Pennsylvania Department of Environmental Protection

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0000906**
Facility Type	**Industrial**	APS ID	**1138386**
Major / Minor	**Minor**	Authorization ID	**1528981**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**Westinghouse Electric Company, LLC**	Facility Name	**Waltz Mill Service Center**
Applicant Address	PO Box 158 Waltz Mill Site	Facility Address	680 Waltz Mill Road
	Madison, PA 15663-0158		Madison, PA 15663-0410
Applicant Contact	William Hardy	Facility Contact	Same as Applicant
Applicant Phone	(724) 722-5913	Facility Phone	Same as Applicant
Applicant email	hardywc@westinghouse.com	Facility email	Same as Applicant
Client ID	133865	Site ID	462028
SIC Code	8731	Municipality	Sewickley Township
SIC Description	Services - Commercial Physical Research	County	Westmoreland
Date Application Received	June 2, 2025	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Renewal NPDES Permit Coverage

Summary of Review

On June 2, 2025, on behalf of Westinghouse Electric Company, Woodard & Curran submitted an application to renew the NPDES Permit PA0000906. The Facility has a SIC Code of 8731 (Commercial physical research). Westinghouse conducts research and development activities involving power systems. The Outage and Maintenance Service Business Unit performs maintenance and repair work at nuclear power plants. In addition, the Waltz Mill facility refurbishes and decontaminates service equipment used in maintenance.

Between 2002 (when the renewal application was submitted) and 2020 (when the permit was last renewed), the outfall inventory was modified, as detailed below:

The October 15, 2008, amendment added stormwater outfalls 039 and 040.

The January 5, 2015, amendment eliminated several outfalls (010, 014, 015, 017, 023, 027, 031, and 033) that are no longer in use.

The May 2, 2018, amendment, eliminated Outfalls 029, 030, 032, 034, 035, 036, and 037 due to the sale of a portion of the Waltz Mill property west of Waltz Mill Road.

The permit, last renewed in 2020 (effective September 1, 2020, to August 31, 2025), is currently administratively extended pending review of the ongoing application and decision-making. On April 25, 2023, the permit was amended to eliminate IMP 601, reroute the discharge of IMP 301, and change the discharge location for groundwater from IMP 601 and Outfall 001 to Outfall 002.

Approve	Deny	Signatures	Date
X		Angela Rohrer / Environmental Engineering Specialist	October 29, 2025
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	November 20, 2025

Summary of Review

The site is divided into two operational areas identified as the Main Site and the East Site.

Research activities including a reactor simulator, micro reactor development, ancillary support activities, salt storage, and light assembly are conducted on both the Main Site and the East Site.

The East Site is the primary location for training.

Hazardous wastes generated at the facility vary according to site activities. Typical waste streams include: petroleum naphtha, corrosive compound cleaning liquids, various chemical lab-packs which can include flammable, corrosive, reactive, and toxic materials, spent and unused solvents, and petroleum products. None of the specific hazardous materials mentioned in this paragraph are discharged to the environment. They are collected when they become waste and sent to an approved disposition vendor.

Summary of Review

The 300-gallon oil tanks are stored in Buildings S-4 and T. The oil tanks have double-wall construction. Any leakage from the primary container would be detected through monitoring of the interstitial space during routine use.

Two ASTs systems store fuel oil and gasoline used for site utilities. These 1,000-gallon dual chamber (750 and 250 gallons) tanks are located southeast of the P Building. Each of the rectangular steel tanks is enclosed in secondary containment, designed to contain 110 percent of the inner shell capacity, and is encased in 6 inches of reinforced concrete. The tanks are located on a 6-inch-thick concrete platform, which provides a 4-foot buffer zone and keeps the tanks inaccessible to vehicle traffic. Before refueling, a storm drain cover is placed over the inlet located adjacent to the storage tanks. Absorbent materials and other spill response equipment are located in the P Building; within close proximity to the storage tanks.

The facility has two hydraulic elevators. These elevators use oil and are located in C and F Buildings. The possibility of a leak or spill is minimal due to the fact that the oil storage is located in locked rooms.

The facility was last inspected by James Stewart, on February 14, 2023, with no violations noted.

The facility has no open violations.

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 (IMPs 101, 301)	Design Flow (MGD)	0.005950
Latitude	40º 12' 51.44"	Longitude	-79º 39' 30.08"
Quad Name	Smithton	Quad Code	1708
Wastewater Description:	Treated groundwater, treated equipment decontamination wastewater and uncontaminated groundwater infiltration		
Receiving Waters	Unnamed Tributary to Sewickley Creek	Stream Code	37648
NHD Com ID	69913439	RMI	1.18
Drainage Area	5.37	Yield (cfs/mi^2)	0.0117
Q_{7-10} Flow (cfs)	0.063	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	938	Slope (ft/ft)	0.005
Watershed No.	19-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Road Runoff		
TMDL Status	Final	Name	Sewickley Creek Watershed
Nearest Downstream Public Water Supply Intake	Westmoreland County Municipal Authority - McKeesport		
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	510
PWS RMI	1.38	Distance from Outfall (mi)	31.41

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0.0146
Latitude	40º 13' 05.60"	Longitude	-79º 39' 48.30"
Quad Name	Smithton	Quad Code	1708
Wastewater Description:	Boiler Blowdown, cooling tower blowdown, compressor condensate, groundwater and stormwater		
Receiving Waters	Unnamed Tributary to Sewickley Creek	Stream Code	37641
NHD Com ID	69913367	RMI	1.02
Drainage Area	0.37	Yield (cfs/mi^2)	0.0062
Q_{7-10} Flow (cfs)	0.0023	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	955	Slope (ft/ft)	0.0001
Watershed No.	19-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final	Name	Sewickley Creek Watershed
Nearest Downstream Public Water Supply Intake	Westmoreland County Municipal Authority - McKeesport		
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	510
PWS RMI	1.38	Distance from Outfall (mi)	30.278

Other Comments: Although the facility reported an average flow of 0.0036 MGD during production, a review of the Discharge Monitoring Reports (DMRs) revealed that the average flow over the last two years was actually 0.0146 MGD. This higher value was used in the calculations.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	003	Design Flow (MGD)	0.0042
Latitude	40º 12' 59.5116"	Longitude	-79º 39' 53.9712"
Quad Name	Smithton	Quad Code	1708
Wastewater Description:	Tool Test Tank Wastewater, Small Test Tank wastewater, stormwater and groundwater		
Receiving Waters	Unnamed Tributary to Sewickley Creek	Stream Code	37641
NHD Com ID	69913367	RMI	0.86
Drainage Area	0.37	Yield (cfs/mi^2)	0.0062
Q_{7-10} Flow (cfs)	0.0023	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	947	Slope (ft/ft)	0.007
Watershed No.	19-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final	Name	Sewickley Creek Watershed
Nearest Downstream Public Water Supply Intake	Westmoreland County Municipal Authority - McKeesport		
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	510
PWS RMI	1.38	Distance from Outfall (mi)	30.278

Other Comments: Although the facility reported an average flow of 0.0002 MGD during production, a review of the Discharge Monitoring Reports (DMRs) revealed that the average flow over the last two years was actually 0.0042 MGD. This higher value was used in the calculations.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	005	Design Flow (MGD)	0
Latitude	40º 13' 02.924"	Longitude	-79º 39' 04.118"
Quad Name	Smithton	Quad Code	1708
Wastewater Description:	Stormwater and Groundwater		
Receiving Waters	Unnamed Tributary of Sewickley Creek (WWF)	Stream Code	37649
NHD Com ID	69913287	RMI	0.11
Drainage Area	0.4	Yield (cfs/mi^2)	0.014
Q_{7-10} Flow (cfs)	0.0056	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	971	Slope (ft/ft)	
Watershed No.	19-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final	Name	Sewickley Creek Watershed
Nearest Downstream Public Water Supply Intake	Westmoreland County Municipal Authority - McKeesport		
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	510
PWS RMI	1.38	Distance from Outfall (mi)	31.96

Discharge, Receiving Waters and Water Supply Information

Outfall No.	006	Design Flow (MGD)	0.004
Latitude	40º 12' 59.54"	Longitude	-79º 39' 53.82"
Quad Name	Smithton	Quad Code	1708
Wastewater Description:	Noncontact Cooling Water (NCCW), compressor condensate, cooling tower blowdown, and Stormwater		
Receiving Waters	Unnamed Tributary to Sewickley Creek (WWF)	Stream Code	37641
NHD Com ID	69913367	RMI	0.86
Drainage Area	0.37	Yield (cfs/mi^2)	0.006
Q_{7-10} Flow (cfs)	0.0023	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	948	Slope (ft/ft)	
Watershed No.	19-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final	Name	Sewickley Creek Watershed
Nearest Downstream Public Water Supply Intake	Westmoreland County Municipal Authority - McKeesport		
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	510
PWS RMI	1.38	Distance from Outfall (mi)	30.148

Other Comments: Although the facility reported an average flow of 0.0002 MGD during production, a review of the Discharge Monitoring Reports (DMRs) revealed that the average flow over the last two years was actually 0.0043 MGD.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	007	Design Flow (MGD)	0
Latitude	40º 12' 59.63"	Longitude	-79º 39' 53.46"
Quad Name	Smithton	Quad Code	1708
Wastewater Description:	Stormwater		
Receiving Waters	Unnamed Tributary to Sewickley Creek (WWF)	Stream Code	37641
NHD Com ID	69913367	RMI	0.88
Drainage Area	0.37	Yield (cfs/mi^2)	0.0062
Q_{7-10} Flow (cfs)	0.0023	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	995	Slope (ft/ft)	
Watershed No.	19-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final	Name	Sewickley Creek Watershed
Nearest Downstream Public Water Supply Intake	Westmoreland County Municipal Authority - McKeesport		
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	510
PWS RMI	1.38	Distance from Outfall (mi)	30.278

Discharge, Receiving Waters and Water Supply Information

Outfall No.	008	Design Flow (MGD)	0.0024
Latitude	40º 13' 01.28"	Longitude	-79º 39' 52.04"
Quad Name	Smithton	Quad Code	1708
Wastewater Description:	Condensate, non-contact cooling water, cooling tower blow down, stormwater runoff and uncontaminated ground water infiltration.		
Receiving Waters	Unnamed Tributary to Sewickley Creek (WWF)	Stream Code	37641
NHD Com ID	69913367	RMI	0.93
Drainage Area	0.37	Yield (cfs/mi^2)	0.0062
Q_{7-10} Flow (cfs)	0.0023	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	995	Slope (ft/ft)	
Watershed No.	19-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final	Name	Sewickley Creek Watershed
Nearest Downstream Public Water Supply Intake	Westmoreland County Municipal Authority - McKeesport		
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	510
PWS RMI	1.38	Distance from Outfall (mi)	30.32

Other Comments: Although the facility reported an average flow of 0.0000025 MGD during production, a review of the Discharge Monitoring Reports (DMRs) revealed that the average flow over the last two years was actually 0.0024 MGD.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	009	Design Flow (MGD)	0.0012
Latitude	40º 13' 01.84"	Longitude	-79º 39' 51.90"
Quad Name	Smithton	Quad Code	1708
Wastewater Description:	Noncontact Cooling Water, Compressor condensate, groundwater and Stormwater		
Receiving Waters	Unnamed Tributary to Sewickley Creek (WWF)	Stream Code	37641
NHD Com ID	69913367	RMI	0.93
Drainage Area	0.37	Yield (cfs/mi^2)	0.0062
Q_{7-10} Flow (cfs)	0.0023	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	995	Slope (ft/ft)	0.0001
Watershed No.	19-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final	Name	Sewickley Creek Watershed
Nearest Downstream Public Water Supply Intake	Westmoreland County Municipal Authority - McKeesport		
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	510
PWS RMI	1.38	Distance from Outfall (mi)	31.94

Other Comments: Although the facility reported an average flow of 0.0000025 MGD during production, a review of the Discharge Monitoring Reports (DMRs) revealed that the average flow over the last two years was actually 0.0012 MGD.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	011	Design Flow (MGD)	0
Latitude	40º 12' 50.98"	Longitude	-79º 39' 32.61"
Quad Name		Quad Code	
Wastewater Description:	Compressor condensate, stormwater runoff and uncontaminated groundwater infiltration.		
Receiving Waters	Unnamed Tributary to Sewickley Creek (WWF)	Stream Code	37648
NHD Com ID	69913439	RMI	0.66
Drainage Area	5.05	Yield (cfs/mi^2)	0.0115
Q_{7-10} Flow (cfs)	0.0581	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	938	Slope (ft/ft)	0.0001
Watershed No.	19-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Highway/Road/Bridge Runoff (non-construction related)		
TMDL Status	Final	Name	Sewickley Creek Watershed
Nearest Downstream Public Water Supply Intake	Westmoreland County Municipal Authority - McKeesport		
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	510
PWS RMI	1.38	Distance from Outfall (mi)	31.41

Discharge, Receiving Waters and Water Supply Information

Outfall No.	012	Design Flow (MGD)	0
Latitude	40º 13' 05.20"	Longitude	-79º 39' 09.85"
Quad Name	Smithton	Quad Code	1708
Wastewater Description:	Stormwater runoff and uncontaminated groundwater infiltration		
Receiving Waters	Unnamed Tributary of Sewickley Creek (WWF)	Stream Code	37649
NHD Com ID	69913287	RMI	0.02
Drainage Area	0.4	Yield (cfs/mi^2)	0.014
Q_{7-10} Flow (cfs)	0.0056	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	971	Slope (ft/ft)	
Watershed No.	19-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final	Name	Sewickley Creek Watershed
Nearest Downstream Public Water Supply Intake	Westmoreland County Municipal Authority - McKeesport		
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	510
PWS RMI	1.38	Distance from Outfall (mi)	31.87

Discharge, Receiving Waters and Water Supply Information

Outfall No.	016, 019, 020, 024, 025, 026, 028, 039, 040	Design Flow (MGD)	0
Latitude	See Table 1	Longitude	See Table 1
Quad Name	Smithton	Quad Code	1708
Wastewater Description:	Stormwater		
Receiving Waters	Unnamed Tributary to Sewickley Creek (WWF)	Stream Code	37648
NHD Com ID	69913265	RMI	See Table 1
Drainage Area	4.78	Yield (cfs/mi^2)	0.011
Q_{7-10} Flow (cfs)	0.0547	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	955	Slope (ft/ft)	0.009
Watershed No.	19-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Highway/Road/Bridge Runoff (non-construction related)		
TMDL Status	Final	Name	Sewickley Creek Watershed
Nearest Downstream Public Water Supply Intake	Westmoreland County Municipal Authority - McKeesport		
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	510
PWS RMI	1.38	Distance from Outfall (mi)	31.9

Table 1: Outfall Locations

Outfall ID	Latitude	Longitude	RMI
016	40° 13' 08.99"	-79° 39' 07.85"	1.19
019	40º 13' 09.18"	-79º 39' 07.82"	1.20
020	40º 13' 09.37"	-79º 39' 07.77"	1.20
024	40º 13' 12.64"	-79º 39' 04.48"	1.28
025	40º 13' 12.98"	-79º 39' 04.32"	1.3
026	40º 13' 13.11"	-79º 39' 04.53"	1.3
028	40º 13' 14.44"	-79º 39' 02.39"	1.36
039	40º 13' 08.59"	-79º 39' 08.10"	1.19
040	40º 13' 13.36"	-79º 39' 05.22"	1.29

Discharge, Receiving Waters and Water Supply Information

Outfall No.	018, 021, 022	Design Flow (MGD)	0
Latitude	See Table 2	Longitude	See Table 2
Quad Name	Smithton	Quad Code	1708
Wastewater Description:	Stormwater and Groundwater		
Receiving Waters	Unnamed Tributary to Sewickley Creek (WWF)	Stream Code	37648
NHD Com ID	69913265	RMI	See Table 2
Drainage Area	4.78	Yield (cfs/mi^2)	0.011
Q_{7-10} Flow (cfs)	0.0547	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	955	Slope (ft/ft)	0.009
Watershed No.	19-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Highway/Road/Bridge runoff (non-construction related)		
TMDL Status	Final	Name	Sewickley Creek Watershed
Nearest Downstream Public Water Supply Intake	Westmoreland County Municipal Authority - McKeesport		
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	510
PWS RMI	1.38	Distance from Outfall (mi)	31.9

Table 2: Outfall Locations

Outfall ID	Latitude	Longitude	Stream Code	RMI
018	40º 13' 09.06"	-79º 39' 07.85"	37648	1.19
021	40º 13' 11.96"	-79º 39' 05.52"	37648	1.26
022	40º 13' 15.34"	-79º 39' 05.17"	37648	1.36

Discharge, Receiving Waters and Water Supply Information

Outfall No.	038	Design Flow (MGD)	0
Latitude	40º 12' 51.89"	Longitude	-79º 39' 29.89"
Quad Name	Smithton	Quad Code	1708
Wastewater Description:	Stormwater		
Receiving Waters	Unnamed Tributary to Sewickley Creek (WWF)	Stream Code	37648
NHD Com ID	69913439	RMI	0.68
Drainage Area	5.05	Yield (cfs/mi^2)	0.0115
Q_{7-10} Flow (cfs)	0.0581	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	938	Slope (ft/ft)	0.009
Watershed No.	19-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Road Runoff		
TMDL Status	Final	Name	Sewickley Creek Watershed
Nearest Downstream Public Water Supply Intake	Westmoreland County Municipal Authority - McKeesport		
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	510
PWS RMI	1.38	Distance from Outfall (mi)	31.41

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.00595
Latitude 40º 12' 51.44" **Longitude** -79º 39' 30.08"
Wastewater Description: Treated groundwater, treated equipment decontamination wastewater and uncontaminated groundwater infiltration

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).

Industrial waste discharges shall not contain more than 7 milligrams per liter of dissolved iron per 25 Pa. Code § 95.2(4).

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 3.

Table 3: Regulatory Effluent Standards and Monitoring Requirements for Outfall 001

Parameter	Monthly Average	Daily Maximum	IMAX	Units
Flow	Monitor and Report		XXX	MGD
Dissolved Iron	-	XXX	7.0	mg/L
Oil & Grease	15	30	XXX	mg/L
Total Residual Chlorine	0.5	1.0	XXX	mg/L
pH	Not less than 6.0 nor greater than 9.0			S.U.

Per- and Polyfluoroalkyl Substances (PFAS)

In February 2024, DEP implemented a new monitoring initiative for PFAS consistent with an EPA memorandum that provides guidance to states for addressing PFAS discharges. PFAS are a family of thousands of synthetic organic chemicals that contain a chain of strong carbon-fluorine bonds. Many PFAS are highly stable, water- and oil-resistant, and exhibit other properties that make them useful in a variety of consumer products and industrial processes. PFAS are resistant to biodegradation, photooxidation, direct photolysis, and hydrolysis and do not readily degrade naturally; thus, many PFAS accumulate over time. According to the United States Department of Health and Human Services, Agency for Toxic Substances and Disease Registry (ATSDR), the environmental persistence and mobility of some PFAS, combined with decades of widespread use, have resulted in their presence in surface water, groundwater, drinking water, rainwater, soil, sediment, ice caps, outdoor and indoor air, plants, animal tissue, and human blood serum across the globe. ATSDR also reported that exposure to certain PFAS can lead to adverse human health impacts Due to their durability, toxicity, persistence, and pervasiveness, PFAS have emerged as potentially significant pollutants of concern.

In accordance with Section II.I of DEP's "Standard Operating Procedure (SOP) for Clean Water Program – Establishing Effluent Limitations for Individual Industrial Permits" [SOP No. BCW-PMT-032] and under the authority of 25 Pa. Code § 92a.61(b), DEP has determined that monitoring for a subset of common/well-studied PFAS including Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonic acid (PFOS), Perfluorobutanesulfonic acid (PFBS), and Hexafluoropropylene oxide dimer acid (HFPO-DA) is necessary to help understand the extent of environmental contamination by PFAS in the Commonwealth and the extent to which point source dischargers are contributors. SOP BCW-PMT-032 directs permit writers to consider special monitoring requirements for PFOA, PFOS, PFBS, and HFPO-DA in the following instances:

a. If sampling that is completed as part of the permit renewal application reveals a detection of PFOA, PFOS, HFPO-DA or PFBS (any of these compounds), the application manager will establish a quarterly monitoring requirement for PFOA, PFOS, HFPO-DA and PFBS (all of these compounds) in the permit.

b. If sampling that is completed as part of the permit renewal application demonstrates non-detect values at or below the Target QLs for PFOA, PFOS, HFPO-DA and PFBS (all of these compounds in a minimum of 3 samples), the application manager will establish an annual monitoring requirement for PFOA, PFOS, HFPO-DA and PFBS in the permit.

c. In all cases the application manager will include a condition in the permit that the permittee may cease monitoring for PFOA, PFOS, HFPO-DA and PFBS when the permittee reports non-detect values at or below the Target QL for four consecutive monitoring periods for each PFAS parameter that is analyzed. Use the following language: The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detects at or below Quantitation Limits of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L for HFPO-DA. When monitoring is discontinued, permittees should enter a No Discharge Indicator (NODI) Code of “GG” on DMRs.

Sample data revealed PFAS detection, triggering quarterly reporting of PFOA, PFOS, PFBS, and HFPO-DA, consistent with Section II.I.b of SOP BCW-PMT-032. Furthermore, the Draft Permit will include a Part C condition requiring a PFAS Reduction Plan.

Water Quality-Based Limitations

Total Maximum Daily Load (TMDL)

Discharges from Waltz Mill Facility are located within the Sewickley Creek Watershed for which a TMDL has been developed addressing metals (aluminum, iron and manganese). The Sewickley Creek Watershed TMDL was finalized on March 12, 2009, and regulates the discharge of aluminum, iron, and manganese primarily from abandoned mine discharges within the Sewickley Creek Watershed. Target concentrations published in the TMDL were based on established water quality criteria of 0.750 $^{mg}/_{L}$ total recoverable aluminum, 1.5 $^{mg}/_{L}$ total recoverable iron based on a 30-day average and 1.0 $^{mg}/_{L}$ total recoverable manganese. The TMDL does not include a specific wasteload allocation for Waltz Mill facility.

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 4. 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 F of this Fact Sheet.

Table 4: TMS Inputs

Parameter	**Value**
River Mile Index	1.18
Discharge Flow (MGD)	0.0059
Basin/Stream Characteristics	
Parameter	**Value**
Area in Square Miles	5.37
Q_{7-10} (cfs)	0.063
Low-flow yield (cfs/mi^2)	0.0117
Elevation (ft)	938
Slope	0.005

The Toxics Management Spread Sheet indicates that new WQBELs are needed for Total Copper, Dissolved Iron and reporting requirements for Total Cadmium, Total Manganese and Osmotic Pressure.

Table 5: Water Quality Based Effluent Limitation (WQBELs) at Outfall 001

Parameter	**Concentration Limits**		**Discharge Concentrations (µg/L)**	**Target QLs (µg/L)**
	Average Monthly (µg/L)	**Maximum Daily (µg/L)**		
Total Cadmium	Report	Report	<2.0	0.2
Total Copper	152	238	80.0	4.0
Dissolved Iron	2,353	3,672	1,500	20.0
Total Manganese	Report	Report	3,700	2.0
Osmotic Pressure (mOsm/kg)	Report	Report	27.0	-

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 G, indicate that no WQBELs are required for TRC.

Anti-backsliding

Previous effluent limits and monitoring requirements can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 6.

Table 6: Current Limitations at Outfall 001

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	-	-	-	-	2/month	Measured
pH (S.U.)	-	-	6.0	-	-	9.0	2/month	Grab
Total Residual Chlorine (mg/L)	-	-	-	0.5	1.0	-	2/month	Grab
Oil and Grease	-	-	-	15.0	30.0	-	2/month	Grab
Cadmium, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Copper, Total (µg/L)	-	-	-	35.5	55.4	-	2/month	Grab
Iron, Dissolved	-	-	-	-	7.0	-	2/month	Grab
Lead, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Manganese, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Silver, total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Zinc, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab

Proposed Effluent Limitations for Outfall 001

Table 7 outlines the proposed effluent limitations and monitoring requirements for Outfall 001, reflecting the most stringent values from the limitation analysis. The current effluent limitation for Total Copper remains in effect, as it is more stringent than the recommended WQBEL.

The recommended WQBEL for Dissolved Iron is more stringent that the current limit. However, since the facility's current dissolved iron levels already comply with the proposed limits, the new limit will become effective on the permit's effective date.

Table 7: Proposed Final Limitations at Outfall 001

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	-	-	-	-	2/month	Measured
pH (S.U.)	-	-	6.0	-	-	9.0	2/month	Grab
Total Residual Chlorine (mg/L)	-	-	-	0.5	1.0	-	2/month	Grab
Oil and Grease	-	-	-	15.0	30.0	-	2/month	Grab
Cadmium, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Copper, Total (µg/L)	-	-	-	35.5	55.4	-	2/month	Grab
Iron, Dissolved	-	-	-	2.35	3.67	-	2/month	Grab
Lead, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Manganese, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Silver, total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Zinc, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Osmotic Pressure (mOs/kg)	-	-	-	Report	Report	-	2/month	Grab
PFOA (ng/L)	-	-	-	-	Report	-	1/quarter	Grab
PFOS (ng/L)	-	-	-	-	Report	-	1/quarter	Grab
PFBS (ng/L)	-	-	-	-	Report	-	1/quarter	Grab
HFPO-DA (ng/L)	-	-	-	-	Report	-	1/quarter	Grab

Development of Effluent Limitations

IMP No.	101	**Design Flow (MGD)**	0.0023
Latitude	40º 12' 53.90"	**Longitude**	-79º 39' 32.74"

Wastewater Description: Treat groundwater from groundwater remediation wells.

Periodically, groundwater is extracted and pumped through the groundwater treatment building. Groundwater inside the building is passed through a filtration unit. Next, groundwater is sent through ion exchange resin columns. Backwash water is collected in Tank T-100 for analysis.

All water that is treated by the groundwater treatment building is discharged via IMP 101. This treatment system began operation in 2001 and is anticipated to run indefinitely. Any radiologically impaired groundwater is managed under site radiological materials license, PA 1053S.

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 IMP 101 are subject to effluent standards for oil and grease from 25 Pa. Code § 95.2(2).

Industrial waste discharges shall not contain more than 7 milligrams per liter of dissolved iron per 25 Pa. Code § 95.2(4).

Effluent standards for pH are also imposed on industrial wastes by 25 Pa. Code § 95.2(1) as indicated in Table 8.

Table 8: Regulatory Effluent Standards and Monitoring Requirements for IMP 101

Parameter	Monthly Average	Daily Maximum	IMAX	Units
Flow	Monitor and Report		XXX	MGD
Dissolved Iron	-	XXX	7.0	mg/L
Oil & Grease	15	30	XXX	mg/L
pH	Not less than 6.0 nor greater than 9.0			S.U.

Per- and Polyfluoroalkyl Substances (PFAS)

Sample data indicated PFAS detection, but reporting requirements are already proposed for Outfall 001. As a result, additional reporting requirements won't be imposed on IMP 101. However, when developing the PFAS Reduction Plan, it's crucial to evaluate discharges from IMP 101, as it may be the main contributor to the PFAS concentrations detected at Outfall 001.

Water Quality-Based Limitations

Total Maximum Daily Load (TMDL)

Discharges from Waltz Mill Facility are located within the Sewickley Creek Watershed for which a TMDL has been developed addressing metals (aluminum, iron and manganese). The TMDL does not include a specific wasteload allocation for Waltz Mill facility.

Toxics Management Spread Sheet

Water quality-based effluent limitations WQBELs are typically evaluated at the point of discharge, rather than at internal monitoring points (IMPs), unless monitoring at the final discharge point is impractical due to factors such as inaccessibility or submersion. Accordingly, water quality limits will be evaluated at Outfall 001, where wastewater from IMP 101 and other internal wastewater streams commingle prior to discharge to Commonwealth waters.

Anti-backsliding

Previous effluent limits and monitoring requirements can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 9.

Table 9: Current Limitations at IMP 101

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	-	-	-	-	2/month	Measured
pH (S.U.)	-	-	6.0	-	-	9.0	2/month	Grab
Oil and Grease	-	-	-	15.0	30.0	-	2/month	Grab
Cadmium, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Copper, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Iron, Dissolved	-	-	-	-	7.0	-	2/month	Grab
Lead, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Manganese, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Silver, total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Zinc, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab

Proposed Effluent Limitations for IMP 101

Table 10 outlines the proposed effluent limitations and monitoring requirements for IMP 101.

Table 10: Proposed Final Limitations at IMP 101

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	-	-	-	-	2/month	Measured
pH (S.U.)	-	-	6.0	-	-	9.0	2/month	Grab
Oil and Grease	-	-	-	15.0	30.0	-	2/month	Grab
Cadmium, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Copper, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Iron, Dissolved	-	-	-	-	7.0	-	2/month	Grab
Lead, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Manganese, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Silver, total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Zinc, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab

Development of Effluent Limitations

IMP No.	301	**Design Flow (MGD)**	0.005
Latitude	40º 13' 07.79"	**Longitude**	-79º 39' 41.72"

Wastewater Description: Treated equipment decontaminating water and treated groundwater infiltration waters

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 IMP 301 are subject to effluent standards for oil and grease from 25 Pa. Code § 95.2(2).

Industrial waste discharges shall not contain more than 7 milligrams per liter of dissolved iron per 25 Pa. Code § 95.2(4).

Effluent standards for pH are also imposed on industrial wastes by 25 Pa. Code § 95.2(1) as indicated in Table 11.

Table 11: Regulatory Effluent Standards and Monitoring Requirements for IMP 301

Parameter	Monthly Average	Daily Maximum	IMAX	Units
Flow	Monitor and Report		XXX	MGD
Dissolved Iron	-	XXX	7.0	mg/L
Oil & Grease	15	30	XXX	mg/L
pH	Not less than 6.0 nor greater than 9.0			S.U.

Per- and Polyfluoroalkyl Substances (PFAS)

PFAS reporting requirements were already taken into account for Outfall 001. Therefore, PFAS reporting requirements will not be imposed for IMP 301.

Water Quality-Based Limitations

Total Maximum Daily Load (TMDL)

Discharges from Waltz Mill Facility are located within the Sewickley Creek Watershed for which a TMDL has been developed addressing metals (aluminum, iron and manganese). The TMDL does not include a specific wasteload allocation for Waltz Mill facility.

Toxics Management Spread Sheet

Water quality-based effluent limitations WQBELs are typically evaluated at the point of discharge, rather than at internal monitoring points (IMPs), unless monitoring at the final discharge point is impractical due to factors such as inaccessibility or submersion. Accordingly, water quality limits will be evaluated at Outfall 001, where wastewater from IMP 101 and other internal wastewater streams commingle prior to discharge to Commonwealth waters.

Anti-backsliding

Previous effluent limits and monitoring requirements can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 12.

Table 12: Current Limitations at IMP 301

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	-	-	-	-	2/Discharge	Measured
pH (S.U.)	-	-	6.0	-	-	9.0	2/Discharge	Grab
Total Residual Chlorine	-	-	-	0.5	1.0	-	2/Discharge	Grab
Oil and Grease	-	-	-	15.0	30.0	-	2/Discharge	Grab
Cadmium, Total	-	-	-	Report	Report	-	2/Discharge	Grab
Copper, Total (µg/L)	-	-	-	Report	Report	-	2/Discharge	Grab
Iron, Dissolved	-	-	-	-	7.0	-	2/Discharge	Grab
Lead, Total (µg/L)	-	-	-	Report	Report	-	2/Discharge	Grab
Manganese, Total (µg/L)	-	-	-	Report	Report	-	2/Discharge	Grab
Silver, total (µg/L)	-	-	-	Report	Report	-	2/Discharge	Grab
Zinc, Total (µg/L)	-	-	-	Report	Report	-	2/Discharge	Grab

Proposed Effluent Limitations for IMP 301

Table 13 outlines the proposed effluent limitations and monitoring requirements for IMP 301.

Table 13: Proposed Final Limitations at IMP 301

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	-	-	-	-	2/Discharge	Measured
pH (S.U.)	-	-	6.0	-	-	9.0	2/Discharge	Grab
Total Residual Chlorine	-	-	-	0.5	1.0	-	2/Discharge	Grab
Oil and Grease	-	-	-	15.0	30.0	-	2/Discharge	Grab
Cadmium, Total	-	-	-	Report	Report	-	2/Discharge	Grab
Copper, Total (µg/L)	-	-	-	Report	Report	-	2/Discharge	Grab
Iron, Dissolved	-	-	-	-	7.0	-	2/Discharge	Grab
Lead, Total (µg/L)	-	-	-	Report	Report	-	2/Discharge	Grab
Manganese, Total (µg/L)	-	-	-	Report	Report	-	2/Discharge	Grab
Silver, total (µg/L)	-	-	-	Report	Report	-	2/Discharge	Grab
Zinc, Total (µg/L)	-	-	-	Report	Report	-	2/Discharge	Grab

Development of Effluent Limitations

IMP No. 002 **Design Flow (MGD)** 0.0146

Latitude 40º 13' 5.6028" **Longitude** -79º 39' 48.3012"

Wastewater Description: Boiler Blowdown, cooling tower blowdown, compressor condensate, groundwater and stormwater

Technology Based Limitations

Federal Effluent Limitations Guidelines (ELGs)

Boiler blowdown is considered a low volume waste source and will be subject to 40 CFR 423.12 and will have effluent limitations for TSS and Oil and Grease, as shown in Table 14 below. Cooling tower blowdown is subject to 40 CFR 423.12 and will have effluent limitations for free available chlorine, as shown in Table 15 below.

Table 14: Boiler Blowdown Limitations

Parameter	BPT effluent Limitations (mg/l)	
	Monthly Average	Daily Maximum
Total Suspended Solids	30.0	100.0
Oil and Grease	15.0	20.0

Table 15. Cooling Tower Blowdown Limitations

Parameter	BPT effluent Limitations (mg/l)	
	Monthly Average	Daily Maximum
Free available chlorine	0.2	0.5

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 002 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.

Industrial waste discharges shall not contain more than 7 milligrams per liter of dissolved iron per 25 Pa. Code § 95.2(4).

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 16.

Table 16: Regulatory Effluent Standards and Monitoring Requirements for outfall 002

Parameter	Monthly Average	Daily Maximum	IMAX	Units
Flow	Monitor and Report		XXX	MGD
Temperature	XXX	XXX	110	°F
Dissolved Iron	-	XXX	7.0	mg/L
Oil & Grease	15	30	XXX	mg/L
Total Residual Chlorine	0.5	1.0	XXX	mg/L
pH	Not less than 6.0 nor greater than 9.0			S.U.

Water Quality-Based Limitations

Total Maximum Daily Load (TMDL)

Discharges from Waltz Mill Facility are located within the Sewickley Creek Watershed for which a TMDL has been developed addressing metals (aluminum, iron and manganese). The TMDL does not include a specific wasteload allocation for Waltz Mill facility.

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.

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. Discharges from Outfalls 002, 006, 008 and 009 are classified under Case 2 because water is obtained from municipal water supply. The flow rate used for modeling is that summation of the discharge from all of the outfalls, 0.0225 MGD. The results of the thermal analysis, included in Attachment H, indicate that WQBELs for temperature is required at Outfalls 002, 006, 008 and 009 and are displayed below in Table 17.

Table 17: Thermal Limitations – Outfall 002

Monitoring Period	Instantaneous Maximum Temperature Limits (ºF)
Jan 1 -31	41.1
Feb 1-29	41.2
Mar 1-31	48.8
Apr 1-15	55.1
April 16-30	61.1
May 1-15	66.0
May 16-31	75.4
Jun 1-15	82.6
Jun 16-30	86.6
Jul 1-31	88.3
Aug 1-15	88.2
Aug 16-30	88.2
Sep 1-15	84.9
Sep 16-30	78.9
Oct 1-15	73.0
Oct 16-31	67.0
Nov 1-15	59.1
Nov 16-30	50.8
Dec 1-31	42.8

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 discharge chlorine demands for the receiving stream, 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 then proposed. The results of the modeling, included in Attachment I, indicate that average monthly limits of 0.033 mg/L and daily maximum limits of 0.077 mg/L are required for TRC.

Anti-backsliding

Previous effluent limits and monitoring requirements can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 18.

Table 18: Current Limitations at Outfall 002

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	-	-	-	-	2/month	Measured
pH (S.U.)	-	-	6.0	-	-	9.0	2/month	Grab
Total Residual Chlorine (TRC)	-	-	-	0.5	1.0	-	2/month	Grab
Free Available Chlorine	-	-	-	0.2	0.5	-	2/month	Grab
Temperature (ºF) Jan 1 – 31	-	-	-	-	-	87.1	2/month	I-S
Temperature (ºF) Feb 1 - 29	-	-	-	-	-	91.5	2/month	I-S
Temperature (ºF) Mar 1 - Sep 30	-	-	-	-	-	110.0	2/month	I-S
Temperature (ºF) Oct 1 - 15	-	-	-	-	-	110.0	2/month	I-S
Temperature (ºF) Oct 16 - 31	-	-	-	-	-	108.4	2/month	I-S
Temperature (ºF) Nov 1 - 15	-	-	-	-	-	105.1	2/month	I-S
Temperature (ºF) Nov 16 - 30	-	-	-	-	-	87.7	2/month	I-S
Temperature (ºF) Dec 1 - 31	-	-	-	-	-	77.3	2/month	I-S
Total Suspended Solids	-	-	-	30.0	-	60.0	2/month	Grab
Oil and Grease	-	-	-	15.0	20.0	-	2/month	Grab
Cadmium, Total (ug/L)	-	-	-	0.78	1.21	-	2/month	Grab
Chromium, Hexavalent (ug/L)	-	-	-	Report	Report	-	2/month	Grab
Total Silver (ug/L)	-	-	-	Report	Report	-	2/month	Grab
Total Strontium (ug/L)	-	-	-	Report	Report	-	2/month	Grab

Proposed Effluent Limitations for Outfall 002

Tables 19 and 20 outline the proposed effluent limitations and monitoring requirements for Outfall 002, reflecting the most stringent values from the limitation analysis. Based on the limitation development above, Outfall 002 will receive new WQBELs for Temperature and TRC. At this time Westinghouse Electric Company may not be able to achieve these new WQBELs upon permit issuance, therefore in accordance with 25 Pa. Code § 92a.51(a) of DEP's regulations, the Department is granting a three-year compliance schedule for Westinghouse Electric Company to come into compliance with the new limits. During the interim period, the previous temperature and Total Residual Chlorine (TRC) limits will be imposed.

Table 19: Proposed Interim Effluent Limitations for Outfall 002

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	-	-	-	-	2/month	Measured
pH (S.U.)	-	-	6.0	-	-	9.0	2/month	Grab
Total Residual Chlorine (TRC)	-	-	-	0.5	1.0	-	2/month	Grab
Free Available Chlorine	-	-	-	0.2	0.5	-	2/month	Grab
Temperature (ºF) Jan 1 – 31	-	-	-	-	-	87.1	2/month	I-S
Temperature (ºF) Feb 1 - 29	-	-	-	-	-	91.5	2/month	I-S
Temperature (ºF) Mar 1 - Sep 30	-	-	-	-	-	110.0	2/month	I-S
Temperature (ºF) Oct 1 - 15	-	-	-	-	-	110.0	2/month	I-S
Temperature (ºF) Oct 16 - 31	-	-	-	-	-	108.4	2/month	I-S
Temperature (ºF) Nov 1 - 15	-	-	-	-	-	105.1	2/month	I-S
Temperature (ºF) Nov 16 - 30	-	-	-	-	-	87.7	2/month	I-S
Temperature (ºF) Dec 1 - 31	-	-	-	-	-	77.3	2/month	I-S
Total Suspended Solids	-	-	-	30.0	-	60.0	2/month	Grab
Oil and Grease	-	-	-	15.0	20.0	-	2/month	Grab
Cadmium, Total (ug/L)	-	-	-	0.78	1.21	-	2/month	Grab
Chromium, Hexavalent	-	-	-	Report	Report	-	2/month	Grab
Total Silver	-	-	-	Report	Report	-	2/month	Grab
Total Strontium	-	-	-	Report	Report	-	2/month	Grab

Table 20: Proposed Final Effluent Limitations for Outfall 002

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	-	-	-	-	2/month	Measured
pH (S.U.)	-	-	6.0	-	-	9.0	2/month	Grab
Total Residual Chlorine (TRC)	-	-	-	0.033	0.077	-	2/month	Grab

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Free Available Chlorine	-	-	-	0.2	0.5	-	2/month	Grab
Temperature (ºF) Jan 1 -31	-	-	-	-	-	41.1	2/month	I-S
Temperature (ºF) Feb 1-29	-	-	-	-	-	41.2	2/month	I-S
Temperature (ºF) Mar 1-31	-	-	-	-	-	48.8	2/month	I-S
Temperature (ºF) Apr 1-15	-	-	-	-	-	55.1	2/month	I-S
Temperature (ºF) April 16-30	-	-	-	-	-	61.1	2/month	I-S
Temperature (ºF) May 1-15	-	-	-	-	-	66.0	2/month	I-S
Temperature (ºF) May 16-31	-	-	-	-	-	75.4	2/month	I-S
Temperature (ºF) Jun 1-15	-	-	-	-	-	82.6	2/month	I-S
Temperature (ºF) Jun 16-30	-	-	-	-	-	86.6	2/month	I-S
Temperature (ºF) Jul 1-31	-	-	-	-	-	88.3	2/month	I-S
Temperature (ºF) Aug 1-31	-	-	-	-	-	88.2	2/month	I-S
Temperature (ºF) Sep 1-15	-	-	-	-	-	84.9	2/month	I-S
Temperature (ºF) Sep 16-30	-	-	-	-	-	78.9	2/month	I-S
Temperature (ºF) Oct 1-15	-	-	-	-	-	73.0	2/month	I-S
Temperature (ºF) Oct 16-31	-	-	-	-	-	67.0	2/month	I-S
Temperature (ºF) Nov 1-15	-	-	-	-	-	59.1	2/month	I-S
Temperature (ºF) Nov 16-30	-	-	-	-	-	50.8	2/month	I-S
Temperature (ºF) Dec 1-31	-	-	-	-	-	42.8	2/month	I-S
Total Suspended Solids	-	-	-	30.0	-	60.0	2/month	Grab
Oil and Grease	-	-	-	15.0	20.0	-	2/month	Grab
Cadmium, Total (ug/L)	-	-	-	0.78	1.21	-	2/month	Grab
Chromium, Hexavalent (ug/L)	-	-	-	Report	Report	-	2/month	Grab
Total Silver (ug/L)	-	-	-	Report	Report	-	2/month	Grab
Total Strontium (ug/L)	-	-	-	Report	Report	-	2/month	Grab

Development of Effluent Limitations

IMP No.	003	**Design Flow (MGD)**	0.0042
Latitude	40º 12' 59.5116"	**Longitude**	-79º 39' 53.97"

Wastewater Description: Tool Test Tank Wastewater, Small Test Tank wastewater, stormwater and groundwater

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 003 are subject to effluent standards for oil and grease from 25 Pa. Code § 95.2(2).

Industrial waste discharges shall not contain more than 7 milligrams per liter of dissolved iron per 25 Pa. Code § 95.2(4).

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 21.

Table 21: Regulatory Effluent Standards and Monitoring Requirements for outfall 003

Parameter	Monthly Average	Daily Maximum	IMAX	Units
Flow	Monitor and Report		XXX	MGD
Dissolved Iron	-	XXX	7.0	mg/L
Oil & Grease	15	30	XXX	mg/L
Total Residual Chlorine	0.5	1.0	XXX	mg/L
pH	Not less than 6.0 nor greater than 9.0			S.U.

Per- and Polyfluoroalkyl Substances (PFAS)

The analysis results table for Outfall 003 initially showed PFOS detection. However, upon reviewing the lab datasheets, it was found that the detected value was below the Quantitation Limits set in SOP BCW-PMT-032, Section II.I.b. As a result, annual reporting will be required for PFOA, PFOS, PFBS, and HFPO-DA.

Water Quality-Based Limitations

Total Maximum Daily Load (TMDL)

Discharges from Waltz Mill Facility are located within the Sewickley Creek Watershed for which a TMDL has been developed addressing metals (aluminum, iron and manganese). The TMDL does not include a specific wasteload allocation for Waltz Mill facility.

Toxics Management Spread Sheet

Reasonable Potential Analysis and WQBEL Development for Outfall 003

Discharges from Outfall 003 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 22. 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 J of this Fact Sheet.

Table 22: TMS Inputs

Parameter	**Value**
River Mile Index	0.86
Discharge Flow (MGD)	0.0042
Basin/Stream Characteristics	
Parameter	**Value**
Area in Square Miles	0.37
Q_{7-10} (cfs)	0.023
Low-flow yield (cfs/mi^2)	0.0062
Elevation (ft)	947
Slope	0.007

According to the Toxics Management Spreadsheet, new Water Quality-Based Effluent Limits (WQBELs) are required for Hexavalent Chromium and Dissolved Iron. Additionally, reporting requirements are needed for Total Aluminum, Total Copper, and Total Iron.

Table 22. Water Quality Based Effluent Limitation (WQBELs) at Outfall 003

Parameter	**Concentration Limits**		**Discharge Concentrations (µg/L)**	**Target QLs (µg/L)**
	Average Monthly (µg/L)	**Maximum Daily (µg/L)**		
Chromium, Hexavalent	14.1	22.0	750.0	1.0
Iron, Dissolved	406	634	298.0	20.0
Aluminum, Total	Report	Report	231	10.0
Copper, Total	Report	Report	4.79	4.0
Iron, Total	Report	Report	276.0	20.0

Total Residual Chlorine

Although the facility typically reports non-detects for Total Residual Chlorine (TRC), the increased discharge flow triggered an evaluation to determine if a more stringent TRC limit is necessary.

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 discharge chlorine demands for the receiving stream, 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 then proposed. The results of the modeling, included in Attachment K, indicate that average monthly limits of 0.085 mg/L and daily maximum limits of 0.198 mg/L are required for TRC.

Anti-backsliding

Previous effluent limits and monitoring requirements can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 23.

Table 23: Current Limitations at Outfall 003

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	-	-	-	-	2/month	Measured
pH (S.U.)	-	-	6.0	-	-	9.0	2/month	Grab
Total Residual Chlorine (mg/L)	-	-	-	0.5	1.0	-	2/month	Grab
Oil and Grease	-	-	-	15.0	30.0	-	2/month	Grab
Chromium, Hexavalent	-	-	-	Report	Report	-	2/month	Grab
Iron, Dissolved	-	-	-	-	7.0	-	2/month	Grab

Proposed Effluent Limitations for Outfall 003

Table 24 outlines the proposed effluent limitations and monitoring requirements for Outfall 003, reflecting the most stringent values from the limitation analysis.

- The recommended WQBELs for Dissolved Iron and Total Residual Chlorine (TRC) are more stringent than the current limits for these parameters. Therefore, the recommended WQBEL will replace the current limit. Since current Dissolved Iron and TRC concentrations already meet the proposed limits, the effluent limits will take effect on the permit's effective date.

- The recommended WQBEL for Hexavalent Chromium is more stringent than the reporting requirement currently in place, therefore, the recommended WQBEL will be imposed. It should be noted that even though the maximum concentration reported for this parameter was 750.0 µg/L in April 2024, during the last two years, the permittee has demonstrated its ability to comply by meeting the proposed limit at least 80% of the time considering performance data. Therefore, the Hexavalent Chromium effluent limitation will take effect on the permit's effective date.

Table 24: Proposed Final Effluent Limitations for outfall 003

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	-	-	-	-	2/month	Measured
pH (S.U.)	-	-	6.0	-	-	9.0	2/month	Grab
Total Residual Chlorine (mg/L)	-	-	-	0.085	0.198	-	2/month	Grab
Oil and Grease	-	-	-	15.0	30.0	-	2/month	Grab
Chromium, Hexavalent (µg/L)	-	-	-	14.1	22.0	-	2/month	Grab
Iron, Dissolved	-	-	-	0.40	0.63	-	2/month	Grab
Aluminum, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Copper, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
Iron, Total (µg/L)	-	-	-	Report	Report	-	2/month	Grab
PFOA (ng/L)	-	-	-	-	Report	-	1/year	Grab
PFOS (ng/L)	-	-	-	-	Report	-	1/year	Grab
PFBS (ng/L)	-	-	-	-	Report	-	1/year	Grab
HFPO-DA (ng/L)	-	-	-	-	Report	-	1/year	Grab

Development of Effluent Limitations

Outfall No.	006	**Design Flow (MGD)**	0.0043
Latitude	40º 12' 59.54"	**Longitude**	-79º 39' 53.82"
Wastewater Description:	Noncontact Cooling Water (NCCW), compressor condensate, cooling tower blowdown, and Stormwater		

Outfall No.	008	**Design Flow (MGD)**	0.0024
Latitude	40º 13' 01.28"	**Longitude**	-79º 39' 52.04"
Wastewater Description:	Condensate, non-contact cooling water, cooling tower blow down, stormwater runoff and uncontaminated ground water infiltration.		

Technology-Based Limitations

Federal Effluent Limitations Guidelines (ELGs)

Cooling tower blowdown is subject to 40 CFR 423.12 and will have effluent limitations for free available chlorine, as shown in Table 25 below.

Table 25: Cooling Tower Blowdown Limitations

Parameter	BPT effluent Limitations (mg/l)	
	Monthly Average	Daily Maximum
Free available chlorine	0.2	0.5

Regulatory Effluent Standards and Monitoring Requirements

25 PA Code Chapter 92 requires pH requirements to be a minimum of 6.0 and a maximum of 9.0 S.U. for all industrial waste process and non-process discharges.

Flow Reporting requirements is in accordance with the 25 PA Code Chapter 92 regulations.

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.

Table 26: Regulatory Effluent Standards and Monitoring Requirements

Parameter	Monthly Average	Daily Maximum	Instant. Max.	Units
Flow	Monitor and Report		-	MGD
Temperature	-	-	110	°F
Total Residual Chlorine	0.5	1.0		mg/L
pH	Between 6.0 and 9.0			S.U.

Water Quality-Based Limitations

Total Residual Chlorine

Although the facility typically reports non-detects for Total Residual Chlorine (TRC), the increased discharge flow triggered an evaluation to determine if a more stringent TRC limit is necessary.

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.

Outfall 006: The results of the modeling, included in Attachment L, indicate that average monthly limits of 0.083 mg/L and daily maximum limits of 0.194 mg/L are required for TRC.

Outfall 008: The results of the modeling, included in Attachment M, indicate that average monthly limits of 0.139 mg/L and daily maximum limits of 0.325 mg/L are required for TRC.

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.

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. Discharges from Outfalls 002, 006, 008 and 009 are classified under Case 2 because water is obtained from municipal water supply. The flow rate used for modeling is that summation of the discharge from all of the outfalls, 0.0225 MGD. The results of the thermal analysis, included in Attachment H, indicate that WQBELs for temperature is required at Outfalls 002, 006, 008 and 009 and are displayed below in Table 27.

Table 27: Thermal Limitations – Outfalls 006 and 008

Monitoring Period	Instantaneous Maximum Temperature Limits (ºF)
Jan 1 -31	41.1
Feb 1-29	41.2
Mar 1-31	48.8
Apr 1-15	55.1
April 16-30	61.1
May 1-15	66.0
May 16-31	75.4
Jun 1-15	82.6
Jun 16-30	86.6
Jul 1-31	88.3
Aug 1-15	88.2
Aug 16-30	88.2
Sep 1-15	84.9
Sep 16-30	78.9
Oct 1-15	73.0
Oct 16-31	67.0
Nov 1-15	59.1
Nov 16-30	50.8
Dec 1-31	42.8

Anti-backsliding

Previous limits for outfalls 006 and 008 can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 28.

Table 28: Current Limitations at outfalls 006 and 008

Parameter	Monthly Average	Daily Maximum	Instantaneous Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Monitor	Monitor	-	2/Month	Measure
Temperature (ºF) Jan 1 – 31	-	-	87.1	2/month	I-S
Temperature (ºF) Feb 1 - 29	-	-	91.5	2/month	I-S
Temperature (ºF) Mar 1 - Sep 30	-	-	110.0	2/month	I-S
Temperature (ºF) Oct 1 - 15	-	-	110.0	2/month	I-S
Temperature (ºF) Oct 16 - 31	-	-	108.4	2/month	I-S
Temperature (ºF) Nov 1 - 15	-	-	105.1	2/month	I-S
Temperature (ºF) Nov 16 - 30	-	-	87.7	2/month	I-S
Temperature (ºF) Dec 1 - 31	-	-	77.3	2/month	I-S
Total Residual Chlorine (TRC) (mg/L)	0.5	1.0	-	2/Month	Grab
Free Available Chlorine (mg/L)	0.2	0.5	-	2/Month	Grab
pH (S.U.)	Not less than 6.0 nor greater than 9.0			2/Month	Grab

Proposed Effluent Limitations for Outfalls 006 and 008

Tables 29 through 32 outline the proposed effluent limitations and monitoring requirements for outfalls 006 and 008. The limits are the most stringent values from the above limitation analysis. The recommended WQBEL for Total Residual Chloride (TRC) is more stringent that the current limit. However, since the facility's current Total Residual Chloride (TRC) already comply with the proposed limits, the new limit will become effective on the permit's effective date.

At this time Westinghouse Electric Company may not be able to achieve the new temperature WQBEL upon permit issuance. Therefore, in accordance with 25 Pa. Code § 92a.51(a) of DEP's regulations, the Department is granting a three-year compliance schedule for Westinghouse Electric Company to come into compliance with the new limit. During the interim period, the previous temperature limits will remain in place.

Table 29: Proposed Interim Effluent Limitations for outfall 006

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	-	-	-	-	2/month	Measured
pH (S.U.)	-	-	6.0	-	-	9.0	2/month	Grab
Total Residual Chlorine (TRC)	-	-	-	0.083	0.194	-	2/month	Grab
Free Available Chlorine	-	-	-	0.2	0.5	-	2/month	Grab
Temperature (ºF) Jan 1 – 31	-	-	-	-	-	87.1	2/month	I-S
Temperature (ºF) Feb 1 - 29	-	-	-	-	-	91.5	2/month	I-S
Temperature (ºF) Mar 1 - Sep 30	-	-	-	-	-	110.0	2/month	I-S

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Temperature (ºF) Oct 1 - 15	-	-	-	-	-	110.0	2/month	I-S
Temperature (ºF) Oct 16 - 31	-	-	-	-	-	108.4	2/month	I-S
Temperature (ºF) Nov 1 - 15	-	-	-	-	-	105.1	2/month	I-S
Temperature (ºF) Nov 16 - 30	-	-	-	-	-	87.7	2/month	I-S
Temperature (ºF) Dec 1 - 31	-	-	-	-	-	77.3	2/month	I-S

Table 30: Proposed Final Effluent Limitations for outfall 006

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	-	-	-	-	2/month	Measured
pH (S.U.)	-	-	6.0	-	-	9.0	2/month	Grab
Total Residual Chlorine (TRC)	-	-	-	0.083	0.194	-	2/month	Grab
Free Available Chlorine	-	-	-	0.2	0.5	-	2/month	Grab
Temperature (ºF) Jan 1 -31	-	-	-	-	-	41.1	2/month	I-S
Temperature (ºF) Feb 1-29	-	-	-	-	-	41.2	2/month	I-S
Temperature (ºF) Mar 1-31	-	-	-	-	-	48.8	2/month	I-S
Temperature (ºF) Apr 1-15	-	-	-	-	-	55.1	2/month	I-S
Temperature (ºF) April 16-30	-	-	-	-	-	61.1	2/month	I-S
Temperature (ºF) May 1-15	-	-	-	-	-	66.0	2/month	I-S
Temperature (ºF) May 16-31	-	-	-	-	-	75.4	2/month	I-S
Temperature (ºF) Jun 1-15	-	-	-	-	-	82.6	2/month	I-S
Temperature (ºF) Jun 16-30	-	-	-	-	-	86.6	2/month	I-S
Temperature (ºF) Jul 1-31	-	-	-	-	-	88.3	2/month	I-S
Temperature (ºF) Aug 1-31	-	-	-	-	-	88.2	2/month	I-S
Temperature (ºF) Sep 1-15	-	-	-	-	-	84.9	2/month	I-S
Temperature (ºF) Sep 16-30	-	-	-	-	-	78.9	2/month	I-S
Temperature (ºF) Oct 1-15	-	-	-	-	-	73.0	2/month	I-S
Temperature (ºF) Oct 16-31	-	-	-	-	-	67.0	2/month	I-S
Temperature (ºF) Nov 1-15	-	-	-	-	-	59.1	2/month	I-S
Temperature (ºF) Nov 16-30	-	-	-	-	-	50.8	2/month	I-S
Temperature (ºF) Dec 1-31	-	-	-	-	-	42.8	2/month	I-S

Table 31: Proposed Interim Effluent Limitations for outfall 008

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	-	-	-	-	2/month	Measured
pH (S.U.)	-	-	6.0	-	-	9.0	2/month	Grab
Total Residual Chlorine (TRC)	-	-	-	0.139	0.325	-	2/month	Grab
Free Available Chlorine	-	-	-	0.2	0.5	-	2/month	Grab
Temperature (ºF) Jan 1 – 31	-	-	-	-	-	87.1	2/month	I-S
Temperature (ºF) Feb 1 - 29	-	-	-	-	-	91.5	2/month	I-S
Temperature (ºF) Mar 1 - Sep 30	-	-	-	-	-	110.0	2/month	I-S
Temperature (ºF) Oct 1 - 15	-	-	-	-	-	110.0	2/month	I-S
Temperature (ºF) Oct 16 - 31	-	-	-	-	-	108.4	2/month	I-S
Temperature (ºF) Nov 1 - 15	-	-	-	-	-	105.1	2/month	I-S
Temperature (ºF) Nov 16 - 30	-	-	-	-	-	87.7	2/month	I-S
Temperature (ºF) Dec 1 - 31	-	-	-	-	-	77.3	2/month	I-S

Table 32: Proposed Final Effluent Limitations for outfall 008

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	-	-	-	-	2/month	Measured
pH (S.U.)	-	-	6.0	-	-	9.0	2/month	Grab
Total Residual Chlorine (TRC)	-	-	-	0.139	0.325	-	2/month	Grab
Free Available Chlorine	-	-	-	0.2	0.5	-	2/month	Grab
Temperature (ºF) Jan 1 -31	-	-	-	-	-	41.1	2/month	I-S
Temperature (ºF) Feb 1-29	-	-	-	-	-	41.2	2/month	I-S
Temperature (ºF) Mar 1-31	-	-	-	-	-	48.8	2/month	I-S
Temperature (ºF) Apr 1-15	-	-	-	-	-	55.1	2/month	I-S
Temperature (ºF) April 16-30	-	-	-	-	-	61.1	2/month	I-S
Temperature (ºF) May 1-15	-	-	-	-	-	66.0	2/month	I-S
Temperature (ºF) May 16-31	-	-	-	-	-	75.4	2/month	I-S
Temperature (ºF) Jun 1-15	-	-	-	-	-	82.6	2/month	I-S
Temperature (ºF) Jun 16-30	-	-	-	-	-	86.6	2/month	I-S

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Temperature (ºF) Jul 1-31	-	-	-	-	-	88.3	2/month	I-S
Temperature (ºF) Aug 1-31	-	-	-	-	-	88.2	2/month	I-S
Temperature (ºF) Sep 1-15	-	-	-	-	-	84.9	2/month	I-S
Temperature (ºF) Sep 16-30	-	-	-	-	-	78.9	2/month	I-S
Temperature (ºF) Oct 1-15	-	-	-	-	-	73.0	2/month	I-S
Temperature (ºF) Oct 16-31	-	-	-	-	-	67.0	2/month	I-S
Temperature (ºF) Nov 1-15	-	-	-	-	-	59.1	2/month	I-S
Temperature (ºF) Nov 16-30	-	-	-	-	-	50.8	2/month	I-S
Temperature (ºF) Dec 1-31	-	-	-	-	-	42.8	2/month	I-S

Development of Effluent Limitations

Outfall No. 009 **Design Flow (MGD)** 0.0012
Latitude 40º 13' 01.84" **Longitude** -79º 39' 51.90"
Wastewater Description: Noncontact Cooling Water, Compressor condensate, groundwater and Stormwater

Technology-Based Limitations

Regulatory Effluent Standards and Monitoring Requirements

25 PA Code Chapter 92 requires pH requirements to be a minimum of 6.0 and a maximum of 9.0 S.U. for all industrial waste process and non-process discharges.

Flow Reporting requirements is in accordance with the 25 PA Code Chapter 92 regulations.

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.

Table 33: Regulatory Effluent Standards and Monitoring Requirements

Parameter	Monthly Average	Daily Maximum	Instant. Max.	Units
Flow	Monitor and Report		-	MGD
Temperature	-	-	110	°F
Total Residual Chlorine	0.5	1.0		mg/L
pH	Between 6.0 and 9.0			S.U.

Stormwater

Outfall 001 will be subject to PAG-03 General Stormwater Permit conditions because it discharges stormwater associated with industrial activity. Based on the site's SIC code, the corresponding appendix that would apply to the facility is Appendix F of the PAG-03. The proposed monitoring requirements are shown in Table 34 below. The benchmark values listed below are not effluent limitations, and exceedances do not constitute permit violations. However, if the permittee's sampling demonstrates exceedances of benchmark values for two consecutive monitoring periods, the permittee shall submit a Corrective Action Plan. This requirement will be included in Part C of the permit.

Table 34: PAG-03 Appendix (J) Monitoring Requirements

Parameters	Monitoring Requirements		Benchmark Values
	Minimum Measurement Frequency	Sample Type	
Total Nitrogen (mg/L)	1/6 Months	Calculation	XXX
Total Phosphorus (mg/L)	1/6 Months	Grab	XXX
Total Suspended Solids (TSS) (mg/L)	1/6 Months	Grab	100
Oil and Grease (mg/L)	1/6 Months	Grab	30
pH (S.U)	1/6 Months	Grab	9.0
Chemical Oxygen Demand (COD) (mg/L)	1/6 Months	Grab	120

Water Quality-Based Limitations

Total Residual Chlorine

Although the facility typically reports non-detects for Total Residual Chlorine (TRC), the increased discharge flow triggered an evaluation to determine if a more stringent TRC limit is necessary.

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 N, indicate that average monthly limits of 0.266 mg/L and daily maximum limits of 0.621 mg/L are required for TRC.

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.

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. Discharges from Outfalls 002, 006, 008 and 009 are classified under Case 2 because water is obtained from municipal water supply. The flow rate used for modeling is that summation of the discharge from all of the outfalls, , 0.0225 MGD. The results of the thermal analysis, included in Attachment H, indicate that WQBELs for temperature is required at Outfalls 002, 006, 008 and 009 and are displayed below in table 35.

Table 35: Thermal Limitations – Outfall 009

Monitoring Period	Instantaneous Maximum Temperature Limits (ºF)
Jan 1 -31	41.1
Feb 1-29	41.2
Mar 1-31	48.8
Apr 1-15	55.1
April 16-30	61.1
May 1-15	66.0
May 16-31	75.4
Jun 1-15	82.6
Jun 16-30	86.6
Jul 1-31	88.3
Aug 1-15	88.2
Aug 16-30	88.2
Sep 1-15	84.9
Sep 16-30	78.9
Oct 1-15	73.0
Oct 16-31	67.0
Nov 1-15	59.1

Monitoring Period	Instantaneous Maximum Temperature Limits (ºF)
Nov 16-30	50.8
Dec 1-31	42.8

Anti-backsliding

Previous limits for outfalls 009 can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 36.

Table 36: Current Limitations at Outfall 009

Parameter	Monthly Average	Daily Maximum	Instant. Max.	Sample Type	Measuring Frequency
Flow (MGD)	Report	Report	-	Grab	2/Month
Temperature (ºF) Jan 1 – 31	-	-	87.1	2/month	I-S
Temperature (ºF) Feb 1 - 29	-	-	91.5	2/month	I-S
Temperature (ºF) Mar 1 - Sep 30	-	-	110.0	2/month	I-S
Temperature (ºF) Oct 1 - 15	-	-	110.0	2/month	I-S
Temperature (ºF) Oct 16 - 31	-	-	108.4	2/month	I-S
Temperature (ºF) Nov 1 - 15	-	-	105.1	2/month	I-S
Temperature (ºF) Nov 16 - 30	-	-	87.7	2/month	I-S
Temperature (ºF) Dec 1 - 31	-	-	77.3	2/month	I-S
Total Residual Chlorine TRC (mg/L)	0.5	1.0		Grab	2/Month
pH (S.U.)	Between 6.0 and 9.0			Grab	2/Month

Proposed Effluent Limitations for Outfall 009

The proposed effluent limitations and monitoring requirements for Outfall 009 are shown below in Tables 37 and 38. The limits are the most stringent values from the above limitation analysis. The recommended WQBEL for Total Residual Chloride (TRC) is more stringent that the current limit. However, since the facility's current Total Residual Chloride (TRC) already comply with the proposed limits, the new limit will become effective on the permit's effective date.

At this time Westinghouse Electric Company may not be able to achieve the new temperature WQBEL upon permit issuance. Therefore, in accordance with 25 Pa. Code § 92a.51(a) of DEP's regulations, the Department is granting a three-year compliance schedule for Westinghouse Electric Company to come into compliance with the new limit. During the interim period, the previous temperature limits will be imposed.

Table 37: Proposed Interim Effluent Limitations for outfall 009

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	-	-	-	-	2/month	Measured
pH (S.U.)	-	-	6.0	-	-	9.0	2/month	Grab
Total Residual Chlorine (TRC)	-	-	-	0.266	0.621	-	2/month	Grab

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Temperature (ºF) Jan 1 – 31	-	-	-	-	-	87.1	2/month	I-S
Temperature (ºF) Feb 1 - 29	-	-	-	-	-	91.5	2/month	I-S
Temperature (ºF) Mar 1 - Sep 30	-	-	-	-	-	110.0	2/month	I-S
Temperature (ºF) Oct 1 - 15	-	-	-	-	-	110.0	2/month	I-S
Temperature (ºF) Oct 16 - 31	-	-	-	-	-	108.4	2/month	I-S
Temperature (ºF) Nov 1 - 15	-	-	-	-	-	105.1	2/month	I-S
Temperature (ºF) Nov 16 - 30	-	-	-	-	-	87.7	2/month	I-S
Temperature (ºF) Dec 1 - 31	-	-	-	-	-	77.3	2/month	I-S
Total Nitrogen (mg/L)	-	-	-	Report	Report	-	1/6 months	Grab
Total Phosphorus (mg/L)	-	-	-	Report	Report	-	1/6 months	Grab
Total Suspended Solids (TSS) (mg/L)	-	-	-	Report	Report	-	1/6 months	Grab
Oil and Grease (mg/L)	-	-	-	Report	Report	-	1/6 months	Grab
Chemical Oxygen Demand (COD) (mg/L)	-	-	-	Report	Report	-	1/6 months	Grab

Table 38: Proposed Final Effluent Limitations for outfall 009

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Flow (MGD)	Report	Report	-	-	-	-	2/month	Measured
pH (S.U.)	-	-	6.0	-	-	9.0	2/month	Grab
Total Residual Chlorine (TRC)	-	-	-	0.266	0.621	-	2/month	Grab
Temperature (ºF) Jan 1 -31	-	-	-	-	-	41.1	2/month	I-S
Temperature (ºF) Feb 1-29	-	-	-	-	-	41.2	2/month	I-S
Temperature (ºF) Mar 1-31	-	-	-	-	-	48.8	2/month	I-S
Temperature (ºF) Apr 1-15	-	-	-	-	-	55.1	2/month	I-S
Temperature (ºF) April 16-30	-	-	-	-	-	61.1	2/month	I-S
Temperature (ºF) May 1-15	-	-	-	-	-	66.0	2/month	I-S
Temperature (ºF) May 16-31	-	-	-	-	-	75.4	2/month	I-S
Temperature (ºF) Jun 1-15	-	-	-	-	-	82.6	2/month	I-S
Temperature (ºF) Jun 16-30	-	-	-	-	-	86.6	2/month	I-S

Parameter	Mass Units (lb/day)		Concentrations (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instantaneous Maximum	Sample Frequency	Sample Type
Temperature (ºF) Jul 1-31	-	-	-	-	-	88.3	2/month	I-S
Temperature (ºF) Aug 1-31	-	-	-	-	-	88.2	2/month	I-S
Temperature (ºF) Sep 1-15	-	-	-	-	-	84.9	2/month	I-S
Temperature (ºF) Sep 16-30	-	-	-	-	-	78.9	2/month	I-S
Temperature (ºF) Oct 1-15	-	-	-	-	-	73.0	2/month	I-S
Temperature (ºF) Oct 16-31	-	-	-	-	-	67.0	2/month	I-S
Temperature (ºF) Nov 1-15	-	-	-	-	-	59.1	2/month	I-S
Temperature (ºF) Nov 16-30	-	-	-	-	-	50.8	2/month	I-S
Temperature (ºF) Dec 1-31	-	-	-	-	-	42.8	2/month	I-S
Total Nitrogen (mg/L)	-	-	-	Report	Report	-	1/6 months	Grab
Total Phosphorus (mg/L)	-	-	-	Report	Report	-	1/6 months	Grab
Total Suspended Solids (TSS) (mg/L)	-	-	-	Report	Report	-	1/6 months	Grab
Oil and Grease (mg/L)	-	-	-	Report	Report	-	1/6 months	Grab
Chemical Oxygen Demand (COD) (mg/L)	-	-	-	Report	Report	-	1/6 months	Grab

Development of Effluent Limitations

Outfall No. 007,016, 019, 020, 024, 025, 026, 028, 038, 039, and 040 **Design Flow (MGD)** 0
Latitude Varies **Longitude** Varies
Wastewater Description: Stormwater

Outfall No. 005, 011, 012, 018, 021, and 022 **Design Flow (MGD)** 0
Latitude Varies **Longitude** Varies
Wastewater Description: Groundwater and Stormwater

Technology-Based Limitations

Stormwater Technology Limits

Outfalls 005, 007, 011, 012, 016, 018 - 022, 024 - 026, 028, and 038 - 040 will be subject to PAG-03 General Stormwater Permit conditions because it discharges stormwater associated with industrial activity. Based on the site's SIC code, the corresponding appendix that would apply to the facility is Appendix J of the PAG-03.

The PAG-03 was updated in 2022 with several key changes, including the addition of mandatory monitoring for Total Nitrogen and Total Phosphorus across all appendices. For Appendix J specifically, Chemical Oxygen Demand (COD) was also added to the list of parameters to be monitored and reported

The proposed monitoring requirements are shown in Table 39 below. The benchmark values listed below are not effluent limitations, and exceedances do not constitute permit violations. However, if the permittee's sampling demonstrates exceedances of benchmark values for two consecutive monitoring periods, the permittee shall submit a Corrective Action Plan. This requirement will be included in Part C of the permit.

Table 39: PAG-03 Appendix (J) Monitoring Requirements

Parameters	Monitoring Requirements		Benchmark Values
	Minimum Measurement Frequency	Sample Type	
Total Nitrogen (mg/L)	1/6 Months	Calculation	XXX
Total Phosphorus (mg/L)	1/6 Months	Grab	XXX
Total Suspended Solids (TSS) (mg/L)	1/6 Months	Grab	100
Oil and Grease (mg/L)	1/6 Months	Grab	30
pH (S.U)	1/6 Months	Grab	9.0
Chemical Oxygen Demand (COD) (mg/L)	1/6 Months	Grab	120

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 outfalls 005, 007, 011, 012, 016, 018 - 022, 024 - 026, 028, and 038 - 040 are composed entirely of stormwater and uncontaminated groundwater, 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 for outfalls 005, 007, 011, 012, 016, 018 - 022, 024 - 026, 028, and 038 - 040 can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 40.

Table 40: Current Effluent Monitoring Requirements for Stormwater Outfalls

Parameter	Max Daily Concentration	Benchmark Values (mg/L)	Measurement Frequency	Sample Type
Total Suspended Solids (TSS)	Report	100.0	1/6 Months	Grab
Oil and Grease	Report	30.0	1/6 Months	Grab

Proposed Monitoring Requirements

Given the similarity in activities within the drainage areas, representative outfalls were selected for monitoring purposes. Although some outfalls will be exempt from monitoring, they are included in Part C of the permit to facilitate DEP inspections. Regardless of monitoring status, the site must implement and maintain best management practices (BMPs) at all outfalls to ensure compliance with regulatory standards.

The Department is proposing to eliminate the monitoring requirements for Outfalls 019, 020, 021, 022, 025, 026 and 040. Outfalls 005, 007, 011, 012, 016, 018, 024, 028, 038 and 039 will be subject to the semi-annual monitoring requirements in Appendix J of the PAG-03 General Permit. The proposed effluent monitoring requirements are displayed in Table 41 below. A Part C condition is included in the Draft Permit requiring development and submission of a Corrective Action Plan whenever there are two or more consecutive exceedances of the benchmark values, which are also included in the Part C condition. The benchmark values are also displayed below in Table 41. These values are not effluent limitations, an exceedance of the benchmark value is not a violation. A Corrective Action Plan must be developed and submitted to the Department to evaluate site stormwater controls and BMPs. Benchmark monitoring is a feedback tool, along with routine inspections and visual assessments, for assessing the effectiveness of stormwater controls and BMPs. An exceedance of the benchmark provides permittees with an indication that the facility's controls may not be sufficiently controlling pollutants in stormwater.

Table 41: Proposed Monitoring Requirements

Parameters	Concentration (mg/l)				Measurement Frequency	Sample Type	Benchmark Values
	Minimum	Average Monthly	Daily Maximum	Instant. Maximum			
Total Nitrogen	XXX	XXX	Report	XXX	1/6 Months	Calculation	XXX
Total Phosphorus	XXX	XXX	Report	XXX	1/6 Months	Grab	XXX
Total Suspended Solids (TSS)	XXX	XXX	Report	XXX	1/6 Months	Grab	100
Oil and Grease	XXX	XXX	Report	XXX	1/6 Months	Grab	30
pH (S.U)	XXX	XXX	Report	XXX	1/6 Months	Grab	9.0
Chemical Oxygen Demand (COD)	XXX	XXX	Report	XXX	1/6 Months	Grab	120

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment F, J)
☒	TRC Model Spreadsheet (see Attachment G, I, K, L, M, N)
☒	Temperature Model Spreadsheet (see Attachment H)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☐	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 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, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 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, 386-2000-010, 3/1999.
☐	Design Stream Flows, 386-2000-003, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other:

Attachments

Attachment A: East Site - Drainage areas

Attachment B: Main Site – Drainage areas

Attachment C: Flow Diagram outfall 001

Attachment D: Flow Diagram

Attachment E: StreamStats Reports

Attachment F: Toxic Management Spreadsheet for Outfall 001

Attachment G: TRC Modeling Results for Outfall 001

Attachment H: Temperature Modeling Results for Outfall 002

Attachment I: TRC Modeling Results for Outfall 002

Attachment J: Toxic Management Spreadsheet for Outfall 003

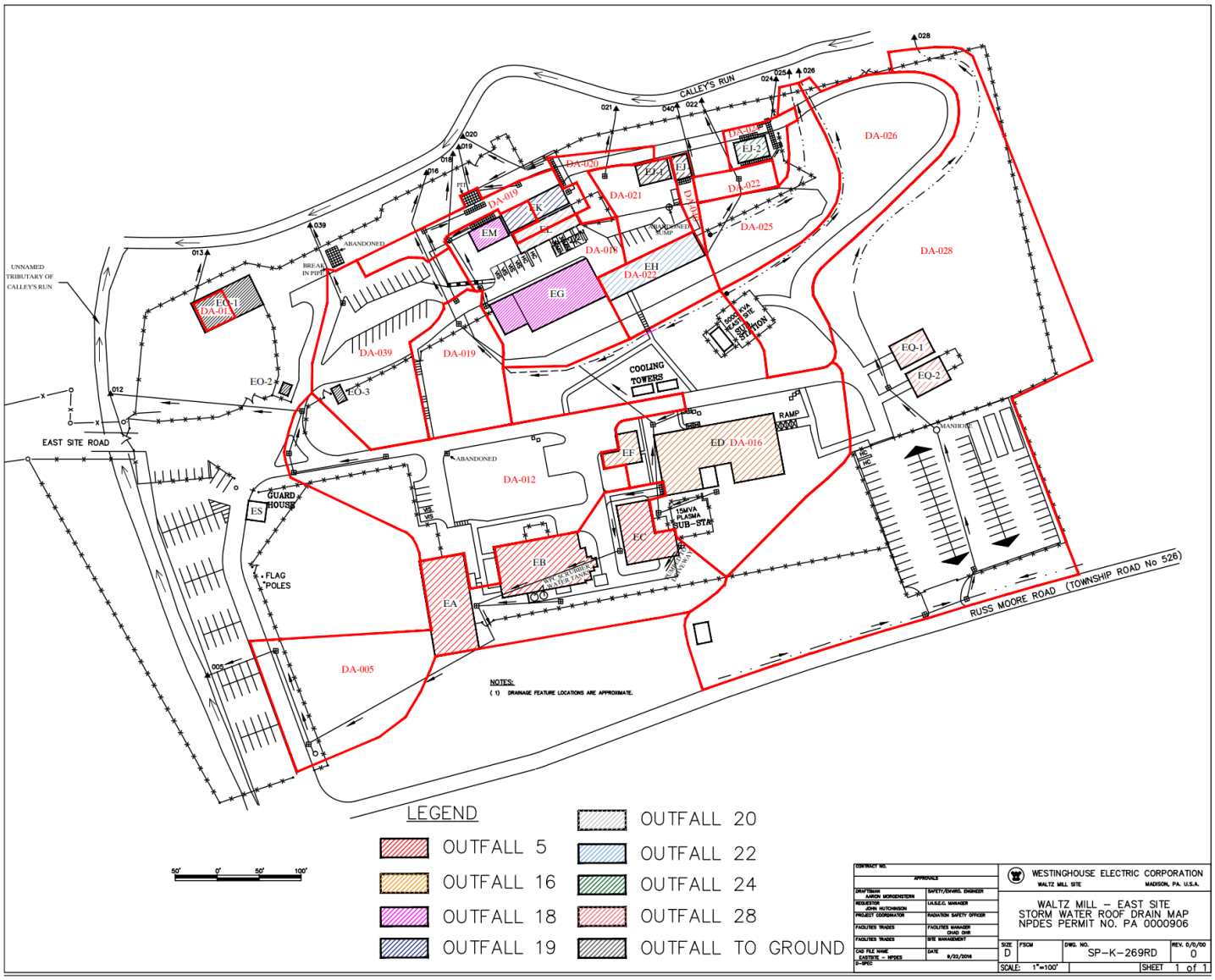
Attachment K: TRC Modeling Results for Outfall 003

Attachment L: TRC Modeling Results for Outfall 006

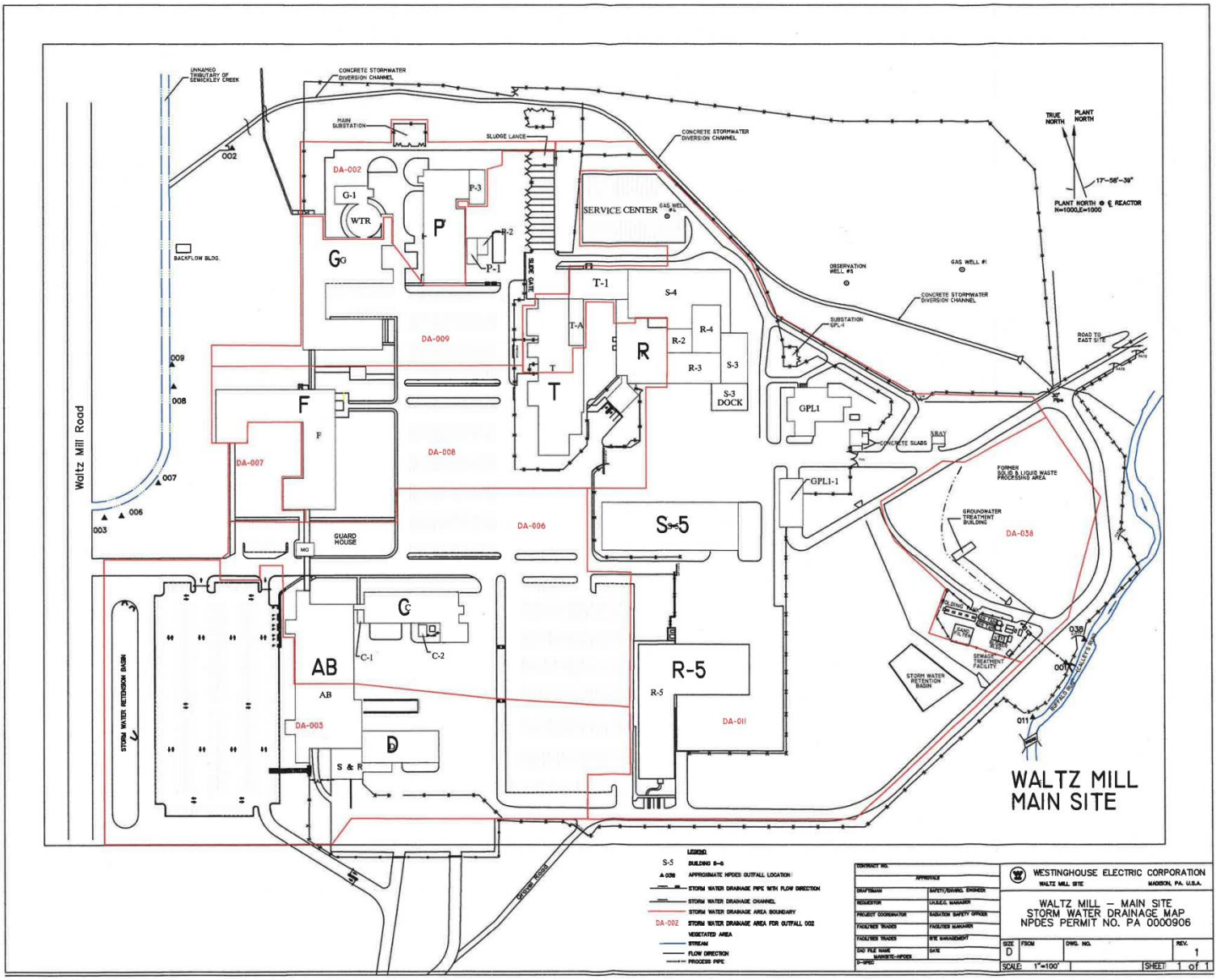
Attachment M: TRC Modeling Results for Outfall 008

Attachment N: TRC Modeling Results for Outfall 009

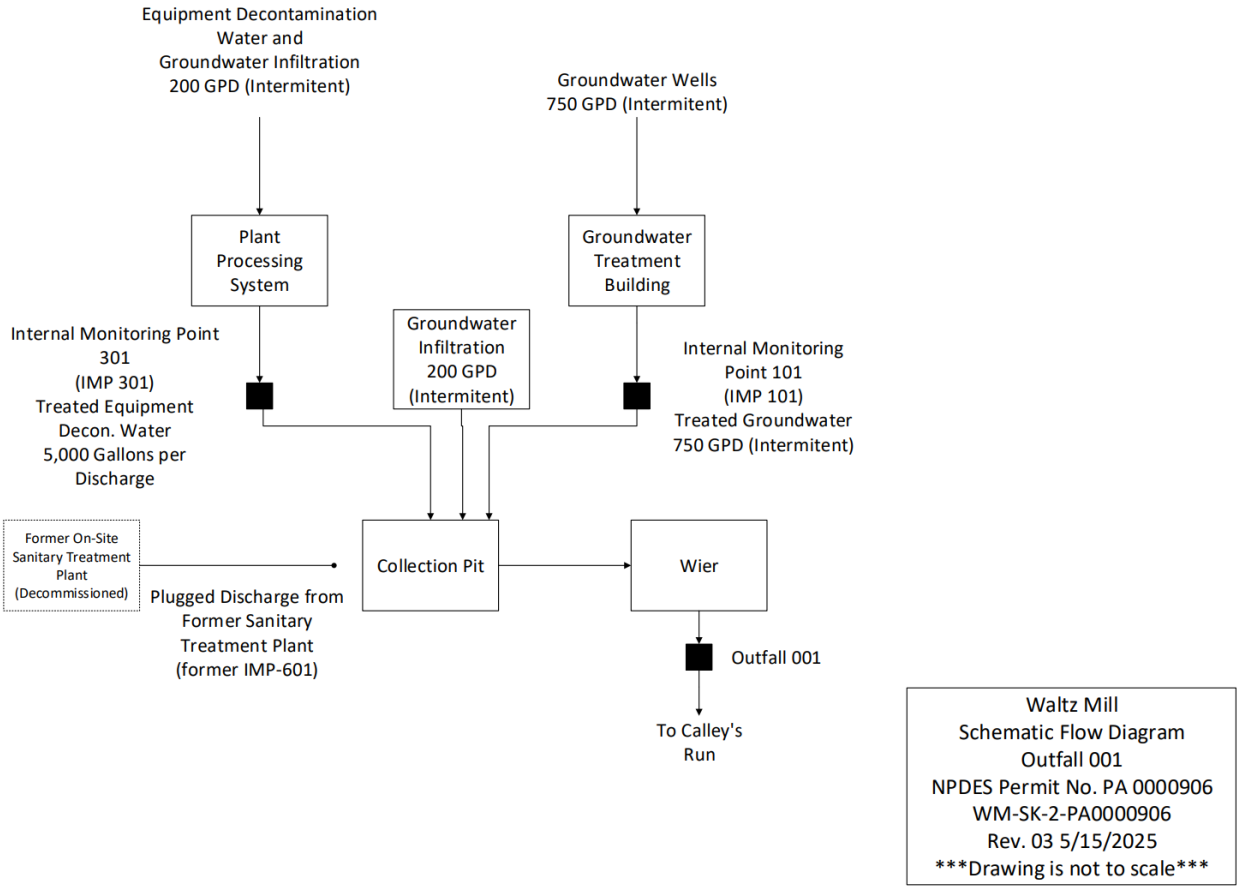
Attachment A: East Site - Drainage areas



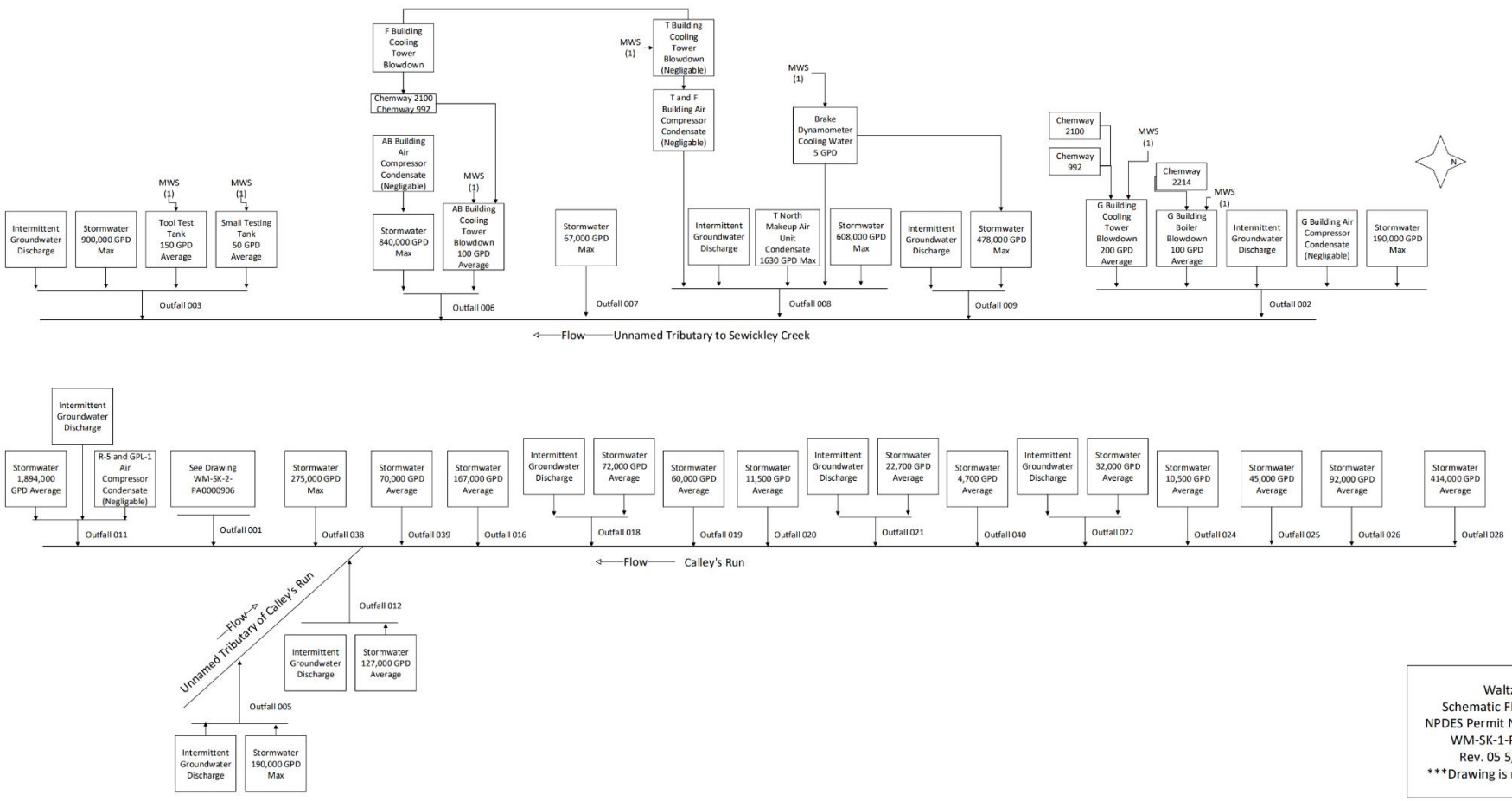
Attachment B: Main Site - Drainage areas



Attachment C: Flow Diagram outfall 001



Attachment D: Flow Diagram

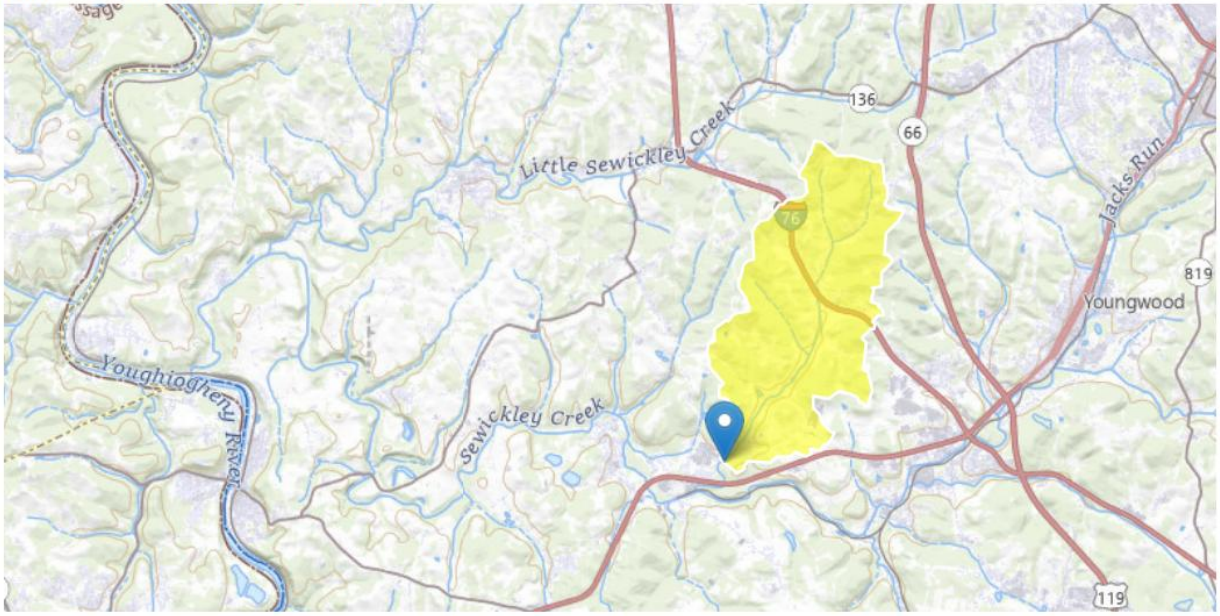


Waltz Mill
Schematic Flow Diagram
NPDES Permit No. PA 0000906
WM-SK-1-PA0000906
Rev. 05 5/15/2025
Drawing is not to scale

Attachment E. StreamStats Reports

PA0000906 - Outfall 001 - StreamStats Report

Region ID: PA
Workspace ID: PA20250910130523913000
Clicked Point (Latitude, Longitude): 40.21462, -79.65777
Time: 2025-09-10 09:05:48 -0400



Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5.37	square miles	2.26	1400
ELEV	Mean Basin Elevation	1119	feet	1050	2580

Low-Flow Statistics Flow Report [Low Flow Region 4]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

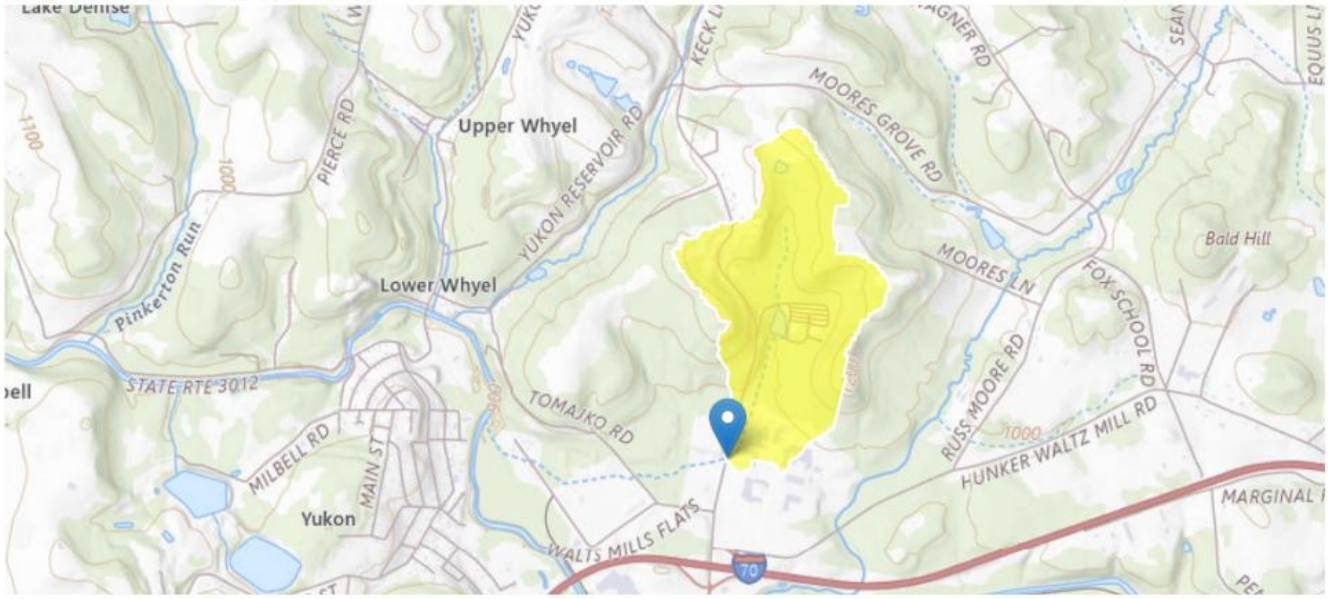
Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.18	ft^3/s	43	43
30 Day 2 Year Low Flow	0.319	ft^3/s	38	38
7 Day 10 Year Low Flow	0.0628	ft^3/s	66	66
30 Day 10 Year Low Flow	0.118	ft^3/s	54	54
90 Day 10 Year Low Flow	0.218	ft^3/s	41	41

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/)

PA0000906- Outfall 003 - StreamStats Report

Region ID: PA
Workspace ID: PA20250911125023458000
Clicked Point (Latitude, Longitude): 40.21654, -79.66506
Time: 2025-09-11 08:50:44 -0400



Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.37	square miles	2.26	1400
ELEV	Mean Basin Elevation	1107	feet	1050	2580

Low-Flow Statistics Disclaimers [Low Flow Region 4]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 4]

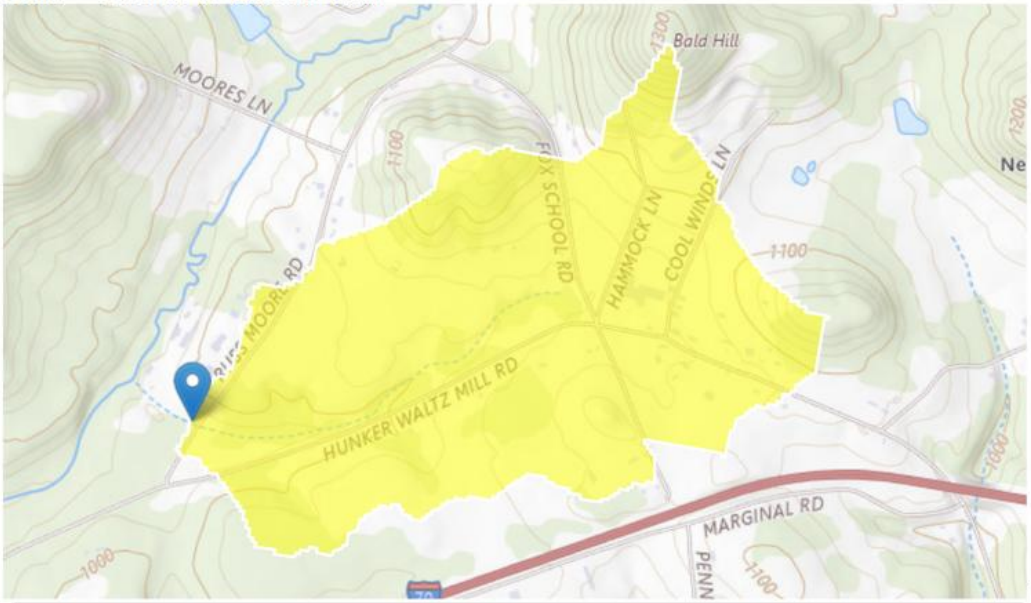
Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00846	ft^3/s
30 Day 2 Year Low Flow	0.017	ft^3/s
7 Day 10 Year Low Flow	0.0023	ft^3/s
30 Day 10 Year Low Flow	0.00528	ft^3/s
90 Day 10 Year Low Flow	0.0111	ft^3/s

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/)

PA0000906 - Outfall 005 - StreamStats Report

Region ID: PA
Workspace ID: PA20250905180457705000
Clicked Point (Latitude, Longitude): 40.21741, -79.65118
Time: 2025-09-05 14:05:19 -0400



Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.4	square miles	2.26	1400
ELEV	Mean Basin Elevation	1055	feet	1050	2580

Low-Flow Statistics Disclaimers [Low Flow Region 4]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 4]

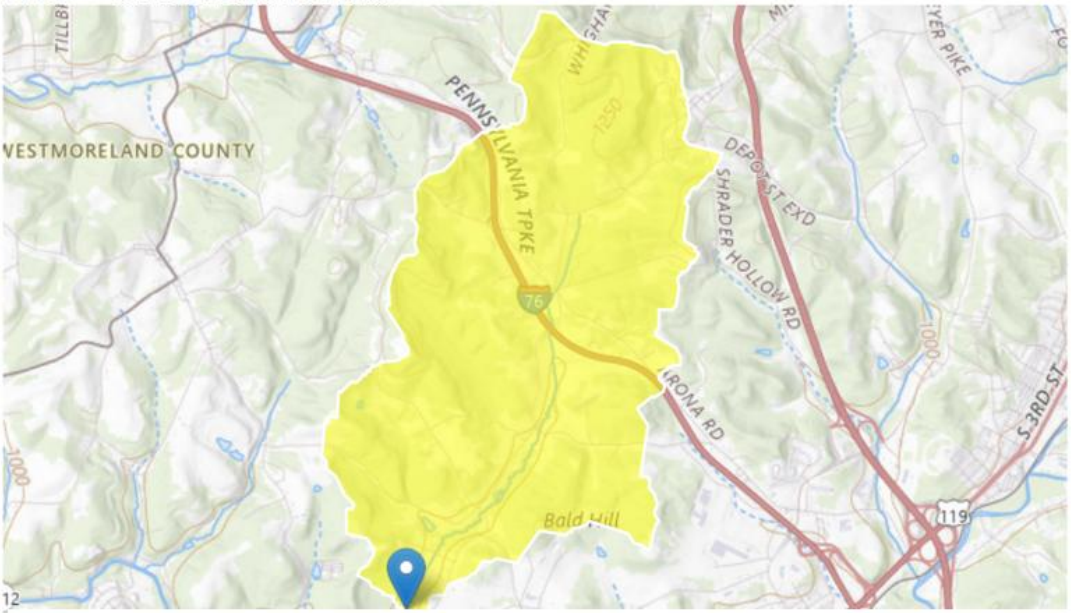
Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00888	ft^3/s
30 Day 2 Year Low Flow	0.0177	ft^3/s
7 Day 10 Year Low Flow	0.00247	ft^3/s
30 Day 10 Year Low Flow	0.0056	ft^3/s
90 Day 10 Year Low Flow	0.0116	ft^3/s

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/)

PA0000906 - Outfall 016 - StreamStats Report

Region ID: PA
Workspace ID: PA20250909135909455000
Clicked Point (Latitude, Longitude): 40.21916, -79.65225
Time: 2025-09-09 09:59:32 -0400



Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	4.78	square miles	2.26	1400
ELEV	Mean Basin Elevation	1129	feet	1050	2580

Low-Flow Statistics Flow Report [Low Flow Region 4]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.159	ft^3/s	43	43
30 Day 2 Year Low Flow	0.283	ft^3/s	38	38
7 Day 10 Year Low Flow	0.0547	ft^3/s	66	66
30 Day 10 Year Low Flow	0.103	ft^3/s	54	54
90 Day 10 Year Low Flow	0.193	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 F: Toxic Management Spreadsheet for outfall 001

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2025

Discharge Information

Instructions | Discharge | Stream

Facility: **Waltz Mill Service Center** NPDES Permit No.: **PA0000906** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Treated groundwater and treated equipmen**

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
0.00595	959	8.42						

					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		1740									
	Chloride (PWS)	mg/L		529									
	Bromide	mg/L	<	0.4									
	Sulfate (PWS)	mg/L		40.6									
	Fluoride (PWS)	mg/L		0.65									
Group 2	Total Aluminum	µg/L	<	20									
	Total Antimony	µg/L	<	0.2									
	Total Arsenic	µg/L	<	2.5									
	Total Barium	µg/L		565									
	Total Beryllium	µg/L	<	0.5									
	Total Boron	µg/L	<	100									
	Total Cadmium	µg/L	<	2									
	Total Chromium (III)	µg/L	<	5									
	Hexavalent Chromium	µg/L	<	1									
	Total Cobalt	µg/L		1.44									
	Total Copper	µg/L		80									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	10									
	Dissolved Iron	µg/L		1500									
	Total Iron	µg/L		38.6									
	Total Lead	µg/L		0.234									
	Total Manganese	µg/L		3700									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		7.47									
	Total Phenols (Phenolics) (PWS)	µg/L	<	5									
	Total Selenium	µg/L	<	2.5									
	Total Silver	µg/L	<	5									
	Total Thallium	µg/L	<	0.1									
	Total Zinc	µg/L		53									
	Total Molybdenum	µg/L		0.146									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										
	Carbon Tetrachloride	µg/L	<										
	Chlorobenzene	µg/L											

Group 3	Chlorodibromomethane	µg/L	<										
	Chloroethane	µg/L	<										
	2-Chloroethyl Vinyl Ether	µg/L	<										
	Chloroform	µg/L	<										
	Dichlorobromomethane	µg/L	<										
	1,1-Dichloroethane	µg/L	<										
	1,2-Dichloroethane	µg/L	<										
	1,1-Dichloroethylene	µg/L	<										
	1,2-Dichloropropane	µg/L	<										
	1,3-Dichloropropylene	µg/L	<										
	1,4-Dioxane	µg/L	<										
	Ethylbenzene	µg/L	<										
	Methyl Bromide	µg/L	<										
	Methyl Chloride	µg/L	<										
	Methylene Chloride	µg/L	<										
	1,1,2,2-Tetrachloroethane	µg/L	<										
	Tetrachloroethylene	µg/L	<										
	Toluene	µg/L	<										
	1,2-trans-Dichloroethylene	µg/L	<										
	1,1,1-Trichloroethane	µg/L	<										
	1,1,2-Trichloroethane	µg/L	<										
	Trichloroethylene	µg/L	<										
	Vinyl Chloride	µg/L	<										
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	<										
	2,6-Dinitrotoluene	µg/L	<										
	Di-n-Octyl Phthalate	µg/L	<										
	1,2-Diphenylhydrazine	µg/L	<										

	Fluoranthene	µg/L	<										
	Fluorene	µg/L	<										
	Hexachlorobenzene	µg/L	<										
	Hexachlorobutadiene	µg/L	<										
	Hexachlorocyclopentadiene	µg/L	<										
	Hexachloroethane	µg/L	<										
	Indeno(1,2,3-cd)Pyrene	µg/L	<										
	Isophorone	µg/L	<										
	Naphthalene	µg/L	<										
	Nitrobenzene	µg/L	<										
	n-Nitrosodimethylamine	µg/L	<										
	n-Nitrosodi-n-Propylamine	µg/L	<										
	n-Nitrosodiphenylamine	µg/L	<										
	Phenanthrene	µg/L	<										
	Pyrene	µg/L	<										
	1,2,4-Trichlorobenzene	µg/L	<										
Group 6	Aldrin	µg/L	<										
	alpha-BHC	µg/L	<										
	beta-BHC	µg/L	<										
	gamma-BHC	µg/L	<										
	delta BHC	µg/L	<										
	Chlordane	µg/L	<										
	4,4-DDT	µg/L	<										
	4,4-DDE	µg/L	<										
	4,4-DDD	µg/L	<										
	Dieldrin	µg/L	<										
	alpha-Endosulfan	µg/L	<										
	beta-Endosulfan	µg/L	<										
	Endosulfan Sulfate	µg/L	<										
	Endrin	µg/L	<										
	Endrin Aldehyde	µg/L	<										
	Heptachlor	µg/L	<										
	Heptachlor Epoxide	µg/L	<										
	PCB-1016	µg/L	<										
	PCB-1221	µg/L	<										
	PCB-1232	µg/L	<										
	PCB-1242	µg/L	<										
	PCB-1248	µg/L	<										
	PCB-1254	µg/L	<										
	PCB-1260	µg/L	<										
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<										
	2,3,7,8-TCDD	ng/L	<										
Group 7	Gross Alpha	pCi/L	<	2.92									
	Total Beta	pCi/L		32.1									
	Radium 226/228	pCi/L		17.5									
	Total Strontium	µg/L		1370									
	Total Uranium	µg/L		0.5									
	Osmotic Pressure	mOs/kg		27									
	PFOA	ng/L		11									
	PFOS	ng/L		100									

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2025

Stream / Surface Water Information

Waltz Mill Service Center, NPDES Permit No. PA0000906, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Unnamed Tributary to Sewickley 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	037648	1.18	938	5.37			Yes
End of Reach 1	037648	0.1	909	5.55			Yes

Q_{7-10}

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	1.18	0.1	0.063									130	7		
End of Reach 1	0.1	0.1	0.065												

Q_h

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	1.18														
End of Reach 1	0.1														

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Toxics Management Spreadsheet
Version 1.4, May 2025

Model Results

Waltz Mill Service Center, NPDES Permit No. PA0000906, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 2.837 PMF: 1 Analysis Hardness (mg/l): 235.68 Analysis pH: 7.06

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	
Chloride (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	5,883	
Total Antimony	0	0		0	1,100	1,100	8,629	
Total Arsenic	0	0		0	340	340	2,667	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	164,732	
Total Boron	0	0		0	8,100	8,100	63,539	
Total Cadmium	0	0		0	4.631	5.1	40.0	Chem Translator of 0.908 applied
Total Chromium (III)	0	0		0	1149.816	3,639	28,543	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	128	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	745	
Total Copper	0	0		0	30.142	31.4	246	Chem Translator of 0.96 applied
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	161.967	243	1,907	Chem Translator of 0.666 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	12.9	Chem Translator of 0.85 applied
Total Nickel	0	0		0	967.055	969	7,601	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	14.055	16.5	130	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	510	
Total Zinc	0	0		0	242.285	248	1,943	Chem Translator of 0.978 applied
Total Strontium	0	0		0	N/A	N/A	N/A	
Osmotic Pressure	0	0		0	50	50.0	392	

PFOA	0	0		0	3,100	3,100	24,318	
PFOS	0	0		0	71	71.0	557	

☑ ***CFC*** CCT (min): 2.837 PMF: 1 Analysis Hardness (mg/l): 235.68 Analysis pH: 7.06

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	
Chloride (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	1,726	
Total Arsenic	0	0		0	150	150	1,177	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	32,162	
Total Boron	0	0		0	1,600	1,600	12,551	
Total Cadmium	0	0		0	0.446	0.51	4.01	Chem Translator of 0.873 applied
Total Chromium (III)	0	0		0	149.567	174	1,364	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	81.5	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	149	
Total Copper	0	0		0	18.632	19.4	152	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	11,767	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	6.312	9.48	74.3	Chem Translator of 0.666 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	7.11	Chem Translator of 0.85 applied
Total Nickel	0	0		0	107.410	108	845	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	39.1	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	102	
Total Zinc	0	0		0	244.266	248	1,943	Chem Translator of 0.986 applied
Total Strontium	0	0		0	N/A	N/A	N/A	
Osmotic Pressure	0	0		0	N/A	N/A	N/A	
PFOA	0	0		0	100	100.0	784	
PFOS	0	0		0	0.25	0.25	1.96	

☑ ***THH*** CCT (min): 2.837 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	
Chloride (PWS)	0	0		0	250,000	250,000	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	43.9	
Total Arsenic	0	0		0	10	10.0	78.4	
Total Barium	0	0		0	2,400	2,400	18,826	
Total Boron	0	0		0	3,100	3,100	24,318	
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	
Dissolved Iron	0	0		0	300	300	2,353	
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	7,844	
Total Mercury	0	0		0	0.050	0.05	0.39	
Total Nickel	0	0		0	610	610	4,785	
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	1.88	
Total Zinc	0	0		0	N/A	N/A	N/A	
Total Strontium	0	0		0	4,000	4,000	31,377	
Osmotic Pressure	0	0		0	N/A	N/A	N/A	
PFOA	0	0		0	N/A	N/A	N/A	
PFOS	0	0		0	N/A	N/A	N/A	

CRL CCT (min): 0.831 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	
Chloride (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	
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	
Total Strontium	0	0		0	N/A	N/A	N/A	
Osmotic Pressure	0	0		0	N/A	N/A	N/A	
PFOA	0	0		0	N/A	N/A	N/A	
PFOS	0	0		0	N/A	N/A	N/A	

☑ ***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 Cadmium	Report	Report	Report	Report	Report	µg/L	4.01	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	0.008	0.012	152	238	381	µg/L	152	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Dissolved Iron	0.12	0.18	2,353	3,672	5,883	µg/L	2,353	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Manganese	Report	Report	Report	Report	Report	µg/L	7,844	THH	Discharge Conc > 10% WQBEL (no RP)
Osmotic Pressure	XXX	XXX	Report	Report	Report	mOs/kg	251	AFC	Discharge Conc > 10% WQBEL (no 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
Chloride (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	3,771	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	18,826	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	12,551	µg/L	Discharge Conc < TQL
Total Chromium (III)	1,364	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	81.5	µg/L	Discharge Conc < TQL
Total Cobalt	149	µg/L	Discharge Conc ≤ 10% WQBEL

Total Cyanide	N/A	N/A	No WQS
Total Iron	11,767	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	74.3	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.39	µg/L	Discharge Conc < TQL
Total Nickel	845	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	39.1	µg/L	Discharge Conc < TQL
Total Silver	83.1	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	1.88	µg/L	Discharge Conc < TQL
Total Zinc	1,246	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
Gross Alpha	N/A	N/A	No WQS
Total Beta	N/A	N/A	No WQS
Radium 226/228	N/A	N/A	No WQS
Total Strontium	31,377	µg/L	Discharge Conc ≤ 10% WQBEL
Total Uranium	N/A	N/A	No WQS
PFOA	784,437	ng/L	Discharge Conc ≤ 25% WQBEL
PFOS	1,961	ng/L	Discharge Conc ≤ 25% WQBEL

Attachment G: TRC Modeling Results for Outfall 001

TRC EVALUATION - Outfall 001

0.063	= Q stream (cfs)	0.5	= CV Daily
0.0059	= Q discharge (MGD)	0.5	= CV Hourly
4	= no. samples	1	= 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 =	2.221	1.3.2.iii	WLA cfc =	2.158
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	0.828	5.1d	LTA_cfc =	1.254

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)**

(0.011/EXP(-K*CFC_tc/1440))+(((CFC_Yc*Qs*0.011)/(1.547*Qd)....
....*EXP(-K*CFC_tc/1440)))+Xd+(CFC_Yc*Qs*Xs/1.547*Qd))*(1-FOS/100)

ATTACHMENT H
Temperature Modeling Results for Outfall 002

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Instructions | *Inputs*

Facility: **Waltz Mill Service Center**

Permit No.: **PA0000906**

Stream Name: **Unnamed Tributary to Sewickley Creek**

Analyst/Engineer: **Angela Rohrer**

Stream Q7-10 (cfs)*: **0.0**

Outfall No.: **002**

Analysis Type*: **WWF**

Facility Flows

Semi-Monthly Increment	Intake (Stream) (MGD)*	Intake (External) (MGD)*	Consumptive Loss (MGD)*	Discharge Flow (MGD)
Jan 1-31	0	0.0225		0.0225
Feb 1-29	0	0.0225		0.0225
Mar 1-31	0	0.0225		0.0225
Apr 1-15	0	0.0225		0.0225
Apr 16-30	0	0.0225		0.0225
May 1-15	0	0.0225		0.0225
May 16-31	0	0.0225		0.0225
Jun 1-15	0	0.0225		0.0225
Jun 16-30	0	0.0225		0.0225
Jul 1-31	0	0.0225		0.0225
Aug 1-15	0	0.0225		0.0225
Aug 16-31	0	0.0225		0.0225
Sep 1-15	0	0.0225		0.0225
Sep 16-30	0	0.0225		0.0225
Oct 1-15	0	0.0225		0.0225
Oct 16-31	0	0.0225		0.0225
Nov 1-15	0	0.0225		0.0225
Nov 16-30	0	0.0225		0.0225
Dec 1-31	0	0.0225		0.0225

Stream Flows

Q7-10 Multipliers (Default Shown)	PMF	Seasonal Stream Flow (cfs)	Downstream Stream Flow (cfs)
3.2	1.00	0.01	0.04
3.5	1.00	0.01	0.04
7	1.00	0.02	0.05
9.3	1.00	0.02	0.06
9.3	1.00	0.02	0.06
5.1	1.00	0.01	0.05
5.1	1.00	0.01	0.05
3	1.00	0.01	0.04
3	1.00	0.01	0.04
1.7	1.00	0.00	0.04
1.4	1.00	0.00	0.04
1.4	1.00	0.00	0.04
1.1	1.00	0.00	0.04
1.1	1.00	0.00	0.04
1.2	1.00	0.00	0.04
1.2	1.00	0.00	0.04
1.6	1.00	0.00	0.04
1.6	1.00	0.00	0.04
2.4	1.00	0.01	0.04

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Thermal Limits Spreadsheet
Version 1.0, April 2024

Instructions | Inputs | *Reference*

Semi-Monthly Increment	WWF Criteria (°F)	CWF Criteria (°F)	TSF Criteria (°F)
Jan 1-31	40	38	40
Feb 1-29	40	38	40
Mar 1-31	46	42	46
Apr 1-15	52	48	52
Apr 16-30	58	52	58
May 1-15	64	54	64
May 16-31	72	58	68
Jun 1-15	80	60	70
Jun 16-30	84	64	72
Jul 1-31	87	66	74
Aug 1-15	87	66	80
Aug 16-31	87	66	87
Sep 1-15	84	64	84
Sep 16-30	78	60	78
Oct 1-15	72	54	72
Oct 16-31	66	50	66
Nov 1-15	58	46	58
Nov 16-30	50	42	50
Dec 1-31	42	40	42

Q7-10 Multipliers (Default Values)
3.2
3.5
7
9.3
9.3
5.1
5.1
3
3
1.7
1.4
1.4
1.1
1.1
1.2
1.2
1.6
1.6
2.4

Default Ambient Stream Temperature (°F)		
WWF	CWF	TSF
35	34	34
35	35	35
40	39	39
47	46	46
53	52	52
58	55	56
62	59	60
67	63	65
71	67	69
75	71	73
74	70	72
74	70	70
71	66	68
65	60	62
60	55	57
54	51	53
48	46	47
42	40	41
37	35	36

NOTES:
WWF= Warm water fishes
CWF= Cold water fishes
TSF= Trout stocking
Default PMF = 1

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Thermal Limits Spreadsheet
Version 1.0, April 2024

Instructions | *WWF Results*

Recommended Limits for Case 1 or Case 2

Semi-Monthly Increment	**WWF** Target Maximum Stream Temp. (°F)	**Case 1** Daily WLA (Million BTUs/day)	**Case 2** Daily WLA (°F)
Jan 1-31	40	N/A -- Case 2	41.1
Feb 1-29	40	N/A -- Case 2	41.2
Mar 1-31	46	N/A -- Case 2	48.8
Apr 1-15	52	N/A -- Case 2	55.1
Apr 16-30	58	N/A -- Case 2	61.1
May 1-15	64	N/A -- Case 2	66.0
May 16-31	72	N/A -- Case 2	75.4
Jun 1-15	80	N/A -- Case 2	82.6
Jun 16-30	84	N/A -- Case 2	86.6
Jul 1-31	87	N/A -- Case 2	88.3
Aug 1-15	87	N/A -- Case 2	88.2
Aug 16-31	87	N/A -- Case 2	88.2
Sep 1-15	84	N/A -- Case 2	84.9
Sep 16-30	78	N/A -- Case 2	78.9
Oct 1-15	72	N/A -- Case 2	73.0
Oct 16-31	66	N/A -- Case 2	67.0
Nov 1-15	58	N/A -- Case 2	59.1
Nov 16-30	50	N/A -- Case 2	50.8
Dec 1-31	42	N/A -- Case 2	42.8

Attachment I: TRC Modeling Results for Outfall 002

TRC EVALUATION - Outfall 002

0.0023	= Q stream (cfs)	0.5	= CV Daily
0.0146	= Q discharge (MGD)	0.5	= CV Hourly
4	= no. samples	1	= 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 = 0.051	1.3.2.iii	WLA cfc = 0.043
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.019	5.1d	LTA_cfc = 0.025

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.720	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.033	AFC
		INST MAX LIMIT (mg/l) = 0.077	

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)**

(0.011/EXP(-K*CFC_tc/1440))+(((CFC_Yc*Qs*0.011)/(1.547*Qd)....
....*EXP(-K*CFC_tc/1440)))+Xd+(CFC_Yc*Qs*Xs/1.547*Qd))*(1-FOS/100)

Attachment J: Toxic Management Spreadsheet for Outfall 003

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Toxics Management Spreadsheet
Version 1.4, May 2025

Discharge Information

Instructions | Discharge | Stream

Facility: **Waltz Mill Service Center** NPDES Permit No.: **PA0000906** Outfall No.: **003**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Tool Testing Tank, groundwater and sotrmv**

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
0.0042	428	9						

					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		2560									
	Chloride (PWS)	mg/L		1440									
	Bromide	mg/L	<	0.4									
	Sulfate (PWS)	mg/L		53.7									
	Fluoride (PWS)	mg/L		0.67									
Group 2	Total Aluminum	µg/L		231									
	Total Antimony	µg/L		0.261									
	Total Arsenic	µg/L	<	2.5									
	Total Barium	µg/L		132									
	Total Beryllium	µg/L	<	0.5									
	Total Boron	µg/L	<	100									
	Total Cadmium	µg/L	<	0.114									
	Total Chromium (III)	µg/L	<	5									
	Hexavalent Chromium	µg/L		750									
	Total Cobalt	µg/L		0.229									
	Total Copper	µg/L		4.79									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L		19									
	Dissolved Iron	µg/L		298									
	Total Iron	µg/L		276									
	Total Lead	µg/L		0.418									
	Total Manganese	µg/L		11.2									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		7.26									
	Total Phenols (Phenolics) (PWS)	µg/L	<	5									
	Total Selenium	µg/L	<	2.5									
	Total Silver	µg/L	<	0.5									
	Total Thallium	µg/L	<	0.1									
	Total Zinc	µg/L		34.4									
	Total Molybdenum	µg/L		1.13									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										
	Carbon Tetrachloride	µg/L	<										
	Chlorobenzene	µg/L											

Group 3	Chlorodibromomethane	µg/L	<											
	Chloroethane	µg/L	<											
	2-Chloroethyl Vinyl Ether	µg/L	<											
	Chloroform	µg/L	<											
	Dichlorobromomethane	µg/L	<											
	1,1-Dichloroethane	µg/L	<											
	1,2-Dichloroethane	µg/L	<											
	1,1-Dichloroethylene	µg/L	<											
	1,2-Dichloropropane	µg/L	<											
	1,3-Dichloropropylene	µg/L	<											
	1,4-Dioxane	µg/L	<											
	Ethylbenzene	µg/L	<											
	Methyl Bromide	µg/L	<											
	Methyl Chloride	µg/L	<											
	Methylene Chloride	µg/L	<											
	1,1,2,2-Tetrachloroethane	µg/L	<											
	Tetrachloroethylene	µg/L	<											
	Toluene	µg/L	<											
	1,2-trans-Dichloroethylene	µg/L	<											
	1,1,1-Trichloroethane	µg/L	<											
	1,1,2-Trichloroethane	µg/L	<											
	Trichloroethylene	µg/L	<											
	Vinyl Chloride	µg/L	<											
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	<											
	2,6-Dinitrotoluene	µg/L	<											
	Di-n-Octyl Phthalate	µg/L	<											
	1,2-Diphenylhydrazine	µg/L	<											

	Fluoranthene	µg/L	<										
	Fluorene	µg/L	<										
	Hexachlorobenzene	µg/L	<										
	Hexachlorobutadiene	µg/L	<										
	Hexachlorocyclopentadiene	µg/L	<										
	Hexachloroethane	µg/L	<										
	Indeno(1,2,3-cd)Pyrene	µg/L	<										
	Isophorone	µg/L	<										
	Naphthalene	µg/L	<										
	Nitrobenzene	µg/L	<										
	n-Nitrosodimethylamine	µg/L	<										
	n-Nitrosodi-n-Propylamine	µg/L	<										
	n-Nitrosodiphenylamine	µg/L	<										
	Phenanthrene	µg/L	<										
	Pyrene	µg/L	<										
	1,2,4-Trichlorobenzene	µg/L	<										
Group 6	Aldrin	µg/L	<										
	alpha-BHC	µg/L	<										
	beta-BHC	µg/L	<										
	gamma-BHC	µg/L	<										
	delta BHC	µg/L	<										
	Chlordane	µg/L	<										
	4,4-DDT	µg/L	<										
	4,4-DDE	µg/L	<										
	4,4-DDD	µg/L	<										
	Dieldrin	µg/L	<										
	alpha-Endosulfan	µg/L	<										
	beta-Endosulfan	µg/L	<										
	Endosulfan Sulfate	µg/L	<										
	Endrin	µg/L	<										
	Endrin Aldehyde	µg/L	<										
	Heptachlor	µg/L	<										
	Heptachlor Epoxide	µg/L	<										
	PCB-1016	µg/L	<										
	PCB-1221	µg/L	<										
	PCB-1232	µg/L	<										
	PCB-1242	µg/L	<										
	PCB-1248	µg/L	<										
	PCB-1254	µg/L	<										
	PCB-1260	µg/L	<										
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<										
	2,3,7,8-TCDD	ng/L	<										
Group 7	Gross Alpha	pCi/L											
	Total Beta	pCi/L	<										
	Radium 226/228	pCi/L	<										
	Total Strontium	µg/L	<										
	Total Uranium	µg/L	<										
	Osmotic Pressure	mOs/kg											
	PFOA	ng/L		1.6									
	PFOS	ng/L		4.7									

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Toxics Management Spreadsheet
Version 1.4, May 2025

Stream / Surface Water Information

Waltz Mill Service Center, NPDES Permit No. PA0000906, Outfall 003

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Unnamed Tributary to Sewickley 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	037648	0.86	947	0.37			Yes
End of Reach 1	037648	0.1	894	0.81			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	0.86	0.1	0.0023									130	7		
End of Reach 1	0.1	0.1	0.059												

Q_h

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	0.86														
End of Reach 1	0.1														

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Toxics Management Spreadsheet
Version 1.4, May 2025

Model Results

Waltz Mill Service Center, NPDES Permit No. PA0000906, Outfall 003

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.025 PMF: 1 Analysis Hardness (mg/l): 350.09 Analysis pH: 7.57

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	
Chloride (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	1,015	
Total Antimony	0	0		0	1,100	1,100	1,489	
Total Arsenic	0	0		0	340	340	460	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	28,434	
Total Boron	0	0		0	8,100	8,100	10,967	
Total Cadmium	0	0		0	6.798	7.63	10.3	Chem Translator of 0.892 applied
Total Chromium (III)	0	0		0	1589.931	5,031	6,812	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	22.1	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	129	
Total Copper	0	0		0	43.762	45.6	61.7	Chem Translator of 0.96 applied
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	244.836	402	545	Chem Translator of 0.608 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	2.23	Chem Translator of 0.85 applied
Total Nickel	0	0		0	1351.579	1,354	1,834	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	27.759	32.7	44.2	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	88.0	
Total Zinc	0	0		0	338.797	346	469	Chem Translator of 0.978 applied
PFOA	0	0		0	3,100	3,100	4,197	
PFOS	0	0		0	71	71.0	96.1	

☑ ***CFC*** CCT (min): 0.025 PMF: 1 Analysis Hardness (mg/l): 350.09 Analysis pH: 7.57

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	
Chloride (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	298	
Total Arsenic	0	0		0	150	150	203	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	5,551	
Total Boron	0	0		0	1,600	1,600	2,166	
Total Cadmium	0	0		0	0.587	0.68	0.93	Chem Translator of 0.857 applied
Total Chromium (III)	0	0		0	206.817	240	326	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	14.1	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	25.7	
Total Copper	0	0		0	26.128	27.2	36.9	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	2,031	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	9.541	15.7	21.2	Chem Translator of 0.608 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	1.23	Chem Translator of 0.85 applied
Total Nickel	0	0		0	150.119	151	204	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	6.76	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	17.6	
Total Zinc	0	0		0	341.568	346	469	Chem Translator of 0.986 applied
PFOA	0	0		0	100	100.0	135	
PFOS	0	0		0	0.25	0.25	0.34	

☑ ***THH*** CCT (min): 0.025 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	
Chloride (PWS)	0	0		0	250,000	250,000	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	7.58	
Total Arsenic	0	0		0	10	10.0	13.5	
Total Barium	0	0		0	2,400	2,400	3,250	
Total Boron	0	0		0	3,100	3,100	4,197	

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	
Dissolved Iron	0	0		0	300	300	406	
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	1,354	
Total Mercury	0	0		0	0.050	0.05	0.068	
Total Nickel	0	0		0	610	610	826	
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	0.32	
Total Zinc	0	0		0	N/A	N/A	N/A	
PFOA	0	0		0	N/A	N/A	N/A	
PFOS	0	0		0	N/A	N/A	N/A	

CRL CCT (min): 0.094 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	
Chloride (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	
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	
PFOA	0	0		0	N/A	N/A	N/A	
PFOS	0	0		0	N/A	N/A	N/A	

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 Aluminum	Report	Report	Report	Report	Report	µg/L	750	AFC	Discharge Conc > 10% WQBEL (no RP)
Hexavalent Chromium	0.0005	0.0008	14.1	22.0	35.2	µg/L	14.1	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Copper	Report	Report	Report	Report	Report	µg/L	36.9	CFC	Discharge Conc > 10% WQBEL (no RP)
Dissolved Iron	0.014	0.022	406	634	1,015	µg/L	406	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Iron	Report	Report	Report	Report	Report	µg/L	2,031	CFC	Discharge Conc > 10% WQBEL (no 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
Chloride (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 Antimony	7.58	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	3,250	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	2,166	µg/L	Discharge Conc < TQL
Total Cadmium	0.93	µg/L	Discharge Conc < TQL
Total Chromium (III)	326	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	25.7	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Total Lead	21.2	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	1,354	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.068	µg/L	Discharge Conc < TQL
Total Nickel	204	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	6.76	µg/L	Discharge Conc < TQL
Total Silver	32.7	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	0.32	µg/L	Discharge Conc < TQL

Total Zinc	346	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
PFOA	135,399	ng/L	Discharge Conc ≤ 25% WQBEL
PFOS	338	ng/L	Discharge Conc ≤ 25% WQBEL

Attachment K: TRC Modeling Results for Outfall 003

TRC EVALUATION - Outfall 003

0.0023	= Q stream (cfs)	0.5	= CV Daily
0.0042	= Q discharge (MGD)	0.5	= CV Hourly
4	= no. samples	1	= 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 = 0.132	1.3.2.iii	WLA cfc = 0.121
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.049	5.1d	LTA_cfc = 0.070

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.720	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.085	AFC
		INST MAX LIMIT (mg/l) = 0.198	

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)**

(0.011/EXP(-K*CFC_tc/1440))+(((CFC_Yc*Qs*0.011)/(1.547*Qd)....
....*EXP(-K*CFC_tc/1440)))+Xd+(CFC_Yc*Qs*Xs/1.547*Qd))*(1-FOS/100)

Attachment L: TRC Modeling Results for Outfall 006

TRC EVALUATION - Outfall 006

0.0023	= Q stream (cfs)	0.5	= CV Daily
0.0043	= Q discharge (MGD)	0.5	= CV Hourly
4	= no. samples	1	= 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 =	0.129	1.3.2.iii	WLA cfc =	0.119
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	0.048	5.1d	LTA_cfc =	0.069

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.720	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.083	AFC
		INST MAX LIMIT (mg/l) =	0.194	

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)**

(0.011/EXP(-K*CFC_tc/1440))+(((CFC_Yc*Qs*0.011)/(1.547*Qd)....
....*EXP(-K*CFC_tc/1440)))+Xd+(CFC_Yc*Qs*Xs/1.547*Qd))*(1-FOS/100)

Attachment M: TRC Modeling Results for Outfall 008

TRC EVALUATION - Outfall 008

0.0023	= Q stream (cfs)	0.5	= CV Daily
0.0024	= Q discharge (MGD)	0.5	= CV Hourly
4	= no. samples	1	= 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 = 0.217	1.3.2.iii	WLA cfc = 0.204
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.081	5.1d	LTA_cfc = 0.118

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.720	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.139	AFC
		INST MAX LIMIT (mg/l) = 0.325	

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)**

(0.011/EXP(-K*CFC_tc/1440))+(((CFC_Yc*Qs*0.011)/(1.547*Qd)....
....*EXP(-K*CFC_tc/1440)))+Xd+(CFC_Yc*Qs*Xs/1.547*Qd))*(1-FOS/100)

Attachment N: TRC Modeling Results for Outfall 009

TRC EVALUATION - Outfall 009

0.0023	= Q stream (cfs)	0.5	= CV Daily
0.0012	= Q discharge (MGD)	0.5	= CV Hourly
4	= no. samples	1	= 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 = 0.414	1.3.2.iii	WLA cfc = 0.396
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.154	5.1d	LTA_cfc = 0.230

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.720	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.266	AFC
		INST MAX LIMIT (mg/l) = 0.621	

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)**

(0.011/EXP(-K*CFC_tc/1440))+(((CFC_Yc*Qs*0.011)/(1.547*Qd)....
....*EXP(-K*CFC_tc/1440)))+Xd+(CFC_Yc*Qs*Xs/1.547*Qd))*(1-FOS/100)