Pennsylvania Department of Environmental Protection

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0000558**
Facility Type	**Industrial**	APS ID	**1094076**
Major / Minor	**Minor**	Authorization ID	**1449569**

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

Applicant and Facility Information

Applicant Name	**Hertz Gateway Center LP**	Facility Name	**Gateway Center**
Applicant Address	603 Stanwix Street	Facility Address	Two Gateway Center
	Pittsburgh, PA 15222-1425		Pittsburgh, PA 15222
Applicant Contact	Gretchen Martin	Facility Contact	Gretchen Martin
Applicant Phone	(412) 926-9415	Facility Phone	(412) 926-9415
Client ID	247212	Site ID	252696
SIC Code	6512	Municipality	Pittsburgh City
SIC Description	Fin, Ins & Real Est - Nonresidential Building Operators	County	Allegheny
Date Application Received	August 1, 2023	EPA Waived?	Yes
Date Application Accepted	August 7, 2023	If No, Reason	

Purpose of Application: Renewal of NPDES permit for discharge of NCCW and strainer backwash water

Summary of Review

The Department received an NPDES permit renewal application from Hertz Gateway Center LP for the Gateway Center facility on 8/1/2023. The current permit was issued on 1/24/2019 with an effective date of 2/1/2019 and an expiration date of 1/31/2024. Coverage under the current permit has been administratively extended since the expiration date. Gateway Center has held an NPDES permit since 1990. Gateway Center is in receivership managed by CBRE, Inc. and the current contact is Gretchen Martin, CBRE Real Estate Manager. The previous contact named on the renewal application, Douglas Krahnke, is no longer employed with the company.

Facility Description

Gateway Center is a 1.5 million square foot commercial building complex located in downtown Pittsburgh. Noncontact cooling water discharge originates from the air conditioning condenser cooling process. The air conditioning system is used for temperature control in all four of Gateway Center buildings, the Wyndham Hotel, and the Gateway Tower Condominiums. Water is withdrawn from the Allegheny River, treated with chlorination and a corrosion inhibitor, strained (using a Kinney strainer), and discharged back to the Allegheny River after the once-through cooling process (i.e., no cooling water recirculation) through Outfall 001. The Kinney strainers are backwashed with water from the intake that has been pumped through a basket strainer; backwash water is discharged through Outfall 001. The Allegheny River has a 25 PA Code Chapter 93 Warm Water Fishes designated use and is impaired for pathogens and polychlorinated biphenyls (PCBs), both from an unknown source (source: *2024 Integrated Report*).

Gateway Center currently has no open violations under the Clean Water program but has 11 open violations from the Storage Tanks program. Storage Tanks indicated that these open violations should not hinder NPDES permit renewal. The

Approve	Deny	Signatures	Date
X		Jace William Marsh / Environmental Engineering Specialist	October 20, 2025
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	October 31, 2025

Summary of Review

facility last had a compliance evaluation inspection on 10/28/2021 performed by Shawn Bell with no violations noted. An overlooked issue with payment resulted in the sampling contractor ceasing sample processing, so from the past year only sample data up to February 2025 is available. Hertz Gateway Center LP is now aware of this issue, all open DMRs have been marked with the proper NODI code "E"—analysis not conducted/no sample, and the permittee is reestablishing the sampling program. DMR data available from the past year displayed on Page 5 and Page 6 of this Draft fact sheet shows concentrations compliant with current effluent limits.

Basis for Rescinding 316(b) Requirements for Cooling Water Intake Structure (CWIS)

40 CFR Part 125 Subpart J establishes requirements that apply to CWIS's at existing facilities under Section 316(b) of the Clean Water Act. The prior permit issuance imposed site-specific impingement mortality and entrainment requirements in 40 CFR 125.94 based on 40 CFR 125.91 which states:

> *(a) The owner or operator of an existing facility, as defined in § 125.92(k), is subject to the requirements at §§ 125.94 through 125.99 if:*
>
> > *(1) The facility is a point source;*
> >
> > *(2) The facility uses or proposes to use one or more cooling water intake structures with a cumulative design intake flow (DIF) of greater than 2 million gallons per day (mgd) to withdraw water from waters of the United States; and*
> >
> > *(3) Twenty-five percent or more of the water the facility withdraws on an actual intake flow basis is used exclusively for cooling purposes.*

With this renewal, DEP proposes to rescind site-specific impingement mortality and entrainment requirements in 40 CFR 125.94 on the basis that 40 CFR Part 125 Subpart J does not apply to heating, ventilation, and air conditioning (HVAC) systems for a commercial building complex. The final rule, 79 FR 48300, on which 40 CFR Part 125 Subpart J is based states:

> "*The purpose of this action is to reduce impingement and entrainment of fish and other aquatic organisms at cooling water intake structures used by certain existing* ***power generation and manufacturing facilities*** *for the withdrawal of cooling water from waters of the United States. This rule establishes requirements under section 316(b) of the Clean Water Act (CWA) for* ***existing power generating facilities and existing manufacturing and industrial facilities*** *that are designed to withdraw more than 2 million gallons per day (mgd) of water from waters of the United States and use at least 25 percent of the water they withdraw exclusively for cooling purposes."*

The language of the final rule presupposes that any facility subject to 40 CFR Part 125 Subpart J is a power generation or manufacturing facility. This presupposition makes prior application of the regulation to a commercial building complex's HVAC system invalid.

Basis for Eliminating Internal Monitoring (IMP) Point 101

IMP 101, consisting of backwash water from the Kinney strainers, was added in the prior permit renewal issued on 1/24/2019. The Kinney strainers undergo 48 backwash cycles per day, with one occurring approximately every half hour. Limits were based on DEP Best Practicable Technology Currently Available (BPT) effluent limits for wastewater from treatment of water treatment plant (WTP) sludge and filter backwash (Table 1). It was historically an IMP with the same limits but was removed originally in an older renewed permit issued on 6/24/2013. This Draft renewal proposes to, once again, remove the IMP using similar reasoning to the 6/24/2013 renewal: the straining system only captures debris larger than ¼" in size; the remainder passes through the system to Outfall 001. Part C.I.B. of a standard NPDES permit for discharge of industrial waste already requires collection and management of screenings. There is no settling treatment for the backwash which is discharged directly back to the Allegheny River. Discharge from backwash of the Kinney Strainers is more appropriately controlled by Part C.I.B. than Part A effluent limitations given the design of this system.

Summary of Review

Table 1. BPT Limits for WTP Filter Backwash Wastewater

Parameter	Monthly Avg (mg/L)	Daily Max (mg/L)
Total Suspended solids (TSS)	30.0	60.0
Total Iron	2.0	4.0
Total Aluminum	4.0	8.0
Total Manganese	1.0	2.0
Flow	Monitor	----
pH (S.U.)	Not less than 6.0 nor greater than 9.0 at all times	
Total Residual Chlorine	0.5	1.0

Draft Effluent Limitation Summary

Effluent limitations in the Draft permit for Outfall 001 remain unchanged from the prior permit. Draft permit issuance is recommended.

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	Design Flow (MGD)	26.05
Latitude	40º 26' 37"	Longitude	-80º 00' 23"
Quad Name	Pittsburgh West	Quad Code	1505
Wastewater Description:	Noncontact cooling water (NCCW) from air conditioning condenser and Kinney strainer backwash water		
Receiving Waters	Allegheny River (WWF)	Stream Code	42122
NHD Com ID	123970637	RMI	0.54
Drainage Area	11700 mi^2	Yield (cfs/mi^2)	0.204
Q_{7-10} Flow (cfs)	2390	Q_{7-10} Basis	USACE Q7-10 Flows of Major Rivers
Elevation (ft)	716	Slope (ft/ft)	0.12 (mean basin slope)
Watershed No.	18-A	Chapter 93 Class.	WWF
Existing Use	n/a	Existing Use Qualifier	n/a
Exceptions to Use	n/a	Exceptions to Criteria	n/a
Assessment Status	Impaired		
Cause(s) of Impairment	Pathogens, Polychlorinated Biphenyls (PCBs)		
Source(s) of Impairment	Source Unknown		
TMDL Status	Final	Name	Allegheny River
Nearest Downstream Public Water Supply Intake	West View Water Authority		
PWS Waters	Ohio RIver	Flow at Intake (cfs)	4730
PWS RMI	35.26 (from PA state line)	Distance from Outfall (mi)	5.25

Changes Since Last Permit Issuance:

A request was made in the application to change the design flow from 20.3 MGD to 26.05 MGD.

Duquesne Light Company – Brunot Island intake is no longer active and West View Water Authority is now the nearest downstream public water supply intake.

Other Comments:

Compliance History

DMR Data for Outfall 001 (from September 1, 2024 to August 31, 2025)

Parameter	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24
Flow (MGD) Average Monthly	2.833580	2.833580	3.286754	4.020957	9.961549	10.695983
Flow (MGD) Daily Maximum	10.712482	10.712482	4.825526	17.989586	18.291244	25.092210
pH (S.U.) Daily Minimum	6.9	6.9	6.9	0.01	6.9	7.1
pH (S.U.) Instantaneous Maximum	7.4	7.4	7.4	7.5	7.4	7.3
TRC (mg/L) Average Monthly	0.00001	0.00001	0.00001	< 0.0001	0.07	0.08
TRC (mg/L) Daily Maximum	0.00001	0.00001	0.0000001	< 0.00001	0.08	0.09
Temperature (ºF) Average Monthly	68.1	68.1	68.1	72.7	76.1	77.5
Temperature (ºF) Instantaneous Maximum	71.9	71.9	71.9	79.8	80.4	80.6

DMR Data for Outfall 101 (from September 1, 2024 to August 31, 2025)

Parameter	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24
Flow (MGD) Internal Monitoring Point Average Monthly	0.050200	0.044908	E	0.043267	0.066336
Flow (MGD) Internal Monitoring Point Daily Maximum	0.054643	0.053075	E	0.051797	0.092341
pH (S.U.) Internal Monitoring Point Daily Minimum	E	7.01	6.71	6.73	7.16
pH (S.U.) Internal Monitoring Point Instantaneous Maximum	E	7.01	6.71	7.87	7.73
TRC (mg/L) Internal Monitoring Point Average Monthly	E	< 0.20	< 0.20	< 0.20	0.220
TRC (mg/L) Internal Monitoring Point Instantaneous Maximum	E	< 0.20	< 0.20	< 0.20	0.26
TSS (mg/L) Internal Monitoring Point Average Monthly	E	< 5.0	< 5.0	< 5.0	5.5

TSS (mg/L) Internal Monitoring Point Daily Maximum	E	< 5.0	< 5.0	< 5.0	7.0
Total Aluminum (mg/L) Internal Monitoring Point Average Monthly	E	< 0.014	< 0.028	0.050	0.020
Total Aluminum (mg/L) Internal Monitoring Point Daily Maximum	E	< 0.010	0.010	0.078	0.028
Total Iron (mg/L) Internal Monitoring Point Average Monthly	E	< 0.0543	< 0.0873	0.340	0.065
Total Iron (mg/L) Internal Monitoring Point Daily Maximum	E	< 0.0200	0.0200	0.934	0.089
Total Manganese (mg/L) Internal Monitoring Point Average Monthly	E	< 0.007	< 0.040	0.043	0.005
Total Manganese (mg/L) Internal Monitoring Point Daily Maximum	E	< 0.005	< 0.005	0.054	0.006

Development of Effluent Limitations

Outfall No.	001	**Design Flow (MGD)**	26.05
Latitude	40º 26' 37"	**Longitude**	-80º 00' 23"

Wastewater Description: Noncontact cooling water (NCCW) from air conditioning condenser and Kinney strainer backwash water

The NCCW component of the Outfall 001 discharge is controlled through effluent limitations in the Draft permit. Debris from the Kinney strainer backwash is controlled through a Part C condition, Part C.I.B., which requires that collected screenings, slurries, sludges, and other solids be handled, recycled and/or disposed of.

Technology-Based Limitations (TBEL)

Federal Effluent Limitation Guidelines (ELGs)

The facility is not subject to any Federal ELGs.

Regulatory Effluent Standards and Monitoring Requirements

Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1) as indicated in Table 1 below.

The pH effluent range for all industrial waste process and non-process discharges pursuant to 25 Pa. Code § 92a.48(a)(2) and 25 Pa. Code § 95.2 is indicated in Table 1 below.

Temperature monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(2) as indicated in Table 1 below.

Pursuant to 25 Pa. Code § 92a.48(b) the imposition of technology-based Total Residual Chlorine (TRC) limits for facilities that use chlorination and that are not already subject to TRC limits based on applicable federal ELG's or a facility specific BPJ evaluation as indicated in Table 1 below.

Table 2. Regulatory Effluent Standards

Parameter	Monthly Average	Daily Max	Instantaneous Max
Flow (MGD)	Monitor	Monitor	—
pH (S.U.)	Wastes must have a pH of not less than 6.0 nor greater than 9.0		
Temperature	—	—	Monitor
TRC (mg/L)	0.5	—	1.6

Total Dissolved Solids (TDS)

This facility is exempt from 25 Pa. Code § 95.10 which outlines treatment requirements for new and expanding mass loadings of TDS and clarifies which facilities are exempt. The relevant section qualifying the exemption states:

> *(a) The following are not considered new and expanding mass loadings of TDS and are exempt from the treatment requirements in this section:*
>
> *(1) Maximum daily discharge loads of TDS or specific conductivity levels that were authorized by the Department prior to August 21, 2010. These discharge loads will be considered existing mass loadings by the Department.*

Water Quality-Based Effluent Limitations (WQBEL)

Chemical Additives

River water used for NCCW is treated with ChemAqua-32115 for inhibiting corrosion and Accu-Tab S1 for chlorination prior to discharge through Outfall 001. DEP had been notified of these treatments and had approved them prior to this renewal. As such, no effluent limitations were applied for treatment chemicals, but a Part C condition was added to the Draft permit stating, among other requirements, that DEP may amend the permit to include water quality-based effluent limitations or otherwise control usage rates of chemical additives if there is evidence that usage is adversely affecting

receiving waters, producing Whole Effluent Toxicity test failures, or is causing excursions of in-stream water quality standards

Table 3. Chemical additives from application

CHEMICAL ADDITIVES					
1. Identify all chemical additives that have been introduced to any waste stream over the past two years.					
Chemical Additive Name	**Outfall / IMP No.**	**Purpose**	**Usage Frequency**	**Max Usage Rate**	**Units**
Chem-Aqua 32115	001	Corrossion Inhibitor	Daily	0.14	PPM
Accu-Tab S1	001	Water Disinfection	Daily	0.03	PPM

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 C, indicate that average monthly limits of 0.5 mg/L and instantaneous maximum limits of 1.17 mg/L are required for TRC.

Table 4. TRC limits from TRC_CALC

Parameter	Monthly Average (mg/L)	Instantaneous Max (mg/L)
Total Residual Chlorine	0.5	1.17

Thermal WQBELs for Heated Discharges (Noncontact Cooling Water)

Thermal WQBELs are evaluated using the Department's program called Thermal Limits Spreadsheet (TLS) 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 includes 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. The Department 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.

Discharge from Outfall 001 is classified as Case 1 because the facility's water is obtained from the receiving stream Previously, the thermal discharge limits for this permit were based on a design flow of 20.3 MGD, but since the highest daily maximum flow over the past two years of eDMR data is 103.245505 MGD, more than five times the design and average flows provided in the application, that daily maximum flow is used.

The Department's *Implementation Guidance for Temperature Criteria* directs permit writers to assume instantaneous complete mixing of the discharge with the receiving stream when calculating thermal effluent limits unless adverse factors exist. The Allegheny River is wide and impounded, two factors considered adverse, and this discharge is significant relative

to river flow so the standard partial mix factor of 1 is changed to 0.5. This change models the discharge assimilating with only half the Q_{7-10} flow of 2390 cfs.

The results of the thermal analysis, included in Attachment C, indicate that only a baseline 110°F limit is applicable to protect public safety in the Commonwealth. The output from the TLS is shown in Table 5.

Table 5. Thermal discharge limits for Outfall 001

Semi-Monthly Increment	WWF Target Max Instream Temperature (°F)	Daily Temperature Limit (°F)
Jan 1-31	40	110.0
Feb 1-29	40	110.0
Mar 1-31	46	110.0
Apr 1-15	52	110.0
Apr 16-30	58	110.0
May 1-15	64	110.0
May 16-31	72	110.0
Jun 1-15	80	110.0
Jun 16-30	84	110.0
Jul 1-31	87	110.0
Aug 1-15	87	110.0
Aug 16-31	87	110.0
Sep 1-15	84	110.0
Sep 16-30	78	110.0
Oct 1-15	72	110.0
Oct 16-31	66	110.0
Nov 1-15	58	110.0
Nov 16-30	50	110.0
Dec 1-31	42	110.0

Anti-Backsliding

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

Table 6. Previous limits for Outfall 001

Parameter	Mass (pounds)		Concentration (mg/L)			Samples	
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instantaneous Maximum	Frequency	Sample Type
Flow (MGD)	Report	Report	—		—	Continuous	Measured
pH (S.U.)	—	—	6.0-9.0 at all times			1/day	Grab
TRC	—	—	0.5	1.0	1.17	2/month	Grab
Temperature (°F)	—	—	Report	—	110.0	1/day	I-S

Proposed Effluent Limitations and Monitoring Requirements

Effluent limits applicable at Outfall 001 are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements as summarized in Table 7. Effluent limits remain the same as the prior permit.

Table 7. Effluent limits and monitoring requirements for Outfall 001

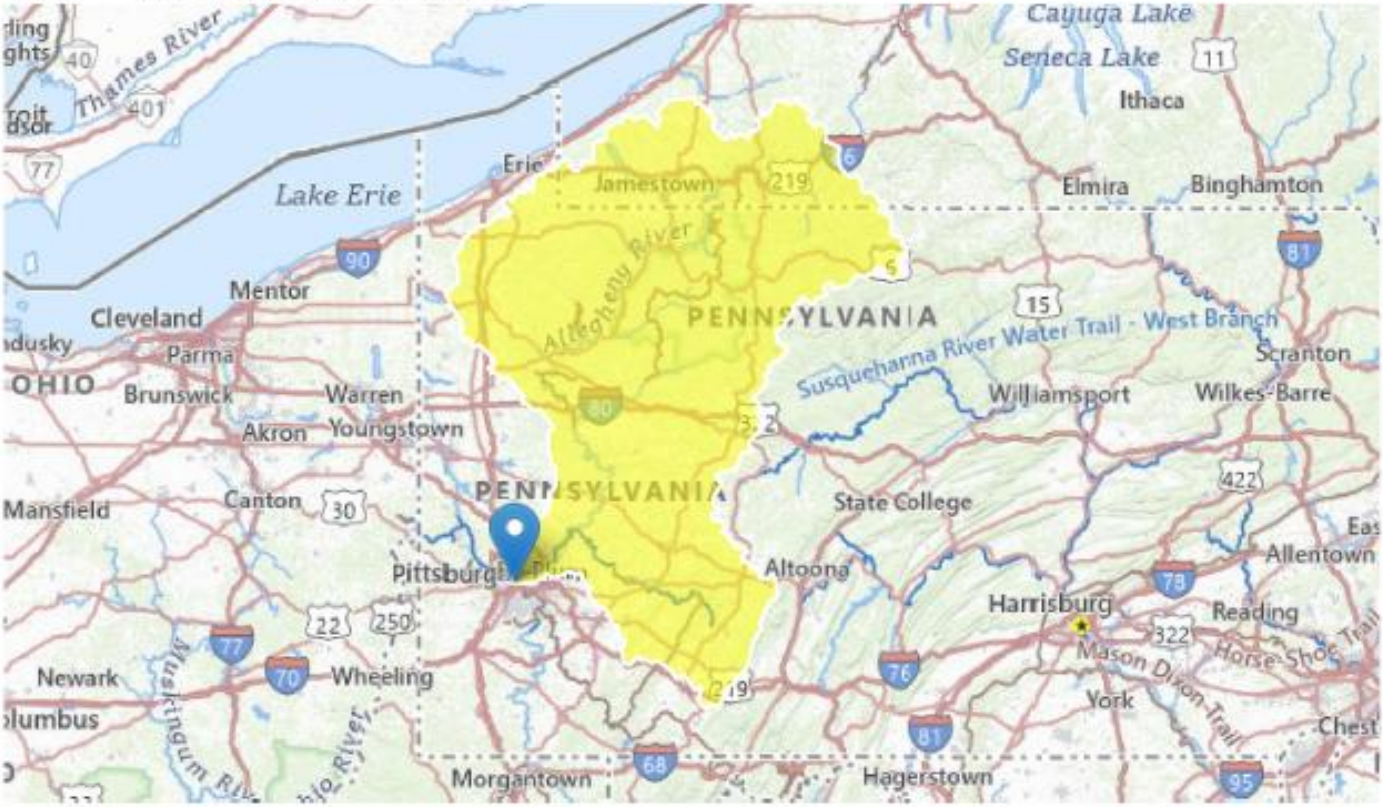
Parameter	Mass (pounds)		Concentration (mg/L)			Samples	
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instantaneous Maximum	Frequency	Sample Type
Flow (MGD)	Report	Report	—		—	Continuous	Measured
pH (S.U.)	—	—	Not less than 6.0 nor greater than 9.0 at all times			1/day	Grab
TRC	—	—	0.5	1.0	1.17	2/month	Grab
Temperature (°F)	—	—	Report	—	110.0	1/day	I-S

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☐	Toxics Management Spreadsheet (see Attachment)
☒	TRC Model Spreadsheet (see Attachment B)
☒	Temperature Model Spreadsheet (see Attachment C)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 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: Establishing Effluent Limits for Individual Industrial Permits (BCW-PMT-032)
☒	Other: USGS StreamStats (see Attachment A)

Attachment A:
USGS StreamStats

PA0000558 StreamStats Report

Region ID: PA
Workspace ID: PA20251001183903589000
Clicked Point (Latitude, Longitude): 40.44456, -80.00751
Time: 2025-10-01 14:39:32 -0400



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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	6.9879	degrees
DRNAREA	Area that drains to a point on a stream	11700	square miles
ELEV	Mean Basin Elevation	1589	feet
PRECIP	Mean Annual Precipitation	44	inches

Low-Flow Statistics

Low-Flow Statistics Parameters [96.0 Percent (11200 square miles) Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	11700	square miles	2.33	1720
ELEV	Mean Basin Elevation	1589	feet	898	2700
PRECIP	Mean Annual Precipitation	44	inches	38.7	47.9

Low-Flow Statistics Parameters [4.0 Percent (497 square miles) Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	11700	square miles	2.26	1400
ELEV	Mean Basin Elevation	1589	feet	1050	2580

Low-Flow Statistics Disclaimers [96.0 Percent (11200 square miles) Low Flow Region 3]

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

Low-Flow Statistics Flow Report [96.0 Percent (11200 square miles) Low Flow Region 3]

Statistic	Value	Unit
7 Day 2 Year Low Flow	1530	ft^3/s
30 Day 2 Year Low Flow	1940	ft^3/s
7 Day 10 Year Low Flow	1020	ft^3/s
30 Day 10 Year Low Flow	1210	ft^3/s
90 Day 10 Year Low Flow	1640	ft^3/s

Low-Flow Statistics Disclaimers [4.0 Percent (497 square miles) 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 [4.0 Percent (497 square miles) Low Flow Region 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	1530	ft^3/s
30 Day 2 Year Low Flow	1940	ft^3/s
7 Day 10 Year Low Flow	1000	ft^3/s
30 Day 10 Year Low Flow	1090	ft^3/s
90 Day 10 Year Low Flow	1500	ft^3/s

Low-Flow Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
7 Day 2 Year Low Flow	1530	ft^3/s
30 Day 2 Year Low Flow	1940	ft^3/s
7 Day 10 Year Low Flow	1020	ft^3/s
30 Day 10 Year Low Flow	1210	ft^3/s
90 Day 10 Year Low Flow	1630	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/)

Attachment B:
TRC Model Spreadsheet

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

2390	= Q stream (cfs)	0.5	= CV Daily
103.245505	= Q discharge (MGD)	0.5	= CV Hourly
4	= no. samples	0.5	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	0.5	= 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)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 2.406	1.3.2.iii	WLA cfc = 2.338
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.896	5.1d	LTA_cfc = 1.359

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

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

Attachment C:
Thermal Limits Spreadsheet

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Instructions | *Inputs*

Facility: **Gateway Center**

Permit No.: **PA0000558**

Stream Name: **Allegheny River**

Analyst/Engineer: **Jace Marsh**

Stream Q7-10 (cfs)*: **2,390.0**

Outfall No.: **001**

Analysis Type*: **WWF**

Facility Flows

Semi-Monthly Increment	Intake (Stream) (MGD)*	Intake (External) (MGD)*	Consumptive Loss (MGD)*	Discharge Flow (MGD)
Jan 1-31	103			103
Feb 1-29	103			103
Mar 1-31	103			103
Apr 1-15	103			103
Apr 16-30	103			103
May 1-15	103			103
May 16-31	103			103
Jun 1-15	103			103
Jun 16-30	103			103
Jul 1-31	103			103
Aug 1-15	103			103
Aug 16-31	103			103
Sep 1-15	103			103
Sep 16-30	103			103
Oct 1-15	103			103
Oct 16-31	103			103
Nov 1-15	103			103
Nov 16-30	103			103
Dec 1-31	103			103

Stream Flows

Q7-10 Multipliers (Default Shown)	PMF	Seasonal Stream Flow (cfs)	Downstream Stream Flow (cfs)
3.2	0.50	7648.00	3903.67
3.5	0.50	8365.00	4262.17
7	0.50	16730.00	8444.67
9.3	0.50	22227.00	11193.17
9.3	0.50	22227.00	11193.17
5.1	0.50	12189.00	6174.17
5.1	0.50	12189.00	6174.17
3	0.50	7170.00	3664.67
3	0.50	7170.00	3664.67
1.7	0.50	4063.00	2111.17
1.4	0.50	3346.00	1752.67
1.4	0.50	3346.00	1752.67
1.1	0.50	2629.00	1394.17
1.1	0.50	2629.00	1394.17
1.2	0.50	2868.00	1513.67
1.2	0.50	2868.00	1513.67
1.6	0.50	3824.00	1991.67
1.6	0.50	3824.00	1991.67
2.4	0.50	5736.00	2947.67

Instructions | *WWF Results*

Recommended Limits for Case 1 or Case 2

Semi-Monthly Increment	**WWF** Target Maximum Stream Temp. (ºF)	**Case 1** Daily WLA (Million BTUs/day)	**Case 2** Daily WLA (ºF)
Jan 1-31	40	105,204	110.0
Feb 1-29	40	114,865	110.0
Mar 1-31	46	273,101	110.0
Apr 1-15	52	301,656	110.0
Apr 16-30	58	301,656	110.0
May 1-15	64	199,673	110.0
May 16-31	72	332,788	110.0
Jun 1-15	80	256,783	110.0
Jun 16-30	84	256,783	110.0
Jul 1-31	87	136,551	110.0
Aug 1-15	87	122,810	110.0
Aug 16-31	87	122,810	110.0
Sep 1-15	84	97,690	110.0
Sep 16-30	78	97,690	110.0
Oct 1-15	72	97,904	110.0
Oct 16-31	66	97,904	110.0
Nov 1-15	58	107,351	110.0
Nov 16-30	50	85,881	110.0
Dec 1-31	42	79,440	110.0