Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0005762**
Facility Type	**Industrial**	APS ID	**1062757**
Major / Minor	**Minor**	Authorization ID	**1395256**

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

Applicant and Facility Information

Applicant Name	**G O Carlson Inc. D/B/A Electralloy**	Facility Name	**Electralloy**
Applicant Address	175 Main Street	Facility Address	175 Main Street
	Oil City, PA 16301-1038		Oil City, PA 16301-1038
Applicant Contact	Tracy Rudolph	Facility Contact	Tracy Rudolph
Applicant Phone	(814) 678-4200	Facility Phone	(814) 678-4200
Client ID	284217	Site ID	243258
SIC Code	3312	Municipality	Oil City
SIC Description	Manufacturing - Blast Furnaces And Steel Mills	County	Venango
Date Application Received	May 4, 2022	EPA Waived?	Yes
Date Application Accepted	March 14, 2025	If No, Reason	

Purpose of Application: This is an application request for NPDES renewal.

Approve	Deny	Signatures	Date
X		Nicholas Hong, P.E. / Environmental Engineer Nick Hong (via electronic signature)	May 10, 2025
X		Adam Olesnanik, P.E. / Environmental Engineer Manager Adam Olesnanik	May 19, 2025

Summary of Review

The application submitted by the applicant requests a NPDES renewal permit for the Electralloy (a G.O. Carlson, Inc. Company) located at 175 Main Street, Oil City, PA 16301 in Venango County, municipality of Oil City. The existing permit became effective on November 1, 2017 and expired on October 31, 2022. The application for renewal was received by DEP Northwest Regional Office (NWRO) on May 4, 2022.

The purpose of this Fact Sheet is to present the basis of information used for establishing the proposed NPDES permit effluent limitations. The Fact Sheet includes a description of the facility, a description of the facility's receiving waters, a description of the facility's receiving waters attainment/non-attainment assessment status, and a description of any changes to the proposed monitoring/sampling frequency. Section 6 provides the justification for the proposed NPDES effluent limits derived from technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), total maximum daily loading (TMDL), antidegradation, anti-backsliding, and/or whole effluent toxicity (WET). A brief summary of the outlined descriptions has been included in the Summary of Review section.

The subject facility is a 0.0261 MGD treatment facility. This flowrate is the total wastewater discharge for both Outfall 001 and 002. Outfall 001 has design flow rate of 0.0031 MGD and Outfall 002 has a design flow rate of 0.023 MGD. The facility has two stormwater outfalls. The applicant does not anticipate any proposed upgrades to the treatment facility in the next five years. The NPDES application has been processed as an Industrial Waste due to the type of wastewater and the design flow rate for the facility. The applicant disclosed the Act 14 requirement to Venango County Board of Commissioners and City of Oil City Supervisors and the notice was received by the parties on April 11, 2022.

Utilizing the DEP's web-based Emap-PA information system, the receiving waters has been determined to be the Allegheny River. The sequence of receiving streams that the Allegheny River discharges into Ohio River and flows outside the State of Pennsylvania, through several other states to eventually drains into the Gulf of America. The receiving water has protected water usage for warm water fishes (WWF). No Class A Wild Trout fisheries are impacted by this discharge. The absence of high quality and/or exceptional value surface waters removes the need for an additional evaluation of anti-degradation requirements.

The Allegheny River is a Category 2 and 5 stream listed in the 2024 Integrated List of All Waters (formerly 303d Listed Streams). This stream is an attaining stream that supports aquatic life. The receiving waters is also impaired for fish consumption due to mercury from an unknown source. The receiving waters is not subject to a total maximum daily load (TMDL) plan to improve water quality in the subject facility's watershed.

The existing permit and proposed permit differ as follows:

- **For Outfall 001, the monitoring frequency for pH and TRC shall be 2x/month.**
- **Monthly thermal limits**

Sludge use and disposal description and location(s): The facility discharges non-contact cooling water. The facility is not likely to generate biosolids.

The proposed permit will expire five (5) years from the effective date.

Based on the review in this report, it is recommended that the permit be drafted. 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.

Any additional information or public review of documents associated with the discharge or facility may be available at PA DEP Southcentral Regional Office (SCRO), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file review, contact the SCRO File Review Coordinator at 717.705.4700.

1.0 Applicant

1.1 General Information

This fact sheet summarizes PA Department of Environmental Protection's review for the NPDES renewal for the following subject facility.

Facility Name:	Electralloy
NPDES Permit #	PA0005762
Physical Address:	175 Main Street Oil City, PA 16301
Mailing Address:	175 Main Street Oil City, PA 16301
Contact:	Tracy Rudolph President / COO (814) 678-4200 trudolph@gocarlson.com
Consultant:	Joey Pezze Environmental Consultant The Hillcrest Group, LLC 838 Hillcrest Circle Wexford, PA 15090 (412) 916-7921 Joey.pezzejr@hillcrestgrp.com

1.2 Permit History

Description of Facility

Electralloy produces alloys that are ideal for gears, pumps, valves, bearings, piping, scrubbers, heat exchangers, die blocks and more. Common markets that the company supplies alloys are for aerospace, power generation, nuclear forging, military, automotive, marine, agriculture and chemical.

Electralloy products are melted and manufactured in complete compliance with all DFARS and Buy American Act specifications. The NAICS Code for this facility is 331110 (Iron and Steel Mills and Ferroalloy Manufacturing) and SIC Code for this facility is 3312 (Steel Works, Blast Furnaces (including Coke Ovens) and Rolling Mills). The federal effluent limitations guidelines and standards (ELG) database matches the SIC code for the facility with 40 CFR 420 Iron and Steel Manufacturing.

The facility claims what while they meet the definition of 40 CFR Subpart 420 (Iron and Steel Manufacturing) Subpart: D (Steelmaking Subcategory) and 420.41(c) (Electric Arc Furnace), the facility does not manufacture through the back end wet control devices. This would make the facility not subject to the ELG mass limits.

Permit submittal included the following information.

- NPDES Application
- Flow Diagrams
- Effluent Sample Data

The source of cooling water is a public water supply (PWS ID 6610023). The facility does not utilize a cooling water intake structure.

The facility operates on a 24 hour and 7 day a week work schedule. Outfall 001 discharges continuously.

For Outfall 002, the facility confirmed that the induction furnace has not been installed.

Outfall 004 is used intermittently. The facility requests that Outfalls 002 and 004 remain in the permit.

The PPC and SPCC Plans were last updated on April 30, 2015.

2.0 Treatment Facility Summary

2.1.1 Site location

The physical address for the facility is 175 Main Street, Oil City, PA 16301. A topographical and an aerial photograph of the facility are depicted as Figure 1 and Figure 2.

Figure 1: Topographical map of the subject facility

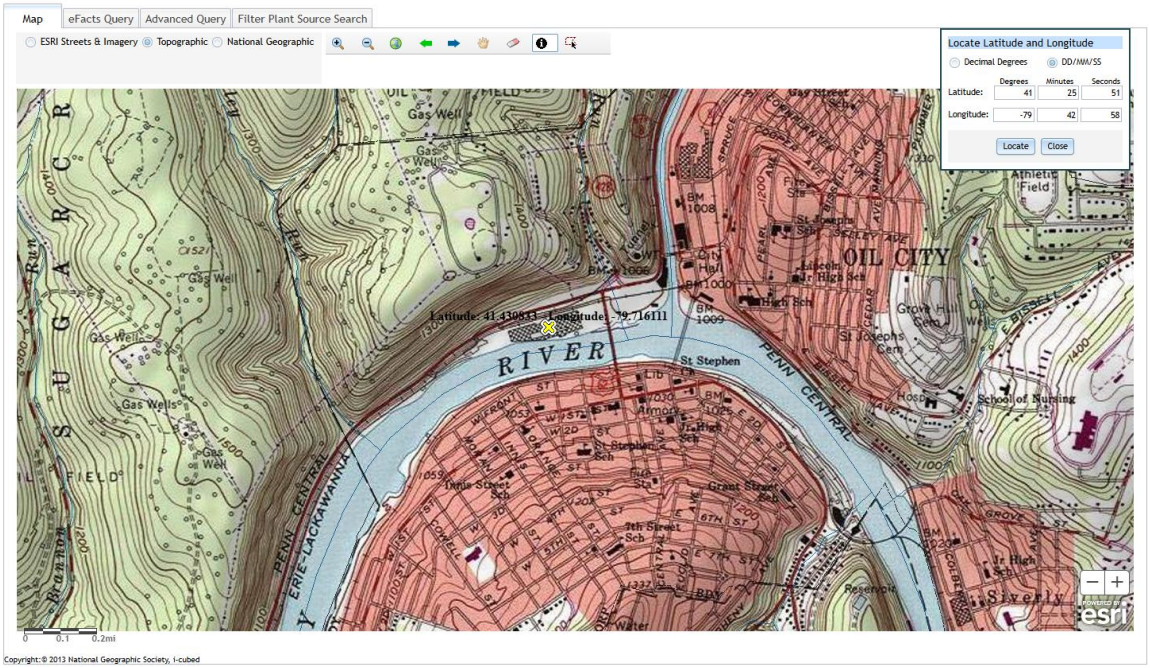
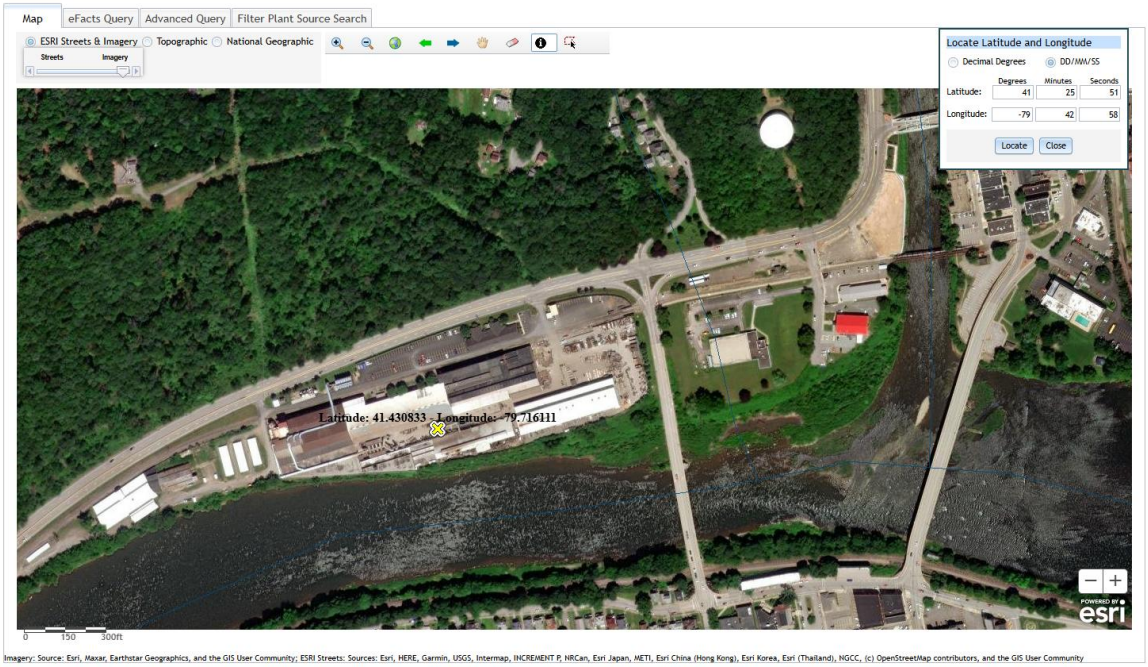


Figure 2: Aerial Photograph of the subject facility



2.1.2 Sources of Wastewater/Stormwater

The facility receives water from the City of Oil City municipal water supply.

The facility has two (2) stormwater outfalls (i.e. Outfall 003 and Outfall 004). The source of the stormwater is roof drains and from the scrap metal and historical slag storage. Outfall 003 has an approximate drainage area of 147,096 ft^2. Outfall 004 has an approximate drainage area of 91,839 ft^2. The facility reports that slag is no longer managed onsite to aid in preventing contamination of stormwater through direct contact.

2.2 Description of Wastewater Treatment Process

The subject facility is a 0.0261 MGD design flow facility (Outfall 001 and 002 combined). The subject facility does not treat the wastewater prior to discharge. The facility is being evaluated for flow, pH, and TRC.

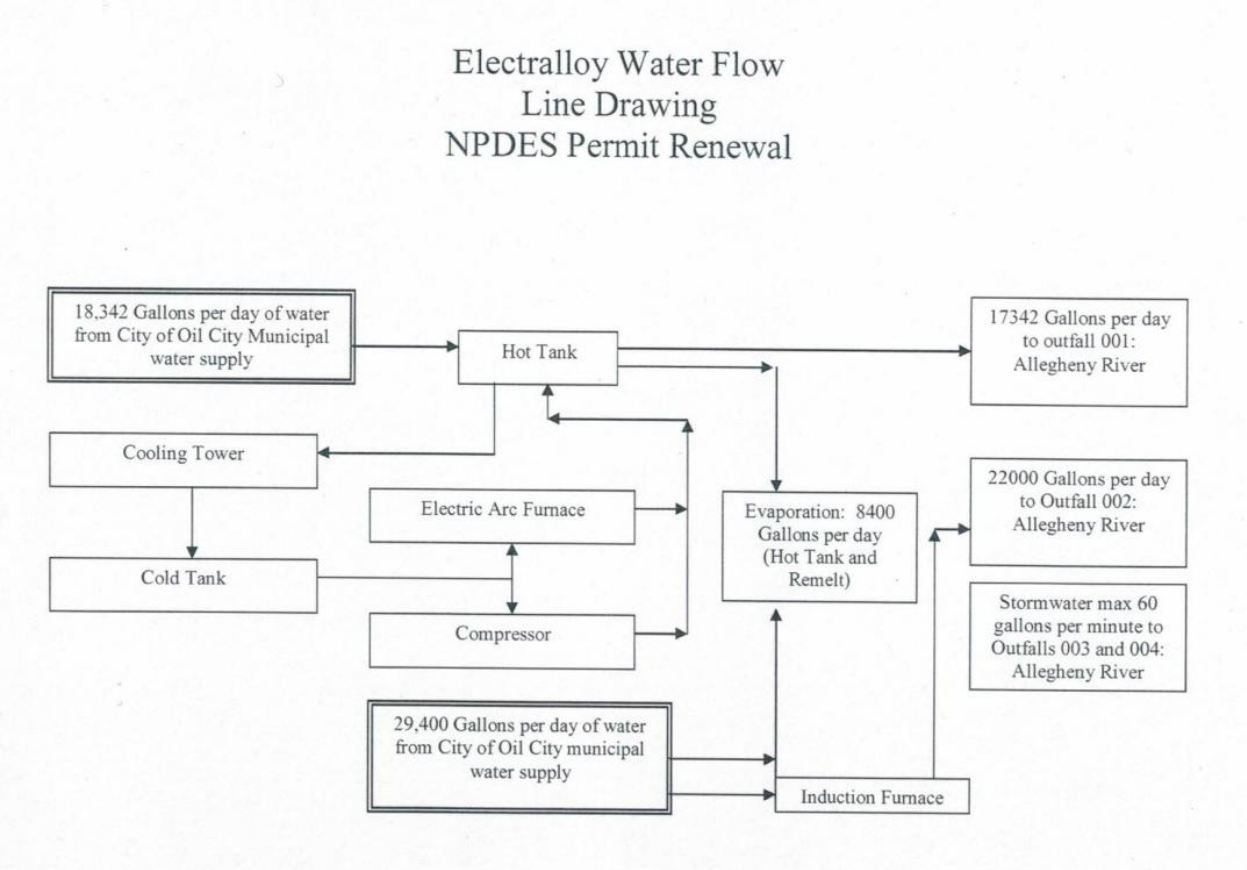
Stormwater is being evaluated for TSS, aluminum, copper, iron, lead, and zinc. The existing permits limits for the facility is summarized in Section 2.4.

The treatment process is summarized in the table.

Treatment Facility Summary				
Treatment Facility Name: G O Carlson Inc. D/B/A Electralloy				
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial		Non-Contact Cooling Water	No Disinfection	
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.0261 MGD (001 @ 0.0031 MGD and 002 @ 0.023 combined)		Not Overloaded		

A schematic of the facilities' process is depicted.

Approximately, a total of 47,000 gpd of water is supplied by the City of Oil City Municipal Water Supply. Approximately 8,400 gpd of water is lost through evaporation. About 39,000 gpd of cooling water from outfalls 001 and 002 are discharged as effluent to the Allegheny River.



2.3 Facility Outfall Information

The facility has the following outfall information for wastewater.

Outfall No.	001	**Design Flow (MGD)**	.0031 ***
Latitude	41º 25' 49.18"	**Longitude**	-79º 43' 5.57"
Wastewater Description:	Noncontact Cooling Water (NCCW)		

Outfall No.	002	**Design Flow (MGD)**	.023
Latitude	41º 25' 49.75"	**Longitude**	-79º 42' 57.95"
Wastewater Description:	Noncontact Cooling Water (NCCW)		

Outfall No.	003	**Design Flow (MGD)**	0
Latitude	41º 25' 40.00"	**Longitude**	-79º 43' 4.00"
Wastewater Description:	Stormwater		

Outfall No.	004	**Design Flow (MGD)**	0
Latitude	41º 25' 30.00"	**Longitude**	-79º 43' 3.00"
Wastewater Description:	Stormwater		

***The consultant requested the flow rate be assigned 0.0031 MGD for Outfall 001

The subject facility outfall is within the vicinity of another sewage/wastewater outfall. There are CSO dischargers upstream and downstream from Electralloy. A sewage plant (Oil City Venango County PA 0026204) exists downstream of the subject facility.

2.3.1 Operational Considerations- Chemical Additives

Chemical additives are chemical products introduced into a waste stream that is used for cleaning, disinfecting, or maintenance and which may be detected in effluent discharged to waters of the Commonwealth. Chemicals excluded are those used for neutralization of waste streams, the production of goods, and treatment of wastewater.

The subject facility utilizes the following chemicals as part of their treatment process.

- WAT C-1027 for cooling water corrosion inhibitor
- MicroControl 15N for cooling water biocide

Part C of the NPDES permit shall include maximum usage rates for the chemical additives.

2.4 Existing NPDES Permits Limits

The existing NPDES permit limits are summarized in the table.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. B. For Outfall 001 , **Latitude** 41º 25' 04" , **Longitude** 79º 43' 5" , **River Mile Index** 131.09 , **Stream Code** 42122

Receiving Waters: Allegheny River

Type of Effluent: Noncontact Cooling Water (NCCW)

1. The permittee is authorized to discharge during the period from **February 1, 2018** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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	Maximum	Instant. Maximum		
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	1/week	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001 (prior to mixing with any other waters)

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. C. For Outfall 001 , **Latitude** 41º 25' 04" , **Longitude** 79º 43' 5" , **River Mile Index** 131.09 , **Stream Code** 42122

Receiving Waters: Allegheny River

Type of Effluent: Noncontact Cooling Water (NCCW)

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/month	Estimate
pH (S.U.)	XXX	XXX	6.0	XXX	9.0	XXX	1/month	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001 (prior to mixing with any other waters

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. D. For Outfall 002 , **Latitude** 41º 25' 49 " , **Longitude** 79º 42' 58" , **River Mile Index** 131.26 , **Stream Code** 42122

Receiving Waters: Allegheny River

Type of Effluent: Noncontact Cooling Water (NCCW)

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	2/month	Estimate
pH (S.U.)	XXX	XXX	6.0	XXX	9.0	XXX	2/month	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	2/month	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 002 (prior to mixing with any other waters)

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. E. For Outfall 003 , **Latitude** 41º 25' 04" , **Longitude** 79º 43' 4.00" , **River Mile Index** --- , **Stream Code** 42122

Receiving Waters: Allegheny River

Type of Effluent: Stormwater associated with industrial activity

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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		
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Aluminum, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Copper, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Iron, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Lead, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Zinc, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 003 (or internal monitoring point that is representative of stormwater contribution)

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. F. **For Outfall** 004 , **Latitude** 41º 25' 30.00" , **Longitude** 79º 43' 3.00" , **River Mile Index** --- , **Stream Code** 42122

Receiving Waters: Allegheny River

Type of Effluent: Stormwater associated with industrial activities

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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		
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Aluminum, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Copper, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Iron, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Lead, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Zinc, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 004 (or internal monitoring point that is representative of stormwater contribution)

3.0 Facility NPDES Compliance History

3.1 Summary of Inspections

A summary of the most recent inspections during the existing permit review cycle is as follows.

The DEP inspector noted the following during the inspection.

01/24/2020:

- The PPC plan should be updated to include: (1) emergency numbers and (2) documentation that the plan is reviewed annually.
- The pile of scrab and gravel pushed up against fence along river should be removed.
- The scrap metal along the back fence should be removed
- East end of the facility which is a scrap yard area has an audit 2x/yr for organics and mercury bearing components and plastics.
- Outfall 001 has water picked up from roadside storm drains and flows under the small drive area to collect additional stormwater from the adjacent property prior to discharge to the Allegheny River.
- For Outfall 003/004, the outfalls were unable to be observed. The discharge pipes were outside the fence on a steep hill.

3.2 Summary of DMR Data

For Outfall 001, a review of approximately 1-year of DMR data shows that the monthly average flow data for the facility below the design capacity of the treatment system. The maximum average flow data for the DMR reviewed was 0.000929 MGD in January 2025. The design capacity of the treatment system is 0.0031 MGD.

Note: ***The consultant requested the flow rate be assigned 0.0031 MGD for Outfall 001

For Outfall 002, DEP was unable to retrieve flow monitoring or other data from 2017 to 2025. The facility confirmed that the induction furnace has not been installed. This consequently yields no discharge through the outfall. Since there was no flow, no samples were collected for the NPDES application. The facility requests that Outfall 002 remain in the permit.

For Outfall 004, the facility suggested that the outfall did not discharge stormwater. The facility requests that Outfall 004 remain in the permit.

The off-site laboratory used for the analysis of the parameters was Free-Col Laboratories located at 11618 Cotton Road, Meadville, PA 16335.

DMR Data for Outfall 001 (from February 1, 2024 to January 31, 2025)

Parameter	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24
Flow (MGD) Average Monthly	0.000929	0.000581	0.0012	0.00929	0.0010800	0.0017419	0.0003483	0.00264	0.000696	0.0012	0.001161	0.00236
Flow (MGD) Daily Maximum	0.000929	0.000581	0.0012	0.00929	0.0010800	0.0017419	0.0003483	0.00264	0.000696	0.0012	0.001161	0.00236
pH (S.U.) Minimum	8.44	8.3	8.58	8.65	8.79	8.79	8.43	8.36	8.57	8.48	8.56	8.45
pH (S.U.) Maximum	8.44	8.3	8.58	8.65	8.79	8.79	8.43	8.36	8.57	8.48	8.56	8.45
TRC (mg/L) Average Monthly	0.2	0.333	0.2	0.24	0.3250	0.3	0.2667	0.3	0.22	0.175	0.18	0.15
TRC (mg/L) Instantaneous Maximum	0.3	0.8	0.2	0.4	0.40	0.4	0.3000	0.3	0.3	0.300	0.40	0.2

DMR Data for Outfall 003 (from February 1, 2024 to January 31, 2025)

Parameter	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24
TSS (mg/L) Daily Maximum		12						673				
Total Aluminum (mg/L) Daily Maximum		0.188						1.812				
Total Copper (mg/L) Daily Maximum		< 0.01						0.016				
Total Iron (mg/L) Daily Maximum		0.925						7.576				
Total Lead (mg/L) Daily Maximum		< 0.01						0.014				
Total Zinc (mg/L) Daily Maximum		< 0.01						0.047				

Stormwater Monitoring Data

The table below summarizes stormwater sampling submitted with the NPDES application.

TSS and Total Iron exceeded the no exposure limits.

The monitoring data was based upon one sampling event.

Stormwater Sampling Results from NPDES Application

Pollutant	Units	No Exposure Limit		Result		Is Result > No Exposure Limit, Y/N
Oil and Grease	mg/l	≤	5	<	5	No
BOD5	mg/l	≤	10	<	4	No
COD	mg/l	≤	30		23	No
TSS	mg/l	≤	30		252	Yes
Total Nitrogen	mg/l	≤	2		1.14	No
Total Phosphorus	mg/l	≤	1		0.45	No
pH	S.U.		6 to 9		7.8	No
Aluminum	mg/l				2.1	
Copper	mg/l				0.027	
Total Iron	mg/l	≤	7		7.87	Yes
Dissolved Iron	mg/l				0.155	
Lead	mg/l				0.029	
Zinc	mg/l				0.06	

Notes:
Number of storm events sampled: 1

3.3 Non-Compliance

3.3.1 Non-Compliance- NPDES Effluent

A summary of the non-compliance to the permit limits for the existing permit cycle is as follows.

From the DMR data beginning in November 1, 2017 to March 15, 2025, the following were observed effluent non-compliances.

Summary of Non-Compliance with NPDES Effluent Limits
Beginning November 1, 2017 and ending March 15, 2025

MONITORING_PERIOD_BEGIN_	MONITORING_PERIOD_END_	SUBMISSION_DATE	REPORT_FREQUENCY_DESC	NON_COMPLIANCE_DATE	NON_COMPL_TYPE_DESC	NON_COMPL_CATEGORY_DESC
11/1/2019	11/30/2019	12/30/2019	Monthly	12/30/2019	Late DMR Submission	Other Violations
5/1/2020	5/31/2020	6/29/2020	Monthly	6/29/2020	Late DMR Submission	Other Violations
6/1/2020	6/30/2020	7/29/2020	Monthly	7/29/2020	Late DMR Submission	Other Violations
5/1/2022	5/31/2022	6/30/2022	Monthly	6/30/2022	Late DMR Submission	Other Violations
8/1/2023	8/31/2023	9/29/2023	Monthly	9/29/2023	Late DMR Submission	Other Violations
11/1/2024	11/30/2024	12/30/2024	Monthly	12/30/2024	Late DMR Submission	Other Violations

3.3.2 Non-Compliance- Enforcement Actions

A summary of the non-compliance enforcement actions for the current permit cycle is as follows:

Beginning in November 1, 2017 to March 15, 2025, there were no observed enforcement actions.

3.4 Summary of Biosolids Disposal

A summary of the biosolids disposed of from the facility is as follows.

The facility discharges non-contact cooling water. The facility is not likely to generate biosolids.

3.5 Open Violations

No open violations existed as of April 2025.

4.0 Receiving Waters and Water Supply Information Detail Summary

4.1 Receiving Waters

The receiving waters has been determined to be the Allegheny River. The sequence of receiving streams that the Allegheny River discharges into is the Ohio River and flows outside the State of Pennsylvania, through several other states to eventually drains into the Gulf of America.

4.2 Public Water Supply (PWS) Intake

The closest PWS to the subject facility is Aqua PA Emlenton (PWS ID #6610019) located approximately 42 miles downstream of the subject facility on the Allegheny River. Based upon the distance and the flow rate of the facility, the PWS should not be impacted.

4.3 Class A Wild Trout Streams

Class A Wild Trout Streams are waters that support a population of naturally produced trout of sufficient size and abundance to support long-term and rewarding sport fishery. DEP classifies these waters as high-quality coldwater fisheries.

The information obtained from EMAP suggests that no Class A Wild Trout Fishery will be impacted by this discharge.

4.4 2024 Integrated List of All Waters (303d Listed Streams)

Section 303(d) of the Clean Water Act requires States to list all impaired surface waters not supporting uses even after appropriate and required water pollution control technologies have been applied. The 303(d) list includes the reason for impairment which may be one or more point sources (i.e. industrial or sewage discharges) or non-point sources (i.e. abandoned mine lands or agricultural runoff and the pollutant causing the impairment such as metals, pH, mercury or siltation).

States or the U.S. Environmental Protection Agency (EPA) must determine the conditions that would return the water to a condition that meets water quality standards. As a follow-up to listing, the state or EPA must develop a Total Maximum Daily Load (TMDL) for each waterbody on the list. A TMDL identifies allowable pollutant loads to a waterbody from both point and non-point sources that will prevent a violation of water quality standards. A TMDL also includes a margin of safety to ensure protection of the water.

The water quality status of Pennsylvania's waters uses a five-part categorization (lists) of waters per their attainment use status. The categories represent varying levels of attainment, ranging from Category 1, where all designated water uses are met to Category 5 where impairment by pollutants requires a TMDL for water quality protection.

The receiving waters is listed in the 2024 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 2 and 5 waterbody. The surface waters is an attaining stream that supports aquatic life. The receiving waters is also impaired for fish consumption due to mercury from an unknown source. The designated use has been classified as protected waters for warm water fishes (WWF).

4.5 Low Flow Stream Conditions

Water quality modeling estimates are based upon conservative data inputs. The data are typically estimated using either a stream gauge or through USGS web based StreamStats program. The NPDES effluent limits are based upon the combined flows from both the stream and the facility discharge.

A conservative approach to estimate the impact of the facility discharge using values which minimize the total combined volume of the stream and the facility discharge. The volumetric flow rate for the stream is based upon the seven-day, 10-year low flow (Q710) which is the lowest estimated flow rate of the stream during a 7 consecutive day period that occurs once in 10 -year time period. The facility discharge is based upon a known design capacity of the subject facility.

The closest WQN station to the subject facility is the Allegheny River @ Kennerdell (WQN867). This WQN station is located approximately 24 miles downstream of the subject facility.

The closest gauge station to the subject facility is the Allegheny River at Franklin, PA (USGS station number 3025500). This gauge station is located approximately 7 miles downstream of the subject facility.

For WQM modeling, pH and stream water temperature was estimated from WQN867. The median pH and temperature from the months of July to September was estimated to be 7.9 and 23.65 C.

The historical median hardness from the WQN station is 59 mg/l $CaCO_3$.

The low flow yield and the Q710 for the subject facility was estimated as shown below.

Gauge Station Data			
USGS Station Number	3025500		
Station Name	Allegheny River at Franklin, PA		
Q710	1450	ft^3/sec	
Drainage Area (DA)	5982	mi^2	
Calculations			
The low flow yield of the gauge station is:			
Low Flow Yield (LFY) = Q710 / DA			
LFY =	(1,450 ft^3/sec / 5,982 mi^2)		
LFY =	0.2424	$ft^3/sec/mi^2$	
The low flow at the subject site is based upon the DA of		4690	mi^2
Q710 = (LFY@gauge station)(DA@Subject Site)			
Q710 = (0.2424 $ft^3/sec/mi^2$)(4690 mi^2)			
Q710 =	1136.8	ft^3/sec	

4.6.1 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.0031
Latitude	41º 25' 45.90"	Longitude	-79º 43' 4.65"
Quad Name		Quad Code	
Wastewater Description:	Noncontact Cooling Water (NCCW)		

Receiving Waters	Allegheny River (WWF)	Stream Code	42122
NHD Com ID	134876418	RMI	133.1
Drainage Area	4690	Yield (cfs/mi^2)	0.2424
Q_{7-10} Flow (cfs)	1136.8	Q_{7-10} Basis	StreamStats/streamgauge
Elevation (ft)	981	Slope (ft/ft)	
Watershed No.	16-E	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	MERCURY		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	Not applicable	Name	

Background/Ambient Data		Data Source
pH (SU)	7.9	WQN867; median July to Sept
Temperature (°C)	23.65	WQN867; median July to Sept
Hardness (mg/L)	59	WQN867; historical median
Other:		

Nearest Downstream Public Water Supply Intake	Aqua PA Emlenton		
PWS Waters	Allegheny River	Flow at Intake (cfs)	
PWS RMI	91	Distance from Outfall (mi)	42

4.6.2 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	.023
Latitude	41º 25' 47.17"	Longitude	-79º 42' 57.50"
Quad Name		Quad Code	
Wastewater Description:	Noncontact Cooling Water (NCCW)		

Receiving Waters	Allegheny River (WWF)	Stream Code	42122
NHD Com ID	134876418	RMI	133.1
Drainage Area	4690	Yield (cfs/mi^2)	0.2424
Q_{7-10} Flow (cfs)	1136.8	Q_{7-10} Basis	StreamStats/streamgauge
Elevation (ft)	981	Slope (ft/ft)	
Watershed No.	16-E	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	MERCURY		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	Not applicable	Name	

Background/Ambient Data		Data Source
pH (SU)	7.9	WQN867; median July to Sept
Temperature (°C)	23.65	WQN867; median July to Sept
Hardness (mg/L)	59	WQN867; historical median
Other:		

Nearest Downstream Public Water Supply Intake	Aqua PA Emlenton		
PWS Waters	Allegheny River	Flow at Intake (cfs)	
PWS RMI	91	Distance from Outfall (mi)	42

4.6.3 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	003	Design Flow (MGD)	0
Latitude	41º 25' 45.65"	Longitude	-79º 43' 5.58"
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Allegheny River (WWF)	Stream Code	42122
NHD Com ID	134876418	RMI	
Watershed No.	16-E	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	MERCURY		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	Not applicable	Name	

4.6.4 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	004	Design Flow (MGD)	0
Latitude	41º 25' 45.17"	Longitude	-79º 43' 7.26"
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Allegheny River (WWF)	Stream Code	42122
NHD Com ID	134876418	RMI	
Watershed No.	16-E	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	MERCURY		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	Not applicable	Name	

5.0: Overview of Presiding Water Quality Standards

5.1 General

There are at least six (6) different policies which determines the effluent performance limits for the NPDES permit. The policies are technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), antidegradation, total maximum daily loading (TMDL), anti-backsliding, and whole effluent toxicity (WET) The effluent performance limitations enforced are the selected permit limits that is most protective to the designated use of the receiving waters. An overview of each of the policies that are applicable to the subject facility has been presented in Section 6.

5.2.1 Technology-Based Limitations

TBEL treatment requirements under section 301(b) of the Act represent the minimum level of control that must be imposed in a permit issued under section 402 of the Act (40 CFR 125.3). Available TBEL requirements for the state of Pennsylvania are itemized in PA Code 25, Chapter 92a.47.

The presiding sources for the basis for the effluent limitations are governed by either federal or state regulation. The reference sources for each of the parameters is itemized in the tables. The following technology-based limitations apply, subject to water quality analysis and best professional judgement (BPJ) where applicable:

Parameter	Limit (mg/l)	SBC	Federal Regulation	State Regulation
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

5.3 Water Quality-Based Limitations

WQBEL are based on the need to attain or maintain the water quality criteria and to assure protection of designated and existing uses (PA Code 25, Chapter 92a.2). The subject facility that is typically enforced is the more stringent limit of either the TBEL or the WQBEL.

Determination of WQBEL is calculated by spreadsheet analysis or by a computer modeling program developed by DEP. DEP permit engineers utilize the following computing programs for WQBEL permit limitations: (1) MS Excel worksheet for Total Residual Chorine (TRC); (2) WQM 7.0 for Windows Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen Version 1.1 (WQM Model) and (3) Toxics using DEP Toxics Management Spreadsheet for Toxics pollutants.

The modeling point nodes utilized for this facility are summarized below.

General Data 1	***(Modeling Point #1)***	***(Modeling Point #2)***	***Units***
Stream Code	42122	42122	
River Mile Index	133.1	129.72	miles
Elevation	981	974	feet
Latitude	41.430833	41.410343	
Longitude	-79.716111	-79.758675	
Drainage Area	4690	4700	sq miles
Low Flow Yield	0.242393848	0.242393848	cfs/sq mile

5.3.1 Water Quality Modeling 7.0

The WQM Model is a computer model that is used to determine NPDES discharge effluent limitations for Carbonaceous BOD (CBOD5), Ammonia Nitrogen (NH3-N), and Dissolved Oxygen (DO) for single and multiple point source discharges scenarios. WQM Model is a complete-mix model which means that the discharge flow and the stream flow are assumed to instantly and completely mixed at the discharge node.

WQM recommends effluent limits for DO, CBOD5, and NH_3-N in mg/l for the discharge(s) in the simulation.

The facility discharges non-contact cooling water. Thus, there is no concern for DO, CBOD5, and ammonia-nitrogen. The facility will not be subjected to WQM modeling.

5.3.2 Toxics Modeling

The Toxics Management Spreadsheet model is a computer model that is used to determine effluent limitations for toxics (and other substances) for single discharge wasteload allocations. This computer model uses a mass-balance water quality analysis that includes consideration for mixing, first-order decay, and other factors used to determine recommended water quality-based effluent limits. Toxics Management Spreadsheet does not assume that all discharges completely mix with the stream. The point of compliance with water quality criteria are established using criteria compliance times (CCTs). The available CCTs are either acute fish criterion (AFC), chronic fish criterion (CFC), or human health criteria (THH & CRL).

Acute Fish Criterion (AFC) measures the criteria compliance time as either the maximum criteria compliance time (i.e.15 minutes travel time downstream of the current discharge) or the complete mix time whichever comes first. AFC is evaluated at Q710 conditions.

Chronic Fish Criterion (CFC) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CFC is evaluated at Q710 conditions.

Threshold Human Health (THH) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the estimated travel time downstream to the nearest potable water supply intake whichever comes first. THH is evaluated at Q710 conditions.

Cancer Risk Level (CRL) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CRL is evaluated at Qh (harmonic mean or normal flow) conditions.

The Toxics Model requires several input values for calculating output values. The source of data originates from either EMAP, the National Map, or Stream Stats. Data for stream gauge information, if any, was abstracted from USGS Low-Flow, Base-Flow, and Mean-Flow Regression Equations for Pennsylvania Streams authored by Marla H. Stuckey (Scientific Investigations Report 2006-5130).

5.3.2.1 Determining if NPDES Permit Will Require Monitoring/Limits in the Proposed Permit for Toxic Pollutants

To determine if Toxics modeling is necessary, DEP has developed a Toxics Management Spreadsheet to identify toxics of concern. Toxic pollutants whose maximum concentrations as reported in the permit application or on DMRs are greater than the most stringent applicable water quality criterion are pollutants of concern. A Reasonable Potential Analysis was utilized to determine (a) if the toxic parameters modeled would require monitoring or (b) if permit limitations would be required for the parameters. The toxics reviewed for reasonable potential were TDS and the pollutants in Group 2. The facility discharges non-contact cooling water.

The NPDES application collected three samples.

Based upon the SOP- Establishing Water Quality-Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants (Revised January 10, 2019), monitoring and/or limits will be established as follows.

(a) When reasonable potential is demonstrated, establish limits where the maximum reported concentration equals or exceeds 50% of the WQBEL.
(b) For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.
(c) For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10% - 50% of the WQBEL.

Applicable monitoring or permit limits for toxics are summarized in Section 6.

The Toxics Management Spreadsheet output has been included in Attachment B.

5.3.3 Whole Effluent Toxicity (WET)

The facility is not subject to WET.

5.4 Total Maximum Daily Loading (TMDL)

5.4.1 TMDL

The goal of the Clean Water Act (CWA), which governs water pollution, is to ensure that all of the Nation's waters are clean and healthy enough to support aquatic life and recreation. To achieve this goal, the CWA created programs designed to regulate and reduce the amount of pollution entering United States waters. Section 303(d) of the CWA requires states to assess their waterbodies to identify those not meeting water quality standards. If a waterbody is not meeting standards, it is listed as impaired and reported to the U.S. Environmental Protection Agency. The state then develops a plan to clean up the impaired waterbody. This plan includes the development of a Total Maximum Daily Load (TMDL) for the pollutant(s) that were found to be the cause of the water quality violations. A Total Maximum Daily Load (TMDL) calculates the maximum amount of a specific pollutant that a waterbody can receive and still meet water quality standards.

A TMDL for a given pollutant and waterbody is composed of the sum of individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background levels. In addition, the TMDL must include an implicit or explicit margin of safety (MOS) to account for the uncertainty in the relationship between pollutant loads and the quality of the receiving waterbody. The TMDL components are illustrated using the following equation:

$$TMDL = \Sigma WLAs + \Sigma LAs + MOS$$

Pennsylvania has committed to restoring all impaired waters by developing TMDLs and TMDL alternatives for all impaired waterbodies. The TMDL serves as the starting point or planning tool for restoring water quality.

5.4.1.1 Local TMDL

The subject facility does not discharge into a local TMDL.

5.5 Anti-Degradation Requirement

Chapter 93.4a of the PA regulations requires that surface water of the Commonwealth of Pennsylvania may not be degraded below levels that protect the existing uses. The regulations specifically state that *Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected*. Antidegradation requirements are implemented through DEP's guidance manual entitled Water Quality Antidegradation Implementation Guidance (Document #391-0300-02).

The policy requires DEP to protect the existing uses of all surface waters and the existing quality of High Quality (HQ) and Exceptional Value (EV) Waters. Existing uses are protected when DEP makes a final decision on any permit or approval for an activity that may affect a protected use. Existing uses are protected based upon DEP's evaluation of the best available information (which satisfies DEP protocols and Quality Assurance/Quality Control (QA/QC) procedures) that indicates the protected use of the waterbody.

For a new, additional, or increased point source discharge to an HQ or EV water, the person proposing the discharge is required to utilize a nondischarge alternative that is cost-effective and environmentally sound when compared with the cost of the proposed discharge. If a nondischarge alternative is not cost-effective and environmentally sound, the person must use the best available combination of treatment, pollution prevention, and wastewater reuse technologies and assure that any discharge is nondegrading. In the case of HQ waters, DEP may find that after satisfaction of intergovernmental coordination and public participation requirements lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In addition, DEP will assure that cost-effective and reasonable best management practices for nonpoint source control in HQ and EV waters are achieved.

The subject facility's discharge will be to a non-special protection waters and the permit conditions are imposed to protect existing instream water quality and uses. Neither HQ waters or EV waters is impacted by this discharge.

5.6 Anti-Backsliding

Anti-backsliding is a federal regulation which prohibits a permit from being renewed, reissued, or modified containing effluent limitations which are less stringent than the comparable effluent limitations in the previous permit (40 CFR 122.l.1 and 40 CFR 122.l.2). A review of the existing permit limitations with the proposed permit limitations confirm that the facility is consistent with anti-backsliding requirements. The facility has proposed effluent limitations that are as stringent as the existing permit.

6.0 NPDES Parameter Details

The basis for the proposed sampling and their monitoring frequency that will appear in the permit for each individual parameter are itemized in this Section. The final limits are the more stringent of technology based effluent treatment (TBEL) requirements, water quality based (WQBEL) limits, TMDL, antidegradation, anti-degradation, or WET.

The reader will find in this section:

a) a justification of recommended permit monitoring requirements and limitations for each parameter in the proposed NPDES permit;
b) a summary of changes from the existing NPDES permit to the proposed permit; and
c) a summary of the proposed NPDES effluent limits.

6.1 Recommended Monitoring Requirements and Effluent Limitations

A summary of the recommended monitoring requirements and effluent limitations are itemized in the tables. The tables are categorized by (a) Conventional Pollutants and (b) Toxics

There was two modeling runs.

Run #1 utilized the design flow rates for Outfall 001 and 002. The flow rates from Outfall 001 and 002 were combined into one point discharge point. The total flow rate is 0.0261 MGD (Outfall 001 is 0.0031 MGD and Outfall 002 is 0.023 MGD).

Run #2 utilized the flow rates in the flow diagram depicted in Section 2.2 of the Fact Sheet. The flow rates from Outfall 001 and 002 were combined into one point discharge point. The total flow rate is 0.039342 MGD (Outfall 001 is 0.017342 MGD and Outfall 002 is 0.0220 MGD).

In April 2025, the consultant informed DEP they were continuing to reconcile the flow rate. Modeling shows there was no reasonable potential for both Run #1 and #2.

6.1.1 Conventional Pollutants and Disinfection

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection
Electralloy, PA0005762; Outfall 001

Parameter	Permit Limitation Required by[1]:	Recommendation	
pH (S.U.)	TBEL	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-4).
		Effluent Limit:	Effluent limits may range from pH = 6.0 to 9.0
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-4 and the effluent limits assigned by Chapter 95.2(1).
TRC	TBEL	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-4).
		Effluent Limit:	The average monthly limit should not exceed 0.5 mg/l and/or 1.6 mg/l as an instantaneous maximum.
		Rationale: Chlorine in both combined (chloramine) and free form is extremely toxic to freshwater fish and other forms of aquatic life (Implementation Guidance Total Residual Chlorine 1). The TRC effluent limitations to be imposed on a discharger shall be the more stringent of either the WQBEL or TBEL requirements and shall be expressed in the NPDES permit as an average monthly and instantaneous maximum effluent concentration (Implementation Guidance Total Residual Chlorine 4). Based on the stream flow rate (lowest 7-day flow rate in 10 years) and the design flow rate of the subject facility calculated by the TRC Evaluation worksheet, the TBEL is more stringent than the WQBEL. The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.48(b)(2)	

Notes:

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 0.0031 MGD.

3 Table 6-4 (Self Monitoring Requirements for Industrial Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection
Electralloy, PA0005762; Outfall 001

Parameter	Permit Limitation Required by[1]:	Recommendation	
Temp (F); Jan 1 to Dec 31	WQBEL	Monitoring:	The monitoring frequency shall be 1x/wk as an in stream (I.S.) sample (Table 6-4).
		Effluent Limit:	Effluent limits shall not exceed 110 F
		Rationale:	Thermal water quality modeling recommends effluent limits

Notes:

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 0.0031 MGD.

3 Table 6-4 (Self Monitoring Requirements for Industrial Discharges) in Technical Guidance for the Development and Specification of Effluent

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection Electralloy, PA0005762; Outfall 002			
Parameter	**Permit Limitation Required by[1]:**	**Recommendation**	
pH (S.U.)	TBEL	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-4).
		Effluent Limit:	Effluent limits may range from pH = 6.0 to 9.0
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-4 and the effluent limits assigned by Chapter 95.2(1).
TRC	TBEL	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-4).
		Effluent Limit:	The average monthly limit should not exceed 0.5 mg/l and/or 1.6 mg/l as an instantaneous maximum.
		Rationale: Chlorine in both combined (chloramine) and free form is extremely toxic to freshwater fish and other forms of aquatic life (Implementation Guidance Total Residual Chlorine 1). The TRC effluent limitations to be imposed on a discharger shall be the more stringent of either the WQBEL or TBEL requirements and shall be expressed in the NPDES permit as an average monthly and instantaneous maximum effluent concentration (Implementation Guidance Total Residual Chlorine 4). Based on the stream flow rate (lowest 7-day flow rate in 10 years) and the design flow rate of the subject facility calculated by the TRC Evaluation worksheet, the TBEL is more stringent than the WQBEL. The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.48(b)(2)	
Notes:			
1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other			
2 Monitoring frequency based on flow rate of 0.022 MGD.			
3 Table 6-4 (Self Monitoring Requirements for Industrial Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97			
4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)			
5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021			

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection Electralloy, PA0005762; Outfall 002			
Parameter	**Permit Limitation Required by[1]:**	**Recommendation**	
Temp (F); Jan 1 to Dec 31	WQBEL	Monitoring:	The monitoring frequency shall be 1x/mo as a in stream (I.S.) sample (Table 6-4).
		Effluent Limit:	Effluent limits shall not exceed 110 F
		Rationale:	Thermal water quality modeling recommends effluent limits
Notes:			
1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other			
2 Monitoring frequency based on flow rate of 0.022 MGD.			
3 Table 6-4 (Self Monitoring Requirements for Industrial Discharges) in Technical Guidance for the Development and Specification of Effluent			
4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)			
5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021			

6.1.2.1 Toxics

On Run #2, the flow rate used for modeling was 0.039342 MGD. Copper appeared on the recommended monitoring or effluent summary table. Since the recommendation was no reasonable potential, no monitoring or effluent limits were recommended for the proposed permit.

No reasonable potential was identified for toxics.

Chemical additives are addressed in Section 6.1.2.2.

6.1.2.2 Chemical Additive Usage Rates

Based upon toxics management spreadsheet (TMS), the table summarizes maximum usage rates for the chemical additives.

Maximum Usage Rates for Chemical Additives

Pollutant	AML	MDL
	lb/day	lb/day
MicroControl 15N	44	68.6
WAT C-1027	1970	3073

Notes:
AML - Average Monthly Limit
MDL - Maximum Daily Limit

6.1.3 Implementation of Regulation- Chapter 92a.61

Chapter 92a.61 provides provisions to DEP to monitor for pollutants that may have an impact on the quality of waters of the Commonwealth.

Based upon DEP policy directives PFAS parameters may require monitoring.

The facility discharges non-contact cooling water.

The facility states that they do not use PFAS parameters. Monitoring for PFAS parameters will not be required.

6.1.3.2 Summary of Stormwater Monitoring

Consistent with the PAG-03 Appendix B (Primary Metals), stormwater monitoring for an industry under SIC 3312 shall be required (Source 40 CFR § 122.26(b)(14)(ii)).

Monitoring for the following metals shall include aluminum, zinc, copper, iron, and lead. These parameters shall be monitored at least once every 6 months. Monitoring for TSS shall also continue.

6.1.3.3 Summary of Thermal Limits

The facility discharges non-contact cooling water. Thermal Modeling was conducted to determine the maximum discharge temperature the facility may release before combining with the receiving stream.

Since the facility receives water supply from a public water supply station, the Thermal Modeling was conducted as a Case 2 scenario.

Two model runs were conducted. Modeling Run #1 utilized the total design flow rate of Outfalls 001 and 002. This flow rate was 0.0261 MGD (0.0031 MGD + 0.023 MGD = 0.0261 MGD).

Modeling Run #2 utilized the total flow rate of water received from the City of Oil City municipal water supply minus evaporation losses (18,342 GPD + 29,400 GPD – 8,400 GPD = 39,342 GPD).

Both modeling runs resulted in a maximum allowable discharge temperature of 110 F.

Thermal limits were not imposed in previous Fact Sheets and NPDES permit.

The proposed permit shall include thermal limits to be protective of the receiving waters.

6.2 Summary of Changes From Existing Permit to Proposed Permit

A summary of how the proposed NPDES permit differs from the existing NPDES permit is summarized as follows.

- **For Outfall 001, the monitoring frequency for pH and TRC shall be 2x/month.**
- **Monthly thermal limits**

6.3.1 Summary of Proposed NPDES Effluent Limits

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" (362-0400-001), SOPs and/or BPJ.

The proposed NPDES effluent limitations are summarized in the table below.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001 , **Latitude** 41º 25' 49.18" , **Longitude** 79º 43' 5.57" , **River Mile Index** 133.1 , **Stream Code** 42122

Receiving Waters: Allegheny River (WWF)

Type of Effluent: Noncontact Cooling Water (NCCW)

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	2/month	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	2/month	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	2/month	Grab
Temperature (deg F) (ºF) Jan 1 - 31	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Temperature (deg F) (ºF) Feb 1 - 28	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Temperature (deg F) (ºF) Mar 1 - 31	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Temperature (deg F) (ºF) Apr 1 - 15	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Temperature (deg F) (ºF) Apr 16 - 30	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Temperature (deg F) (ºF) May 1 - 15	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Temperature (deg F) (ºF) May 16 - 31	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S

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	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Temperature (deg F) (ºF) Jun 1 - 15	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Temperature (deg F) (ºF) Jun 16 - 30	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Temperature (deg F) (ºF) Jul 1 - 31	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Temperature (deg F) (ºF) Aug 1 - 15	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Temperature (deg F) (ºF) Aug 16 - 31	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Temperature (deg F) (ºF) Sep 1 - 15	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Temperature (deg F) (ºF) Sep 16 - 30	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Temperature (deg F) (ºF) Oct 1 - 15	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Temperature (deg F) (ºF) Oct 16 - 31	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Temperature (deg F) (ºF) Nov 1 - 15	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Temperature (deg F) (ºF) Nov 16 - 30	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Temperature (deg F) (ºF) Dec 1 - 31	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. B. For Outfall 002 , **Latitude** 41° 25' 49.75" , **Longitude** 79° 42' 57.95" , **River Mile Index** 133.1 , **Stream Code** 42122

Receiving Waters: Allegheny River (WWF)

Type of Effluent: Noncontact Cooling Water (NCCW)

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.

2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	2/month	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	2/month	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	2/month	Grab
Temperature (deg F) (°F) Jan 1 - 31	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S
Temperature (deg F) (°F) Feb 1 - 28	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S
Temperature (deg F) (°F) Mar 1 - 31	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S
Temperature (deg F) (°F) Apr 1 - 15	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S
Temperature (deg F) (°F) Apr 16 - 30	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S
Temperature (deg F) (°F) May 1 - 15	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S

Outfall 002 , 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	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Temperature (deg F) (°F) May 16 - 31	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S
Temperature (deg F) (°F) Jun 1 - 15	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S
Temperature (deg F) (°F) Jun 16 - 30	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S
Temperature (deg F) (°F) Jul 1 - 31	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S
Temperature (deg F) (°F) Aug 1 - 15	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S
Temperature (deg F) (°F) Aug 16 - 31	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S
Temperature (deg F) (°F) Sep 1 - 15	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S
Temperature (deg F) (°F) Sep 16 - 30	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S
Temperature (deg F) (°F) Oct 1 - 15	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S
Temperature (deg F) (°F) Oct 16 - 31	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S
Temperature (deg F) (°F) Nov 1 - 15	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S
Temperature (deg F) (°F) Nov 16 - 30	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S
Temperature (deg F) (°F) Dec 1 - 31	XXX	XXX	XXX	XXX	XXX	110	1/month	I-S

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 002

6.3.2 Summary of Proposed Permit Part C Conditions

The subject facility has the following Part C conditions.

- Chlorine Minimization
- Stormwater Requirements
- 2 degrees increase in temperature
- Chemical Additive Usage Rates

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, 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:

Attachment A

Stream Stats/Gauge Data

Table 1. List of U.S. Geological Survey streamgage locations in and near Pennsylvania with updated streamflow statistics.—Continued

[Latitude and Longitude in decimal degrees; mi², square miles]

Streamgage number	Streamgage name	Latitude	Longitude	Drainage area (mi²)	Regulated[1]
03024000	French Creek at Utica, Pa.	41.438	-79.956	1,028	Y
03025000	Sugar Creek at Sugarcreek, Pa.	41.429	-79.880	166	N
03025500	Allegheny River at Franklin, Pa.	41.390	-79.820	5,982	Y
03026500	Sevenmile Run near Rasselas, Pa.	41.631	-78.577	7.84	N
03027500	East Branch Clarion River at East Branch Clarion River Dam, Pa.	41.553	-78.596	73.2	Y
03028000	West Branch Clarion River at Wilcox, Pa.	41.575	-78.692	63.0	N
03028500	Clarion River at Johnsonburg, Pa.	41.486	-78.678	204	Y
03029500	Clarion River at Cooksburg, Pa.	41.331	-79.209	807	LF
03030500	Clarion River near Piney, Pa.	41.193	-79.440	951	Y
03031500	Allegheny River at Parker, Pa.	41.101	-79.681	7,671	Y
03031950	Big Run nr Sprankle Mills, Pa.	40.992	-79.090	7.38	N
03032500	Redbank Creek at St. Charles, Pa.	40.995	-79.394	528	N
03034000	Mahoning Creek at Punxsutawney, Pa.	40.939	-79.008	158	N
03034500	Little Mahoning Creek at McCormick, Pa.	40.836	-79.110	87.4	N
03036000	Mahoning Creek at Mahoning Creek Dam, Pa.	40.928	-79.291	344	Y
03036500	Allegheny River at Kittanning, Pa.	40.820	-79.531	8,973	Y
03038000	Crooked Creek at Idaho, Pa.	40.655	-79.349	191	LF
03039000	Crooked Creek at Crooked Creek Dam near Ford City, Pa.	40.720	-79.511	278	Y
03039200	Clear Run near Buckstown, Pa.	40.047	-78.833	3.68	N
03039925	North Fork Bens Creek at North Fork Reservoir, Pa.	40.266	-79.017	3.45	N
03040000	Stonycreek River at Ferndale, Pa.	40.286	-78.921	451	N
03041000	Little Conemaugh River at East Conemaugh, Pa.	40.346	-78.883	183	N
03041500	Conemaugh River at Seward, Pa.	40.419	-79.026	715	N
03042000	Blacklick Creek at Josephine, Pa.	40.473	-79.183	192	N
03042200	Little Yellow Creek near Strongstown, Pa.	40.563	-78.945	7.36	N
03042280	Yellow Creek near Homer City, Pa.	40.573	-79.103	57.4	Y
03042500	Two Lick Creek at Graceton, Pa.	40.517	-79.172	171	Y
03043000	Blacklick Creek at Black Lick, Pa.	40.474	-79.204	390	N
03044000	Conemaugh River at Tunnelton, Pa.	40.455	-79.391	1,358	Y
03045000	Loyalhanna Creek at Kingston, Pa.	40.293	-79.341	172	N
03045500	Loyalhanna Creek at New Alexandria, Pa.	40.395	-79.432	265	N
03047000	Loyalhanna Creek at Loyalhanna Dam, Pa.	40.459	-79.449	290	Y
03047500	Kiskiminetas River at Avonmore, Pa.	40.535	-79.465	1,723	N
03048500	Kiskiminetas River at Vandergrift, Pa.	40.605	-79.552	1,825	Y
03049000	Buffalo Creek near Freeport, Pa.	40.716	-79.699	137	N
03049500	Allegheny River at Natrona, Pa.	40.615	-79.718	11,410	Y
03049800	Little Pine Creek near Etna, Pa.	40.520	-79.938	5.78	N
03061500	Buffalo Creek at Barrackville, W.Va.	39.504	-80.172	116	N
03062400	Cobun Creek at Morgantown, W.Va.	39.608	-79.955	11.0	N
03062500	Deckers Creek at Morgantown, W.Va.	39.629	-79.953	63.2	N
03065000	Dry Fork at Hendricks, W.Va.	39.072	-79.623	349	N
03066000	Blackwater River at Davis, W.Va.	39.127	-79.468	85.9	N
03068800	Shavers Fork below Bowden, W.Va.	38.913	-79.770	151	N
03069000	Shavers Fork at Parsons, W.Va.	39.096	-79.677	213	N
03069500	Cheat River near Parsons, W.Va.	39.123	-79.681	722	N

Table 2. Selected low-flow statistics for streamgage locations in and near Pennsylvania.—Continued

[ft³/s; cubic feet per second; —, statistic not computed; <, less than]

Streamgage number	Period of record used in analysis[1]	Number of years used in analysis	1-day, 10-year (ft³/s)	7-day, 10-year (ft³/s)	7-day, 2-year (ft³/s)	30-day, 10-year (ft³/s)	30-day, 2-year (ft³/s)	90-day, 10-year (ft³/s)
03020500	1934–2008	75	27.4	30.1	50.2	37.4	66.0	48.4
03021350	1976–2008	33	3.8	4.5	10.7	7.6	19.2	12.9
03021410	1976–1993	18	2.3	2.8	5.6	4.6	10.6	8.6
03021500	1911–1971	61	8.1	9.6	18.4	13.0	25.9	18.4
03021520	1973–1991	19	20.0	23.1	35.3	31.8	52.2	49.8
03022540	1976–1995	16	2.5	2.8	4.9	3.8	7.1	5.6
03022554	1976–1991	16	5.2	5.7	9.1	6.6	10.5	10.5
03023100	1990–2008	19	50.4	55.3	110	67.6	161	104
03024000	[2]1972–2008	37	77.4	85.4	166	109	233	176
03024000	[3]1934–1970	37	58.1	62.0	101	78.1	134	109
03025000	1935–1980	46	14.5	16.6	25.1	19.9	31.1	25.6
03025500	[2]1967–2008	42	1,220	1,450	2,210	1,740	2,710	2,070
03025500	[3]1916–1965	50	468	491	784	590	1,000	770
03026500	1953–2008	56	.2	.2	.7	.4	1.1	.7
03027500	[2]1954–1991	38	—	15.7	27.0	19.7	35.4	27.9
03028000	1955–2008	54	6.0	6.6	12.3	8.4	16.6	12.0
03028500	[2]1954–1995	42	55.5	65.2	109	79.2	139	112
03029500	[3]1940–1952	13	51.9	57.0	96.4	69.9	123	103
03029500	[2]1954–2008	55	151	171	282	195	328	244
03030500	1949–2008	60	16.9	76.8	232	148	366	210
03031500	[2]1967–2008	42	1,670	2,050	3,020	2,390	3,620	2,790
03031500	[3]1934–1965	32	565	669	990	837	2,350	1,150
03031950	1965–1981	17	.3	.4	1.0	.7	1.4	1.1
03032500	1920–2008	87	29.2	34.4	62.3	45.7	88.2	66.4
03034000	1940–2008	69	16.1	17.4	28.3	20.4	37.0	26.3
03034500	1941–2008	68	1.5	1.9	5.9	3.8	10.5	7.5
03036000	[2]1942–1991	50	12.2	14.2	34.2	28.1	60.0	44.4
03036500	[2]1967–2008	42	1,620	2,070	3,070	2,440	3,820	2,920
03036500	[3]1906–1965	53	720	814	1,200	969	1,550	1,360
03038000	[2]1970–2008	39	15.2	19.9	30.2	24.0	37.8	29.8
03038000	[3]1939–1968	30	3.5	5.5	9.6	7.6	14.4	11.6
03039000	[2]1941–1991	51	4.7	6.6	17.6	12.0	28.9	23.1
03039000	[3]1920–1939	40	1.6	3.0	11.5	6.2	21.8	14.3
03039200	1966–1978	13	0	.1	.2	.2	.4	.2
03039925	1986–1998	10	.2	.3	.8	.4	1.2	.6
03040000	1915–2008	89	15.6	17.7	45.3	24.4	63.1	39.9
03041000	1940–2006	56	6.8	8.6	27.7	11.7	37.8	21.1
03041500	1940–2008	69	156	167	231	190	269	223
03042000	1953–2008	56	23.2	26.6	45.4	32.6	58.5	42.1
03042200	1962–1988	18	.2	.3	.6	.4	1.0	.6
03042280	[2]1973–2008	36	5.1	6.0	9.8	7.5	12.2	9.9
03042500	[2]1970–2008	39	34.2	39.0	50.7	45.6	62.9	55.4
03042500	[3]1953–1968	16	9.2	11.3	15.0	13.3	22.0	16.6
03043000	1909–1951	43	16.8	19.5	44.0	28.3	59.6	48.4
03044000	[2]1953–1991	39	—	—	—	273	444	340

StreamStats Report

Region ID: PA
Workspace ID: PA20250317225117130000
Clicked Point (Latitude, Longitude): 41.42979, -79.71594
Time: 2025-03-17 18:51:50 -0400

Electralloy PA0005762 Modeling Point #1 March 2025

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	4690	square miles
ELEV	Mean Basin Elevation	1718	feet
PRECIP	Mean Annual Precipitation	44	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	4690	square miles	2.33	1720
ELEV	Mean Basin Elevation	1718	feet	898	2700
PRECIP	Mean Annual Precipitation	44	inches	38.7	47.9

Low-Flow Statistics Disclaimers [Low Flow Region 3]

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

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

Statistic	Value	Unit
7 Day 2 Year Low Flow	637	ft^3/s
30 Day 2 Year Low Flow	816	ft^3/s

Statistic	Value	Unit
7 Day 10 Year Low Flow	407	ft^3/s
30 Day 10 Year Low Flow	488	ft^3/s
90 Day 10 Year Low Flow	664	ft^3/s

Low-Flow Statistics Citations

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

Application Version: 4.28.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

StreamStats Report

Region ID: PA
Workspace ID: PA20250317225816174000
Clicked Point (Latitude, Longitude): 41.41029, -79.75866
Time: 2025-03-17 18:58:51 -0400

Electralloy PA0005762 Modeling Point #2 March 2025

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	4700	square miles
ELEV	Mean Basin Elevation	1717	feet
PRECIP	Mean Annual Precipitation	44	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	4700	square miles	2.33	1720
ELEV	Mean Basin Elevation	1717	feet	898	2700
PRECIP	Mean Annual Precipitation	44	inches	38.7	47.9

Low-Flow Statistics Disclaimers [Low Flow Region 3]

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

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

Statistic	Value	Unit
7 Day 2 Year Low Flow	639	ft^3/s
30 Day 2 Year Low Flow	818	ft^3/s

Statistic	Value	Unit
7 Day 10 Year Low Flow	407	ft^3/s
30 Day 10 Year Low Flow	489	ft^3/s
90 Day 10 Year Low Flow	665	ft^3/s

Low-Flow Statistics Citations

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

Application Version: 4.28.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Attachment B

Toxics Management Spreadsheet Output Values

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: Electralloy NPDES Permit No.: PA0005762 Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: Non-contact cooling water

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
0.0261	100	8.53						

					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		316									
	Chloride (PWS)	mg/L											
	Bromide	mg/L											
	Sulfate (PWS)	mg/L											
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L	<	13.8									
	Total Antimony	µg/L	<	1.34									
	Total Arsenic	µg/L	<	1.4									
	Total Barium	µg/L		108									
	Total Beryllium	µg/L	<	0.82									
	Total Boron	µg/L	<	24.7									
	Total Cadmium	µg/L	<	0.86									
	Total Chromium (III)	µg/L	<	0.84									
	Hexavalent Chromium	µg/L	<	10									
	Total Cobalt	µg/L	<	0.76									
	Total Copper	µg/L		457									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	8									
	Dissolved Iron	µg/L		557									
	Total Iron	µg/L		657									
	Total Lead	µg/L	<	1.44									
	Total Manganese	µg/L		29									
	Total Mercury	µg/L	<	0.175									
	Total Nickel	µg/L	<	0.88									
	Total Phenols (Phenolics) (PWS)	µg/L	<	46									
	Total Selenium	µg/L	<	1.52									
	Total Silver	µg/L	<	6.86									
	Total Thallium	µg/L	<	2.22									
	Total Zinc	µg/L		42.4									
	Total Molybdenum	µg/L	<	0.74									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Electralloy, NPDES Permit No. PA0005762, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Allegheny River**

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	042122	133.1	981	4690			Yes
End of Reach 1	042122	129.72	974	4700			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	133.1	0.242										100	7		
End of Reach 1	129.72	0.242										100	7		

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	133.1														
End of Reach 1	129.72														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Electralloy, NPDES Permit No. PA0005762, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.022 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	463,724	
Total Antimony	0	0		0	1,100	1,100	680,128	
Total Arsenic	0	0		0	340	340	210,221	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	12,984,260	
Total Boron	0	0		0	8,100	8,100	5,008,214	
Total Cadmium	0	0		0	2.014	2.13	1,319	Chem Translator of 0.944 applied
Total Chromium (III)	0	0		0	569.763	1,803	1,114,822	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	10,074	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	58,738	
Total Copper	0	0		0	13.439	14.0	8,656	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	64.581	81.6	50,481	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	1,018	Chem Translator of 0.85 applied
Total Nickel	0	0		0	468.236	469	290,089	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	3.217	3.78	2,340	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	40,189	
Total Zinc	0	0		0	117.180	120	74,082	Chem Translator of 0.978 applied
MicroControl 15N	0	0		0	510	510	315,332	
WAT C-1027	0	0		0	22,831	22,831	14,116,364	

☑ ***CFC*** CCT (min): 720 PMF: 0.152 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	941,109	
Total Arsenic	0	0		0	150	150	641,665	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	17,538,843	
Total Boron	0	0		0	1,600	1,600	6,844,427	
Total Cadmium	0	0		0	0.246	0.27	1,158	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	74.115	86.2	368,657	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	44,467	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	81,278	
Total Copper	0	0		0	8.956	9.33	39,907	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	42,166,164	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.517	3.18	13,610	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	3,875	Chem Translator of 0.85 applied
Total Nickel	0	0		0	52.007	52.2	223,141	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	21,342	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	55,611	
Total Zinc	0	0		0	118.139	120	512,547	Chem Translator of 0.986 applied
MicroControl 15N	0	0		0	56	56.0	239,555	
WAT C-1027	0	0		0	2536.9	2,537	10,852,266	

☑ ***THH*** CCT (min): 720 PMF: 0.152 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	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	23,955	
Total Arsenic	0	0		0	10	10.0	42,778	
Total Barium	0	0		0	2,400	2,400	10,266,640	
Total Boron	0	0		0	3,100	3,100	13,261,076	
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	1,283,330	
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	4,277,767	
Total Mercury	0	0		0	0.050	0.05	214	
Total Nickel	0	0		0	610	610	2,609,438	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	1,027	
Total Zinc	0	0		0	N/A	N/A	N/A	
MicroControl 15N	0	0		0	733,330	733,330	#########	
WAT C-1027	0	0		0	51,400	51,400	#########	

☑ ***CRL*** CCT (min): 720 PMF: 0.220 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	
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	
MicroControl 15N	0	0		0	N/A	N/A	N/A	
WAT C-1027	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
MicroControl 15N	44.0	68.6	202	315	505	mg/L	202	AFC	Discharge Conc ≥ 50% WQBEL (RP)
WAT C-1027	1,970	3,073	9,048	14,116	22,620	mg/L	9,048	AFC	Discharge Conc ≥ 50% WQBEL (RP)

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

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	297,228	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	8,322,386	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	N/A	N/A	Discharge Conc < TQL
Total Cadmium	845	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	368,657	µg/L	Discharge Conc < TQL
Hexavalent Chromium	6,457	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	37,649	µg/L	Discharge Conc < TQL
Total Copper	5,548	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	1,283,330	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	42,166,164	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	13,610	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	4,277,767	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	214	µg/L	Discharge Conc < TQL
Total Nickel	185,936	µg/L	Discharge Conc < TQL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	21,342	µg/L	Discharge Conc < TQL
Total Silver	1,500	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	1,027	µg/L	Discharge Conc ≤ 10% WQBEL

Total Zinc	47,484	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS

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Toxics Management Spreadsheet
Version 1.4, May 2023

RUN 2

Discharge Information

Instructions | Discharge | Stream

Facility: Electralloy NPDES Permit No.: PA0005762 Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: Non-contact cooling water

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
0.039342	100	8.53						

					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		316									
	Chloride (PWS)	mg/L											
	Bromide	mg/L											
	Sulfate (PWS)	mg/L											
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L	<	13.8									
	Total Antimony	µg/L	<	1.34									
	Total Arsenic	µg/L	<	1.4									
	Total Barium	µg/L		108									
	Total Beryllium	µg/L	<	0.82									
	Total Boron	µg/L	<	24.7									
	Total Cadmium	µg/L	<	0.86									
	Total Chromium (III)	µg/L	<	0.84									
	Hexavalent Chromium	µg/L	<	10									
	Total Cobalt	µg/L	<	0.76									
	Total Copper	µg/L		457									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	8									
	Dissolved Iron	µg/L		557									
	Total Iron	µg/L		657									
	Total Lead	µg/L	<	1.44									
	Total Manganese	µg/L		29									
	Total Mercury	µg/L	<	0.175									
	Total Nickel	µg/L	<	0.88									
	Total Phenols (Phenolics) (PWS)	µg/L	<	46									
	Total Selenium	µg/L	<	1.52									
	Total Silver	µg/L	<	6.86									
	Total Thallium	µg/L	<	2.22									
	Total Zinc	µg/L		42.4									
	Total Molybdenum	µg/L	<	0.74									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

	2,6-Dinitrotoluene	µg/L	<										
	Di-n-Octyl Phthalate	µg/L	<										
	1,2-Diphenylhydrazine	µg/L	<										
	Fluoranthene	µg/L	<										
	Fluorene	µg/L	<										
	Hexachlorobenzene	µg/L	<										
	Hexachlorobutadiene	µg/L	<										
	Hexachlorocyclopentadiene	µg/L	<										
	Hexachloroethane	µg/L	<										
	Indeno(1,2,3-cd)Pyrene	µg/L	<										
	Isophorone	µg/L	<										
	Naphthalene	µg/L	<										
	Nitrobenzene	µg/L	<										
	n-Nitrosodimethylamine	µg/L	<										
	n-Nitrosodi-n-Propylamine	µg/L	<										
	n-Nitrosodiphenylamine	µg/L	<										
	Phenanthrene	µg/L	<										
	Pyrene	µg/L	<										
	1,2,4-Trichlorobenzene	µg/L	<										
Group 6	Aldrin	µg/L	<										
	alpha-BHC	µg/L	<										
	beta-BHC	µg/L	<										
	gamma-BHC	µg/L	<										
	delta BHC	µg/L	<										
	Chlordane	µg/L	<										
	4,4-DDT	µg/L	<										
	4,4-DDE	µg/L	<										
	4,4-DDD	µg/L	<										
	Dieldrin	µg/L	<										
	alpha-Endosulfan	µg/L	<										
	beta-Endosulfan	µg/L	<										
	Endosulfan Sulfate	µg/L	<										
	Endrin	µg/L	<										
	Endrin Aldehyde	µg/L	<										
	Heptachlor	µg/L	<										
	Heptachlor Epoxide	µg/L	<										
	PCB-1016	µg/L	<										
	PCB-1221	µg/L	<										
	PCB-1232	µg/L	<										
	PCB-1242	µg/L	<										
	PCB-1248	µg/L	<										
	PCB-1254	µg/L	<										
	PCB-1260	µg/L	<										
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<										
	2,3,7,8-TCDD	ng/L	<										
Group 7	Gross Alpha	pCi/L											
	Total Beta	pCi/L	<										
	Radium 226/228	pCi/L	<										
	Total Strontium	µg/L	<										
	Total Uranium	µg/L	<										
	Osmotic Pressure	mOs/kg											
	MicroControl 15N	mg/L		9999999999									
	WAT C-1027	mg/L		9999999999									

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Toxics Management Spreadsheet
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Stream / Surface Water Information

Electralloy, NPDES Permit No. PA0005762, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Allegheny River**

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	042122	133.1	981	4690			Yes
End of Reach 1	042122	129.72	974	4700			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	133.1	0.242										100	7		
End of Reach 1	129.72	0.242										100	7		

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	133.1														
End of Reach 1	129.72														

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Model Results

Electralloy, NPDES Permit No. PA0005762, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.022 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	307,894	
Total Antimony	0	0		0	1,100	1,100	451,578	
Total Arsenic	0	0		0	340	340	139,579	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	8,621,028	
Total Boron	0	0		0	8,100	8,100	3,325,254	
Total Cadmium	0	0		0	2.014	2.13	876	Chem Translator of 0.944 applied
Total Chromium (III)	0	0		0	569.763	1,803	740,197	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	6,689	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	39,000	
Total Copper	0	0		0	13.439	14.0	5,747	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	64.581	81.6	33,517	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	676	Chem Translator of 0.85 applied
Total Nickel	0	0		0	468.236	469	192,608	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	3.217	3.78	1,554	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	26,684	
Total Zinc	0	0		0	117.180	120	49,188	Chem Translator of 0.978 applied
MicroControl 15N	0	0		0	510	510	209,368	
WAT C-1027	0	0		0	22,831	22,831	9,372,700	

☑ ***CFC*** CCT (min): 720 PMF: 0.152 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	624,420	
Total Arsenic	0	0		0	150	150	425,741	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	11,636,922	
Total Boron	0	0		0	1,600	1,600	4,541,238	
Total Cadmium	0	0		0	0.246	0.27	768	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	74.115	86.2	244,601	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	29,504	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	53,927	
Total Copper	0	0		0	8.956	9.33	26,478	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	27,974,093	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.517	3.18	9,030	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	2,571	Chem Translator of 0.85 applied
Total Nickel	0	0		0	52.007	52.2	148,053	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	14,161	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	36,898	
Total Zinc	0	0		0	118.139	120	340,072	Chem Translator of 0.986 applied
MicroControl 15N	0	0		0	56	56.0	158,943	
WAT C-1027	0	0		0	2536.9	2,537	7,200,416	

☑ ***THH*** CCT (min): 720 PMF: 0.152 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	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	15,894	
Total Arsenic	0	0		0	10	10.0	28,383	
Total Barium	0	0		0	2,400	2,400	6,811,857	
Total Boron	0	0		0	3,100	3,100	8,798,648	
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	851,482	
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	2,838,274	
Total Mercury	0	0		0	0.050	0.05	142	
Total Nickel	0	0		0	610	610	1,731,347	
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	681	
Total Zinc	0	0		0	N/A	N/A	N/A	
MicroControl 15N	0	0		0	733,330	733,330	#########	
WAT C-1027	0	0		0	51,400	51,400	#########	

☑ ***CRL*** CCT (min): 720 PMF: 0.220 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	
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	
MicroControl 15N	0	0		0	N/A	N/A	N/A	
WAT C-1027	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	Report	Report	Report	Report	Report	µg/L	3,684	AFC	Discharge Conc > 10% WQBEL (no RP)
MicroControl 15N	44.0	68.7	134	209	335	mg/L	134	AFC	Discharge Conc ≥ 50% WQBEL (RP)
WAT C-1027	1,971	3,075	6,008	9,373	15,019	mg/L	6,008	AFC	Discharge Conc ≥ 50% WQBEL (RP)

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

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	197,348	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	5,525,731	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	N/A	N/A	Discharge Conc < TQL
Total Cadmium	561	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	244,601	µg/L	Discharge Conc < TQL
Hexavalent Chromium	4,287	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	24,997	µg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	851,482	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	27,974,093	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	9,030	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	2,838,274	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	142	µg/L	Discharge Conc < TQL
Total Nickel	123,454	µg/L	Discharge Conc < TQL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	14,161	µg/L	Discharge Conc < TQL
Total Silver	996	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	681	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	31,527	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS

Attachment C

TRC Evaluation

TRC with complete mixing

Electralloy
PA0005762

Apri l 2025

1A	B	C	D	E	F	G
2	**TRC EVALUATION**					
3	Input appropriate values in B4:B8 and E4:E7					
4	1136.827148	= Q stream (cfs)		0.5	= CV Daily	
5	0.0261	= Q discharge (MGD)		0.5	= CV Hourly	
6	30	= no. samples		1	= AFC_Partial Mix Factor	
7	0.3	= Chlorine Demand of Stream		1	= CFC_Partial Mix Factor	
8	0	= Chlorine Demand of Discharge		15	= AFC_Criteria Compliance Time (min)	
9	0.5	= BAT/BPJ Value		720	= CFC_Criteria Compliance Time (min)	
	0	= % Factor of Safety (FOS)		0	=Decay Coefficient (K)	
10	Source	Reference	AFC Calculations		Reference	CFC Calculations
11	TRC	1.3.2.iii	WLA afc = #######		1.3.2.iii	WLA cfc = 8756.379
12	PENTOXSD TRG	5.1a	LTAMULT afc = 0.373		5.1c	LTAMULT cfc = 0.581
13	PENTOXSD TRG	5.1b	LTA_afc= #######		5.1d	LTA_cfc = 5090.548
14						
15	Source		Effluent Limit Calculations			
16	PENTOXSD TRG	5.1f	AML MULT = 1.231			
17	PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500		BAT/BPJ	
18			INST MAX LIMIT (mg/l) = 1.635			

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

TRC with partial mixing factor

Electralloy
PA0005762

Apri l 2025

1A	B	C	D	E	F	G
2	**TRC EVALUATION**					
3	Input appropriate values in B4:B8 and E4:E7					
4	1136.827148	= Q stream (cfs)		0.5	= CV Daily	
5	0.0261	= Q discharge (MGD)		0.5	= CV Hourly	
6	30	= no. samples		0.022	= AFC_Partial Mix Factor	
7	0.3	= Chlorine Demand of Stream		0.152	= CFC_Partial Mix Factor	
8	0	= Chlorine Demand of Discharge		15	= AFC_Criteria Compliance Time (min)	
9	0.5	= BAT/BPJ Value		720	= CFC_Criteria Compliance Time (min)	
	0	= % Factor of Safety (FOS)		0	=Decay Coefficient (K)	
10	Source	Reference	AFC Calculations		Reference	CFC Calculations
11	TRC	1.3.2.iii	WLA afc = 197.614		1.3.2.iii	WLA cfc = 1330.979
12	PENTOXSD TRG	5.1a	LTAMULT afc = 0.373		5.1c	LTAMULT cfc = 0.581
13	PENTOXSD TRG	5.1b	LTA_afc= 73.636		5.1d	LTA_cfc = 773.769
14						
15	Source		Effluent Limit Calculations			
16	PENTOXSD TRG	5.1f	AML MULT = 1.231			
17	PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500		BAT/BPJ	
18			INST MAX LIMIT (mg/l) = 1.635			

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

Attachment D
Thermal Monitoring Outputs

RUN #1

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Thermal Limits Spreadsheet
Version 1.0, April 2024

Instructions | Inputs

Facility: Electralloy

Permit No.: PA0005762

Stream Name: 175 Main Street, Oil City, PA

Analyst/Engineer: DEP

Stream Q7-10 (cfs)*: 1,136.8

Outfall No.: 102

Analysis Type*: WWF

Facility Flows

Semi-Monthly Increment	Intake (Stream) (MGD)*	Intake (External) (MGD)*	Consumptive Loss (MGD)*	Discharge Flow (MGD)
Jan 1-31		0.0261	0.0084	0.0177
Feb 1-29		0.0261	0.0084	0.0177
Mar 1-31		0.0261	0.0084	0.0177
Apr 1-15		0.0261	0.0084	0.0177
Apr 16-30		0.0261	0.0084	0.0177
May 1-15		0.0261	0.0084	0.0177
May 16-31		0.0261	0.0084	0.0177
Jun 1-15		0.0261	0.0084	0.0177
Jun 16-30		0.0261	0.0084	0.0177
Jul 1-31		0.0261	0.0084	0.0177
Aug 1-15		0.0261	0.0084	0.0177
Aug 16-31		0.0261	0.0084	0.0177
Sep 1-15		0.0261	0.0084	0.0177
Sep 16-30		0.0261	0.0084	0.0177
Oct 1-15		0.0261	0.0084	0.0177
Oct 16-31		0.0261	0.0084	0.0177
Nov 1-15		0.0261	0.0084	0.0177
Nov 16-30		0.0261	0.0084	0.0177
Dec 1-31		0.0261	0.0084	0.0177

Stream Flows

Q7-10 Multipliers (Default Shown)	PMF	Seasonal Stream Flow (cfs)	Downstream Stream Flow (cfs)
3.2	1.00	3637.76	3637.79
3.5	1.00	3978.80	3978.83
7	1.00	7957.60	7957.63
9.3	1.00	10572.24	10572.27
9.3	1.00	10572.24	10572.27
5.1	1.00	5797.68	5797.71
5.1	1.00	5797.68	5797.71
3	1.00	3410.40	3410.43
3	1.00	3410.40	3410.43
1.7	1.00	1932.56	1932.59
1.4	1.00	1591.52	1591.55
1.4	1.00	1591.52	1591.55
1.1	1.00	1250.48	1250.51
1.1	1.00	1250.48	1250.51
1.2	1.00	1364.16	1364.19
1.2	1.00	1364.16	1364.19
1.6	1.00	1818.88	1818.91
1.6	1.00	1818.88	1818.91
2.4	1.00	2728.32	2728.35

Temperature

Ambient Stream Temperature (°F)*

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Thermal Limits Spreadsheet
Version 1.0, April 2024

Instructions | *WWF Results*

Recommended Limits for Case 1 or Case 2

Semi-Monthly Increment	**WWF** Target Maximum Stream Temp. (°F)	**Case 1** Daily WLA (Million BTUs/day)	**Case 2** Daily WLA (°F)
Jan 1-31	40	N/A -- Case 2	110.0
Feb 1-29	40	N/A -- Case 2	110.0
Mar 1-31	46	N/A -- Case 2	110.0
Apr 1-15	52	N/A -- Case 2	110.0
Apr 16-30	58	N/A -- Case 2	110.0
May 1-15	64	N/A -- Case 2	110.0
May 16-31	72	N/A -- Case 2	110.0
Jun 1-15	80	N/A -- Case 2	110.0
Jun 16-30	84	N/A -- Case 2	110.0
Jul 1-31	87	N/A -- Case 2	110.0
Aug 1-15	87	N/A -- Case 2	110.0
Aug 16-31	87	N/A -- Case 2	110.0
Sep 1-15	84	N/A -- Case 2	110.0
Sep 16-30	78	N/A -- Case 2	110.0
Oct 1-15	72	N/A -- Case 2	110.0
Oct 16-31	66	N/A -- Case 2	110.0
Nov 1-15	58	N/A -- Case 2	110.0
Nov 16-30	50	N/A -- Case 2	110.0
Dec 1-31	42	N/A -- Case 2	110.0

RUN 2

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Thermal Limits Spreadsheet
Version 1.0, April 2024

Instructions | *Inputs*

Facility: Electralloy
Permit No.: PA0005762
Stream Name: 175 Main Street, Oil City, PA
Analyst/Engineer: DEP
Stream Q7-10 (cfs)*: 1,136.8
Outfall No.: 102
Analysis Type*: WWF

Facility Flows

Semi-Monthly Increment	Intake (Stream) (MGD)*	Intake (External) (MGD)*	Consumptive Loss (MGD)*	Discharge Flow (MGD)
Jan 1-31		0.039342	0.0084	0.030942
Feb 1-29		0.039342	0.0084	0.030942
Mar 1-31		0.039342	0.0084	0.030942
Apr 1-15		0.039342	0.0084	0.030942
Apr 16-30		0.039342	0.0084	0.030942
May 1-15		0.039342	0.0084	0.030942
May 16-31		0.039342	0.0084	0.030942
Jun 1-15		0.039342	0.0084	0.030942
Jun 16-30		0.039342	0.0084	0.030942
Jul 1-31		0.039342	0.0084	0.030942
Aug 1-15		0.039342	0.0084	0.030942
Aug 16-31		0.039342	0.0084	0.030942
Sep 1-15		0.039342	0.0084	0.030942
Sep 16-30		0.039342	0.0084	0.030942
Oct 1-15		0.039342	0.0084	0.030942
Oct 16-31		0.039342	0.0084	0.030942
Nov 1-15		0.039342	0.0084	0.030942
Nov 16-30		0.039342	0.0084	0.030942
Dec 1-31		0.039342	0.0084	0.030942

Stream Flows

Q7-10 Multipliers (Default Shown)	PMF	Seasonal Stream Flow (cfs)	Downstream Stream Flow (cfs)
3.2	1.00	3637.76	3637.81
3.5	1.00	3978.80	3978.85
7	1.00	7957.60	7957.65
9.3	1.00	10572.24	10572.29
9.3	1.00	10572.24	10572.29
5.1	1.00	5797.68	5797.73
5.1	1.00	5797.68	5797.73
3	1.00	3410.40	3410.45
3	1.00	3410.40	3410.45
1.7	1.00	1932.56	1932.61
1.4	1.00	1591.52	1591.57
1.4	1.00	1591.52	1591.57
1.1	1.00	1250.48	1250.53
1.1	1.00	1250.48	1250.53
1.2	1.00	1364.16	1364.21
1.2	1.00	1364.16	1364.21
1.6	1.00	1818.88	1818.93
1.6	1.00	1818.88	1818.93
2.4	1.00	2728.32	2728.37

Temperature

Ambient Stream Temperature (°F)*

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Thermal Limits Spreadsheet
Version 1.0, April 2024

Instructions | *WWF Results* | RETURN TO INPUTS | PRINT TO PDF | PRINT WWF

Recommended Limits for Case 1 or Case 2

Semi-Monthly Increment	**WWF** Target Maximum Stream Temp. (ºF)	**Case 1** Daily WLA (Million BTUs/day)	**Case 2** Daily WLA (ºF)
Jan 1-31	40	N/A -- Case 2	110.0
Feb 1-29	40	N/A -- Case 2	110.0
Mar 1-31	46	N/A -- Case 2	110.0
Apr 1-15	52	N/A -- Case 2	110.0
Apr 16-30	58	N/A -- Case 2	110.0
May 1-15	64	N/A -- Case 2	110.0
May 16-31	72	N/A -- Case 2	110.0
Jun 1-15	80	N/A -- Case 2	110.0
Jun 16-30	84	N/A -- Case 2	110.0
Jul 1-31	87	N/A -- Case 2	110.0
Aug 1-15	87	N/A -- Case 2	110.0
Aug 16-31	87	N/A -- Case 2	110.0
Sep 1-15	84	N/A -- Case 2	110.0
Sep 16-30	78	N/A -- Case 2	110.0
Oct 1-15	72	N/A -- Case 2	110.0
Oct 16-31	66	N/A -- Case 2	110.0
Nov 1-15	58	N/A -- Case 2	110.0
Nov 16-30	50	N/A -- Case 2	110.0
Dec 1-31	42	N/A -- Case 2	110.0

Attachment E – Correspondence

Electralloy NPDES Renewal 2025 / PA0005762 / Questions

Response to Email 4/4/2025 (Nicholas Hong)

1) Confirm what subcategory of the federal ELG the facility falls under. A link to the ELG data base is shown (Effluent Limitations Guidelines and Standards (ELG) Database | US EPA)
    - This facility is listed as a Minor Facility without ELG; Electralloy fits 40 CFR Subpart 420 (Iron and Steel Manufacturing) – Subpart: D (Steelmaking Subcategory) – 420.41(c) (Electric Arc Furnace) definition, but not the back end wet control devices that would make Electralloy subject to the Subpart D mass limits.
2) Confirm the coordinates of the outfalls on page 2 of the application. See screenshot below. The GIF form reports the coordinates as 41 25 51 latitude and -79 42 58 as longitude.
    - GIF coordinates (above) represent central Facility location
    - Outfall Coordinates:

Outfall/ IMP No.	Latitude			Longitude		
	Deg	Min	Sec	Deg	Min	Sec
001	41	25	49	79	43	05
002	41	25	49	79	42	51
003	41	25	49	79	42	58
004	41	25	49	79	42	54

Previous coordinates were listed in/pulled from NPDES Permit (possibly old TOPO map); coordinates listed above from Google Earth (WGS84)

3) The NPDES application did not list WAT C-1007 as a chemical/additive. The chemical/additive appeared on the Supplemental Report. Please confirm if the chemical/additive is used at the facility and what the WAT C-1007 chemical is used for.
    - The WAT C-1007 product has been discontinued. It has not been used in probably over 5 years. This product has been replaced by WAT C-1027. Will no longer include in DMR or Supplemental Reports.
4) Confirm if any chemical/additive will be used upon issuance of the renewed NPDES permit. Will WAT C-1027, MicroControl 15N and WAT C-1007 still be continued to be used?
    - Electralloy are using WAT C-1027 (inhibitor) & MicroControl 15N (biocide). We will be using these 2 products for the foreseeable future.
5) Confirm the design flow rate for Outfall 001 at 0.0031 MGD. Our records indicate the flowrate for Outfall 001 at 0.00447 MGD.
    - Design Flows in previous permits were listed as 0.0031 MGD and 0.00447 MGD, after consideration please proceed with 0.0031 MGD as the design flow rate.
    - Gravity Driven
6) Confirm if the facility utilizes PFAS parameters. In particular the following: PFOA, PFOS, HFPO-DA, and PFBS
    - Not Applicable, facility does not use any PFAS parameters
7) Confirm if the facility treats the wastewater prior to discharge through the outfall. Below is the flow schematic submitted with the NPDES Application.
    - No Treatment
8) The monitoring data summarized in the Pollutant Group Tables should report the maximum sample results of all the samples. A result of ND is not acceptable. If the sample result was < 0.50 mg/l, then <0.50 mg/l should be reported. Provide a summary table which tabulates all the sampling data. One of the columns on the table should show the maximum values of all the sampling results.
    - See Table below
9) A copy of a lab result and the pollutant group tables are shown below. As examples, the lab result for boron was 0.413 mg/l and zinc was 0.202 mg/l. Confirm why the results on the Pollutant Group Table reports boron at 0.0247 ug/l and zinc at 0.0424 ug/l. The maximum result of all the sampling should

be reported. Also, the lab results are reported in mg/l. The Pollutant Table should be reported as ug/l. Clarify the discrepancy.

- Boron = 24.7 ug/L (from Analytical Results)
- Zinc = 42.4 ug/L (from Analytical Results)
- The results of the sampling event conducted by Free-Col/Summit are on page 5 of 35 of the Sampling report, the results mentioned above (0.413 and 0.202) are part of the QC Summary Report.

10) The facility reports two non-contact cooling water outfalls (i.e. Outfall 001 and Outfall 002). The facility should be submitting monitoring data for the NPDES application for both Outfalls. If outfall 002 is an intermittent discharge, provide a narrative describing the last usage and how often the outfall will be used.

- There has been no flow at Outfall 002 in the current permit term, as the induction furnace has not been installed yet. The permittee would like to retain this Outfall, if possible, in the renewed permit so that it can be utilized if need be.

Non-Detect Table (Question 8):

Pollutant (Outfall 001)	Limit of Detection (Max)	
	(mg/L)	(ug/L)
Oil & Grease	<2.91	<2910
Ammonia-Nitrogen	<0.176	<176
Total Aluminum	<0.0138	<13.8
Total Antimony	<0.00134	<1.34
Total Arsenic	<0.0014	<1.4
Total Beryllium	<0.000820	<0.82
Total Boron	<0.0247	<24.7
Total Cadmium	<0.000860	<0.86
Total Chromium	<0.000840	<0.84
Total Cobalt	<0.00076	<0.76
Free Cyanide	<0.00200	<2
Total Cyanide	<0.00800	<8
Total Lead	<0.00144	<1.44
Total Mercury	<0.000175	<0.175
Total Molybdenum	<0.000740	<0.74
Total Nickel	<0.000880	<0.88
Total Phenols	<0.0460	<46
Total Selenium	<0.00152	<1.52
Total Silver	<0.00686	<6.86
Total Thallium	<0.00222	<2.22

Hong, Nicholas

From: Joey Pezze <Joey.PezzeJr@hillcrestgrp.com>
Sent: Thursday, April 24, 2025 2:52 PM
To: Hong, Nicholas
Subject: Re: [External] NPDES renewal / PA0005762 / questions

Hi Nick,

A couple items regarding the flow diagram in the flor rates for Outfalls 001 and 002.

1) We are still gathering info to confirm the Flow Diagram Line Drawing + Water Flow charts from the City of Oil City.

2) The NPDES Renewal Application reported the design flow rates as 0.0031 and 0.023 MGD because the effluent limitations in the existing permit (Issued Dec 2016) for these outfalls were determined using those discharge rates as well as NPDES Permit Fact Sheet.

Ill keep you updated, but a path forward we could use either the flow in the line drawing or the flow rate in your records; 0.00447 MGD, which I found in the previous submitted NPDES Application (Nov 2010). To my knowledge, water flow volumes and design has not changed.

Thank You,

Joey Pezze Jr

Principal Consultant
The Hillcrest Group, LLC
Email: Joey.PezzeJr@HillcrestGrp.com
Cell: (412) 916-7921

> On Apr 20, 2025, at 7:55 AM, Hong, Nicholas <nhong@pa.gov> wrote:
>
> Joey.
>
> Please reconfirm the design flow rate for Outfalls 001 and 002.
>
> From the flow diagram, approximately 17, 342 gallons/day is discharged through the hot tank process. The NPDES application reports the design flow rate for Outfall 001 at 0.0031 MGD. The volume discharged is larger than the design flow rate.
>
> From the flow diagram, approximately 22,000 gallons/day is discharged through the induction furnace. The NPDES application reports the design flow rate for Outfall 002 at 0.023 MGD.
>
> <image001.png>

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We would appreciate a response at your earliest convenience.

Nick Hong, PE | Environmental Engineer
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Clean Water Programs
Southcentral Regional Office
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THE SOUTHCENTRAL REGIONAL OFFICE AFTER HOURS REPORTING & 24 HOUR EMERGENCY RESPONSE NUMBER IS 1-800-541-2050