pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

South West Regional Office
CLEAN WATER PROGRAM

Application Type	**New**	Application No.	**PA0285013**
Facility Type	**Industrial**	APS ID	**1072683**
Major / Minor	**Minor**	Authorization ID	**1412606**

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

Applicant and Facility Information

Applicant Name	**Shippingport Industrial Park LLC**	Facility Name	**Shippingport Industrial Park (Former Bruce Mansfield Power Plant)**
Applicant Address	500 Seneca Street, Suite 504	Facility Address	State Route 3016
	Buffalo, NY 14204		Shippingport, PA 16103
Applicant Contact	Jeff Wind, Environmental Compliance Mgr.	Facility Contact	Ryan Jacobs, Environmental Technician
Applicant Phone	(716) 713-5102	Facility Phone	(716) 387-0638
Applicant Email	jwind@fic-services.com	Facility Email	rjacobs@fic-services.com
Client ID	371324	Site ID	239163
SIC Code	49	Municipality	Shippingport Borough
SIC Description	Electric, Gas and Sanitary Services	County	Beaver
Date Application Received	September 14, 2022	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: New permit for existing discharges of sewage, groundwater, and storm water.

Summary of Review

On September 14, 2022, Shippingport Industrial Park, LLC ("SIP") submitted an application for a new NPDES permit for existing, modified discharges from the former Bruce Mansfield Power Plant ("Plant"). Discharges from the Plant are currently authorized by NPDES PA0027481.

On August 11, 2018, DEP published a draft NPDES permit for the then-operating Plant and associated Little Blue Run Disposal Area ("LBR"). The Plant shut down in November 2019. The new permit will authorize SIP to discharge sewage, groundwater, and storm water from the Plant while the Plant is redeveloped. Activities preceding publication of the draft permit for the Plant and LBR in 2018 and activities following the draft permit comment period leading up to and including the receipt of SIP's application for a new NPDES permit are described in the following section.

Background Information

On January 10, 2018, a fire at the Plant caused significant damage to the scrubber and related equipment for Units 1 and 2.

On March 31, 2018, FirstEnergy Solutions Corp. and six affiliated debtors—including FirstEnergy Generation LLC—each filed a voluntary petition for relief under Chapter 11 of the US Bankruptcy Code in the US Bankruptcy Court for the Northern District of Ohio.

On February 5, 2019, Units 1 and 2 at the Plant were deactivated.

In March 2019, DEP prepared to renew NPDES Permit PA0027481 for discharges from the Plant and LBR. DEP considered and prepared responses to all comments on the draft permit. However, due to litigation related to NPDES permitting for another coal-fired power plant in the state, DEP did not renew NPDES Permit PA0027481 at that time.

Approve	Deny	Signatures	Date
X		Ryan C. Decker, P.E. / Environmental Engineer	October 25, 2022
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	November 9, 2022

Summary of Review

On November 7, 2019, Unit 3 at the Plant was deactivated. The Plant ceased all power generating operations at that time. Pursuant to the cessation of power generation, the Plant and LBR are no longer subject to 40 CFR Part 423 – Steam Electric Power Generating Point Source Category Effluent Limitations Guidelines after November 7, 2019. However, discharges from the Plant and LBR are subject to the terms and conditions of administratively extended NPDES Permit PA0027481—including any limits imposed in that permit based on Part 423—until the terms and conditions of that permit are modified by a DEP permitting action or actions.

On February 27, 2020, FirstEnergy Solutions Corp. emerged from bankruptcy as an independent company named Energy Harbor. FirstEnergy Generation LLC was renamed to Energy Harbor Generation LLC ("EHG") and maintained ownership of the Plant and LBR.

On March 5, 2020, DEP received an application from EHG for a permit amendment to document the name change from FirstEnergy Generation LLC to Energy Harbor Generation LLC.

On April 7, 2020, EHG submitted a Coal Pile Decommissioning Plan to clean up the coal pile at the Plant. DEP provided comments on the plan by email dated April 21, 2020.

On July 6, 2020, EHG submitted a revised Coal Pile Decommissioning Plan and proceeded to implement the plan when DEP indicated it had no further comments.

On March 2, 2021, EHG notified DEP that Phase 1 of the revised Coal Pile Decommissioning Plan was substantially complete including removal of remaining coal down to the clay layer across the 90-acre coal yard and grading of the coal yard so that it slopes to the existing perimeter channels. The perimeter channels drain to the Plant's existing Low Dissolved Solids (LDS) Pond from which water is pumped to the stilling basin at LBR for discharge through EHG Outfall 022. Vegetating of the former coal yard proceeded under Phase 2 of the Coal Pile Decommissioning Plan. During a site visit on June 1, 2022, DEP observed that the coal yard was mostly covered with vegetation.

On June 1, 2022, SIP—a subsidiary of Frontier Industrial Corporation ("Frontier")—acquired the Plant from Energy Harbor Generation LLC. At the time of this writing in October 2022, LBR is still owned by Energy Harbor Generation LLC.

On June 21, 2022, DEP, EHG, SIP, and Frontier entered into a First Amendment to the November 23, 2010 Consent Order and Agreement. The November 23, 2010 Consent Order and Agreement ("2010 COA"), originally entered into by DEP and FirstEnergy Generation Corp. (the predecessor to EHG), imposed obligations on FirstEnergy Generation Corp. relating to groundwater contamination at the Plant from historical spills of #2 fuel oil. The First Amendment transferred EHG's obligations (as FirstEnergy Generation Corp.'s successor) under the 2010 COA to SIP and Frontier and modified those obligations to allow SIP and Frontier to cease operating the groundwater recovery system. SIP and Frontier are required to continue groundwater monitoring and to implement control measures pursuant to DEP's Land Recycling Program ("Act 2") if monitoring shows that pollutant concentrations exceed Act 2's cleanup standards (Medium Specific Concentrations or "MSCs"). The First Amendment also covers the potential to cease groundwater monitoring after eight consecutive quarters of results below Act 2's MSCs.

On September 2, 2022, following discussions with DEP, EHG submitted an updated NPDES permit renewal application to remove Plant outfalls from PA0027481 consistent with SIP's acquisition of the Plant and the attendant legal separation of LBR from the Plant. As an exception, SIP will continue to pump storm water that collects in the Plant's LDS Pond to LBR through an existing pipeline that was used to transport coal combustion byproducts from the Plant to LBR for disposal. The pipeline currently routes flow to the secondary spillway at LBR, thus bypassing the disposal impoundment which is not approved to receive any additional wastes. Water in the secondary spillway flows to the stilling basin at the base of the disposal impoundment's dam for treatment. Effluent from the stilling basin discharges through Outfall 022. During the forthcoming permit term, SIP will develop a plan to manage and discharge storm water at the Plant so that the pumping of water from the LDS Pond to LBR ceases. In the interim, EHG will be responsible for all wastewater discharges at Outfall 022, including wastewater contributions pumped to LBR from the Plant. Despite EHG's acceptance of that responsibility as part of an agreement between SIP and EHG, SIP will be required to monitor its pumped wastewaters at a new Internal Monitoring Point 122 (IMP 122). Data collected at IMP 122 will be used to determine SIP's contribution to the presence of pollutants regulated at EHG Outfall 022 under PA0027481.

On September 14, 2022, SIP submitted an application for a new NPDES permit for discharges from the Plant.

Summary of Review

Based on the September 2, 2022 application update from EHG and the September 14, 2022 application from SIP, PA0027481 will be renewed to exclude Plant Outfalls 001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, and 014, and Internal Monitoring Points 107, 307, 407, 507, and 607. Those outfalls and IMPs will be permitted by new NPDES Permit PA0285013. Outfall 707 was proposed in the 2018 draft permit but will not be permitted by PA0285013 because the alternative power plant operating conditions and discharges it would have permitted do not apply following deactivation of the Plant. Since PA0027481 is currently in effect under administrative extension, DEP intends to take simultaneous permitting actions to renew PA0027481 and to issue PA0285013 to avoid a lapse in permit coverage or duplicate permit coverage for discharges from the Plant and LBR.

Cooling Water Intake Structure

FirstEnergy previously operated a cooling water intake structure at the Plant that was subject to 40 CFR Part 125, Subpart J - Requirements Applicable to Cooling Water Intake Structures for Existing Facilities Under Section 316(b) of the Clean Water Act. Subpart J establishes Best Technology Available (BTA) standards to reduce impingement mortality and entrainment of all life stages of fish and shellfish at existing power-generating and manufacturing facilities. FirstEnergy submitted the information required by 40 CFR § 122.21(r) relating to the characteristics of the intake structure, its operations, and data on the source water body. However, before the Plant shut down, DEP determined that additional entrainment information was necessary to make a final BTA determination.

The intake structure will remain intact at the Plant and may be used by a future operator at the site to withdraw water for cooling purposes. Presently, SIP does not propose to use the intake structure to withdraw water from the Ohio River for cooling purposes or for other reasons. SIP also may demolish the cooling towers that are part of the former Plant's closed-cycle recirculating system. Therefore, the intake structure is not a cooling water intake structure. The NPDES permit will not include any requirements pursuant to Section 316(b) of the Clean Water Act since that section currently does not apply. If the intake structure will be used by SIP or another onsite operator at any time during this permit term to withdraw water for cooling purposes, then SIP must notify DEP in advance of that proposed use so that the permit can be modified to impose 316(b) requirements. The following condition will be included in the permit accordingly:

> The intake structure shall not be used to withdraw cooling water from waters of the United States unless the permittee submits an "Application for NPDES Permit Amendment" at least 180 days before such proposed use and DEP modifies the permit to include cooling water intake structure requirements pursuant to Section 316(b) of the Clean Water Act and implementing regulations in 40 CFR Part 125. The "Application for NPDES Permit Amendment" must include the cooling water intake structure information required by DEP's "Application for Individual Permit to Discharge Industrial Wastewater" and 40 CFR § 122.21(r).

Public Participation

DEP will publish notice of the 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 an 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)	Variable
Latitude	40° 37' 51"	Longitude	-80° 24' 40"
Quad Name	Midland	Quad Code	1302
Wastewater Description:	Storm water from the switchyard area		
Receiving Waters	Haden Run	Stream Code	33523
NHD Com ID	99681430	RMI	0.83
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-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	Removal of Vegetation, Road Runoff		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS ID	5040038	PWS Withdrawal (MGD)	7.2 MGD pumping capacity 7.0 MGD safe yield
PWS Waters	Ohio River	Flow at Intake (cfs)	5,880
PWS RMI	944.8	Distance from Outfall (mi)	<2 (opposite bank)

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	Variable
Latitude	40° 37' 58"	Longitude	-80° 24' 54"
Quad Name	Midland	Quad Code	1302
Wastewater Description:	Storm water from the former Unit 1 and Unit 2 thickener areas		

Receiving Waters	Haden Run	Stream Code	33523
NHD Com ID	99681430	RMI	0.56
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-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	Removal of Vegetation, Road Runoff		
TMDL Status		Name	

Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS ID	5040038	PWS Withdrawal (MGD)	7.2 MGD pumping capacity 7.0 MGD safe yield
PWS Waters	Ohio River	Flow at Intake (cfs)	5,880
PWS RMI	944.8	Distance from Outfall (mi)	<2 (opposite bank)

Discharge, Receiving Waters and Water Supply Information

Outfall No.	003	Design Flow (MGD)	Variable
Latitude	40° 37' 57"	Longitude	-80° 24' 59"
Quad Name	Midland	Quad Code	1302
Wastewater Description:	Storm water from the plant parking lot		
Receiving Waters	Haden Run	Stream Code	33523
NHD Com ID	99681430	RMI	0.49
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-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	Removal of Vegetation, Road Runoff		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS ID	5040038	PWS Withdrawal (MGD)	7.2 MGD pumping capacity 7.0 MGD safe yield
PWS Waters	Ohio River	Flow at Intake (cfs)	5,880
PWS RMI	944.8	Distance from Outfall (mi)	<2 (opposite bank)

Discharge, Receiving Waters and Water Supply Information

Outfall No.	004	Design Flow (MGD)	Variable
Latitude	40° 37' 52"	Longitude	-80° 25' 17"
Quad Name	Midland	Quad Code	1302
Wastewater Description:	Storm water from west side of the plant by WDA		
Receiving Waters	Haden Run	Stream Code	33523
NHD Com ID	99681430	RMI	0.21
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation, Siltation		
Source(s) of Impairment	Removal of Vegetation, Road Runoff		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS ID	5040038	PWS Withdrawal (MGD)	7.2 MGD pumping capacity 7.0 MGD safe yield
PWS Waters	Ohio River	Flow at Intake (cfs)	5,880
PWS RMI	944.8	Distance from Outfall (mi)	<2 (opposite bank)

Discharge, Receiving Waters and Water Supply Information

Outfall No.	005	Design Flow (MGD)	Variable
Latitude	40° 37' 53"	Longitude	-80° 25' 18"
Quad Name	Midland	Quad Code	1302
Wastewater Description:	Storm water from west side of the plant by WDA		
Receiving Waters	Haden Run	Stream Code	33523
NHD Com ID	99681430	RMI	0.17
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation, Siltation		
Source(s) of Impairment	Removal of Vegetation, Road Runoff		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS ID	5040038	PWS Withdrawal (MGD)	7.2 MGD pumping capacity 7.0 MGD safe yield
PWS Waters	Ohio River	Flow at Intake (cfs)	5,880
PWS RMI	944.8	Distance from Outfall (mi)	<2 (opposite bank)

Discharge, Receiving Waters and Water Supply Information

Outfall No.	006	Design Flow (MGD)	Variable
Latitude	40° 38' 02"	Longitude	-80° 25' 14"
Quad Name	Midland	Quad Code	1302
Wastewater Description:	Storm water from former material handling operations and dewatering		
Receiving Waters	Ohio River	Stream Code	32317
NHD Com ID	99681380	RMI	947.00
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-B	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Aquatic Life, Potable Water Supply [Attaining]; Fish Consumption; Recreation [Impaired]		
Cause(s) of Impairment	Dioxins, Chlordane, PCBs [Fish Consumption], Pathogens [Recreation]		
Source(s) of Impairment	Sources Unknown		
TMDL Status	Final (April 9, 2001)	Name	Ohio River
Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS ID	5040038	PWS Withdrawal (MGD)	7.2 MGD pumping capacity 7.0 MGD safe yield
PWS Waters	Ohio River	Flow at Intake (cfs)	5,880
PWS RMI	944.8	Distance from Outfall (mi)	<2 (opposite bank)

Discharge, Receiving Waters and Water Supply Information

Outfall No.	007	Design Flow (MGD)	Variable
Latitude	40° 38' 07"	Longitude	-80° 25' 11"
Quad Name	Midland	Quad Code	1302
Wastewater Description:	Storm water and depression well groundwater from the cooling tower settling basin (IMP 107); storm water from the Unit 1, Unit 2, and Unit 3 cooling tower basins (IMPs 307, 407, & 507); and storm water from the cooling tower area (IMP 607)		
Receiving Waters	Ohio River	Stream Code	32317
NHD Com ID	99681380	RMI	947.10
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-B	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Aquatic Life, Potable Water Supply [Attaining]; Fish Consumption; Recreation [Impaired]		
Cause(s) of Impairment	Dioxins, Chlordane, PCBs [Fish Consumption], Pathogens [Recreation]		
Source(s) of Impairment	Sources Unknown		
TMDL Status	Final (April 9, 2001)	Name	Ohio River
Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS ID	5040038	PWS Withdrawal (MGD)	7.2 MGD pumping capacity 7.0 MGD safe yield
PWS Waters	Ohio River	Flow at Intake (cfs)	5,880
PWS RMI	944.8	Distance from Outfall (mi)	<2 (opposite bank)

Discharge, Receiving Waters and Water Supply Information			
IMP No.	107	Design Flow (MGD)	Variable
Latitude	40° 38' 07"	Longitude	-80° 25' 11"
Wastewater Description:	Storm water and depression well groundwater collected in the cooling tower settling basin		
IMP No.	307	Design Flow (MGD)	Variable
Latitude	40° 38' 07"	Longitude	-80° 25' 11"
Wastewater Description:	Storm water from the Unit 1 cooling tower basin		
IMP No.	407	Design Flow (MGD)	Variable
Latitude	40° 38' 07"	Longitude	-80° 25' 11"
Wastewater Description:	Storm water from the Unit 2 cooling tower basin		
IMP No.	507	Design Flow (MGD)	Variable
Latitude	40° 38' 07"	Longitude	-80° 25' 11"
Wastewater Description:	Storm water from the Unit 3 cooling tower basin		
IMP No.	607	Design Flow (MGD)	Variable
Latitude	40° 38' 07"	Longitude	-80° 25' 11"
Wastewater Description:	Storm water from cooling tower area		

Discharge, Receiving Waters and Water Supply Information

Outfall No.	008	Design Flow (MGD)	Variable
Latitude	40° 38' 07"	Longitude	-80° 25' 10"
Quad Name	Midland	Quad Code	1302
Wastewater Description:	Storm water from the Unit 2 & Unit 3 cooling towers		
Receiving Waters	Ohio River	Stream Code	32317
NHD Com ID	99681380	RMI	947.15
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-B	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Aquatic Life, Potable Water Supply [Attaining]; Fish Consumption; Recreation [Impaired]		
Cause(s) of Impairment	Dioxins, Chlordane, PCBs [Fish Consumption], Pathogens [Recreation]		
Source(s) of Impairment	Sources Unknown		
TMDL Status	Final (April 9, 2001)	Name	Ohio River

Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS ID	5040038	PWS Withdrawal (MGD)	7.2 MGD pumping capacity 7.0 MGD safe yield
PWS Waters	Ohio River	Flow at Intake (cfs)	5,880
PWS RMI	944.8	Distance from Outfall (mi)	<2 (opposite bank)

Discharge, Receiving Waters and Water Supply Information

Outfall No.	009	Design Flow (MGD)	0.047
Latitude	40° 38' 16"	Longitude	-80° 25' 00"
Quad Name	Midland	Quad Code	1302
Wastewater Description:	Treated sanitary wastewaters from the sanitary wastewater treatment plant		
Receiving Waters	Ohio River	Stream Code	32317
NHD Com ID	99681380	RMI	947.50
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Aquatic Life, Potable Water Supply [Attaining]; Fish Consumption; Recreation [Impaired]		
Cause(s) of Impairment	Dioxins, Chlordane, PCBs [Fish Consumption], Pathogens [Recreation]		
Source(s) of Impairment	Sources Unknown		
TMDL Status	Final (April 9, 2001)	Name	Ohio River
Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS ID	5040038	PWS Withdrawal (MGD)	7.2 MGD pumping capacity 7.0 MGD safe yield
PWS Waters	Ohio River	Flow at Intake (cfs)	5,880
PWS RMI	944.8	Distance from Outfall (mi)	<2 (opposite bank)

Discharge, Receiving Waters and Water Supply Information

Outfall No.	010	Design Flow (MGD)	Variable
Latitude	40° 38' 19"	Longitude	-80° 24' 58"
Quad Name	Midland	Quad Code	1302
Wastewater Description:	Storm water from the warehouse building and former coal handling operations areas		
Receiving Waters	Ohio River	Stream Code	32317
NHD Com ID	99681380	RMI	947.55
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Aquatic Life, Potable Water Supply [Attaining]; Fish Consumption; Recreation [Impaired]		
Cause(s) of Impairment	Dioxins, Chlordane, PCBs [Fish Consumption], Pathogens [Recreation]		
Source(s) of Impairment	Sources Unknown		
TMDL Status	Final (April 9, 2001)	Name	Ohio River
Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS ID	5040038	PWS Withdrawal (MGD)	7.2 MGD pumping capacity 7.0 MGD safe yield
PWS Waters	Ohio River	Flow at Intake (cfs)	5,880
PWS RMI	944.8	Distance from Outfall (mi)	<2 (opposite bank)

Discharge, Receiving Waters and Water Supply Information

Outfall No.	011	Design Flow (MGD)	Variable
Latitude	40° 38' 29"	Longitude	-80° 24' 43"
Quad Name	Midland	Quad Code	1302
Wastewater Description:	Storm water from the northeastern portion of the property		
Receiving Waters	Ohio River	Stream Code	32317
NHD Com ID	99681380	RMI	947.85
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Aquatic Life, Potable Water Supply [Attaining]; Fish Consumption; Recreation [Impaired]		
Cause(s) of Impairment	Dioxins, Chlordane, PCBs [Fish Consumption], Pathogens [Recreation]		
Source(s) of Impairment	Sources Unknown		
TMDL Status	Final (April 9, 2001)	Name	Ohio River
Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS ID	5040038	PWS Withdrawal (MGD)	7.2 MGD pumping capacity 7.0 MGD safe yield
PWS Waters	Ohio River	Flow at Intake (cfs)	5,880
PWS RMI	944.8	Distance from Outfall (mi)	<2 (opposite bank)

Discharge, Receiving Waters and Water Supply Information

Outfall No.	012	Design Flow (MGD)	Variable
Latitude	40° 38' 32"	Longitude	-80° 24' 38"
Quad Name	Midland	Quad Code	1302
Wastewater Description:	Storm water from the undeveloped hillside in the eastern portion of the property		
Receiving Waters	Ohio River	Stream Code	32317
NHD Com ID	99681068	RMI	947.95
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Aquatic Life, Potable Water Supply [Attaining]; Fish Consumption; Recreation [Impaired]		
Cause(s) of Impairment	Dioxins, Chlordane, PCBs [Fish Consumption], Pathogens [Recreation]		
Source(s) of Impairment	Sources Unknown		
TMDL Status	Final (April 9, 2001)	Name	Ohio River
Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS ID	5040038	PWS Withdrawal (MGD)	7.2 MGD pumping capacity 7.0 MGD safe yield
PWS Waters	Ohio River	Flow at Intake (cfs)	5,880
PWS RMI	944.8	Distance from Outfall (mi)	<2 (opposite bank)

Discharge, Receiving Waters and Water Supply Information

Outfall No.	013	Design Flow (MGD)	Variable
Latitude	40° 38' 34"	Longitude	-80° 24' 34"
Quad Name	Midland	Quad Code	1302
Wastewater Description:	Storm water from the far eastern, undeveloped portion of the property		
Receiving Waters	Ohio River	Stream Code	32317
NHD Com ID	99681068	RMI	948.10
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Aquatic Life, Potable Water Supply [Attaining]; Fish Consumption; Recreation [Impaired]		
Cause(s) of Impairment	Dioxins, Chlordane, PCBs [Fish Consumption], Pathogens [Recreation]		
Source(s) of Impairment	Sources Unknown		
TMDL Status	Final (April 9, 2001)	Name	Ohio River

Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS ID	5040038	PWS Withdrawal (MGD)	7.2 MGD pumping capacity 7.0 MGD safe yield
PWS Waters	Ohio River	Flow at Intake (cfs)	5,880
PWS RMI	944.8	Distance from Outfall (mi)	<2 (opposite bank)

Discharge, Receiving Waters and Water Supply Information

Outfall No.	014	Design Flow (MGD)	Variable
Latitude	40° 37' 52"	Longitude	-80° 25' 10"
Quad Name	Midland	Quad Code	1302
Wastewater Description:	Storm water from the parking lot for the former WDA		
Receiving Waters	Haden Run	Stream Code	33523
NHD Com ID	99681430	RMI	0.30
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation, Siltation		
Source(s) of Impairment	Removal of Vegetation, Road Runoff		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS ID	5040038	PWS Withdrawal (MGD)	7.2 MGD pumping capacity 7.0 MGD safe yield
PWS Waters	Ohio River	Flow at Intake (cfs)	5,880
PWS RMI	944.8	Distance from Outfall (mi)	<2 (opposite bank)

Discharge, Receiving Waters and Water Supply Information

IMP	122	Design Flow (MGD)	Variable
Latitude	N/A	Longitude	N/A
Quad Name	Midland	Quad Code	1302
Wastewater Description:	Wastewaters collected in the LDS Pond and pumped to the secondary spillway at the Little Blue Run Disposal Area (PA0027481)		
Receiving Waters	Haden Run	Stream Code	33523
NHD Com ID	99681430	RMI	0.30
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation, Siltation		
Source(s) of Impairment	Removal of Vegetation, Road Runoff		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority (PWSID 5040038)		
PWS Waters	Ohio River	Flow at Intake (cfs)	5,880
PWS RMI	944.8	Distance from Outfall (mi)	<2 (opposite bank)

Water Quality Management Permits issued under Section 308 of the Pennsylvania Clean Streams Law (35 P.S. § 691.308)

Treatment Facility Summary		
Treatment Facility: Sewage Treatment Plant		
WQM Permit No.	**Issuance Date**	**Purpose**
0471419	January 26, 1972	WQM permit for extended aeration sewage treatment plant (0.025 MGD design flow).
0471419 T-1	February 27, 1976	Transfer from Dravo Corporation to Pennsylvania Power Company
0471419 T-2	September 30, 2005	Transfer from Pennsylvania Power Company to FirstEnergy Generation Corp.
0471419 T-3	May 28, 2020	Transfer from FirstEnergy Generation LLC to Energy Harbor Generation LLC
0471419 T-4	Pending	Transfer from Energy Harbor Generation LLC to Shippingport Industrial Park, LLC

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended aeration	Chlorine	0.025

Treatment Facility Summary		
Treatment Facility: Low Dissolved Solids (LDS) Pond and High Dissolved Solids (HDS) Pond		
WQM Permit No.	**Issuance Date**	**Purpose**
0473205	January 26, 1972	WQM permit for the Low Dissolved Solids (recycle) pond and High Dissolved Solids (storage/holding) pond
0473205 T-1	February 27, 1976	Transfer from Dravo Corporation to Pennsylvania Power Company
0473205 T-2	September 30, 2005	Transfer from Pennsylvania Power Company to FirstEnergy Generation Corp.
0473205 T-3	May 28, 2020	Transfer from FirstEnergy Generation LLC to Energy Harbor Generation LLC
0473205 T-4	Pending	Transfer from Energy Harbor Generation LLC to Shippingport Industrial Park, LLC

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Industrial	Primary	Sedimentation	N/A	

Treatment Facility Summary		
Treatment Facility: Little Blue Run Disposal Impoundment, Stilling Basin, and pH Neutralization at the Impoundment		
WQM Permit No.	**Issuance Date**	**Purpose**
0474204	September 30, 1974	WQM permit issued to Dravo Corporation for the Little Blue Run Disposal Impoundment
0474204 T-1	February 27, 1976	Transfer from Dravo Corporation to Pennsylvania Power Company

WQM Permit No.	Issuance Date	Purpose
0474204 A-1	April 9, 1991	Replacement of the existing manual sulfuric acid pH control system with an automatic carbon dioxide storage and feed system for pH control of impoundment supernatant.
0474204 A-2	December 11, 2001	Replacement of the carbon dioxide storage and feed system with a permanent neutralization system consisting of a 20,000-gallon sulfuric acid storage tank and associated feed and flow control mechanisms.
0474204 T-2	September 30, 2005	Transfer from Pennsylvania Power Company to FirstEnergy Generation Corp.
0474204 A-3	May 19, 2011	Conversion of existing acid feed system and 20,000-gallon acid storage tank for caustic feed/storage and installation of a new sulfuric acid feed system and 6,700-gallon acid storage tank. The dual caustic and acid feed systems allow for a greater range of pH control due to increased seasonal variation of impounded water pH.
0474204 A-4	August 26, 2013	Modification of the pH control system to allow for the addition of a caustic solution of sodium hydroxide from tanker trucks.
0474204 T-3	May 28, 2020	Transfer from FirstEnergy Generation LLC to Energy Harbor Generation LLC

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Industrial	Primary	Sedimentation, neutralization		

Treatment Facility Summary
Treatment Facility: Lamella Gravity Settler

WQM Permit No.	Issuance Date	Purpose
0479202	October 29, 1980	WQM permit for increased flows associated with a third generating unit; existing facilities determined to be oversized and adequate for the additional flow.
0479202 A-1	September 25, 1990	Approval of settling facilities for lamella gravity settler backwash
0479202 T-1	September 30, 2005	Transfer from Pennsylvania Power Company to FirstEnergy Generation Corp.
0479202	July 23, 2020	Permit terminated.

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Industrial	Primary	Sedimentation, neutralization		

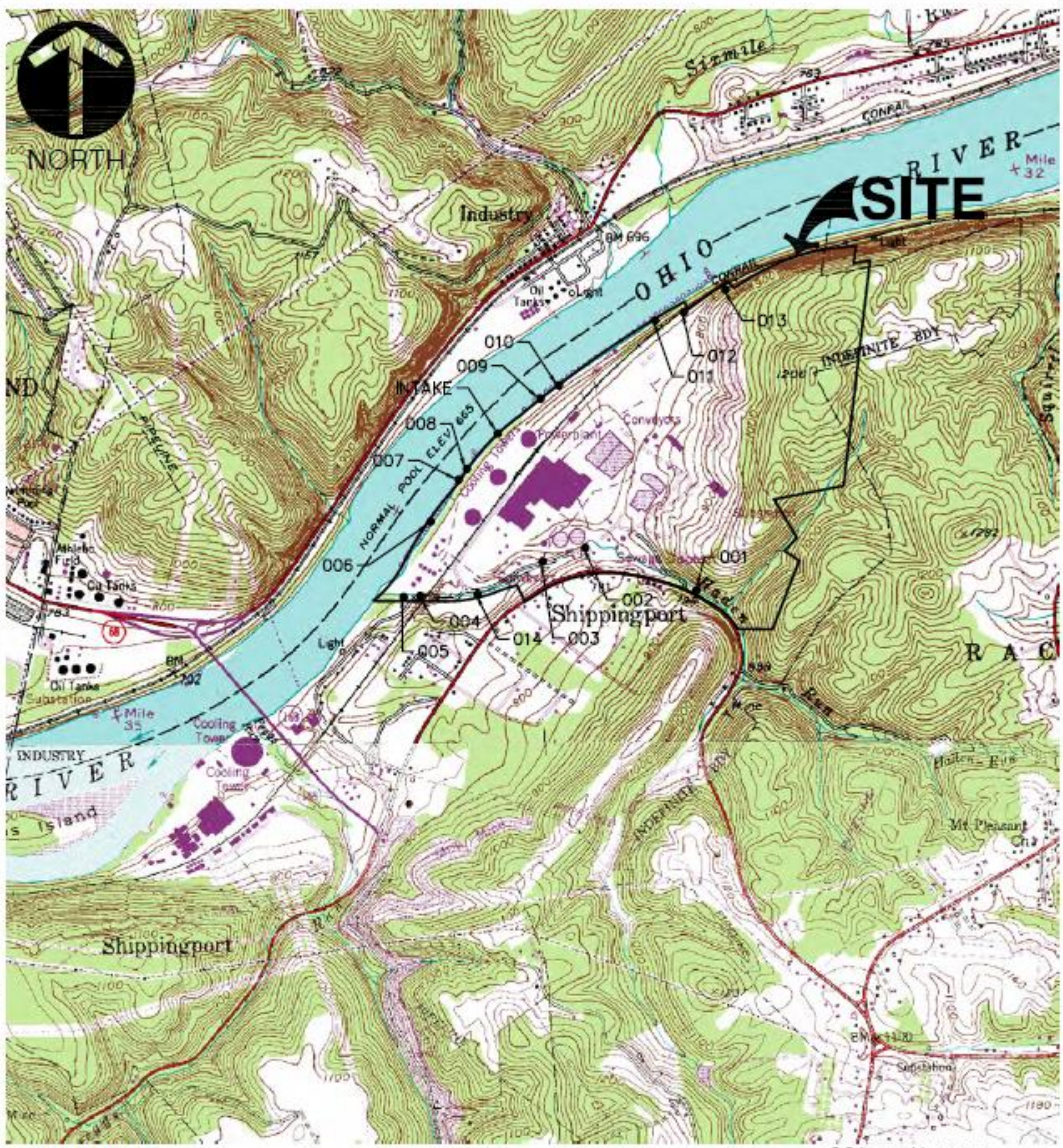
Treatment Facility Summary
Treatment Facility: Sewage Treatment Plant Expansion

WQM Permit No.	Issuance Date	Purpose
0487403	October 16, 1987	WQM permit for a second, parallel sewage treatment package plant (0.025 MGD design flow); previously installed, but not permitted prior to installation.
0487403 T-1	September 30, 2005	Transfer from Pennsylvania Power Company to FirstEnergy Generation Corp.
0487403 T-2	May 28, 2020	Transfer from FirstEnergy Generation LLC to Energy Harbor Generation LLC

WQM Permit No.	Issuance Date	Purpose
0487403 T-3	Pending	Transfer from Energy Harbor Generation LLC to Shippingport Industrial Park, LLC

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended aeration	Chlorination	0.025

Treatment Facility Summary				
Treatment Facility: FGD Slurry Dewatering Facility				
WQM Permit No.	**Issuance Date**	**Purpose**		
0413200	April 16, 2014	Permit issued for construction and operation of a dewatering facility for flue gas desulfurization slurry containing coal combustion byproducts.		
0413200	July 23, 2020	Permit terminated.		
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial	Primary	Dewatering		



REFERENCE

1. USGS 7.5 MIN. TOPOGRAPHIC QUADRANGLES MIDLAND, PA DATED 1954, PHOTOREVISED 1979 AND HOOKSTOWN, PA DATED 1954, PHOTOREVISED 1979.

SCALE IN FEET

0 2000 4000

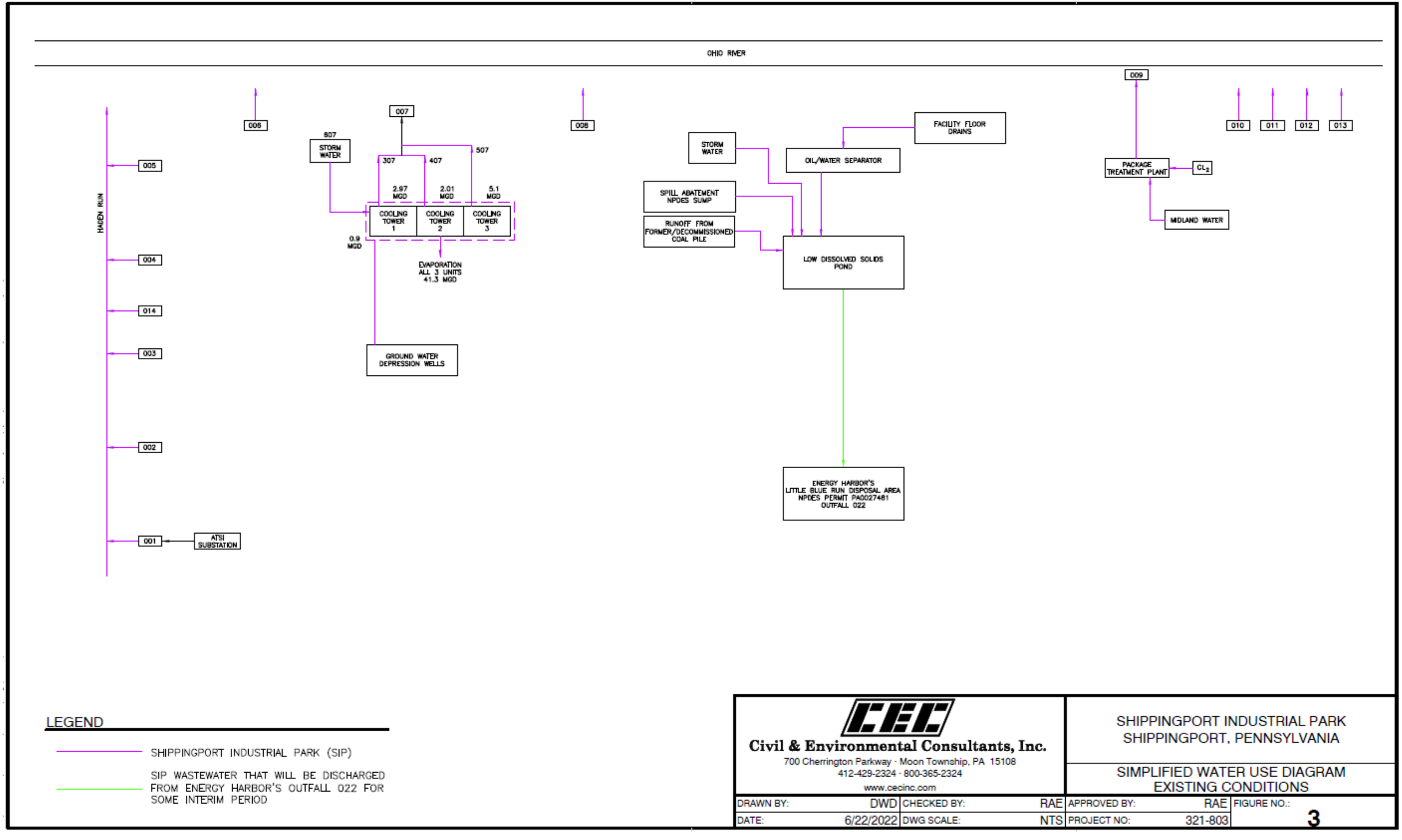
* HAND SIGNATURE ON FILE

Civil & Environmental Consultants, Inc.
333 Baldwin Road - Pittsburgh, PA 15205
412-429-2324 · 800-365-2324
www.cecinc.com

SHIPPINGPORT INDUSTRIAL PARK
SHIPPINGPORT, PENNSYLVANIA

SITE LOCATION MAP

DRAWN BY:	RJB	CHECKED BY:	RAE	APPROVED BY:	RAE	FIGURE NO.:	1
DATE:	7/23/2010	DWG SCALE:	1"=2,000'	PROJECT NO:	321-803		



LEGEND

- SHIPPINGPORT INDUSTRIAL PARK (SIP)
- SIP WASTEWATER THAT WILL BE DISCHARGED FROM ENERGY HARBOR'S OUTFALL 022 FOR SOME INTERIM PERIOD

Civil & Environmental Consultants, Inc.
700 Cherrington Parkway · Moon Township, PA 15108
412-429-2324 · 800-365-2324
www.cecinc.com

SHIPPINGPORT INDUSTRIAL PARK
SHIPPINGPORT, PENNSYLVANIA

SIMPLIFIED WATER USE DIAGRAM
EXISTING CONDITIONS

DRAWN BY:	DWD	CHECKED BY:	RAE	APPROVED BY:	RAE
DATE:	6/22/2022	DWG SCALE:	NTS	PROJECT NO:	321-803

FIGURE NO.: 3

Pre-shutdown. Image Source and Date: Google Earth Pro, August 21, 2015.

Post-shutdown. Image Source and Date: Google Earth Pro, March 20, 2021.

Compliance History

DMR Data for Outfall 001 (from August 1, 2021 to July 31, 2022)

Parameter	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21
pH (S.U.) Maximum		7.40			7.8			8.1			7.6	
BOD5 (mg/L) Maximum		E			3.2			6.0			4.7	
Nitrate-Nitrite (mg/L) Maximum		0.24			0.64			0.52			1.3	
Total Iron (mg/L) Maximum		0.468			0.402			0.263			< 0.047	
Total Zinc (mg/L) Maximum		0.022			0.034			0.0293			0.0058	

DMR Data for Outfall 002 (from August 1, 2021 to July 31, 2022)

Parameter	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21
pH (S.U.) Maximum		7.20			7.5			7.8			7.5	
Nitrate-Nitrite (mg/L) Maximum		0.83			1			1.0			0.42	

DMR Data for Outfall 003 (from August 1, 2021 to July 31, 2022)

Parameter	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21
pH (S.U.) Maximum		8.80			9.7			9.6			9.9	
COD (mg/L) Maximum		17			10			8.5			12	
TSS (mg/L) Maximum		12.6			10.2			5.7			5.70	
Nitrate-Nitrite (mg/L) Maximum		0.18			0.37			0.4			0.47	
Total Iron (mg/L) Maximum		0.199			0.219			0.122			0.0529	
Total Zinc (mg/L) Maximum		0.040			0.044			0.0935			0.0795	

DMR Data for Outfall 004 (from August 1, 2021 to July 31, 2022)

Parameter	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21
pH (S.U.) Maximum		7.90			8.2			8.9			7.2	

Parameter	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21
COD (mg/L) Maximum		13			19			17			< 6.8	
TSS (mg/L) Maximum		4.53			25.5			9.07			1.33	
Nitrate-Nitrite (mg/L) Maximum		0.20			0.40			0.48			0.17	
Total Iron (mg/L) Maximum		1.07			3.47			0.255			< 0.047	
Total Zinc (mg/L) Maximum		0.034			0.078			0.0857			0.106	

DMR Data for Outfall 005 (from August 1, 2021 to July 31, 2022)

Parameter	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21
pH (S.U.) Maximum		7.50			8.9			8.7			8.7	
Total Iron (mg/L) Maximum		0.108			2.32			0.0954			4.83	
Total Zinc (mg/L) Maximum		0.145			0.226			0.140			0.785	

DMR Data for Outfall 006 (from August 1, 2021 to July 31, 2022)

Parameter	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21
pH (S.U.) Maximum		7.40			8.10			8.2			8.2	
Nitrate-Nitrite (mg/L) Maximum		0.34			0.31			0.30			0.72	
Sulfate (mg/L) Maximum		90			95			170			320	
Total Zinc (mg/L) Maximum		0.014			0.036			0.0267			0.0186	

DMR Data for Outfall 008 (from August 1, 2021 to July 31, 2022)

Parameter	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21
pH (S.U.) Maximum		7.70			8.9			8.6			7.7	
Nitrate-Nitrite (mg/L) Maximum		0.41			0.26			0.46			0.43	
Total Zinc (mg/L) Maximum		0.037			0.059			0.0702			0.0351	

DMR Data for Outfall 009 (from August 1, 2021 to July 31, 2022)

Parameter	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21
Flow (MGD) Average Monthly			0.0006	0.004	0.004	0.014	0.0033	0.0021	0.0002	0.0018	0.0087	0.0025
Flow (MGD) Daily Maximum			0.0014	0.0115	0.012	0.052	0.015	0.0142	0.0019	0.0124	0.0714	0.017
pH (S.U.) Minimum			6.9	6.5	8.0	7.5	7.9	8.0	7.85	6.9	6.6	7.9
pH (S.U.) Maximum			7.3	7.2	8.2	7.9	8.0	8.2	8.1	7.3	7.0	8.0
TRC (mg/L) Average Monthly			0.21	0.22	0.39	0.23	0.165	0.18	0.05	0.115	0.125	0.07
CBOD5 (mg/L) Average Monthly			4.35	5.05	< 2.5	3.55	3.95	4.45	6.25	7.95	4.85	< 3
TSS (mg/L) Average Monthly			3.65	6.47	1.90	6	1.85	23.89	9.8	3.57	4.5	9.27
Fecal Coliform (CFU/100 ml) Geometric Mean			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1

DMR Data for Outfall 010 (from August 1, 2021 to July 31, 2022)

Parameter	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21
pH (S.U.) Maximum		7.50			8.0			8.3			7.4	
COD (mg/L) Maximum		24			28			15			13	
TSS (mg/L) Maximum		19.4			65			4.4			4.10	
Nitrate-Nitrite (mg/L) Maximum		0.37			0.35			0.42			0.41	
Total Iron (mg/L) Maximum		0.789			2.43			0.206			0.208	
Sulfate (mg/L) Maximum		93			71			99			160	
Total Zinc (mg/L) Maximum		0.182			0.175			0.215			0.268	

DMR Data for Outfall 407 (from August 1, 2021 to July 31, 2022)

Parameter	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21
Flow (MGD) Average Monthly	0.013	0.32	0.35	0.32	0.34	0.324	0.322	0.321	0.32	0.33	0.340	0.352

Parameter	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21
Flow (MGD) Daily Maximum	0.048	0.47	0.46	0.34	0.93	0.349	0.323	0.324	0.33	0.34	0.353	0.371
pH (S.U.) Minimum	7.20	7.2	7.0	6.7	7.6	7.4	7.6	7.5	7.1	7.2	7.0	7.2
pH (S.U.) Maximum	7.30	7.6	7.0	7.0	7.8	7.5	7.8	7.6	7.7	7.5	7.0	7.5
TRC (mg/L) Average Monthly	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
TRC (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
Free Available Chlorine (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
Temperature (°F) Daily Maximum	74.82	71.06	69.98	53.06	44.08	39.57	38.56	46.56	56.95	65.32	71.26	73.01

DMR Data for Outfall 607 (from August 1, 2021 to July 31, 2022)

Parameter	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21
pH (S.U.) Maximum		7.30			8.10			8.1			7.9	
Total Zinc (mg/L) Maximum		0.182			0.456			0.0748			0.342	

Development of Effluent Limitations

Outfall Nos. 001-006, 008, 010-014 **Design Flow (MGD)** Variable
Wastewater Description: Storm water

SWO.A. Technology-Based Effluent Limitations (TBELs)

There are no Federal Effluent Limitations Guidelines (ELGs) applicable to the storm water discharges from Outfalls 001, 002, 003, 004, 005, 006, 008, 010, 011, 012, 013, and 014.

Consistent with 25 Pa. Code § 92a.61(h) and DEP's policy for permitting storm water discharges associated with industrial activities, minimum standards described in the PAG-03 will be applied to the Plant's storm water discharges. The SIC Code of the Plant under PA0027481 was 4911, which would have classified the Plant under Appendix H – Steam Electric Generating Facilities of the PAG-03 General Permit.[1] The SIC Code identified on the new application is still 4911, but the Plant no longer generates, transmits, or distributes electricity. Nevertheless, most of the infrastructure of the former power plant remains in place. Since the Plant was recently a Steam Electric Power Generating Facility, DEP considers it appropriate to incorporate the monitoring requirements and applicable Best Management Practices (BMPs) of Appendix H of the PAG-03 in this new permit based on the conservative assumption that post-shutdown storm water runoff may exhibit similar pollutant characteristics to pre-shutdown storm water runoff. SIP's demolition and site redevelopment activities also may disturb and expose industrial contaminants related to the former power generating operations to precipitation.

Table 1. PAG-03 Appendix H – Minimum Monitoring Requirements

Discharge Parameter	Units	Sample Type	Appendix H Measurement Frequency
Total Suspended Solids	mg/L	1 Grab	1/6 months
Oil and Grease	mg/L	1 Grab	1/6 months
Iron, Total	mg/L	1 Grab	1/6 months
pH	s.u.	1 Grab	1/6 months

Flow monitoring also will be required pursuant to 25 Pa. Code § 92a.61(h).

To the extent that effluent limits are necessary to ensure that storm water BMPs are adequately implemented, DEP's Permit Writers' Manual recommends that effluent limits be developed for industrial storm water discharges based on a determination of Best Available Technology (BAT) using Best Professional Judgment (BPJ). BPJ of BAT typically involves the evaluation of end-of-pipe wastewater treatment technologies, but DEP considers the use of BMPs to be BAT for storm water outfalls unless effluent concentrations indicate that BMPs provide inadequate pollution control. Table 2 summarizes the existing monitoring requirements for storm water discharges at the plant.

Table 2. Parameters Currently Reported at Plant Storm Water Outfalls

Parameter	001	002	003	004	005	006	008	010	011†	012†	013†	014†
Oil and Grease												
BOD_5	✓											
Chemical Oxygen Demand			✓	✓				✓				
Total Suspended Solids			✓	✓								
Total Kjeldahl Nitrogen												
Nitrate-Nitrite Nitrogen	✓	✓	✓	✓		✓	✓	✓				
Total Phosphorus												
pH (s.u.)	✓	✓	✓		✓	✓	✓	✓				
Sulfate						✓	✓	✓				
Total Iron	✓		✓	✓	✓			✓				
Total Zinc	✓		✓	✓	✓	✓	✓	✓				

† Outfalls 011, 012, 013, and 014 are currently permitted as uncontaminated storm water discharges with no reporting requirements.

[1] The determination of which of the PAG-03 General Permit's appendices applies to a facility is based on a facility's SIC Code. The PAG-03 is currently in effect under administrative extension. A draft renewal of the PAG-03 is available but monitoring requirements for this permit are based on the most recent final version of the PAG-03.

Discharges from Outfalls 011, 012, 013, and 014 are currently permitted under PA0027481 as consisting solely of "uncontaminated storm water runoff." "Uncontaminated" is not a term of art in DEP's regulations, but a discharge's status as "uncontaminated" generally corresponds to EPA's conditional exclusion for 'no exposure' of industrial activities and materials to storm water (40 CFR 122.26(g)).[2] EPA requires that a facility operator submit a signed certification stating that there are no discharges of storm water contaminated by exposure to industrial materials and activities. EPA's conditional 'no exposure' exclusion is only available on a site-wide basis. DEP allows 'no exposure' certifications on an outfall-by-outfall basis with the added requirement that the permittee provide corroborating analytical results for each outfall.

In SIP's permit application, Outfalls 012 and 013 are identified as 'not exposed' to industrial activities. The instructions for Module 1 of the "NPDES Application for Individual Permit to Discharge Industrial Wastewater" identify thresholds that are indicative of 'no exposure' conditions. Tables 3 and 4 summarize the analytical results for the Plant's storm water outfalls and DEP's 'no exposure' thresholds and PAG-03 benchmark values. Where available, summarized results are the average (or median for pH) of values reported on DMRs for the same outfalls under PA0027481.

Table 3. Storm Water Analytical Results Reported for Haden Run Storm Water Discharges

Parameter	001	002	003	004	005	014	No Exposure Thresholds (mg/L)	MSGP Benchmarks (mg/L)
Oil and Grease	<5	<5	<5	<5	<5	<5	≤ 5.0	N/A
BOD_5	4.46*	<6	<6	<6	6.3	2.9	≤ 10.0	30
COD	<6	53.7	16.4*	16.7*	176	19.1	≤ 30.0	120
TSS	<4	341	30.5*	10.4*	539	6	≤ 30.0	100
TKN	0.35	1.72	1.4	0.6	2.01	0.35	≤ 2.0 (Tot. N)	N/A
NO_2-NO_3 as N	0.771*	0.769*	0.355*	0.415*	0.31	<2.2	≤ 2.0 (Tot. N)	0.68
Total Phosphorus	<0.011	0.4	0.2	0.06	0.3	0.07	≤ 1.0	2.0
pH (s.u.)	7.6*	7.2*	9.6*	8.2	8.45*	7.24	6.0 – 9.0 s.u.	6.0 – 9.0 s.u.
Sulfate	142	669	155	34.1	35.2	569	250	N/A
Total Iron	0.413*	11.2	0.570*	1.25*	1.32*	0.127	1.5	N/A
Total Zinc	0.019*	0.379	0.068*	0.387*	0.290*	0.0346	0.12	0.12

* Value is a calculated average (or median for pH) of values reported on Discharge Monitoring Reports for PA0027481 between the first quarter of 2020 and the third quarter of 2022.

Table 4. Storm Water Analytical Results Reported for Ohio River Storm Water Discharges

Parameter	006	008	010	011	012	013	No Exposure Thresholds (mg/L)	MSGP Benchmarks (mg/L)
Oil and Grease	<5	<5	<5	-	<5	-	≤ 5.0	N/A
BOD_5	2.2	<2	3	-	2.3	-	≤ 10.0	30
COD	22.9	11.4	32.8*	-	13.3	-	≤ 30.0	120
TSS	160	12	56.6	-	58	-	≤ 30.0	100
TKN	0.77	0.61	1.22	-	0.56	-	≤ 2.0 (Tot. N)	N/A
NO_2-NO_3 as N	0.404*	0.436*	0.471*	-	0.61	-	≤ 2.0 (Tot. N)	0.68
Total Phosphorus	0.2	0.09	0.4	-	0.03	-	≤ 1.0	2.0
pH (s.u.)	8.3*	8.4*	8.05*	-	7.09	-	6.0 – 9.0 s.u.	6.0 – 9.0 s.u.
Sulfate	245*	42.0	162*	-	543	-	250	N/A
Total Iron	3.5	0.899	1.69*	-	0.309	-	1.5	N/A
Total Zinc	0.027*	0.046*	0.244*	-	0.0084	-	0.12	0.12

* Value is a calculated average (or median for pH) of values reported on Discharge Monitoring Reports for PA0027481 between the first quarter of 2020 and the third quarter of 2022.

[2] 40 CFR 122.26(g): *Conditional exclusion for "no exposure" of industrial activities and materials to storm water*. Discharges composed entirely of storm water are not storm water discharges associated with industrial activity if there is "no exposure" of industrial materials and activities to rain, snow, snowmelt and/or runoff, and the discharger satisfies the conditions in paragraphs (g)(1) through (g)(4) of this section. "No exposure" means that all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product.

Based on the analytical results in Tables 3 and 4 and the minimum monitoring requirements in Table 1, the reporting requirements for storm water outfalls are modified as shown in Table 5.

Table 5. Reporting Requirements for Bruce Mansfield's Storm Water Outfalls

Parameter	001	002	003	004	005	006	008	010	011	012	013	014
Oil and Grease	+	+	+	+	+	+	+	+	+	+	+	+
BOD_5	-											
Chemical Oxygen Demand			✓	✓	+			✓				
Total Suspended Solids	+	+	✓	✓	+	+	+	+	+	+	+	+
Total Kjeldahl Nitrogen												
Nitrate-Nitrite Nitrogen	✓	✓	-	-		-	✓	✓				
Total Phosphorus												
pH (s.u.)	✓	✓	✓	+	✓	✓	✓	✓	+	+	+	+
Sulfate		+				✓	✓	✓				+
Total Iron	✓	+	✓	✓	✓	+	+	✓	+	+	+	+
Total Zinc	✓	+	✓	✓	✓	✓	✓	✓				

"✓" = Existing/maintained reporting requirements; "+" = Added reporting requirement; "(-)" = Removed reporting requirement

COD reporting is added to Outfall 005 because the reported concentration exceeds the benchmark value. Nitrate+Nitrite Nitrogen reporting is removed from Outfalls 003, 004, and 006 because average concentrations are below the benchmark value. Sulfate concentrations at Outfalls 002 and 014 exceed the sulfate water quality criterion, so sulfate reporting is added to those outfalls. TSS at Outfall 012 exceeds the no exposure threshold and there are no results to corroborate SIP's claim that Outfall 013's discharges are not exposed to industrial activities (or otherwise do not have the potential to cause pollution), so minimum monitoring requirements from Appendix H of the PAG-03 are imposed at those outfalls.

No TBELs will be imposed on the facility's storm water discharges. However, TBELs may be warranted in the future if pollutant concentrations in storm water consistently exceed the benchmark values from EPA's Multi-Sector General Permit (MSGP). EPA's MSGP is the federal equivalent of DEP's PAG-03 General Permit for Discharges of Storm Water Associated with Industrial Activity. EPA uses benchmark monitoring in the MSGP as an indicator of the effectiveness of a facility's BMPs. DEP uses benchmark values for the same purpose. The benchmark values listed in Tables 3 and 4 will be listed in Part C of the permit based on EPA's Multi-Sector General Permit benchmark values (see **Attachment A**). The 5.0 mg/L benchmark value for oil and grease is based on DEP's minimum target quantitation limit for oil and grease because oil and grease generally should not be present in uncontaminated storm water.

The benchmark values are not effluent limitations and exceedances do not constitute permit violations. However, if sampling demonstrates exceedances of benchmark values for two consecutive monitoring periods, then SIP must submit a corrective action plan within 90 days of the end of the monitoring period triggering the plan. The corrective action plan requirement and the benchmark values will be specified in a condition in Part C of the permit.

SWO.B. Water Quality-Based Effluent Limitations (WQBELs)

Generally, DEP does not develop numerical WQBELs for storm water discharges. Pursuant to 25 Pa. Code § 96.4(g), mathematical modeling used to develop WQBELs must be performed at Q_{7-10} low flow conditions. Precipitation-induced discharges generally do not occur at Q_{7-10} design conditions because the precipitation that causes a storm water discharge also will increase the receiving stream's flow and that increased stream flow will provide additional assimilative capacity during a storm event.

Even though no mathematical modeling is performed, conditions in Part C of the permit will ensure compliance with water quality standards through a combination of BMPs including pollution prevention and exposure minimization, good housekeeping, erosion and sediment control, and spill prevention and response.

Ohio River Use Impairments

The Plant's storm water discharges do not contain PCBs, chlordane, or dioxins, so the Plant will not contribute to the Ohio River's fish consumption use impairment. However, to ensure the permit reflects the requirements of the Ohio River TMDL with its 'zero' wasteload allocations for PCBs and chlordane, the following narrative limitation will be included as a condition in Part C of the permit.

There shall be no point source discharges of Polychlorinated Biphenyls (PCBs) or Chlordane to the Ohio River.

The condition does not impose monitoring obligations on SIP. However, it does allow DEP (or SIP) to analyze effluent samples for PCBs and Chlordane at DEP's discretion to determine whether SIP complies with the TMDL. The condition also allows DEP to require SIP to implement corrective actions to comply with the permit condition and, by extension, the TMDL's wasteload allocations if PCBs and Chlordane are detected in point source discharges from the Plant.

There should be no significant contribution of pathogens to the river from Outfalls 001, 002, 003, 004, 005, 006, 008, 010, 011, 012, 013, and 014. The storm water discharges from those locations are not expected to contribute to the Ohio River's recreational use impairment, so no requirements are imposed for pathogens.

SWO.C. Effluent Limitations and Monitoring Requirements for Storm Water Outfalls

In accordance with 25 Pa. Code §§ 92a.12 and 92a.61, effluent limits that apply at Outfalls 001-006, 008, 010-014 are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements as summarized in the tables below. TBELs, WQBELs, and regulatory effluent standards do not apply at the storm water outfalls, so only monitoring requirements are imposed.

Table 6. Effluent Limits and Monitoring Requirements for Outfall 001

Parameter	Mass (pounds/day)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	—	Report	—	—	—	25 Pa. Code § 92a.61(h)
Total Suspended Solids	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Oil and Grease	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Nitrate-Nitrite Nitrogen	—	—	—	Report	—	25 Pa. Code § 92a.61(h)
Total Iron	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Total Zinc	—	—	—	Report	—	25 Pa. Code § 92a.61(h)
pH (s.u.)	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H

Table 7. Effluent Limits and Monitoring Requirements for Outfalls 002 and 008

Parameter	Mass (pounds/day)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	—	Report	—	—	—	25 Pa. Code § 92a.61(h)
Total Suspended Solids	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Oil and Grease	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Nitrate-Nitrite Nitrogen	—	—	—	Report	—	25 Pa. Code § 92a.61(h)
Sulfate	—	—	—	Report	—	25 Pa. Code § 92a.61(h)
Total Iron	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Total Zinc	—	—	—	Report	—	25 Pa. Code § 92a.61(h)
pH (s.u.)	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H

Table 8. Effluent Limits and Monitoring Requirements for Outfalls 003, 004, and 005

Parameter	Mass (pounds/day)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	—	Report	—	—	—	25 Pa. Code § 92a.61(h)
Total Suspended Solids	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Oil and Grease	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Chemical Oxygen Demand	—	—	—	Report	—	25 Pa. Code § 92a.61(h)

Table 8 (continued). Effluent Limits and Monitoring Requirements for Outfalls 003, 004, and 005

Parameter	Mass (pounds/day)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Total Iron	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Total Zinc	—	—	—	Report	—	25 Pa. Code § 92a.61(h)
pH (s.u.)	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H

Table 9. Effluent Limits and Monitoring Requirements for Outfalls 006

Parameter	Mass (pounds/day)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	—	Report	—	—	—	25 Pa. Code § 92a.61(h)
Total Suspended Solids	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Oil and Grease	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Sulfate	—	—	—	Report	—	25 Pa. Code § 92a.61(h)
Total Iron	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Total Zinc	—	—	—	Report	—	25 Pa. Code § 92a.61(h)
pH (s.u.)	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H

Table 10. Effluent Limits and Monitoring Requirements for Outfalls 010

Parameter	Mass (pounds/day)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	—	Report	—	—	—	25 Pa. Code § 92a.61(h)
Total Suspended Solids	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Oil and Grease	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Chemical Oxygen Demand	—	—	—	Report	—	25 Pa. Code § 92a.61(h)
Nitrate-Nitrite Nitrogen	—	—	—	Report	—	25 Pa. Code § 92a.61(h)
Sulfate	—	—	—	Report	—	25 Pa. Code § 92a.61(h)
Total Iron	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Total Zinc	—	—	—	Report	—	25 Pa. Code § 92a.61(h)
pH (s.u.)	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H

Table 11. Effluent Limits and Monitoring Requirements for Outfalls 011, 012, and 013

Parameter	Mass (pounds/day)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	—	Report	—	—	—	25 Pa. Code § 92a.61(h)
Total Suspended Solids	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Oil and Grease	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Total Iron	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
pH (s.u.)	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H

Table 12. Effluent Limits and Monitoring Requirements for Outfalls 014

Parameter	Mass (pounds/day)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	—	Report	—	—	—	25 Pa. Code § 92a.61(h)
Total Suspended Solids	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Oil and Grease	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Sulfate	—	—	—	Report	—	25 Pa. Code § 92a.61(h)
Total Iron	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
pH (s.u.)	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H

The sampling frequency and type for all parameters—including parameters not based on Appendix H of the PAG-03—will be 1/6 months grab samples as established in Appendix H of the PAG-03 General Permit on which the monitoring requirements are based. Flow should be estimated 1/6 months at the time of sampling.

Development of Effluent Limitations

IMP No.	107	**Design Flow (MGD)**	Variable
Latitude	40° 38' 07" (Outfall 007)	**Longitude**	-80° 25' 11" (Outfall 007)

Wastewater Description: Discharges of storm water and depression well groundwater collected in the cooling tower settling basin

When the Plant was operating, Internal Monitoring Point 107 was the monitoring point for wastewaters discharging from a settling basin used to collect various low volume waste sources including service water multimedia filter and strainer backwash waters; drainage from the Unit 3 pumphouse; water from the cooling tower basins; and wastewater from groundwater depression wells that were installed as part of a light non-aqueous phase liquids (LNAPL) recovery system. Although the cooling towers and groundwater depression wells are no longer operating and there have been no discharges through IMP 107 since July 2020, the discharge pathway through IMP 107 may be used intermittently to discharge storm water that accumulates in the settling basin. The LNAPL recovery system and groundwater depression wells were recently turned off for a two-year interim monitoring period in accordance with a revised Consent Order and Agreement between DEP and SIP. Following the two-year interim period, it will be determined if the wells and system can be permanently decommissioned. It is not anticipated that discharges from the groundwater depression wells will resume.

In PA0027481, which previously regulated discharges from the settling basin, effluent limits were imposed at IMP 107 rather than another monitoring location because 40 CFR § 125.3(f) prohibits compliance with technology-based treatment requirements through the use of "non-treatment" techniques such as flow augmentation (i.e., dilution). Since the wastewaters monitored at IMP 107 combined with cooling tower blowdown and storm water before the next downstream monitoring location (Outfall 007), IMP 107 was the only point at which compliance with applicable TBELs from the Federal ELGs could be determined without the interference of other wastewaters. That rationale was consistent with 40 CFR § 122.45(h)[3], which allows for the imposition of effluent limitations on internal waste streams. Monitoring requirements will continue to be imposed at IMP 107 to determine when the settling basin discharges and to separate its impacts on discharges at Outfall 007 from the impacts of other sources that may discharge concurrently at that location (see IMPs 307, 407, 507, and 607 discussed later in this Fact Sheet).

107.A. Technology-Based Effluent Limitations (TBELs)

TBELs for low volume waste sources from 40 CFR Part 423 – Steam Electric Power Generating Point Source Category ELGs were imposed at IMP 107 in PA0027481. As explained at the beginning of this Fact Sheet, Part 423 no longer applies to discharges from the Plant. SIP's application states that IMP 107 may be used to discharge precipitation that accumulates in the settling basin and groundwater from the groundwater depression wells if pumping from those wells resumes. Since IMP 107 could discharge storm water associated with industrial activities, monitoring requirements from Appendix H of the most recent final version of the PAG-03 will be imposed at IMP 107 (see Table 1). The basis for imposing the PAG-03, Appendix H monitoring requirements is discussed in section SWO.A of this Fact Sheet.

Flow monitoring also will be required pursuant to 25 Pa. Code § 92a.61(h).

107.B. Water Quality-Based Effluent Limitations (WQBELs)

Generally, DEP does not develop numerical WQBELs for storm water discharges. Additionally, DEP generally does not develop numerical WQBELs for wastewaters sampled at an internal monitoring point because the wastewater has not reached a water of the Commonwealth where water quality criteria apply.

Even though no mathematical modeling is performed, conditions in Part C of the permit will ensure compliance with water quality standards through a combination of best management practices including pollution prevention and exposure minimization, good housekeeping, erosion and sediment control, and spill prevention and response.

107.C. Effluent Limitations and Monitoring Requirements for Internal Monitoring Point 107

In accordance with 25 Pa. Code §§ 92a.12 and 92a.61, effluent limits that apply at IMP 107 are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements as summarized in the table below. TBELs, WQBELs, and regulatory effluent standards do not apply at IMP 107, so only monitoring requirements are imposed.

[3] 40 CFR § 122.45(h)(1): "When permit effluent limitations or standards imposed at the point of discharge are impractical or infeasible, effluent limitations or standards for discharges of pollutants may be imposed on internal waste streams before mixing with other waste streams or cooling water streams."

Table 13. Effluent Limits and Monitoring Requirements for IMP 107

Parameter	Mass (pounds/day)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	—	Report	—	—	—	25 Pa. Code § 92a.61(h)
Total Suspended Solids	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Oil and Grease	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Total Iron	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
pH (s.u.)	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H

Under PA0027481, no discharges from IMP 107 have been reported since August of 2020. Since discharges are likely to be infrequent, the monitoring frequencies and sample types for TSS, Oil and Grease, and Total Iron will be 1/discharge using grab sampling. Flow should be estimated 1/discharge at the time of sampling.

Development of Effluent Limitations

IMP Nos. 307, 407, and 507 **Design Flow (MGD)** Variable
Latitude 40° 38' 07" (Outfall 007) **Longitude** -80° 25' 11" (Outfall 007)
Wastewater Description: Discharges of storm water from the Unit 1, Unit 2, and Unit 3 cooling tower basins

When the Plant was operating, IMPs 307, 407, and 507 were the monitoring points for discharges of cooling tower blowdown from the Unit 1, Unit 2, and Unit 3 cooling towers, respectively. In PA0027481, which previously authorized the Plant's discharges, effluent limits from 40 CFR Part 423 – Steam Electric Power Generating Point Source Category ELGs were imposed at IMPs 307, 407, and 507 pursuant to 40 CFR § 122.45(h) (regarding effluent limits on internal waste streams) because the federally regulated cooling tower blowdown mixed with other sources (low volume waste sources from IMP 107 and storm water from IMP 607) before discharging to the Ohio River through Outfall 007.

With the Plant deactivated, there are no discharges of cooling tower blowdown. Discharges that do occur consist of storm water that accumulates in the cooling tower basins (CTBs).

CTB.A. Technology-Based Effluent Limitations (TBELs)

Since the plant is shut down and there are no discharges of cooling tower blowdown. TBELs for cooling tower blowdown from 40 CFR Part 423 do not apply.

The cooling tower basins might discharge storm water associated with industrial activities, so monitoring requirements from Appendix H of the most recent final version of the PAG-03 will be imposed at IMP 307, 407, and 507 (see Table 1). The basis for imposing PAG-03, Appendix H monitoring requirements is discussed in section SWO.A of this Fact Sheet.

SIP submitted analytical results for IMP 507 (also representing discharges through IMPs 307 and 407) based results from a February 20, 2018 application addendum for PA0027481 submitted by FirstEnergy Generation. DEP's understanding is that those results represent cooling tower blowdown discharges from when the power plant was operating and not post-shutdown results for storm water that accumulates in the CTBs. However, since there are no other comprehensive post-shutdown results, additional monitoring will be required under 25 Pa. Code § 92a.61(h) for pollutants present in elevated concentrations including Total Dissolved Solids (496 mg/L), Fecal Coliform (8800/100 m/L), and Total Aluminum (1.740 mg/L). Total Iron concentrations also were elevated (3.740 mg/L) in the 2018 results, but Total Iron monitoring is required already according to the transferred PAG-03, Appendix H monitoring requirements.

Flow monitoring also will be required pursuant to 25 Pa. Code § 92a.61(h).

CTB.B. Water Quality-Based Effluent Limitations (WQBELs)

No water quality modeling is performed. Conditions in Part C of the permit will ensure compliance with water quality standards through a combination of BMPs including pollution prevention and exposure minimization, good housekeeping, erosion and sediment control, and spill prevention and response.

CTB.C. Effluent Limitations and Monitoring Requirements for Internal Monitoring Points 307, 407, and 507

In accordance with 25 Pa. Code §§ 92a.12 and 92a.61, effluent limits that apply at IMPs 307, 407, and 507 are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements as summarized in the table below. TBELs, WQBELs, and regulatory effluent standards do not apply at IMPs 307, 407, and 507, so only monitoring requirements are imposed.

Table 14. Effluent Limits and Monitoring Requirements for IMPs 307, 407, and 507

Parameter	Mass (pounds/day)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	—	Report	—	—	—	25 Pa. Code § 92a.61(h)
Total Suspended Solids	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Total Dissolved Solids	—	—	—	Report	—	25 Pa. Code § 92a.61(h)
Oil and Grease	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H

Table 14 (continued). Effluent Limits and Monitoring Requirements for IMPs 307, 407, and 507

Parameter	Mass (pounds/day)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Fecal Coliform (No./100mL)	—	—	—	Report	—	25 Pa. Code § 92a.61(h)
Total Aluminum	—	—	—	Report	—	25 Pa. Code § 92a.61(h)
Total Iron	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
pH (s.u.)	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H

There have been no discharges through IMP 307 since July 2018. Discharges are reported regularly through IMPs 407 and 507. Even though discharges occur semi-frequently, the discharges are not process wastewater discharges, so the monitoring frequencies and sample types for TSS, Oil and Grease, and Total Iron will be 1/6 months using grab sampling consistent with the monitoring frequencies and sample types for storm water discharges regulated by Appendix H of the PAG-03. Flow should be estimated 1/6 months at the time of sampling.

Development of Effluent Limitations

IMP No. 607 **Design Flow (MGD)** Variable
Latitude 40° 38' 07" **Longitude** -80° 25' 11"
Wastewater Description: Storm water from the cooling tower area

607.A. Technology-Based Effluent Limitations (TBELs)

There are no ELGs that apply to storm water discharges through IMP 607. Therefore, consistent with 25 Pa. Code § 92a.61(h) and DEP's policy for permitting storm water discharges associated with industrial activities, minimum standards from Appendix H of DEP's PAG-03 General Permit will be applied to IMP 607 (see Table 1 and explanation in Section SWO.A of this Fact Sheet). DEP considers the use of BMPs to be BAT for storm water discharges unless effluent concentrations indicate that BMPs provide inadequate pollution control. Pollutant concentrations reported on the permit application for IMP 607's discharges are summarized in the table below.

Table 15. Storm Water Analytical Results Reported for IMP 607

Parameter	Application Concentration (mg/L)	MSGP Benchmark Values (mg/L)
Oil and Grease	<5	N/A
BOD_5	<6	30
Chemical Oxygen Demand	46.0	120
Total Suspended Solids	8	100
Total Nitrogen	0.63	N/A
Total Phosphorus	0.09	2.0
pH (s.u.)	8.1 *	6.0 – 9.0 s.u.
Total Iron	1.73	N/A
Magnesium	3.32	N/A
Sulfate	8,110	250
Zinc	0.308 *	0.12

* Value is a calculated average (or median for pH) of values reported on Discharge Monitoring Reports for PA0027481 between the first quarter of 2020 and the third quarter of 2022.

Based on the reported storm water concentrations, sulfate and zinc reporting will be required. As explained in Section SWO.A. of this Fact Sheet, TBELs may be warranted in the future if pollutant concentrations in storm water consistently exceed the benchmark values from EPA's MSGP. Benchmark values will be listed in Part C of the permit. The benchmark values are not effluent limitations and exceedances do not constitute permit violations. However, if sampling demonstrates exceedances of benchmark values for two consecutive monitoring periods, then EHG must submit a corrective action plan within 90 days of the end of the monitoring period triggering the plan. The corrective action plan requirement and the benchmark values will be specified in a condition in Part C of the permit

607.B. Water Quality-Based Effluent Limitations (WQBELs)

No water quality modeling is performed. Conditions in Part C of the permit will ensure compliance with water quality standards through a combination of BMPs including pollution prevention and exposure minimization, good housekeeping, erosion and sediment control, and spill prevention and response.

607.C. Effluent Limitations and Monitoring Requirements for IMP 607

In accordance with 25 Pa. Code §§ 92a.12 and 92a.61, effluent limits that apply at IMP 607 are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements as summarized in the table below. TBELs, WQBELs, and regulatory effluent standards do not apply at IMP 607, so only monitoring requirements are imposed.

Table 16. Effluent Limits and Monitoring Requirements for IMP 607

Parameter	Mass (pounds/day)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	—	Report	—	—	—	25 Pa. Code § 92a.61(h)

Table 16 (continued). Effluent Limits and Monitoring Requirements for IMP 607

Parameter	Mass (pounds/day)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Total Suspended Solids	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Oil and Grease	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Iron, Total	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H
Sulfate, Total	—	—	—	Report	—	25 Pa. Code § 92a.61(h)
Zinc, Total	—	—	—	Report	—	25 Pa. Code § 92a.61(h)
pH (s.u.)	—	—	—	Report	—	25 Pa. Code § 92a.61(h); PAG-03, Appendix H

The sampling frequency and type for all parameters will be 1/6 months grab samples as established in Appendix H of the PAG-03 General Permit on which the monitoring requirements are based. Flow should be estimated at the time of sampling.

Development of Effluent Limitations

Outfall No.	007	**Design Flow (MGD)**	Variable
Latitude	40° 37' 58"	**Longitude**	-80° 24' 54"

Wastewater Description: Storm water and depression well groundwater from the cooling tower settling basin (IMP 107); storm water from the Unit 1, Unit 2, and Unit 3 cooling tower basins (IMPs 307, 407, & 507); and storm water from the cooling tower area (IMP 607)

All sources discharging through Outfall 007 are monitored upstream of the outfall at IMPs 107, 307, 407, 507, and 607. There are no other contributions to discharges through Outfall 007 downstream of those IMPs. Outfall 007 also is inaccessible for sampling.

Water quality impacts to the Ohio River are not expected from the groundwater and storm water discharges at Outfall 007. PCB and Chlordane-related impacts will be controlled by the condition described in Part SWO.B of this Fact Sheet and fecal coliform sampling at IMPs 307, 407, and 507 will be used to determine whether discharges of pathogens require additional controls.

Outfall 007 will be listed in the permit as the authorized discharge location for wastewaters monitored at IMPs 107, 307, 407, 507, and 607 with no limits or monitoring requirements.

Development of Effluent Limitations

Outfall No. 009 **Design Flow (MGD)** 0.047 (average)
Latitude 40° 38' 16" **Longitude** -80° 25' 00"
Wastewater Description: Treated sanitary wastewaters

Currently, portable toilets are used at the site. The onsite sewage treatment plant is not operating and there are no discharges of treated sanitary wastewaters. No sewage discharges are anticipated in the near-term. However, operation of the treatment plant and discharges from Outfall 009 may resume in the future. Effluent limits are imposed assuming there are active discharges. SIP can report "No Discharge" on its Discharge Monitoring Reports until discharges resume.

009.A. Technology-Based Effluent Limitations (TBELs)

25 Pa. Code § 92a.47 – Sewage Permits

Regulations at 25 Pa. Code § 92a.47 specify TBELs and effluent standards that apply to sewage discharges. Section 92a.47(a) requires that sewage be given a minimum of secondary treatment with significant biological treatment that achieves the following:

Table 17. TBELs for Sanitary Wastewater

Parameter	Monthly Average (mg/L)	Instant Maximum (mg/L)	Basis
$CBOD_5$	25	50†	25 Pa. Code § 92a.47(a)(1)
Total Suspended Solids	30	60†	25 Pa. Code § 92a.47(a)(1)
Fecal Coliform (No./100 mL) May 1 – September 30	200 (Geometric Mean)	1,000	25 Pa. Code § 92a.47(a)(4)
Fecal Coliform (No./100 mL) October 1 – April 30	2,000 (Geometric Mean)	10,000	25 Pa. Code § 92a.47(a)(5)
Total Residual Chlorine	0.5 (or facility-specific)	1.6 (or facility-specific)	25 Pa. Code § 92a.47(a)(8)
pH (s.u.)	not less than 6.0 and not greater than 9.0		25 Pa. Code § 92a.47(a)(7)

† Value is calculated as two times the monthly average in accordance with Chapter 2 of DEP's Technical Guidance for the Development and Specification of Effluent Limitations.

ORSANCO Pollution Control Standards

The Ohio River Valley Water Sanitation Commission (ORSANCO) is an interstate commission established by interstate compact that sets water quality standards (Pollution Control Standards) for the Ohio River. The Ohio River is a water of the Commonwealth and is the receiving water for discharges from SIP's sewage treatment plant. DEP implements ORSANCO's Standards pursuant to 25 Pa. Code § 92.12(b), which states:

> When interstate or international agencies under an interstate compact or international agreement establish applicable effluent limitations or standards for dischargers of this Commonwealth to surface waters that are more stringent than those required by this title, the more stringent standards and limitations apply.

Chapter 5.4(A) of ORSANCO's 2019 Pollution Control Standards (the current version) requires the following level of treatment for sewage discharges to the Ohio River:

Table 18. ORSANCO TBELs and Effluent Standards for Sewage Discharges

Parameter	Monthly Average (mg/L)	Instant. Max. (mg/L)	Basis
Total Suspended Solids	30		Section 5.4(A)(2)
$CBOD_5$	25		Section 5.4(A)(1)(ii)
Fecal Coliform (No. /100mL)	2,000 (Geometric Mean)		Section 5.4(A)(4)(i)
E.coli (No. /100mL) April 1 – October 31	130 (90-day Geometric Mean)	240 (in 25% of samples)	Section 5.4(A)(4)(ii)
pH	not less than 6.0 and not greater than 9.0 s.u.		Section 5.4(A)(3)

The effluent standards given by ORSANCO are largely the same as those required by 25 Pa. Code § 92a.47(a) with the exception of the application of *E. coli* limits from April through October instead of fecal coliform limits. Pursuant to DEP's "Standard Operating Procedure for Clean Water Program Establishing Effluent Limitations for Individual Sewage Permits" [SOP No. BCW-PMT-033, Version 1.9, December 24, 2021], DEP has determined that applying the 200/100mL fecal coliform limit from § 92a.47(a)(4) and (a)(5) between April 1 and October 31 and changing the 1000/100mL instantaneous maximum limit for that period to 400/100mL will result in a required level of disinfection that is more stringent than what is required to comply with ORSANCO's *E.coli* standards. That determination is based on calculations performed using a set of correlation equations developed by Ohio EPA[4] that allow for conversions between the numbers of fecal coliform and *E. coli* bacteria present in a sample.

Ohio EPA: Fecal Coliform to *E. coli* Conversion Equation

$$E.coli = 0.403 \times (Fecal\ Coliform)^{1.028}$$

$$Fecal\ Coliform = \sqrt[1.028]{\frac{E.coli}{0.403}}$$

Fecal Coliform Equivalent of 130/100mL *E. coli* (90-Day Geometric Mean)

$$Fecal\ Coliform = \sqrt[1.028]{\frac{130}{0.403}} \approx 275/100mL$$

Fecal Coliform Equivalent of 240/100mL *E. coli* (in 25% of Samples)

$$Fecal\ Coliform = \sqrt[1.028]{\frac{240}{0.403}} \approx 500/100mL$$

Since the modified limitations for fecal coliform bacteria are more stringent (as *E. coli* equivalents) than the *E. coli* effluent standards given by ORSANCO, the *E. coli* effluent standards from ORSANCO will not be imposed. That is, limiting fecal coliform bacteria to the level listed in Table 19 also will control *E. coli* bacteria at a level more stringent than ORSANCO requires, so limiting both is unnecessary. However, an annual reporting requirement will be imposed for *E. coli* bacteria consistent with DEP SOP No. BCW-PMT-033.

Table 19. Modified TBELs for Fecal Coliform

Parameter	Monthly Average (mg/L)	Instant Maximum (mg/L)
Fecal Coliform (No./100 mL) April 1 – October 31	200 (Geometric Mean)	400
Fecal Coliform (No./100 mL) November 1 – March 31	2,000 (Geometric Mean)	10,000

The months during which the § 92a.47(a)(4) and (a)(5) fecal coliform limits are in effect are modified to match the months during which ORSANCO's *E. coli* limits apply as necessary to maintain an equivalent or higher level of stringency among the fecal coliform TBELs and ORSANCO's *E. coli* TBELs.

Other Effluent Limits and Monitoring Requirements

The average monthly flow will be limited to the design flow of the sewage treatment plant (0.047 MGD) with a reporting requirement for the maximum daily flow pursuant to 25 Pa. Code § 92a.61(b). Also, pursuant to DEP SOP No. BCW-PMT-033, reporting requirements for Total Nitrogen and Total Phosphorus will be imposed consistent with DEP's authority under 25 Pa. Code § 92a.61(b). In addition, a minimum dissolved oxygen concentration of 4.0 will be imposed as a technology-based limit that is achievable by extended aeration sewage treatment plants such as those in use at the plant.

[4] Ohio EPA Bacterial TMDL Correlation Equations for Converting Between Fecal Coliform and *E. Coli* (December 2006).

009.B. Water Quality-Based Effluent Limitations (WQBELs)

For sewage discharges, DEP typically runs its WQM 7.0 water quality modeling program. WQM 7.0 is a water quality modeling program for Windows that determines wasteload allocations and effluent limitations for carbonaceous biochemical oxygen demand, ammonia nitrogen, and dissolved oxygen for single and multiple point-source discharge scenarios. DEP previously determined that discharges from Outfall 009 do not have a reasonable potential to cause or contribute to excursions above water quality criteria. That determination was based on the significant amount of mixing and dilution afforded by the Ohio River (the discharge flow is about 0.0008% of the Ohio River's $Q_{7\text{-}10}$ flow). Since the treated sewage discharges are not expected to materially or substantially change if/when such discharges resume, the previous determination stands. That determination also applies to WQBELs for Total Residual Chlorine.

Ohio River Use Impairments

The sewage treatment plant does not discharge PCBs, chlordane, or dioxins, so the facility will not contribute to the fish consumption use impairment.

There should be no contribution of pathogens to the river from the wastewaters discharged at Outfall 009 because the sewage is disinfected prior to discharge.

009.C. Effluent Limitations and Monitoring Requirements for Outfall 009

In accordance with 25 Pa. Code §§ 92a.12 and 92a.61, effluent limits applicable to discharges from Outfall 009 are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements as summarized in the table below.

Table 20. Effluent Limits and Monitoring Requirements for Outfall 009

Parameter	Mass (pounds)		Concentration (mg/L)		Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	
Flow (MGD)	0.047	Report	—	—	25 Pa. Code § 92a.61(d)(1)
$CBOD_5$	—	—	25.0	50.0	25 Pa. Code § 92a.47(a)(1)
Total Suspended Solids	—	—	30.0	60.0	25 Pa. Code § 92a.47(a)(1)
Dissolved Oxygen	—	—	4.0 Daily Minimum	—	BPJ TBEL
Fecal Coliform (No. /100mL) April 1 – October 31	—	—	200 (Geo. Mean)	400 (IMAX)	25 Pa. Code § 92a.47(a)(4) & 40 CFR § 122.44(l)
Fecal Coliform (No. /100mL) November 1 – March 31	—	—	2,000 (Geo. Mean)	10,000 (IMAX)	25 Pa. Code § 92a.47(a)(5)
E. Coli (No./100m/L)	—	—	—	Report	25 Pa. Code § 92a.47(a)(5)
Total Residual Chlorine	—	—	0.5	1.6 (IMAX)	25 Pa. Code § 92a.47(a)(8)
Total Nitrogen	—	—	—	Report	25 Pa. Code § 92.61(b)
Total Phosphorus	—	—	—	Report	25 Pa. Code § 92.61(b)
pH (s.u.)	not less than 6.0 nor greater than 9.0 standard units				25 Pa. Code § 92a.47(a)(7)

When the sanitary plant was used, it operated over a 24-hour period, but only discharged for 2 hours in each 8-hour period. The highest loading occurred around each shift-change (there were three 8-hour shifts).

Consistent with the regulation of Outfall 009's discharges under PA0027481, the design flow rate of the sanitary wastewater treatment plant, and the self-monitoring requirements specified for sewage discharges on Table 6-3 in DEP's *Technical Guidance for the Development and Specification of Effluent Limitations*: flow must be measured weekly; $CBOD_5$ and TSS must be sampled 2/month using 8-hour composite samples; fecal coliform bacteria must be sampled 2/month using grab samples; total nitrogen and total phosphorus must be sampled 1/month using grab samples; and TRC, dissolved oxygen, and pH must be sampled daily when discharging using grab samples. *E. coli* must be sampled 1/year using grab samples. Grab samples should be representative of the effluent and are to be taken at a time when the normal daily maximum flow would reach the sampling point.

Development of Effluent Limitations

IMP No. 122 **Design Flow (MGD)** 0.274 (avg.); 3.9 (max)

Wastewater Description: Wastewaters collected in the LDS Pond and pumped to the secondary spillway at the Little Blue Run Disposal Area (PA0027481)

As explained at the beginning of this Fact Sheet, several sources are currently pumped from the LDS Pond to the stilling basin at LBR for ultimate discharge through EHG's Outfall 022 under PA0027481. As a condition of the sale of the Plant from EHG to SIP, SIP will develop a plan to discontinue pumping those sources to the stilling basin. Any remaining flows, such as stormwater at the Plant, will need to be permitted through a new outfall (or series of outfalls) at SIP. SIP intends to incorporate those issues into the revised water management strategy to be submitted as part of the renewal application for the next NPDES permit.

When the Plant was operating, the LDS Pond received or had the potential to receive bottom ash transport water, FGD wastewaters by way of the Spill Abatement NPDES Sump, low volume waste sources, coal pile runoff, and storm water. Wastewaters collected in the LDS are now limited to storm water runoff from the closed power plant, including storm water runoff from the reclaimed coal pile area. Pollutants regulated at Outfall 022 in PA0027481 for LBR including Flow, pH, TSS, TDS, Total Arsenic, Total Boron, Dissolved Iron, Total Iron, Total Manganese, Total Mercury, Total Selenium, Total Sulfate, Total Thallium, and Chloride. To determine SIP's contribution to the presence of those pollutants at EHG Outfall 022, Internal Monitoring Point 122 will be established in SIP's NPDES permit. Once per month monitoring will be required at IMP 122 for the same list of pollutants. IMP 122 is created pursuant to 40 CFR § 122.45(h)(1) (regarding effluent limits or standards for internal waste streams). The monitoring is required pursuant to 25 Pa. Code § 92a.61(b).

To the extent that WQBELs apply to the wastewaters pumped from the LDS Pond to LBR, water quality limits are evaluated at EHG Outfall 022 (see PA0027481).

Table 21. Monitoring Requirements for IMP 122

Parameter	Mass (pounds/day)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	—	Report	—	—	—	25 Pa. Code § 92a.61(b)
Total Suspended Solids	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
Total Dissolved Solids	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
Arsenic, Total	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
Boron, Total	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
Iron, Dissolved	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
Iron, Total	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
Manganese, Total	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
Mercury, Total	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
Selenium, Total	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
Sulfate, Total	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
Thallium, Total	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
Chloride	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
pH (s.u.)	—	—	—	Report	—	25 Pa. Code § 92a.61(b)

The sampling frequency shall be 1/month using grab sampling. Flow should be measured at the time of sampling.

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☐	Toxics Management Spreadsheet (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: "Establishing Effluent Limitations for Individual Sewage Permits" [SOP No. BCW-PMT-033, Version 1.9, December 24, 2021]
☐	Other:

ATTACHMENT A

EPA 2021 Multi-Sector General Permit Benchmark Values

2015 and 2021 MSGP Benchmark Values and Sources

Pollutant		2015 MSGP Benchmark	2015 MSGP Source (see footnotes)	2021 MSGP Benchmark	2021 MSGP Source (see footnotes)
Total Recoverable Aluminum (T)		0.75 mg/L	1	1,100 µg/L	18
Total Recoverable Beryllium		0.13 mg/L	2	130 µg/L[a]	2
Total Recoverable Iron		1.0 mg/L	3	Removed	16
Biochemical Oxygen Demand (5-day)		30 mg/L	4	30 mg/L	4
pH		6.0 – 9.0 s.u.	4	6.0 – 9.0 s.u.	4
Chemical Oxygen Demand		120 mg/L	5	120 mg/L	5
Total Phosphorus		2.0 mg/L	6	2.0 mg/L	6
Total Suspended Solids (TSS)		100 mg/L	7	100 mg/L	7
Nitrate and Nitrite Nitrogen		0.68 mg/L	7	0.68 mg/L	7
Total Recoverable Magnesium		0.064 mg/L	8	Removed	16
Turbidity		50 NTU	9	50 NTU	9
Total Recoverable Antimony		0.64 mg/L	12	640 µg/L[a]	1
Ammonia		2.14 mg/L	13	2.14 mg/L	1
Total Recoverable Cadmium	Freshwater[b]	0.0021 mg/L	1	1.8 µg/L[a]	15
	Saltwater	0.04 mg/L	14	33 µg/L[a]	15
Total Recoverable Copper	Freshwater	0.014 mg/L	1	5.19µg/L	18
	Saltwater	0.0048 mg/L	14	4.8 µg/L	14
Total Recoverable Cyanide	Freshwater	0.022 mg/L	1	22 µg/L[a]	1
	Saltwater	0.001 mg/L	14	1 µg/L[a]	14
Total Recoverable Mercury	Freshwater	0.0014 mg/L	1	1.4 µg/L[a]	1
	Saltwater	0.0018 mg/L	14	1.8 µg/L[a]	14
Total Recoverable Nickel	Freshwater[b]	0.47 mg/L	1	470 µg/L[a]	1
	Saltwater	0.074 mg/L	14	74 µg/L[a]	14
Total Recoverable Selenium	Freshwater	0.005 mg/L	3	1.5 µg/L for still/standing (lentic) waters 3.1 µg/L for flowing (lotic) waters	17
	Saltwater	0.29 mg/L	14	290 µg/L[a]	14
Total Recoverable Silver	Freshwater[b]	0.0032 mg/L	1	3.2 µg/L[a]	1
	Saltwater	0.0019 mg/L	14	1.9 µg/L[a]	14
Total Recoverable Zinc	Freshwater[b]	0.12 mg/L	1	120 µg/L[a]	1
	Saltwater	0.09 mg/L	14	90 µg/L[a]	14
Total Recoverable Arsenic	Freshwater[b]	0.15 mg/L	3	150 µg/L[a]	3
	Saltwater	0.069 mg/L	14	69 µg/L[a]	14

Pollutant		2015 MSGP Benchmark	2015 MSGP Source (see footnotes)	2021 MSGP Benchmark	2021 MSGP Source (see footnotes)
Total Recoverable Lead	Freshwater[b]	0.082 mg/L	3	82 µg/L[a]	3
	Saltwater	0.21 mg/L	14	210 µg/L[a]	1

[a] Values have been updated to match original units found in source documents.

[b] These pollutants are dependent on water hardness where discharged into freshwaters. The freshwater benchmark value listed is based on a hardness of 100 mg/L. When a facility analyzes receiving water samples for hardness, the operator must use the hardness ranges provided in Table 1 in Appendix J of the 2015 MSGP and in the appropriate tables in Part 8 of the 2015 MSGP to determine applicable benchmark values for that facility. Benchmark values for discharges of these pollutants into saline waters are not dependent on receiving water hardness and do not need to be adjusted.

Sources:

1. "National Recommended Water Quality Criteria." Acute Aquatic Life Freshwater (EPA-822-F-04-010 2006-CMC). https://nepis.epa.gov/Exe/ZyNET.exe/P1003R9X.txt?ZyActionD=ZyDocument&Client=EPA&Index=2006%20Thru%202010&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&UseQField=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5CZYFILES%5CINDEX%20DATA%5C06THRU10%5CTXT%5C00000007%5CP1003R9X.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=2#
2. "EPA Recommended Ambient Water Quality Criteria for Beryllium." LOEL Acute Freshwater (EPA-440-5-80-024 October 1980)
3. "National Recommended Water Quality Criteria." Chronic Aquatic Life Freshwater (EPA-822-F-04- 010 2006-CCC)
4. Secondary Treatment Regulations (40 CFR 133)
5. Factor of 4 times BOD5 (5-day biochemical oxygen demand) concentration - North Carolina Benchmark
6. North Carolina stormwater Benchmark derived from NC Water QualityStandards
7. National Urban Runoff Program (NURP) median concentration
8. Minimum Level (ML) based upon highest Method Detection Limit (MDL) times a factor of 3.18
9. Combination of simplified variations on Stormwater Effects Handbook, Burton and Pitt, 2001 and water quality standards in Idaho, in conjunction with review of DMR data
10. "National Ambient Water Quality Criteria." Acute Aquatic Life Freshwater. This is an earlier version of the criteria document that has subsequently been updated. (See source #1)
11. "National Ambient Water Quality Criteria." Chronic Aquatic Life Freshwater. This is an earlier version of the criteria document that has subsequently been updated. (See source #3)
12. "National Ambient Water Quality Criteria. "Human Health for the Consumption of Organism Only (EPA-822-F-01-0102006)
13. "Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses." USEPA Office of Water (PB85-227049 January 1985)
14. "National Recommended Water Quality Criteria." Acute Aquatic Life Saltwater (CMC) available at: http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm#altable
15. "Aquatic Life Ambient Water Quality Criteria: Cadmium, 2016" (EPA 820-R-16-002)
16. Improving the EPA Multi-Sector General Permit for Industrial Stormwater Discharges, 2019. Available at: https://www.nap.edu/catalog/25355/improving-the-epa-multi-sector-general-permit-for-industrial-stormwater-discharges

17. "National Recommended Water Quality Criteria Table." Available at: https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table

18. See "Industrial stormwater Technical Memo for aluminum and copper criteria percentiles" in Docket ID# EPA-HQ-OW-2019-0372.

Derivation of the Benchmark Levels

The 2021 MSGP retains many of the same benchmark monitoring thresholds as the 2015 MSGP, with some modifications. EPA revised the aluminum, copper (for discharges to freshwater), selenium (for discharges to freshwater), and cadmium benchmark thresholds based on updated EPA national recommended aquatic life water quality criteria and suspends magnesium and iron based on the NRC study recommendations and lack of documented acute toxicity. The 2021 MSGP also incorporates additional flexibility in Part 5 (Additional Implementation Measures) for those operators who exceed the benchmark threshold for aluminum or copper through the optional derivation and application of a facility-specific threshold.

The process that EPA followed in selecting the benchmark thresholds for the permit is the same as in previous permits. The steps are as follows: Step 1: Use EPA's current CWA section 304(a) national recommended aquatic life ambient water quality acute criterion value, where appropriate; Step 2: If no EPA acute criterion exists, use the national recommended aquatic life ambient water quality chronic criterion; Step 3: If neither acute nor chronic criteria exist, use data from discharge studies or technology-based standards to establish a benchmark. EPA hereinafter refers to the CWA section 304(a) national recommended aquatic life ambient water quality criteria as "criteria" or "criterion" and differentiates acute and chronic criteria where applicable. EPA also evaluated reported 2015 MSGP benchmark monitoring data for aluminum and copper (for discharges to freshwater) to determine if it would be appropriate to allow voluntary calculation and use of a facility-specific threshold using the national recommended criteria equations in place of the standard MSGP benchmark thresholds for aluminum and copper.

In general, the freshwater acute criteria are less restrictive than chronic water quality criteria. Because of the intermittent nature of wet weather (i.e., stormwater) discharges and the increased and variable ambient flows that generally result from precipitation events, EPA views acute criteria as generally more appropriate than chronic criteria in this context. Since benchmarks are usually set equal to recommended ambient water quality criteria for the receiving waters, with no allowance for dilution during storm events, they generally represent conservative values. Exceedance of a benchmark threshold does not necessarily indicate that a discharge is not meeting an applicable water quality standard, but does require the operator to evaluate the effectiveness of its stormwater control measures, with follow-up Additional Implementation Measures (AIM) responses where required per Part 5.2. For a full discussion of EPA's approach for the derivation of the benchmarks, see the Fact Sheet for the 1995 MSGP (60 Fed. Reg. 50825), 2000 MSGP (65 Fed. Reg. 64746), and the 2008 MSGP (73 Fed. Reg. 56572).

The MSGP defines saline or saltwaters for the purposes of benchmark monitoring as those waters with salinity equal to or in exceedance of 10 parts per thousand 95 percent or more of the time, unless otherwise defined as a coastal or marine water by the applicable state or tribal surface water quality standards. This definition is consistent with 40 CFR 131.36. These benchmarks represent the available acute ambient water quality criteria for priority toxic and non-priority pollutants in saltwater.