pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0050326**
Facility Type	**Industrial**	APS ID	**1079586**
Major / Minor	**Major**	Authorization ID	**1424563**

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

Applicant and Facility Information

Applicant Name	**Cleveland Cliffs Plate LLC**	Facility Name	**Cleveland Cliffs Conshohocken Plant**
Applicant Address	900 Conshohocken Road	Facility Address	900 Conshohocken Road
	Conshohocken, PA 19428-1038		Conshohocken, PA 19428-1038
Applicant Contact	Reza Ajalli	Facility Contact	Reza Ajalli
Applicant Phone	(610) 383-2097	Facility Phone	(610) 383-2097
Client ID	360683	Site ID	240175
SIC Code	3312	Municipality	Plymouth Township
SIC Description	Manufacturing - Blast Furnaces and Steel Mills	County	Montgomery
Date Application Received	January 20, 2023	EPA Waived?	No
Date Application Accepted		If No, Reason	Major Facility
Purpose of Application	Permit Renewal		

Summary of Review

The permittee requests approval for the renewal of a National Pollutant Discharge Elimination System (NPDES) Individual Permit to discharge 1.2 MGD of treated industrial wastewater and stormwater from Cleveland Cliffs Conshohocken Plant.

Production operations at the facility consists of hot rolling of steel plate and steel plate heat treating (quench water recycle with limited discharge). Facility's hot rolling mill operations have been idle since August 2018. Cleveland Cliffs has no immediate plans to restart rolling mill production operations, but the facility may resume rolling mill operations during this permit term. Heat treating operations are currently active. Since idling of the rolling mill operations, discharge from Outfall 001 has consisted of essentially on-site well water treated through the facility's wastewater treatment system to maintain equipment in good working condition.

The WWTP is comprised of an influent flume, a concentrator and a 125' diameter clarifier. Influent flow from the mill to the concentrator is dosed with ferric chloride at a rate proportional to flow. Ferric chloride promotes formation of a pin floc as fine, oily particles begin to coagulate. A bar screen ensures effective mixing of ferric chloride with the influent process water stream. The water flows to a quiescent settling basin in the concentrator where the coagulated particles coalesce as a pin floc grows. Oil skimming equipment is active in this area to remove surface oils that have come in with the process water. Heavier scale particles drop out in the concentrator and are removed in an annual maintenance clean out. Once out of the quiescent zone, the water stream is treated with a cationic polymer to further aid in agglomerating the coagulated particles to form a larger floc. The flow exits the concentrator and flows in an underground pipe to the center well of the clarifier. The clarifier flow is designed to provide a 90-minute residence time from center well to outer saw-toothed weir. A sixty-foot skimmer arm rotates capturing surface oils and directs them to a baffle that flows to an API oil/water separator. The waste oil is pumped to one of two secondarily contained waste oil holding tanks for further decanting of free water and periodic removal by a waste oil contractor. A portion of the clarifier effluent is recycled to plant operations and a portion is discharged to Outfall 001.

Approve	Deny	Signatures	Date
X		*Sara Abraham* Sara Reji Abraham, E.I.T. / Project Manager	May 10, 2023
X		*Pravin Patel* Pravin C. Patel, P.E. / Environmental Engineer Manager	05/10/2023

Summary of Review

During the 90-minute residence time, floc continues to grow and sink to the cone bottom clarifier. Rubber squeegees attached to the bottom of the skimmer arm support structure sweep the concrete bottom with each rotation of the skimmer and direct the settled bottoms to a sludge pocket. The sludge that collects in the pocket is periodically pumped to a dewatering facility.

Sodium hypochlorite (disinfectant) and Sodium bisulfite (dechlorination) are listed in the application as wastewater treatment chemicals used at the facility.

DMR review shows the discharge has been in compliance with the permit effluent limitations.

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.

Act 14 Notifications:

Plymouth Township - January 18, 2023
Montgomery Township - January 18, 2023

Permit Conditions:

A. Necessary Property Rights
B. Proper Sludge Disposal
C. WQM Condition
D. BAT/ELG reopener clause
E. TRC Minimization
F. Operations and Maintenance Plan
G. 2°F Temperature Change
H. DRBC Additional Requirements
I. DRBC Docket
J. Remedial Measures if Public Nuisance
K. Fire Hydrant Discharge
L. Dust Control
M. CWIS Operation
N. Chemical Additives
O. Requirements Applicable to Stormwater Outfalls
P. PCB PMP Requirement

Permittee is requesting that DEP use a production rate of 1540 tons/day for calculation of TBELs based on applicable ELGs. This value was used for the previous permit calculations. If the facility's plans for production are substantially different upon restarting rolling (hot forming) operations, the DEP will be notified. The permittee may need to request for an amendment if necessary.

Applicable effluent limitation guidelines (ELGs) are contained under 40 CFR Part 420, Iron and Steel Manufacturing Point Source Category, Subpart G, Hot Forming Subcategory. Hot forming means those steel operations in which solidified, heated steel is shaped by rolls. The applicable sections under Subpart G are:

420.72 (c)(2) Flat Mills – Carbon Plate Mills and
420.72 (c)(3) Flat Mills – Specialty Plate Mills

Summary of Review

The following are the effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

(2) Carbon plate mills

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.227	0.0851
O&G	0.0568	
pH	(1)	(1)

1 within the range of 6.0 to 9.0

(3) Specialty plate mills.

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.100	0.0376
O&G	0.0250	
pH	(1)	(1)

1 within the range of 6.0 to 9.0

The facility processes both carbon and specialty steels on the same plate rolling mill equipment. The product mix has historically been approximately 75% (1155 tons/day) carbon steel and 25% (385 tons/day) specialty steels. The following calculation is based on that approximation:

Carbon Steel:

$$1{,}155\,\frac{tons}{day}\left(2{,}000\,\frac{lbs}{tons}\right) = 2310000\,\frac{lbs}{day}$$

Specialty Steel:

$$385\,\frac{tons}{day}\left(2{,}000\,\frac{lbs}{tons}\right) = 770000\,\frac{lbs}{day}$$

TSS:

30 – day average limit (carbon steel) = $\frac{0.0851\ lb}{1{,}000\ lbs} \times 2310000\ \frac{lbs}{day} = 196.581\ \frac{lbs}{day}$

30 – day average limit (specialty steel) = $\frac{0.0376\ lb}{1{,}000\ lbs} \times 770000\ \frac{lbs}{day} = 28.952\ \frac{lbs}{day}$

30 – day average limit (total) = 225.533 lbs/day

Summary of Review

Maximum daily limit (carbon steel) = $\frac{0.227lb}{1{,}000\ lbs} \times\ 2310000\ \frac{lbs}{day} = 524.37\frac{lbs}{day}$
Maximum daily limit (specialty steel) = $\frac{0.1\ lb}{1{,}000\ lbs} \times\ 770000\ \frac{lbs}{day} = 77\frac{lbs}{day}$

Maximum daily limit (Total) = 601.37 lbs/day

O&G:

Maximum daily limit (carbon steel) = $\frac{0.0568\ lb}{1{,}000\ lbs} \times\ 2310000\ \frac{lbs}{day} =\ 131.208\frac{lbs}{day}$
Maximum daily limit (specialty steel) = $\frac{0.0250\ lb}{1{,}000\ lbs} \times\ 770000\ \frac{lbs}{day} =\ 19.25\frac{lbs}{day}$

Maximum daily limit (total) = 150.458 lbs/day

Parameters	Concentrations (mg/l)		Mass Units (lbs/day)		Basis
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	
Total Suspended Solids			225.533	601.37	BPT, 420.72 (c)(2) & (3)
Total Suspended Solids	30	60*			DRBC/existing
Oil & Grease				150.458	BPT, 420.72 (c)(2) & (3)
Oil & Grease	15	30 (inst.max.)			Chap. 95.2(2)(ii)
pH	Within the range of 6.0 t0 9.0				BPT, 420.72 (c)(2) & (3) & Chap.95.2(1)

*using the default multiplier 2.0

A “Reasonable Potential Analysis” using Toxic Management Spreadsheet (TMS) determined the following parameter is a candidate for limitation.

Parameter	Limit (ug/l)	SBC	Model	Comment
Acrylamide	16.8	Average Monthly	TMS	*

* For Acrylamide, all three submitted results are ND using a method detection level of 11 ug/l. No Target QL existing according to the application instructions. Permittee confirmed that no acrylamide is used in the plate processing or in the currently approved chemical additives. There is no reason to believe this parameter is present in the discharge and it is not necessary to include in the permit.

See the below attached TMS report:

Summary of Review

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Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: Cleveland Cliffs Conshohocken Plant NPDES Permit No.: PA0050326 Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: IW Process Effluent

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
1.2	218	7.81						

					0 if left blank		0.6 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		798									
	Chloride (PWS)	mg/L		208									
	Bromide	mg/L		1.5									
	Sulfate (PWS)	mg/L		75.7									
	Fluoride (PWS)	mg/L	<	0.5									
Group 2	Total Aluminum	µg/L		25									
	Total Antimony	µg/L		2									
	Total Arsenic	µg/L	<	1.5									
	Total Barium	µg/L		63									
	Total Beryllium	µg/L	<	0.5									
	Total Boron	µg/L		67									
	Total Cadmium	µg/L	<	0.2									
	Total Chromium (III)	µg/L		3.9									
	Hexavalent Chromium	µg/L		4.17									
	Total Cobalt	µg/L	<	2.5									
	Total Copper	µg/L	<	5									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	4									
	Dissolved Iron	µg/L		0.25									
	Total Iron	µg/L		0.47									
	Total Lead	µg/L		2.7									
	Total Manganese	µg/L		9.5									
	Total Mercury	µg/L		0.0073									
	Total Nickel	µg/L		8.5									
	Total Phenols (Phenolics) (PWS)	µg/L	<	4									
	Total Selenium	µg/L	<	2									
	Total Silver	µg/L	<	0.5									
	Total Thallium	µg/L	<	0.5									
	Total Zinc	µg/L		20									
	Total Molybdenum	µg/L		8									
	Acrolein	µg/L	<	2.5									
	Acrylamide	µg/L	<	11									
	Acrylonitrile	µg/L	<	5									
	Benzene	µg/L	<	0.5									
	Bromoform	µg/L		3.7									

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Summary of Review

Group 3	Carbon Tetrachloride	µg/L	<	1									
	Chlorobenzene	µg/L	<	0.5									
	Chlorodibromomethane	µg/L		0.89									
	Chloroethane	µg/L	<	1									
	2-Chloroethyl Vinyl Ether	µg/L	<	5									
	Chloroform	µg/L	<	0.5									
	Dichlorobromomethane	µg/L	<	0.5									
	1,1-Dichloroethane	µg/L	<	0.5									
	1,2-Dichloroethane	µg/L	<	0.5									
	1,1-Dichloroethylene	µg/L	<	0.5									
	1,2-Dichloropropane	µg/L	<	0.5									
	1,3-Dichloropropylene	µg/L	<	1									
	1,4-Dioxane	µg/L	<	3									
	Ethylbenzene	µg/L	<	0.5									
	Methyl Bromide	µg/L	<	1									
	Methyl Chloride	µg/L	<	1									
	Methylene Chloride	µg/L	<	1									
	1,1,2,2-Tetrachloroethane	µg/L	<	0.5									
	Tetrachloroethylene	µg/L	<	0.5									
	Toluene	µg/L	<	0.5									
	1,2-trans-Dichloroethylene	µg/L	<	0.5									
	1,1,1-Trichloroethane	µg/L	<	0.5									
	1,1,2-Trichloroethane	µg/L	<	0.5									
	Trichloroethylene	µg/L	<	0.5									
	Vinyl Chloride	µg/L	<	0.5									
Group 4	2-Chlorophenol	µg/L	<	3									
	2,4-Dichlorophenol	µg/L	<	3									
	2,4-Dimethylphenol	µg/L	<	3									
	4,6-Dinitro-o-Cresol	µg/L	<	6									
	2,4-Dinitrophenol	µg/L	<	6									
	2-Nitrophenol	µg/L	<	3									
	4-Nitrophenol	µg/L	<	3									
	p-Chloro-m-Cresol	µg/L	<	3									
	Pentachlorophenol	µg/L	<	6									
	Phenol	µg/L	<	8									
	2,4,6-Trichlorophenol	µg/L	<	3									
Group 5	Acenaphthene	µg/L	<	1.5									
	Acenaphthylene	µg/L	<	1.5									
	Anthracene	µg/L	<	1.5									
	Benzidine	µg/L	<	4									
	Benzo(a)Anthracene	µg/L	<	1.5									
	Benzo(a)Pyrene	µg/L	<	1.5									
	3,4-Benzofluoranthene	µg/L	<	1.5									
	Benzo(ghi)Perylene	µg/L	<	1.5									
	Benzo(k)Fluoranthene	µg/L	<	1.5									
	Bis(2-Chloroethoxy)Methane	µg/L	<	3									
	Bis(2-Chloroethyl)Ether	µg/L	<	3									
	Bis(2-Chloroisopropyl)Ether	µg/L	<	3									
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	3									
	4-Bromophenyl Phenyl Ether	µg/L	<	3									
	Butyl Benzyl Phthalate	µg/L	<	3									
	2-Chloronaphthalene	µg/L	<	3									
	4-Chlorophenyl Phenyl Ether	µg/L	<	3									
	Chrysene	µg/L	<	1.5									
	Dibenzo(a,h)Anthrancene	µg/L	<	1.5									
	1,2-Dichlorobenzene	µg/L	<	1									
	1,3-Dichlorobenzene	µg/L	<	1									
	1,4-Dichlorobenzene	µg/L	<	1									
	3,3-Dichlorobenzidine	µg/L	<	3									
	Diethyl Phthalate	µg/L	<	3									
	Dimethyl Phthalate	µg/L	<	3									
	Di-n-Butyl Phthalate	µg/L	<	3									
	2,4-Dinitrotoluene	µg/L	<	3									

Summary of Review

	2,6-Dinitrotoluene	µg/L	<	3									
	Di-n-Octyl Phthalate	µg/L	<	3									
	1,2-Diphenylhydrazine	µg/L	<	3									
	Fluoranthene	µg/L	<	1.5									
	Fluorene	µg/L	<	1.5									
	Hexachlorobenzene	µg/L	<	1.5									
	Hexachlorobutadiene	µg/L	<	0.48									
	Hexachlorocyclopentadiene	µg/L	<	3									
	Hexachloroethane	µg/L	<	3									
	Indeno(1,2,3-cd)Pyrene	µg/L	<	1.5									
	Isophorone	µg/L	<	3									
	Naphthalene	µg/L	<	1.5									
	Nitrobenzene	µg/L	<	3									
	n-Nitrosodimethylamine	µg/L	<	3									
	n-Nitrosodi-n-Propylamine	µg/L	<	3									
	n-Nitrosodiphenylamine	µg/L	<	3									
	Phenanthrene	µg/L	<	1.5									
	Pyrene	µg/L	<	1.5									
	1,2,4-Trichlorobenzene	µg/L	<	0.41									
Group 6	Aldrin	µg/L	<	0.02									
	alpha-BHC	µg/L	<	0.02									
	beta-BHC	µg/L	<	0.02									
	gamma-BHC	µg/L	<	0.02									
	delta BHC	µg/L	<	0.02									
	Chlordane	µg/L	<	0.02									
	4,4-DDT	µg/L	<	0.02									
	4,4-DDE	µg/L	<	0.02									
	4,4-DDD	µg/L	<	0.02									
	Dieldrin	µg/L	<	0.02									
	alpha-Endosulfan	µg/L	<	0.02									
	beta-Endosulfan	µg/L	<	0.02									
	Endosulfan Sulfate	µg/L	<	0.02									
	Endrin	µg/L	<	0.02									
	Endrin Aldehyde	µg/L	<	0.013									
	Heptachlor	µg/L	<	0.02									
	Heptachlor Epoxide	µg/L	<	0.02									
	PCB-1016	µg/L	<	0.5									
	PCB-1221	µg/L	<	0.5									
	PCB-1232	µg/L	<	0.5									
	PCB-1242	µg/L	<	0.5									
	PCB-1248	µg/L	<	0.5									
	PCB-1254	µg/L	<	0.5									
	PCB-1260	µg/L	<	0.5									
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<	0.5									
	2,3,7,8-TCDD	ng/L	<										
Group 7	Gross Alpha	pCi/L											
	Total Beta	pCi/L	<										
	Radium 226/228	pCi/L	<										
	Total Strontium	µg/L	<										
	Total Uranium	µg/L	<										
	Osmotic Pressure	mOs/kg											

Summary of Review

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Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Cleveland Cliffs Conshohocken Plant, NPDES Permit No. PA0050326, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: **Schuylkill River** No. Reaches to Model: 1

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	000833	22.05	584.3	1770			Yes
End of Reach 1	000833	21.05	583.8	1770.8			Yes

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

Location	RMI	LFY (cfs/mi²)*	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	22.05	0.1	345.5									100	7		
End of Reach 1	21.05	0.1	364												

Q_h

Location	RMI	LFY (cfs/mi²)	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	22.05														
End of Reach 1	21.05														

Summary of Review

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Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

Cleveland Cliffs Conshohocken Plant, NPDES Permit No. PA0050326, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.035 Analysis Hardness (mg/l): 115.9 Analysis pH: 7.05

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	5,567	
Total Antimony	0	0		0	1,100	1,100	8,165	
Total Arsenic	0	0		0	340	340	2,524	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	155,885	
Total Boron	0	0		0	8,100	8,100	60,127	
Total Cadmium	0	0		0	2.324	2.48	18.4	Chem Translator of 0.938 applied
Total Chromium (III)	0	0		0	642.936	2,035	15,103	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	121	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	705	
Total Copper	0	0		0	15.443	16.1	119	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	75.806	98.5	731	Chem Translator of 0.77 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	12.2	Chem Translator of 0.85 applied
Total Nickel	0	0		0	530.478	532	3,946	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	4.146	4.88	36.2	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	482	
Total Zinc	0	0		0	132.783	136	1,008	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	22.3	

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Summary of Review

Acrylamide	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	650	650	4,825	
Benzene	0	0		0	640	640	4,751	
Bromoform	0	0		0	1,800	1,800	13,362	
Carbon Tetrachloride	0	0		0	2,800	2,800	20,785	
Chlorobenzene	0	0		0	1,200	1,200	8,908	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	133,615	
Chloroform	0	0		0	1,900	1,900	14,104	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	111,346	
1,1-Dichloroethylene	0	0		0	7,500	7,500	55,673	
1,2-Dichloropropane	0	0		0	11,000	11,000	81,654	
1,3-Dichloropropylene	0	0		0	310	310	2,301	
Ethylbenzene	0	0		0	2,900	2,900	21,527	
Methyl Bromide	0	0		0	550	550	4,083	
Methyl Chloride	0	0		0	28,000	28,000	207,846	
Methylene Chloride	0	0		0	12,000	12,000	89,077	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	7,423	
Tetrachloroethylene	0	0		0	700	700	5,196	
Toluene	0	0		0	1,700	1,700	12,619	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	50,477	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	22,269	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	25,238	
Trichloroethylene	0	0		0	2,300	2,300	17,073	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	4,157	
2,4-Dichlorophenol	0	0		0	1,700	1,700	12,619	
2,4-Dimethylphenol	0	0		0	660	660	4,899	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	594	
2,4-Dinitrophenol	0	0		0	660	660	4,899	
2-Nitrophenol	0	0		0	8,000	8,000	59,385	
4-Nitrophenol	0	0		0	2,300	2,300	17,073	
p-Chloro-m-Cresol	0	0		0	160	160	1,188	
Pentachlorophenol	0	0		0	9.196	9.2	68.3	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	3,415	
Acenaphthene	0	0		0	83	83.0	616	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	2,227	
Benzo(a)Anthracene	0	0		0	0.5	0.5	3.71	
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	222,692	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	33,404	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	2,004	

Summary of Review

Butyl Benzyl Phthalate	0	0		0	140	140	1,039	
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	6,087	
1,3-Dichlorobenzene	0	0		0	350	350	2,598	
1,4-Dichlorobenzene	0	0		0	730	730	5,419	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	29,692	
Dimethyl Phthalate	0	0		0	2,500	2,500	18,558	
Di-n-Butyl Phthalate	0	0		0	110	110	817	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	11,877	
2,6-Dinitrotoluene	0	0		0	990	990	7,349	
1,2-Diphenylhydrazine	0	0		0	15	15.0	111	
Fluoranthene	0	0		0	200	200	1,485	
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	74.2	
Hexachlorocyclopentadiene	0	0		0	5	5.0	37.1	
Hexachloroethane	0	0		0	60	60.0	445	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	74,231	
Naphthalene	0	0		0	140	140	1,039	
Nitrobenzene	0	0		0	4,000	4,000	29,692	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	126,192	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	2,227	
Phenanthrene	0	0		0	5	5.0	37.1	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	965	
Aldrin	0	0		0	3	3.0	22.3	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	0.95	0.95	7.05	
Chlordane	0	0		0	2.4	2.4	17.8	
4,4-DDT	0	0		0	1.1	1.1	8.17	
4,4-DDE	0	0		0	1.1	1.1	8.17	
4,4-DDD	0	0		0	1.1	1.1	8.17	
Dieldrin	0	0		0	0.24	0.24	1.78	
alpha-Endosulfan	0	0		0	0.22	0.22	1.63	
beta-Endosulfan	0	0		0	0.22	0.22	1.63	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.086	0.086	0.64	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.52	0.52	3.86	
Heptachlor Epoxide	0	0		0	0.5	0.5	3.71	
Toxaphene	0	0		0	0.73	0.73	5.42	

Summary of Review

☑ CFC CCT (min): 720 PMF: 0.239 Analysis Hardness (mg/l): 102.59 Analysis pH: 7.01

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	10,010	
Total Arsenic	0	0		0	150	150	6,825	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	186,552	
Total Boron	0	0		0	1,600	1,600	72,801	
Total Cadmium	0	0		0	0.250	0.28	12.5	Chem Translator of 0.908 applied
Total Chromium (III)	0	0		0	75.685	88.0	4,004	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	473	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	865	
Total Copper	0	0		0	9.154	9.54	434	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	280,669	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.588	3.29	150	Chem Translator of 0.787 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	41.2	Chem Translator of 0.85 applied
Total Nickel	0	0		0	53.145	53.3	2,425	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	227	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	592	
Total Zinc	0	0		0	120.730	122	5,571	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	137	
Acrylamide	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	130	130	5,915	
Benzene	0	0		0	130	130	5,915	
Bromoform	0	0		0	370	370	16,835	
Carbon Tetrachloride	0	0		0	560	560	25,480	
Chlorobenzene	0	0		0	240	240	10,920	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	159,251	
Chloroform	0	0		0	390	390	17,745	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	141,051	
1,1-Dichloroethylene	0	0		0	1,500	1,500	68,251	
1,2-Dichloropropane	0	0		0	2,200	2,200	100,101	
1,3-Dichloropropylene	0	0		0	61	61.0	2,776	
Ethylbenzene	0	0		0	580	580	26,390	

Summary of Review

Methyl Bromide	0	0		0	110	110	5,005	
Methyl Chloride	0	0		0	5,500	5,500	250,252	
Methylene Chloride	0	0		0	2,400	2,400	109,201	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	9,555	
Tetrachloroethylene	0	0		0	140	140	6,370	
Toluene	0	0		0	330	330	15,015	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	63,701	
1,1,1-Trichloroethane	0	0		0	610	610	27,755	
1,1,2-Trichloroethane	0	0		0	680	680	30,940	
Trichloroethylene	0	0		0	450	450	20,475	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	5,005	
2,4-Dichlorophenol	0	0		0	340	340	15,470	
2,4-Dimethylphenol	0	0		0	130	130	5,915	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	728	
2,4-Dinitrophenol	0	0		0	130	130	5,915	
2-Nitrophenol	0	0		0	1,600	1,600	72,801	
4-Nitrophenol	0	0		0	470	470	21,385	
p-Chloro-m-Cresol	0	0		0	500	500	22,750	
Pentachlorophenol	0	0		0	7.055	7.06	321	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	4,141	
Acenaphthene	0	0		0	17	17.0	774	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	2,685	
Benzo(a)Anthracene	0	0		0	0.1	0.1	4.55	
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	273,002	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	41,405	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	2,457	
Butyl Benzyl Phthalate	0	0		0	35	35.0	1,593	
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	7,280	
1,3-Dichlorobenzene	0	0		0	69	69.0	3,140	
1,4-Dichlorobenzene	0	0		0	150	150	6,825	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	36,400	
Dimethyl Phthalate	0	0		0	500	500	22,750	
Di-n-Butyl Phthalate	0	0		0	21	21.0	956	
2,4-Dinitrotoluene	0	0		0	320	320	14,560	

Summary of Review

2,6-Dinitrotoluene	0	0		0	200	200	9,100	
1,2-Diphenylhydrazine	0	0		0	3	3.0	137	
Fluoranthene	0	0		0	40	40.0	1,820	
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	91.0	
Hexachlorocyclopentadiene	0	0		0	1	1.0	45.5	
Hexachloroethane	0	0		0	12	12.0	546	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	95,551	
Naphthalene	0	0		0	43	43.0	1,957	
Nitrobenzene	0	0		0	810	810	36,855	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	154,701	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	2,685	
Phenanthrene	0	0		0	1	1.0	45.5	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	1,183	
Aldrin	0	0		0	0.1	0.1	4.55	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0043	0.004	0.2	
4,4-DDT	0	0		0	0.001	0.001	0.046	
4,4-DDE	0	0		0	0.001	0.001	0.046	
4,4-DDD	0	0		0	0.001	0.001	0.046	
Dieldrin	0	0		0	0.056	0.056	2.55	
alpha-Endosulfan	0	0		0	0.056	0.056	2.55	
beta-Endosulfan	0	0		0	0.056	0.056	2.55	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.036	0.036	1.64	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.0038	0.004	0.17	
Heptachlor Epoxide	0	0		0	0.0038	0.004	0.17	
Toxaphene	0	0		0	0.0002	0.0002	0.009	

☑ ***THH*** CCT (min): 720 PMF: 0.239 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	

Summary of Review

Total Antimony	0	0		0	5.6	5.6	255	
Total Arsenic	0	0		0	10	10.0	455	
Total Barium	0	0		0	2,400	2,400	109,201	
Total Boron	0	0		0	3,100	3,100	141,051	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	13,650	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	45,500	
Total Mercury	0	0		0	0.050	0.05	2.28	
Total Nickel	0	0		0	610	610	27,755	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	10.9	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	137	
Acrylamide	0	0		0	N/A	N/A	N/A	
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	4,550	
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	5.7	5.7	259	
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	1,502	
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	3,094	
Methyl Bromide	0	0		0	100	100.0	4,550	
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	2,594	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	4,550	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	455,004	
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A	

Summary of Review

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	1,365	
2,4-Dichlorophenol	0	0		0	10	10.0	455	
2,4-Dimethylphenol	0	0		0	100	100.0	4,550	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	91.0	
2,4-Dinitrophenol	0	0		0	10	10.0	455	
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	182,002	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	3,185	
Anthracene	0	0		0	300	300	13,650	
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	9,100	
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	4.55	
2-Chloronaphthalene	0	0		0	800	800	36,400	
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	1,000	1,000	45,500	
1,3-Dichlorobenzene	0	0		0	7	7.0	319	
1,4-Dichlorobenzene	0	0		0	300	300	13,650	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	27,300	
Dimethyl Phthalate	0	0		0	2,000	2,000	91,001	
Di-n-Butyl Phthalate	0	0		0	20	20.0	910	
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	910	
Fluorene	0	0		0	50	50.0	2,275	
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	182	
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	

Summary of Review

Isophorone	0	0		0	34	34.0	1,547	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	455	
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	910	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	3.19	
Aldrin	0	0		0	N/A	N/A	N/A	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	4.2	4.2	191	
Chlordane	0	0		0	N/A	N/A	N/A	
4,4-DDT	0	0		0	N/A	N/A	N/A	
4,4-DDE	0	0		0	N/A	N/A	N/A	
4,4-DDD	0	0		0	N/A	N/A	N/A	
Dieldrin	0	0		0	N/A	N/A	N/A	
alpha-Endosulfan	0	0		0	20	20.0	910	
beta-Endosulfan	0	0		0	20	20.0	910	
Endosulfan Sulfate	0	0		0	20	20.0	910	
Endrin	0	0		0	0.03	0.03	1.37	
Endrin Aldehyde	0	0		0	1	1.0	45.5	
Heptachlor	0	0		0	N/A	N/A	N/A	
Heptachlor Epoxide	0	0		0	N/A	N/A	N/A	
Toxaphene	0	0		0	N/A	N/A	N/A	

☑ *CRL* CCT (min): 720 PMF: 0.362 Analysis Hardness (mg/l): N/A Analysis pH: N/A

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

Summary of Review

Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylamide	0	0		0	0.07	0.07	16.8	
Acrylonitrile	0	0		0	0.06	0.06	14.4	
Benzene	0	0		0	0.58	0.58	139	
Bromoform	0	0		0	7	7.0	1,683	
Carbon Tetrachloride	0	0		0	0.4	0.4	96.2	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	192	
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	0.95	0.95	228	
1,2-Dichloroethane	0	0		0	9.9	9.9	2,380	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	216	
1,3-Dichloropropylene	0	0		0	0.27	0.27	64.9	
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	20	20.0	4,808	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	48.1	
Tetrachloroethylene	0	0		0	10	10.0	2,404	
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	132	
Trichloroethylene	0	0		0	0.6	0.6	144	
Vinyl Chloride	0	0		0	0.02	0.02	4.81	
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	

Summary of Review

p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	0.030	0.03	7.21	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	361	
Acenaphthene	0	0		0	N/A	N/A	N/A	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	0.0001	0.0001	0.024	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.24	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.024	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.24	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	2.4	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	7.21	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	76.9	
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	0.12	0.12	28.9	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.024	
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	0.05	0.05	12.0	
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	12.0	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	12.0	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	7.21	
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	0.019	
Hexachlorobutadiene	0	0		0	0.01	0.01	2.4	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	24.0	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.24	
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	0.0007	0.0007	0.17	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	1.2	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	793	
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	

Summary of Review

Aldrin	0	0		0	0.0000008	8.00E-07	0.0002	
alpha-BHC	0	0		0	0.0004	0.0004	0.096	
beta-BHC	0	0		0	0.008	0.008	1.92	
gamma-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0003	0.0003	0.072	
4,4-DDT	0	0		0	0.00003	0.00003	0.007	
4,4-DDE	0	0		0	0.00002	0.00002	0.005	
4,4-DDD	0	0		0	0.0001	0.0001	0.024	
Dieldrin	0	0		0	0.000001	0.000001	0.0002	
alpha-Endosulfan	0	0		0	N/A	N/A	N/A	
beta-Endosulfan	0	0		0	N/A	N/A	N/A	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	N/A	N/A	N/A	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.000006	0.000006	0.001	
Heptachlor Epoxide	0	0		0	0.00003	0.00003	0.007	
Toxaphene	0	0		0	0.0007	0.0007	0.17	

☑ ***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
Acrylamide	0.17	0.26	16.8	26.3	42.1	µg/L	16.8	CRL	Discharge Conc ≥ 50% WQBEL (RP)

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

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	3,568	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	255	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	99,916	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS

Summary of Review

Total Boron	38,539	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	11.8	µg/L	Discharge Conc < TQL
Total Chromium (III)	4,004	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	77.5	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	452	µg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	76.5	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	13,650	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	280,669	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	150	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	45,500	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	2.28	µg/L	Discharge Conc ≤ 10% WQBEL
Total Nickel	2,425	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	227	µg/L	Discharge Conc < TQL
Total Silver	23.2	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	10.9	µg/L	Discharge Conc < TQL
Total Zinc	646	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	14.3	µg/L	Discharge Conc ≤ 25% WQBEL
Acrylonitrile	14.4	µg/L	Discharge Conc < TQL
Benzene	139	µg/L	Discharge Conc < TQL
Bromoform	1,683	µg/L	Discharge Conc ≤ 25% WQBEL
Carbon Tetrachloride	96.2	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorobenzene	4,550	µg/L	Discharge Conc < TQL
Chlorodibromomethane	192	µg/L	Discharge Conc ≤ 25% WQBEL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	85,642	µg/L	Discharge Conc < TQL
Chloroform	259	µg/L	Discharge Conc < TQL
Dichlorobromomethane	228	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	2,380	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	1,502	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	216	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	64.9	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	3,094	µg/L	Discharge Conc < TQL
Methyl Bromide	2,617	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Chloride	133,221	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	4,808	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2,2-Tetrachloroethane	48.1	µg/L	Discharge Conc < TQL
Tetrachloroethylene	2,404	µg/L	Discharge Conc < TQL
Toluene	2,594	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	4,550	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	14,274	µg/L	Discharge Conc < TQL

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Summary of Review

1,1,2-Trichloroethane	132	µg/L	Discharge Conc < TQL
Trichloroethylene	144	µg/L	Discharge Conc < TQL
Vinyl Chloride	4.81	µg/L	Discharge Conc < TQL
2-Chlorophenol	1,365	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	455	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	3,140	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	91.0	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	455	µg/L	Discharge Conc < TQL
2-Nitrophenol	38,063	µg/L	Discharge Conc < TQL
4-Nitrophenol	10,943	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	761	µg/L	Discharge Conc < TQL
Pentachlorophenol	7.21	µg/L	Discharge Conc < TQL
Phenol	182,002	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	361	µg/L	Discharge Conc < TQL
Acenaphthene	395	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	13,650	µg/L	Discharge Conc < TQL
Benzidine	0.024	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.24	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.024	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.24	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	2.4	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	7.21	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	9,100	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	76.9	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	1,285	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	4.55	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	36,400	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	28.9	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.024	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	3,901	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichlorobenzene	319	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dichlorobenzene	3,473	µg/L	Discharge Conc ≤ 25% WQBEL
3,3-Dichlorobenzidine	12.0	µg/L	Discharge Conc < TQL
Diethyl Phthalate	19,032	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	11,895	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	523	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	12.0	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	12.0	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	7.21	µg/L	Discharge Conc < TQL
Fluoranthene	910	µg/L	Discharge Conc < TQL

Summary of Review

Fluorene	2,275	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.019	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	2.4	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	23.8	µg/L	Discharge Conc < TQL
Hexachloroethane	24.0	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.24	µg/L	Discharge Conc < TQL
Isophorone	1,547	µg/L	Discharge Conc < TQL
Naphthalene	666	µg/L	Discharge Conc ≥ 25% WQBEL
Nitrobenzene	455	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.17	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	1.2	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	793	µg/L	Discharge Conc < TQL
Phenanthrene	23.8	µg/L	Discharge Conc < TQL
Pyrene	910	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	3.19	µg/L	Discharge Conc < TQL
Aldrin	0.0002	µg/L	Discharge Conc < TQL
alpha-BHC	0.096	µg/L	Discharge Conc < TQL
beta-BHC	1.92	µg/L	Discharge Conc < TQL
gamma-BHC	4.52	µg/L	Discharge Conc < TQL
delta BHC	N/A	N/A	No WQS
Chlordane	0.072	µg/L	Discharge Conc < TQL
4,4-DDT	0.007	µg/L	Discharge Conc < TQL
4,4-DDE	0.005	µg/L	Discharge Conc < TQL
4,4-DDD	0.024	µg/L	Discharge Conc < TQL
Dieldrin	0.0002	µg/L	Discharge Conc < TQL
alpha-Endosulfan	1.05	µg/L	Discharge Conc < TQL
beta-Endosulfan	1.05	µg/L	Discharge Conc < TQL
Endosulfan Sulfate	910	µg/L	Discharge Conc < TQL
Endrin	0.41	µg/L	Discharge Conc < TQL
Endrin Aldehyde	45.5	µg/L	Discharge Conc < TQL
Heptachlor	0.001	µg/L	Discharge Conc < TQL
Heptachlor Epoxide	0.007	µg/L	Discharge Conc < TQL
PCB-1016	N/A	N/A	No WQS
PCB-1221	N/A	N/A	No WQS
PCB-1232	N/A	N/A	No WQS
PCB-1242	N/A	N/A	No WQS
PCB-1248	N/A	N/A	No WQS
PCB-1254	N/A	N/A	No WQS
PCB-1260	N/A	N/A	No WQS
Toxaphene	0.009	µg/L	Discharge Conc < TQL

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TDS: The current TDS limit of 1000 mg/l is carried over to the draft permit based on DRBC regulation. (DRBC docket # D-1979-026-3). Monitoring requirement for Color is also carried over to the draft permit.

The existing monitoring for Total Copper, Dissolved Iron, Total Iron, Total Sulfate, Chloride and Bromide are carried over to the draft permit. These parameters were included at the previous renewal when the facility was conducting its rolling mill operations.

Temperature: Existing instantaneous maximum limit of 110°F, based on DRBC regulations (Interpretive Guideline No. 1.B.a) for public safety is rolled over for this renewal. The limit is protective of the applicable Ch. 93 instream temperature criteria. Previous temperature spreadsheet results are included below. The narrative requirement that the discharge may not change the temperature of the receiving stream by more than 2°F in any one-hour period is included in Part C of the permit.

Summary of Review

Thermal Discharge Recommended Permit Limits — Warm Water Fishes (WWF) Stream

Facility: **Cleveland cliffs Conshohocken Plant**
Permit Number: PA0050326
Stream: Sckuylkill River

	WWF Ambient Stream Temperature (°F) (Default)	Ambient Stream Temperature (°F) (Site-specific data)	Target Maximum Stream Temp.[1] (°F)	WWF Daily WLA[2] (Million BTUs/day)	WWF Daily WLA[3] (°F)	at Discharge Flow (MGD)
Jan 1-31	35	0	40	29,796	110.0	1.2
Feb 1-29	35	0	40	32,589	110.0	1.2
Mar 1-31	40	0	46	78,214	110.0	1.2
Apr 1-15	47	0	52	86,594	110.0	1.2
Apr 16-30	53	0	58	86,594	110.0	1.2
May 1-15	58	0	64	56,985	110.0	1.2
May 16-30	62	0	72	94,974	110.0	1.2
Jun 1-15	67	0	80	72,628	110.0	1.2
Jun 16-30	71	0	84	72,628	110.0	1.2
Jul 1-31	75	0	87	37,990	110.0	1.2
Aug 1-15	74	0	87	33,893	110.0	1.2
Aug 16-31	74	0	87	33,893	110.0	1.2
Sep 1-15	71	0	84	26,630	110.0	1.2
Sep 16-30	65	0	78	26,630	110.0	1.2
Oct 1-15	60	0	72	26,816	110.0	1.2
Oct 16-31	54	0	66	26,816	110.0	1.2
Nov 1-15	48	0	58	29,796	110.0	1.2
Nov 16-30	42	0	50	23,837	110.0	1.2
Dec 1-31	37	0	42	22,347	110.0	1.2

[1] This is the maximum of the WWF WQ criterion or the ambient temperature. The ambient temperature may be either the design (median) temperature for WWF, or the ambient stream temperature based on site-specific data entered by the user. A minimum of 1°F above ambient stream temperature is allocated.
[2] The WLA expressed in Million BTUs/day is valid for Case 1 scenarios, and disabled for Case 2 scenarios.
[3] The WLA expressed in °F is valid only if the limit is tied to a daily discharge flow limit (may be used for Case 1 or Case 2). WLAs greater than 110°F are displayed as 110°F.

Thermal Discharge Limit Calc v1.0 — 8/25/2017

PCB: On April 7, 2007, the U.S. EPA, Region III established a Total Maximum Daily Load (TMDL) for PCBs for the Schuylkill River. The TMDL was established using a water quality criterion of 0.044 ng/l. According to the current permit requirement the permittee submitted one wet weather sample result from Outfall 004.The result shows a Total PCB concentration of 6700 pg/l in the discharge. The facility does not use PCBs in its industrial process and there are no PCB transformers at the site. An annual monitoring requirement for PCBs at Outfall 004 is included in the permit to reevaluate at the next permit renewal. The standard condition requiring PCB Monitoring is included in Part C of the permit.

TRC limits were developed at the last renewal, average monthly limit = 0.5 mg/l and an instantaneous maximum limit = 1.2 mg/l using the TRC Evaluation Spreadsheet. See below:

Summary of Review

Input appropriate values in A3:A9 and D3:D9			
345.5	= Q stream (cfs)	0.5	= CV Daily
1.2	= Q discharge (MGD)	0.5	= CV Hourly
4	= no. samples	0.046	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	0.324	= CFC_Partial Mix Factor
	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)	0	=Decay Coefficient (K)

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	1.3.2.iii	WLA afc =	2.750	1.3.2.iii	WLA cfc =	18.764
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	1.025	5.1d	LTA_cfc =	10.909

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

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

Chemical Additives listed in the application are Sodium hypochlorite solution, RL 124 (ChemTreat's trade name for Sodium bisulfite), CL4855, CM-1003-G and CL 6898.
Chemical additive notification is submitted for CL6898 with the application. All other additives were previously approved.

Stormwater: There are four stormwater Outfalls 002, 003, 004 and 005 are at the site. Most manufacturing operations are conducted indoors and not exposed to precipitation. However, some slabs, steel plates, and steel coils are stored outside prior to processing or shipment. Steel is exposed to precipitation as it is transported by railcar, and truck through the facility for different production processes. With the exception of steel, all raw materials are kept indoors or in tanks, unexposed to direct contact with precipitation. Outfalls are inspected annually.

Sampling is required at Outfall 004 only, which is considered representative of all stormwater outfalls. Pollutants to be sampled at Outfall 004 are based on current permit requirements and Appendix B (Primary Metals, applicable to facilities with SIC Code 3312) of the new General Permit for Discharges of Stormwater Associated with Industrial Activities. The current reporting requirements for pH, $CBOD_5$, COD, TSS, Oil and Grease, Total Arsenic, Total Cadmium, Total Chromium, Total Copper, Dissolved Iron, Total Iron, Total Lead, Total Manganese, and Total Nickel will remain in this permit renewal. Per new PAG-03 Appendix B Total Nitrogen and Total Phosphorous are added in this draft permit renewal.

According to the permittee the facility does not use Appendix B parameters, Total Aluminum and Total Zinc in any process lines in the plant. Therefore, these parameters are not included in the draft permit similar to the existing permit.

Summary of Review

Semi-annual monitoring requirement is continued for the stormwater discharge. This requirement is consistent with the PAG03 General Permit.

Cooling Water Intake Structure:

The facility owns a cooling water intake structure on the Schuylkill River. The permittee reports that removal of a downstream dam in 2008 prevents sufficient water depth for effective operation of this surface water intake, and that the intake structure is no longer used. The facility reports that alterations to the structure would be necessary for its operation. Cleveland-Cliffs has stated that there are no current plans to make any needed modifications for operation of the intake, but does not wish to preclude possible use of the intake in the future following any necessary modifications.

Facility water needs are currently supplied by on-site wells (groundwater).

Cleveland-Cliffs reports that if modifications to the structure were made to enable operation, the design intake flow (DIF) would most likely be 2.0 mgd or less based on the existing production operations and existing recycling systems at the facility (i.e., existing quench and temper and hot rolling mill).

Under 40 CFR 125.90 and 125.91, cooling water intake structures with a design intake flow of 2.0 mgd or less must meet CWA Section 316(b) requirements on a case-by-base Best Professional Judgement basis, and are not subject to the requirements of 40 CFR 125.94 to 125.99 and the associated application requirements at 40 CFR 122.21(r) (required under 125.95).

Based on the following exisiting information provided by the permittee, the facility's existing cooling water recycle systems and low percentage of source water withdrawal may constitute Best Technology Available on a BPJ basis for entrainment reduction and impingement mortality.

- No cooling water is used on a once-through basis under both current operations and under full production operations. All cooling water is recycled.
- Under full production operations, the facility operates several cooling water recycle systems.
- At a design intake flow of 2.0 mgd, the calculated reduction in cooling water withdrawal over once-through needs due to recycle and / or use of an alternate water source (wells) is 32.8 mgd or 94%.
- At a design intake flow of 2.0 mgd, the intake would withdraw approximately 0.1% of the source water mean annual flow, which is less than the 5% threshold required of a new facility subject to 40 CFR 125.84.

A BTA determination will not be included in the permit because the design intake flow is not currently under 2 MGD. If the permittee wishes to start operation of the intake during this permit term the permittee must submit an NPDES permit amendment request and this permit must be amended with respect to CWA Section 316(b) prior to operation of the intake. The amendment request should include confirmation of the information above and/or other information needed to make a BPJ BTA determination. Alternatively, if the design intake flow is greater 2 MGD the permittee will include all information as required by 40CFR 122.21(r).

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	1.2
Latitude	40º 5' 21.66"	Longitude	-75º 19' 16.53"
Quad Name	Norristown	Quad Code	1843
Wastewater Description:	IW Process Effluent with ELG		
Receiving Waters	Schuylkill River (WWF, MF)	Stream Code	00833
NHD Com ID	133228923	RMI	22.05
Drainage Area	1770 mi^2	Yield (cfs/mi^2)	0.195
Q_{7-10} Flow (cfs)	345.5*	Q_{7-10} Basis	Previous fact sheet
Elevation (ft)	583.8	Slope (ft/ft)	
Watershed No.	3-F	Chapter 93 Class.	WWF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	polychlorinated biphenyls (pcbs)		
Source(s) of Impairment	source unknown		
TMDL Status	Final	Name	Schuylkill River PCB TMDL

* Previous permit calculations for Q7-10 were used in this permit renewal. Q7-10 = 345.5 cfs (based on Schuylkill River at Pottstown, USGS 01472000, where Q7-10 = 261.7 cfs/1147 mi^2 = 0.228 cfsm, from 1929-1987). This value was used for the watershed except for the Perkiomen basin where, based on the Graterford gage, USGS 01473000, Q7-10 = 18.7 cfs/279 mi^2 = 0.067 cfsm, from 1916-1988. Applied at the mouth, where DA = 362 mi^2, the Q7-10 for Perkiomen basin = 24.3 cfs. Therefore, Q7-10 = (0.228 cfsm x 1408.8 mi^2) + (0.067 cfsm x 362 mi^2) = 345.5 cfs.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0
Latitude	40º 5' 21.81"	Longitude	-75º 19' 16.55"
Quad Name	Norristown	Quad Code	1843
Wastewater Description:	Stormwater		
Receiving Waters	Schuylkill River (WWF, MF)	Stream Code	00833
NHD Com ID	133228923	RMI	22.05
Watershed No.	3-F	Chapter 93 Class.	WWF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	polychlorinated biphenyls (pcbs)		
Source(s) of Impairment	source unknown		
TMDL Status	Final	Name	Schuylkill River PCB TMDL

Discharge, Receiving Waters and Water Supply Information

Outfall No.	003	Design Flow (MGD)	0
Latitude	40º 5' 16.89"	Longitude	-75º 19' 15.95"
Quad Name	Norristown	Quad Code	1843
Wastewater Description:	Stormwater		
Receiving Waters	Schuylkill River (WWF, MF)	Stream Code	00833
NHD Com ID	133228923	RMI	21.95
Watershed No.	3-F	Chapter 93 Class.	WWF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	polychlorinated biphenyls (pcbs)		
Source(s) of Impairment	source unknown		
TMDL Status	Final	Name	Schuylkill River PCB TMDL

Discharge, Receiving Waters and Water Supply Information

Outfall No.	004	Design Flow (MGD)	0
Latitude	40º 5' 4.58"	Longitude	-75Âº 19' 14.47"
Quad Name	Norristown	Quad Code	1843
Wastewater Description:	Stormwater		
Receiving Waters	Schuylkill River (WWF, MF)	Stream Code	00833
NHD Com ID	133228929	RMI	21.75
Watershed No.	3-F	Chapter 93 Class.	WWF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	polychlorinated biphenyls (pcbs)		
Source(s) of Impairment	source unknown		
TMDL Status	Final	Name	Schuylkill River PCB TMDL

Discharge, Receiving Waters and Water Supply Information

Outfall No.	005	Design Flow (MGD)	0
Latitude	40º 4' 58.52"	Longitude	-75º 19' 12.31"
Quad Name	Norristown	Quad Code	1843
Wastewater Description:	Stormwater		

Receiving Waters	Schuylkill River (WWF, MF)	Stream Code	00833
NHD Com ID	133228929	RMI	21.70
Watershed No.	3-F	Chapter 93 Class.	WWF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	polychlorinated biphenyls (pcbs)		
Source(s) of Impairment	source unknown		
TMDL Status	Final	Name	Schuylkill River PCB TMDL

Treatment Facility Summary				
Treatment Facility Name: Cleveland Cliffs Conshohocken Plant				
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial			Hypochlorite	1.2
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
		Not Overloaded		

Compliance History

DMR Data for Outfall 001 (from December 1, 2021 to November 30, 2022)

Parameter	NOV-22	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21
Flow (MGD) Average Monthly	0.270	0.339	0.376	0.370	0.479	0.500	0.542	0.486	0.465	0.440	0.352	0.381
Flow (MGD) Daily Maximum	0.499	0.516	0.620	0.790	0.789	0.654	0.661	0.659	0.584	0.518	0.418	0.428
pH (S.U.) Instantaneous Minimum	7.74	6.87	7.41	7.52	7.38	7.53	7.50	7.70	7.73	7.27	7.7	7.83
pH (S.U.) Instantaneous Maximum	8.11	7.62	8.25	8.16	8.08	7.85	7.77	7.84	8.11	7.90	8.0	8.10
TRC (mg/L) Average Monthly	< 0.03	0.03	< 0.03	< 0.02	< 0.02	< 0.04	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.02
TRC (mg/L) Instantaneous Maximum	0.05	0.07	0.06	0.02	0.02	0.12	0.02	0.02	0.02	0.13	0.02	0.02
Color (Pt-Co Units) Daily Maximum			< 5			5			5			5
Temperature (ºF) Instantaneous Maximum	68.9	63.1	82.6	73.9	73.6	73.2	71.1	65.5	66.2	57.7	56.3	59.5
TSS (lbs/day) Average Monthly	< 17	< 14	< 22	< 23	< 23	< 24	35	< 27	< 26	< 30	< 39	< 17
TSS (lbs/day) Daily Maximum	35	< 16	26	< 33	< 33	30	42	30	45	51	86	19
TSS (mg/L) Average Monthly	< 6	< 5	< 6.4	< 5	< 5	< 5.4	7.8	< 5.8	6.6	< 8	< 13.5	< 5.2
TSS (mg/L) Daily Maximum	10	< 5	9	< 5	5	6	9	7	10	13	29	6
Total Dissolved Solids (mg/L) Average Quarterly			666.0			524.0			640.0			700.0
Total Dissolved Solids (mg/L) Daily Maximum			666.0			524.0			640.0			700.0
Oil and Grease (lbs/day) Average Monthly	< 10	< 5	< 10	< 9	< 9	< 9	< 9	< 9	< 7	< 11	< 6	< 7
Oil and Grease (mg/L) Average Monthly	< 3.8	< 1.9	< 2.7	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	< 1.8	< 3.1	< 1.9	< 2

Oil and Grease (mg/L) Instantaneous Maximum	< 3.9	< 1.9	< 3.9	< 1.9	< 2	< 2	< 2	< 1.9	< 2	< 4.5	< 2	< 2.2
Total Copper (mg/L) Daily Maximum			< 0.0016			< 0.0016			< 0.0016			< 0.0016
Dissolved Iron (mg/L) Daily Maximum			< 0.02			< 0.02			< 0.02			< 0.02
Total Iron (mg/L) Daily Maximum			0.07			0.08			0.12			0.09
Sulfate (mg/L) Daily Maximum			75.7			63.6			62.6			53.90
Chloride (mg/L) Daily Maximum			205			185			184			200
Bromide (mg/L) Daily Maximum			1.30			150			1.10			0.40

DMR Data for Outfall 002 (from December 1, 2021 to November 30, 2022)

Parameter	NOV-22	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21
pH (S.U.) Daily Maximum						GG						GG
CBOD5 (mg/L) Daily Maximum						GG						GG
COD (mg/L) Daily Maximum						GG						GG
TSS (mg/L) Daily Maximum						GG						GG
Oil and Grease (mg/L) Daily Maximum						GG						GG
Total Arsenic (mg/L) Daily Maximum						GG						GG
Total Cadmium (mg/L) Daily Maximum						GG						GG
Total Chromium (mg/L) Daily Maximum						GG						GG
Total Copper (mg/L) Daily Maximum						GG						GG
Dissolved Iron (mg/L) Daily Maximum						GG						GG
Total Iron (mg/L) Daily Maximum						GG						GG
Total Lead (mg/L) Daily Maximum						GG						GG

Total Manganese (mg/L) Daily Maximum						GG						GG
Total Nickel (mg/L) Daily Maximum						GG						GG

DMR Data for Outfall 003 (from December 1, 2021 to November 30, 2022)

Parameter	NOV-22	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21
pH (S.U.) Daily Maximum						GG						GG
CBOD5 (mg/L) Daily Maximum						GG						GG
COD (mg/L) Daily Maximum						GG						GG
TSS (mg/L) Daily Maximum						GG						GG
Oil and Grease (mg/L) Daily Maximum						GG						GG
Total Arsenic (mg/L) Daily Maximum						GG						GG
Total Cadmium (mg/L) Daily Maximum						GG						GG
Total Chromium (mg/L) Daily Maximum						GG						GG
Total Copper (mg/L) Daily Maximum						GG						GG
Dissolved Iron (mg/L) Daily Maximum						GG						GG
Total Iron (mg/L) Daily Maximum						GG						GG
Total Lead (mg/L) Daily Maximum						GG						GG
Total Manganese (mg/L) Daily Maximum						GG						GG
Total Nickel (mg/L) Daily Maximum						GG						GG

DMR Data for Outfall 004 (from December 1, 2021 to November 30, 2022)

Parameter	NOV-22	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21
pH (S.U.) Daily Maximum						7.9						8.3

CBOD5 (mg/L) Daily Maximum						6.5						8.7
COD (mg/L) Daily Maximum						< 15						< 15
TSS (mg/L) Daily Maximum						19						28
Oil and Grease (mg/L) Daily Maximum						< 4.2						< 3.7
Total Arsenic (mg/L) Daily Maximum						< 0.0015						< 0.0015
Total Cadmium (mg/L) Daily Maximum						0.00032						0.00045
Total Chromium (mg/L) Daily Maximum						0.0028						0.0034
Total Copper (mg/L) Daily Maximum						0.0120						0.016
Dissolved Iron (mg/L) Daily Maximum						< 0.02						< 0.02
Total Iron (mg/L) Daily Maximum						0.79						1.7
Total Lead (mg/L) Daily Maximum						0.0082						0.014
Total Manganese (mg/L) Daily Maximum						0.0250						0.031
Total Nickel (mg/L) Daily Maximum						0.0056						0.0089
PCBs (Wet Weather) (pg/L) Daily Maximum												GG

DMR Data for Outfall 005 (from December 1, 2021 to November 30, 2022)

Parameter	NOV-22	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21
pH (S.U.) Daily Maximum						GG						GG
CBOD5 (mg/L) Daily Maximum						GG						GG
COD (mg/L) Daily Maximum						GG						GG
TSS (mg/L) Daily Maximum						GG						GG
Oil and Grease (mg/L) Daily Maximum						GG						GG

Total Arsenic (mg/L) Daily Maximum						GG						GG
Total Cadmium (mg/L) Daily Maximum						GG						GG
Total Chromium (mg/L) Daily Maximum						GG						GG
Total Copper (mg/L) Daily Maximum						GG						GG
Dissolved Iron (mg/L) Daily Maximum						GG						GG
Total Iron (mg/L) Daily Maximum						GG						GG
Total Lead (mg/L) Daily Maximum						GG						GG
Total Manganese (mg/L) Daily Maximum						GG						GG
Total Nickel (mg/L) Daily Maximum						GG						GG

Proposed Effluent Limitations and Monitoring Requirements

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/day	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/week	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.2	1/week	Grab
Color (Pt-Co Units)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Temperature (deg F)	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
Total Suspended Solids	225.5	601.4	XXX	30.0	60.0	75	1/week	24-Hr Composite
Total Dissolved Solids	10008 Avg Qrtly	20016	XXX	1000.0 Avg Qrtly	2000.0	2500	1/quarter	24-Hr Composite
Oil and Grease	Report	150.5	15 Avg Mo	Report Daily Max	XXX	30	1/week	Grab
Copper, Total	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Iron, Dissolved	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Iron, Total	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Sulfate, Total	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Chloride	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Bromide	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite

Proposed Effluent Limitations and Monitoring Requirements

Outfall 004, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Chemical Oxygen Demand (COD)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Arsenic, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Cadmium, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Chromium, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Copper, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Iron, Dissolved	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Iron, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Lead, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Manganese, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Nickel, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
PCBs Wet Weather Analysis (pg/L)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab