pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0006335**
Facility Type	**Industrial**	APS ID	**553641**
Major / Minor	**Major**	Authorization ID	**593275**

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

Applicant and Facility Information

Applicant Name	**IPSCO Koppel Tubulars, LLC**	Facility Name	**Ambridge Plant**
Applicant Address	PO Box 410	Facility Address	2225 Duss Avenue
	Ambridge, PA 15003		Ambridge, PA 15003
Applicant Contact	Alex Richmond	Facility Contact	Alex Richmond
Applicant Phone	(724) 251-2579	Facility Phone	(724) 251-2579
Client ID	64804	Site ID	4471
SIC Code	3317	Municipality	Ambridge Borough
SIC Description	Steel Pipe and Tubes	County	Beaver
Date Application Received	May 6, 2005	EPA Waived?	No
Date Application Accepted	June 14, 2005	If No, Reason	Major

Purpose of Application: Transfer and Renewal of NPDES permit to discharge IW and SW discharges

Summary of Review

The Department received a renewal NPDES application from Koppel Steel Corporation (Koppel), based in Koppel Pennsylvania, for its Ambridge Plant on May 6, 2005. Koppel runs this Ambridge steel piping and tubing mill which was previously part of a larger facility which was originally developed in 1913 by the Standard Seamless Tube Company. This larger facility was later owned and operated by the American Rolling Mill Company (ARMCO). The first Water Quality Management permit application for the site was received and issued in 1959 as WQM permit number **1971** to ARMCO.

ARMCO later sold the site (over an extended period of time spanning the 1970's through 1987), in portions. ARMCO finally shut down its remaining operations at this Ambridge site in 1985. Circa 1972, the current tube plant was acquired by Babcock and Wilcox Company (B&W) which later sold it to Koppel. Koppel acquired the tube fabrication plant and later the adjacent wastewater treatment plant from B&W in the early 1990's. The current NPDES permit (**PA0006335**), previously held by ARMCO and B&W, was issued to Koppel in 1995 and amended in 1998. The immediate prior NPDES permit renewal was issued November 10, 2000, was amended on May 4, 2001, effective June 1, 2001. It subsequently expired on November 10, 2005 but is now administratively extended. The WQM Part II permit was amended and transferred to Koppel from ARMCO, which later become AK Steel Corporation, on January 29, 2001 as **1971-A1 T1**.

An NPDES draft permit was issued to Koppel on September 28, 2005. The draft was published in the PA Bulletin on October 1, 2005. EPA Region III reviewed this draft and had no comments or objections. Koppel's comments on the draft were received by the Department on November 14, 2005 and a meeting was held on November 21, 2005. Koppel's comments on the draft were focused on concerns with effluent limits and monitoring proposed for the stormwater outfalls (002 and 003). This permit was not subsequently issued. This permit Fact Sheet reflects a redraft of the NPDES permit and a complete reassessment of the facility's operations.

Approve	Deny	Signatures	Date
X		John L Duryea, Jr., P.E. / Environmental Engineer	November 23, 2021
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	November 23, 2021

Summary of Review

Since submitting their May 2005 renewal application, a number of corporate acquisitions have occurred. Koppel merged with then Chicago-based IPSCO, forming the IPSCO Koppel Tubulars Corporation (IPSCO). IPSCO was then acquired by the Swedish steel company SSAB in 2007. In June 2008, Russia's TMK acquired ten or more pipe manufacturing facilities from SSAB, including the IPSCO sites. As a North American subsidiary of TMK, IPSCO included 11 manufacturing facilities in the U.S. and Canada with its headquarters in Houston, Texas. In the years from 2008 through 2018, IPSCO made a number of upgrade investments in this Ambridge plant. In early January 2020, this plant, along with other IPSCO assets was acquired by European based Tenaris S.A. from TMK. (Tenaris had recently also built a state-of-the art pipe and tube facility in Bay City, Texas.) For simplicity, the Ambridge site will be referenced as Ambridge and the owner as Koppel or Koppel Steel.

On July 28, 2005, updated application portions were received by the Department which included sample analysis results. On November 23, 2005 additional stormwater sample data was received for Outfalls 002 and 003. On February 6, 2006 yet another set of analysis results for Outfalls 002 and 003 were received by the Department. On November 3, 2006, a transfer application was submitted for WQM Part II permit **1971**. At roughly the same time, a transfer application was received for this NPDES permit which was held pending the renewal. On January 25, 2007, the Department issued WQM permit **1971-A1-T2** to the IPSCO Koppel Tubulars Corporation.

After the summer of 2014, the Department was supplied copies of the IPSCO Wastewater Treatment Manual, dated July 2014. It includes details of the treatment system design and operation. On February 25, 2019, a letter update to the original 2005 application was received containing updated wastewater, sewage and storm water system information and discharge maps. These were considered as an amendment to the original renewal application submittal. A letter dated April 6, 2020 informed the Department that production at the Ambridge facility had been suspended due to market conditions. In June 2020, production data was supplied via email attachment, covering 2015 through 2019. In a telephone conversation on September 30, 2021, Koppel's representative informed the Department that the official name of their company remains IPSCO Koppel Tubulars, LLC and that operations have now resumed at the Ambridge plant.

Operations at Koppel Steel involve the production of seamless steel tubing from steel rounds (billets). Billets are heated in a gas fired rotary furnace and then sent to the piercer mill (Hot Mill) where these are processed into seamless tube. Subsequent finishing operations may include heat treating, straightening, end expansion (aka. upsetting) and treatment with corrosion prevention coatings.

Wastes generated and managed at the facility include hydraulic and various lubricating oils, transmission fluids, corrosion preventatives, graphite, process cooling water, wastewater treatment plant sludge, and mill scale. Two primary areas are used for storage and management of raw materials and containerized wastes. In the first, steel billets and piercer points are stored in the northern portion of the middle bay. Containers with various waste products are stored in the south end of this same bay area. In the southern portion of the east bay, Koppel stores new oil in 55-gallon drums, 330-gallon totes containing corrosion coating chemicals; as well as, temporary storage containers of waste oils. All plant processing activities are located indoors. All hazardous materials loading, unloading and storage areas are also located indoors.

The original renewal application notes a SIC Code of 3317 (Steel Pipe and Tubes) and associated NAICS Code of 331210 (Iron and Steel Pipe and Tube Manufacturing from Purchased Steel). The renewal is listed under 25 Pa. Code § 92a.26 as a major facility with an applicable Federal Effluent Limit Guideline (ELG). The application notes that the discharge locations include outfalls 001 through 003. The receiving waters for these discharges are all listed as being to the Ohio River.

All onsite outfalls are less than two tenths of a mile from the Ohio River, with discharges passing under Ohio River Boulevard and a railroad right of way. The receiving downstream waterway segment is listed as supporting for one of its designated uses, as a source of potable water, but is impaired for another designated use, for fish consumption, because of Polychlorinated Biphenyls (PCBs) and dioxin. In addition, it is listed as being impaired for recreational use because of pathogens. This navigable river has a Final Total Maximum Daily Load (TMDL) established by the Department for PCBs, Chlordane and organics. It should be noted that Koppel's Ambridge facility has no history or facilities known to generate these pathogens. However, as a direct discharger to the main channel of the Ohio River, Ohio River Water Sanitation Commission (ORSANCO) limits must be considered.

A Federal Effluent Limit Guideline (ELG) has been established for effluent from steel manufacturing, with specific limits identified for fabrication processes under 40 CFR Part 420. These ELGs were promulgated on various dates ranging from 1982 through 1985. However, operations at Koppel's Ambridge site clearly predate any of these regulation dates, establishing this facility as an existing source under those statutes.

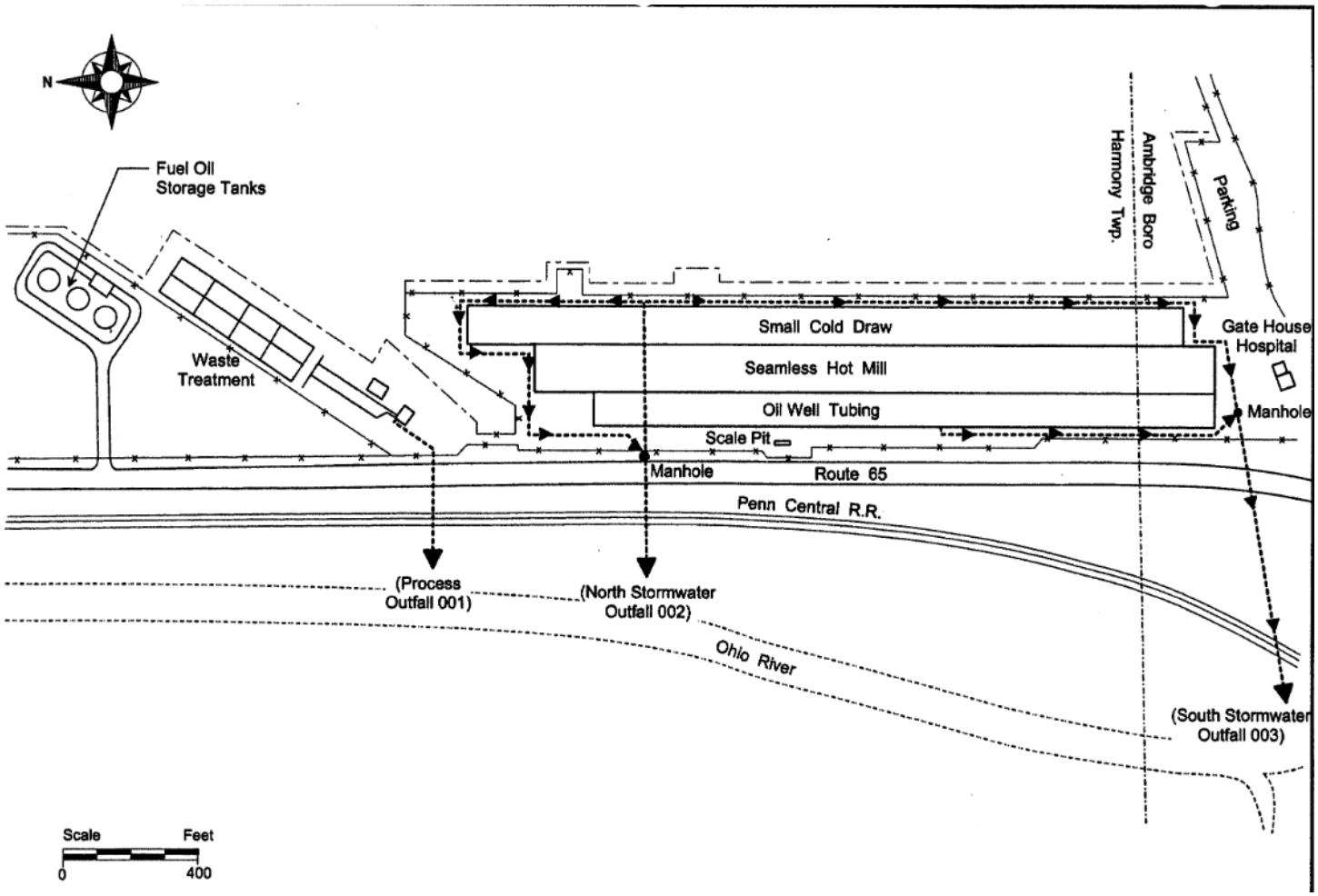
Summary of Review

Although earlier permit renewals also reference a number of cold finish processes under 40 CFR 420, subpart I, the permit amendment issued on November 30, 1998, eliminated all but the hot forming provisions, using ELGs listed in 40 CFR 420.72(d) and 40 CFR 420.73 – subpart G. The 2005 application and the 2020 production data update, both indicated that the only applicable ELG is 420.72(d) subpart for "Iron and Steel Manufacturing/Hot Forming – Pipe and Tube Mills." This also matches the ELG referenced in the Department's most recent permit amendment fact sheet from March 2001 and the August 2, 2005 fact sheet for the 2005 proposed draft permit renewal. The latter also referencing Part 420.73 Subpart G – Hot Forming.

The U.S. Environmental Protection Agency (USEPA) promulgated best practical control technology currently available (BPT) limitations based on an expanded data base including all hot forming operations and applied process water flows. This data included information on the installation and performance of wastewater treatment facilities. The reference treatment for hot forming of piping and tubes included either primary scale pit settling equipped with oil skimming facilities, or sedimentation in a roughing clarifier or settling basin before partial recycle. In some cases, treatment included various types of filtration or vacuum filtration before discharge. The resultant ELG is used to establish effluent limits without imposing a specific treatment process.

For the purposes of this permit, ELGs under 40 CFR 420.72(d) will be applied, as before, when the plant is operating and producing seamless tubing or pipes. When the plant is not in production, no discharge from the treatment facility or its WWTP is expected. When the plant is idle and not fabricating steel piping or tubing, then stormwater monitoring must still be conducted where applicable.

The WWTP is located to the north of the main plant site. Surface water runoff originating from areas beyond the site boundary to the east is managed through diversion channels around the perimeter of the main plant or underneath the plant, as shown in Figure 1.



Summary of Review

Figure 1: Koppel Steel, Ambridge Facility Site Plan with Stormwater Runoff Areas

Although shown in the figure, the fuel oil storage tanks have been drained and are no longer in use. Most stormwater from both on and offsite sources is directed to Outfalls 002 and 003. Process water is directed exclusively to Outfall 001. Not shown is that some stormwater is also directed toward this process outfall. An internal monitoring point (IMP) will be required at the waste treatment facility for monitoring the treated process water before discharge. In this permit, this IMP for process effluent will be designated IMP 101. Note that monitoring at this point just before exiting the treatment plant area matches the current practice of the permittee.

As noted previously, there have been numerous ownership changes and amendments over the years to this permit and its other associated permits. During the period when B&W operated this facility, a stream bed was reported as being filled in with slag to allow a B&W plant expansion. It was reported that a provision was made to convey this stream through a 36" concrete sewer pipe under the old ARMCO facility. This is believed to continue into the present, bypassing the treatment system with storm water directed to an outfall. However, with the 2020 submittals of updated drawing information, this reference was not conclusively associated with any one of the three established site outfalls.

In a telephone conversation on September 30, 2021, Koppel's representative informed the Department that the official name of their company remains IPSCO Koppel Tubulars, LLC and that operations have now resumed at the Ambridge plant. A letter from the permittee confirming that operations restarted at the Ambridge plant in August 2021 was received on October 12, 2021.

The applicant has provided evidence of Act 14 compliance.

It is recommended that a draft permit be published for public comment in response to this application.

Public Participation

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

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.130
Latitude	40º 36' 36."	Longitude	-80º 13' 57."
Quad Name	1404	Quad Code	Ambridge
Wastewater Description:	Treated Process Effluent, Contact and Non-Contact Cooling Water and Stormwater		

Receiving Waters	Ohio River (WWF)	Stream Code	32317
NHD Com ID	99681540	RMI	963.4 miles
Drainage Area	19600 Sq. Miles	Yield (cfs/mi^2)	0.241
Q_{7-10} Flow (cfs)	4730	Q_{7-10} Basis	ACOE, 2017
Elevation (ft)	683	Slope (ft/ft)	
Watershed No.	20-G	Chapter 93 Class.	WWF
Existing Use	**Aquatic Life**	Existing Use Qualifier	None
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	DIOXIN, PATHOGENS, POLYCHLORINATED BIPHENYLS (PCBs),		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	**Final**	Name	**Ohio River TMDL**

Background/Ambient Data		Data Source
pH (SU)	7.5	Average of WQN 902 data from Oct. 1998 - June 2019
Hardness (mg/L)	100.465	Statistical Long Term Average (LTA) from WQN 902
Aluminum (mg/L)	0.3985	Statistical LTA from WQN 902, Dec. 2013 - June 2019
Iron (mg/L)	1.2808	Statistical LTA from WQN 902, Oct. 1998 - June 2019
Manganese (mg/L)	0.1795	Statistical LTA from WQN 902, Oct. 1998 - June 2019

Nearest Downstream Public Water Supply Intake		Center Township Water Authority	
PWS Waters	Ohio River	Flow at Intake (cfs)	5880
PWS RMI	954.0	Distance from Outfall (mi)	9.4

Changes Since Last Permit Issuance: In the January 2000 application for permit renewal, a 21” process sewer line was shown from the former Armco facility as an inlet to the WWTP inlet trough, but in the 2019 color overlay of the Armco drawing supplied by the permittee, this line is shown as “abandoned and plugged”. Even in the 2000 renewal application writeup this was described as having no flow from a rain event on 11/8/1999 and a 5 gpm influent flow from a rain event on 12/10/1999 which it attributed as being likely from manhole infiltration. At the time of the 2000 application this was not considered a significant source of stormwater input. In the 2006 permit renewal submittal, this line was removed from the drawing (see Figure 1).

Other Comments: Compliance with Federal ELGs will be evaluated at the WWTP discharge, now designated as IMP 101.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0
Latitude	40º 36' 26."	Longitude	-80º 13' 57."
Quad Name	1404	Quad Code	Ambridge
Wastewater Description:	Stormwater associated with industrial activity		

Receiving Waters	Ohio River (WWF)	Stream Code	32317
NHD Com ID	99681540	RMI	963.2 miles
Drainage Area	19600 Sq. Miles	Yield (cfs/mi^2)	0.241
Q_{7-10} Flow (cfs)	4730	Q_{7-10} Basis	ACOE, 2017
Elevation (ft)	683	Slope (ft/ft)	
Watershed No.	20-G	Chapter 93 Class.	WWF
Existing Use	**Aquatic Life**	Existing Use Qualifier	None
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	DIOXIN, PATHOGENS, POLYCHLORINATED BIPHENYLS (PCBs),		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	**Final**	Name	**Ohio River TMDL**

Background/Ambient Data		Data Source
pH (SU)	7.5	Average of WQN 902 from Oct. 1998 - June 2019
Hardness (mg/L)	100.465	Statistical Long Term Average (LTA) from WQN 902
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Manganese (mg/L)	0.1795	Statistical LTA from WQN 902, Oct. 1998 - June 2019

Nearest Downstream Public Water Supply Intake		Center Township Water Authority	
PWS Waters	Ohio River	Flow at Intake (cfs)	5880
PWS RMI	954.0	Distance from Outfall (mi)	9.4

Changes Since Last Permit Issuance: A retaining wall was installed between the facility boundary and State Route 65 just to the west.

Other Comments: Page 31 of the application information sent via Koppel Steel letter, dated January 28, 2000 (received Feb. 2, 2000), indicates that Outfall 002 is fed from a drainage area of 10.5 acres.

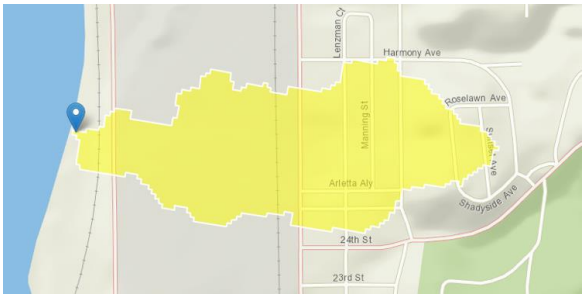


Figure 2: USGS StreamStats estimate of the Drainage Area feeding Outfall 002

Discharge, Receiving Waters and Water Supply Information

Outfall No.	003	Design Flow (MGD)	0
Latitude	40º 36' 09"	Longitude	-80º 13' 57."
Quad Name	1404	Quad Code	Ambridge
Wastewater Description:	Stormwater associated with industrial activity		
Receiving Waters	UNT to Ohio River (WWF)	Stream Code	32317
NHD Com ID	99681578	RMI	962.9 miles (Ohio R.)
Drainage Area	19600 Sq. Miles	Yield (cfs/mi^2)	0.241
Q_{7-10} Flow (cfs)	4730	Q_{7-10} Basis	ACOE, 2017
Elevation (ft)	683	Slope (ft/ft)	
Watershed No.	20-G	Chapter 93 Class.	WWF
Existing Use	**Aquatic Life**	Existing Use Qualifier	None
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	SILTATION		
Source(s) of Impairment	HIGHWAY/ROAD/BRIDGE RUNOFF (NON-CONSTRUCTION RELATED), REMOVAL OF RIPARIAN VEGETATION, URBAN RUNOFF/STORM SEWERS		
TMDL Status	**Final**	Name	**Ohio River TMDL**
Nearest Downstream Public Water Supply Intake	Center Township Water Authority		
PWS Waters	Ohio River	Flow at Intake (cfs)	5880
PWS RMI	954.0	Distance from Outfall (mi)	9.4

Changes Since Last Permit Issuance: During the course of this renewal, it was determined that the discharge at this outfall actually enters a previously undocumented, culverted UNT. After this culvert passes under Route 65, this receiving UNT then enters UNT 36593, known locally as French Point Creek or, alternately, French Creek. This stream then passes through a tunnel under the railway right of way and discharges at its mouth to the Ohio River. The point-of-first-use will continue to be considered the Ohio River.

Other Comments:

Treatment Facility Summary				
Treatment Facility Name: IPSCO Koppel Tubulars Corporation				
WQM Permit No.	**Issuance Date**			
1971	Aug. 25, 1959			
1971-A1-T2	Jan. 25, 2007			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial	Chemical Precipitation	Oil & Grease Skimmer	Biocide	0.203
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
	N/A	Not Overloaded	N/A	N/A

Changes Since Last Permit Issuance: Production volumes varied.

Other Comments: Metal scale is collected in the production facility via troughs, mobilized by water flow from a freshwater tank toward an intermediate pit and then to the scale pit on the west side of the main plant. Apart from some use of rope oil skimmers, the wastewater treatment at Koppel Steel's Ambridge facility begins at the scale pit located on the west side of the main plant. A simplified line diagram of this plant's process, when operating near capacity, is shown in Figure 3 below:

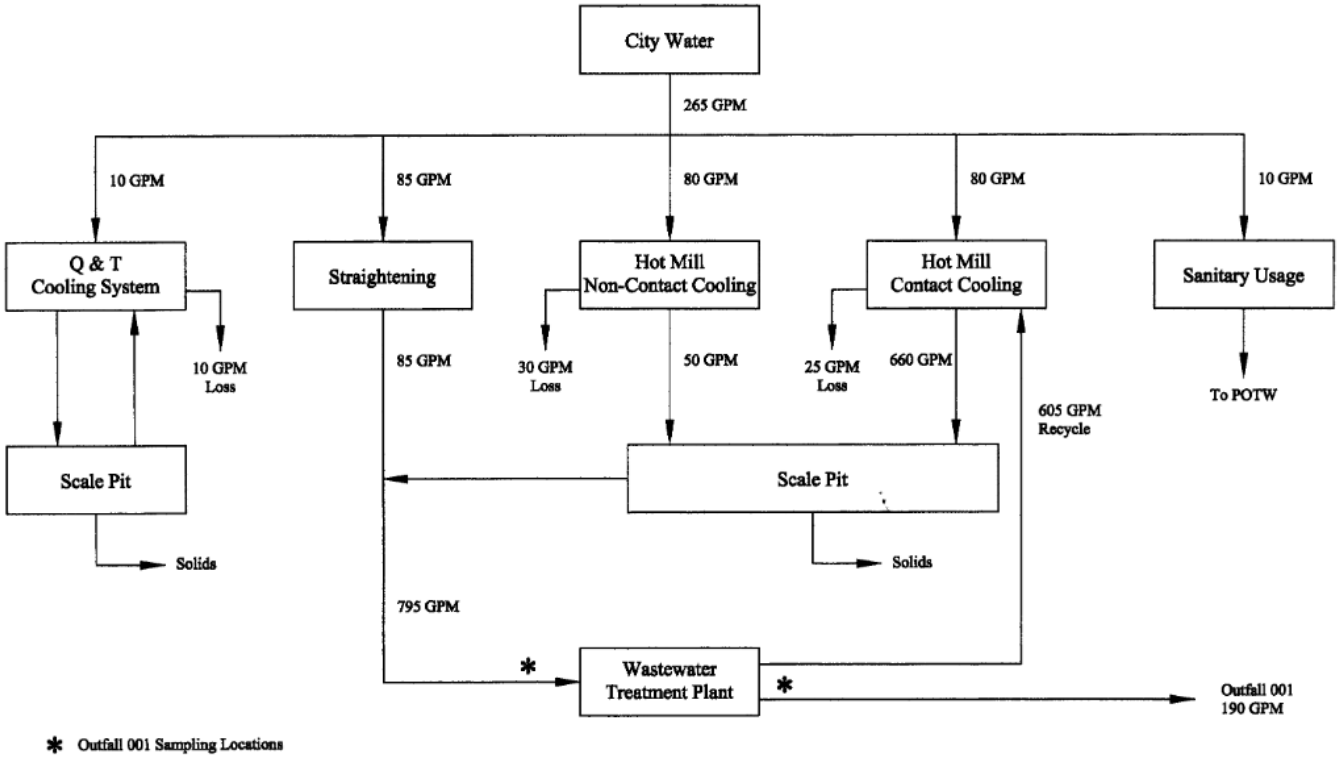


Figure 3: Koppel, Ambridge Plant, Process Line Drawing

As shown in the figure above, wastewater is collected for treatment in the scale pit on the west side of the main production plant. The inorganic coagulant KR-B4040 is added by operators at the scale pit inlet. Wastewater that overflows the scale pit is conveyed (via gravity flow) to the WWTP on the north side of the site. Upon arrival at the treatment plant, wastewater first enters the inlet trough where a registered biocide, KR-150L is added. From there it flows to the Detrietor. An overview of the treatment facility and process is shown in Figure 4 below:

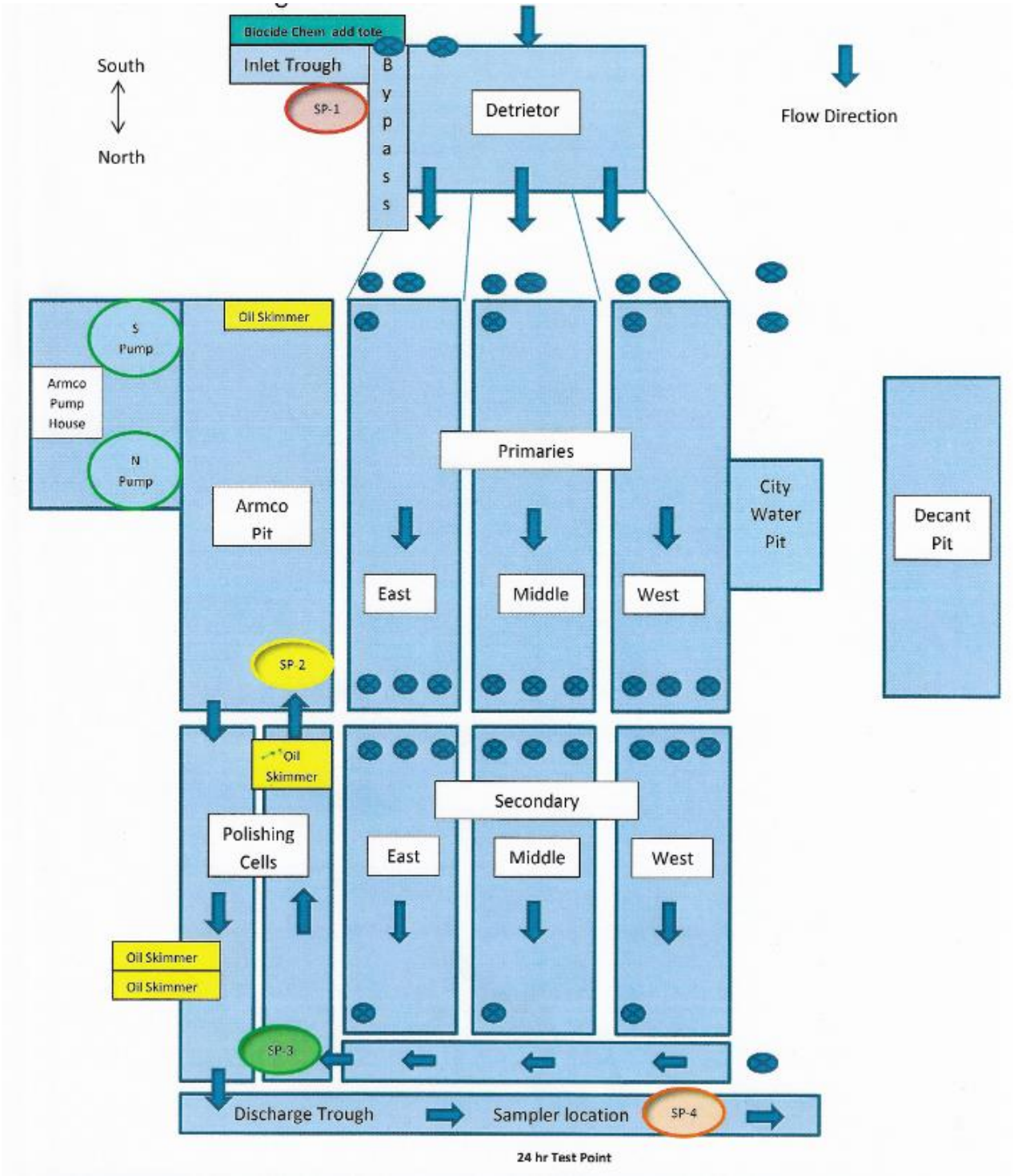


Figure 4: Koppel, Ambridge Wastewater Treatment Plant Process Overview

The Detrietor provides an area for the settling of any heavy mill scale that is entrained in the effluent from the scale pits of the main fabrication plant to the south. Wastewater exits the Detrietor and flows down the flumes into the Primary Settling basins. The function of the Primary Settling basins (primaries) is to provide dwell time to allow settling of suspended solids to the bottom of the primaries which also frees oils, greases and other light contaminants which rise to the surface where a mechanical skimming process removes them. A mechanical flight bar system slowly pushes settled solids at the bottom of the primaries toward a trench in the north end. During operation, this trench is pumped frequently to remove settled solids. The solids and water pumped from the primaries is collected in the Decant pit shown in Figure 4 above.

Wastewater flows from the primaries into the secondary cells which provide additional settling time for solids to precipitate to the bottom of these cells. As additional oil and grease floats to the top, it is mechanically skimmed off. Wastewater leaving the secondary cells enters a collection trough and is conveyed toward the Armco Pit via polishing channels. Pumps on the east side of this pit recycle the majority of this water back for reuse to the freshwater tank in the main steel tube plant. Wastewater that overflows the Armco Pit flows through the polishing tank before entering the discharge trough where it is sampled to confirm compliance with effluent limitations. This sampling point is now established as IMP 101 in this renewal. After this point the plant process effluent is comingled with onsite stormwater from areas in proximity to the WWTP and subsequently added to other stormwater conveyed from the northern side of the steel plant roof and storm water collection system before it is discharged at Outfall 001.

Solids are removed from the various collection points periodically and taken to a covered enclosure to the north of the WWTP. Provision has been made for the drainage from scale to be returned to the Decant pit to the west of the treatment plant. Solids are removed from this enclosure by contractors for offsite disposal.

Table 1 below compares chemical additives documented as being used in the application for the prior permit, currently in force and administratively extended and those documented in the 2014 operation aide entitled, "Ambridge Waste Water Treatment Program."

Table 1: Chemical Additives in Use at Koppel, Ambridge

Prior Chemicals	New Chemical	Purpose	Reason for Change
KR-2197, KR-B4000	KR-B4040	Coagulant, Flocculant	Similar chemical formulation from Kroff Chemical Co.
KR-148L	KR-150L	Biocide	Similar chemical formulation from Kroff Chemical Co.
Unknown	KR-30L	pH Adjustment	Sodium Hydroxide in a formulation from Kroff Chemical Co.

Compliance History	
Summary of DMRs:	**Recent eDMR data show no permit limit exceedances since October 2019. During the dry summer of 2020, after the plant was shut down for several months, the plant reported no discharge at Outfall 001. No discharges are expected now with the plant currently in another shutdown period.**
Summary of Inspections:	**There have been 18 inspections documented at this facility since the technical expiration of their current permit (now administratively extended). The most recent being on March 2, 2021. Only two have resulted in documented violations including in March 2010 and in April 2014. Note that since issuing their wastewater treatment manual in July 2014, there have been no inspection violations noted. A compliance check was performed by Department operations which indicated that all violations have been closed and this permit renewal could be issued.**

Other Comments:

Compliance History

Table 2: DMR Data for Outfall 001 (from May 1, 2020 to April 30, 2021)

Parameter	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20
Flow (MGD) Average Monthly									0.027			
Flow (MGD) Daily Maximum									0.027			
pH (S.U.) Minimum									6.38			
pH (S.U.) Maximum									6.38			
TRC (mg/L) Average Monthly									0.27			
TRC (mg/L) Instantaneous Maximum									0.27			
TSS (lbs/day) Average Monthly									0.069			
TSS (lbs/day) Daily Maximum									0.275			
TSS (mg/L) Average Monthly									1.2			
TSS (mg/L) Daily Maximum									1.2			
Oil and Grease (lbs/day) Daily Maximum									1.44			
Oil and Grease (mg/L) Daily Maximum									6.3			

Development of Effluent Limitations

Outfall No. IMP 101 **Design Flow (MGD)** 0.0130
Latitude 40º 36' 38.34" **Longitude** -80º 13' 50.41"
Wastewater Description: Treated Process Effluent, Contact and Non-Contact Cooling Water

Outfall 001 receives the discharge from the WWTP and stormwater. Since the waste stream that Outfall 001 receives is mixed; an internal monitoring point is being established to monitor the isolated wastewater discharge before it mixes with stormwater. The industrial wastewater discharge from the WWTP will therefore be monitored at IMP 101.

Technology-Based Limitations

Federal Effluent Limitation Guidelines (ELGs)

As noted previously, the site is subject to Federal Effluent Limitation Guidelines (ELGs) under 40 CFR 420.72(d) (Iron and Steel Manufacturing/Hot Forming – Pipe and Tube Mills, Subpart G). This category was established by US EPA for among others, stand-alone pipe and tube mills with a break-out subcategory explicitly for steel pipe and tube facilities like Koppel. Under this ELG the effluent limits are calculated based on the production at the facility. The applicable portion of the Federal statutes to the Koppel facility were established in 1982 and remained unaltered in the 2002 revision.

As noted above, in June 2019, the permittee provided updated production values, covering the last five years. The average annual production over that period was divided by the average number of production days over that same period to calculate the average production rate in lbs/day. This value was then used to calculated mass-based effluent limits from the allowable limits published in 40 CFR 420.72(d). The resultant values are shown in Table 3 below.

Table 3: 40 CFR 420.72(d) Iron and Steel Manufacturing/Hot Forming – Pipe and Tube Mills, Subpart G

Parameter	Limitations in ELGs		Production Rate (lbs/day)	Mass-Based Effluent Limits (lbs/day)	
	Monthly Average	Maximum Daily		Monthly Average	Maximum Daily
Total Suspended Solids	0.0795(1)	0.212(1)	2,527,580	186.48 lbs/day	539.92 lbs/day
Oil & Grease (1)		0.053(1)			134.98 lbs/day
pH	Within the range of 6.0 to 9.0			Within the range of 6.0 to 9.0	

[1]Pounds per 1000 lbs (or g/kg) of product.

The total loading limitations were determined and are displayed below in Table 4. The Department has determined that it is beneficial to include concentration-based limitations to supplement the mass-based limitations at IMP 101. Expression of limitations in terms of both concentration and mass encourages proper operation of a treatment facility at all times. Where limitations are expressed in more than one unit, the permittee must comply with both. The mass-based limitations in the ELG were develop using Production Normalizing Flow and concentrations. The concentrations that were used to develop the mass-based limitations are included in Table 4 below and were taken from the 1982 Iron and Steel Development Document.

Table 4: 40 CFR 420 Subpart G Final Effluent Limitations

Parameter	Mass Based (lbs/day)		Concentration Based (mg/L)	
	Monthly Average	Maximum Daily	Monthly Average	Maximum Daily
Total Suspended Solids	186.48	539.92	15	40
Oil & Grease		134.98		10
pH (S.U.)	Within the range of 6.0 to 9.0			

Regulatory Effluent Standards and Monitoring Requirements

Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1). As oil-bearing wastewaters, discharges from IMP 101 are subject to effluent standards for oil and grease from 25 Pa. Code § 95.2(2). Waste may not contain more than 7 milligrams per liter of dissolved iron per 25 Pa. Code § 95.2(4). Effluent standards for pH are also imposed on industrial wastes by 25 Pa. Code § 95.2(1) as indicated in Table 5.

Table 5: Regulatory Effluent Standards and Monitoring Requirements

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

Total Dissolved Solids (TDS)

Integral to the implementation of 25 Pa. Code § 95.10 is the principle that existing, authorized mass loadings of TDS are exempt from any treatment requirements under these provisions. Existing mass loadings of TDS up to and including the maximum daily discharge loading for any existing discharge, provided that the loading was authorized prior to August 21, 2010 are exempt. Discharge loadings of TDS authorized by the Department are typically exempt from the treatment requirements of Chapter 95.10 until the net TDS loading is increased, an existing discharge proposes a hydraulic expansion or a change in the waste stream. If there are existing mass or production-based TDS effluent limits, then these are used as the basis for the existing mass loading. The Koppel facility is neither new nor expanding its waste loading of TDS, therefore, the facility is exempt from 25 Pa. Code § 95.10 treatment requirements. For future reference, the renewal application received on May 5, 2006 documented a maximum daily TDS concentration of 194 mg/L and a maximum loading of 445.23 lbs/day. It also documented an average TDS concentration of 189.3 mg/L and average loading of 434.52 lbs/day.

Water Quality-Based Limitations

Total Maximum Daily Load (TMDL)

As noted, IMP 101 and subsequently Outfall 001 discharge to a segment of the Ohio River that is covered by a TMDL for PCBs, Chlordane and organics. However, there is no known history or documentation that indicates that Koppel discharges any of these toxins or pathogenic pollutants. Also note that this Ohio River TMDL is applicable only to wastewaters that discharge directly to the main stem of the Ohio River. Therefore, the TMDL only feasibly applies to Outfalls 001 & 002. The TMDL applies only to discharges of PCBs and chlordane to the Ohio River and does not provide wasteload allocations for either. The Ohio River TMDL is unique in that the pollutants of concern have been banned from production and use since 1979. In addition, the TMDL acknowledges that there are no longer any known point sources of either pollutant in the watershed and the TMDL is expected to achieve implementation through “natural attenuation”. Neither chlordane nor PCB’s are used, generated, or stored at Koppel Steel’s Ambridge facility; nor is there any evidence to suggest that PCBs and chlordane were ever used, generated, or stored onsite in the past. Based upon these considerations, the Ohio River TMDL is not applicable to Koppel’s Ambridge Plant’s wastewater discharges.

Toxics Screening Analysis – Procedures for Evaluating Reasonable Potential and Developing WQBELs

Pursuant to consideration of the Water Quality Based Effluent Limitations (WQBELs) at IMP 101, water quality modeling was created following DEP’s procedures for evaluating reasonable potential which are as follows:

1. For IW discharges, the design flow used in the modeling is the average flow during production or operation and may be taken from the permit application.

2. All toxic pollutants with discharge concentrations reported in the permit application or on DMRs, are modeled and compared to the most stringent applicable water quality criterion as potential pollutants of concern. [This includes pollutants reported as "Not Detectable" or as "<MDL" where the method detection limit for the analytical method used by the applicant is greater than the most stringent water quality criterion]. The highest reported concentration is entered into the most recent version of the Department’s Toxics Management Spreadsheet (TMS) analysis (refer to Attachment A).

3. For any outfall with an applicable design flow, perform TMS modeling for all pollutants reported in the discharge. Use the maximum reported value from the application form or from DMRs as the input concentration for the TMS model.

4. Compare the actual WQBEL from TMS with the maximum concentration reported on DMRs or the permit application. Use WQN data or another source to establish the existing or background concentration for naturally occurring pollutants, but generally assume zero background concentration for non-naturally occurring pollutants

- Establish limits in the draft permit where the maximum reported concentration equals or exceeds 50% of the WQBEL. Use the average monthly and maximum daily limits for the permit as recommended by TMS. In some cases, establish an IMAX limit at 2.5 times the average monthly limit.

- For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.

- For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10% - 50% of the WQBEL.

The information described above including the maximum reported discharge concentrations, the most stringent water quality criteria, the pollutant-of-concern (reasonable potential) determinations, the calculated WQBELs, and the WQBEL/monitoring recommendations are displayed in the results presentation from TMS spreadsheet (refer to Attachment A).

Water Quality Modeling Programs

Toxics Management Spreadsheet Version 1.3 is a single discharge, mass-balance water quality modeling program that includes consideration for mixing, first-order decay and other factors to determine recommended WQBELs for toxic substances and several non-toxic substances. Required input data including stream code, river mile index, elevation, drainage area, discharge name, NPDES permit number and discharge flow rate are entered into TMS to establish site-specific discharge conditions. Other data such as low flow yield, reach dimensions and partial mix factors may also be entered to further characterize the conditions of the discharge and receiving water. The modeling approach outlined above is used to determine if any pollutants are present or likely to be present in a discharge at levels that may cause, have the reasonable potential to cause, or contribute to excursions above state water quality standards (i.e., a reasonable potential analysis). Discharge concentrations for the selected pollutants are chosen to represent the "worst case" quality of the discharge (i.e., maximum reported discharge concentrations). TMS evaluates each pollutant by computing a Waste Load Allocation (WLA) for each applicable criterion and associated WQ objective, determining a recommended maximum WQBEL and comparing that recommended WQBEL with the input discharge concentration to determine which is more stringent. Based on this evaluation, TMS recommends average monthly and maximum daily WQBELs.

Reasonable Potential Analysis and WQBEL Development for IMP 101 discharging at Outfall 001

Discharges from Outfall 001 were evaluated based on concentrations reported on the application. The TMS model was run for Outfall 001 using the modeled discharge and receiving stream characteristics shown in Table 9

Table 6: TMS Inputs

Parameter	**Value**
River Mile Index	963.4
Discharge Flow (MGD)	0.40
Basin/Stream Characteristics	
Parameter	**Value**
Area (mi^2)	19600
Q_{7-10} (cfs)	4,730
Low-flow yield (cfs/mi^2)	0.2413
Elevation (ft.)	692
Slope	0.0002

WQBELs are calculated by TMS by allocating the established Water Quality (WQ) criteria for the receiving surface water from 25 PA Code § 93 or ORSANCO criteria, where these are more stringent. The criteria are then converted to a WQ objective. For metals with criteria established for its dissolved form, a translator is used to determine the criteria for the total metal which is then used as the WQ objective.

From this calculated objective for each pollutant concentration the discharge allocation is then reduced by available data of existing pollutant loads in the receiving waters using actual concentration data from instream monitoring. In this case, WQN 902 (located on the Sewickley Bridge) data was downloaded and used to calculate statistical LTAs and coefficients of variation (CVs) (where available) and were entered into the TMS to establish the existing or background concentration for naturally occurring pollutants. In contrast, the assumption of zero background concentration is used for non-naturally occurring pollutants or where background data is insufficient to determine the background concentration.

The TMS model calculates and applies partial mixing factors for CFC, THH and CRL. The most limiting criteria is selected and finally WLAs are calculated for the IW discharger and compared to its reported discharge concentrations.

The TMS' recommended effluent limits and/or reporting requirements for the parameters are shown in Table 10. For some parameters, only monitoring is required as the results did not exceed the most stringent WQBEL value, but the reported results were too high to rule out the possibility that discharges will result in excursions above Pennsylvania's water quality standards.

Also included in Table 10 for reference are the target Quantitation Limits (QLs) specified in DEP's most recent *Application for Permit to Discharge Industrial Wastewater*. The target QLs are the means by which DEP is implementing EPA's September 18, 2014 revisions to 40 CFR Parts 122 and 136 requiring applicants and permittees to use "sufficiently sensitive" EPA-approved analytical methods that are capable of detecting and measuring the pollutants at, or below, the applicable water quality criteria or permit limits.

Table 8. IMP 101 WQBELs and Monitoring Requirements (with Most Stringent Criteria and Target QLs)

Parameter	Concentration (µg/L)		Governing WQBEL (µg/L)	Target QL (µg/L)
	Monthly Avg	Maximum Daily		
Mercury, Total	***0.012***	***0.019***	***0.012***	***0.2***
Thallium, Total	*Report*	*Report*	*824*	*2.0*
Benzo(a)Anthracene	*12.0*	*18.7*	*12.0*	*2.5*
Benzo(a)Pyrene	***1.2***	***1.87***	***1.2***	***2.5***
3,4-Benzofluoranthene	*12.0*	*18.7*	*12.0*	*2.5*
Dibenzo(a,h)Anthracene	***1.2***	***1.87***	***1.2***	***2.5***
Hexachlorobenzene	***0.00008***	***0.0001***	***0.00008***	***5.0***
Hexachlorobutadiene	***0.01***	***0.016***	***0.01***	***0.5***
Indeno(1,2,3-cd)Pyrene	*12.0*	*18.7*	*12.0*	*2.5*
n-Nitrosodimethylamine	*8.26*	*12.9*	*8.26*	*5.0*

In Table 8 above, the modeling recommended WQBELs or monitoring are displayed; however, the application reported that **all** of these pollutants were not detected. Therefore, inclusion in Table 8 above is because their lab MDL did not meet the Department's target QL, therefore these pollutants were selected by TMS modeling to implement an effluent limit or monitoring. To indicate this, this information is shown in italics in Table 8. In addition, for those pollutants that the governing WQBEL is itself below the Department's target QL, the enforcement of this WQBEL would typically be to confirm that it is not detected. This is signified in the table using **bold** type. In either case, the permittee was given the option to resample with analysis provided that meets the Department's target QLs and submit this information for reconsideration of inclusion of these pollutants. As the plant was temporarily shut down, this renewal was held.

On September 30, 2021, the Department was informally notified that the Ambridge plant has resumed operations. A letter from the permittee confirming that operations restarted at the Ambridge plant in August 2021 was received on October 12, 2021. On October 21, 2021, a Pre-Draft survey was issued in order to determine if the permittee believes current controls are sufficient to meet these new limits. (This Department letter is included as Attachment C.)

The initial Koppel response was received via email on November 17, 2021 and is included as Attachment D. In this letter, all of the parameters shown in Table 8 above were not detected and, for most, the lab MDL met the Department's target QL. The exception was for Hexachlorobutadiene. In this case the MDL of 0.625 µg/L was above the Department's target QL of 0.5 µg/L and the MDL value is itself more than 50% of the WQBEL of 0.01 µg/L. The permittee's representative was appraised of this fact. In response, Koppel supplied an updated set of analyses in their letter, dated November 19, 2021. This letter is included as Attachment E. The latest updated model run of TMS is included as Attachment F.

WQM 7.0 Model

The computer model WQM 7.0 is run to determine wasteload allocations and effluent limitations for $CBOD_5$, NH_3-N and Dissolved Oxygen for single and multiple point source discharge scenarios. In general, WQM 7.0 is run if the maximum BOD_5/$CBOD_5$ concentrations exceeds 30/25 mg/L respectively in the permit application or the DMRs. The permit application reports a peak BOD concentration of 12 mg/L, but a peak COD concentration of 51 mg/L. However, on balance, this industrial discharger does not approach the criteria requiring the use of the WQM 7.0 Model. Never-the-less, episodic peaks in chemical oxygen demand is of concern.

Total Residual Chlorine (TRC)

The average monthly limit of 0.5 mg/L from 25 Pa. Code § 92a.48(b)(2) was applied in the prior permit. This statute also applies a Daily Maximum value of 1.0 mg/L which will also be imposed, rather than as an instantaneous maximum. Since any effluent containing chlorine would be released at IMP 101, monitoring will also be imposed there. Although the Department has a spreadsheet to evaluate TRC discharge limits, with the receiving surface water for Outfall 001 being the Ohio River further modeling was deemed unnecessary.

Although this facility does use public drinking water as a supply source, it enters their process far distant from the WWTP. Further, the degree of process recycle ensures that little if any of this water could be discharged. Neither the plant processes nor the WWTP process use chlorination for treatment. In addition, TRC monitored in the prior permit, was not detected in excess of the established limits in the discharge samples, therefore, no new TRC limits are proposed. Note that the existing limits will essentially be maintained.

Thermal WQBELs for Heated Discharges (Non-Contact Cooling Water)

As with TRC above, the Department has a spreadsheet to evaluate thermal discharge limits; however, also as with TRC, since Outfall 001 discharges to the Ohio River, modeling was deemed unnecessary The temperature criteria from 25 Pa. Code Chapter 93.7(a) are bounded by an upper limit of 110°F for the safety of sampling personnel (non-scalding) and anyone who may come into contact with the heated discharge where it enters the receiving water. If no WLAs below 110°F are calculated, an instantaneous maximum limit of 110°F is recommended. However, since any discharge at IMP 101 must first make its way through the WWTP and be held for a significant amount of time in this open-air facility, this limitation was also considered unnecessary and will continue to not be applied at IMP 101.

Anti-Backsliding

Section 402(o) of the Clean Water Act (CWA), enacted in the Water Quality Act of 1987, establishes anti-backsliding rules governing two situations. The first situation occurs when a permittee seeks to revise a Technology-Based effluent limitation based on BPJ to reflect a subsequently promulgated effluent guideline which is less stringent. The second situation addressed by Section 402(o) arises when a permittee seeks relaxation of an effluent limitation which is based upon a State treatment or water quality standard.

Previous limits can be used pursuant to EPA's anti-backsliding regulation 40 CFR § 122.44 (l) Reissued permits.
(1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued. Interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under §122.62).

(2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

Since the facility is not seeking to revise the previously permitted effluent limits, these can be applied. The prior limits are included in Table 9 below.

Table 9: Prior NPDES Permit Effluent Limits at Outfall 001

Parameter	Monthly Avg.	Daily Max	IMAX	Units
Flow	Monitor/Report		----	MGD
TSS	15.0	40.0	----	mg/L
pH	6.0 – 9.0 at all times			S.U.
Oil and Grease	----	10.0	----	mg/L
TRC	0.5	----	1.0	mg/L

Effluent Limitations and Monitoring Requirements for IMP 101 when Operating

The overarching strategy for implementation of effluent limits is to impose promulgated ELGs at IMP 101 which have historically been sufficient to protect the water quality in the receiving Ohio River. Monitoring might have also been required of the pollutants of concern identified as having a reasonable potential to exceed Water Quality Standards (WQS), even if the analytical basis is only that the dated application information analyses MDL did not meet the Department's Target QLs. However, in their November 19, 2021 update letter, Koppel Steel supplied updated, limited sampling which did meet the

Department's target QLs and supported an updated analysis which resulted in the elimination of all of the WQBELs. This updated TMS result is included as Attachment F.

In summary, the more stringent of ELGs, TBELs, WQBELs, regulatory effluent standards, and monitoring requirements as summarized in Table 10 below. The applicable limits and monitoring requirements provided below are based on those listed in Tables 4, 5, and 9 of this Fact Sheet. Note again, that all of the WQBELs listed in Table 8 have subsequently been superseded by the later analysis in Attachment F. In a few cases, the Instantaneous Maximum (IMAX) values have been converted to Daily Maximum values to be consisted with current practice and guidance.

Table 10. Effluent Limits and Monitoring Requirements for IMP 101

Parameter	Mass (pounds)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	Report	Report	—	—	—	25 Pa. Code § 92a.61(d)(1)
Total Residual Chlorine (TRC)	—	—	0.5	1.0	—	25 Pa. Code § 92a.48(b)
Total Suspended Solids	186.48	539.92	15.0	40.0	—	40 CFR 420
Oil and Grease	—	134.98	—	10.0	—	40 CFR 420
pH (S.U.)	Within the range of 6.0 to 9.0					25 Pa. Code § 95.2; 40 CFR 420

Note that, in the end, there is neither an increase in the number of pollutants being monitored in Table 10 nor any new, more stringent effluent limitations included as compared with the effluent limits in Koppel's previous permit, shown in Table 9. Monitoring requirements are based on the previous permit's monitoring requirements for the facility at Outfall 001 and are displayed in Table 11 below.

Table 11. Monitoring Requirements for IMP 101

Parameter	Sample Type	Minimum Sample Frequency
Flow (MGD)	Measured/Recorded	Continuous
TRC	Grab	1/week
Total Suspended Solids	24-Hour Composite	1/week
Oil and Grease	Grab	1/week
pH (S.U.)	Grab	1/week

Effluent Limitation Compliance Schedule

Whenever the Department proposes the imposition of water quality based effluent limitations on existing sources, the NPDES permit may include a schedule of compliance to achieve the WQBELs. Any compliance schedule contained in an NPDES permit must be an "enforceable sequence of actions or operations leading to compliance with the water quality-based effluent limitations ("WQBELs"). In accordance with 40 CFR § 122.47(a)(3) and PA Code, Chapter 92a.51, compliance schedules that are longer than one year in duration must set forth interim requirements and dates for their achievement. In order to grant a compliance schedule in an NPDES permit, the permitting authority has to make a reasonable finding, adequately supported by the administrative record and described in the fact sheet, that a compliance schedule is "appropriate" and that compliance with the final WQBEL is required "as soon as possible".

In this case, with the elimination of all WQBELs from the updated analysis as shown in Attachment F, there remains no need for a compliance schedule. Therefore, the effluent limitations and monitoring will become final on the renewed permit's effective date. Final limits and monitoring will be in line with those shown in Tables 10 and 11.

Development of Effluent Limitations

Outfall No.	001	**Design Flow (MGD)**	0
Latitude	40º 36' 36."	**Longitude**	-80º 13' 57"

Wastewater Description: Stormwater associated with industrial activity

Storm Water Outfalls

One of the challenges of this older industrial site is the uncertainty of the sources and quality of what is believed to be site stormwater runoff. In addition, cross-site conveyance of offsite stormwater (or even streamflow) occurs, to varying degrees, at all three Outfalls. Also, various drainage feed and onsite areas have had prior industrial uses, now discontinued, but with unknown residual consequence.

The Department's policy for stormwater discharges is to either (1) require that the stormwater be uncontaminated, (2) impose "Monitor and Report", to establish effluent goals and require the permittee to submit a Stormwater Pollution Prevention Plan (SWPPP), or (3) impose effluent limits. In all cases, a storm water special condition is placed in the permit in Part C.

If stormwater effluent data is reported in the application, it can be compared to stream criteria, EPA's Multi-Sector General Permit (MSGP) "benchmark values" (excerpt in Attachment B), ELGs and other references while considering site specific conditions such as stream flow and location to determine if actual discharge concentrations of various pollutants in stormwater warrant further controls. If there is insufficient data available, or if pollutant levels are excessive, monitoring for specific pollutants and/or a SWPPP are required in the permit. In the case of the stormwater outfalls for the Koppel's Ambridge site, stormwater data was contained in the applicant's original renewal application submittal from May 2005; and subsequently; however, it was thought that no stormwater was being discharged at Outfall 001. This is now believed to be in error.

Consistent with 25 Pa. Code § 92a.61(h) and DEP's policy for permitting storm water discharges associated with industrial activities, minimum standards described in DEP's PAG-03 General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity will be applied to Koppel's Ambridge site's storm water discharges. Based on Koppel's submittal, its SIC Code is 3317, therefore this facility could be classified under Appendix B – Primary Metals Facilities of the PAG-03 General Permit. Therefore, for the permit term, Appendix B requirements may be applied to this Outfall, as shown in Table 12.

Table 12. PAG-03 Appendix B – Minimum Monitoring Requirements

Discharge Parameter	Units	Sample Type	Appendix B Measurement Frequency	Appendix B Benchmark Values (mg/L)
Total Suspended Solids	mg/L	1 Grab	1/6 months	100
Aluminum, Total	mg/L	1 Grab	1/6 months	-
Zinc, Total	mg/L	1 Grab	1/6 months	-
Copper, Total	mg/L	1 Grab	1/6 months	-
Iron, Total	mg/L	1 Grab	1/6 months	-
Lead, Total	mg/L	1 Grab	1/6 months	-

To the extent that effluent limits would be necessary to ensure that storm water BMPs are adequately implemented, DEP's Permit Writers' Manual recommends that effluent limits be developed for industrial storm water discharges based on a determination of Best Available Technology (BAT) using Best Professional Judgment (BPJ). However, pollutant concentrations were not reported for Outfall 001 stormwater discharges to support BPJ. Since, it does not seem reasonable to presume that Koppel site stormwater runoff is uncontaminated, monitoring will be established applying the General Permit benchmarks. Since it also does not seem reasonable to impose monitoring of stormwater being conveyed from offsite sources, beyond Koppel's control, Koppel will need to determine a way to capture appropriate onsite runoff for monitoring at or approaching Outfall 001. This will be required regardless of the operational status of the manufacturing onsite.

It may be instructive to add that benchmarks are not effluent limitations and an exceedance of a benchmark does not constitute a permit violation. Rather it is an indication that BMPs and the SWPPP should be reviewed to determine what adjustments may be required to avoid continuing exceedances. However repetitive exceedances may require the establishment of effluent limitations in a future permit renewal or amendment.

Development of Effluent Limitations

Outfall No.	002	**Design Flow (MGD)**	0
Latitude	40º 36' 26"	**Longitude**	-80º 13' 57"

Wastewater Description: Stormwater associated with industrial activity

Storm Water Outfalls

As noted, one of the challenges of this older industrial site is the uncertainty of the sources and quality of what is believed to be site stormwater runoff. In addition, cross-site conveyance of offsite stormwater (or even streamflow) occurs, to varying degrees, at all three Outfalls. Also, various drainage feed and onsite areas have had prior industrial uses, now discontinued, but with unknown residual consequence.

The Department's policy for stormwater discharges is to either (1) require that the stormwater be uncontaminated, (2) impose "Monitor and Report", to establish effluent goals and require the permittee to submit a Stormwater Pollution Prevention Plan (SWPPP), or (3) impose effluent limits. In all cases, a storm water special condition is placed in the permit in Part C.

If stormwater effluent data is reported in the application, it can be compared to stream criteria, EPA's Multi-Sector General Permit (MSGP) "benchmark values" (excerpt in Attachment B), ELGs and other references while considering site specific conditions such as stream flow and location to determine if actual discharge concentrations of various pollutants in stormwater warrant further controls. If there is insufficient data available, or if pollutant levels are excessive, monitoring for specific pollutants and/or a SWPPP are required in the permit. In the case of the stormwater outfalls for the Koppel's Ambridge site, stormwater data was contained in the applicant's original renewal application submittal from May 2005, and subsequently.

Consistent with 25 Pa. Code § 92a.61(h) and DEP's policy for permitting storm water discharges associated with industrial activities, minimum standards described in DEP's PAG-03 General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity will be applied to Koppel's Ambridge site's storm water discharges. Based on Koppel's submittal, its SIC Code is 3317, therefore this facility could be classified under Appendix B – Primary Metals Facilities of the PAG-03 General Permit. Therefore, for the permit term, Appendix B requirements may be applied to this Outfall, as shown in Table 12 above.

To the extent that effluent limits would be necessary to ensure that storm water BMPs are adequately implemented, DEP's Permit Writers' Manual recommends that effluent limits be developed for industrial storm water discharges based on a determination of Best Available Technology (BAT) using Best Professional Judgment (BPJ). However, pollutant concentrations reported for Outfall 002 discharges (see Table 13) were not initially significant enough to impose effluent limits based on reasonable thresholds for identifying parameters of concern in storm water.

Table 13. Analytical Results Reported for Storm Water at Koppel's Ambridge Site – Outfall 002

Parameter	Conc. Reported on 2005 Application (mg/L)	Parameter	Conc. Reported on 2005 Application (mg/L)
Total Suspended Solids	2780	pH (S.U.)	8.2
Oil and Grease	19	Nitrate+Nitrite Nitrogen	2.08
BOD_5	16	Phosphorus	1.04
COD	635	Total Kjeldahl Nitrogen	3.57
Arsenic	<0.1	Mercury	0.0003
Cadmium	0.009	Nickel	0.22
Chromium	0.99	Lead	0.13
Iron	132	Zinc	0.92

Subsequent to Koppel's renewal submittal, several sets of stormwater data were submitted to the Department for review. An example is a set of data from Koppel's letter, dated February 3, 2006 which transmitted samples collected on January 11, 2006 and is shown in Table 14 below:

Table 14. Analytical Results Reported for Storm Water at Koppel's Ambridge Site – Outfall 002

Parameter	Conc. Reported on 2006 Sample (mg/L)	Parameter	Conc. Reported on 2006 Sample (mg/L)
Total Suspended Solids	113	pH (S.U.)	5.8
Oil and Grease	< 5	Nitrate+Nitrite Nitrogen	1.96
BOD_5	4	Phosphorus	0.12
COD	21	Total Kjeldahl Nitrogen	1.62
Arsenic	< 0.1	Mercury	<0.0002
Cadmium	0.007	Nickel	0.08
Chromium	0.22	Lead	<0.1
Iron	46.2	Zinc	2.86

What is clear from these data sets is that the concentration of pollutants in the stormwater discharges varies widely. It is believed that the application of Best Management Practices (BMPs) should be effective in reducing these levels in the discharged stormwater. However, given this level of variability, monitoring will be increased to quarterly from the semi-annual monitoring under the General Permit. The permittee will need to add or adjust the BMPs being applied to effectively reduce discharged pollutants.

Water Quality-Based Effluent Limitations (WQBELs)

No mathematical modeling was performed for toxic pollutants at Outfalls 002. Storm water is only discharged intermittently and generally not at times when the receiving stream is flowing at the Q_{7-10} design flow conditions modeled.

Monitoring Requirements for Outfall 002

Submitted stormwater data from this outfall indicate that pollutants of concern may be present, and monitoring will be required. TBELs from Table 5 above are being imposed as effluent limits, along with other parameters, based on the applicable General Permit Appendix (B) from Table 12 above, established to monitor the effectiveness of the control measures implemented. In addition, based on the submitted data, selected other pollutants will be monitored. These are shown in Table 15 below:

Table 15: Permit Effluent Limits and Monitoring Requirements for Outfall 002

Parameter	Mass (pounds)		Concentration (mg/L)			Monitoring Requirements
	Average Monthly	Daily Maximum	Average Quarterly	Daily Maximum	Instant Maximum	
Total Suspended Solids	—	—	30.0	100.0	—	Grab sample; quarterly
Oil and Grease	—	—	15.0	30.0	—	Grab sample; quarterly
Iron (total)	—	—	Report	7.0	—	Grab sample; quarterly
Aluminum (total)	—	—	Report	Report	—	Grab sample; quarterly
Copper (total)	—	—	Report	Report	—	Grab sample; quarterly
Lead (total)	—	—	Report	Report	—	Grab sample; quarterly
Zinc (total)	—	—	Report	Report	—	Grab sample; quarterly
COD	—	—	Report	Report	—	Grab sample; quarterly
pH (S.U.)	Between 6.0 and 9.0 at all times					Grab sample; quarterly

Effluent Limitation Compliance Schedule

Whenever the Department proposes the imposition of WQBELs on existing sources, the NPDES permit may include a schedule of compliance to achieve the WQBELs. However, for Outfall 002, effluent limits are imposed based on TBELs. Therefore, no compliance schedule can be implemented.

Anti-Backsliding:

Anti-backsliding does not apply.

Development of Effluent Limitations

Outfall No.	003	**Design Flow (MGD)**	0
Latitude	40º 36' 9"	**Longitude**	-80º 13' 57"

Wastewater Description: Stormwater associated with industrial activity

Storm Water Outfalls

As noted, one of the challenges of this older industrial site is the uncertainty of the sources and quality of what is believed to be site stormwater runoff. In addition, cross-site conveyance of offsite stormwater (or even streamflow) occurs, to varying degrees, at all three Outfalls. Also, various drainage feed and onsite areas have had prior industrial uses, now discontinued, but with unknown residual consequences.

The Department's policy for stormwater discharges is to either (1) require that the stormwater be uncontaminated, (2) impose "Monitor and Report", to establish effluent goals and require the permittee to submit a Stormwater Pollution Prevention Plan (SWPPP), or (3) impose effluent limits. In all cases, a storm water special condition is placed in the permit in Part C.

If stormwater effluent data is reported in the application, it can be compared to stream criteria, EPA's Multi-Sector General Permit (MSGP) "benchmark values" (excerpt in Attachment B), ELGs and other references while considering site specific conditions such as stream flow and location to determine if actual discharge concentrations of various pollutants in stormwater warrant further controls. If there is insufficient data available, or if pollutant levels are excessive, monitoring for specific pollutants and/or a SWPPP are required in the permit. In the case of the stormwater outfalls for the Koppel's Ambridge site, stormwater data was contained in the applicant's original renewal application submittal from May 2005, and subsequently.

Consistent with 25 Pa. Code § 92a.61(h) and DEP's policy for permitting storm water discharges associated with industrial activities, minimum standards described in DEP's PAG-03 General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity will be applied to Koppel's Ambridge site's storm water discharges. Based on Koppel's submittal, its SIC Code is 3317, therefore this facility could be classified under Appendix B – Primary Metals Facilities of the PAG-03 General Permit. Therefore, for the permit term, Appendix B requirements may be applied to this Outfall, as shown in Table 12 above.

To the extent that effluent limits would be necessary to ensure that storm water BMPs are adequately implemented, DEP's Permit Writers' Manual recommends that effluent limits be developed for industrial storm water discharges based on a determination of Best Available Technology (BAT) using Best Professional Judgment (BPJ). However, pollutant concentrations reported for Outfall 002 discharges (see Table 16) were not initially significant enough to impose effluent limits based on reasonable thresholds for identifying parameters of concern in storm water.

Table 16. Analytical Results Reported for Storm Water at Koppel's Ambridge Site – Outfall 003

Parameter	Conc. Reported on 2006 Application (mg/L)	Parameter	Conc. Reported on 2005 Application (mg/L)
Total Suspended Solids	22	pH (S.U.)	6.8
Oil and Grease	< 5	Nitrate+Nitrite Nitrogen	0.58
BOD_5	6	Phosphorus	0.02
COD	17	Total Kjeldahl Nitrogen	0.68
Arsenic	<0.1	Mercury	0.0021
Cadmium	< 0.005	Nickel	< 0.01
Chromium	< 0.01	Lead	< 0.1
Iron	1.64	Zinc	0.26

Subsequent to Koppel's renewal submittal, several sets of stormwater data were submitted to the Department for review. An example is a set of data from Koppel's letter, dated February 3, 2006 which transmitted samples collected on January 11, 2006 and is shown in Table 17 below:

Table 17. Analytical Results Reported for Storm Water at Koppel's Ambridge Site – Outfall 003

Parameter	Conc. Reported on 2006 Sample (mg/L)	Parameter	Conc. Reported on 2006 Sample (mg/L)
Total Suspended Solids	326	pH (S.U.)	7.1
Oil and Grease	6	Nitrate+Nitrite Nitrogen	2.74
BOD_5	4	Total Phosphorus	0.27
COD	79	Total Kjeldahl Nitrogen	2.48
Arsenic	< 0.1	Mercury	<0.0002
Cadmium	0.011	Nickel	0.02
Chromium	0.04	Lead	<0.1
Iron	7.78	Zinc	0.46

What is clear from these data sets is that the concentration of pollutants in the stormwater discharges varies widely. It is believed that the application of Best Management Practices (BMPs) should be effective in reducing these levels in the discharged stormwater. However, given this level of variability, monitoring will be increased to quarterly from the semi-annual monitoring under the General Permit. The permittee will need to add or adjust the BMPs being applied to effectively reduce discharged pollutants.

Water Quality-Based Effluent Limitations (WQBELs)

No mathematical modeling was performed for toxic pollutants at Outfalls 003. Storm water is only discharged intermittently and generally not at times when the receiving stream is flowing at the Q_{7-10} design flow conditions modeled.

Monitoring Requirements for Outfall 003

Submitted stormwater data from this outfall indicate that pollutants of concern may be present and monitoring will be required. TBELs from Table 5 above are being imposed as effluent limits, along with other parameters, based on the applicable General Permit Appendix (B) from Table 12 above, established to monitor the effectiveness of the control measures implemented. In addition, based on the submitted data, selected other pollutants will be monitored. These are shown in Table 18 below:

Table 18: Permit Effluent Limits and Monitoring Requirements for Outfall 003

Parameter	Mass (pounds)		Concentration (mg/L)			Monitoring Requirements
	Average Monthly	Daily Maximum	Average Quarterly	Daily Maximum	Instant Maximum	
Total Suspended Solids	—	—	30.0	100.0	—	Grab sample; quarterly
Oil and Grease	—	—	15.0	30.0	—	Grab sample; quarterly
Iron (total)	—	—	Report	7.0	—	Grab sample; quarterly
Aluminum (total)	—	—	Report	Report	—	Grab sample; quarterly
Copper (total)	—	—	Report	Report	—	Grab sample; quarterly
Lead (total)	—	—	Report	Report	—	Grab sample; quarterly
Zinc (total)	—	—	Report	Report	—	Grab sample; quarterly
COD	—	—	Report	Report	—	Grab sample; quarterly
pH (S.U.)	Between 6.0 and 9.0 at all times					Grab sample; quarterly

Effluent Limitation Compliance Schedule

Whenever the Department proposes the imposition of WQBELs on existing sources, the NPDES permit may include a schedule of compliance to achieve the WQBELs. However, for Outfall 002, effluent limits are imposed based on TBELs. Therefore, no compliance schedule can be implemented.

Anti-Backsliding:

Anti-backsliding does not apply.

Tools and References Used to Develop Permit	
☐	WQM for Windows Model
☒	Toxics Management Spreadsheet (see Attachment A)
☐	TRC Model Spreadsheet
☐	Temperature Model Spreadsheet
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☒	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: SOP for Clean Water Program, Establishing Effluent Limitations for Individual Industrial Permits, SOP No. BCW-PMT-032, Version 1.5. (Rev. 1/10/2019).
☐	Other:

Attachments

Attachment A: Toxics Management Spreadsheet (TMS) Inputs and Results for IMP 101

Attachment B: EPA 2021 Multi-Sector General Permit Benchmark Values

Attachment C: NPDES Pre-Draft Permit Survey for Toxic Pollutants and Letter

Attachment D: Tenaris Letter, Dated November 17, 2021, “Pre-Draft Survey NPDES Permit

Attachment E: Tenaris Letter, Dated November 19, 2021, “Pre-Draft Survey NPDES Permit (Rev.)

Attachment F: Revised TMS Inputs and Results for IMP 101

ATTACHMENT A:

Toxics Screening Analysis Inputs and Results for IMP 101, for Discharge at Outfall 001

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Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

IPSCO Koppel Tubulars (Tenaris), NPDES Permit No. PA0006335, Outfall 001

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

☑ ***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 Mercury	0.00004	0.00006	0.012	0.019	0.03	µg/L	0.012	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Thallium	Report	Report	Report	Report	Report	µg/L	824	THH	Discharge Conc > 10% WQBEL (no RP)
Benzo(a)Anthracene	0.04	0.062	12.0	18.7	29.9	µg/L	12.0	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Benzo(a)Pyrene	0.004	0.006	1.2	1.87	2.99	µg/L	1.2	CRL	Discharge Conc ≥ 50% WQBEL (RP)
3,4-Benzofluoranthene	0.04	0.062	12.0	18.7	29.9	µg/L	12.0	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Dibenzo(a,h)Anthrancene	0.004	0.006	1.2	1.87	2.99	µg/L	1.2	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Hexachlorobenzene	2.67E-07	4.16E-07	0.00008	0.0001	0.0002	µg/L	0.00008	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Hexachlorobutadiene	0.00003	0.00005	0.01	0.016	0.025	µg/L	0.01	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Indeno(1,2,3-cd)Pyrene	0.04	0.062	12.0	18.7	29.9	µg/L	12.0	CRL	Discharge Conc ≥ 50% WQBEL (RP)
n-Nitrosodimethylamine	0.028	0.043	8.26	12.9	20.7	µg/L	8.26	CRL	Discharge Conc ≥ 50% WQBEL (RP)

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☑ ***Hydrodynamics***

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

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
963.4	4,730		4,730	0.619	0.0002	25.	2150.	86.	0.088	6.527	3569.947
954	5,880	4.641	5875.359								

Q_h

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
963.4	12100.89		12100.89	0.619	0.0002	37.794	2150.	56.887	0.149	3.857	1920.891
954	14636.074	4.641	14631.43								

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Toxics Management Spreadsheet
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Stream / Surface Water Information

IPSCO Koppel Tubulars (Tenaris), NPDES Permit No. PA0006335, Outfall 001

Instructions | Discharge | *Stream*

CLEAR FORM | CALCULATE

Receiving Surface Water Name: **Ohio 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	032317	963.4	692	19600			Yes
End of Reach 1	032317	954	682	19610		3	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	963.4	0.1	4730			2150	25					100.465	7.5		
End of Reach 1	954	0.1	5880			2150	25					100.46	7.5		

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	963.4														
End of Reach 1	954														

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☑ *Wasteload Allocations*

☑ *AFC* CCT (min): 15 PMF: 0.065 Analysis Hardness (mg/l): 100.41 Analysis pH: 7.50

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	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	398.5	1.1993		0	750	750	174,911	
Total Antimony	0	0		0	1,100	1,100	546,127	
Total Arsenic	0	0		0	340	340	168,803	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	10,426,067	
Total Boron	0	0		0	8,100	8,100	4,021,483	
Total Cadmium	0	0		0	2.022	2.14	1.063	Chem Translator of 0.944 applied
Total Chromium (III)	0	0		0	571.665	1,809	898,164	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	8,089	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	47,166	
Total Copper	0	0		0	13.491	14.1	6,977	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	10,923	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	1280.8	1.3907		0	N/A	N/A	N/A	
Total Lead	0	0		0	64.868	82.1	40,746	Chem Translator of 0.79 applied
Total Manganese	179.5	0.8644		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	818	Chem Translator of 0.85 applied
Total Nickel	0	0		0	469.850	471	233,738	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	3.239	3.81	1,892	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	32,271	
Total Zinc	0	0		0	117.585	120	59,692	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	1,489	
Acrylonitrile	0	0		0	650	650	322,712	
Benzene	0	0		0	640	640	317,747	
Bromoform	0	0		0	1,800	1,800	893,663	
Carbon Tetrachloride	0	0		0	2,800	2,800	1,390,142	
Chlorobenzene	0	0		0	1,200	1,200	595,775	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	8,936,629	
Chloroform	0	0		0	1,900	1,900	943,311	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	7,447,191	
1,1-Dichloroethylene	0	0		0	7,500	7,500	3,723,595	
1,2-Dichloropropane	0	0		0	11,000	11,000	5,461,273	
1,3-Dichloropropylene	0	0		0	310	310	153,909	
Ethylbenzene	0	0		0	2,900	2,900	1,439,790	
Methyl Bromide	0	0		0	550	550	273,064	
Methyl Chloride	0	0		0	28,000	28,000	13,901,423	
Methylene Chloride	0	0		0	12,000	12,000	5,957,753	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	496,479	
Tetrachloroethylene	0	0		0	700	700	347,536	
Toluene	0	0		0	1,700	1,700	844,015	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	3,376,060	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	1,489,438	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	1,688,030	
Trichloroethylene	0	0		0	2,300	2,300	1,141,903	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	278,028	
2,4-Dichlorophenol	0	0		0	1,700	1,700	844,015	
2,4-Dimethylphenol	0	0		0	660	660	327,676	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	39,718	
2,4-Dinitrophenol	0	0		0	660	660	327,676	
2-Nitrophenol	0	0		0	8,000	8,000	3,971,835	
4-Nitrophenol	0	0		0	2,300	2,300	1,141,903	
p-Chloro-m-Cresol	0	0		0	160	160	79,437	
Pentachlorophenol	0	0		0	14.368	14.4	7,133	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	228,381	
Acenaphthene	0	0		0	83	83.0	41,208	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	148,944	
Benzo(a)Anthracene	0	0		0	0.5	0.5	248	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	30,000	30,000	14,894,381	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	2,234,157	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	134,049	
Butyl Benzyl Phthalate	0	0		0	140	140	69,507	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	820	820	407,113	
1,3-Dichlorobenzene	0	0		0	350	350	173,768	
1,4-Dichlorobenzene	0	0		0	730	730	362,430	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	1,985,918	
Dimethyl Phthalate	0	0		0	2,500	2,500	1,241,198	
Di-n-Butyl Phthalate	0	0		0	110	110	54,613	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	794,367	
2,6-Dinitrotoluene	0	0		0	990	990	491,515	
1,2-Diphenylhydrazine	0	0		0	15	15.0	7,447	
Fluoranthene	0	0		0	200	200	99,296	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	10	10.0	4,965	
Hexachlorocyclopentadiene	0	0		0	5	5.0	2,482	
Hexachloroethane	0	0		0	60	60.0	29,789	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	4,964,794	
Naphthalene	0	0		0	140	140	69,507	
Nitrobenzene	0	0		0	4,000	4,000	1,985,918	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	8,440,149	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	148,944	
Phenanthrene	0	0		0	5	5.0	2,482	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	64,542	

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Model Results

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

☑ CFC CCT (min): 720 PMF: 0.449 Analysis Hardness (mg/l): 100.46 Analysis pH: 7.50

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	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	398.5	1.1993		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	755,432	
Total Arsenic	0	0		0	150	150	515,067	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	14,078,505	
Total Boron	0	0		0	1,600	1,600	5,494,051	
Total Cadmium	0	0		0	0.247	0.27	932	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	74.392	86.5	297,029	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	35,694	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	65,242	
Total Copper	0	0		0	8.991	9.37	32,158	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	17,856	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	1280.8	1.3907		0	1,500	1,500	1,677,027	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.529	3.2	10,988	Chem Translator of 0.79 applied
Total Manganese	179.5	0.8644		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	3,111	Chem Translator of 0.85 applied
Total Nickel	0	0		0	52.207	52.4	179,808	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	17,132	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	44,639	
Total Zinc	0	0		0	118.596	120	413,015	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	10,301	
Acrylonitrile	0	0		0	130	130	446,392	
Benzene	0	0		0	130	130	446,392	
Bromoform	0	0		0	370	370	1,270,499	
Carbon Tetrachloride	0	0		0	560	560	1,922,918	
Chlorobenzene	0	0		0	240	240	824,108	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	12,018,236	
Chloroform	0	0		0	390	390	1,339,175	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	10,644,724	
1,1-Dichloroethylene	0	0		0	1,500	1,500	5,150,673	
1,2-Dichloropropane	0	0		0	2,200	2,200	7,554,320	
1,3-Dichloropropylene	0	0		0	61	61.0	209,461	
Ethylbenzene	0	0		0	580	580	1,991,593	
Methyl Bromide	0	0		0	110	110	377,716	
Methyl Chloride	0	0		0	5,500	5,500	18,885,800	
Methylene Chloride	0	0		0	2,400	2,400	8,241,076	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	721,094	
Tetrachloroethylene	0	0		0	140	140	480,729	
Toluene	0	0		0	330	330	1,133,148	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	4,807,295	
1,1,1-Trichloroethane	0	0		0	610	610	2,094,607	
1,1,2-Trichloroethane	0	0		0	680	680	2,334,972	
Trichloroethylene	0	0		0	450	450	1,545,202	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	377,716	
2,4-Dichlorophenol	0	0		0	340	340	1,167,486	
2,4-Dimethylphenol	0	0		0	130	130	446,392	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	54,941	
2,4-Dinitrophenol	0	0		0	130	130	446,392	
2-Nitrophenol	0	0		0	1,600	1,600	5,494,051	
4-Nitrophenol	0	0		0	470	470	1,613,877	
p-Chloro-m-Cresol	0	0		0	500	500	1,716,891	
Pentachlorophenol	0	0		0	11.023	11.0	37,851	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	312,474	
Acenaphthene	0	0		0	17	17.0	58,374	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	202,593	
Benzo(a)Anthracene	0	0		0	0.1	0.1	343	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	6,000	6,000	20,602,691	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	3,124,741	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	185,424	
Butyl Benzyl Phthalate	0	0		0	35	35.0	120,182	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	160	160	549,405	
1,3-Dichlorobenzene	0	0		0	69	69.0	236,931	
1,4-Dichlorobenzene	0	0		0	150	150	515,067	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	2,747,025	
Dimethyl Phthalate	0	0		0	500	500	1,716,891	
Di-n-Butyl Phthalate	0	0		0	21	21.0	72,109	
2,4-Dinitrotoluene	0	0		0	320	320	1,098,810	
2,6-Dinitrotoluene	0	0		0	200	200	686,756	
1,2-Diphenylhydrazine	0	0		0	3	3.0	10,301	
Fluoranthene	0	0		0	40	40.0	137,351	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	2	2.0	6,868	
Hexachlorocyclopentadiene	0	0		0	1	1.0	3,434	
Hexachloroethane	0	0		0	12	12.0	41,205	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	7,210,942	
Naphthalene	0	0		0	43	43.0	147,653	
Nitrobenzene	0	0		0	810	810	2,781,363	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	11,674,858	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	202,593	
Phenanthrene	0	0		0	1	1.0	3,434	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	89,278	

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

IPSCO Koppel Tubulars (Tenaris), NPDES Permit No. PA0006335, Outfall 001

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

THH | CCT (min): 720 | THH PMF: 0.449 | Analysis Hardness (mg/l): N/A | Analysis pH: N/A | PWS PMF: 1

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	##########	WQC applied at RMI 954 with a design stream flow of 5880 cfs
Sulfate (PWS)	0	0		0	250,000	250,000	##########	WQC applied at RMI 954 with a design stream flow of 5880 cfs
Fluoride (PWS)	0	0		0	1,000	1,000	3,433,782	
Total Aluminum	398.5	1.1993		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	19,229	
Total Arsenic	0	0		0	10	10.0	34,338	
Total Barium	0	0		0	1,000	1,000	3,433,782	
Total Boron	0	0		0	3,100	3,100	10,644,724	
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	1,300	1,300	4,463,916	
Free Cyanide	0	0		0	4	4.0	13,735	
Dissolved Iron	0	0		0	300	300	1,030,135	
Total Iron	1280.8	1.3907		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	179.5	0.8644		0	1,000	1,000	2,817,597	
Total Mercury	0	0		0	0.012	0.012	41.2	
Total Nickel	0	0		0	610	610	2,094,607	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	47,516	WQC applied at RMI 954 with a design stream flow of 5880 cfs
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	824	
Total Zinc	0	0		0	7,400	7,400	25,409,985	
Acrolein	0	0		0	3	3.0	10,301	
Acrylonitrile	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	N/A	N/A	N/A	
Bromoform	0	0		0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	343,378	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A	
1,1-Dichloroethylene	0	0		0	33	33.0	113,315	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
1,3-Dichloropropylene	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	233,497	
Methyl Bromide	0	0		0	47	47.0	161,388	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	N/A	N/A	N/A	
1,1,2,2-Tetrachloroethane	0	0		0	N/A	N/A	N/A	
Tetrachloroethylene	0	0		0	N/A	N/A	N/A	
Toluene	0	0		0	57	57.0	195,726	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	343,378	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	34,337,818	
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A	
Trichloroethylene	0	0		0	N/A	N/A	N/A	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	30	30.0	103,013	
2,4-Dichlorophenol	0	0		0	10	10.0	34,338	
2,4-Dimethylphenol	0	0		0	100	100.0	343,378	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	6,868	
2,4-Dinitrophenol	0	0		0	10	10.0	34,338	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	N/A	N/A	N/A	
Phenol	0	0		0	4,000	4,000	13,735,127	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	240,365	
Anthracene	0	0		0	300	300	1,030,135	
Benzidine	0	0		0	N/A	N/A	N/A	
Benzo(a)Anthracene	0	0		0	N/A	N/A	N/A	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroisopropyl)Ether	0	0		0	200	200	686,756	
Bis(2-Ethylhexyl)Phthalate	0	0		0	N/A	N/A	N/A	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	0.1	0.1	343	
2-Chloronaphthalene	0	0		0	800	800	2,747,025	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	420	420	1,442,188	
1,3-Dichlorobenzene	0	0		0	7	7.0	24,036	
1,4-Dichlorobenzene	0	0		0	63	63.0	216,328	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	2,060,269	
Dimethyl Phthalate	0	0		0	2,000	2,000	6,867,564	
Di-n-Butyl Phthalate	0	0		0	20	20.0	68,676	
2,4-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
2,6-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
1,2-Diphenylhydrazine	0	0		0	N/A	N/A	N/A	
Fluoranthene	0	0		0	20	20.0	68,676	
Fluorene	0	0		0	50	50.0	171,689	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A	
Hexachlorocyclopentadiene	0	0		0	4	4.0	13,735	
Hexachloroethane	0	0		0	N/A	N/A	N/A	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	34	34.0	116,749	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	34,338	
n-Nitrosodimethylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	N/A	N/A	N/A	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	20	20.0	68,676	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	240	

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

IPSCO Koppel Tubulars (Tenaris), NPDES Permit No. PA0006335, Outfall 001

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☑ CRL CCT (min): 720 PMF: 0.612 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	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	398.5	1.1993		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	
Free Cyanide	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	1280.8	1.3907		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	179.5	0.8644		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	50	50.0	598,671	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	0.051	0.051	611	
Benzene	0	0		0	0.58	0.58	6,945	
Bromoform	0	0		0	4.3	4.3	51,486	
Carbon Tetrachloride	0	0		0	0.4	0.4	4,789	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.4	0.4	4,789	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	68,249	
Dichlorobromomethane	0	0		0	0.55	0.55	6,585	
1,2-Dichloroethane	0	0		0	0.38	0.38	4,550	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.5	0.5	5,987	
1,3-Dichloropropylene	0	0		0	0.27	0.27	3,233	
Ethylbenzene	0	0		0	N/A	N/A	N/A	
Methyl Bromide	0	0		0	N/A	N/A	N/A	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	4.6	4.6	55,078	
1,1,2,2-Tetrachloroethane	0	0		0	0.17	0.17	2,035	
Tetrachloroethylene	0	0		0	0.69	0.69	8,262	
Toluene	0	0		0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0		0	0.55	0.55	6,585	
Trichloroethylene	0	0		0	0.6	0.6	7,184	
Vinyl Chloride	0	0		0	0.02	0.02	239	
2-Chlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dichlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dimethylphenol	0	0		0	N/A	N/A	N/A	
4,6-Dinitro-o-Cresol	0	0		0	N/A	N/A	N/A	
2,4-Dinitrophenol	0	0		0	N/A	N/A	N/A	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	0.030	0.03	359	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.4	1.4	16,763	
Acenaphthene	0	0		0	N/A	N/A	N/A	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	0.000086	0.00009	1.03	
Benzo(a)Anthracene	0	0		0	0.001	0.001	12.0	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	1.2	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	12.0	
Benzo(k)Fluoranthene	0	0		0	0.0038	0.004	45.5	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	359	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	3,831	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	N/A	N/A	N/A	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	0.0038	0.004	45.5	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	1.2	
1,2-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,3-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,4-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
3,3-Dichlorobenzidine	0	0		0	0.021	0.021	251	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	599	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	599	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	359	
Fluoranthene	0	0		0	N/A	N/A	N/A	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	0.00008	0.00008	0.96	
Hexachlorobutadiene	0	0		0	0.01	0.01	120	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	1,197	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	12.0	
Isophorone	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	N/A	N/A	N/A	
n-Nitrosodimethylamine	0	0		0	0.00069	0.0007	8.26	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	59.9	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	39,512	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	N/A	N/A	N/A	

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Toxics Management Spreadsheet
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Model Results

IPSCO Koppel Tubulars (Tenaris), NPDES Permit No. PA0006335, Outfall 001

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

☑ ***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)	4,751,631	mg/L	Discharge Conc ≤ 10% WQBEL
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	2,375,816	mg/L	Discharge Conc ≤ 10% WQBEL
Fluoride (PWS)	3,434	mg/L	Discharge Conc ≤ 10% WQBEL
Total Aluminum	112,111	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	19,229	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	34,338	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	3,433,782	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	2,577,608	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	682	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	297,029	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	5,185	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	30,231	µg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	4,472	µg/L	Discharge Conc ≤ 10% WQBEL
Free Cyanide	7,001	µg/L	Discharge Conc ≤ 25% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	1,030,135	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	1,677,027	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	10,988	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	2,817,597	µg/L	Discharge Conc ≤ 10% WQBEL
Total Nickel	149,817	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)	47,516	µg/L	Discharge Conc ≤ 10% WQBEL
Total Selenium	17,132	µg/L	Discharge Conc ≤ 10% WQBEL
Total Silver	1,213	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	38,260	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	955	µg/L	Discharge Conc ≤ 25% WQBEL
Acrylonitrile	611	µg/L	Discharge Conc ≤ 25% WQBEL
Benzene	6,945	µg/L	Discharge Conc ≤ 25% WQBEL
Bromoform	51,486	µg/L	Discharge Conc ≤ 25% WQBEL
Carbon Tetrachloride	4,789	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorobenzene	343,378	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorodibromomethane	4,789	µg/L	Discharge Conc ≤ 25% WQBEL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	5,728,018	µg/L	Discharge Conc ≤ 25% WQBEL
Chloroform	68,249	µg/L	Discharge Conc ≤ 25% WQBEL
Dichlorobromomethane	6,585	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	4,550	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethylene	113,315	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-Dichloropropane	5,987	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichloropropylene	3,233	µg/L	Discharge Conc ≤ 25% WQBEL
Ethylbenzene	233,497	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Bromide	161,388	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Chloride	8,910,251	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	55,078	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2,2-Tetrachloroethane	2,035	µg/L	Discharge Conc ≤ 25% WQBEL
Tetrachloroethylene	8,262	µg/L	Discharge Conc ≤ 25% WQBEL
Toluene	195,726	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-trans-Dichloroethylene	343,378	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,1-Trichloroethane	954,670	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2-Trichloroethane	6,585	µg/L	Discharge Conc ≤ 25% WQBEL
Trichloroethylene	7,184	µg/L	Discharge Conc ≤ 25% WQBEL
Vinyl Chloride	239	µg/L	Discharge Conc ≤ 25% WQBEL
2-Chlorophenol	103,013	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	34,338	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	210,027	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	6,868	µg/L	Discharge Conc ≤ 25% WQBEL
2,4-Dinitrophenol	34,338	µg/L	Discharge Conc ≤ 25% WQBEL
2-Nitrophenol	2,545,786	µg/L	Discharge Conc < TQL
4-Nitrophenol	731,913	µg/L	Discharge Conc ≤ 25% WQBEL
p-Chloro-m-Cresol	50,916	µg/L	Discharge Conc < TQL
Pentachlorophenol	359	µg/L	Discharge Conc ≤ 25% WQBEL
Phenol	13,735,127	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	16,763	µg/L	Discharge Conc < TQL
Acenaphthene	26,413	µg/L	Discharge Conc ≤ 25% WQBEL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	1,030,135	µg/L	Discharge Conc ≤ 25% WQBEL
Benzidine	1.03	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	45.5	µg/L	Discharge Conc ≤ 25% WQBEL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	359	µg/L	Discharge Conc ≤ 25% WQBEL
Bis(2-Chloroisopropyl)Ether	686,756	µg/L	Discharge Conc ≤ 25% WQBEL
Bis(2-Ethylhexyl)Phthalate	3,831	µg/L	Discharge Conc ≤ 25% WQBEL
4-Bromophenyl Phenyl Ether	85,920	µg/L	Discharge Conc ≤ 25% WQBEL
Butyl Benzyl Phthalate	343	µg/L	Discharge Conc ≤ 25% WQBEL
2-Chloronaphthalene	2,747,025	µg/L	Discharge Conc ≤ 25% WQBEL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	45.5	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-Dichlorobenzene	260,943	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichlorobenzene	24,036	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dichlorobenzene	216,328	µg/L	Discharge Conc ≤ 25% WQBEL
3,3-Dichlorobenzidine	251	µg/L	Discharge Conc ≤ 25% WQBEL
Diethyl Phthalate	1,272,893	µg/L	Discharge Conc ≤ 25% WQBEL
Dimethyl Phthalate	795,558	µg/L	Discharge Conc ≤ 25% WQBEL
Di-n-Butyl Phthalate	35,005	µg/L	Discharge Conc ≤ 25% WQBEL
2,4-Dinitrotoluene	599	µg/L	Discharge Conc ≤ 25% WQBEL
2,6-Dinitrotoluene	599	µg/L	Discharge Conc ≤ 25% WQBEL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	359	µg/L	Discharge Conc < TQL
Fluoranthene	63,645	µg/L	Discharge Conc ≤ 25% WQBEL
Fluorene	171,689	µg/L	Discharge Conc ≤ 25% WQBEL
Hexachlorocyclopentadiene	1,591	µg/L	Discharge Conc ≤ 25% WQBEL
Hexachloroethane	1,197	µg/L	Discharge Conc ≤ 25% WQBEL
Isophorone	116,749	µg/L	Discharge Conc ≤ 25% WQBEL
Naphthalene	44,551	µg/L	Discharge Conc ≤ 25% WQBEL
Nitrobenzene	34,338	µg/L	Discharge Conc ≤ 25% WQBEL
n-Nitrosodi-n-Propylamine	59.9	µg/L	Discharge Conc ≤ 25% WQBEL
n-Nitrosodiphenylamine	39,512	µg/L	Discharge Conc ≤ 25% WQBEL
Phenanthrene	1,591	µg/L	Discharge Conc ≤ 25% WQBEL
Pyrene	68,676	µg/L	Discharge Conc ≤ 25% WQBEL
1,2,4-Trichlorobenzene	240	µg/L	Discharge Conc ≤ 25% WQBEL

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Toxics Management Spreadsheet
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Discharge Information

Instructions | Discharge | Stream

CLEAR PROJECT | CLEAR FORM | CALCULATE

Facility: IPSCO Koppel Tubulars (Tenaris) NPDES Permit No.: PA0006335 Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: Treated IW Cooling Water (Steel-Hot Forming

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
0.4	72	6.8						

	Discharge Pollutant	Units		Max Discharge Conc	0 if left blank: Trib Conc	0 if left blank: Stream Conc	0.5 if left blank: Daily CV	0.5 if left blank: Hourly CV	0 if left blank: Stream CV	Fate Coeff	FOS	1 if left blank: Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		194									
	Chloride (PWS)	mg/L											
	Bromide	mg/L		0.00068									
	Sulfate (PWS)	mg/L		29									
	Fluoride (PWS)	mg/L		0.21									
Group 2	Total Aluminum	µg/L		174		398.5			1.1993				
	Total Antimony	µg/L		100									
	Total Arsenic	µg/L		5									
	Total Barium	µg/L		317									
	Total Beryllium	µg/L		5									
	Total Boron	µg/L		139									
	Total Cadmium	µg/L		5									
	Total Chromium (III)	µg/L		10.3									
	Hexavalent Chromium	µg/L		10									
	Total Cobalt	µg/L		10									
	Total Copper	µg/L		19.7									
	Free Cyanide	µg/L		5									
	Total Cyanide	µg/L		5									
	Dissolved Iron	µg/L		127									
	Total Iron	µg/L		3280		1280.8			1.3907				
	Total Lead	µg/L		100									
	Total Manganese	µg/L		6130		179.5			0.8644				
	Total Mercury	µg/L		0.2									
	Total Nickel	µg/L		28.9									
	Total Phenols (Phenolics) (PWS)	µg/L		98.9									
	Total Selenium	µg/L		5									
	Total Silver	µg/L		10									
	Total Thallium	µg/L		100									
	Total Zinc	µg/L		6.2									
	Total Molybdenum	µg/L		256									
Group 3	Acrolein	µg/L	<	100									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	100									
	Benzene	µg/L	<	5									
	Bromoform	µg/L	<	5									
	Carbon Tetrachloride	µg/L	<	5									
	Chlorobenzene	µg/L	<	5									
	Chlorodibromomethane	µg/L	<	5									
	Chloroethane	µg/L	<	10									
	2-Chloroethyl Vinyl Ether	µg/L	<	20									
	Chloroform	µg/L	<	5									
	Dichlorobromomethane	µg/L	<	5									
	1,1-Dichloroethane	µg/L	<	5									
	1,2-Dichloroethane	µg/L	<	5									
	1,1-Dichloroethylene	µg/L	<	5									
	1,2-Dichloropropane	µg/L	<	5									
	1,3-Dichloropropylene	µg/L	<	5									
	1,4-Dioxane	µg/L	<										
	Ethylbenzene	µg/L	<	5									
	Methyl Bromide	µg/L	<	10									
	Methyl Chloride	µg/L	<	10									
	Methylene Chloride	µg/L	<	5									
	1,1,2,2-Tetrachloroethane	µg/L	<	5									
	Tetrachloroethylene	µg/L	<	5									
	Toluene	µg/L	<	5									
	1,2-trans-Dichloroethylene	µg/L	<	5									
	1,1,1-Trichloroethane	µg/L	<	5									
	1,1,2-Trichloroethane	µg/L	<	5									
	Trichloroethylene	µg/L	<	5									
	Vinyl Chloride	µg/L	<	5									
Group 4	2-Chlorophenol	µg/L	<	10									
	2,4-Dichlorophenol	µg/L	<	10									
	2,4-Dimethylphenol	µg/L	<	10									
	4,6-Dinitro-o-Cresol	µg/L	<	50									
	2,4-Dinitrophenol	µg/L	<	50									
	2-Nitrophenol	µg/L	<	10									
	4-Nitrophenol	µg/L	<	50									
	p-Chloro-m-Cresol	µg/L	<	10									
	Pentachlorophenol	µg/L	<	50									
	Phenol	µg/L	<	10									
	2,4,6-Trichlorophenol	µg/L	<	10									
Group 5	Acenaphthene	µg/L	<	10									
	Acenaphthylene	µg/L	<	10									
	Anthracene	µg/L	<	10									
	Benzidine	µg/L	<	50									
	Benzo(a)Anthracene	µg/L	<	10									
	Benzo(a)Pyrene	µg/L	<	10									
	3,4-Benzofluoranthene	µg/L	<	10									
	Benzo(ghi)Perylene	µg/L	<	10									
	Benzo(k)Fluoranthene	µg/L	<	10									
	Bis(2-Chloroethoxy)Methane	µg/L	<	10									
	Bis(2-Chloroethyl)Ether	µg/L	<	10									
	Bis(2-Chloroisopropyl)Ether	µg/L	<	10									
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	10									
	4-Bromophenyl Phenyl Ether	µg/L	<	10									
	Butyl Benzyl Phthalate	µg/L	<	10									
	2-Chloronaphthalene	µg/L	<	10									
	4-Chlorophenyl Phenyl Ether	µg/L	<	10									
	Chrysene	µg/L	<	10									
	Dibenzo(a,h)Anthrancene	µg/L	<	10									
	1,2-Dichlorobenzene	µg/L	<	10									
	1,3-Dichlorobenzene	µg/L	<	10									
	1,4-Dichlorobenzene	µg/L	<	10									
	3,3-Dichlorobenzidine	µg/L	<	10									
	Diethyl Phthalate	µg/L	<	10									
	Dimethyl Phthalate	µg/L	<	10									
	Di-n-Butyl Phthalate	µg/L	<	10									
	2,4-Dinitrotoluene	µg/L	<	10									
	2,6-Dinitrotoluene	µg/L	<	10									
	Di-n-Octyl Phthalate	µg/L	<	10									
	1,2-Diphenylhydrazine	µg/L	<	10									
	Fluoranthene	µg/L	<	10									
	Fluorene	µg/L	<	10									
	Hexachlorobenzene	µg/L	<	10									
	Hexachlorobutadiene	µg/L	<	10									
	Hexachlorocyclopentadiene	µg/L	<	10									
	Hexachloroethane	µg/L	<	10									
	Indeno(1,2,3-cd)Pyrene	µg/L	<	10									
	Isophorone	µg/L	<	10									
	Naphthalene	µg/L	<	10									
	Nitrobenzene	µg/L	<	10									
	n-Nitrosodimethylamine	µg/L	<	10									
	n-Nitrosodi-n-Propylamine	µg/L	<	10									
	n-Nitrosodiphenylamine	µg/L	<	10									
	Phenanthrene	µg/L	<	10									
	Pyrene	µg/L	<	10									
	1,2,4-Trichlorobenzene	µg/L	<	10									

ATTACHMENT B:

EPA 2021 Multi-Sector General Permit Benchmark Values

4.2.2.1 Applicability of Benchmark Monitoring.

You must monitor stormwater discharges for any benchmark parameters specified for the industrial sector(s), both primary industrial activity and any co-located industrial activities, applicable to your discharge listed in Part 8. If your facility is in one of the industrial sectors subject to benchmark thresholds that are hardness-dependent, you must include in your NOI a hardness value, established consistent with the procedures in Appendix J, that is representative of your receiving water. Hardness is not a specific benchmark and therefore the permit does not include a benchmark threshold with which to compare.

Samples must be analyzed consistent with 40 CFR Part 136 analytical methods and using test procedures with quantitation limits at or below benchmark thresholds for all benchmark parameters for which you are required to sample, i.e. sufficiently sensitive methods. For averaging purposes, you may use a value of zero for any individual sample parameter which is determined to be less than the method detection limit. For sample values that fall between the method detection limit and the quantitation limit (i.e., a confirmed detection but below the level that can be reliably quantified), use a value halfway between zero and the quantitation limit.

4.2.2.2 Summary of the 2021 MSGP Benchmark Thresholds

The Table 4-2 presents the 2021 MSGP's freshwater and saltwater benchmark thresholds. Sector-specific benchmark requirements are detailed in Part 8. Values match the original units found in the source documents, detailed in the corresponding section of the fact sheet.

Table 4-2 2021 MSGP Benchmark Thresholds

Pollutant		2021 MSGP Benchmark Threshold
Total Recoverable Aluminum (T)		1,100 µg/L
Total Recoverable Beryllium		130 µg/L
Biochemical Oxygen Demand (5-day)		30 mg/L
pH		6.0 – 9.0 s.u.
Chemical Oxygen Demand		120 mg/L
Total Phosphorus		2.0 mg/L
Total Suspended Solids (TSS)		100 mg/L
Nitrate and Nitrite Nitrogen		0.68 mg/L
Turbidity		50 NTU
Total Recoverable Antimony		640 µg/L
Ammonia		2.14 mg/L
Total Recoverable Cadmium	Freshwater[a]	1.8 µg/L
	Saltwater	33 µg/L
Total Recoverable Copper	Freshwater	5.19 µg/L
	Saltwater	4.8 µg/L

Pollutant		2021 MSGP Benchmark Threshold
Total Recoverable Cyanide	Freshwater	22 µg/L
	Saltwater	1 µg/L
Total Recoverable Mercury	Freshwater	1.4 µg/L
	Saltwater	1.8 µg/L
Total Recoverable Nickel	Freshwater[a]	470 µg/L
	Saltwater	74 µg/L
Total Recoverable Selenium	Freshwater	1.5 µg/L for still/standing (lentic) waters 3.1 µg/L for flowing (lotic) waters
	Saltwater	290 µg/L
Total Recoverable Silver	Freshwater[a]	3.2 µg/L
	Saltwater	1.9 µg/L
Total Recoverable Zinc	Freshwater[a]	120 µg/L
	Saltwater	90 µg/L
Total Recoverable Arsenic	Freshwater[a]	150 µg/L
	Saltwater	69 µg/L
Total Recoverable Lead	Freshwater[a]	82 µg/L
	Saltwater	210 µg/L

[a] These pollutants are dependent on water hardness where discharged into freshwaters. The freshwater benchmark value listed is based on a hardness of 100 mg/L. When a facility analyzes receiving water samples for hardness, the operator must use the hardness ranges provided in Table 1 in Appendix J of the 2021 MSGP and in the appropriate tables in Part 8 of the 2021 MSGP to determine applicable benchmark values for that facility. Benchmark thresholds for discharges of these pollutants into saline waters are not dependent on receiving water hardness and do not need to be adjusted.

4.2.2.3 Benchmark Monitoring Schedule. Benchmark monitoring of stormwater discharges is required quarterly, as identified in Part 4.1.7, in the first and fourth year of permit coverage, as follows:

a. **Year one of permit coverage:** You must conduct benchmark monitoring for all parameters applicable to your subsector(s) for four quarters in your first year of permit coverage, beginning in your first *full* quarter of permit coverage, no earlier than May 30, 2021.

   i. If the annual average[12] for a parameter does not exceed the benchmark threshold, you can discontinue benchmark monitoring for that parameter for the next two years (i.e., eight quarters).

[12] For this permit, an annual average exceedance for a parameter can occur if: (a) The four-quarter annual average for a parameter exceeds the benchmark threshold; or (b) Fewer than four quarterly samples are collected, but a single sample or the sum of any sample results within the sampling year exceeds the benchmark threshold by more than four times for a parameter. The result in (b) indicates an exceedance is mathematically certain (i.e., the sum of quarterly sample results to date is already more than four times the benchmark threshold). For pH, an annual average exceedance can only occur if the four-quarter annual average exceeds the benchmark threshold.

ATTACHMENT C:

NPDES Pre-Draft Permit Survey for Toxic Pollutants and Letter

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

VIA ELECTRONIC MAIL

October 21, 2021

Alex Richmond
Health and Safety Specialist
P. O. Box 410
Ambridge, PA 15003

Re: Pre-Draft Survey NPDES Permit- Industrial Waste
IPSCO Koppel Tubulars, LLC
Ambridge Plant
Application No. PA0006335
Authorization ID No. 593275
Ambridge, Beaver County

Dear Mr. Richmond:

The Department of Environmental Protection (DEP) has reviewed your NPDES permit application and has reached a preliminary finding that new or more stringent water quality-based effluent limitations (WQBELs) for toxic pollutant(s) may be needed in the permit. The following additional pollutants for monitoring are anticipated based on the information available to DEP during its review:

Outfall/IMP No.	Pollutant	Average Monthly (mg/L)	Maximum Daily (mg/L)	IMAX (mg/L)
001/101	*Thallium, Total*	*Report*	*Report*	XXX

In addition, the Department has determined based on modeling results that new WQBELs may also be required at IMP 101, discharging via Outfall 001. These more stringent WQBELs are detailed in the proposed effluent limits as follows:

Southwest Regional Office
400 Waterfront Drive | Pittsburgh, PA 15222-4745 | 412.442.4000 | Fax 412.442.5885

Alex Richmond - 2 -

IMP / Outfall No.	Pollutant	Monthly Average (mg/L)	Maximum Daily (mg/L)	IMAX (mg/L)
101/001	*Mercury, Total*	*0.012*	*0.019*	—
101/001	*Benzo(a)Anthracene*	*12.0*	*18.7*	—
101/001	*Benzo(a)Pyrene*	*1.2*	*1.87*	—
101/001	*3,4-Benzofluoranthene*	*12.0*	*18.7*	—
101/001	*Dibenzo(a,h)Anthracene*	*1.2*	*1.87*	—
101/001	*Hexachlorobenzene*	*0.00008*	*0.0001*	—
101/001	*Hexachlorobutadiene*	*0.01*	*0.016*	—
101/001	*Indeno(1,2,3-cd)Pyrene*	*12.0*	*18.7*	—
101/001	*n-Nitrosodimethylamine*	*8.26*	*12.9*	

Please note that the pollutants shown in *italics* were included although reported as "none detected" in the application on the basis of the chemical analyses Method Detection Limits (MDLs) that exceeded the Department's minimum target Quantitation Limits. Please also note that this applies to **all** the pollutants in the table. Under these circumstances, if desired, additional sampling and analysis may be undertaken. If so, care should be taken to ensure that the laboratory selected for the analysis can meet the Department's Target Quantitation Limits. No further action would be required for pollutants not detected in this case once the results are received by the Department.

In the absence of further samples, please find attached separate surveys for each of the pollutants of concern noted in the tables above. The Department requests that you complete and return these surveys to DEP within 30 days. Completion of these surveys will help DEP develop the draft and final NPDES permits and allow DEP to understand your current capabilities or plans to treat or control these pollutant(s). If you decide not to complete and return the survey, DEP will proceed with finalizing the NPDES permit based on all available information and certain assumptions. Your response to this notice does not constitute an official comment for DEP response but will be taken under consideration. When the draft NPDES permit is formally noticed in the *Pennsylvania Bulletin*, you may make official comments for DEP's further consideration and response.

Please contact me at 412.442.4183 if you have any questions about this information or the attached survey.

Sincerely,

Alex Richmond - 3 -



John L. Duryea, Jr., P.E.
Environmental Engineering Specialist
Clean Water Program

Enclosures

cc:

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Clean Water

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **IPSCO Koppel Tubulars, LLC (Koppel), Ambridge Plant (Ambridge), Beaver County** Permit No.: **PA0006335**

Pollutant(s) identified by DEP that may require WQBELs: **IMP 101/Outfall 001 - Total Mercury**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☐ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **Koppel, Ambridge, Beaver County** Permit No.: **PA0006335**

Pollutant(s) identified by DEP that may require WQBELs: **IMP 101/Outfall 001 – Thallium, Total**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☐ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **Koppel, Ambridge, Beaver County** Permit No.: **PA0006335**

Pollutant(s) identified by DEP that may require WQBELs: **IMP 101/Outfall 001 – Benzo(a)Anthracene**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☐ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **Koppel, Ambridge, Beaver County** Permit No.: **PA0006335**

Pollutant(s) identified by DEP that may require WQBELs: **IMP 101/Outfall 001 – Benzo(a)Pyrene**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☐ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **Koppel, Ambridge, Beaver County** Permit No.: **PA0006335**

Pollutant(s) identified by DEP that may require WQBELs: **IMP 101/Outfall 001 – 3,4-Benzofluoranthene**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☐ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐ Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐ Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐ Background / ambient pollutant concentrations	Year(s) Studied:
☐ Chemical translator(s) (metals)	Year(s) Studied:
☐ Slope and width of receiving waters	Year(s) Studied:
☐ Velocity of receiving waters at design conditions	Year(s) Studied:
☐ Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐ Volatilization rates (highly volatile organics)	Year(s) Studied:
☐ Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **Koppel, Ambridge, Beaver County** Permit No.: **PA0006335**

Pollutant(s) identified by DEP that may require WQBELs: **IMP 101/Outfall 001 – Dibenzo(a,h)Anthracene**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☐ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **Koppel, Ambridge, Beaver County** Permit No.: **PA0006335**

Pollutant(s) identified by DEP that may require WQBELs: **IMP 101/Outfall 001 – Hexachlorobenzene**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☐ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **Koppel, Ambridge, Beaver County** Permit No.: **PA0006335**

Pollutant(s) identified by DEP that may require WQBELs: **IMP 101/Outfall 001 – Hexachlorobutadiene**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☐ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **Koppel, Ambridge, Beaver County** Permit No.: **PA0006335**

Pollutant(s) identified by DEP that may require WQBELs: **IMP 101/Outfall 001 – Indeno(1,2,3-cd)Pyrene**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☐ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **Koppel, Ambridge, Beaver County** Permit No.: **PA0006335**

Pollutant(s) identified by DEP that may require WQBELs: **IMP 101/Outfall 001 – n-Nitrosodimethylamine**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☐ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

ATTACHMENT D:

Tenaris Letter, Dated November 17, 2021, "Pre-Draft Survey NPDES Permit – Industrial Waste"

IPSCO Koppel Tubulars, LLC
PO Box 410
Ambridge, PA 15003
www.tenaris.com

November 17, 2021

Pennsylvania Department of Environmental Protection
Clean Water Program
400 Waterfront Drive
Pittsburgh, PA 15222-4745

Re: Pre-Draft Survey NPDES Permit- Industrial Waste
IPSCO Koppel Tubulars, LLC
Ambridge Plant
Application No. PA0006335
Authorization ID No. 593275
Ambridge, Beaver County

Dear Mr. Duryea, Jr., PE:

This correspondence is in response to the Pre-Draft Survey NPDES Permit – Industrial Waste letter issued by the Pennsylvania Department of Environmental Protection (PA DEP) on October 21, 2021. The IPSCO Koppel Tubulars, LLC (IPSCO) – Ambridge Plant has undertaken additional sampling and analysis regarding the pollutants to address the preliminary findings of the application review. Based upon the updated analytical, it is anticipated that no further action will be required for the non-detected pollutants referenced in the Table below. The analytical report is enclosed per the PA DEP's request.

Outfall/IMP No.	Pollutant	Monthly Average (mg/L)	Maximum Daily (mg/L)	IMAX (mg/L)	Results (mg/L)
001/101	*Thallium, Total*	*Report*	*Report*	*XXX*	*<0.025*
001/101	*Mercury, Total*	*0.012*	*0.019*		*<0.000200*
001/101	*Benzo(a)Anthracene*	*12.0*	*18.7*		*<0.000625*
001/101	*Benzo(a)Pyrene*	*1.2*	*1.87*		*<0.000625*
001/101	*3,4-Benzofluoranthene*	*12*	*18.7*		*<0.000625*
001/101	*Dibenzo(a,h)Anthracene*	*1.2*	*1.87*		*<0.000625*
001/101	*Hexachlorobenzene*	*0.00008*	*0.0001*		*<0.000625*
001/101	*Hexachlorobutadiene*	*0.01*	*0.016*		*<0.000625*
001/101	*Indeno(1,2,3-cd)Pyrene*	*12.000*	*18.7*		*<0.000625*
001/101	*n-Nitrosodimethylamine*	*8.26*	*12.9*		*<0.00625*

IPSCO Koppel Tubulars, LLC
PO Box 410
Ambridge, PA 15003
www.tenaris.com

If you should have any questions regarding this submittal, please do not hesitate to contact me at arichmond@tenaris.com or 724-255-2992.

Sincerely,

IPSCO KOPPEL TUBULARS, LLC.

Alex Richmond

Alex Richmond
HSE Manager

Enclosures: Analytical Report

MICROBAC®

Microbac Laboratories Inc., Pittsburgh Division

CERTIFICATE OF ANALYSIS

1104662

TMK Ipsco - Ambridge

Seth Staffen
2200 W Loop S, Ste 800
Houston, TX 77027

Project Name: NPDES Industrial Waste Water

Project / PO Number: N/A
Received: 10/27/2021
Reported: 11/05/2021

Analytical Testing Parameters

Client Sample ID:	IMP101/Outfall001		
Sample Matrix:	Aqueous	**Collected By:**	Seth Staffen
Lab Sample ID:	1104662-01	**Collection Date:**	10/25/2021 9:00

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Metals Total by AA	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 245.1, Rv. 3 (1994)								
Mercury	<0.000200	0.000200	mg/L	1		10/29/21 0549	11/01/21 1345	TMM

Semivolatile Organic Compounds by GCMS	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 625.1								
Benzo(a)anthracene	<0.625	0.625	ug/L	1		11/01/21 1410	11/02/21 2013	SCB
Benzo(a)pyrene	<0.625	0.625	ug/L	1		11/01/21 1410	11/02/21 2013	SCB
Benzo(b)fluoranthene	<0.625	0.625	ug/L	1		11/01/21 1410	11/02/21 2013	SCB
Benzo(k)fluoranthene	<0.625	0.625	ug/L	1		11/01/21 1410	11/02/21 2013	SCB
Dibenz(a,h) anthracene	<0.625	0.625	ug/L	1		11/01/21 1410	11/02/21 2013	SCB
Hexachlorobenzene	<0.625	0.625	ug/L	1		11/01/21 1410	11/02/21 2013	SCB
Hexachlorobutadiene	<0.625	0.625	ug/L	1		11/01/21 1410	11/02/21 2013	SCB
Indeno(1,2,3-cd) pyrene	<0.625	0.625	ug/L	1		11/01/21 1410	11/02/21 2013	SCB
n-Nitrosodimethylamine	<6.25	6.25	ug/L	1		11/01/21 1410	11/02/21 2013	SCB
Surrogate: 2-Fluorobiphenyl	80.2	Limit: 43-116	% Rec	1		11/01/21 1410	11/02/21 2013	SCB
Surrogate: 2-Fluorophenol	60.4	Limit: 21-100	% Rec	1		11/01/21 1410	11/02/21 2013	SCB
Surrogate: Nitrobenzene-d5	107	Limit: 35-114	% Rec	1		11/01/21 1410	11/02/21 2013	SCB
Surrogate: Phenol-d5	42.8	Limit: 10-194	% Rec	1		11/01/21 1410	11/02/21 2013	SCB
Surrogate: p-Terphenyl-d14	99.4	Limit: 33-141	% Rec	1		11/01/21 1410	11/02/21 2013	SCB
Surrogate: 2,4,6-Tribromophenol	87.9	Limit: 10-123	% Rec	1		11/01/21 1410	11/02/21 2013	SCB

Analyses Performed by: Microbac Laboratories Inc., Pittsburgh Division

Metals Total by ICP	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 200.7, Rv. 4.4 (1994)								
Thallium	<0.025	0.025	mg/L	1	Y	10/28/21 1027	11/04/21 0246	SEA

Definitions

mg/L:	Milligrams per Liter
RL:	Reporting Limit
ug/L:	Micrograms per Liter
ug/mL:	Micrograms per Milliliter
Y:	This analyte is not on the laboratory's current scope of accreditation.

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Microbac Laboratories Inc., Pittsburgh Division

CERTIFICATE OF ANALYSIS

1104662

Project Requested Certification(s)

Microbac Laboratories Inc., - Marietta, OH	
68-01670	PA Department of Environmental Protection
Microbac Laboratories Inc., Pittsburgh Division	
02-00257	PA Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at*** <https://www.microbac.com/standard-terms-conditions>.

Reviewed and Approved By:

Tina Sharer
Administration
Reported: 11/05/2021 18:47

Tenaris Ambridge

Page 3 of 3

MICROBAC

100 Wetzel Dr., Warrendale, PA 15086 | 724-772-0510 p | 724-772-1884 f

1104662

TMK Ipsco - Ambridge
PM: Tina Sharer

Lab Report Address
Client Name: Tenaris - IPSCO AMBRIDGE
Address: 2225 Duss Ave.
City, State, Zip: Ambridge, PA 15003
Contact: Seth Staffen
Telephone No.: (724) 312-8127
Send Report via: ☐ Mail ☒ Fax ☒ e-mail (address)
Project: Ambridge WWTP
Sampled by (PRINT): Seth Staffen

Invoice Address
Client Name: Tenaris - Koppel Tubulars Corp.
Address: PO Box 750
City, State, Zip: Beaver Falls PA 15010
Contact: sstaffen@tenaris.com
Telephone No.: (724) 312-8127
Send Invoice via: ☐ Mail ☒ Fax ☒ e-mail (address)
Location: Ambridge Plant
PO No.:
Sampler Signature: Seth
Sampler Phone No.: (724) 312-8127

Turnaround Time
☒ Routine (5 to 7 business days)
☐ RUSH* (notify lab)
(needed by)
Report Type
☒ Results Only ☐ Level 1 ☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ EDD
Compliance Monitoring? ☒ Yes ☐ No
☒ Agency/Program: PA DEP NPDES

Temperature Upon Receipt (°C)
T/arm ID
Holding Time
Samples Received on Ice? ☒ Yes ☐ No ☐ N/A
Custody Seals Intact? ☐ Yes ☐ No ☒ N/A

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)
** Preservative Types: (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

REQUESTED ANALYSIS

Lab ID	Client Sample ID	Date Collected	Time Collected	No. of Containers	Matrix*	Grab / Comp	Preservative Types**	Hg, Total	Thallium, Total	See Comments
IMP101/Outfall001		10/25/21	09:00	3	WW	G	(U), (1)	X	X	X

Additional Notes

Possible Hazard Identification ☐ Hazardous ☒ Non-Hazardous ☒ Radioactive
Comments
Benzo(a)Anthracene, Benzo(a)Pyrene, 3,4-Benzofluoranthene, Dibenzo(a,h)Anthracene, Hexachlorobenzene, Hexachlorobutadiene, Indeno (1,2,3-cd)Pyrene, n-Nitrosodimethylamine

Sample Disposition ☒ Dispose as appropriate ☐ Return ☐ Archive

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Seth Staffen	10-26-21 1730	Zachary Clark	10-27-21 0830
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Zachary Clark	10-27-21 1120	[illegible]	10-27-21 1140
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time

rev. 7/18/18

ATTACHMENT E:

Tenaris Letter, Dated November 19, 2021, "Pre-Draft Survey NPDES Permit – Industrial Waste (REVISION)

IPSCO Koppel Tubulars, LLC

PO Box 410
Ambridge, PA 15003

www.tenaris.com

November 19, 2021

Pennsylvania Department of Environmental Protection
Clean Water Program
400 Waterfront Drive
Pittsburgh, PA 15222-4745

Re: Pre-Draft Survey NPDES Permit- Industrial Waste (REVISION)
IPSCO Koppel Tubulars, LLC
Ambridge Plant
Application No. PA0006335
Authorization ID No. 593275
Ambridge, Beaver County

Dear Mr. Duryea, Jr., PE:

This correspondence is a revision to the letter issued on November 17, 2021 by the IPSCO Koppel Tubulars, LLC (IPSCO) – Ambridge Plant. The initial response provided analytical data for the Pre-Draft Survey NPDES Permit – Industrial Waste letter issued by the Pennsylvania Department of Environmental Protection (PADEP) on October 21, 2021. The results for the re-issued analytical report are provided in the Table below for consideration in meeting the applicable PADEP's TQLs.

Outfall/IMP No.	Pollutant	Results (ug/L)
001/101	*Thallium, Total*	*<25*
001/101	*Mercury, Total*	*<0.0001*
001/101	*Benzo(a)Anthracene*	*<0.250*
001/101	*Benzo(a)Pyrene*	*<0.250*
001/101	*3,4-Benzofluoranthene*	*<0.250*
001/101	*Dibenzo(a,h)Anthracene*	*<0.250*
001/101	*Hexachlorobenzene*	*<0.313*
001/101	*Hexachlorobutadiene*	*<0.313*
001/101	*Indeno(1,2,3-cd)Pyrene*	*<0.250*
001/101	*n-Nitrosodimethylamine*	*<3.13*

IPSCO Koppel Tubulars, LLC

PO Box 410
Ambridge, PA 15003

www.tenaris.com

If you should have any questions regarding this submittal, please do not hesitate to contact me at arichmond@tenaris.com or 724-255-2992.

Sincerely,

IPSCO KOPPEL TUBULARS, LLC.

Alex Richmond

Alex Richmond
HSE Manager

Enclosures: Analytical Report

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Microbac Laboratories Inc., Pittsburgh Division

CERTIFICATE OF ANALYSIS

1104662

Project Description

NPDES Industrial Waste Water

For:

Seth Staffen

TMK Ipsco - Ambridge

2200 W Loop S, Ste 800

Houston, TX 77027

Administration

Tina Sharer

Thursday, November 18, 2021

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories Inc., Pittsburgh Division. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

Microbac Laboratories, Inc.

100 Marshall Drive | Warrendale, PA 15086 | 724-772-0610 p | www.microbac.com

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Microbac Laboratories Inc., Pittsburgh Division

CERTIFICATE OF ANALYSIS

1104662

TMK Ipsco - Ambridge

Seth Staffen
2200 W Loop S, Ste 800
Houston, TX 77027

Project Name: NPDES Industrial Waste Water

Project / PO Number: N/A
Received: 10/27/2021
Reported: 11/18/2021

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
IMP101/Outfall001	1104662-01	Aqueous			10/25/21 09:00	10/27/21 11:40

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Microbac Laboratories Inc., Pittsburgh Division

CERTIFICATE OF ANALYSIS

1104662

Analytical Testing Parameters

Client Sample ID:	IMP101/Outfall001		
Sample Matrix:	Aqueous	**Collected By:**	Seth Staffen
Lab Sample ID:	1104662-01	**Collection Date:**	10/25/2021 9:00

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

Metals Total by AA	Result	MDL	RL	Units	DF	Note	Prepared	Analyzed	Analyst
Method: EPA 245.1, Rv. 3 (1994)									
Mercury	<0.000100	0.000100	0.000200	mg/L	1		10/29/21 0549	11/01/21 1345	TMM

Semivolatile Organic Compounds by GCMS	Result	MDL	RL	Units	DF	Note	Prepared	Analyzed	Analyst
Method: EPA 625.1									
Benzo(a)anthracene	<0.250	0.250	0.625	ug/L	1		11/01/21 1410	11/02/21 2013	SCB
Benzo(a)pyrene	<0.250	0.250	0.625	ug/L	1		11/01/21 1410	11/02/21 2013	SCB
Benzo(b)fluoranthene	<0.250	0.250	0.625	ug/L	1		11/01/21 1410	11/02/21 2013	SCB
Benzo(k)fluoranthene	<0.250	0.250	0.625	ug/L	1		11/01/21 1410	11/02/21 2013	SCB
Dibenz(a,h) anthracene	<0.250	0.250	0.625	ug/L	1		11/01/21 1410	11/02/21 2013	SCB
Hexachlorobenzene	<0.313	0.313	0.625	ug/L	1		11/01/21 1410	11/02/21 2013	SCB
Hexachlorobutadiene	<0.313	0.313	0.625	ug/L	1		11/01/21 1410	11/02/21 2013	SCB
Indeno(1,2,3-cd) pyrene	<0.250	0.250	0.625	ug/L	1		11/01/21 1410	11/02/21 2013	SCB
n-Nitrosodimethylamine	<3.13	3.13	6.25	ug/L	1		11/01/21 1410	11/02/21 2013	SCB
Surrogate: 2-Fluorobiphenyl	80.2	Limit: 43-116		% Rec	1		11/01/21 1410	11/02/21 2013	SCB
Surrogate: 2-Fluorophenol	60.4	Limit: 21-100		% Rec	1		11/01/21 1410	11/02/21 2013	SCB
Surrogate: Nitrobenzene-d5	107	Limit: 35-114		% Rec	1		11/01/21 1410	11/02/21 2013	SCB
Surrogate: Phenol-d5	42.8	Limit: 10-194		% Rec	1		11/01/21 1410	11/02/21 2013	SCB
Surrogate: p-Terphenyl-d14	99.4	Limit: 33-141		% Rec	1		11/01/21 1410	11/02/21 2013	SCB
Surrogate: 2,4,6-Tribromophenol	87.9	Limit: 10-123		% Rec	1		11/01/21 1410	11/02/21 2013	SCB

Analyses Performed by: Microbac Laboratories Inc., Pittsburgh Division

Metals Total by ICP	Result	MDL	RL	Units	DF	Note	Prepared	Analyzed	Analyst
Method: EPA 200.7, Rv. 4.4 (1994)									
Thallium	<0.025	0.004	0.025	mg/L	1	Y	10/28/21 1027	11/04/21 0246	SEA

Definitions

DF:	Dilution Factor representing the amount the sample was diluted during analysis and may not represent preparation factors.
MDL:	Minimum Detection Limit
mg/L:	Milligrams per Liter
RL:	Reporting Limit
ug/L:	Micrograms per Liter
ug/mL:	Micrograms per Milliliter
Y:	This analyte is not on the laboratory's current scope of accreditation.

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Microbac Laboratories Inc., Pittsburgh Division

CERTIFICATE OF ANALYSIS

1104662

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 1.1°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes	pH<2 (Metals, COD, NH3, P, TKn) or not recd?	Yes
pH>10 (NPW) >12 (DW) Cyanide, or not recd?	Yes		

Project Requested Certification(s)

Microbac Laboratories Inc., - Marietta, OH	
68-01670	PA Department of Environmental Protection
Microbac Laboratories Inc., Pittsburgh Division	
02-00257	PA Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at*** *<https://www.microbac.com/standard-terms-conditions>.*

Reviewed and Approved By:

Tina Sharer

Administration

Reported: 11/18/2021 11:18

Tenaris Ambridge

Page 1 of 1

MICROBAC — 100 Marshall Dr., Warrendale, PA 15086 | 724.772.0610 p | 724.772.1686 f

TMK Ipsco - Ambridge
PM: Tina Sharer

Lab Report Address:
Client Name: Tenaris - IPSCO AMBRIDGE
Address: 2225 Duss Ave.
City, State, Zip: Ambridge, PA 15003
Contact: Seth Staffen
Telephone No.: (724) 312-8127
Send Report via: ☐ Mail ☐ Fax ☒ e-mail (address)
Project: Ambridge WWTP
Sampled by (PRINT): Seth Staffen

Invoice Address:
Client Name: Tenaris - Koppel Tubulars Corp.
Address: PO Box 750
City, State, Zip: Beaver Falls PA 15010
Contact: sstaffen@tenaris.com
Telephone No.: (724) 312-8127
Send Invoice via: ☐ Mail ☐ Fax ☒ e-mail (address)
Location: Ambridge Plant — PO No.:
Sampler Signature: Seth Staffen
Sampler Phone No.: (724) 312-8127

Turnaround Time:
☒ Routine (5 to 7 business days)
☐ RUSH* (notify lab) (needed by)
Report Type
☒ Results only ☐ Level 1 ☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ EDD
Compliance Monitoring? ☐ Yes ☒ No
☒ Agency/Program PA DEP NPDES

Temperature Upon Receipt (°C)
Therm ID
Holding Time (1) 1736
Samples Received on Ice? ☒ Yes ☐ No ☐ N/A
Custody Seals Intact? ☐ Yes ☐ No ☒ N/A

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)
** Preservative Types: (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

REQUESTED ANALYSIS

Lab ID	Client Sample ID	Date Collected	Time Collected	No. of Containers	Matrix	Grab / Comp	Preservative Types **	Hg, Total	Thallium, Total	See Comments
	IMP101/Outfall001	10/25/21	09:00	3	WW	G	(U), (1)	X	X	X

Additional Notes

Possible Hazard Identification: ☐ Hazardous ☒ Non-Hazardous ☐ Radioactive
Comments
Benzo(a)Anthracene, Benzo(a)Pyrene, 3,4-Benzofluoranthene, Dibenzo(a,h)Anthracene, Hexachlorobenzene, Hexachlorobutadiene, Indeno (1,2,3-cd)Pyrene, n-Nitrosodimethylamine

Sample Disposition: ☒ Dispose as appropriate ☐ Return ☐ Archive

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Seth Staffen	10-26-21 12:30	Zachary Clyde	10-27-21 8:30
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
Zachary Clyde	10-27-21 1120	[illegible]	10-27-21 1140
Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time

rev. 7/18/18

Page 1 of 1

ATTACHMENT F:
Revised Toxics Screening Analysis Inputs and Results for IMP 101, for Discharge at Outfall 001

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

IPSCO Koppel Tubulars (Tenaris), NPDES Permit No. PA0006335, Outfall 001

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

☑ ***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

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

IPSCO Koppel Tubulars (Tenaris), NPDES Permit No. PA0006335, Outfall 001

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

☑ ***Hydrodynamics***

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

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
963.4	4,730		4,730	0.619	0.0002	25.	2150.	86.	0.088	6.527	3569.947
954	5,880	4.641	5875.359								

Q_h

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
963.4	12100.89		12100.89	0.619	0.0002	37.794	2150.	56.887	0.149	3.857	1920.891
954	14636.074	4.641	14631.43								

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

IPSCO Koppel Tubulars (Tenaris), NPDES Permit No. PA0006335, Outfall 001

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

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.065 Analysis Hardness (mg/l): 100.41 Analysis pH: 7.50

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	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	398.5	1.1993		0	750	750	174,911	
Total Antimony	0	0		0	1,100	1,100	546,127	
Total Arsenic	0	0		0	340	340	168,803	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	10,426,067	
Total Boron	0	0		0	8,100	8,100	4,021,483	
Total Cadmium	0	0		0	2.022	2.14	1,063	Chem Translator of 0.944 applied
Total Chromium (III)	0	0		0	571.665	1,809	898,164	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	8,089	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	47,166	
Total Copper	0	0		0	13.491	14.1	6,977	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	10,923	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	1280.8	1.3907		0	N/A	N/A	N/A	
Total Lead	0	0		0	64.868	82.1	40,746	Chem Translator of 0.79 applied
Total Manganese	179.5	0.8644		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	818	Chem Translator of 0.85 applied
Total Nickel	0	0		0	469.850	471	233,738	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	3.239	3.81	1,892	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	32,271	
Total Zinc	0	0		0	117.585	120	59,692	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	1,489	
Acrylonitrile	0	0		0	650	650	322,712	
Benzene	0	0		0	640	640	317,747	
Bromoform	0	0		0	1,800	1,800	893,663	
Carbon Tetrachloride	0	0		0	2,800	2,800	1,390,142	
Chlorobenzene	0	0		0	1,200	1,200	595,775	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

IPSCO Koppel Tubulars (Tenaris), NPDES Permit No. PA0006335, Outfall 001

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

2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	8,936,629	
Chloroform	0	0		0	1,900	1,900	943,311	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	7,447,191	
1,1-Dichloroethylene	0	0		0	7,500	7,500	3,723,595	
1,2-Dichloropropane	0	0		0	11,000	11,000	5,461,273	
1,3-Dichloropropylene	0	0		0	310	310	153,909	
Ethylbenzene	0	0		0	2,900	2,900	1,439,790	
Methyl Bromide	0	0		0	550	550	273,064	
Methyl Chloride	0	0		0	28,000	28,000	13,901,423	
Methylene Chloride	0	0		0	12,000	12,000	5,957,753	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	496,479	
Tetrachloroethylene	0	0		0	700	700	347,536	
Toluene	0	0		0	1,700	1,700	844,015	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	3,376,060	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	1,489,438	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	1,688,030	
Trichloroethylene	0	0		0	2,300	2,300	1,141,903	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	278,028	
2,4-Dichlorophenol	0	0		0	1,700	1,700	844,015	
2,4-Dimethylphenol	0	0		0	660	660	327,676	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	39,718	
2,4-Dinitrophenol	0	0		0	660	660	327,676	
2-Nitrophenol	0	0		0	8,000	8,000	3,971,835	
4-Nitrophenol	0	0		0	2,300	2,300	1,141,903	
p-Chloro-m-Cresol	0	0		0	160	160	79,437	
Pentachlorophenol	0	0		0	14.368	14.4	7,133	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	228,381	
Acenaphthene	0	0		0	83	83.0	41,208	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	148,944	
Benzo(a)Anthracene	0	0		0	0.5	0.5	248	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	30,000	30,000	14,894,381	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	

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Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	2,234,157	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	134,049	
Butyl Benzyl Phthalate	0	0		0	140	140	69,507	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	820	820	407,113	
1,3-Dichlorobenzene	0	0		0	350	350	173,768	
1,4-Dichlorobenzene	0	0		0	730	730	362,430	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	1,985,918	
Dimethyl Phthalate	0	0		0	2,500	2,500	1,241,198	
Di-n-Butyl Phthalate	0	0		0	110	110	54,613	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	794,367	
2,6-Dinitrotoluene	0	0		0	990	990	491,515	
1,2-Diphenylhydrazine	0	0		0	15	15.0	7,447	
Fluoranthene	0	0		0	200	200	99,296	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	10	10.0	4,965	
Hexachlorocyclopentadiene	0	0		0	5	5.0	2,482	
Hexachloroethane	0	0		0	60	60.0	29,789	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	4,964,794	
Naphthalene	0	0		0	140	140	69,507	
Nitrobenzene	0	0		0	4,000	4,000	1,985,918	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	8,440,149	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	148,944	
Phenanthrene	0	0		0	5	5.0	2,482	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	64,542	

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☑ CFC CCT (min): 720 PMF: 0.449 Analysis Hardness (mg/l): 100.46 Analysis pH: 7.50

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	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	398.5	1.1993		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	755,432	
Total Arsenic	0	0		0	150	150	515,067	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	14,078,505	
Total Boron	0	0		0	1,600	1,600	5,494,051	
Total Cadmium	0	0		0	0.247	0.27	932	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	74.392	86.5	297,029	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	35,694	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	65,242	
Total Copper	0	0		0	8.991	9.37	32,158	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	17,856	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	1280.8	1.3907		0	1,500	1,500	1,677,027	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.529	3.2	10,988	Chem Translator of 0.79 applied
Total Manganese	179.5	0.8644		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	3,111	Chem Translator of 0.85 applied
Total Nickel	0	0		0	52.207	52.4	179,808	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	17,132	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	44,639	
Total Zinc	0	0		0	118.596	120	413,015	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	10,301	
Acrylonitrile	0	0		0	130	130	446,392	
Benzene	0	0		0	130	130	446,392	
Bromoform	0	0		0	370	370	1,270,499	
Carbon Tetrachloride	0	0		0	560	560	1,922,918	
Chlorobenzene	0	0		0	240	240	824,108	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	

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2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	12,018,236	
Chloroform	0	0		0	390	390	1,339,175	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	10,644,724	
1,1-Dichloroethylene	0	0		0	1,500	1,500	5,150,673	
1,2-Dichloropropane	0	0		0	2,200	2,200	7,554,320	
1,3-Dichloropropylene	0	0		0	61	61.0	209,461	
Ethylbenzene	0	0		0	580	580	1,991,593	
Methyl Bromide	0	0		0	110	110	377,716	
Methyl Chloride	0	0		0	5,500	5,500	18,885,800	
Methylene Chloride	0	0		0	2,400	2,400	8,241,076	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	721,094	
Tetrachloroethylene	0	0		0	140	140	480,729	
Toluene	0	0		0	330	330	1,133,148	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	4,807,295	
1,1,1-Trichloroethane	0	0		0	610	610	2,094,607	
1,1,2-Trichloroethane	0	0		0	680	680	2,334,972	
Trichloroethylene	0	0		0	450	450	1,545,202	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	377,716	
2,4-Dichlorophenol	0	0		0	340	340	1,167,486	
2,4-Dimethylphenol	0	0		0	130	130	446,392	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	54,941	
2,4-Dinitrophenol	0	0		0	130	130	446,392	
2-Nitrophenol	0	0		0	1,600	1,600	5,494,051	
4-Nitrophenol	0	0		0	470	470	1,613,877	
p-Chloro-m-Cresol	0	0		0	500	500	1,716,891	
Pentachlorophenol	0	0		0	11.023	11.0	37,851	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	312,474	
Acenaphthene	0	0		0	17	17.0	58,374	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	202,593	
Benzo(a)Anthracene	0	0		0	0.1	0.1	343	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	

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Bis(2-Chloroethyl)Ether	0	0		0	6,000	6,000	20,602,691	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	3,124,741	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	185,424	
Butyl Benzyl Phthalate	0	0		0	35	35.0	120,182	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	160	160	549,405	
1,3-Dichlorobenzene	0	0		0	69	69.0	236,931	
1,4-Dichlorobenzene	0	0		0	150	150	515,067	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	2,747,025	
Dimethyl Phthalate	0	0		0	500	500	1,716,891	
Di-n-Butyl Phthalate	0	0		0	21	21.0	72,109	
2,4-Dinitrotoluene	0	0		0	320	320	1,098,810	
2,6-Dinitrotoluene	0	0		0	200	200	686,756	
1,2-Diphenylhydrazine	0	0		0	3	3.0	10,301	
Fluoranthene	0	0		0	40	40.0	137,351	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	2	2.0	6,868	
Hexachlorocyclopentadiene	0	0		0	1	1.0	3,434	
Hexachloroethane	0	0		0	12	12.0	41,205	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	7,210,942	
Naphthalene	0	0		0	43	43.0	147,653	
Nitrobenzene	0	0		0	810	810	2,781,363	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	11,674,858	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	202,593	
Phenanthrene	0	0		0	1	1.0	3,434	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	89,278	

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☑ ***THH*** CCT (min): 720 THH PMF: 0.449 Analysis Hardness (mg/l): N/A Analysis pH: N/A PWS PMF: 1

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	##########	WQC applied at RMI 954 with a design stream flow of 5880 cfs
Sulfate (PWS)	0	0		0	250,000	250,000	##########	WQC applied at RMI 954 with a design stream flow of 5880 cfs
Fluoride (PWS)	0	0		0	1,000	1,000	3,433,782	
Total Aluminum	398.5	1.1993		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	19,229	
Total Arsenic	0	0		0	10	10.0	34,338	
Total Barium	0	0		0	1,000	1,000	3,433,782	
Total Boron	0	0		0	3,100	3,100	10,644,724	
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	1,300	1,300	4,463,916	
Free Cyanide	0	0		0	4	4.0	13,735	
Dissolved Iron	0	0		0	300	300	1,030,135	
Total Iron	1280.8	1.3907		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	179.5	0.8644		0	1,000	1,000	2,817,597	
Total Mercury	0	0		0	0.012	0.012	41.2	
Total Nickel	0	0		0	610	610	2,094,607	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	47,516	WQC applied at RMI 954 with a design stream flow of 5880 cfs
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	824	
Total Zinc	0	0		0	7,400	7,400	25,409,985	
Acrolein	0	0		0	3	3.0	10,301	
Acrylonitrile	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	N/A	N/A	N/A	
Bromoform	0	0		0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	343,378	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	

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2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A	
1,1-Dichloroethylene	0	0		0	33	33.0	113,315	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
1,3-Dichloropropylene	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	233,497	
Methyl Bromide	0	0		0	47	47.0	161,388	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	N/A	N/A	N/A	
1,1,2,2-Tetrachloroethane	0	0		0	N/A	N/A	N/A	
Tetrachloroethylene	0	0		0	N/A	N/A	N/A	
Toluene	0	0		0	57	57.0	195,726	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	343,378	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	34,337,818	
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A	
Trichloroethylene	0	0		0	N/A	N/A	N/A	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	30	30.0	103,013	
2,4-Dichlorophenol	0	0		0	10	10.0	34,338	
2,4-Dimethylphenol	0	0		0	100	100.0	343,378	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	6,868	
2,4-Dinitrophenol	0	0		0	10	10.0	34,338	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	N/A	N/A	N/A	
Phenol	0	0		0	4,000	4,000	13,735,127	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	240,365	
Anthracene	0	0		0	300	300	1,030,135	
Benzidine	0	0		0	N/A	N/A	N/A	
Benzo(a)Anthracene	0	0		0	N/A	N/A	N/A	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	

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Bis(2-Chloroethyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroisopropyl)Ether	0	0		0	200	200	686,756	
Bis(2-Ethylhexyl)Phthalate	0	0		0	N/A	N/A	N/A	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	0.1	0.1	343	
2-Chloronaphthalene	0	0		0	800	800	2,747,025	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	420	420	1,442,188	
1,3-Dichlorobenzene	0	0		0	7	7.0	24,036	
1,4-Dichlorobenzene	0	0		0	63	63.0	216,328	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	2,060,269	
Dimethyl Phthalate	0	0		0	2,000	2,000	6,867,564	
Di-n-Butyl Phthalate	0	0		0	20	20.0	68,676	
2,4-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
2,6-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
1,2-Diphenylhydrazine	0	0		0	N/A	N/A	N/A	
Fluoranthene	0	0		0	20	20.0	68,676	
Fluorene	0	0		0	50	50.0	171,689	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A	
Hexachlorocyclopentadiene	0	0		0	4	4.0	13,735	
Hexachloroethane	0	0		0	N/A	N/A	N/A	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	34	34.0	116,749	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	34,338	
n-Nitrosodimethylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	N/A	N/A	N/A	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	20	20.0	68,676	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	240	

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☑ ***CRL*** CCT (min): 720 PMF: 0.612 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	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	398.5	1.1993		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	
Free Cyanide	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	1280.8	1.3907		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	179.5	0.8644		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	50	50.0	598,671	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	0.051	0.051	611	
Benzene	0	0		0	0.58	0.58	6,945	
Bromoform	0	0		0	4.3	4.3	51,486	
Carbon Tetrachloride	0	0		0	0.4	0.4	4,789	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.4	0.4	4,789	

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2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	68,249	
Dichlorobromomethane	0	0		0	0.55	0.55	6,585	
1,2-Dichloroethane	0	0		0	0.38	0.38	4,550	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.5	0.5	5,987	
1,3-Dichloropropylene	0	0		0	0.27	0.27	3,233	
Ethylbenzene	0	0		0	N/A	N/A	N/A	
Methyl Bromide	0	0		0	N/A	N/A	N/A	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	4.6	4.6	55,078	
1,1,2,2-Tetrachloroethane	0	0		0	0.17	0.17	2,035	
Tetrachloroethylene	0	0		0	0.69	0.69	8,262	
Toluene	0	0		0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0		0	0.55	0.55	6,585	
Trichloroethylene	0	0		0	0.6	0.6	7,184	
Vinyl Chloride	0	0		0	0.02	0.02	239	
2-Chlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dichlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dimethylphenol	0	0		0	N/A	N/A	N/A	
4,6-Dinitro-o-Cresol	0	0		0	N/A	N/A	N/A	
2,4-Dinitrophenol	0	0		0	N/A	N/A	N/A	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	0.030	0.03	359	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.4	1.4	16,763	
Acenaphthene	0	0		0	N/A	N/A	N/A	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	0.000086	0.00009	1.03	
Benzo(a)Anthracene	0	0		0	0.001	0.001	12.0	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	1.2	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	12.0	
Benzo(k)Fluoranthene	0	0		0	0.0038	0.004	45.5	

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Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	359	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	3,831	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	N/A	N/A	N/A	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	0.0038	0.004	45.5	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	1.2	
1,2-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,3-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,4-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
3,3-Dichlorobenzidine	0	0		0	0.021	0.021	251	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	599	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	599	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	359	
Fluoranthene	0	0		0	N/A	N/A	N/A	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	0.00008	0.00008	0.96	
Hexachlorobutadiene	0	0		0	0.01	0.01	120	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	1,197	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	12.0	
Isophorone	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	N/A	N/A	N/A	
n-Nitrosodimethylamine	0	0		0	0.00069	0.0007	8.26	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	59.9	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	39,512	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	N/A	N/A	N/A	

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☑ ***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)	4,751,631	mg/L	Discharge Conc ≤ 10% WQBEL
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	2,375,816	mg/L	Discharge Conc ≤ 10% WQBEL
Fluoride (PWS)	3,434	mg/L	Discharge Conc ≤ 10% WQBEL
Total Aluminum	112,111	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	19,229	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	34,338	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	3,433,782	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	2,577,608	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	682	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	297,029	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	5,185	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	30,231	µg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	4,472	µg/L	Discharge Conc ≤ 10% WQBEL
Free Cyanide	7,001	µg/L	Discharge Conc ≤ 25% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	1,030,135	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	1,677,027	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	10,988	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	2,817,597	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.012	µg/L	Discharge Conc < TQL
Total Nickel	149,817	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)	47,516	µg/L	Discharge Conc ≤ 10% WQBEL
Total Selenium	17,132	µg/L	Discharge Conc ≤ 10% WQBEL
Total Silver	1,213	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	824	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	38,260	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS

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Acrolein	955	µg/L	Discharge Conc ≤ 25% WQBEL
Acrylonitrile	611	µg/L	Discharge Conc ≤ 25% WQBEL
Benzene	6,945	µg/L	Discharge Conc ≤ 25% WQBEL
Bromoform	51,486	µg/L	Discharge Conc ≤ 25% WQBEL
Carbon Tetrachloride	4,789	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorobenzene	343,378	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorodibromomethane	4,789	µg/L	Discharge Conc ≤ 25% WQBEL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	5,728,018	µg/L	Discharge Conc ≤ 25% WQBEL
Chloroform	68,249	µg/L	Discharge Conc ≤ 25% WQBEL
Dichlorobromomethane	6,585	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	4,550	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethylene	113,315	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-Dichloropropane	5,987	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichloropropylene	3,233	µg/L	Discharge Conc ≤ 25% WQBEL
Ethylbenzene	233,497	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Bromide	161,388	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Chloride	8,910,251	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	55,078	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2,2-Tetrachloroethane	2,035	µg/L	Discharge Conc ≤ 25% WQBEL
Tetrachloroethylene	8,262	µg/L	Discharge Conc ≤ 25% WQBEL
Toluene	195,726	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-trans-Dichloroethylene	343,378	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,1-Trichloroethane	954,670	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2-Trichloroethane	6,585	µg/L	Discharge Conc ≤ 25% WQBEL
Trichloroethylene	7,184	µg/L	Discharge Conc ≤ 25% WQBEL
Vinyl Chloride	239	µg/L	Discharge Conc ≤ 25% WQBEL
2-Chlorophenol	103,013	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	34,338	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	210,027	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	6,868	µg/L	Discharge Conc ≤ 25% WQBEL
2,4-Dinitrophenol	34,338	µg/L	Discharge Conc ≤ 25% WQBEL
2-Nitrophenol	2,545,786	µg/L	Discharge Conc < TQL
4-Nitrophenol	731,913	µg/L	Discharge Conc ≤ 25% WQBEL
p-Chloro-m-Cresol	50,916	µg/L	Discharge Conc < TQL
Pentachlorophenol	359	µg/L	Discharge Conc ≤ 25% WQBEL

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Phenol	13,735,127	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	16,763	µg/L	Discharge Conc < TQL
Acenaphthene	26,413	µg/L	Discharge Conc ≤ 25% WQBEL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	1,030,135	µg/L	Discharge Conc ≤ 25% WQBEL
Benzidine	1.03	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	12.0	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	1.2	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	12.0	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	45.5	µg/L	Discharge Conc ≤ 25% WQBEL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	359	µg/L	Discharge Conc ≤ 25% WQBEL
Bis(2-Chloroisopropyl)Ether	686,756	µg/L	Discharge Conc ≤ 25% WQBEL
Bis(2-Ethylhexyl)Phthalate	3,831	µg/L	Discharge Conc ≤ 25% WQBEL
4-Bromophenyl Phenyl Ether	85,920	µg/L	Discharge Conc ≤ 25% WQBEL
Butyl Benzyl Phthalate	343	µg/L	Discharge Conc ≤ 25% WQBEL
2-Chloronaphthalene	2,747,025	µg/L	Discharge Conc ≤ 25% WQBEL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	45.5	µg/L	Discharge Conc ≤ 25% WQBEL
Dibenzo(a,h)Anthrancene	1.2	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	260,943	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichlorobenzene	24,036	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dichlorobenzene	216,328	µg/L	Discharge Conc ≤ 25% WQBEL
3,3-Dichlorobenzidine	251	µg/L	Discharge Conc ≤ 25% WQBEL
Diethyl Phthalate	1,272,893	µg/L	Discharge Conc ≤ 25% WQBEL
Dimethyl Phthalate	795,558	µg/L	Discharge Conc ≤ 25% WQBEL
Di-n-Butyl Phthalate	35,005	µg/L	Discharge Conc ≤ 25% WQBEL
2,4-Dinitrotoluene	599	µg/L	Discharge Conc ≤ 25% WQBEL
2,6-Dinitrotoluene	599	µg/L	Discharge Conc ≤ 25% WQBEL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	359	µg/L	Discharge Conc < TQL
Fluoranthene	63,645	µg/L	Discharge Conc ≤ 25% WQBEL
Fluorene	171,689	µg/L	Discharge Conc ≤ 25% WQBEL
Hexachlorobenzene	0.00008	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.01	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	1,591	µg/L	Discharge Conc ≤ 25% WQBEL

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Hexachloroethane	1,197	µg/L	Discharge Conc ≤ 25% WQBEL
Indeno(1,2,3-cd)Pyrene	12.0	µg/L	Discharge Conc < TQL
Isophorone	116,749	µg/L	Discharge Conc ≤ 25% WQBEL
Naphthalene	44,551	µg/L	Discharge Conc ≤ 25% WQBEL
Nitrobenzene	34,338	µg/L	Discharge Conc ≤ 25% WQBEL
n-Nitrosodimethylamine	8.26	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	59.9	µg/L	Discharge Conc ≤ 25% WQBEL
n-Nitrosodiphenylamine	39,512	µg/L	Discharge Conc ≤ 25% WQBEL
Phenanthrene	1,591	µg/L	Discharge Conc ≤ 25% WQBEL
Pyrene	68,676	µg/L	Discharge Conc ≤ 25% WQBEL
1,2,4-Trichlorobenzene	240	µg/L	Discharge Conc ≤ 25% WQBEL