state are monitored every five years, with 3 to 4 basins being monitored each year. The RIBS program also includes routine monitoring stations that are sampled each year regardless of the 5-year cycle.

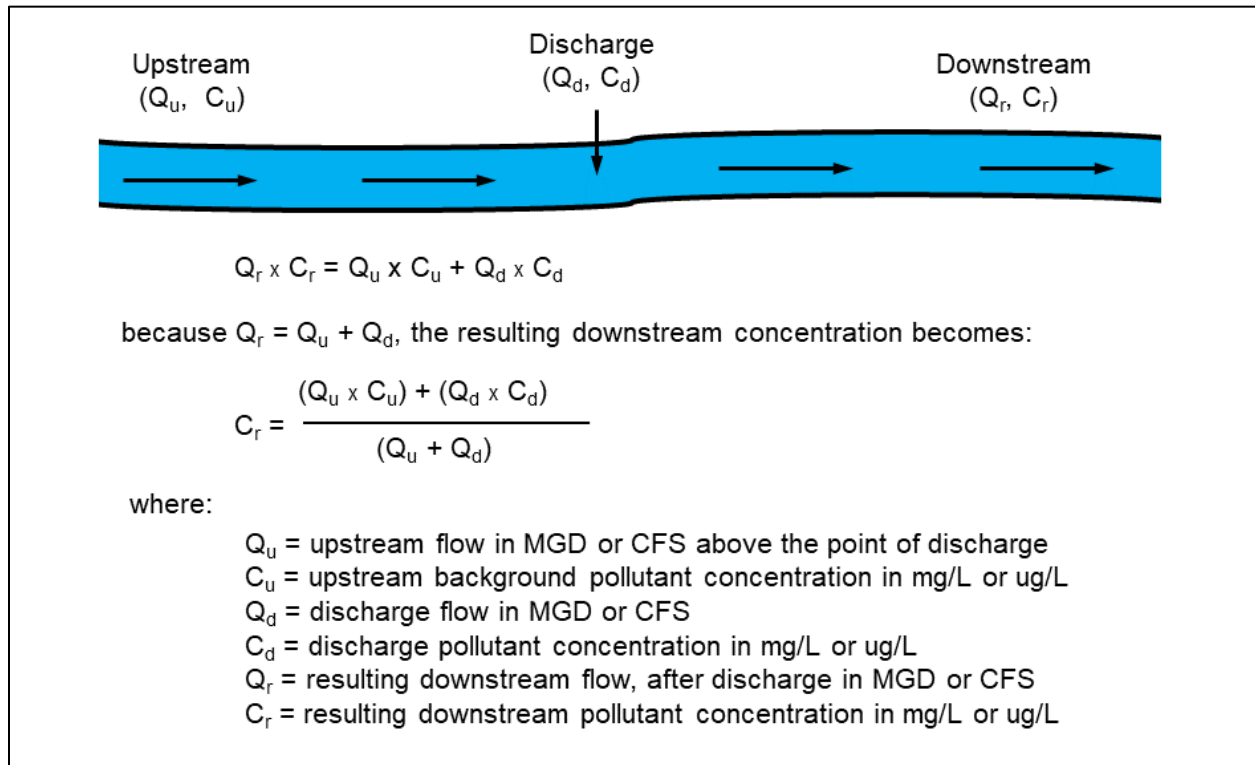
Receiving water quality information for the Beaver River was based on RIBS Station 08-BEEV-0.8, Beaver River in New Bremen (Naumburg), which is located about 3.8 miles downstream from the discharge location.

Table 5. Receiving Water Quality Information

Parameter	Units	Average	Range	Number of Samples
pH	SU	6.9	5.3 - 8.7	36
Hardness (CaCO ₃)	mg/L	21	8 - 57	9

For conservative pollutants with rapid and complete mixing, a steady-state, mass-balance approach is used to calculate the downstream water quality resulting from a discharge.

Figure 9. Mass Balance Schematic



Receiving water dilution as the result of a discharge can be expressed as:

$$D = \frac{Q_d + Q_u}{Q_d}$$

The mass balance equation can be rearranged and use variable substitution to make water quality calculations more convenient based on dilution and is necessary when dilution is reduced to maximum allowable or mixing zone limitations. When receiving water background concentrations need to be considered, the predicted instream concentration for conservative pollutants based on dilution ratios can be calculated as:

$$C_r = \frac{C_d + C_u(D - 1)}{D}$$

Where:

- C_r = resulting downstream pollutant concentration.
- C_d = discharge pollutant concentration.
- C_u = Upstream or background concentration.
- D = Allowable dilution.

For the case when the receiving water background concentration is considered negligible or zero, the above equation simplifies to the discharge concentration divided by dilution:

$$C_r = \frac{C_d}{D}$$

Effluent limits for conservative pollutants can be calculated based on dilution as follows:

$$C_{eff} = (C_{wqs} - C_u)D + C_u$$

Where:

- C_{eff} = Allowable effluent concentration or effluent limitation.
- C_{wqs} = Water quality standard concentration

For the case when the background concentration is considered negligible or zero, the above equation simplifies to the water quality standard times allowable dilution:

$$C_{eff} = (C_{wqs})D$$

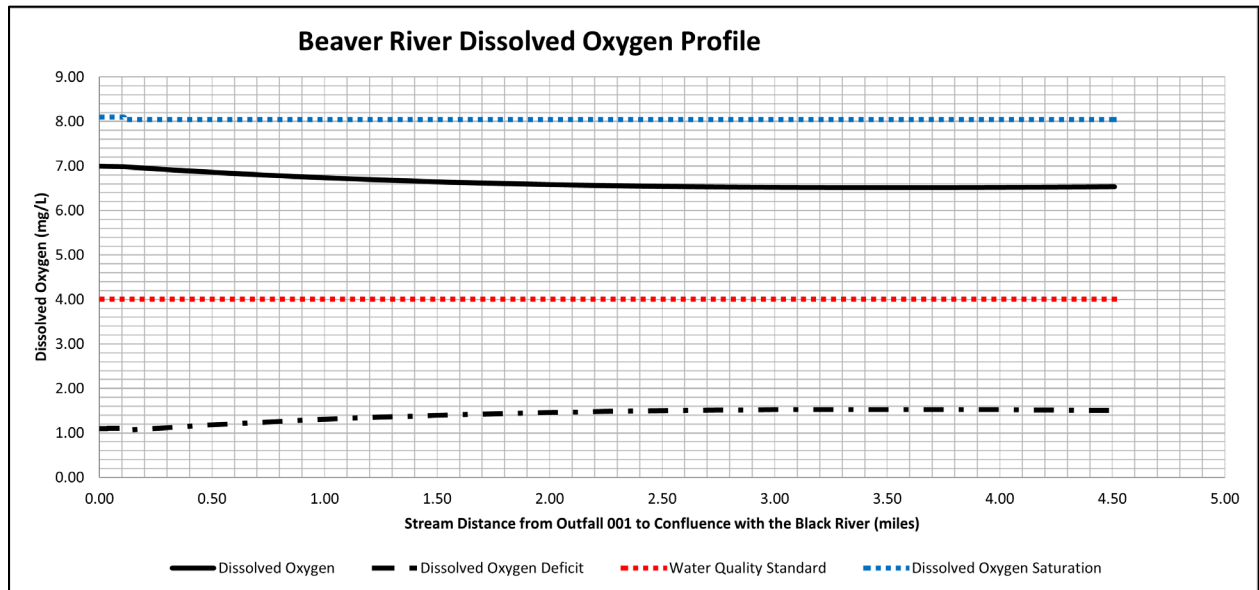
To calculate the mass loading of a pollutant in pounds per day (lbs/d) from a concentration, the following conversion formula is applied:

$$\text{Loading (lbs/d)} = \text{Flow (MGD)} \times \text{Concentration (mg/L)} \times 8.34$$

For non-conservative, oxygen-demanding pollutants, instream dissolved oxygen concentrations from a point source discharge to a river or stream are calculated using modeling tools developed by NYSDEC based on the Streeter-Phelps equations. The method used is documented in Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water, EPA/600/6-85/002a.

The receiving water was modeled for the 4.5-mile segment from Outfall 001 to the confluence with the Black River. The model incorporated discharges from Omnia Advanced Materials, Lydall Performance Materials, and the Beaver Falls Wastewater Treatment Plant. The model was based on critical receiving water under summer conditions with discharges set at the daily maximum permit limits and the design flows for each facility. Results showed that dissolved oxygen water quality standards were maintained. Modeling results predicted a minimum instream DO concentration of 6.5 mg/L about 3.4 miles downstream of Outfall 001.

Figure 10. Dissolved Oxygen Modeling Results



Critical receiving water data and applicable water quality calculations are listed in the [Pollutant Summary Table](#) at the end of this fact sheet. [Appendix A Link](#)

WATERSHED MAXIMUM DAILY LOADS

Watershed Maximum Daily Loads (WMDLs) are developed by NYSDEC to account for the cumulative effect of multiple discharges of conservative toxic pollutants to ensure water quality standards are met in downstream segments. The WMDL uses a simple dilution model, assuming full mix in the receiving stream, to calculate the maximum allowable pollutant load that can be discharged and still meet water quality standards during critical low flow in downstream segments.

Total Phenols

The Beaver River is a tributary to the Black River. A downstream portion of the Black River defined in 6 NYCRR Part 805, Item 2, is classified as a Class A fresh surface water. The portion is just above the City of Watertown at the Watertown Water Plant intake pipe, south of Delano Island and extends 2 miles upstream from Huntington Island.

In 2013, NYSDEC developed a WMDL for total phenols applicable to the Class A portion of the Black River. The daily load was distributed to each upstream discharger as shown below:

Table 6. Black River Phenol WMDL

SPDES No.	Facility Name	Receiving Water	Total Phenols (lbs/d)
NY0002372	Twin Rivers Paper Company	Moose River	0.5
NY0002755	Omnia Advanced Materials	Beaver River	2.1
NY0025151	West Carthage WWTP	Black River	0.4
NY0257826	Lydall Performance Materials	Beaver River	1.5

The draft permit incorporates the Black River Phenol WMDL by reducing the existing seasonal daily maximum limits of 2.6/4.0 lbs/d to 1.5 lbs/d.

Total Zinc

The calculated allowable stream loading at the discharge location for total zinc is 22.8 lbs/day based on the aquatic chronic water quality standard, which is further described below. The current effective SPDES permits for Lydall Performance Materials and Omnia Advanced Materials include action levels of 24 lbs/d and 22.5 lbs/d, respectively, for total zinc. This allows for a potential exceedance of water quality standards for zinc by authorizing a total load of 46.5 lbs/day to the Beaver River.

A WMDL was developed for total zinc to ensure that the cumulative loading from both facilities does not exceed the water quality standard of 22.8 lbs/d. The WMDL applies to the lower portion of the Beaver River.

New York water quality standards in 6 NYCRR Part 703.5 for zinc are expressed as the dissolved form in ug/L and are calculated as a function of receiving water hardness in mg/L. Based on an average hardness (as CaCO₃) of 21 mg/L obtained for NYSDEC RIBS Station 08-BEEV-0.8, Beaver River in New Bremen, the instream aquatic acute A(A) and aquatic chronic A(C) water quality standards at the discharge location are:

$$\text{Dissolved Zinc, A(A)} = 0.978 \exp(0.8473 [\ln(\text{hardness})] + 0.884)$$

$$\text{Dissolved Zinc, A(A)} = 0.978 \exp(0.8473 [\ln(21)] + 0.884)$$

Dissolved Zinc, A(A) = 31.2 ug/L = **0.0312 mg/L**

Dissolved Zinc, A(C) = $\exp(0.85 [\ln(\text{hardness})] + 0.50)$

Dissolved Zinc, A(C) = $\exp(0.85 [\ln(21)] + 0.50)$

Dissolved Zinc, A(C) = 21.9 ug/L = **0.0219 mg/L**

40 CFR 122.45(c) requires that permit limits for most metals be expressed as total recoverable. To convert a dissolved metal to a total metal, a metals “translator” is applied. A metals translator is the fraction of total recoverable metal in the receiving water that is dissolved.

Acute and chronic zinc translators of 0.978 and 0.986, respectively, were taken from the EPA publication “The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion, 1996, EPA 823-B-96-007”. Site specific water quality standards expressed as total zinc are:

Total Zinc, A(A) = $(0.0312 \text{ mg/L}) / (0.978) = 0.0319 \text{ mg/L}$

Total Zinc, A(C) = $(0.0219 \text{ mg/L}) / (0.986) = 0.0222 \text{ mg/L}$

Because both facilities withdraw water for manufacturing from the Beaver River, the discharge flows are not added to the critical low flows to account for the water withdrawn. Applying 1Q10 stream flow for the A(A) water quality standard and the 7Q10 for the A(C) water quality standard, allowable stream loadings based on water quality standards are:

Total Zinc, A(A) = $105 \text{ MGD} \times 0.0319 \text{ mg/L} \times 8.34 = 27.9 \text{ lbs/day}$

Total Zinc, A(C) = $123 \text{ MGD} \times 0.0222 \text{ mg/L} \times 8.34 = \mathbf{22.8 \text{ lbs/day}}$

The most stringent water quality standard applies, therefore, the daily maximum allowable pollutant load for total zinc at the discharge location is 22.8 lbs/day based on the aquatic chronic A(C) standard. In accordance with TOGS 1.3.1, 10% of the loading will be held in reserve as a margin of safety. Therefore, the WMDL for the Beaver River is 20.5 lbs/day.

The WMDL will be distributed evenly ensuring that the allowable load is allocated fairly and uniformly. This is fairly consistent with the ratio of existing zinc limits for each facility.

WMDL

Lydall = $20.5 \text{ lbs/d} \times (0.5) = 10.2 \text{ lbs/d}$

Omnia = $20.5 \text{ lbs/d} \times (0.5) = 10.2 \text{ lbs/d}$

In accordance with the EPA NPDES Permit Writer’s Manual, effluent limits should be expressed to two significant digits. The WMDL and recommended effluent limitations for the lower Beaver River is summarized below.

Table 7. Beaver River Zinc WMDL

SPDES No.	Facility Name	Receiving Water	Total Zinc (lbs/day)
NY0002755	Omnia Advanced Materials	Beaver River	10.
NY0257826	Lydall Performance Materials	Beaver River	10.
Reserve Loading		Beaver River	2.8

PERMIT REQUIREMENTS

The technology based effluent limitations ([TBELs](#)), water quality-based effluent limitations ([WQBELs](#)), [Existing Effluent Quality](#) and a discussion of the selected effluent limitation for each pollutant present in the discharge are provided in the [Pollutant Summary Table](#).

USEPA Effluent Limitation Guidelines (ELGs) Applicable to Facility

Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT), Best Available Technology Economically Achievable (BAT), and New Source Performance Standards (NSPS) limitations are based on [Effluent Limitation Guidelines](#) developed by USEPA for specific industries². The applicable effluent guidelines and limits are listed at the end of the Pollutant Summary Table in the USEPA ELG Calculation Table. [Appendix A Link](#)

Whole Effluent Toxicity (WET) Testing

An evaluation of the discharge indicates the potential for toxicity based on the following criteria: [Appendix A Link](#)

- Possibility of complex synergistic or additive effects of water treatment chemicals.
- Wastewater treatment plants which exceed a discharge of 1 MGD.

The requirement for WET testing is new. No previous WET data was available to perform a reasonable potential analysis. Consistent with TOGS 1.3.2, given the location is within the Great Lakes basin, the permit requires chronic WET testing.

WET testing action levels of 15 TU_a and 100 TU_c have been included in the permit for each species and is a new requirement. The acute action level for each species represent the maximum allowable acute dilution ratio (50:1) times a factor of 0.3. The chronic action levels represent the maximum allowable chronic dilution ratio (100:1). Samples will be collected quarterly for a period of one (1) year on a five (5) year cycle beginning in 2026.

Cooling Water Intake Structure (CWIS) Biological Monitoring

The facility currently uses a once-through cooling system to withdraw water from the Beaver River using a cooling water intake structure and is subject to the performance goals of Commissioner's Policy 52 (CP-52). [Appendix B](#) contains the Biological Fact Sheet with details on the permit requirements related to the CWIS.

Discharge Notification Act Requirements

In accordance with the Discharge Notification Act (ECL 17-0815-a), the permittee is required to post a sign at each point of wastewater discharge to surface waters, unless a waiver is obtained. This requirement is being continued from the previous permit.

Additionally, the permit contains a requirement to make the DMR sampling data available to the public upon request. This requirement is being continued from the previous permit.

² As promulgated under 40 CFR Parts 405 - 471

Best Management Practices (BMPs) for Industrial Facilities

In accordance with 6 NYCRR 750-1.14(f) and 40 CFR 122.44(k), the permittee is required to develop and implement a BMP plan that prevents, or minimizes the potential for, the release of toxic or hazardous pollutants to state waters. The BMP plan requires annual review by the permittee. This requirement is new.

Stormwater Pollution Prevention Requirements

The facility discharges stormwater associated with industrial activity and SPDES permit coverage is required in accordance with 40 CFR 122.26(a)(6).

Stormwater discharges at this facility are permitted under a separate SPDES Multi-Sector General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activity. The facility's permit number is NYR00B830 and falls under Sector Y - Gaskets, Packing, and Sealing Devices and Rubber and Plastics Hose and Belting.

Mercury³

The multiple discharge variance (MDV) for mercury provides the framework for NYSDEC to require mercury monitoring and mercury minimization programs (MMPs), through SPDES permitting. [Appendix A Link](#)

The facility is located within the Great Lakes watershed and is an USEPA Non-Major, Class 01 Industrial Facility. On January 5, 2024, the permittee submitted a Conditional Exclusion Certification, certifying that the facility does not have any of the mercury sources listed in Part III.A.3. of DOW 1.3.10 and the effluent measured <12 ng/L. Mercury measured at the effluent for Outfall 01A was 1.3 ng/L based on sampling information required by SPDES Application NY-2C.

In accordance with DEC Program Policy DOW 1.3.10, Mercury - SPDES Permitting & Multiple Discharge Variance (TOGS 1.3.10), the permit includes requirements for the implementation of MMP Type IV and does not include mercury effluent limitations. The [Schedule of Additional Submittals](#) includes a mercury minimization plan annual status report (maintained onsite), and re-certification of the exclusion every five years. As part of the re-certification, the effluent must be sampled and continue to measure <12 ng/L. This requirement is new.

Emerging Contaminant Monitoring

Emerging Contaminants, such as Perfluorooctanoic acid (PFOA), Perfluorooctane sulfonic acid (PFOS), and 1,4-Dioxane (1,4-D), have been used in a wide variety of consumer and industrial product as well as in manufacturing processes for decades. These contaminants do not break down easily, therefore their presence in wastewater can remain a concern for years following their discontinued use. As the science surrounding these contaminants is still evolving, additional monitoring is needed to better understand potential sources and background levels. For more information on emerging contaminants, please see the NYSDEC Division of Water web page: <https://dec.ny.gov/environmental-protection/water/emerging-contaminants>.

Paper Mills are identified in TOGS 1.3.13, Appendix A and B, as being a potential source of PFOAs/PFOs and 1,4-D. Pursuant to 6 NYCRR Part 750-1.13(b), the permit includes a short-term monitoring program listed in the Schedule of Additional Submittals to evaluate the

³ In accordance with DOW 1.3.10 Mercury - SPDES Permitting & Multiple Discharge Variance (MDV), December 30, 2020.

influent and effluent discharge levels of Per-and Polyfluoroalkyl Substances (PFAS) and 1,4-Dioxane.

The Department will review the monitoring results and pursuant to 6 NYCRR 750-2.1(i) may notify the permittee of the need for further monitoring to identify potential sources as specified in the Emerging Contaminants Investigation Checklist for Industrial Facilities to determine whether cause exists to modify the permit to incorporate effluent limitations and a pollutant minimization program per 6 NYCRR 750-1.14(f).

The Department will consider this information and progress made to track down and reduce or eliminate the source of the identified pollutants in determining if a permit modification is needed.

Schedule(s) of Additional Submittals

A schedule of additional submittals has been included for the following ([Appendix A Link](#)):

- Water Treatment Chemicals (WTC) Annual Usage Report.
- Completed Best Management Practices (BMP) Plan.
- BMP Annual Review Certification.
- Mercury Minimization Program Annual Status Report (maintained onsite).
- Emerging Contaminant Short-Term Monitoring Results.
- Whole Effluent Toxicity (WET) Testing Results.
- Biological Monitoring Requirement Reports.
- Mercury Conditional Exclusion Certification.

Anti-backsliding

The limitations contained in the permit are at least as stringent as the previous permit limits and there are no instances of backsliding. [Appendix A Link](#)

Antidegradation

The permit contains effluent limitations which ensure that the best usages of the receiving waters will be maintained. The Notice of Complete Application published in the Environmental Notice Bulletin contains information on the State Environmental Quality Review (SEQR)⁴ determination. [Appendix A Link](#)

⁴ As prescribed by 6 NYCRR Part 617

OUTFALL AND RECEIVING WATER SUMMARY TABLE

Outfall	Latitude	Longitude	Receiving Water Name	Water Class	Water Index No. / Priority Waterbody Listing (PWL) No.	Major / Sub Basin	Hardness ⁵ (mg/l)	1Q10 (MGD)	7Q10 (MGD)	30Q10 (MGD)	Critical Effluent Flow (MGD)	Dilution Ratio ⁶		
												A(A)	A(C)	HEW
001	43° 53' 11.3" N	75° 26' 09.4" W	Beaver River	C	O-19-40 PWL: 0801-0197	08 / 01	21	105	123	173	1.35	50:1	91:1	100:1
01A	-	-	Internal Outfall	-	-	-	21	105	123	173	1.15	50:1	100:1	100:1
01B	-	-	Internal Outfall	-	-	-	21	105	123	173	0.20	50:1	100:1	100:1

⁵ Ambient hardness data obtained from NYSDEC RIBS Station 08-BEEV-0.8, Beaver River in New Bremen.

⁶ Dilution ratios of 50:1 and 100:1 are based on maximum allowable consistent with TOGS 1.3.1.

POLLUTANT SUMMARY TABLE

Outfall 001

Outfall #	001	Description of Wastewater: Combined discharge from outfalls 01A and 01B.													
		Type of Treatment: NA													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁷	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
General Notes: Existing discharge data from 01/31/2019 to 12/31/2023 was obtained from Discharge Monitoring Reports provided by the permittee. All applicable water quality standards were reviewed for development of the WQBELs. The standard and WQBEL shown below represent the most stringent.															
Temperature	°F	Daily Max	90	80	60/0	-	-	Narrative (Non-Trout): The water temperature at the surface of a stream shall not be raised to more than 90F at any point and... shall not be raised or lowered to more than 5°F over the temperature that existed before the addition.				6 NYCRR Part 704.2	-	WQBEL	
	<p>Existing effluent quality is the average of the daily maximum temperature. Daily maximum temperatures ranged from 64°F – 90°F and followed a seasonal cycle.</p> <p>TBELs Not applicable.</p> <p>WQBELs The combined discharge includes non-contact cooling water (NCCW). To achieve standards specified in 6 NYCRR Part 704, an effluent temperature limit of 90°F is typically specified. The thermal criteria of no more than a 5°F net temperature change applies to half the cross-sectional area. It is assumed that half the flow is in half the cross-sectional area. Taking half the A(A) maximum allowable dilution of 50:1 (25:1) under the most extreme discharge conditions of a receiving water temperature of 32°F at the permit limit of 90°F, the resulting stream temperature in half the cross-sectional area is:</p> $C_r = \frac{C_d + C_u(D-1)}{D} = [90^\circ\text{F} + 32^\circ\text{F} (25 - 1)] / 25 = 34.3^\circ\text{F}$ <p>The maximum change of temperature within half the cross-sectional area is:</p> $34.3^\circ\text{F} - 32^\circ\text{F} = 4.3^\circ\text{F}.$ <p>The WQBEL of 90°F has no reasonable potential to exceed the thermal criteria in 6 NYCRR Part 704.</p> <p>Basis for Permit Requirement The WQBEL of 90°F is specified in the draft permit. This requirement is continued from the previous permit.</p>														

⁷ Existing Effluent Quality: Daily Max = 99% lognormal; Monthly Avg = 95% lognormal (for datasets with ≤3 nondetects); Daily Max = 99% delta-lognormal; Monthly Avg = 95% delta-lognormal (for datasets with >3 nondetects)

Outfall 01A

Outfall #	01A	Description of Wastewater: Process Wastewater and Noncontact Cooling Water.													ML	Basis for Permit Requirement
		Type of Treatment: DAFs, Neutralization, SBRs														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement	
			Permit Limit	Existing Effluent Quality ⁸	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL			
General Notes:																
<ul style="list-style-type: none"> Existing discharge data from 01/01/2019 to 12/31/2023 was obtained from Discharge Monitoring Reports submitted by the permittee. Supplemental effluent quality was obtained from SPDES Application Form NY-2C provided by the permittee. Technology based effluent Limitations (TBELs) based on EPA Effluent Limitation Guidelines (ELGs) were developed from 40 CFR Part 430, Subpart L, Tissue, Filter, Non-Woven, and Paperboard From Purchased Pulp Subcategory. Please see the EPA Effluent Limitation Guideline (ELG) Calculations section of this Fact Sheet for details. BPJ TBELs were developed from TOGS 1.2.1 Attachment C, for Category E (biological treatment). All applicable water quality standards were reviewed for development of the WQBELs. The water quality standard shown below represents the most stringent of A(A), A(C), and HEW standards. The basis of the permit condition is typically the more stringent of the TBELs or WQBELs for each pollutant. 																
Flow Rate	MGD	Monthly Avg	Monitor	0.59	60/0	Monitor	6 NYCRR Part 750-1.13	Narrative: No alterations that will impair the waters for their best usages.	6 NYCRR Part 703.2	-	TBEL					
		Daily Max	Monitor	1.15	60/0	Monitor	6 NYCRR Part 750-1.13									
	Existing effluent quality are the averages.															
	<u>TBELs</u> Flow will be monitored in accordance with 6 NYCRR Part 750-1.13 and used to calculate pollutant loadings.															
<u>WQBELs</u> Not applicable.																
<u>Basis of Permit Requirement</u> The TBELs are specified in the draft permit. This requirement continued from the previous permit.																

⁸ Existing Effluent Quality: Daily Max = 99% lognormal; Monthly Avg = 95% lognormal (for datasets with ≤3 nondetects); Daily Max = 99% delta-lognormal; Monthly Avg = 95% delta-lognormal (for datasets with >3 nondetects)

Outfall #	01A	Description of Wastewater: Process Wastewater and Noncontact Cooling Water.													
		Type of Treatment: DAFs, Neutralization, SBRs													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁸	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
pH	SU	Minimum	6.0	6.1	60/0	6.0	TOGS 1.2.1	6.9 ⁹	6.9	6.5 – 8.5	Range	-	6 NYCRR Part 703.3	-	TBEL
		Maximum	9.0	6.8	60/0	9.0			6.9						
Existing effluent quality is the average.															
<u>TBELs</u>															
The ELGs in 40 CFR 430.122 is in the range of 5.0 - 9.0 for PH. Consistent with TOGS 1.2.1, TBELs reflect the available treatment technology listed in Attachment C is 6.0 - 9.0 for pH. Existing TBELs based on TOGS 1.2.1 are being continued.															
<u>WQBELs</u>															
With a maximum allowable A(C) dilution ratio of 100:1 dilution, the projected instream concentration is:															
$C_r = \frac{C_d + C_u(D - 1)}{D}$															
$C_r \text{ (pH Min)} = [6.0 \text{ SU} + 6.9 \text{ SU}(100 - 1)] / 100 = 6.9 \text{ SU}$															
$C_r \text{ (pH Max)} = [9.0 \text{ SU} + 6.9 \text{ SU}(100 - 1)] / 100 = 6.9 \text{ SU}$															
TBELs are protective of water quality standards. WQBELs are unnecessary.															
<u>Basis of Permit Requirement</u>															
The TBELs are specified in the draft permit and are continued from the previous permit.															
<u>Allowable pH Excursions Under Continuous Monitoring</u>															
In accordance with 40 CFR Part 401.7, where pH is continuously measured and recorded, the permittee shall be allowed excursions from the permitted range subject to the following limitations: 1. The total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and 2. No individual excursion from the range of pH values shall exceed 60 minutes. Continuous pH monitoring is specified in the draft permit and includes the allowable pH excursion. The allowable pH excursion is continued from the previous permit.															

⁹ Ambient pH obtained from RIBS Station 08-BEEV-0.8, Beaver River in New Bremen.

Outfall #	Description of Wastewater: Process Wastewater and Noncontact Cooling Water.														
	Type of Treatment: DAFs, Neutralization, SBRs														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁸	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Temperature	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Monitor
	Temperature monitoring is being continued for informational purposes. See Outfall 001 for temperature requirements for the combined discharge.														
Dissolved Oxygen (DO)	mg/L	Daily Min	-	-	-	-	-	7.28	6.51	4.0	Narrative	-	6 NYCRR Part 703.3	-	No Limitation
	<u>TBELs</u> Not Applicable														
	<u>WQBELs</u> The resulting downstream Dissolved Oxygen (DO) concentration was modeled using the NYSDEC River-Based Effluent Limit Screening Analysis Tool (RSAT) based on Streeter-Phelps equations under summer receiving water critical conditions:														
	<p>Receiving Water Characteristics: Flow = 133 CFS (7Q10 reduced by water withdrawn and 30% due to flow regulation, TOGS 1.3.1) Temperature = 25 °C (Non-Trout Waters, TOGS 1.3.1.D) DO Saturation = 90% (7.28 mg/L, TOGS 1.3.1.D) Upstream NOD = 0.0 mg/L (TOGS 1.3.1.D) Upstream UOD = 3.0 mg/L (TOGS 1.3.1.D)</p> <p>Effluent Characteristics (3 Facilities Combined): Flow = 7.69 CFS (Total Combined Discharge) Temperature = 32.2 °C (90 °F, Permit Limit) DO = 2.0 mg/l (NYSDEC Default) BOD₅ = 1363 lbs/d (Total Combined Discharge) UOD = 3703 lbs/d (Based on BOD₅) NOD = 1709 lbs/d (Estimated from TKN)</p>														
SUMMER 6/1 – 10/31	The model included the 4.5-mile segment of the Beaver River from Outfall 001 to the confluence with the Black River and included discharges from Lydall Performance Materials, Omnia Advanced Materials, and the Beaver Falls Wastewater Treatment Plant.														
WINTER 11/1 – 5/31	Modeling results predicted a minimum instream DO concentration of 6.5 mg/L about 3.4 miles downstream of Outfall 001 under critical conditions which maintains water quality standards. Modeling and analysis under winter conditions is not necessary.														
<u>Basis of Permit Condition</u> WQBELs for DO and Ultimate Oxygen Demand (UOD) are unnecessary. BOD ₅ TBELs ensures instream dissolved oxygen levels are maintained.															

Outfall #	Description of Wastewater: Process Wastewater and Noncontact Cooling Water.														
	Type of Treatment: DAFs, Neutralization, SBRs														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁸	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
5-day Biochemical Oxygen Demand (BOD ₅)	lbs/d	Monthly Avg	287	64	6/54	260	USEPA ELG BPT	-	See Dissolved Oxygen		-	6 NYCRR Part 703.3	-	TBEL	
	lbs/d	Daily Max	524	260	17/43	460	USEPA ELG BPT								
Existing effluent quality is 95 th percentile for the monthly average and 99 th percentile for the daily maximum based on the lognormal distribution. Nondetects were set to the detection level.															
<u>TBELs</u> The calculated ELGs based on facility production rates include a monthly average of 260 lbs/d and a daily maximum of 460 lbs/d for BOD ₅ . Please refer to the USEPA Effluent Limitation Guideline Calculation section of this fact sheet for calculation details.															
<u>WQBELs</u> See justification for Dissolved Oxygen.															
<u>Basis of Permit Condition</u> The ELGs are specified in the draft permit and are more stringent than the current permit limits.															
Total Suspended Solids (TSS)	lbs/d	Monthly Avg	248	166	31/29	200	USEPA ELG BPT	-	Narrative: None from sewage, industrial wastes or other wastes that will cause deposition or impair the waters for their best usages.			6 NYCRR Part 703.2	-	TBEL	
	lbs/d	Daily Max	511	792	44/16	410	USEPA ELG BPT								
Existing effluent quality is 95 th percentile for the monthly average and 99 th percentile for the daily maximum based on the lognormal distribution. Nondetects were set to the detection level.															
<u>TBELs</u> The calculated ELGs based on facility production rates include a monthly average of 200 lbs/d and a daily maximum of 410 lbs/d for TSS. Please refer to the USEPA Effluent Limitation Guideline Calculation section of this fact sheet for calculation details.															
<u>WQBELs</u> Given that the maximum allowable dilution is 100:1, WQBELs are not necessary to ensure the narrative water quality standard is maintained.															
<u>Basis of Permit Condition</u> The ELGs are specified in the draft permit and are more stringent than the current permit limits.															

Outfall #	01A	Description of Wastewater: Process Wastewater and Noncontact Cooling Water.													
		Type of Treatment: DAFs, Neutralization, SBRs													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁸	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Settleable Solids	mL/L	Daily Max	Monitor	0.05	60/0	-	-	-	Narrative: None from sewage, industrial wastes or other wastes that will cause deposition or impair the waters for their best usages			6 NYCRR Part 703.2	-	Monitor	
Existing effluent quality is the average.															
<u>TBELs</u> TBELs for settleable solids were not developed or specified by NYSDEC for the Pulp and Paper Mill category based on "A Cooperative Study to Examine Treated Pulp and Paper Industry Effluents for Settleable Solids, April 1986, National Council of the Paper Industry for Air and Stream Improvement". Consistent with NYSDEC permitting practice for this industrial category, monitoring only is specified for informational purposes.															
<u>WQBELs</u> Given that the maximum allowable dilution is 100:1 and the proposed effluent limits for total suspended solids, WQBELs for settleable solids is not necessary to ensure the narrative water quality standard is maintained.															
<u>Basis of Permit Condition</u> Monitor is specified and is continued from the previous permit.															
Total Phenols	lbs/d	Daily Max	2.6/4.0	1.6	7/53	-	-	-	-	-	-	1.5	-	-	WMDL
Existing effluent limits are for summer/winter. Existing effluent quality is the 99 th percentile of the lognormal distribution. Nondetects were set to the detection level.															
<u>TBELs</u> Not applicable.															
<u>WQBELs</u> A WQBEL of 1.5 lbs/day is specified based on the Watershed Maximum Daily Load (WMDL) for total phenols developed for the Black River. Please refer to the WMDL section of this fact sheet for details.															
<u>Basis of Permit Condition</u> The current season summer/winter monthly average effluent limits of 2.4/4.0 lbs/day is being replaced with a daily maximum effluent limit of 1.5 lbs/d in accordance with the Black River WMDL.															

Outfall #	01A	Description of Wastewater: Process Wastewater and Noncontact Cooling Water.													
		Type of Treatment: DAFs, Neutralization, SBRs													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁸	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Total Phosphorus	mg/L	Daily Max	Monitor	0.2	3/57	-	-	-	Narrative: None in amounts that will result in growths of algae, weeds and slimes that will impair the waters for their best usages.			6 NYCRR Part 703.2	-	Monitor	
Existing effluent quality is the average with nondetects set the detection level. Phosphorus monitoring is being continued from the previous permit to support the objectives of the International Joint Commission .															
Total Mercury	ng/L	Daily Max	-	1.3	1/0	-	MDV	-	-	0.7	H(FC)	50	GLCA	-	DOW 1.3.10
Please see the Mercury section of this fact sheet regarding the multiple discharge variance (MDV) and Mercury Minimization Program requirements.															
Total Zinc	lbs/d	Daily Max	24	15	60/0	-	-	-	-	22.8	A(C)	10	6 NYCRR Part 703.5	-	WMDL
Existing effluent quality is the 99 th percentile of the lognormal distribution. Current limit is an action level. Exceeding an action level is not a permit violation but triggers additional monitoring requirements. Average effluent quality is 2.7 lbs/d.															
TBELs Not applicable.															
WQBELs A daily maximum effluent limit of 10 lbs/day is specified based on the Watershed Maximum Daily Load (WMDL) for zinc. Please refer to the WMDL section of this fact sheet for details.															
Basis of Permit Condition The current action level of 24 lbs/day is being replaced with a daily maximum effluent limit of 10.6 lbs/d based on the Beaver River WMDL.															

Outfall #	01A	Description of Wastewater: Process Wastewater and Noncontact Cooling Water.													
		Type of Treatment: DAFs, Neutralization, SBRs													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁸	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Additional Pollutants Detected															
The following additional pollutants were detected in the effluent at levels that do not warrant effluent limitations or additional monitoring requirements.															
Total Cyanide	ug/L	Daily Max	-	2	1/1	-	-	-	0.12	5.2	A(C)	-	6 NYCRR Part 703.5		No Limitation
<p>Cyanide was detected in the effluent as reported in the NY-2C application.</p> <p><u>Reasonable Potential Analysis</u> The projected instream concentration (PIC) was calculated using the reported effluent concentration (C_{eff}) of 2 ug/L and a maximum allowable chronic dilution of 100:1. A Coefficient of Variation (CV) multiplier of 6.2 at the 95th confidence level, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the effluent concentration to account for effluent variability based on the number of samples (1 sample).</p> $PIC = (C_{eff} \times CV) / (D) = (2 \times 6.2) / 100 = 0.12 \text{ ug/L}$ <p>The water quality standard is based on free cyanide, which is a fractional component of total cyanide. A comparison of the projected instream concentration to the water quality standard indicates no reasonable potential to cause or contribute to a water quality violation; therefore, no limitation is specified.</p>															
Acrylonitrile	ug/L	Daily Max	-	0.48	1/1	-	-	-	0.03	-	-	-	-		No Limitation
<p>Acrylonitrile was detected in the effluent as reported in the NY-2C application.</p> <p><u>Reasonable Potential Analysis</u> The projected instream concentration (PIC) was calculated using the reported effluent concentration (C_{eff}) of 0.48 ug/L and a maximum allowable chronic dilution of 100:1. A Coefficient of Variation (CV) multiplier of 6.2 at the 95th confidence level, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the effluent concentration to account for effluent variability based on the number of samples (1 sample).</p> $PIC = (C_{eff} \times CV) / (D) = (0.48 \times 6.2) / 100 = 0.03 \text{ ug/L}$ <p>A numeric water quality standard or guidance value for acrylonitrile does not exist for Class C waterbodies. However, the receiving water discharges to the Black River and there is a downstream portion at Watertown that is Class A, with an applicable HEW guidance value 0.07 ug/L.</p> <p>Given there is significant additional dilution from the Black River (30Q10 = 637 MGD), there is no reasonable potential to cause or contribute to a water quality violation in the downstream segment of the Black River; therefore, no limitation is specified.</p>															

Outfall #	01A	Description of Wastewater: Process Wastewater and Noncontact Cooling Water.													
		Type of Treatment: DAFs, Neutralization, SBRs													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁸	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Sulfate (as SO ₄)	mg/L	Daily Max	-	36	1/1	-	-	-	2.2	-	-	-	-		No Limitation
	<p>Sulfate was detected in the effluent as reported in the NY-2C application.</p> <p><u>Reasonable Potential Analysis</u> The projected instream concentration (PIC) was calculated using the reported effluent concentration (C_{eff}) of 36 mg/L and a maximum allowable chronic dilution of 100:1. A Coefficient of Variation (CV) multiplier of 6.2 at the 95th confidence level, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the effluent concentration to account for effluent variability based on the number of samples (1 sample).</p> $PIC = (C_{eff} \times CV) / (D) = (36 \times 6.2) / 100 = 2.2 \text{ mg/L}$ <p>A numeric water quality standard or guidance value for sulfate does not exist for Class C waterbodies. However, the receiving water discharges to the Black River and there is a downstream portion at Watertown that is Class A, with an applicable HEW water quality standard of 250 mg/L.</p> <p>A comparison of the projected instream concentration to the water quality standard and given that there is significant additional dilution from the Black River (30Q10 = 637 MGD), there is no reasonable potential to cause or contribute to a water quality violation in the downstream portion of the Black River; therefore, no limitation is specified.</p>														
Total Aluminum	ug/L	Daily Max	-	103	1/1	-	-	-	6.4	100	A(C)	-	6 NYCRR Part 703.5		No Limitation
	<p>Aluminum was detected in the effluent as reported in the NY-2C application.</p> <p><u>Reasonable Potential Analysis</u> The projected instream concentration (PIC) was calculated using the reported effluent concentration (C_{eff}) of 103 ug/L and a maximum allowable chronic dilution of 100:1. A Coefficient of Variation (CV) multiplier of 6.2 at the 95th confidence level, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the effluent concentration to account for effluent variability based on the number of samples (1 sample).</p> $PIC = (C_{eff} \times CV) / (D) = (103 \times 6.2) / 100 = 6.4 \text{ ug/L}$ <p>A comparison of the projected instream concentration to the water quality standard indicates no reasonable potential to cause or contribute to a water quality violation; therefore, no limitation is specified. Additionally, the water quality standard is based on the ionic form of aluminum.</p>														

Outfall #	01A	Description of Wastewater: Process Wastewater and Noncontact Cooling Water.													
		Type of Treatment: DAFs, Neutralization, SBRs													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁸	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Total Boron	ug/L	Daily Max	-	11.4	1/1	-	-	-	0.71	10,000	A(C)	-	6 NYCRR Part 703.5		No Limitation
	<p>Boron was detected in the effluent as reported in the NY-2C application.</p> <p><u>Reasonable Potential Analysis</u> The projected instream concentration (PIC) was calculated using the reported effluent concentration (Ceff) of 11.4 ug/L and a maximum allowable chronic dilution of 100:1. A Coefficient of Variation (CV) multiplier of 6.2 at the 95th confidence level, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the effluent concentration to account for effluent variability based on the number of samples (1 sample).</p> $PIC = (C_{eff} \times CV) / (D) = (11.4 \times 6.2) / 100 = 0.71 \text{ ug/L}$ <p>A comparison of the projected instream concentration to the water quality standard indicates no reasonable potential to cause or contribute to a water quality violation; therefore, no limitation is specified.</p>														
Total Iron	ug/L	Daily Max	-	26.6	1/1	-	-	-	-	-	-	-	6 NYCRR Part 703.5		No Limitation
	<p>Iron was detected in the effluent as reported in the NY-2C application.</p> <p><u>Reasonable Potential Analysis</u> The projected instream concentration (PIC) was calculated using the reported effluent concentration (Ceff) of 26.6 ug/L and a maximum allowable chronic dilution of 100:1. A Coefficient of Variation (CV) multiplier of 6.2 at the 95th confidence level, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the effluent concentration to account for effluent variability based on the number of samples (1 sample).</p> $PIC = (C_{eff} \times CV) / (D) = (26.6 \times 6.2) / 100 = 1.6 \text{ ug/L}$ <p>A numeric water quality standard or guidance value for iron does not exist for Class C waterbodies. However, the receiving water discharges to the Black River and there is a downstream portion at Watertown that is Class A, with an applicable HEW water quality standard of 300 ug/L.</p> <p>A comparison of the projected instream concentration to the water quality standard and given that there is significant additional dilution from the Black River (30Q10 = 637 MGD), there is no reasonable potential to cause or contribute to a water quality violation in the downstream portion of the Black River; therefore, no limitation is specified.</p>														

Outfall #	01A	Description of Wastewater: Process Wastewater and Noncontact Cooling Water.													
		Type of Treatment: DAFs, Neutralization, SBRs													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ⁸	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
Total Magnesium	ug/L	Daily Max	-	1150	1/1	-	-	-	71.3	-	-	-	6 NYCRR Part 703.5	No Limitation	
	<p>Magnesium was detected in the effluent as reported in the NY-2C application.</p> <p><u>Reasonable Potential Analysis</u> The projected instream concentration (PIC) was calculated using the reported effluent concentration (Ceff) of 1150 ug/L and maximum allowable chronic dilution of 100:1. A Coefficient of Variation (CV) multiplier of 6.2 at the 95th confidence level, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the effluent concentration to account for effluent variability based on the number of samples (1 sample).</p> $\text{PIC} = (\text{Ceff} \times \text{CV}) / (\text{D}) = (1150 \times 6.2) / 100 = 71.3 \text{ ug/L}$ <p>A numeric water quality standard or guidance value for magnesium does not exist for Class C waterbodies. However, the receiving water discharges to the Black River and there is a downstream portion at Watertown that is Class A, with an applicable HEW water quality standard of 35,000 ug/L.</p> <p>A comparison of the projected instream concentration to the water quality standard and given that there is significant additional dilution from the Black River (30Q10 = 637 MGD), there is no reasonable potential to cause or contribute to a water quality violation in the downstream portion of the Black River; therefore, no limitation is specified.</p>														
Total Manganese	ug/L	Daily Max	-	25.7	1/1	-	-	-	1.6	-	-	-	6 NYCRR Part 703.5	No Limitation	
	<p>Manganese was detected in the effluent as reported in the NY-2C application.</p> <p><u>Reasonable Potential Analysis</u> The projected instream concentration (PIC) was calculated using the reported effluent concentration (Ceff) of 25.7 ug/L and maximum allowable chronic dilution of 100:1. A Coefficient of Variation (CV) multiplier of 6.2 at the 95th confidence level, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the effluent concentration to account for effluent variability based on the number of samples (1 sample).</p> $\text{PIC} = (\text{Ceff} \times \text{CV}) / (\text{D}) = (25.7 \times 6.2) / 100 = 1.6 \text{ ug/L}$ <p>A numeric water quality standard or guidance value for manganese does not exist for Class C waterbodies. However, the receiving water discharges to the Black River and there is a downstream portion at Watertown that is Class A, with an applicable HEW water quality standard of 300 ug/L.</p> <p>A comparison of the projected instream concentration to the water quality standard and given that there is significant additional dilution from the Black River (30Q10 = 637 MGD), there is no reasonable potential to cause or contribute to a downstream water quality violation; therefore, no limitation is specified.</p>														

Permittee: Lydall Performance Materials LLC
 Facility: Lydall Performance Materials LLC
 SPDES Permit Number: NY0257826
 USEPA Non-Major/Class 01 Industrial

Date: July 1, 2024
 Permit Writer: Michael Bocchi
 Full Technical Review

Outfall 01B

Outfall #	01B	Description of Wastewater: Raw River Intake Water used for Effluent Cooling.													
		Type of Treatment: NA													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ¹⁰	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
General Notes: Existing discharge data from 01/01/2019 to 12/31/2023 was obtained from Discharge Monitoring Reports provided by the permittee. All applicable water quality standards were reviewed for development of the WQBELs. The standard and WQBEL shown below represent the most stringent.															
Flow Rate	MGD	Monthly Avg	Monitor	0.05	25/0	Monitor	6 NYCRR Part 750-1.13	Narrative: No alterations that will impair the waters for their best usages.				6 NYCRR Part 703.2	-	Monitor	
		Daily Max	Monitor	0.20	25/0	Monitor									
	Existing effluent quality are the averages.														
	<u>TBELs</u> Consistent with 6 NYCRR 750-1.13(a), flow monitoring is required. <u>WQBELs</u> Not applicable. <u>Basis of Permit Requirement</u> Flow monitoring is being continued.														
Temperature	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
See Outfall 001 for temperature requirements.															

¹⁰ Existing Effluent Quality: Daily Max = 99% lognormal; Monthly Avg = 95% lognormal (for datasets with ≤3 nondetects); Daily Max = 99% delta-lognormal; Monthly Avg = 95% delta-lognormal (for datasets with >3 nondetects)

USEPA EFFLUENT LIMITATION GUIDELINE (ELG) CALCULATIONS

[Appendix Link](#)

For the applicable categorical limitations under 40 CFR Part 430, Subpart L, the following basis was used to determine the TBEL:

Outfall	01A		
40 CFR Part/Subpart	§430 Subpart L		
Subpart Name	Tissue, Filter, Non-Woven, and Paperboard from Purchased Pulp.		
Subpart Subdivision	Non-integrated Mills where Filter and Non-woven Papers are Produced from Purchased Pulp		

ELG Pollutant	Daily Max Multiplier (lbs/1000 lbs)	Monthly Avg. Multiplier (lbs/1000 lbs)	Production Rate (lbs/1000 lbs)	Daily Max TBEL (lbs/d)	Monthly Avg. TBEL (lbs/d)
40 CFR Part 430 Subpart L (430.122) - ELGs for Best Practicable Control Technology Currently Available (BPT) for non-integrated mills where paperboard is produced from purchased pulp.					
BOD ₅ (lbs/1000 lbs)	6.5	3.6	70.92	460	260
TSS (lbs/1000 lbs)	5.8	2.8	70.92	410	200
pH (SU)	5.0 - 9.0		NA	5.0 - 9.0	
Note: For continuous dischargers.					

APPENDIX A: REGULATORY AND TECHNICAL BASIS OF PERMIT AUTHORIZATIONS

The Appendix is meant to supplement the fact sheet for multiple types of SPDES permits. Portions of this Appendix may not be applicable to this specific permit.

Regulatory Authority

In 1975, the United States Environmental Protection Agency (EPA) authorized New York State to implement the National Pollutant Discharge Elimination System (NPDES) program to regulate wastewater discharges to surface waters.

New York State Environmental Conservation Law (ECL) established the State Pollutant Discharge Elimination System (SPDES) program and provides NYSDEC with legal authority to regulate wastewater discharges to surface waters and additional legal authority to regulate discharges to groundwaters. SPDES permits are issued pursuant to Articles 17 and 70 of the ECL and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR).

As noted throughout this fact sheet, SPDES permits are based on both federal and state law, regulation, policy and guidance.

Regulatory References

The provisions of the permit are based largely upon 40 CFR 122 subpart C and 6 NYCRR Part 750 and include monitoring, recording, reporting, and compliance requirements, as well as general conditions applicable to all SPDES permits. Below are the most common citations for the requirements included in SPDES permits:

- Clean Water Act (CWA) 33 section USC 1251 to 1387
- Environmental Conservation Law (ECL) Articles 17 and 70
- Federal Regulations
 - 40 CFR, Chapter I, subchapters D, N, and O
- New York State Environmental Regulations
 - 6 NYCRR Part 621
 - 6 NYCRR Part 750
 - 6 NYCRR Parts 700 - 704 – Best use and other requirements applicable to water classes
 - 6 NYCRR Parts 800 – 941 - Classification of individual surface waters
- NYSDEC water program policy, referred to as Technical and Operational Guidance Series (TOGS)
- USEPA Office of Water Technical Support Document for Water Quality-based Toxics Control, March 1991, Appendix E

The following is a quick guide to the references used within the fact sheet:

SPDES Permit Requirements	Regulatory Reference
Anti-backsliding	6 NYCRR 750-1.10(c)
Best Management Practices (BMPs) for CSOs	6 NYCRR 750-2.8(a)(2)
Environmental Benefits Permit Strategy (EBPS)	6 NYCRR 750-1.18, NYS ECL 17-0817(4), TOGS 1.2.2 (revised January 25,2012)
Exceptions for Type I SSO Outfalls (bypass)	6 NYCRR 750-2.8(b)(2), 40 CFR 122.41
Mercury Multiple Discharge Variance	Division of Water Program Policy 1.3.10 (DOW 1.3.10)
Mixing Zone and Critical Water Information	TOGS 1.3.1 & Amendments
PCB Minimization Program	40 CFR Part 132 Appendix F Procedure 8, 6 NYCRR 750-1.13(a) and 750-1.14(f), and TOGS 1.2.1
Pollutant Minimization Program (PMP)	6 NYCRR 750-1.13(a), 750-1.14(f), TOGS 1.2.1
Schedules of Compliance	6 NYCRR 750-1.14

Sewage Pollution Right to Know (SPR TK)	NYS ECL 17-0826-a, 6 NYCRR 750-2.7
State Administrative Procedure Act (SAPA)	State Administrative Procedure Act Section 401(2), 6 NYCRR 621.11(l)
State Environmental Quality Review (SEQR)	6 NYCRR Part 617
USEPA Effluent Limitation Guidelines (ELGs)	40 CFR Parts 405-471
USEPA National CSO Policy	33 USC Section 1342(q)
USEPA Secondary Treatment Regulation	40 CFR Part 133
Whole Effluent Toxicity (WET) Testing	TOGS 1.3.2
General Provisions of a SPDES Permit Department Request for Additional Information	NYCRR 750-2.1(i)

Outfall and Receiving Water Information

Impaired Waters

The [NYS 303\(d\) List of Impaired/TMDL Waters](#) identifies waters where specific best usages are not fully supported. The state must consider the development of a Total Maximum Daily Load (TMDL) or other strategy to reduce the input of the specific pollutant(s) that restrict waterbody uses, in order to restore and protect such uses. SPDES permits must include effluent limitations necessary to implement a waste load allocation (WLA) of an EPA-approved TMDL (6 NYCRR 750-1.11(a)(5)(ii)), if applicable. In accordance with 6 NYCRR 750-1.13(a), permittees discharging to waters which are on the list but do not yet have a TMDL developed may be required to perform additional monitoring for the parameters causing the impairment. Accurate monitoring data is needed to determine the existing capabilities of the wastewater treatment plants and to assure that wasteload allocations (WLAs) are allocated equitably.

Interstate Water Pollution Control Agencies

Some POTWs may be subject to regulations of interstate basin/compact agencies including: Interstate Sanitation Commission (ISC), International Joint Commission (IJC), Delaware River Basin Commission (DRBC), Ohio River Valley Water Sanitation Commission (ORSANCO), and the Susquehanna River Basin Commission (SRBC). Generally, basin commission requirements focus principally on water quality and not treatment technology. However, interstate/compact agency regulations for the ISC, IJC, DRBC and NYC Watershed contain explicit effluent limits which must be addressed during permit drafting. 6 NYCRR 750-2.1(d) requires SPDES permits for discharges that originate within the jurisdiction of an interstate water pollution control agency, to include any applicable effluent standards or water quality standards (WQS) promulgated by that interstate agency.

Existing Effluent Quality

The existing effluent quality is determined from a statistical evaluation of effluent data in accordance with TOGS 1.2.1 and the USEPA Office of Water, [Technical Support Document for Water Quality-based Toxics Control](#), March 1991, Appendix E (TSD). The existing effluent quality is equal to the 95th (monthly average) and 99th (daily maximum) percentiles of the lognormal distribution of existing effluent data. When there are greater than three non-detects, a delta-lognormal distribution is assumed, and delta-lognormal calculations are used to determine the monthly average and daily maximum pollutant concentrations. Statistical calculations are not performed for parameters where there are less than ten data points. If additional data is needed, a monitoring requirement may be specified either through routine monitoring or a short-term high intensity monitoring program. The [Pollutant Summary Table](#) identifies the number of sample data points available.

Permit Requirements

Basis for Effluent Limitations

Sections 101, 301, 304, 308, 401, 402, and 405 of the CWA and Titles 5, 7, and 8 of Article 17 ECL, as well as their implementing federal and state regulations, and related guidance, provide the basis for the effluent limitations and other conditions in the permit.

When conducting a full technical review of an existing permit, the previous effluent limitations form the basis for the next permit. Existing effluent quality is evaluated against the existing effluent limitations to determine if these should be continued, revised, or deleted. Generally, existing limitations are continued unless there are changed

conditions at the facility, the facility demonstrates an ability to meet more stringent limitations, and/or in response to updated regulatory requirements. Pollutant monitoring data is also reviewed to determine the presence of additional contaminants that should be included in the permit based on a reasonable potential analysis to cause or contribute to a water quality standards violation.

Anti-backsliding

Anti-backsliding requirements are specified in the CWA sections 402(o) and 303(d)(4), ECL 17-0809, and regulations at 40 CFR 122.44(f) and 6 NYCRR 750-1.10(c) and (d). Generally, the relaxation of effluent limitations in permits is prohibited unless one of the specified exceptions applies, which will be cited on a case-by-case basis in this fact sheet. Consistent with current case law¹¹ and USEPA interpretation¹² anti-backsliding requirements do not apply should a revision to the final effluent limitation take effect before the scheduled date of compliance for that final effluent limitation.

Antidegradation Policy

New York State implements the antidegradation portion of the CWA based upon two documents: (1) Organization and Delegation Memorandum #85-40, "Water Quality Antidegradation Policy" (September 9, 1985); and, (2) TOGS 1.3.9, "Implementation of the NYSDEC Antidegradation Policy – Great Lakes Basin (Supplement to Antidegradation Policy dated September 9, 1985) (undated)." The permit for the facility contains effluent limitations which ensure that the existing best usage of the receiving waters will be maintained. To further support the antidegradation policy, SPDES applications have been reviewed in accordance with the State Environmental Quality Review Act (SEQR) as prescribed by 6 NYCRR Part 617.

Effluent Limitations

In developing a permit, the Department determines the technology-based effluent limitations (TBELs) and then evaluates the water quality expected to result from technology controls to determine if any exceedances of water quality criteria in the receiving water might result. If there is a reasonable potential for exceedances of water quality criteria to occur, water quality-based effluent limitations (WQBELs) are developed. A WQBEL is designed to ensure that the water quality standards of receiving waters are met. In general, the CWA requires that the effluent limitations for a particular pollutant are the more stringent of either the TBEL or WQBEL.

Technology-based Effluent Limitations (TBELs) for Industrial Facilities

A TBEL requires a minimum level of treatment for industrial point sources based on currently available treatment technologies and/or Best Management Practices (BMPs). CWA sections 301(b) and 402, ECL sections 17-0509, 17-0809 and 17-0811, and 6 NYCRR 750-1.11 require technology-based controls on effluents. TBELs are set based upon an evaluation of New Source Performance Standards (NSPS), Best Available Technology Economically Achievable (BAT), Best Conventional Pollutant Control Technology (BCT), Best Practicable Technology Currently Available (BPT), and/or Best Professional Judgment (BPJ).

[USEPA Effluent Limitation Guidelines \(ELGs\) Applicable to Facility](#)

In many cases, BPT, BCT, BAT and NSPS limitations are based on effluent guidelines developed by USEPA for specific industries, as promulgated under 40 CFR Parts 405-471. Applicable guidelines, pollutants regulated by these guidelines, and the effluent limitation derivation for facilities subject to these guidelines is in the [USEPA Effluent Limitation Guideline Calculations Table](#).

¹¹ American Iron and Steel Institute v. Environmental Protection Agency, 115 F.3d 979, 993 n.6 (D.C. Cir. 1997)

¹² U.S. EPA, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; 65 Fed. Reg. 31682, 31704 (May 18, 2000); Proposed Water Quality Guidance for the Great Lakes System, 58 Fed. Reg. 20802, 20837 & 20981 (April 16, 1993)

Best Professional Judgement (BPJ)

For substances that are not explicitly limited by regulations, the permit writer is authorized to use BPJ in developing TBELs. Consistent with section 402(a)(1) of the CWA, and NYS ECL section 17-0811, the Department is authorized to issue a permit containing “any further limitations necessary to ensure compliance with water quality standards adopted pursuant to state law”. BPJ limitations may be set on a case-by-case basis using any reasonable method that takes into consideration the criteria set forth in 40 CFR 125.3. Applicable state regulations include 6 NYCRR 750-1.11. The BPJ limitation considers the existing technology present at the facility, the statistically calculated existing effluent quality for that parameter, and any unique or site-specific factors relating to the facility. Technology limitations generally achievable for various treatment technologies are included in TOGS 1.2.1, Attachment C. These limitations may be used for the listed parameters when the technology employed at the facility is listed.

Water Quality-Based Effluent Limitations (WQBELs)

In addition to the TBELs, permits must include additional or more stringent effluent limitations and conditions, including those necessary to protect water quality. CWA sections 101 and 301(b)(1)(C), 40 CFR 122.44(d)(1), and 6 NYCRR Parts 750-1.11 require that permits include limitations for all pollutants or parameters which are or may be discharged at a level which may cause or contribute to an exceedance of any State water quality standard adopted pursuant to NYS ECL 17-0301. Water quality standards can be found under 6 NYCRR Parts 700-704. The limitations must be stringent enough to ensure that water quality standards are met and must be consistent with any applicable WLA which may be in effect through a TMDL for the receiving water. These and other requirements are summarized in TOGS 1.1.1, 1.3.1, 1.3.2, 1.3.5 and 1.3.6. The Department considers a mixing zone analysis, critical flows, and reasonable potential analysis when developing a WQBEL.

Mixing Zone Analyses

In accordance with TOGS 1.3.1., the Department may perform additional analysis of the mixing condition between the effluent and the receiving waterbody. Mixing zone analyses using plume dispersion modeling are conducted in accordance with the following:

- EPA Technical Support Document for Water Quality-Based Toxics Control (March 1991).
- EPA Region VIII’s Mixing Zones and Dilution Policy (December 1994).
- NYSDEC TOGS 1.3.1, Total Maximum Daily Loads and Water Quality-Based Effluent Limitations (July 1996).
- CORMIX v11.0 (2019).

Critical Flows

In accordance with TOGS 1.2.1 and 1.3.1, WQBELs are developed using dilution ratios that relate the critical low flow condition of the receiving waterbody to the critical effluent flow. The critical low flow condition used in the dilution ratio will be different depending on whether the limitations are for aquatic or human health protection. For chronic aquatic protection, the critical low flow condition of the waterbody is typically represented by the 7Q10 flow and is calculated as the lowest average flow over a 7-day consecutive period within 10 years. For acute aquatic protection, the critical low flow condition is typically represented by the 1Q10 and is calculated as the lowest 1-day flow within 10 years. However, NYSDEC considers using 50% of the 7Q10 to be equivalent to the 1Q10 flow. For the protection of human health, the critical low flow condition is typically represented by the 30Q10 flow and is calculated as the lowest average flow over a 30-day consecutive period within 10 years. However, NYSDEC considers using 1.2 x 7Q10 to be equivalent to the 30Q10. The 7Q10 or 30Q10 flow is used with the critical effluent flow to calculate

the dilution ratio. The critical effluent flow can be the maximum daily flow reported on the permit application, the maximum of the monthly average flows from discharge monitoring reports for the past three years, or the facility design flow. When more than one applicable standard exists for aquatic or human health protection for a specific pollutant, a reasonable potential analysis is conducted for each applicable standard and corresponding critical flow to ensure effluent limitations are sufficiently stringent to ensure all applicable water quality standards are met as required by 40 CFR 122.44(d)(1)(i). For brevity, the pollutant summary table reports the results of the most conservative scenario.

Reasonable Potential Analysis (RPA)

The Reasonable Potential Analysis (RPA) is a statistical estimation process, outlined in the 1991 USEPA Technical Support Document for Water Quality-based Toxics Control (TSD), Appendix E. This process uses existing effluent quality data and statistical variation methodology to project the maximum amounts of pollutants that could be discharged by the facility. This projected instream concentration (PIC) is calculated using the appropriate ratio and compared to the water quality standard (WQS). When the RPA process determines the WQS may be exceeded, a WQBEL is required. The procedure for developing WQBELs includes the following steps:

- 1) Identify the pollutants present in the discharge(s) based upon existing data, sampling data collected by the permittee as part of the permit application or a short-term high intensity monitoring program, or data gathered by the Department.
- 2) Identify water quality criteria applicable to these pollutants.
- 3) Determine if WQBELs are necessary (i.e. reasonable potential analysis (RPA)). The RPA will utilize the procedure outlined in Chapter 3.3.2 of EPA's Technical Support Document (TSD). As outlined in the TSD, for parameters with limited effluent data the RPA may include multipliers to account for effluent variability.
- 4) Calculate WQBELs (if necessary). Factors considered in calculating WQBELs include available dilution of effluent in the receiving water, receiving water chemistry, and other pollutant sources.

The Department uses modeling tools to estimate the expected concentrations of the pollutant in the receiving water and develop WQBELs. These tools were developed in part using the methodology referenced above. If the estimated concentration of the pollutant in the receiving water is expected to exceed the ambient water quality standard or guidance value (i.e. numeric interpretation of a narrative water quality standard), then there is a reasonable potential that the discharge may cause or contribute to an exceedance of any State water quality standard adopted pursuant to NYS ECL 17-0301. If a TMDL is in place, the facility's WLA for that pollutant is applied as the WQBEL.

For carbonaceous and nitrogenous oxygen demanding pollutants, the Department uses a model which incorporates the Streeter-Phelps equation. The equation relates the decomposition of inorganic and organic materials along with oxygen reaeration rates to compute the downstream dissolved oxygen concentration for comparison to water quality standards.

A Watershed Maximum Daily Load (WMDL) may be developed by the Department to account for the cumulative effect of multiple discharges of conservative toxic pollutants to ensure water quality standards are met in downstream segments. The WMDL uses a simple dilution model, assuming full mix in the receiving stream, to calculate the maximum allowable pollutant load that can be discharged and still meet water quality standards during critical low flow in downstream segments

such as those with sensitive receptors (e.g. public water supply) or higher water classification. WQBELs are established to ensure that the cumulative mass load from point source discharges does not exceed the maximum allowable load to ensure permit limits are protective of water quality.

Action Levels

Action Levels may be developed for parameters reported present in the discharge at levels that currently do not warrant TBELs or WQBELs. "Action Level" means that the parameter is specified in the permit with monitoring requirements and a numerical threshold. If the threshold is exceeded, the permittee is required to conduct a confirmatory monitoring program for that parameter. An Action Level is not an effluent limitation, and an exceedance of the numerical threshold does not constitute a permit violation unless the confirmatory sampling is not performed in accordance with the requirements of the permit.

Action Levels cannot be substituted for TBELs for pollutants subject to federal BPT, BCT or BAT requirements or calculated WQBELs for pollutants that demonstrate reasonable potential to cause or contribute to an exceedance of a water quality standard. If Action Levels are routinely or excessively exceeded, they will be reconsidered and adjusted or replaced by effluent limitations in accordance with established NYSDEC priorities.

Whole Effluent Toxicity (WET) Testing:

WET tests use small vertebrate and invertebrate species to measure the aggregate toxicity of an effluent. There are two different durations of toxicity tests: acute and chronic. Acute toxicity tests measure survival over a 96-hour test exposure period. Chronic toxicity tests measure reductions in survival, growth, and reproduction over a 7-day exposure. TOGS 1.3.1 includes guidance for determining when aquatic toxicity testing should be included in SPDES permits. The authority to require toxicity testing is in 6NYCRR 702.9. TOGS 1.3.2 describes the procedures which should be followed when determining whether to include toxicity testing in a SPDES permit and how to implement a toxicity testing program. Per TOGS 1.3.2, WET testing may be required when any one of the following seven criteria are applicable:

1. There is the presence of substances in the effluent for which ambient water quality criteria do not exist.
2. There are uncertainties in the development of TMDLs, WLAs, and WQBELs, caused by inadequate ambient and/or discharge data, high natural background concentrations of pollutants, available treatment technology, and other such factors.
3. There is the presence of substances for which WQBELs are below analytical detectability.
4. There is the possibility of complex synergistic or additive effects of chemicals, typically when the number of metals or organic compounds discharged by the permittee equals or exceeds five.
5. There are observed detrimental effects on the receiving water biota.
6. Previous WET testing indicated a problem.
7. Wastewater treatment plants which exceed a discharge of 1 MGD. Facilities of less than 1 MGD may be required to test, e.g., POTWs <1 MGD which are managing industrial pretreatment programs.

Minimum Level of Detection

Pursuant to 40 CFR 122.44(i)(1)(iv) and 6 NYCRR 750-2.5(d), SPDES permits must contain monitoring requirements using sufficiently sensitive test procedures approved under 40 CFR Part 136. A method is

“sufficiently sensitive” when the method’s minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant parameter; or the lowest ML of the analytical methods approved under 40 CFR Part 136. The ML represents the lowest level that can be measured within specified limitations of precision and accuracy during routine laboratory operations on most effluent matrices. When establishing effluent limitations for a specific parameter (based on technology or water quality requirements), it is possible that the calculated limitation will fall below the ML established by the approved analytical method(s). In these instances, the calculated limitation is included in the permit with a compliance level set equal to the ML of the most sensitive method.

Monitoring Requirements

CWA section 308, 40 CFR 122.44(i), 6 NYCRR 750-1.13, and 750-2.5 require that monitoring be included in permits to determine compliance with effluent limitations. Additional effluent monitoring may also be required to gather data to determine if effluent limitations may be required. The permittee is responsible for conducting the monitoring and reporting results on Discharge Monitoring Reports (DMRs). The permit contains the monitoring requirements for the facility. Monitoring frequency is based on the minimum sampling necessary to adequately monitor the facility’s performance and characterize the nature of the discharge of the monitored flow or pollutant. Variable effluent flows and pollutant levels may be required to be monitored at more frequent intervals than relatively constant effluent flow and pollutant levels (6 NYCRR 750-1.13). For industrial facilities, sampling frequency is based on guidance provided in TOGS 1.2.1. For municipal facilities, sampling frequency is based on guidance provided in TOGS 1.3.3.

Other Conditions

Mercury

The multiple discharge variance (MDV) for mercury was developed in accordance with 6 NYCRR 702.17(h) “to address widespread standard or guidance value attainment issues including the presence of a ubiquitous pollutant or naturally high levels of a pollutant in a watershed.” The first MDV was issued in October 2010, and subsequently revised and reissued in 2015; each subsequent iteration of the MDV is designed to build off the previous version, to make reasonable progress towards the water quality standard (WQS) of 0.7 ng/L dissolved mercury. The MDV is necessary because human-caused conditions or sources of mercury prevent attainment of the WQS and cannot be remedied (i.e., mercury is ubiquitous in New York waters at levels above the WQS and compliance with a water quality based effluent limitation (WQBEL) for mercury cannot be achieved with demonstrated effluent treatment technologies). The Department has determined that the MDV is consistent with the protection of public health, safety, and welfare. During the effective period of this MDV, any increased risks to human health are mitigated by fish consumption advisories issued periodically by the NYSDOH.

All surface water SPDES permittees are eligible for authorization by the MDV provided they meet the requirements specified in DOW 1.3.10.

Schedules of Compliance

Schedules of compliance are included in accordance with 40 CFR Part 132 Attachment F, Procedure 9, 40 CFR 122.47 and 6 NYCRR 750-1.14. Schedules of compliance are intended to, in the shortest reasonable time, achieve compliance with applicable effluent standards and limitations, water quality standards, and other applicable requirements. Where the time for compliance is more than nine months, the schedule of compliance must include interim requirements and dates for their achievement. If the time necessary to complete the interim milestones is more than nine months, and not readily divisible into stages for completion, progress reports must be required.

Schedule(s) of Additional Submittals

Schedules of Additional Submittals are used to summarize the deliverables required by the permit not identified in a separate Schedule of Compliance.

Permittee: Lydall Performance Materials LLC
Facility: Lydall Performance Materials LLC
SPDES Permit Number: NY0257826
USEPA Non-Major/Class 01 Industrial

Date: July 1, 2024
Permit Writer: Michael Bocchi
Full Technical Review

Best Management Practices (BMP) for Industrial Facilities

BMP plans are authorized for inclusion in NPDES permits pursuant to Sections 304(e) and 402 (a)(1) of the Clean Water Act, and 6 NYCRR 750-1.14(f). The regulations pertaining to BMPs are promulgated under 40 CFR Part 125, Subpart K. These regulations specifically address surface water discharges.

APPENDIX B: BIOLOGICAL FACT SHEET - COOLING WATER INTAKE STRUCTURE

Prepared by NYSDEC Bureau of Ecosystem Health, Energy Unit

Name of Facility: Lydall- Beaver Falls
Owner/Operator: Lydall Performance Materials, Inc
SPDES #: NY0257826
Location: Beaver Falls, Lewis County
Waterbody: Beaver River

1. Description of Facility

The Lydall Performance Materials- Beaver Falls facility (Beaver Falls) manufactures paper gaskets and specialty paperboard products. The facility is located on the Beaver River, at the Boise Cascade Upper dam, aka the Beaver Falls dam. The facility intake is located on the dam itself, which is owned by Eagle Creek Renewable Energy. Beaver Falls withdraws up to 5 million gallons per day of water used in the paper manufacturing process, for fire suppression, and for cooling the waste discharge. The cooling water intake structure (CWIS) consists of a 7' opening that is screened by a rack with 3/8" bars spaced 2" apart. The velocity through the bar rack at design capacity is 0.99 feet per second (fps), and at average actual flows the velocity is 0.19 fps. After withdrawal, the water is piped ½ mile from the intake to the facility. Over the period from 2018 to 2022, an average of 703,450 gallons of the water withdrawn were added to the wastewater to cool it prior to being discharged into the Beaver River. The permitted discharge temperature is 90°F.

2. Ecological Resource

The Beaver River in the vicinity of the CWIS is a class B waterbody. The best usages of Class B waters are "primary and secondary contact recreation and fishing. These waters shall be suitable for fish, shellfish and wildlife propagation and survival." Although Beaver Falls has not conducted any impingement or entrainment studies at the facility, ASA (2014) and NYSDEC have conducted fisheries surveys in the Beaver River. According to these surveys, fish species that may be found in the vicinity of the CWIS include burbot, central mudminnow, Eastern black-nosed dace, golden shiner, spottail shiner, tessellated darter, common carp, fallfish, Northern hog sucker, white sucker, brown bullhead, chain pickerel, Northern pike, pumpkinseed, rock bass, smallmouth bass, walleye, and yellow perch. There are no reports of state or federally rare, threatened, or endangered aquatic species in the vicinity of the Beaver Falls intake structure.

3. Discussion of Best Technology Available

According to 6 NYCRR Part 704.5 - Intake structures and Section 316(b) of the federal Clean Water Act, the location, design, construction, and capacity of cooling water intake structures must reflect the "best technology available" (BTA) for minimizing adverse environmental impact. The identification of BTA is a technology driven determination, however, the final decision may also consider cost.

For this existing facility's CWIS, the Department expects that impingement mortality and entrainment will be minimized from the implementation of these permit conditions.

4. Determination of Best Technology Available

After evaluating all the available alternatives that will be presented in subsequent submissions from the permittee, the Department will determine the technology or combination of technologies and/or operational measures which meet the requirements of §704.5 and §316(b) CWA.

5. Monitoring Requirements

According to Biological Monitoring Requirement #2, Beaver Falls will be required to conduct an entrainment characterization study to assess any aquatic impacts resulting from operation of the facility CWIS. Biological

Monitoring Requirement #6 states that Beaver Falls must perform a Verification Monitoring Study to confirm the efficacy of BTA measures, once implemented, at minimizing adverse environmental impact.

6. Legal Requirements

The requirements for the cooling water intake structure in this State Pollutant Discharge Elimination System permit are consistent with the policies and requirements embodied in the New York State Environmental Conservation Law, in particular - Sec.1-0101.1.; 1-0101.2.; 1-0101.3.b., c.; 1-0303.19.; 3-0301.1.b., c., i., s. and t.; 11-0107.1; 11-0303.; 11-0535.2; 11-1301.; 11-1321.1.; 17-0105.17.; 17-0303.2., 4.g.; 17-0701.2., the performance goals of Commissioner Policy #52, 6 NYCRR Part 704.5 Section 316(b) CWA, and the rules thereunder, specifically 40 CFR Parts 122 and 125.

7. Summary of Proposed Permit Changes

SPDES Permit Additions

Biological Monitoring Requirement 1	Requires submission of an Intake Maintenance and Monitoring SOP.
Biological Monitoring Requirement 2	Requires submission of an Entrainment Characterization Study Plan and Final Report.
Biological Monitoring Requirement 3	Requires submission of a Design and Construction Technology Review report.
Biological Monitoring Requirement 4	Requires submission of a Proposed Suite of Technologies and Operational Measures.
Biological Monitoring Requirement 5	Requires submission of a Technology Installation and Operation Plan.
Biological Monitoring Requirement 6	Requires submission of a Verification Monitoring Study Plan.
Biological Monitoring Requirement 7	Requires submission of a Verification Monitoring Report.
Biological Monitoring Requirement 8	Requires submission of a Contingency Plan if reductions in adverse impacts are not met.
Biological Monitoring Requirement 9	Requires maintenance of records.
Biological Monitoring Requirement 10	Prohibits modification of the CWIS without prior Departmental approval.

8. References

40 CFR 125 Subpart J

33 U.S.C. 1251 Section 316(b)

6 NYCRR §701.7 Classifications- Surface Waters and Groundwaters

6 NYCRR § 704.5 Intake Structures

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