Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0100951**
Facility Type	**Industrial**	APS ID	**1045176**
Major / Minor	**Minor**	Authorization ID	**1525114**

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

Applicant and Facility Information

Applicant Name	**PA Electric Company**	Facility Name	**Penelec Shannon Road Ash Disposal**
Applicant Address	800 Cabin Hill Drive	Facility Address	3100 Cooper Road
	Greensburg, PA 15601-1650		Erie, PA 16510-3180
Applicant Contact	Mallory Shilling-Palmer	Facility Contact	
Applicant Phone	(724) 830-5481	Facility Phone	
Client ID	6281	Site ID	241578
SIC Code	4911	Municipality	Harborcreek Township
SIC Description	Trans. & Utilities - Electric Services	County	Erie
Date Application Received	August 2, 2021	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Permit Renewal for discharge of treated industrial waste.

Summary of Review

1.0 General Discussion

PA Electric Company (Penelec) submitted the application for renewal of an existing NPDES permit for the discharge of treated leachate generated from a closed fly ash landfill. Penelec formerly operated the Shannon Road Ash Site which has been inactive since late1970's. Currently, contaminated groundwater/leachate is collected and treated using a trailer-mounted wastewater treatment system. The treatment process consists of neutralization, pH adjustment, aeration and clarification. Effluent is discharged after clarification and sludge is periodically pumped to a large holding tank and dewatered once a week through a rotary fan press. The cake from the press is discharged into a lined roll-off box for transportation offsite for disposal. The facility's discharge is regulated under the Steam Electric Power Generating Effluent Guidelines (40 CFR 423) as combustion residual leachate. This waste stream is defined in 40 CFR 423.11(r) as "leachate from landfills or surface impoundments containing combustion residuals. Leachate is composed of liquid, including any suspended or dissolved constituents in the liquid, that has percolated through waste or other materials emplaced in a landfill, or that passes through the surface impoundment's containment structure (e.g., bottom, dikes, berms). Combustion residual leachate includes seepage and/or leakage from a combustion residual landfill or impoundment unit. Combustion residual leachate includes wastewater from landfills and surface impoundments located on non-adjoining property when under the operational control of the permitted facility. The existing discharge for outfall 001 was based on a wastewater flow of 0.026mgd but has been revised to 0.01MGD for the current renewal based on average maximum daily discharge for the past 12 months operation. Discharge is to Fourmile Creek which is classified for warn water fishes (WWF) and migratory fishes (MF). The existing permit was issued on January 19, 2017, with effective date of February 1, 2017, and expiration date of January 31, 2022. The permittee submitted a timely renewal application to the Department and has been operating under the terms and conditions in the existing permit pending permit renewal. Topographical map showing discharge location is attached as attachment A and process flow diagram is presented in attachment B.

There is currently no open violation for this Permittee when a search was conducted on 4/23/2025.

Approve	Deny	Signatures	Date
X		*J. Pascal Kwedza* J. Pascal Kwedza, P.E. / Environmental Engineer	April 24, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	May 2, 2025

Summary of Review

1.1 Public Participation

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

1.2 Changes to the Existing Permit

Monitoring of Total Thallium, Total Cadmium, and PFAS parameters (PFOA, PFOS, HFPO-DA and PFBS) have been added to the permit.

1.3 Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.010
Latitude	42º 7' 38.64"	Longitude	80º 0' 2.16"
Quad Name	Erie North	Quad Code	0105
Wastewater Description:	IW Process Effluent with ELG		

Receiving Waters	Fourmile Creek(WWF, MF)	Stream Code	62391
NHD Com ID	123922700	RMI	2.93
Drainage Area	10.3	Yield (cfs/mi^2)	0.04554
Q_{7-10} Flow (cfs)	0.47	Q_{7-10} Basis	USGS Streamstats
Elevation (ft)	790	Slope (ft/ft)	
Watershed No.	15-A	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Background/Ambient Data		Data Source
pH (SU)	7.0	Default
Temperature (°F)		
Hardness (mg/L)	100	Default
Other: Metals		

Nearest Downstream Public Water Supply Intake	Lake Erie		
PWS Waters	Lake Erie	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	2.93

Changes Since Last Permit Issuance: None

2.0 Treatment Facility Summary

Treatment Facility Name: Shannon Rd Ash Site

WQM Permit No.	Issuance Date
2595201 A-1	Nov 23, 2010

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Industrial	Chemical (Industrial Waste)	Neutralization	No Disinfection	0.010

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.072	N/A		Dewatering	Landfill

Changes Since Last Permit Issuance: None

3.0 Existing Effluent Limitations and Monitoring Requirements

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) [1]		Concentrations (mg/L)				Minimum [2] Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6 Inst Min	XXX	XXX	9	1/month	Grab
TSS	XXX	XXX	XXX	30.0	70.0	70	2/month	Grab
Oil and Grease	XXX	XXX	XXX	15.0	20.0	30	1/6 months	Grab
Dissolved Iron	XXX	XXX	XXX	1.5	XXX	7	2/month	Grab
Total Iron	XXX	XXX	XXX	3.5	7.0	8.7	2/month	Grab

3.1 Compliance History

3.1.1 DMR Data for Outfall 001 (from March 1, 2024 to February 28, 2025)

Parameter	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24
Flow (MGD) Average Monthly	0.00481	0.00481	0.00447	0.002181	0.00455	0.00486	0.00492	0.00424	0.00478	0.00485	0.00482	0.00489
Flow (MGD) Daily Maximum	0.00619	0.00641	0.00710	0.005671	0.00785	0.00625	0.00638	0.00619	0.00641	0.00619	0.00614	0.00611
pH (S.U.) Instantaneous Minimum	8.01	8.01	8.01	8.01	8.16	8.0	8.1	8.1	8.1	8.1	8.3	8.4
pH (S.U.) Instantaneous Maximum	8.01	8.01	8.01	8.01	8.16	8.0	8.1	8.1	8.1	8.1	8.3	8.4
TSS (mg/L) Average Monthly	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.25	< 5.5
TSS (mg/L) Daily Maximum	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.5	6.0
Oil and Grease (mg/L) Average Monthly			< 4.9						< 5.0			
Oil and Grease (mg/L) Daily Maximum			< 4.9						< 5.0			
Dissolved Iron (mg/L) Average Monthly	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.200	< 0.2
Total Iron (mg/L) Average Monthly	0.537	0.572	0.325	0.582	0.594	0.507	0.612	0.444	0.616	0.874	0.515	0.416
Total Iron (mg/L) Daily Maximum	0.627	0.628	0.347	0.733	0.645	0.614	0.633	0.533	0.665	1.010	0.553	0.438

3.1.2 Summary of DMRs:

DMRs review for the facility for the last 12 months of operation, presented on the table above in section 3.1.1 indicates permit limits have been met consistently. No effluent violations noted during the period reviewed.

3.1.3 Summary of Inspections:

The facility was inspected a couple times during the last permit cycle. No effluent violations found during plant inspections.

4.0 Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .010
Latitude 42º 7' 38.64" **Longitude** -80º 0' 2.16"
Wastewater Description: IW Process Effluent with ELG

4.1 Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Parameter	Limit (mg/l)	SBC	Federal Regulation	State Regulation
Oil and Grease	15	Average Monthly	423.12(b)(11)	95.2(2)(i)
	20	Daily Maximum	423.12(b)(11)	
	30	IMAX		95.2(2)(i)
Total Suspended Solids	30	Average Monthly	423.12(b)(11)	
	100	Daily Maximum	423.12(b)(11)	
pH	6.0 – 9.0 S.U.	Min – Max	423,12(b)(1)	95.2(1)
Dissolved Iron	7.0	Daily Maximum		95.2(4)

Comments: The permit currently has a BAT daily maximum limit for TSS which was derived from the Acid or Ferruginous Mine Drainage ELG (40 CFR 434.32) which is still being achieved. The old limit will remain as a BPJ limit in the permit since it is more stringent than the current ELG.

4.2 Water Quality-Based Limitations

4.2.1 Stream flows

The drainage area upstream of the discharge location and the Q_{7-10} at discharge point were calculated using USGS streamStats and the results are presented in attachments D. The calculated drainage area upstream of discharge is 10.3 sq. mi and the Q_{7-10} flow is 0.47 cfs.

4.2.2 The following input data were used for TMS model:

- Discharge pH = 8.1 (DMR median July – Sept.)
- Stream pH = 7.0 (Default)
- Discharge Hardness = 689 mg/l
- Stream Hardness = 100 mg/l

4.2.3 Toxics

A reasonable potential (RP) analysis was done for pollutant Groups 1 & 2 submitted with the application. All pollutants that were presented in the application sampling data were entered into the Toxics Management Spreadsheet (TMS) to calculate WQBELs. WQBELs recommended by the TMS are presented in attachment C. The results of the TMS indicate discharge levels for all parameters analyzed in exception of Total Thallium and Total Cadmium were well below DEP's target quantitation limits (TQL) and calculated WQBELs, therefore no limitation or monitoring is required in the permit. Monitoring is recommended for Total Thallium and Total Cadmium. Monitoring 1/quarter will be required for Total Thallium and Total Cadmium in addition to the existing water quality limitation on Dissolved Iron and Total Iron due to anti-backsliding restrictions.

4.2.4 PFAS Monitoring Strategy:

PFAS, also known as 'forever chemicals,' are prevalent in the environment. They are a category of chemicals used since the 1940s to repel oil and water and resist heat, which makes them useful in everyday products such as nonstick cookware, stain resistant clothing, and firefighting foam. Exposure to certain PFAS over a long period of time can cause cancer, adverse health impacts and other illnesses. EPA categorized the following activities it believes are the main sources of PFAS: organic chemicals, plastics & synthetic fibers; metal finishing; electroplating; electric and electronic components; landfills; pulp, paper & paperboard; leather tanning & finishing; plastics molding & forming; textile mills; paint formulating, and airports. DEP is implementing PFAS monitoring program to investigate and address PFAS discharges and pollution.

Under the plan, all new industrial and some major sewage permit applicants are required to test for 4 of the PFAS parameters, PFOA, PFOS, HFPO-DA and PFBS during permit applications. If the results of the tests are non-detect using screening level at or below DEP's Target QLs, an annual monitoring will be required and if there are detections or non-detects above the TQLs a quarterly monitoring will be required in the permit. Applications received without the tests and applications already received will be drafted with quarterly monitoring if an industrial facility falls under EPA categories or if a major sewage facility receives flow from one of EPA categories. If an industrial facility does not fall under, or a major sewage facility does not receive flow any EPA categories, annual monitoring will be required in the draft permit. This facility falls in one of the EPA categories and requires quarterly monitoring of PFOA, PFOS, HFPO-DA, and PFBS in the permit. The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detect results at or below Quantitation Limits of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L for HFPO-DA. When monitoring is discontinued, permittees shall enter a No Discharge Indicator (NODI) Code of "GG" on DMRs.

4.2.5 Flow and pH

The existing technology limit for pH limit between 6 - 9 S.U per 423,12(b)(1) and 95.2(1), and flow monitoring per 40 CFR § 122.44(i)(1)(ii) will remain in the permit.

4.2.6 Total Suspended Solids (TSS) & Oil and Grease (O&G):

There is no water quality criteria for TSS and O&G. The existing TBELs referenced in section 4.1 will remain in the permit.

5.0 Other Requirements

5.1 Anti-Backsliding

Not applicable to this discharge

5.2 Antidegradation (93.4):

The effluent limits for this discharge have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High-Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

5.3 Class A Wild Trout Fisheries:

No Class A Wild Trout Fisheries are impacted by this discharge.

5.4 303d Listed stream:

The discharge is not located on a 303d listed stream segment.

6.0 Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

Outfall 001, Continued (from Permit Effective Date through Permit Expiration Date)

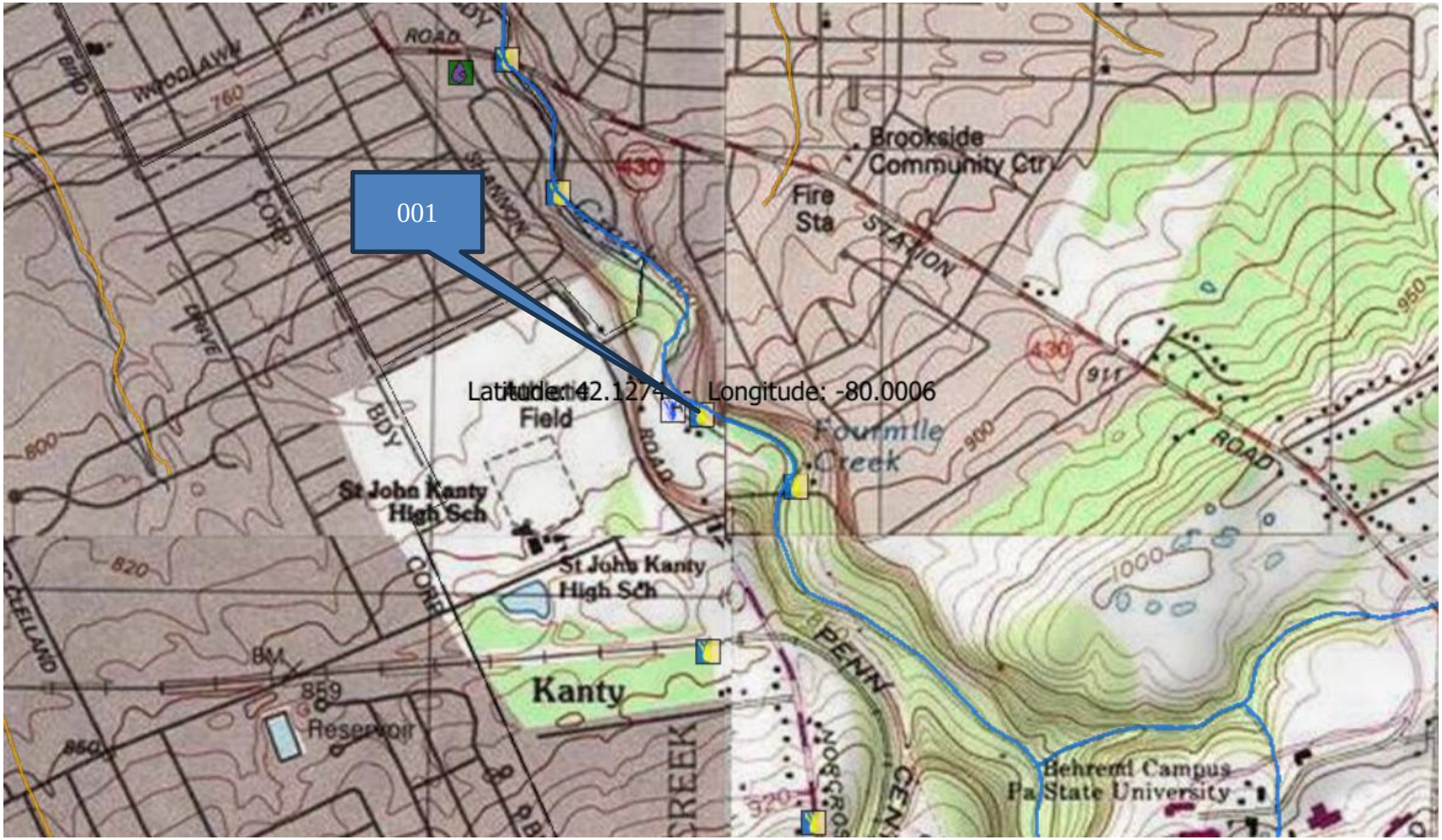
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/month	Grab
Total Suspended Solids	XXX	XXX	XXX	30.0	70.0	70	2/month	Grab
Oil and Grease	XXX	XXX	XXX	15.0	20.0	30	1/6 months	Grab
Cadmium, Total	XXX	Report	XXX	XXX	Report	XXX	1/quarter	Grab
Iron, Dissolved	XXX	XXX	XXX	1.5	XXX	7	2/month	Grab
Iron, Total	XXX	XXX	XXX	3.5	7.0	8.7	2/month	Grab
Thallium, Total	XXX	Report	XXX	XXX	Report	XXX	1/quarter	Grab
PFOA (ng/L)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
PFOS (ng/L)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
PFBS (ng/L)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
HFPO-DA (ng/L)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab

Compliance Sampling Location: At Outfall 001

7.0 Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment **B**)
☐	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, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☒	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☐	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999.
☐	Design Stream Flows, 386-2000-003, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP:
☐	Other:

Attachments

A. Topographical Map



B. Toxic Management Spreadsheet (TMS) Results.

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **PA Electri Co.** NPDES Permit No.: **PA0100951** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Inudustrial Waste**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.01	689	8.1						

					0 if left blank		*0.5 if left blank*		*0 if left blank*			*1 if left blank*	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		689									
	Chloride (PWS)	mg/L		151									
	Bromide	mg/L	<	0.4									
	Sulfate (PWS)	mg/L		701									
	Fluoride (PWS)	mg/L	<	2									
Group 2	Total Aluminum	µg/L	<	100									
	Total Antimony	µg/L	<	1									
	Total Arsenic	µg/L		2.7									
	Total Barium	µg/L		18.1									
	Total Beryllium	µg/L	<	2.5									
	Total Boron	µg/L		1400									
	Total Cadmium	µg/L	<	2.5									
	Total Chromium (III)	µg/L	<	0.005									
	Hexavalent Chromium	µg/L	<	0.00025									
	Total Cobalt	µg/L		11.5									
	Total Copper	µg/L		12.5									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	10									
	Dissolved Iron	µg/L	<	887									
	Total Iron	µg/L		1840									
	Total Lead	µg/L		0.5									
	Total Manganese	µg/L		1990									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		27.1									
	Total Phenols (Phenolics) (PWS)	µg/L	<	5									
	Total Selenium	µg/L	<	12.5									
	Total Silver	µg/L	<	2.5									
	Total Thallium	µg/L		1.04									
	Total Zinc	µg/L	<	12.5									
	Total Molybdenum	µg/L		17.9									

Stream / Surface Water Information

PA Electri Co., NPDES Permit No. PA0100951, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Fourmile Creek (WWF, WF)** No. Reaches to Model: **1**

○ Statewide Criteria
◉ Great Lakes Criteria
○ ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	062391	2.93	790	10.3			Yes
End of Reach 1	062391	0.01	575	12			Yes

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

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	2.93	0.04554	0.47									179	7		
End of Reach 1	0.01	0.04554													

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	2.93														
End of Reach 1	0.01														

Model Results

PA Electri Co., NPDES Permit No. PA0100951, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 4.368 PMF: 1 Analysis Hardness (mg/l): 195.25 Analysis pH: 7.01

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	23,536	
Total Antimony	0	0		0	1,100	1,100	34,520	
Total Arsenic	0	0		0	340	340	10,670	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	659,009	
Total Boron	0	0		0	8,100	8,100	254,189	
Total Cadmium	0	0		0	3.858	4.21	132	Chem Translator of 0.916 applied
Total Chromium (III)	0	0		0	985.580	3,119	97,876	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	15.730	16.0	503	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	2,981	
Total Copper	0	0		0	25.245	26.3	825	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	132.711	191	6,005	Chem Translator of 0.694 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	51.7	Chem Translator of 0.85 applied
Total Nickel	0	0		0	824.722	826	25,933	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	10.168	12.0	375	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	2,040	
Total Zinc	0	0		0	206.574	211	6,628	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 4.368 PMF: 1 Analysis Hardness (mg/l): 195.25 Analysis pH: 7.01

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	6,904	
Total Arsenic	0	0		0	148	148	4,644	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	128,664	
Total Boron	0	0		0	1,600	1,600	50,210	
Total Cadmium	0	0		0	0.391	0.44	13.9	Chem Translator of 0.881 applied
Total Chromium (III)	0	0		0	128.204	149	4,678	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	326	Chem Translator of 0.962 applied

Total Cobalt	0	0		0	19	19.0	596	
Total Copper	0	0		0	15.864	16.5	519	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	47,072	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	5.172	7.46	234	Chem Translator of 0.694 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	28.4	Chem Translator of 0.85 applied
Total Nickel	0	0		0	91.601	91.9	2,883	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	157	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	408	
Total Zinc	0	0		0	208.264	211	6,628	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 4.368 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	176	
Total Arsenic	0	0		0	10	10.0	314	
Total Barium	0	0		0	2,400	2,400	75,315	
Total Boron	0	0		0	3,100	3,100	97,282	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	9,414	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	31,381	
Total Mercury	0	0		0	0.003	0.003	0.097	
Total Nickel	0	0		0	610	610	19,143	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	7.53	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 1.177 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	

Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

Model Results 4/16/2025 Page

Pollutants	*Mass Limits* AML (lbs/day)	*Mass Limits* MDL (lbs/day)	*Concentration Limits* AML	*Concentration Limits* MDL	*Concentration Limits* IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Cadmium	Report	Report	Report	Report	Report	µg/L	13.9	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Thallium	Report	Report	Report	Report	Report	µg/L	7.53	THH	Discharge Conc > 10% WQBEL (no RP)

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

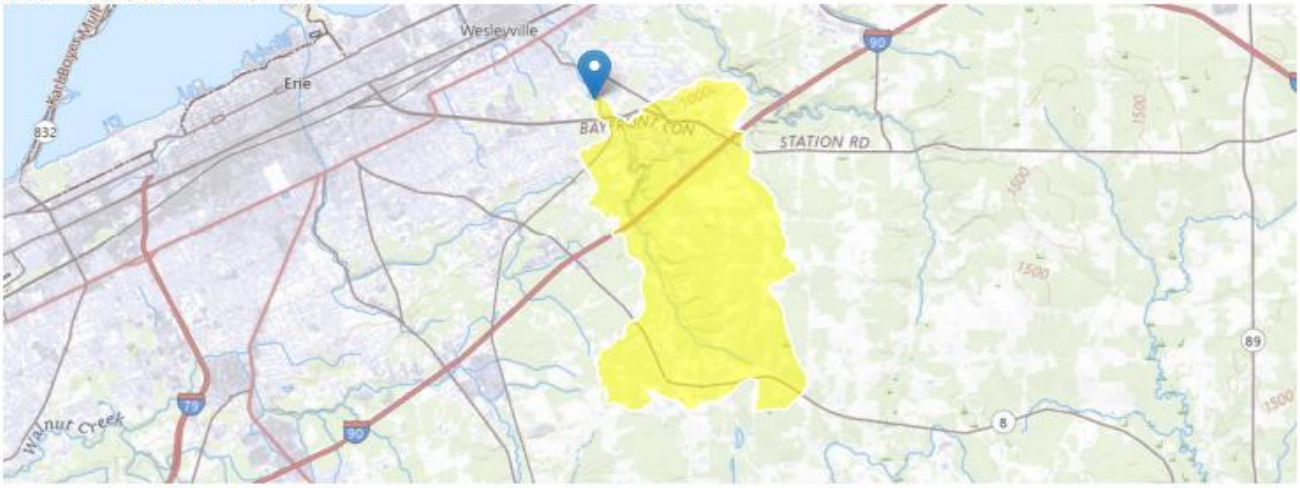
The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	15,086	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	314	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	75,315	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	50,210	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	4,678	µg/L	Discharge Conc < TQL
Hexavalent Chromium	322	µg/L	Discharge Conc < TQL
Total Cobalt	596	µg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	519	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	9,414	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	47,072	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	234	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	31,381	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.003	µg/L	Discharge Conc < TQL
Total Nickel	2,883	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	157	µg/L	Discharge Conc ≤ 10% WQBEL
Total Silver	241	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	4,249	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS

C. 42StreamStats Report

Penelec StreamStats Report

Region ID: PA
Workspace ID: PA20250416111906786000
Clicked Point (Latitude, Longitude): 42.12751, -80.00036
Time: 2025-04-16 07:19:39 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	10.3	square miles
ELEV	Mean Basin Elevation	1232	feet
PRECIP	Mean Annual Precipitation	45	inches

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	10.3	square miles	2.33	1720
ELEV	Mean Basin Elevation	1232	feet	898	2700
PRECIP	Mean Annual Precipitation	45	inches	38.7	47.9

Low-Flow Statistics Flow Report [Low Flow Region 3]

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

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	1.01	ft^3/s	43	43
30 Day 2 Year Low Flow	1.49	ft^3/s	38	38
7 Day 10 Year Low Flow	0.468	ft^3/s	54	54
30 Day 10 Year Low Flow	0.669	ft^3/s	49	49
90 Day 10 Year Low Flow	0.976	ft^3/s	41	41