pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	**NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER**	Application No.	**PA0001759**
Facility Type	**Industrial**		APS ID	**824300**
Major / Minor	**Minor**		Authorization ID	**995499**

Applicant and Facility Information

Applicant Name	**OMNOVA Solutions Inc.**	Facility Name	**Jeannette Plant**
Applicant Address	1001 Chambers Avenue	Facility Address	1001 Chambers Avenue
	Jeannette, PA 15644-3207		Jeannette, PA 15644-3207
Applicant Contact	Chad Chaney	Facility Contact	Dan Hilt
Applicant Phone	724-523-7383	Facility Phone	724-523-5441
Client ID	140271	Site ID	241611
SIC Code	3081	Municipality	Jeannette City
SIC Description	Manufacturing - Unsupported Plastics, Film and Sheet	County	Westmoreland
Date Application Received	September 26, 2013	EPA Waived?	Yes
Date Application Accepted	September 26, 2013	If No, Reason	
Purpose of Application	Renewal NPDES Permit Application		

Summary of Review

The Department received a renewal NPDES permit application from OMNOVA Solutions, Inc, on September 26, 2013 for continued coverage of its Jeanette Plant. OMNOVA Solutions, Inc. (OMNOVA) is a manufacturer of PVC products. The company is classified under SIC Code 3081 for unsupported plastics, film and sheet. The facility calendars, prints and laminates a variety of batch products used as intermediaries in the manufacture of wall covering, shower curtains, ceiling panel facing, wood and veneer substitutes, graphic arts and fabric reinforced composites.

The site has 9 outfalls, Outfall 001, Outfall 003, and Outfalls 006 through 012. All outfalls discharge to Brush Creek, designated in 25 PA Code Chapter 93 as Trout Stocking. Outfall 001 discharges contact and noncontact cooling water, and stormwater. Outfall 003 discharges noncontact cooling water, stormwater, and the potential to discharge water from a fire water tank. The non-contact cooling water that discharges from Outfall 003 is the discharge from the chiller that only occurs 2 to 4 times a year for maintenance as the system is a closed loop system. Outfalls 006 through Outfall 012 discharge stormwater. The wastewater discharge via Outfall 001 is subject to the Plastics Molding and Forming Federal Effluent Limitation Guidelines (ELGs). The limitations from the ELG are monitored at an internal monitoring point, IMP 101, prior to discharge via Outfall 001. The stormwater that discharges via Outfall 001 is also monitored at an internal monitoring point, IMP 301. The stormwater that discharges via Outfall 003 is monitored at an internal monitoring point, IMP 103. The potential discharge from the fire water tank to Outfall 003 will be monitored at an internal monitoring point, IMP 203, and is discussed in more detail below.

The permit application stated that the flow from the chiller that discharges via Outfall 003 is 0.0001 MGD. However, the Department has determined that this flow rate was calculated incorrectly and the actual discharge flow rate from the chiller is 0.042 MGD, the 3,500-gallon chiller is discharged over a 2-hour period. This flow rate is used as part of the site's thermal discharge evaluation.

Approve	Deny	Signatures	Date
X		Adam Olesnanik / Project Manager	10/22/2021
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	10/22/2021

Summary of Review

OMNOVA has conducted multiple fire water tank maintenance projects over the years, requiring the need for a Temporary Discharge Acknowledgement (TDA) from the Department to discharge the water in the tank. Due to these multiple occurrences, the Department has deemed it necessary to include this discharge in the NPDES permit. The Department is proposing to include a new internal monitoring point to monitor the discharge from the fire water tank, IMP 203. The tank is a 240,000-gallon fire water tower. The water in the tank is municipal supplied water and no chemicals are added to the water. Although the water in this tank is municipal water with no chemical additions by OMNOVA, certain measures must be taken both prior to and during discharge to ensure that this water does not present unacceptable risk to the receiving stream. The Draft NPDES will include effluent limitation on the discharge, as well as special conditions listed in Part C of the permit.

The site previously discharged wastewater from a dewatering well via Outfall 001 and monitored at IMP 201 but the drainage system is no longer being used or in service. There are no longer any discharges from IMP 201, so the IMP is being removed from the NPDES permit.

The site was last inspected on July 7, 2020, no violations were noted.

The permittee has no open violations.

It is recommended that a Draft NPDES Permit be published for public comment in response to this application.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001 (IMP 101, 301)	Design Flow (MGD)	0.036
Latitude	40º 19' 26"	Longitude	-79º 37' 00"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Noncontact Cooling Water (NCCW), Cooling Water, Stormwater		
Receiving Waters	Brush Creek (TSF)	Stream Code	37246
NHD Com ID	134839865	RMI	16.25
Drainage Area	14.9	Yield (cfs/mi^2)	0.0156
Q_{7-10} Flow (cfs)	0.233	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	980	Slope (ft/ft)	0.0001
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Agriculture, Grazing in Riparian or Shoreline Zones, Streambank Modifications/Destabilization		
TMDL Status	Final, Final	Name	Brush Creek (Westmoreland), Turtle Creek Watershed
Nearest Downstream Public Water Supply Intake	PA American Water Co - Pittsburgh		
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.6	Distance from Outfall (mi)	29.75

Discharge, Receiving Waters and Water Supply Information

Outfall No.	003 (IMP 103, 203)	Design Flow (MGD)	0.042
Latitude	40º 19' 26"	Longitude	-79º 36' 59"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Noncontact Cooling Water (NCCW), Stormwater, Fire Water Tank Discharge		
Receiving Waters	Brush Creek (TSF)	Stream Code	37246
NHD Com ID	134839865	RMI	16.25
Drainage Area	14.9	Yield (cfs/mi^2)	0.0156
Q_{7-10} Flow (cfs)	0.233	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	980	Slope (ft/ft)	0.0001
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Agriculture, Grazing in Riparian or Shoreline Zones, Streambank Modifications/Destabilization		
TMDL Status	Final, Final	Name	Brush Creek (Westmoreland), Turtle Creek Watershed
Nearest Downstream Public Water Supply Intake	PA American Water Co - Pittsburgh		
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.6	Distance from Outfall (mi)	29.75

Discharge, Receiving Waters and Water Supply Information

Outfall No.	006	Design Flow (MGD)	Varies
Latitude	40º 19' 29"	Longitude	-79º 36' 44"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Stormwater		
Receiving Waters	Brush Creek (TSF)	Stream Code	37246
NHD Com ID	99408074	RMI	16.25
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Grazing in Riparian or Shoreline Zones, Streambank Modifications/Destabilization		
TMDL Status	Final, Final	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

Discharge, Receiving Waters and Water Supply Information

Outfall No.	007	Design Flow (MGD)	Varies
Latitude	40º 19' 26"	Longitude	-79º 36' 58"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Stormwater		
Receiving Waters	Brush Creek (TSF)	Stream Code	37246
NHD Com ID	99408074	RMI	16.25
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Grazing in Riparian or Shoreline Zones, Streambank Modifications/Destabilization		
TMDL Status	Final, Final	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

Discharge, Receiving Waters and Water Supply Information

Outfall No.	008	Design Flow (MGD)	Varies
Latitude	40º 19' 26"	Longitude	-79º 36' 58"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Stormwater		
Receiving Waters	Brush Creek (TSF)	Stream Code	37246
NHD Com ID	99408074	RMI	16.25
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Grazing in Riparian or Shoreline Zones, Streambank Modifications/Destabilization		
TMDL Status	Final, Final	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

Discharge, Receiving Waters and Water Supply Information

Outfall No.	009	Design Flow (MGD)	Varies
Latitude	40º 19' 26"	Longitude	-79º 36' 58"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Stormwater		
Receiving Waters	Brush Creek (TSF)	Stream Code	37246
NHD Com ID	99408074	RMI	16.25
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Grazing in Riparian or Shoreline Zones, Streambank Modifications/Destabilization		
TMDL Status	Final, Final	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

Discharge, Receiving Waters and Water Supply Information

Outfall No.	010	Design Flow (MGD)	Varies
Latitude	40º 19' 26"	Longitude	-79º 36' 57"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Stormwater		
Receiving Waters	Brush Creek (TSF)	Stream Code	37246
NHD Com ID	99408074	RMI	16.25
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Grazing in Riparian or Shoreline Zones, Streambank Modifications/Destabilization		
TMDL Status	Final, Final	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

Discharge, Receiving Waters and Water Supply Information

Outfall No.	011	Design Flow (MGD)	Varies
Latitude	40º 19' 26"	Longitude	-79º 36' 56"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Stormwater		
Receiving Waters	Brush Creek (TSF)	Stream Code	37246
NHD Com ID	99408074	RMI	16.25
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Grazing in Riparian or Shoreline Zones, Streambank Modifications/Destabilization		
TMDL Status	Final, Final	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

Discharge, Receiving Waters and Water Supply Information

Outfall No.	012	Design Flow (MGD)	Varies
Latitude	40º 19' 26"	Longitude	-79º 36' 55"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Stormwater		
Receiving Waters	Brush Creek (TSF)	Stream Code	37246
NHD Com ID	99408074	RMI	16.25
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Grazing in Riparian or Shoreline Zones, Streambank Modifications/Destabilization		
TMDL Status	Final, Final	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

Development of Effluent Limitations

Outfall No.	001	**Design Flow (MGD)**	0.036
Latitude	40º 19' 26"	**Longitude**	-79º 37' 00"

Wastewater Description: Noncontact Cooling Water (NCCW), Contact Cooling Water, Stormwater

The process wastewater related to 40 CFR 463 (Effluent Limitations Guidelines for Plastics Molding and Forming) that discharges via Outfall 001 is monitored at Internal Monitoring Point 101 and the limitations associated with the ELG are imposed at Internal Monitoring Point 101.

Stormwater monitoring is imposed at Internal Monitoring Point 301.

Technology Based Limitations

Regulatory Effluent Standards and Monitoring Requirements

Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1).

As oil-bearing wastewaters, discharges from Outfall 001 are subject to effluent standards for oil and grease from 25 Pa. Code § 95.2(2)

Temperature limits will be imposed per the Department's "*Implementation Guidance for Temperature Criteria*." As a policy, DEP normally imposes a maximum temperature limit of 110°F on discharges that contain residual heat. The limit is intended as a safety measure to protect sampling personnel or anyone who may come into contact with the heated discharge where it enters the receiving water.

Pennsylvania regulations at 25 Pa. Code § 92a.48(b) require the imposition of technology-based TRC limits for facilities that use chlorination and that are not already subject to TRC limits based on applicable federal ELGs or a facility-specific BPJ evaluation.

Effluent standards for pH are also imposed on industrial wastes by 25 Pa. Code § 95.2(1) as indicated in Table 1.

Table 1: Regulatory Effluent Standards and Monitoring Requirements for Outfall 001

Parameter	Monthly Average	Daily Maximum	IMAX	Units
Flow	Monitor and Report		XXX	MGD
Total Residual Chlorine	0.5	1.0	-	mg/L
Oil and Grease	15.0	30.0	XXX	mg/L
Temperature	XXX	XXX	110	°F
pH	Not less than 6.0 nor greater than 9.0			S.U.

Water Quality-Based Limitations

Toxics Management Spread Sheet

The Department of Environmental Protection (DEP) has developed the DEP Toxics Management Spreadsheet ("TMS") to facilitate calculations necessary for completing a reasonable potential (RP) analysis and determining water quality-based effluent limitations for discharges of toxic pollutants. The Toxics Management Spreadsheet is a macro-enabled Excel binary file that combines the functions of the PENTOXSD model and the Toxics Screening Analysis spreadsheet to evaluate the reasonable potential for discharges to cause excursions above water quality standards and to determine WQBELs. The Toxics Management Spread Sheet is a single discharge, mass-balance water quality calculation spread sheet that includes consideration for mixing, first-order decay and other factors to determine recommended WQBELs for toxic substances and several non-toxic substances. Required input data including stream code, river mile index, elevation, drainage area, discharge name, NPDES permit number, discharge flow rate and the discharge concentrations for parameters in the permit application or in DMRs, which are entered into the spread sheet to establish site-specific discharge conditions. Other data such as low flow yield, reach dimensions and partial mix factors may also be entered to further characterize the conditions of the discharge and receiving water. Discharge concentrations for the parameters are chosen to represent the "worst case" quality of the discharge (i.e., maximum reported discharge concentrations). The spread sheet then evaluates each parameter by computing a Waste Load Allocation for each applicable criterion, determining a recommended maximum WQBEL and comparing that recommended WQBEL with the input discharge

concentration to determine which is more stringent. Based on this evaluation, the Toxics Management Spread sheet recommends average monthly and maximum daily WQBELs.

Reasonable Potential Analysis and WQBEL Development for Outfall 001

Discharges from Outfall 001 are evaluated based on concentrations reported on the application and on DMRs; data from those sources are entered into the Toxics Management Spread Sheet. The maximum reported value of the parameters from the application form or from previous DMRs is used as the input concentration in the Toxics Management Spread Sheet. All toxic pollutants whose maximum concentrations, as reported in the permit application or on DMRs, are greater than the most stringent applicable water quality criterion are considered to be pollutants of concern. [This includes pollutants reported as "Not Detectable" or as "<MDL" where the method detection limit for the analytical method used by the applicant is greater than the most stringent water quality criterion]. The Toxics Management Spread Sheet is run with the discharge and receiving stream characteristics shown in Table 2. For IW discharges, the design flow used in modeling is the average flow during production or operation taken from the permit application. Pollutants for which water quality standards have not been promulgated (e.g., TSS, oil and grease) are excluded from the analysis. All the parameters are evaluated using the model to determine the water quality-based effluent limits applicable to the discharge and the receiving stream. The spreadsheet then compares the reported discharge concentrations to the calculated water quality-based effluent limitations to determine if a reasonable potential exists to exceed the calculated WQBELs. Effluent limitations are established in the draft permit where a pollutant's maximum reported discharge concentration equals or exceeds 50% of the WQBEL. For non-conservative pollutants, monitoring requirements are established where the maximum reported concentration is between 25% - 50% of the WQBEL. For conservative pollutants, monitoring requirements are established where the maximum reported concentration is between 10% - 50% of the WQBEL. The information described above including the maximum reported discharge concentrations, the most stringent water quality criteria, the pollutant-of-concern (reasonable potential) determinations, the calculated WQBELs, and the WQBEL/monitoring recommendations are displayed in the Toxics Management Spread Sheet in Attachment B of this Fact Sheet. The water quality-based effluent limitations and monitoring requirements that are recommended by the Toxics Management Spread Sheet are displayed below in Table 3. The discharge concentrations used in the modeling are also included in Table 3. Note Total Cadmium, Hexavalent Chromium, Total Lead, Total Selenium, Total Silver, Total Thallium, and Vinyl Chloride received monitoring requirements because of the reporting limits that were used during the analytical testing. The reporting limits used are less stringent that the Department's minimum quantitation limitations (QLs), therefore, it is uncertain if these parameters are discharging at concentrations above the Department QLs. During the 30-day public comment period, OMNOVA may resample these parameters at the Department's QL to verify that they are not present in the discharge. If it is determined that the parameters are not present in the discharge at the Department's QLs, they may be removed from the Final Permit. Additionally, because the data used in the water quality analysis is nearly eight years old, OMNOVA can resample Total Antimony and Total Copper and Department may re-evaluate the discharge using the new data.

Table 2: TMS Inputs for Outfall 001

Parameter	**Value**
River Mile Index	16.25
Discharge Flow (MGD)	0.036
Basin/Stream Characteristics	
Parameter	**Value**
Area in Square Miles	14.9
Q_{7-10} (cfs)	0.233
Low-flow yield (cfs/mi^2)	0.0156
Elevation (ft)	980
Slope	0.0001

Table 3: Water Quality Base Effluent Limitations at Outfall 001

Parameters	**Average Monthly (µg/L)**	**Daily Maximum (µg/L)**	**Discharge Concentration (µg/L)**	**Quantitation Limitations (µg/L)**
Total Antimony	29.0	45.3	20	2.0
Total Cadmium	1.4	2.16	<3	0.2
Hexavalent Chromium	Report	Report	<10	1.0
Total Copper	Report	Report	11	4.0
Total Lead	Report	Report	<5	1.0
Total Selenium	Report	Report	<8	5.0
Total Silver	9.12	14.2	<6	0.4
Total Thallium	1.24	1.94	<10	2.0
Vinyl Chloride	0.77	1.2	<1	0.5

Thermal WQBELs for Heated Discharges

Thermal WQBELs are evaluated using a DEP program called "Thermal Discharge Limit Calculation Spreadsheet" created with Microsoft Excel for Windows. The program calculates temperature WLAs through the application of a heat transfer equation, which takes two forms in the program depending on the source of the facility's cooling water. In Case 1, intake water to a facility is from the receiving stream. In Case 2, intake water is from a source other than the receiving stream (e.g., municipal water supply). The determination of which case applies to a given discharge is determined by the input data which include the receiving stream flow rate ($Q_{7\text{-}10}$ or the minimum regulated flow for large rivers), the stream intake flow rate, external source intake flow rates, consumptive flow rates and site-specific ambient stream temperatures. Case 1 limits are generally expressed as heat rejection rates while Case 2 limits are usually expressed as temperatures.

Since the temperature criteria from 25 Pa. Code Chapter 93.7(a) are expressed on monthly and semi-monthly bases for three different aquatic life-uses—cold water fishes, warm water fishes and trout stocking—the program generates monthly and semi-monthly limits for each use. DEP selects the output that corresponds to the aquatic life-use of the receiving stream and consequently which limits apply to the discharge. Temperature WLAs are bounded by an upper limit of 110°F for the safety of sampling personnel and anyone who may come into contact with the heated discharge where it enters the receiving water. If no WLAs below 110°F are calculated, an instantaneous maximum limit of 110°F is recommended by the program.

Discharges from Outfall 001 are classified under Case 2 because water is obtained from water supply. Due to the nature of the discharge and the location on the receiving stream, all heated discharges will be evaluated as one discharge to ensure the temperature criteria is met instream from all of the heated discharges and a combined flow of 0.078 MGD was used in the model, 0.036 from Outfall 001 and 0.042 from Outfall 003. The results of the thermal analysis, included in Attachment C, indicate that WQBELs for temperature are required at Outfalls 001 and Outfall 003. The Thermal Temperature limitations are displayed below in Tables 4.

Table 4: Thermal Limitations – Outfall 001

Date Ranges	Instantaneous Temperature Limits (°F)
Jan 1 – 31	77.1
Feb 1 – 29	73.8
Mar 1- 31	110.0
Apr 1 – 30	110.0
May 1 – 30	110.0
Jun 1 – 15	99.0
Jun 16 – 30	89.4
Jul 1 -31	77.3
Aug 1 -15	101.6
Aug 16 - 31	110.0
Sep 1 – 30	110.0
Oct 1 -15	106.8
Oct 16 – 31	96.1
Nov 1 - 15	92.0
Nov 16 – 30	77.8
Dec 1 - 31	69.8

Total Residual Chlorine

To determine if WQBELs are required for discharges containing total residual chlorine (TRC), a discharge evaluation is performed using a DEP program called TRC_CALC created with Microsoft Excel for Windows. TRC_CALC calculates TRC Waste Load Allocations (WLAs) through the application of a mass balance model which considers TRC losses due to stream and discharge chlorine demands and first-order chlorine decay. Input values for the program include flow rates and chlorine demands for the receiving stream and the discharge, the number of samples taken per month, coefficients of TRC variability, partial mix factors, and an optional factor of safety. The mass balance model calculates WLAs for acute and chronic criteria that are then converted to long term averages using calculated multipliers. The multipliers are functions of the number of samples taken per month and the TRC variability coefficients (normally kept at default values unless site specific information is available). The most stringent limitation between the acute and chronic long-term averages is converted to an average monthly limit for comparison to the BAT average monthly limit of 0.5 mg/l from 25 Pa. Code § 92a.48(b)(2). The more stringent of these average monthly TRC limitations is imposed in the permit. The results of the modeling, included in Attachment D, indicate that no WQBELs are required for TRC.

Anti-backsliding

Previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 5. The temperature limitations from the current permit will be replaced with new temperature limitation because the discharge flow from the site has changed since the previous permit was issued. The previous site thermal discharge evaluation was conducted using a discharge flow of 0.1038 MGD, however, now the combined thermal discharge flow from the site is 0.078 MGD.

Table 5. Existing Effluent Limitations at Outfall 001

Parameter	Monthly Average	Daily Maximum	Instantaneous Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Monitor	Monitor	XXX	1/Week	Measure
Temperature (°F)					
Jan 1 – 31			60.5		
Feb 1 – 29			58.7		
Mar 1 – 31			98.3		
April 1 – 15			110.0		
April 16 – 30			110.0		
May 1 – 15			107.5		
May 16 – 31			110.0		
June 1 – 15			86.0		
June 16 – 30	XXX	XXX	81.6	1/Week	i-s
July 1 – 31			75.8		
Aug 1 – 15			92.0		
Aug 16 – 31			110.0		
Sept 1 – 15			102.8		
Sept 16 – 30			96.8		
Oct 1 - 15			91.2		
Oct 16 – 31			82.7		
Nov 1 – 15			76.8		
Nov 16 – 30			65.7		
Dec 1 – 31			57.4		
pH (S.U.)	Not less than 6.0 nor greater than 9.0			1/Week	Grab

Proposed Effluent Limitations for Outfall 001

The proposed effluent limitations and monitoring requirements for Outfall 001 are shown below in Table 6. The limits are the most stringent values from the above limitation analysis. As discussed above, the temperature limitations have been replaced with new limitation based on new information, the discharge flow has changed leading to new temperature limitations. As described above, Outfall 001 received new WQBELs or monitoring requirements for Total Cadmium, Hexavalent Chromium, Total Lead, Total Selenium, Total Silver, Total Thallium, and Vinyl Chloride because of the reporting limit that was used during the analytical testing. The reporting limits used are less stringent that the quantitation limitations that the Department requires, therefore, it is uncertain if the parameters are at concentrations above the Department QLs. During the 30-day public comment period, OMNOVA may resample these parameters at the Department's QL to verify that they are not present in the discharge. If it is determined that the parameters are not present in the discharge at the Department's QLs, these parameters may be removed from the Final Permit. However, if the parameters are not removed from the draft permit OMNOVA may not have the necessary controls in place to ensure compliance with the new WQBELs upon permit issuance; therefore, the permit will include a Schedule of Compliance, in accordance with 25 Pa. Code § 92a.51(a) of DEP's regulations, which grants the permittee three years to come into compliance with the new WQBELs. Because the WQBELs will not be effective upon permit issuance, the permit will be tiered to have interim and final monitoring requirements and effluent limits. For the first three years, a reporting requirement will be imposed. After three years, the WQBELs will take effect. A Part C condition will be included in the Draft NPDES Permit outlining a compliance schedule for these parameters.

Table 6. Proposed Effluent Limitations at Outfall 001

Parameter	Instant. Minimum	Monthly Average	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	XXX	Monitor	Monitor	XXX	1/Week	Measure
Total Residual Chlorine (mg/L)	XXX	0.5	1.0	XXX	1/Week	Grab
Oil and Grease (mg/L)	XXX	15.0	30.0	XXX	1/Week	Grab
Temperature (°F) Jan 1 – 31 Feb 1 – 29 Mar 1 – 31 April 1 – 15 April 16 – 30 May 1 – 15 May 16 – 31 June 1 – 15 June 16 – 30 July 1 – 31 Aug 1 – 15 Aug 16 – 31 Sept 1 – 15 Sept 16 – 30 Oct 1 - 15 Oct 16 – 31 Nov 1 – 15 Nov 16 – 30 Dec 1 – 31	XXX	XXX	XXX	 77.1 73.8 110.0 110.0 110.0 110.0 110.0 99.0 89.4 77.3 101.6 110.0 110.0 110.0 106.8 96.1 92.0 77.8 69.8	1/Week	i-s
*Total Antimony (µg/L)	XXX	29.0	45.3	XXX	1/Week	Grab
*Total Cadmium (µg/L)	XXX	1.4	2.16	XXX	1/Week	Grab
*Hexavalent Chromium (µg/L)	XXX	Report	Report	XXX	1/Week	Grab
*Total Copper (µg/L)	XXX	Report	Report	XXX	1/Week	Grab
*Total Lead (µg/L)	XXX	Report	Report	XXX	1/Week	Grab
*Total Selenium (µg/L)	XXX	Report	Report	XXX	1/Week	Grab
*Total Silver (µg/L)	XXX	9.12	14.2	XXX	1/Week	Grab
*Total Thallium (µg/L)	XXX	1.24	1.94	XXX	1/Week	Grab
*Vinyl Chloride (µg/L)	XXX	0.77	1.2	XXX	1/Week	Grab
pH (S.U.)	6.0	XXX	XXX	9.0	1/Week	Grab

* Samples subject to resampling at the Department's QL.

Development of Effluent Limitations

IMP No. 101 **Design Flow (MGD)** 0.036
Wastewater Description: Noncontact Cooling Water (NCCW)

Technology Based Limitations

Federal Effluent Limitation Guidelines (ELGs)

Iron and Steel Manufacturing:

The site is subject to Federal Effluent Limitation Guidelines (ELGs) under 40 CFR 463.12 (Plastics Molding and Forming, Subpart A – Contact Cooling and Heating Water Subcategory) and must achieve the limits below in Table 7.

Table 7. Existing Effluent Limitations at IMP 101

Parameter	Daily Maximum
BOD_5 (mg/L)	26
Oil and Grease (mg/L)	29
Total Suspended Solids (mg/L)	19
pH (S.U.)	Within the range of 6.0 to 9.0 at all times

Water Quality-Based Limitations

A water quality analysis was not conducted at the internal monitoring point because one was done at the discharge point, Outfall 001.

Anti-backsliding

Previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 8.

Table 8. Existing Effluent Limitations at IMP 101

Parameter	Monthly Average	Daily Maximum	Instantaneous Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Monitor	Monitor	XXX	1/Week	Measure
BOD_5 (mg/L)	XXX	26	XXX	1/Week	Grab
Oil and Grease (mg/L)	XXX	29	XXX	1/Week	Grab
Total Suspended Solids (mg/L)	XXX	19	XXX	1/Week	Grab
pH (S.U.)	Not less than 6.0 nor greater than 9.0			1/Week	Grab

Proposed Effluent Limitations for IMP 101

The proposed effluent limitations and monitoring requirements for IMP 101 are shown below in Table 9. The limits are the most stringent values from the above limitation analysis.

Table 9. Proposed Effluent Limitations at IMP 101

Parameter	Instant. Minimum	Monthly Average	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	XXX	Monitor	Monitor	XXX	1/Week	Measure
Oil and Grease (mg/L)	XXX	XXX	26	XXX	1/Week	Grab
BOD_5 (mg/L)	XXX	XXX	29	XXX	1/Week	Grab
Total Suspended Solids (mg/L)	XXX	XXX	19	XXX	1/Week	Grab
pH (S.U.)	6.0	XXX	XXX	9.0	1/Week	Grab

Development of Effluent Limitations

Outfall No. 003 **Design Flow (MGD)** 0.042
Latitude 40º 19' 26" **Longitude** -79º 36' 59"
Wastewater Description: Noncontact Cooling Water (NCCW), Stormwater, and Fire Water Tank Discharge

Stormwater monitoring is imposed at Internal Monitoring Point 103.

Fire Water Tank discharge monitoring is imposed at Internal Monitoring Point 203.

Technology Based Limitations

Regulatory Effluent Standards and Monitoring Requirements

Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1).

Temperature limits will be imposed per the Department's "*Implementation Guidance for Temperature Criteria*." As a policy, DEP normally imposes a maximum temperature limit of 110°F on discharges that contain residual heat. The limit is intended as a safety measure to protect sampling personnel or anyone who may come into contact with the heated discharge where it enters the receiving water.

Pennsylvania regulations at 25 Pa. Code § 92a.48(b) require the imposition of technology-based TRC limits for facilities that use chlorination and that are not already subject to TRC limits based on applicable federal ELGs or a facility-specific BPJ evaluation.

Effluent standards for pH are also imposed on industrial wastes by 25 Pa. Code § 95.2(1) as indicated in Table 10.

Table10: Regulatory Effluent Standards and Monitoring Requirements for Outfall 003

Parameter	Monthly Average	Daily Maximum	IMAX	Units
Flow	Monitor and Report		XXX	MGD
Total Residual Chlorine	0.5	1.0	-	mg/L
Temperature	XXX	XXX	110	°F
pH	Not less than 6.0 nor greater than 9.0			S.U.

Water Quality-Based Limitations

Toxic Pollutants Water Quality Analysis

The discharges from Outfall 003 are non-contact cooling water and are non-process discharges, therefore a toxic pollutant water quality analysis was not conducted for the discharge from Outfall 003.

Thermal WQBELs for Heated Discharges

Thermal WQBELs are evaluated using a DEP program called "Thermal Discharge Limit Calculation Spreadsheet" created with Microsoft Excel for Windows. The program calculates temperature WLAs through the application of a heat transfer equation, which takes two forms in the program depending on the source of the facility's cooling water. In Case 1, intake water to a facility is from the receiving stream. In Case 2, intake water is from a source other than the receiving stream (e.g., municipal water supply). The determination of which case applies to a given discharge is determined by the input data which include the receiving stream flow rate (Q_{7-10} or the minimum regulated flow for large rivers), the stream intake flow rate, external source intake flow rates, consumptive flow rates and site-specific ambient stream temperatures. Case 1 limits are generally expressed as heat rejection rates while Case 2 limits are usually expressed as temperatures.

Since the temperature criteria from 25 Pa. Code Chapter 93.7(a) are expressed on monthly and semi-monthly bases for three different aquatic life-uses—cold water fishes, warm water fishes and trout stocking—the program generates monthly and semi-monthly limits for each use. DEP selects the output that corresponds to the aquatic life-use of the receiving stream and consequently which limits apply to the discharge. Temperature WLAs are bounded by an upper limit of 110°F for the safety of sampling personnel and anyone who may come into contact with the heated discharge where it enters the receiving water. If no WLAs below 110°F are calculated, an instantaneous maximum limit of 110°F is recommended by the program.

Discharges from Outfall 003 are classified under Case 2 because water is obtained from water supply. Due to the nature of the discharge and the location on the receiving stream, all heated discharges will be evaluated as one discharge to ensure the temperature criteria is met instream from all of the heated discharges and a combined flow of 0.078 MGD (0.036 MGD from Outfall 001 and 0.042 MGD from Outfall 003) was used in the mode The results of the thermal analysis, included in Attachment C, indicate that WQBELs for temperature are required at Outfalls 001 and Outfall 003. The Thermal Temperature limitations are displayed below in Tables 11.

Table 11: Thermal Limitations – Outfall 003

Date Ranges	Instantaneous Temperature Limits (°F)
Jan 1 – 31	77.1
Feb 1 – 29	73.8
Mar 1- 31	110.0
Apr 1 – 30	110.0
May 1 – 30	110.0
Jun 1 – 15	99.0
Jun 16 – 30	89.4
Jul 1 -30	77.3
Aug 1 -15	101.6
Aug 16 - 31	110.0
Sep 1 – 30	110.0
Oct 1 -15	106.8
Oct 16 – 31	96.1
Nov 1 - 15	92.0
Nov 16 – 30	77.8
Dec 1 - 31	69.8

Total Residual Chlorine

To determine if WQBELs are required for discharges containing total residual chlorine (TRC), a discharge evaluation is performed using a DEP program called TRC_CALC created with Microsoft Excel for Windows. TRC_CALC calculates TRC Waste Load Allocations (WLAs) through the application of a mass balance model which considers TRC losses due to stream and discharge chlorine demands and first-order chlorine decay. Input values for the program include flow rates and chlorine demands for the receiving stream and the discharge, the number of samples taken per month, coefficients of TRC variability, partial mix factors, and an optional factor of safety. The mass balance model calculates WLAs for acute and chronic criteria that are then converted to long term averages using calculated multipliers. The multipliers are functions of the number of samples taken per month and the TRC variability coefficients (normally kept at default values unless site specific information is available). The most stringent limitation between the acute and chronic long-term averages is converted to an average monthly limit for comparison to the BAT average monthly limit of 0.5 mg/l from 25 Pa. Code § 92a.48(b)(2). The more stringent of these average monthly TRC limitations is imposed in the permit. The results of the modeling, included in Attachment E, indicate that no WQBELs are required for TRC.

Anti-backsliding

Previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 12. As discussed with Outfall 001, the temperature limitations from the current permit will be replaced with new temperature limitation because the discharge flow from the site has changed since the previous permit was issued. The previous site thermal discharge evaluation was conducted using a discharge flow of 0.1038 MGD, however, now the combined thermal discharge flow from the site is 0.078 MGD.

Table 12. Existing Effluent Limitations at Outfall 003

Parameter	Monthly Average	Daily Maximum	Instantaneous Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Monitor	Monitor	XXX	1/Week	Measure
Oil and Grease	Monitor	Monitor	XXX	2/Month	Grab
BOD_5	Monitor	Monitor	26	2/Month	Grab
Temperature (°F)					
Jan 1 – 31			60.5		
Feb 1 – 29			58.7		
Mar 1 – 31			98.3		
April 1 – 15			110.0		
April 16 – 30			110.0		
May 1 – 15			107.5		
May 16 – 31			110.0		
June 1 – 15			86.0		
June 16 – 30	XXX	XXX	81.6	1/Week	i-s
July 1 – 31			75.8		
Aug 1 – 15			92.0		
Aug 16 – 31			110.0		
Sept 1 – 15			102.8		
Sept 16 – 30			96.8		
Oct 1 - 15			91.2		
Oct 16 – 31			82.7		
Nov 1 – 15			76.8		
Nov 16 – 30			65.7		
Dec 1 – 31			57.4		
pH (S.U.)	Not less than 6.0 nor greater than 9.0			2/Month	Grab

Proposed Effluent Limitations for Outfall 003

The proposed effluent limitations and monitoring requirements for Outfall 003 are shown below in Table 13. The limits are the most stringent values from the above limitation analysis. The temperature limitations have been replaced with new limitation based on new information, the discharge flow has changed leading to new temperature limitations. The measure frequency has been changed to once per discharge because the discharge is only expected to occur two to four times a year.

Table 13. Proposed Effluent Limitations at Outfall 003

Parameter	Instant. Minimum	Monthly Average	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	XXX	Monitor	Monitor	XXX	1/Discharge	Measure
Oil and Grease (mg/L)	XXX	Monitor	Monitor	XXX	1/Discharge	Grab
BOD_5 (mg/L)	XXX	Monitor	Monitor	26	1/Discharge	Grab
Total Residual Chlorine (mg/L)	XXX	0.5	1.0	XXX	1/Discharge	Grab
Temperature (°F) Jan 1 – 31 Feb 1 – 29 Mar 1 – 31 April 1 – 15 April 16 – 30 May 1 – 15 May 16 – 31 June 1 – 15 June 16 – 30 July 1 – 31 Aug 1 – 15 Aug 16 – 31 Sept 1 – 15 Sept 16 – 30 Oct 1 - 15 Oct 16 – 31 Nov 1 – 15 Nov 16 – 30 Dec 1 – 31	XXX	XXX	XXX	 77.1 73.8 110.0 110.0 110.0 110.0 110.0 99.0 89.4 77.3 101.6 110.0 110.0 110.0 106.8 96.1 92.0 77.8 69.8	1/Discharge	i-s
pH (S.U.)	6.0	XXX	XXX	9.0	1/Discharge	Grab

Development of Effluent Limitations

IMP No. 203 **Design Flow (MGD)**
Wastewater Description: Fire Water Tank Discharge

Proposed Effluent Limitations for IMP 203

The proposed effluent limitations and monitoring requirements for IMP 203 are shown below in Table 14. These limitations are Best Professional Judgement (BPJ) limitations based on the discharge limitations and monitoring requirements of the PAG-10 General Permit for discharges form hydrostatic Testing of Tanks and Pipelines. Along with the limitation and monitoring requirements, Part C conditions relating to the discharges from the fire water tank are also included in the draft permit.

Table 14: Proposed Effluent Limitations for IMP 203

Parameter	Instant. Minimum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (GPM)	XXX	Report	1/Discharge	Measured
Duration (Hours)	XXX	Report	Continuous	Recorded
Total Suspended Solids (mg/L)	XXX	60.0	2/Discharge	Grab
Dissolved Iron (mg/L)	XXX	7.0	2/Discharge	Grab
Dissolved Oxygen (mg/L)	5.0	XXX	2/Discharge	Grab
Total Residual Chlorine (mg/L)	XXX	0.05	2/Discharge	Grab
pH (S.U.)	6.0	9.0	2/Discharge	Grab

Development of Effluent Limitations

Outfall No. 006 – 012, IMP 301, IMP 103 **Design Flow (MGD)** 0
Latitude Varies **Longitude** Varies
Wastewater Description: Stormwater

Technology-Based Effluent limitations:

Outfalls 006, 007, 08, 009, 010, 011 and 012 and Internal Monitoring Points 301 and 103 will be subject to PAG-03 General Stormwater Permit conditions as a minimum requirement because each outfall discharges stormwater. Based on the site's SIC code, the corresponding appendix that would apply to the facility is Appendix S of the PAG-03. The proposed monitoring requirements are shown in Table 15 below. The benchmark values list below are not effluent limitation, and exceedances so not constitutes permit violations. However, if the permittee's sampling demonstrates exceedances of benchmark values for two consecutive monitoring periods, the permit shall submit a corrective action plan. This requirement will be included in Part C of the permit.

Table 15: PAG-03 Appendix (S) Monitoring Requirements

Parameters	Monitoring Requirements		Benchmark Values
	Minimum Measurement Frequency	Sample Type	
pH (S.U))	1 / 6 Months	Grab	XXX
Total Suspended Solids (TSS) (mg/L)	1 / 6 Months	Grab	100
Total Zinc (mg/L)	1 / 6 Months	Grab	XXX

Water Quality-Based Effluent limitations:

Water quality analyses are typically performed under low-flow (Q7-10) conditions. Stormwater discharges occur at variable rates and frequencies but not however during Q7-10 conditions. Since the discharges from these outfalls and IMPs are composed of stormwater, a formal water quality analysis cannot be accurately conducted. Accordingly, water quality-based effluent limitations based on water quality analyses are not proposed.

Anti-Backsliding

Previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 16. These limitations are currently imposed on IMP 301, IMP 103, and Outfall 006

Table 16. Current Limitations at IMP 301, IMP 103, and Outfall 006

Parameter	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Total Suspended Solids	XXX	Monitor	1/Year	Grab

Proposed Final Effluent Limitations

The proposed effluent monitoring requirements for Outfalls 006, 007, 08, 009, 010, 011 and 012 and Internal Monitoring Points 301 and 103 are displayed in Table 18 below, they are the most stringent values from the above effluent limitation development. Part C of thehe Draft Permit requires a Corrective Action Plan whenever there are two consecutive exceedances of the stormwater benchmark values. The benchmark values are displayed below in Table 17. These values are not effluent limitations, an exceedance of the benchmark value is not a violation. As described above, if there are two consecutive exceedances of a benchmark value, a Corrective Action Plan must be developed and submitted to the Department to evaluate site stormwater controls and implement BMP improvements. Benchmark monitoring is a feedback tool, along with routine and visual inspections, for assessing the effectiveness of stormwater controls and BMPs. An exceedance of the benchmark value provides permittees with an indication that the facility's controls may not be sufficiently controlling pollutants in stormwater

Table 17: Proposed Effluent Monitoring Requirements for Stormwater Outfalls and IMPs

Parameter	Max Daily Concentration	Benchmark Values (mg/L)	Measurement Frequency	Sample Type
pH (S.U))	Report	XXX	1/6 Months	Grab
Total Suspended Solids (TSS) (mg/L)	Report	100.0	1/6 Months	Grab
Total Zinc (mg/L)	Report	XXX	1/6 Months	Grab

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment **B**)
☒	TRC Model Spreadsheet (see Attachment **D & E**)
☒	Temperature Model Spreadsheet (see Attachment **C**)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other:

Attachments

Attachment A: USGS Streams Stats Report

Attachment B: Outfall 001 Toxics Management Spreadsheet Evaluation

Attachment C: Site Temperature Model Spreadsheet Evaluation

Attachment D: Outfall 001 TRC Spreadsheet Evaluation

Attachment E: Outfall 003 TRC Spreadsheet Evaluation

Attachment A:

USGS Streams Stats Report

StreamStats Report

Region ID: PA
Workspace ID: PA20210908152320488000
Clicked Point (Latitude, Longitude): 40.32405, -79.61661
Time: 2021-09-08 11:23:39 -0400

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	14.9	square miles
ELEV	Mean Basin Elevation	1226	feet

Low-Flow Statistics Parameters [100.0 Percent (14.9 square miles) Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	14.9	square miles	2.26	1400

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
ELEV	Mean Basin Elevation	1226	feet	1050	2580

Low-Flow Statistics Flow Report [100.0 Percent (14.9 square miles) Low Flow Region 4]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.621	ft^3/s	43	43
30 Day 2 Year Low Flow	1.06	ft^3/s	38	38
7 Day 10 Year Low Flow	0.233	ft^3/s	66	66
30 Day 10 Year Low Flow	0.407	ft^3/s	54	54
90 Day 10 Year Low Flow	0.734	ft^3/s	41	41

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Attachment B:

Outfall 001 Toxics Management Spreadsheet Evaluation

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Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Omnova Jeanette Plant** NPDES Permit No.: **PA0001759** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **CCW, NCCW**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.036	100	7						

					0 if left blank		*0.5 if left blank*		*0 if left blank*			*1 if left blank*	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		468									
	Chloride (PWS)	mg/L											
	Bromide	mg/L		0.5									
	Sulfate (PWS)	mg/L		43.7									
	Fluoride (PWS)	mg/L		0.31									
Group 2	Total Aluminum	µg/L	<	50									
	Total Antimony	µg/L		20									
	Total Arsenic	µg/L	<	5									
	Total Barium	µg/L		190									
	Total Beryllium	µg/L	<	1									
	Total Boron	µg/L		170									
	Total Cadmium	µg/L	<	3									
	Total Chromium (III)	µg/L	<	5									
	Hexavalent Chromium	µg/L	<	10									
	Total Cobalt	µg/L	<	5									
	Total Copper	µg/L		11									
	Free Cyanide	µg/L	<	5									
	Total Cyanide	µg/L	<	5									
	Dissolved Iron	µg/L		110									
	Total Iron	µg/L		500									
	Total Lead	µg/L	<	5									
	Total Manganese	µg/L		120									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L	<	10									
	Total Phenols (Phenolics) (PWS)	µg/L	<	50									
	Total Selenium	µg/L	<	8									
	Total Silver	µg/L	<	6									
	Total Thallium	µg/L	<	10									
	Total Zinc	µg/L		7									
	Total Molybdenum	µg/L	<	20									
	Acrolein	µg/L	<	2									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	2									
	Benzene	µg/L	<	1									
	Bromoform	µg/L	<	1									

Group 3	Carbon Tetrachloride	µg/L	<	1										
	Chlorobenzene	µg/L		1										
	Chlorodibromomethane	µg/L	<	1										
	Chloroethane	µg/L	<	1										
	2-Chloroethyl Vinyl Ether	µg/L	<	2										
	Chloroform	µg/L		1										
	Dichlorobromomethane	µg/L	<	1										
	1,1-Dichloroethane	µg/L	<	1										
	1,2-Dichloroethane	µg/L	<	1										
	1,1-Dichloroethylene	µg/L	<	1										
	1,2-Dichloropropane	µg/L	<	1										
	1,3-Dichloropropylene	µg/L	<	1										
	1,4-Dioxane	µg/L	<											
	Ethylbenzene	µg/L	<	1										
	Methyl Bromide	µg/L	<	1										
	Methyl Chloride	µg/L	<	1										
	Methylene Chloride	µg/L	<	1										
	1,1,2,2-Tetrachloroethane	µg/L	<	1										
	Tetrachloroethylene	µg/L	<	1										
	Toluene	µg/L	<	1										
	1,2-trans-Dichloroethylene	µg/L	<	1										
	1,1,1-Trichloroethane	µg/L	<	1										
	1,1,2-Trichloroethane	µg/L	<	1										
	Trichloroethylene	µg/L	<	1										
	Vinyl Chloride	µg/L	<	1										
Group 4	2-Chlorophenol	µg/L	<											
	2,4-Dichlorophenol	µg/L	<											
	2,4-Dimethylphenol	µg/L	<											
	4,6-Dinitro-o-Cresol	µg/L	<											
	2,4-Dinitrophenol	µg/L	<											
	2-Nitrophenol	µg/L	<											
	4-Nitrophenol	µg/L	<											
	p-Chloro-m-Cresol	µg/L	<											
	Pentachlorophenol	µg/L	<											
	Phenol	µg/L	<											
	2,4,6-Trichlorophenol	µg/L	<											
Group 5	Acenaphthene	µg/L	<											
	Acenaphthylene	µg/L	<											
	Anthracene	µg/L	<											
	Benzidine	µg/L	<											
	Benzo(a)Anthracene	µg/L	<											
	Benzo(a)Pyrene	µg/L	<											
	3,4-Benzofluoranthene	µg/L	<											
	Benzo(ghi)Perylene	µg/L	<											
	Benzo(k)Fluoranthene	µg/L	<											
	Bis(2-Chloroethoxy)Methane	µg/L	<											
	Bis(2-Chloroethyl)Ether	µg/L	<											
	Bis(2-Chloroisopropyl)Ether	µg/L	<											
	Bis(2-Ethylhexyl)Phthalate	µg/L	<											
	4-Bromophenyl Phenyl Ether	µg/L	<											
	Butyl Benzyl Phthalate	µg/L	<											
	2-Chloronaphthalene	µg/L	<											
	4-Chlorophenyl Phenyl Ether	µg/L	<											
	Chrysene	µg/L	<											
	Dibenzo(a,h)Anthrancene	µg/L	<											
	1,2-Dichlorobenzene	µg/L	<											
	1,3-Dichlorobenzene	µg/L	<											
	1,4-Dichlorobenzene	µg/L	<											
	3,3-Dichlorobenzidine	µg/L	<											
	Diethyl Phthalate	µg/L	<											
	Dimethyl Phthalate	µg/L	<											
	Di-n-Butyl Phthalate	µg/L	<											
	2,4-Dinitrotoluene	µg/L	<											

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Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Omnova Jeannette Plant, NPDES Permit No. PA0001759, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Brush Creek**

No. Reaches to Model: **1**

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	037246	16.25	980	14.9			Yes
End of Reach 1	037246	15.25	975	15			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	16.25	0.1	0.233			15	0.33					100	7		
End of Reach 1	15.25	0.1	0.234			15	0.33								

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Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	16.25														
End of Reach 1	15.25														

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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Model Results

Omnova Jeanette Plant, NPDES Permit No. PA0001759, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.660 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	2,821	
Total Antimony	0	0		0	1,100	1,100	4,137	
Total Arsenic	0	0		0	340	340	1,279	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	78,986	
Total Boron	0	0		0	8,100	8,100	30,466	
Total Cadmium	0	0		0	2.014	2.13	8.02	Chem Translator of 0.944 applied
Total Chromium (III)	0	0		0	569.763	1,803	6,782	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	61.3	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	357	
Total Copper	0	0		0	13.439	14.0	52.7	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	82.7	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	64.581	81.6	307	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	6.19	Chem Translator of 0.85 applied
Total Nickel	0	0		0	468.236	469	1,765	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	3.217	3.78	14.2	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	244	
Total Zinc	0	0		0	117.180	120	451	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	11.3	

Acrylonitrile	0	0	0	650	650	2,445	
Benzene	0	0	0	640	640	2,407	
Bromoform	0	0	0	1,800	1,800	6,770	
Carbon Tetrachloride	0	0	0	2,800	2,800	10,531	
Chlorobenzene	0	0	0	1,200	1,200	4,513	
Chlorodibromomethane	0	0	0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0	0	18,000	18,000	67,702	
Chloroform	0	0	0	1,900	1,900	7,146	
Dichlorobromomethane	0	0	0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0	0	15,000	15,000	56,418	
1,1-Dichloroethylene	0	0	0	7,500	7,500	28,209	
1,2-Dichloropropane	0	0	0	11,000	11,000	41,373	
1,3-Dichloropropylene	0	0	0	310	310	1,166	
Ethylbenzene	0	0	0	2,900	2,900	10,908	
Methyl Bromide	0	0	0	550	550	2,069	
Methyl Chloride	0	0	0	28,000	28,000	105,314	
Methylene Chloride	0	0	0	12,000	12,000	45,135	
1,1,2,2-Tetrachloroethane	0	0	0	1,000	1,000	3,761	
Tetrachloroethylene	0	0	0	700	700	2,633	
Toluene	0	0	0	1,700	1,700	6,394	
1,2-trans-Dichloroethylene	0	0	0	6,800	6,800	25,576	
1,1,1-Trichloroethane	0	0	0	3,000	3,000	11,284	
1,1,2-Trichloroethane	0	0	0	3,400	3,400	12,788	
Trichloroethylene	0	0	0	2,300	2,300	8,651	
Vinyl Chloride	0	0	0	N/A	N/A	N/A	

☑ *CFC* CCT (min): 34.436 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	1,140	
Total Arsenic	0	0		0	150	150	778	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	21,253	
Total Boron	0	0		0	1,600	1,600	8,294	
Total Cadmium	0	0		0	0.246	0.27	1.4	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	74.115	86.2	447	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	53.9	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	98.5	
Total Copper	0	0		0	8.956	9.33	48.4	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	27.0	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	7,776	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.517	3.18	16.5	Chem Translator of 0.791 applied

Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	4.7	Chem Translator of 0.85 applied
Total Nickel	0	0		0	52.007	52.2	270	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	25.9	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	67.4	
Total Zinc	0	0		0	118.139	120	621	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	15.6	
Acrylonitrile	0	0		0	130	130	674	
Benzene	0	0		0	130	130	674	
Bromoform	0	0		0	370	370	1,918	
Carbon Tetrachloride	0	0		0	560	560	2,903	
Chlorobenzene	0	0		0	240	240	1,244	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	18,143	
Chloroform	0	0		0	390	390	2,022	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	16,070	
1,1-Dichloroethylene	0	0		0	1,500	1,500	7,776	
1,2-Dichloropropane	0	0		0	2,200	2,200	11,404	
1,3-Dichloropropylene	0	0		0	61	61.0	316	
Ethylbenzene	0	0		0	580	580	3,007	
Methyl Bromide	0	0		0	110	110	570	
Methyl Chloride	0	0		0	5,500	5,500	28,510	
Methylene Chloride	0	0		0	2,400	2,400	12,441	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	1,089	
Tetrachloroethylene	0	0		0	140	140	726	
Toluene	0	0		0	330	330	1,711	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	7,257	
1,1,1-Trichloroethane	0	0		0	610	610	3,162	
1,1,2-Trichloroethane	0	0		0	680	680	3,525	
Trichloroethylene	0	0		0	450	450	2,333	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	

☑ ***THH*** CCT (min): 34.436 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	29.0	
Total Arsenic	0	0		0	10	10.0	51.8	

Total Barium	0	0		0	2,400	2,400	12,441	
Total Boron	0	0		0	3,100	3,100	16,070	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	4	4.0	20.7	
Dissolved Iron	0	0		0	300	300	1,555	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	5,184	
Total Mercury	0	0		0	0.050	0.05	0.26	
Total Nickel	0	0		0	610	610	3,162	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	1.24	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	15.6	
Acrylonitrile	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	N/A	N/A	N/A	
Bromoform	0	0		0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	518	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A	
1,1-Dichloroethylene	0	0		0	33	33.0	171	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
1,3-Dichloropropylene	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	352	
Methyl Bromide	0	0		0	100	100.0	518	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	N/A	N/A	N/A	
1,1,2,2-Tetrachloroethane	0	0		0	N/A	N/A	N/A	
Tetrachloroethylene	0	0		0	N/A	N/A	N/A	
Toluene	0	0		0	57	57.0	295	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	518	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	51,837	
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A	
Trichloroethylene	0	0		0	N/A	N/A	N/A	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	

☑ *CRL* CCT (min): 13.385 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	0.06	0.06	2.3	
Benzene	0	0		0	0.58	0.58	22.2	
Bromoform	0	0		0	7	7.0	268	
Carbon Tetrachloride	0	0		0	0.4	0.4	15.3	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	30.7	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	219	
Dichlorobromomethane	0	0		0	0.95	0.95	36.4	
1,2-Dichloroethane	0	0		0	9.9	9.9	380	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	34.5	
1,3-Dichloropropylene	0	0		0	0.27	0.27	10.4	
Ethylbenzene	0	0		0	N/A	N/A	N/A	

Methyl Bromide	0	0	0	N/A	N/A	N/A	
Methyl Chloride	0	0	0	N/A	N/A	N/A	
Methylene Chloride	0	0	0	20	20.0	767	
1,1,2,2-Tetrachloroethane	0	0	0	0.2	0.2	7.67	
Tetrachloroethylene	0	0	0	10	10.0	383	
Toluene	0	0	0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0	0	N/A	N/A	N/A	
1,1,1-Trichloroethane	0	0	0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0	0	0.55	0.55	21.1	
Trichloroethylene	0	0	0	0.6	0.6	23.0	
Vinyl Chloride	0	0	0	0.02	0.02	0.77	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Antimony	0.009	0.014	29.0	45.3	72.6	µg/L	29.0	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Cadmium	0.0004	0.0007	1.4	2.19	3.51	µg/L	1.4	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Hexavalent Chromium	Report	Report	Report	Report	Report	µg/L	39.3	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	Report	Report	Report	Report	Report	µg/L	33.7	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Lead	Report	Report	Report	Report	Report	µg/L	16.5	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Selenium	Report	Report	Report	Report	Report	µg/L	25.9	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Silver	0.003	0.004	9.12	14.2	22.8	µg/L	9.12	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Thallium	0.0004	0.0006	1.24	1.94	3.11	µg/L	1.24	THH	Discharge Conc ≥ 50% WQBEL (RP)
Vinyl Chloride	0.0002	0.0004	0.77	1.2	1.92	µg/L	0.77	CRL	Discharge Conc ≥ 50% WQBEL (RP)

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	1,808	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	51.8	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	12,441	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	8,294	µg/L	Discharge Conc ≤ 10% WQBEL

Total Chromium (III)	447	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	98.5	µg/L	Discharge Conc ≤ 10% WQBEL
Free Cyanide	20.7	µg/L	Discharge Conc ≤ 25% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	1,555	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	7,776	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	5,184	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.26	µg/L	Discharge Conc < TQL
Total Nickel	270	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Zinc	289	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	7.23	µg/L	Discharge Conc < TQL
Acrylonitrile	2.3	µg/L	Discharge Conc < TQL
Benzene	22.2	µg/L	Discharge Conc ≤ 25% WQBEL
Bromoform	268	µg/L	Discharge Conc ≤ 25% WQBEL
Carbon Tetrachloride	15.3	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorobenzene	518	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorodibromomethane	30.7	µg/L	Discharge Conc ≤ 25% WQBEL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	18,143	µg/L	Discharge Conc < TQL
Chloroform	219	µg/L	Discharge Conc ≤ 25% WQBEL
Dichlorobromomethane	36.4	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	380	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethylene	171	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-Dichloropropane	34.5	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichloropropylene	10.4	µg/L	Discharge Conc ≤ 25% WQBEL
Ethylbenzene	352	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Bromide	518	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Chloride	28,510	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	767	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2,2-Tetrachloroethane	7.67	µg/L	Discharge Conc ≤ 25% WQBEL
Tetrachloroethylene	383	µg/L	Discharge Conc ≤ 25% WQBEL
Toluene	295	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-trans-Dichloroethylene	518	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,1-Trichloroethane	3,162	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2-Trichloroethane	21.1	µg/L	Discharge Conc ≤ 25% WQBEL
Trichloroethylene	23.0	µg/L	Discharge Conc ≤ 25% WQBEL

Attachment C:

Site Temperature Model Spreadsheet Evaluation

Facility:	**OMNOVA Jeannette Plant**							
Permit Number:	PA0001759							**PMF**
Stream Name:	Brush Creek							1.00
Analyst/Engineer:	Adam Olesnanik							
Stream Q7-10 (cfs):	0.233							
	Facility Flows					**Stream Flows**		
	Intake (Stream) (MGD)	Intake (External) (MGD)	Consumptive Loss (MGD)	Discharge Flow (MGD)		Upstream Stream Flow (cfs)	Adjusted Stream Flow (cfs)	Downstream Stream Flow (cfs)
Jan 1-31	0	0.078	0	0.078		0.75	0.75	0.87
Feb 1-29	0	0.078	0	0.078		0.82	0.82	0.94
Mar 1-31	0	0.078	0	0.078		1.63	1.63	1.75
Apr 1-15	0	0.078	0	0.078		2.17	2.17	2.29
Apr 16-30	0	0.078	0	0.078		2.17	2.17	2.29
May 1-15	0	0.078	0	0.078		1.19	1.19	1.31
May 16-30	0	0.078	0	0.078		1.19	1.19	1.31
Jun 1-15	0	0.078	0	0.078		0.70	0.70	0.82
Jun 16-30	0	0.078	0	0.078		0.70	0.70	0.82
Jul 1-31	0	0.078	0	0.078		0.40	0.40	0.52
Aug 1-15	0	0.078	0	0.078		0.33	0.33	0.45
Aug 16-31	0	0.078	0	0.078		0.33	0.33	0.45
Sep 1-15	0	0.078	0	0.078		0.26	0.26	0.38
Sep 16-30	0	0.078	0	0.078		0.26	0.26	0.38
Oct 1-15	0	0.078	0	0.078		0.28	0.28	0.40
Oct 16-31	0	0.078	0	0.078		0.28	0.28	0.40
Nov 1-15	0	0.078	0	0.078		0.37	0.37	0.49
Nov 16-30	0	0.078	0	0.078		0.37	0.37	0.49
Dec 1-31	0	0.078	0	0.078		0.56	0.56	0.68

Please forward all comments to Tom Starosta at 717-787-4317, tstarosta@state.pa.us.

Version 2.0 -- 07/01/2005 Reference: Implementation Guidance for Temperature Criteria, DEP-ID: 391-2000-017

NOTE: The user can only edit fields that are blue.

NOTE: MGD x 1.547 = cfs.

Facility:	**OMNOVA Jeannette Plant**						
Permit Number:	PA0001759						
Stream:	Brush Creek						
	WWF Criteria	**CWF Criteria**	**TSF Criteria**	**316 Criteria**		**Q7-10 Multipliers**	**Q7-10 Multipliers**
	(ºF)	(ºF)	(ºF)	(ºF)		(Used in Analysis)	(Default - Info Only)
Jan 1-31	40	38	40	0		3.2	3.2
Feb 1-29	40	38	40	0		3.5	3.5
Mar 1-31	46	42	46	0		7	7
Apr 1-15	52	48	52	0		9.3	9.3
Apr 16-30	58	52	58	0		9.3	9.3
May 1-15	64	54	64	0		5.1	5.1
May 16-30	72	58	68	0		5.1	5.1
Jun 1-15	80	60	70	0		3	3
Jun 16-30	84	64	72	0		3	3
Jul 1-31	87	66	74	0		1.7	1.7
Aug 1-15	87	66	80	0		1.4	1.4
Aug 16-31	87	66	87	0		1.4	1.4
Sep 1-15	84	64	84	0		1.1	1.1
Sep 16-30	78	60	78	0		1.1	1.1
Oct 1-15	72	54	72	0		1.2	1.2
Oct 16-31	66	50	66	0		1.2	1.2
Nov 1-15	58	46	58	0		1.6	1.6
Nov 16-30	50	42	50	0		1.6	1.6
Dec 1-31	42	40	42	0		2.4	2.4
NOTES:							
WWF= Warm water fishes							
CWF= Cold water fishes							
TSF= Trout stocking							

Facility:	**OMNOVA Jeannette Plant**						
Permit Number:	PA0001759						**PMF**
Stream:	Brush Creek						1.00
	TSF			**TSF**		**TSF**	
	Ambient Stream	Ambient Stream	Target Maximum	Daily		Daily	
	Temperature (ºF)	Temperature (ºF)	Stream Temp.[1]	WLA[2]		WLA[3]	at Discharge
	(Default)	(Site-specific data)	(ºF)	(Million BTUs/day)		(ºF)	Flow (MGD)
Jan 1-31	34	0	40	N/A -- Case 2		77.1	0.078
Feb 1-29	35	0	40	N/A -- Case 2		73.8	0.078
Mar 1-31	39	0	46	N/A -- Case 2		110.0	0.078
Apr 1-15	46	0	52	N/A -- Case 2		110.0	0.078
Apr 16-30	52	0	58	N/A -- Case 2		110.0	0.078
May 1-15	56	0	64	N/A -- Case 2		110.0	0.078
May 16-30	60	0	68	N/A -- Case 2		110.0	0.078
Jun 1-15	65	0	70	N/A -- Case 2		99.0	0.078
Jun 16-30	69	0	72	N/A -- Case 2		89.4	0.078
Jul 1-31	73	0	74	N/A -- Case 2		77.3	0.078
Aug 1-15	72	0	80	N/A -- Case 2		101.6	0.078
Aug 16-31	70	0	87	N/A -- Case 2		110.0	0.078
Sep 1-15	68	0	84	N/A -- Case 2		110.0	0.078
Sep 16-30	62	0	78	N/A -- Case 2		110.0	0.078
Oct 1-15	57	0	72	N/A -- Case 2		106.8	0.078
Oct 16-31	53	0	66	N/A -- Case 2		96.1	0.078
Nov 1-15	47	0	58	N/A -- Case 2		92.0	0.078
Nov 16-30	41	0	50	N/A -- Case 2		77.8	0.078
Dec 1-31	36	0	42	N/A -- Case 2		69.8	0.078

[1] This is the maximum of the TSF WQ criterion or the ambient temperature. The ambient temperature may be either the design (median) temperature for TSF, or the ambient stream temperature based on site-specific data entered by the user. A minimum of 1ºF above ambient stream temperature is allocated.

[2] The WLA expressed in Million BTUs/day is valid for Case 1 scenarios, and disabled for Case 2 scenarios.

[3] The WLA expressed in ºF is valid only if the limit is tied to a daily discharge flow limit (may be used for Case 1 or Case 2). WLAs greater than 110ºF are displayed as 110ºF.

Attachment D:

Outfall 001 TRC Spreadsheet Evaluation

TRC EVALUATION

0.233	= Q stream (cfs)	0.5	= CV Daily
0.036	= Q discharge (MGD)	0.5	= CV Hourly
4	= no. samples	0.995	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
	= %Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	1.3.2.iii	WLA afc =	1.347	1.3.2.iii	WLA cfc =	1.312
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	0.502	5.1d	LTA_cfc =	0.763

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.720	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) =	1.170	

WLA afc	**(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...** **...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	**(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...** **...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	**1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)**

Attachment E:

Outfall 003 TRC Spreadsheet Evaluation

TRC EVALUATION

0.233	**= Q stream (cfs)**	**0.5**	**= CV Daily**
0.042	**= Q discharge (MGD)**	**0.5**	**= CV Hourly**
4	**= no. samples**	**0.995**	**= AFC_Partial Mix Factor**
0.3	**= Chlorine Demand of Stream**	**1**	**= CFC_Partial Mix Factor**
0	**= Chlorine Demand of Discharge**	**15**	**= AFC_Criteria Compliance Time (min)**
0.5	**= BAT/BPJ Value**	**720**	**= CFC_Criteria Compliance Time (min)**
	= %Factor of Safety (FOS)		**=Decay Coefficient (K)**

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	**1.3.2.iii**	WLA afc =	1.157	**1.3.2.iii**	WLA cfc =	1.126
PENTOXSD TRG	**5.1a**	LTAMULT afc =	0.373	**5.1c**	LTAMULT cfc =	0.581
PENTOXSD TRG	**5.1b**	LTA_afc=	0.431	**5.1d**	LTA_cfc =	0.655

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.720	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) =	1.170	

WLA afc	**(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...**
	...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	**(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...**
	...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	**1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)**