pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0011568**
Facility Type	**Industrial**	APS ID	**1017599**
Major / Minor	**Major**	Authorization ID	**1316587**

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

Applicant and Facility Information

Applicant Name	**ArcelorMittal Plate LLC**	Facility Name	**ArcelorMittal Plate LLC Coatesville Plant**
Applicant Address	139 Modena Road Coatesville, PA 19320-4036	Facility Address	139 Modena Road Coatesville, PA 19320-4036
Applicant Contact	Reza Ajalli	Facility Contact	Reza Ajalli
Applicant Phone	(610) 383-2097	Facility Phone	(610) 383-2097
Client ID	121766	Site ID	455714
SIC Code	3312,3398	Municipality	Coatesville City
SIC Description	Manufacturing - Blast Furnaces And Steel Mills, Manufacturing - Metal Heat Treating	County	Chester
Date Application Received	May 27, 2020	EPA Waived?	No
Date Application Accepted	Not Applicable	If No, Reason	Major Facility - TMDL
Purpose of Application	Permit Renewal.		

Summary of Review

The permittee submitted a permit renewal application for the National Pollutant Discharge Elimination System (NPDES) permit for the ArcelorMittal Plate, LLC facility in Coatesville, PA. The facility has two treated industrial waste discharge points. Outfall 001 is to the West Branch Brandywine Creek and has a permit limit discharge of 0.576 million gallons per day (mgd). Outfall 016 is to the Sucker Run and has a permitted discharge limit of 0.397 mgd. In addition, the facility has multiple stormwater outfalls, five (5) of which are sampled as representative stormwater outfalls (Outfalls 900, 960, 985, 988, and 992). The aforementioned discharge waterbodies are in the Christina River Basin which has Total Maximum Daily Loads (TMDLs; discussed further in the Fact Sheet). Outfall 001 is treated process and non-contact cooling water from the melt shop, rolling mills, oxygen plant cooling tower blowdown, and storm water. Outfall 016 is process and non-contact cooling water from steel plate quenching, leachate and west side ponds, low-volume steel plate cleaning wastewater, and storm water.

This facility uses an electric melt shop to manufacture steel ingots and slabs, and rolls ingots and slabs to plates. The last two (2) permit renewal applications stated that all process wastewater is continuously recirculated and the system includes and is served by a 20 million gallon reservoir. A side-stream from the 20 million gallon reservoir is the discharge form Outfall 001. Wastewater contributing to the 20 million gallon reservoir is from contact and noncontact processes from manufacturing of ingots and slabs, and contact with hot plates during rolling. A separate system includes a 5 million gallon reservoir serving finishing operations and wastewater contributing to the reservoir from steel plate quenching and landfill leachate. A side stream from the 5 million gallon reservoir is the discharge from Outfall 016.

Treatment process for Outfall 001 consists of the following treatment process: sedimentation, cooling, oil skimming, multimedia filtration, recycle, chemical precipitation, moving bed filter, and neutralization (known as the Zinc Reduction Facility). Treatment process for Outfall 016 consist of the following treatment process: sedimentation, cooling, neutralization, chemical precipitation, moving bed filter, and reuse/recycle.

Approve	Deny	Signatures	Date
X		Harmonie Hawley, PhD, PE / Environmental Engineering Specialist /s/	10/29/2020
X		Pravin C. Patel, P.E. / Environmental Engineer Manager /s/	10/29/2020

Summary of Review

The following parameters were retained for Outfall 001 from the previous permit: flow, pH, TSS, oil and grease, lead, zinc, total antimony, total cadmium, total copper, and temperature. CBOD5, NH3-N, TN, TP, and DO were all "report" in the previous permit; however, limits have been added for all of these parameters which are consistent with the TMDL. A limit for fecal coliform was added to the permit due to the TMDL.

The following parameters were retained for Outfall 016 from the previous permit: flow, pH, TSS, Oil and Grease, Total Nickel, Temperature, and Fluoride. Limits or monitoring were added to the permit for Total Cadmium, Hexavalent Chromium, Total Copper, Total Iron, and Total Lead due to a reasonable potential analysis. CBOD5, NH3-N, TN, TP, and DO were all "report" in the previous permit; however, limits have been added for all of these parameters which are consistent with the TMDL. A limit for fecal coliform was added to the permit due to the TMDL

Fluoride will continue to be monitored at No. 4 Dam.

No changes were made to the stormwater outfalls monitoring parameters but the sampling frequency was reduced to 1/year since the last permit (2015).

Act 14 notifications:
South Coatesville Received 6/8/2020
East Fallowfield Township Received 5/8/2020
Valley Township Received 5/12/2020
Chester County Received 5/18/2020
City of Coatesville Received 5/8/2020

Proposed Part C Conditions:

I. Other Requirements
   A. Acquire Necessary Property Rights.
   B. Sludge Disposal Requirement.
   C. WQM permit Superseded by NPDES permit.
   D. BAT/BCT more Stringent than current permit Limits
   E. No Change in the Stream temperature of More Than 2°F
   F. DMT Study

II. Chemical Additives
III. Requirements Applicable to Stormwater Outfalls

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.	016	Design Flow (MGD)	0.397
Latitude	39º 58' 31.60"	Longitude	-75º 50' 8.40"
Quad Name	Coatesville	Quad Code	1939
Wastewater Description:	IW Process Effluent without ELG		
Receiving Waters	Sucker Run (WWF, MF)	Stream Code	00202
NHD Com ID	133069790	RMI	0.68
Drainage Area	4.31	Yield (cfs/mi^2)	0.39
Q_{7-10} Flow (cfs)	1.68	Q_{7-10} Basis	PA StreamStats
Elevation (ft)	542.7	Slope (ft/ft)	0.0038
Watershed No.	3-H	Chapter 93 Class.	WWF, MF
Existing Use	Aquatic Life	Existing Use Qualifier	Unknown
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	Flow Regime Modification, Nutrients		
Source(s) of Impairment	Agriculture, Urban Runoff/Storm Sewers		
TMDL Status	Final, Final	Name	Christina River Basin, Christina River Basin

Background/Ambient Data		Data Source
pH (SU)	8.07	DMT Study
Hardness (mg/L)	151	DMT Study

Changes Since Last Permit Issuance: None

Other Comments: None

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.576
Latitude	39º 58' 37.60"	Longitude	-75º 49' 21.00"
Quad Name	Coatesville	Quad Code	1939
Wastewater Description:	IW Process Effluent with ELG		
Receiving Waters	West Branch Brandywine Creek (WWF, MF)	Stream Code	00085
NHD Com ID	26086094	RMI	16
Drainage Area	47.84	Yield (cfs/mi^2)	0.15
Q_{7-10} Flow (cfs)	7.23	Q_{7-10} Basis	PA StreamStats
Elevation (ft)	655.3	Slope (ft/ft)	0.0015
Watershed No.	3-H	Chapter 93 Class.	WWF, MF
Existing Use	Aquatic Life	Existing Use Qualifier	Unknown
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	Flow Regime Modification, Nutrients, Polychlorinated Biphenyls (PCBs), Siltation		
Source(s) of Impairment	Agriculture, Source Unknown, Urban Runoff/Storm Sewers		
TMDL Status	Final 07/07/2006, Final	Name	Christina River Basin, West Branch Brandywine Creek

Background/Ambient Data		Data Source
pH (SU)	7	Application
Hardness (mg/L)	105.5	Application

Changes Since Last Permit Issuance: None

Other Comments: None

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	960	Design Flow (MGD)	0
Latitude	39º 57' 57.00"	Longitude	-75º 48' 57.00"
Quad Name	Coatesville	Quad Code	1939
Wastewater Description:	Stormwater		
Receiving Waters	West Branch Brandywine Creek (WWF, MF)	Stream Code	00085
NHD Com ID	26086094	RMI	Multiple
Watershed No.	3-H	Chapter 93 Class.	WWF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	Flow Regime Modification, Nutrients, Polychlorinated Biphenyls (PCBS), Siltation		
Source(s) of Impairment	Agriculture, Source Unknown, Urban Runoff/Storm Sewers		
TMDL Status	Final, Final	Name	Christina River Basin, West Branch Brandywine Creek

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	900	Design Flow (MGD)	0
Latitude	39º 58' 39.00"	Longitude	-75º 49' 34.00"
Outfall No.	985	Design Flow (MGD)	0
Latitude	39º 58' 29.00"	Longitude	-75º 50' 26.00"
Outfall No.	988	Design Flow (MGD)	0
Latitude	39º 58' 31.00"	Longitude	-75º 50' 6.00"
Outfall No.	992	Design Flow (MGD)	0
Latitude	39º 58' 35.00"	Longitude	-75º 49' 49.00"
Quad Name	Coatesville	Quad Code	1939
Wastewater Description:	Stormwater		
Receiving Waters	Sucker Run (WWF, MF)	Stream Code	00202
NHD Com ID	133069789	RMI	Multiple
Watershed No.	3-H	Chapter 93 Class.	WWF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	Flow Regime Modification, Nutrients		
Source(s) of Impairment	Agriculture, Urban Runoff/Storm Sewers		
TMDL Status	Final, Final	Name	Christina River Basin

Treatment Facility Summary				
Treatment Facility Name: Arcelormittal Plate Coatesville				
WQM Permit No.	**Issuance Date**			
1576202	9/3/2004			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial	N/A	N/A	No Disinfection	N/A
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
N/A	N/A	Not Overloaded	N/A	N/A

Compliance History

DMR Data for Outfall 001 (from June 1, 2019 to May 31, 2020)

Parameter	MAY-20	APR-20	MAR-20	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19
Flow (MGD) Average Monthly	0.277	0.277	0.139	0.166	0.193	0.081	0.203				0.093	0.203
Flow (MGD) Daily Maximum	0.302	0.301	0.298	0.282	0.286	0.284	0.283				0.273	0.261
pH (S.U.) Instantaneous Minimum	7.3	7.2	7.5	7.4	7.6	7.5	7.4				7.3	7.3
pH (S.U.) Instantaneous Maximum	7.5	7.4	7.6	7.6	7.8	7.6	7.8				7.8	7.6
DO (mg/L) Instantaneous Minimum			7.83			9.55			8.02			10.52
Temperature (ºF) Instantaneous Maximum	77	73	72	72	79	71	69				82	83
CBOD5 (mg/L) Average Monthly			< 2			5.3			< 2			< 2
TSS (lbs/day) Average Monthly	< 4	< 2	< 2	< 2	< 2	< 2	< 3				< 2	< 3
TSS (lbs/day) Daily Maximum	5	3	2	2	< 2	2	7				< 2	4
TSS (mg/L) Average Monthly	< 2	< 1	< 1	< 1	< 1	< 1	< 2				< 1	< 1
TSS (mg/L) Daily Maximum	2	1	1	1	< 1	1	3				< 1	2
Oil and Grease (lbs/day) Average Monthly	< 5	< 5	< 4	< 4	< 4	< 4	< 4				< 4	< 6
Oil and Grease (mg/L) Average Monthly	< 2	< 2	< 2	< 1.9	< 2	< 1.9	< 2				< 2	< 3
Total Nitrogen (mg/L) Average Monthly			2.7			2.74			2.8			4.2
Ammonia (mg/L) Average Monthly			< 0.1			< 0.1			< 0.1			< 0.1
Total Phosphorus (mg/L) Average Monthly			< 0.1			< 0.1			< 0.1			< 0.1

Total Antimony (mg/L) Average Monthly			0.016			0.017			0.019			0.019
Total Cadmium (mg/L) Average Monthly			0.0003			0.0006			0.0003			0.0004
Total Copper (mg/L) Average Monthly			0.012			0.018			0.013			0.023
Total Lead (lbs/day) Average Monthly	0.004	0.003	< 0.002	< 0.003	< 0.002	< 0.002	< 0.003				< 0.002	< 0.002
Total Lead (lbs/day) Daily Maximum	0.006	0.003	< 0.002	0.003	< 0.002	< 0.002	0.003				< 0.002	< 0.002
Total Lead (mg/L) Average Monthly	0.002	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001
Total Lead (mg/L) Daily Maximum	0.002	0.001	< 0.001	0.001	< 0.001	< 0.001	0.001				< 0.001	< 0.001
Total Zinc (lbs/day) Average Monthly	0.15	0.06	0.04	0.07	0.05	0.04	0.10				0.02	0.03
Total Zinc (lbs/day) Daily Maximum	0.20	0.07	0.06	0.08	0.07	0.04	0.13				0.02	0.06
Total Zinc (mg/L) Average Monthly	0.06	0.02	0.02	0.03	0.02	0.02	0.04				0.01	0.02
Total Zinc (mg/L) Daily Maximum	0.08	0.03	0.02	0.04	0.03	0.02	0.06				0.01	0.03

DMR Data for Outfall 016 (from June 1, 2019 to May 31, 2020)

Parameter	MAY-20	APR-20	MAR-20	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19
Flow (MGD) Average Monthly	0.375	0.393	0.374	0.365	0.355	0.291	0.303	0.261	0.298	0.374	0.387	0.410
Flow (MGD) Daily Maximum	0.404	0.454	0.400	0.406	0.396	0.368	0.366	0.377	0.349	0.418	0.434	0.476
pH (S.U.) Instantaneous Minimum	8.3	8.2	8.2	8.3	8.3	8.3	8.4	8.4	8.5	8.5	8.4	8.4
pH (S.U.) Instantaneous Maximum	8.4	8.4	8.4	8.4	8.4	8.4	8.6	8.5	8.7	8.6	8.6	8.7
DO (mg/L) Instantaneous Minimum			10.39			9.12			7.75			9.83
Temperature (ºF) Instantaneous Maximum	76	69	62	61	60	59	59	78	81	85	92	90
CBOD5 (mg/L) Average Monthly			< 2			< 2			< 2			< 2
TSS (lbs/day) Average Monthly	24	14	17	8	6	4	14	< 16	27	26	19	12

TSS (lbs/day) Daily Maximum	38	20	39	13	8	6	21	30	39	59	31	14
TSS (mg/L) Average Monthly	8	4	6	3	2	2	5	< 6	12	8	6	4
TSS (mg/L) Daily Maximum	12	6	13	4	3	3	7	11	18	18	9	4
Oil and Grease (lbs/day) Average Monthly	< 6	< 6	< 9	< 6	< 5	< 4	< 5	< 4	< 4	< 6	< 6	< 10
Oil and Grease (mg/L) Average Monthly	< 2	< 2	< 3	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 3
Total Nitrogen (mg/L) Average Monthly			4.6			3.6			3.4			3.1
Ammonia (mg/L) Average Monthly			< 0.1			0.235			< 0.1			< 0.1
Total Phosphorus (mg/L) Average Monthly			< 0.1			< 0.1			< 0.1			< 0.1
Total Copper (mg/L) Average Monthly	0.034	0.022	0.018	0.024	0.022	0.021	0.031	0.045	0.034	0.046	0.046	0.026
Total Copper (mg/L) Daily Maximum	0.04	0.024	0.018	0.025	0.024	0.025	0.032	0.045	0.038	0.05	0.049	0.028
Fluoride (mg/L) Average Monthly	1.15	1.06	1.08	1.04	0.76	0.8	0.76	0.68	0.71	0.99	1.22	1.45
Fluoride (mg/L) Downstream Monitoring Daily Maximum	0.17	0.16	0.20	0.17	0.18	0.14	0.21	0.19	0.21	0.23	0.26	0.23
Fluoride (mg/L) Upstream Monitoring Average Monthly	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoride (mg/L) Daily Maximum	1.2	1.2	1.20	1.1	0.94	0.94	0.94	0.78	0.76	1.10	1.30	1.6
Total Nickel (mg/L) Average Monthly	0.089	0.063	0.058	0.069	0.045	0.063	0.092	0.135	0.099	0.12	0.046	0.084
Total Nickel (mg/L) Daily Maximum	0.110	0.068	0.059	0.069	0.075	0.069	0.095	0.140	0.110	0.13	0.049	0.086

DMR Data for Outfall 900 (from June 1, 2019 to May 31, 2020)

Parameter	MAY-20	APR-20	MAR-20	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19
pH (S.U.) Average Monthly						8.9						8.42
pH (S.U.) Daily Maximum						8.9						8.42

CBOD5 (mg/L) Average Monthly						6.5						25.7
CBOD5 (mg/L) Daily Maximum						6.5						25.7
COD (mg/L) Average Monthly						53						149
COD (mg/L) Daily Maximum						53						149
TSS (mg/L) Average Monthly						74						156
TSS (mg/L) Daily Maximum						74						156
Oil and Grease (mg/L) Average Monthly						2						9.7
Oil and Grease (mg/L) Daily Maximum						2						9.7
Total Arsenic (mg/L) Average Monthly						< 0.0015						0.0024
Total Arsenic (mg/L) Daily Maximum						< 0.0015						0.0024
Total Cadmium (mg/L) Average Monthly						0.0003						0.0006
Total Cadmium (mg/L) Daily Maximum						0.0003						0.0006
Total Chromium (mg/L) Average Monthly						0.027						0.079
Total Chromium (mg/L) Daily Maximum						0.027						0.079
Total Copper (mg/L) Average Monthly						0.066						0.13
Total Copper (mg/L) Daily Maximum						0.066						0.13
Fluoride (mg/L) Average Monthly						0.44						1.1
Fluoride (mg/L) Daily Maximum						0.44						1.1
Dissolved Iron (mg/L) Average Monthly						< 0.06						0.093
Dissolved Iron (mg/L) Daily Maximum						< 0.06						0.093
Total Lead (mg/L) Average Monthly						0.02						0.023
Total Lead (mg/L) Daily Maximum						0.02						0.023

Total Nickel (mg/L) Average Monthly						0.03						0.068
Total Nickel (mg/L) Daily Maximum						0.03						0.068
Total Zinc (mg/L) Average Monthly						0.2						0.31
Total Zinc (mg/L) Daily Maximum						0.2						0.31

DMR Data for Outfall 960 (from June 1, 2019 to May 31, 2020)

Parameter	MAY-20	APR-20	MAR-20	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19
pH (S.U.) Average Monthly						8.62						8.95
pH (S.U.) Daily Maximum						8.62						8.95
CBOD5 (mg/L) Average Monthly						3.5						68
CBOD5 (mg/L) Daily Maximum						3.5						68
COD (mg/L) Average Monthly						16						138
COD (mg/L) Daily Maximum						16						138
TSS (mg/L) Average Monthly						55						85
TSS (mg/L) Daily Maximum						55						85
Oil and Grease (mg/L) Average Monthly						< 1.9						< 3.7
Oil and Grease (mg/L) Daily Maximum						< 1.9						< 3.7
Total Arsenic (mg/L) Average Monthly						< 0.0015						0.0017
Total Arsenic (mg/L) Daily Maximum						< 0.0015						0.0017
Total Cadmium (mg/L) Average Monthly						0.0011						0.0026
Total Cadmium (mg/L) Daily Maximum						0.0011						0.0026
Total Chromium (mg/L) Average Monthly						0.016						0.019
Total Chromium (mg/L) Daily Maximum						0.016						0.019

Total Copper (mg/L) Average Monthly						0.053						0.049
Total Copper (mg/L) Daily Maximum						0.053						0.049
Fluoride (mg/L) Average Monthly						0.9						2.8
Fluoride (mg/L) Daily Maximum						0.9						2.8
Dissolved Iron (mg/L) Average Monthly						< 0.06						0.06
Dissolved Iron (mg/L) Daily Maximum						< 0.06						0.06
Total Lead (mg/L) Average Monthly						0.033						0.03
Total Lead (mg/L) Daily Maximum						0.033						0.03
Total Nickel (mg/L) Average Monthly						0.016						0.01
Total Nickel (mg/L) Daily Maximum						0.016						0.01
Total Zinc (mg/L) Average Monthly						0.41						2.7
Total Zinc (mg/L) Daily Maximum						0.41						2.7

DMR Data for Outfall 985 (from June 1, 2019 to May 31, 2020)

Parameter	MAY-20	APR-20	MAR-20	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19
pH (S.U.) Average Monthly						8.77						8.7
pH (S.U.) Daily Maximum						8.77						8.7
CBOD5 (mg/L) Average Monthly						3.6						12.3
CBOD5 (mg/L) Daily Maximum						3.6						12.3
COD (mg/L) Average Monthly						28						19
COD (mg/L) Daily Maximum						28						19
TSS (mg/L) Average Monthly						98						81
TSS (mg/L) Daily Maximum						98						81
Oil and Grease (mg/L) Average Monthly						< 1.9						< 3.7

Oil and Grease (mg/L) Daily Maximum						< 1.9						< 3.7
Total Arsenic (mg/L) Average Monthly						< 0.0015						< 0.0015
Total Arsenic (mg/L) Daily Maximum						< 0.0015						< 0.0015
Total Cadmium (mg/L) Average Monthly						0.0004						0.0003
Total Cadmium (mg/L) Daily Maximum						0.0004						0.0003
Total Chromium (mg/L) Average Monthly						0.031						0.026
Total Chromium (mg/L) Daily Maximum						0.031						0.026
Total Copper (mg/L) Average Monthly						0.053						0.037
Total Copper (mg/L) Daily Maximum						0.053						0.037
Fluoride (mg/L) Average Monthly						0.34						0.32
Fluoride (mg/L) Daily Maximum						0.34						0.32
Dissolved Iron (mg/L) Average Monthly						< 0.06						< 0.06
Dissolved Iron (mg/L) Daily Maximum						< 0.06						< 0.06
Total Lead (mg/L) Average Monthly						0.027						0.024
Total Lead (mg/L) Daily Maximum						0.027						0.024
Total Nickel (mg/L) Average Monthly						0.042						0.031
Total Nickel (mg/L) Daily Maximum						0.042						0.031
Total Zinc (mg/L) Average Monthly						0.38						0.31
Total Zinc (mg/L) Daily Maximum						0.38						0.31

DMR Data for Outfall 988 (from June 1, 2019 to May 31, 2020)

Parameter	MAY-20	APR-20	MAR-20	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19
pH (S.U.) Average Monthly						8.55						8.11

pH (S.U.) Daily Maximum						8.55						8.11
CBOD5 (mg/L) Average Monthly						< 2						3.9
CBOD5 (mg/L) Daily Maximum						< 2						3.9
COD (mg/L) Average Monthly						< 15						< 15
COD (mg/L) Daily Maximum						< 15						< 15
TSS (mg/L) Average Monthly						5						104
TSS (mg/L) Daily Maximum						5						104
Oil and Grease (mg/L) Average Monthly						< 1.9						< 3.7
Oil and Grease (mg/L) Daily Maximum						< 1.9						< 3.7
Total Arsenic (mg/L) Average Monthly						< 0.0015						< 0.0015
Total Arsenic (mg/L) Daily Maximum						< 0.0015						< 0.0015
Total Cadmium (mg/L) Average Monthly						< 0.0002						< 0.0002
Total Cadmium (mg/L) Daily Maximum						< 0.0002						< 0.0002
Total Chromium (mg/L) Average Monthly						0.014						0.025
Total Chromium (mg/L) Daily Maximum						0.014						0.025
Total Copper (mg/L) Average Monthly						0.004						0.024
Total Copper (mg/L) Daily Maximum						0.004						0.024
Fluoride (mg/L) Average Monthly						1						1
Fluoride (mg/L) Daily Maximum						1						1
Dissolved Iron (mg/L) Average Monthly						< 0.06						< 0.06
Dissolved Iron (mg/L) Daily Maximum						< 0.06						< 0.06
Total Lead (mg/L) Average Monthly						0.002						0.009

Total Lead (mg/L) Daily Maximum						0.002						0.009
Total Nickel (mg/L) Average Monthly						0.003						0.017
Total Nickel (mg/L) Daily Maximum						0.003						0.017
Total Zinc (mg/L) Average Monthly						0.009						0.053
Total Zinc (mg/L) Daily Maximum						0.009						0.053

DMR Data for Outfall 992 (from June 1, 2019 to May 31, 2020)

Parameter	MAY-20	APR-20	MAR-20	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19
pH (S.U.) Average Monthly						8.81						8.11
pH (S.U.) Daily Maximum						8.81						8.11
CBOD5 (mg/L) Average Monthly						2						5.4
CBOD5 (mg/L) Daily Maximum						2						5.4
COD (mg/L) Average Monthly						45						22
COD (mg/L) Daily Maximum						45						22
TSS (mg/L) Average Monthly						374						119
TSS (mg/L) Daily Maximum						374						119
Oil and Grease (mg/L) Average Monthly						< 1.9						< 3.7
Oil and Grease (mg/L) Daily Maximum						< 1.9						< 3.7
Total Arsenic (mg/L) Average Monthly						0.0031						0.0016
Total Arsenic (mg/L) Daily Maximum						0.0031						0.0016
Total Cadmium (mg/L) Average Monthly						0.0008						0.0003
Total Cadmium (mg/L) Daily Maximum						0.0008						0.0003
Total Chromium (mg/L) Average Monthly						0.12						0.051

Total Chromium (mg/L) Daily Maximum						0.12						0.051
Total Copper (mg/L) Average Monthly						0.087						0.033
Total Copper (mg/L) Daily Maximum						0.087						0.033
Fluoride (mg/L) Average Monthly						1.3						1.3
Fluoride (mg/L) Daily Maximum						1.3						1.3
Dissolved Iron (mg/L) Average Monthly						< 0.06						< 0.06
Dissolved Iron (mg/L) Daily Maximum						< 0.06						< 0.06
Total Lead (mg/L) Average Monthly						0.058						0.021
Total Lead (mg/L) Daily Maximum						0.058						0.021
Total Nickel (mg/L) Average Monthly						0.1						0.039
Total Nickel (mg/L) Daily Maximum						0.1						0.039
Total Zinc (mg/L) Average Monthly						0.44						0.15
Total Zinc (mg/L) Daily Maximum						0.44						0.15

Compliance History

No Non-Compliance noted on WMS in the past five (5) years (2015-2020).
No Open Violations noted on WMS.

Development of Effluent Limitations

Outfall No.	016	**Design Flow (MGD)**	0.397
Latitude	39º 58' 31.60"	**Longitude**	-75º 50' 8.40"

Wastewater Description: IW Process Effluent without ELG

Technology-Based Limitations

Comments: In general, WQBELs are more stringent and are therefore used in this permit renewal. Oil and Grease is carried over from the previous permit. TRC was not in previous permits and it is not proposed to be added to this permit as disinfection is not used at the site treatment plants. Total Dissolved Solids (TDS) are not expected to be an issue due to the reported levels in the application as the level was under 500 mg/l (390 mg/l).

As described in the 2015 permit renewal, the industrial activities conducted that contribute to Outfall 016 flow do not require ELGs.

Water Quality-Based Limitations

A "Reasonable Potential Analysis" (Attachment A) determined the following parameters were candidates for limitations and the following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Total Cadmium	Monitor	2/month	PentOx/Toxics Analysis
Hexavalent Chromium	Monitor	1/month	PentOx/Toxics Analysis
Total Copper	Monitor	2/month	PentOx/Toxics Analysis
Total Iron	Monitor	1/month	PentOx/Toxics Analysis
Total Lead	Monitor	1/month	PentOx/Toxics Analysis
Total Nickel	0.27572	2/month	PentOx/Toxics Analysis
Acrylamide	0.001403	2/month	PentOx/Toxics Analysis

The Total Copper reported in the Dissolved Metals Translator Study (DMT) in the application ranged from 0.039 – 0.062 mg/l with an average of 0.0516 mg/l. Monitoring is added to the permit. The maximum Total Nickel reported in the application was 0.140 mg/l with an average of 0.112 mg/l; as the maximum concentration is less than half of the modeled limit, monitoring of Total Nickel is added to the permit. Acrylamide was below the detection limit so no monitoring will be included in the permit renewal.

Comments: There are three Christina River Basin Total Maximum Daily Loads (TMDLs); one for Low Flow (LF) conditions and two are High Flow conditions (HF). The Christina River Basin TMDL of Nutrients and Dissolved Oxygen Under Low-Flow Condition was issued by the Environmental Protections Agency (EPA) on January 19, 2001 and subsequently revised in October 2002 and April 2006. Subsequently, DEP prepared, and EPA acknowledged, an Alternative Reduction Scenario for the Christina River Basin for Low Flow TMDL dated June 27, 2012 which reassigned some of the allocations within the discharges but kept the total load to the basin the same. The Christina River Basin also has approved High-Flow TMDLs for Bacteria and Sediment (dated September 2006) for Fecal Coliform, enterococci, and TSS, and for Nutrients and Dissolved Oxygen (dated September 2006) loads for phosphorus, ammonia-N, TN, and CBOD5.

In the previous renewal the majority of the parameters were "Report" to collect data on the parameters. In this renewal, limits consistent with the three TMDLs are added to the permit. In addition, fecal coliform is added as a new parameter for consistency with the TMDLs. The CBOD5, NH3-N and TP were most stringent in the High Flow Nutrients TMDL (although about the same as those in the Low Flow Alternate Reduction Scenario). The Total Nitrogen was most stringent in Low Alternate Reduction Scenario. The DO is from the Low Flow Alternate Reduction Scenario and the TSS and fecal coliform are from the High Flow Bacteria-Sediments TMDL. Fecal coliform does not have a geometric mean limit due to the sampling frequency of 1/quarter (consistent with the current permit). The eDMR data from the past year was: CBOD5 was <2 mg/l, DO ranged from 7.75 to 10.39 mg/l, TN ranged from 3.1 to 4.6 mg/l, NH3-N ranged from <0.1 to 0.235 mg/l, and TP was <0.1 mg/l. Based on the aforementioned data, the facility should be able to meet the TMDL limits.

The facility has a Delaware River Basin Commission (DRBC) Docket, D-1990-025-1, which includes a temperature limit, as does the current permit issued in 2015, and is retained in this permit.

Attachment A

Best Professional Judgment (BPJ) Limitations

Comments: Not Applicable

Anti-Backsliding

Fluoride is required to be sampled at the Outfall and the No. 4 Dam in the current permit and both are renewed in this permit.

A summary table of the above discussed parameters is shown below.

Parameter	Technology Limits (mg/l)		WQBELs (mg/l)		Previous Permit (mg/l) 2015		Proposed Limits (mg/l)	
	Av. Monthly	Max. Daily	Av. Monthly	Max. Daily	Avg. Monthly	Max. Daily	Av. Monthly	Max. Daily
Flow					**Report**		Report	
pH	6-9				**6-9**		6-9	
Oil & Grease	N/A				**15**	**30 imax**	15	30 imax
$CBOD_5$			**5***		Report		5	
NH_3-N			**0.5***		Report		0.5	
TN			**10***		Report		10	
TP			**0.3***		Report		0.3	
DO (min)			**6.4***		Report		6.4	
TSS			30****		**30**	**60**	30	60
Fecal Coliform			**1000 imax***					
Total Cadmium			**Monitor****				Report	
Hexavalent Chromium			**Monitor****				Report	
Total Copper			Monitor		**Report**	**Report**	Report	Report
Total Iron			**Monitor****				Report	
Total Lead			**Monitor****				Report	
Total Nickel			**275 µg/l****		Report	Report	Report	Report
Temperature					**110 °F**			110 °F
Fluoride					**Report**	**Report**	Report	Report

*TMDLs
**Toxics Screening Analysis
Fluoride sample at No. 4 Dam per previous permit

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.576
Latitude 39º 58' 37.60" **Longitude** -75º 49' 21.00"
Wastewater Description: IW Process Effluent with ELG

Technology-Based Limitations

Comments: In general, WQBELs are more stringent and are therefore used in this permit renewal. Oil and Grease is carried over from the 2015 permit. TRC was not in previous permits and it is not proposed to be added to this permit as disinfection is not used at the site treatment plants. Total Dissolved Solids (TDS) are not expected to be an issue due to the reported levels in the application as the level was under 500 mg/l (476 mg/l).

Mass loadings were determined based on ELGs. Concentrations were determined by using the ELG mass loading and the permitted flow rate as shown in Attachment B which includes references to the applicable Code of Federal Regulations (CFR). Lead, zinc, oil and grease and TSS all have ELGs, but the current permit or TMDLs are more stringent and are thus used in this permit renewal.


Attachment B 001 ELG

Water Quality-Based Limitations

A "Reasonable Potential Analysis" (Attachment C) determined the following parameters were candidates for limitations and the following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Total Antimony	Monitor	1/quarter	Pentox/Toxics Analysis
Total Cadmium	Monitor	1/quarter	Pentox/Toxics Analysis
Total Copper	Monitor	1/quarter	Pentox/Toxics Analysis
Acrylamide	0.003359	2/month	Pentox/Toxics Analysis

Comments: The first three parameters are the same result as the 2015 permit and are retained in this permit. Acrylamide was below the detection limit so no monitoring will be included in the permit renewal.

There are three Christina River Basin Total Maximum Daily Loads (TMDLs); one for Low Flow (LF) conditions and two are High Flow conditions (HF). The Christina River Basin TMDL of Nutrients and Dissolved Oxygen Under Low-Flow Condition was issued by the Environmental Protections Agency (EPA) on January 19, 2001 and subsequently revised in October 2002 and April 2006. Subsequently, DEP prepared, and EPA acknowledged, an Alternative Reduction Scenario for the Christina River Basin for Low Flow TMDL dated June 27, 2012 which reassigned some of the allocations within the discharges but kept the total load to the basin the same. The Christina River Basin also has approved High-Flow TMDLs for Bacteria and Sediment (dated September 2006) for Fecal Coliform, enterococci, and TSS, and for Nutrients and Dissolved Oxygen (dated September 2006) loads for phosphorus, ammonia-N, TN, and CBOD5.

In the previous renewal the majority of the TMDL parameters were "Report" to collect data on the parameters. In this renewal, limits consistent with the three TMDLs are added to the permit. In addition, fecal coliform is added as a new parameter for consistency with the TMDLs. The CBOD5, NH3-N and TP were most stringent in the High Flow Nutrients TMDL (although about the same as those in the Low Flow Alternate Reduction Scenario). The Total Nitrogen was most stringent in Table 4-4 of High Flow Nutrients TMDL which had a load of 14.045 kg/d (31 lb/d); however, there is no concentration limit for TN in the High Flow Nutrients TMDL, so no concentration limit is proposed in the permit. The DO is from the Low Flow Alternate Reduction Scenario and the TSS and fecal coliform are from the High Flow Bacteria-Sediments TMDL. Fecal coliform does not have a geometric mean limit due to the sampling frequency of 1/quarter (consistent with the current permit). The eDMR data from the past year was: CBOD5 ranged from <2 to 5.3 mg/l, DO ranged from 7.83 to 10.52 mg/l, TN ranged from 2.7 to 4.2 mg/l, NH3-N was <0.1 mg/l, and TP was <0.1 mg/l. Based on the aforementioned data, the facility should be able to meet the TMDL limits. One time the CBOD5 went over the limit of 5 mg/l out of four (4) samples.

The facility has a Delaware River Basin Commission (DRBC) Docket, D-1990-025-1, which includes a temperature limit, as does the current permit issued in 2015, and is retained in this permit.

Attachment C 001 Toxics

Best Professional Judgment (BPJ) Limitations

Comments: None.

Anti-Backsliding

Not applicable.

A summary table of the above discussed parameters is shown below.

Parameter	Technology Limits (mg/l)+		WQBELs (mg/l)		Previous Permit (mg/l) 2015		Proposed Limits (mg/l)	
	Av. Monthly	Max. Daily	Av. Monthly	Max. Daily	Av. Monthly	Max. Daily	Av. Monthly	Max. Daily
Flow					**Report**		Report	
pH	6-9				**6-9**		6-9	
TSS	140.4	383.2	30*		**30**	**60**	30	60
Oil & Grease	31.5	95.4			**15**	**30 imax**	15	30 imax
$CBOD_5$			**5***		Report		5	
NH_3-N			**0.5***		Report		0.5	
TN			**Report***		Report		Report	
TP			**0.3***		Report		0.3	
DO (min)			**5.5***		Report		5.5	
Fecal Coliform			**1000 imax***				1000 imax	
Lead	0.1	0.4			**0.033**	**0.052**	0.033	0.052
Zinc		0.6			**Report**	**0.62**	Report	0.62
Total Antimony			Monitor**		**Report**		Report	
Total Cadmium			Monitor**		**Report**		Report	
Total Copper			Monitor**		**Report**		Report	
Temperature					**110 °F max**			110 °F max

*TMDLs
**Toxics Screening Analysis
+Calculated from ELG mass loadings which are included in the permit.
Temperature from DRBC

Chemical Additives
In the 2015 Fact Sheet a list of chemical additives was shown with a description that they were carried over from the previous permit with the addition/replacement of several of the chemical additives. In the Fact Sheet Addendum, it is stated that: "The permittee is authorized to use the chemical additives submitted to the Department on July 15, 2015 using Module 1 (PaDEP Form 3800.PM.WSFR0008d Rev. 3/2006) at the specified usage rates. For any other chemical additive not listed in Module 1, the permittee shall follow Part C.III.A. or B. of the permit". A comparison was made between the aforementioned chemical additives in Module 1 and the chemical additives listed in the 2020 permit renewal as being used in the past two (2) years. The evaluation is shown in attachment D. The list of chemicals in attachment D are approved with their respective maximum usage rates.


Attachment D

Cooling Water Intake Structures
Best Professional Judgment was used to assess 316(b) for this facility. This facility withdraws below the 2 MGD threshold for the West Branch Brandywine intake (design intake flow of 1.44 mgd) and the Sucker Run intake (design intake flow 0.504 mgd). The permit application reported an annual intake flow of 0.388 mgd for West Branch Brandywine intake and 0.214 mgd for the Sucker Run intake which are below the design intake flows. This facility has closed loop cooling which is the best available technology for this type of facility.

Development of Effluent Limitations

Outfall No. 900 **Design Flow (MGD)** 0
Latitude 39º 58' 39.00" **Longitude** -75º 49' 34.00"
Wastewater Description: Stormwater

Best Professional Judgment (BPJ) Limitations

Comments: Monitoring/Reporting will continue in this permit renewal for this representative outfall. Outfall 900 is representative of Outfalls 916, 918, 919, 920, 921, 936, 937A, 937B, 939, 941, 942, 943, 943A, 944, 944A, 944B, 944C, 945, 945A, 947, 947A, 948, 949, 950, 951, 952, 953, 954, 955, 955A, 958A, and 958B.

Parameter	Limit (mg/l)	Monitoring Frequency
pH (S.U.)	Report	1/year
CBOD5	Report	1/year
Chemical Oxygen Demand	Report	1/year
Total Suspended Solids	Report	1/year
Oil and Grease	Report	1/year
Total Arsenic	Report	1/year
Total Cadmium	Report	1/year
Total Chromium	Report	1/year
Total Copper	Report	1/year
Fluoride	Report	1/year
Dissolved Iron	Report	1/year
Total Lead	Report	1/year
Total Nickel	Report	1/year
Total Zinc	Report	1/year

Development of Effluent Limitations

Outfall No. 960 **Design Flow (MGD)** 0
Latitude 39º 57' 57.00" **Longitude** -75º 48' 57.00"
Wastewater Description: Stormwater

Best Professional Judgment (BPJ) Limitations

Comments: Monitoring/Reporting will continue in this permit renewal for this representative outfall. Outfall 960 is representative of Outfalls 956, 957, 958, 959, 965, 967, 968, and 969.

Parameter	Limit (mg/l)	Monitoring Frequency
pH (S.U.)	Report	1/year
CBOD5	Report	1/year
Chemical Oxygen Demand	Report	1/year
Total Suspended Solids	Report	1/year
Oil and Grease	Report	1/year
Total Arsenic	Report	1/year
Total Cadmium	Report	1/year
Total Chromium	Report	1/year
Total Copper	Report	1/year
Fluoride	Report	1/year
Dissolved Iron	Report	1/year
Total Lead	Report	1/year
Total Nickel	Report	1/year
Total Zinc	Report	1/year

Development of Effluent Limitations

Outfall No. 985 **Design Flow (MGD)** 0
Latitude 39º 58' 29.00" **Longitude** -75º 50' 26.00"
Wastewater Description: Stormwater

Best Professional Judgment (BPJ) Limitations

Comments: Monitoring/Reporting will continue in this permit renewal for this representative outfall. Outfall 985 is representative of Outfalls 986 and 987.

Parameter	Limit (mg/l)	Monitoring Frequency
pH (S.U.)	Report	1/year
CBOD5	Report	1/year
Chemical Oxygen Demand	Report	1/year
Total Suspended Solids	Report	1/year
Oil and Grease	Report	1/year
Total Arsenic	Report	1/year
Total Cadmium	Report	1/year
Total Chromium	Report	1/year
Total Copper	Report	1/year
Fluoride	Report	1/year
Dissolved Iron	Report	1/year
Total Lead	Report	1/year
Total Nickel	Report	1/year
Total Zinc	Report	1/year

Development of Effluent Limitations

Outfall No. 988 **Design Flow (MGD)** 0
Latitude 39º 58' 31.00" **Longitude** -75º 50' 6.00"
Wastewater Description: Stormwater

Best Professional Judgment (BPJ) Limitations

Comments: Comments: Monitoring/Reporting will continue in this permit renewal for this representative outfall.

Parameter	Limit (mg/l)	Monitoring Frequency
pH (S.U.)	Report	1/year
CBOD5	Report	1/year
Chemical Oxygen Demand	Report	1/year
Total Suspended Solids	Report	1/year
Oil and Grease	Report	1/year
Total Arsenic	Report	1/year
Total Cadmium	Report	1/year
Total Chromium	Report	1/year
Total Copper	Report	1/year
Fluoride	Report	1/year
Dissolved Iron	Report	1/year
Total Lead	Report	1/year
Total Nickel	Report	1/year
Total Zinc	Report	1/year

Development of Effluent Limitations

Outfall No. 992 **Design Flow (MGD)** 0
Latitude 39º 58' 35.00" **Longitude** -75º 49' 49.00"
Wastewater Description: Stormwater

Best Professional Judgment (BPJ) Limitations

Comments: Monitoring/Reporting will continue in this permit renewal for this representative outfall. Outfall 992 is representative of Outfalls 989, 991, 992A, 992B, 992C, 993, 994, 994A, and 994B.

Parameter	Limit (mg/l)	Monitoring Frequency
pH (S.U.)	Report	1/year
CBOD5	Report	1/year
Chemical Oxygen Demand	Report	1/year
Total Suspended Solids	Report	1/year
Oil and Grease	Report	1/year
Total Arsenic	Report	1/year
Total Cadmium	Report	1/year
Total Chromium	Report	1/year
Total Copper	Report	1/year
Fluoride	Report	1/year
Dissolved Iron	Report	1/year
Total Lead	Report	1/year
Total Nickel	Report	1/year
Total Zinc	Report	1/year

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

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 Quarterly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/week	Grab
DO	XXX	XXX	5.5 Inst Min	XXX	XXX	XXX	1/week	Grab
Temperature (ºF)	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
CBOD5	26.6 Avg Qrtly	XXX	XXX	5.0	XXX	XXX	1/quarter	24-Hr Composite
TSS	144	288	XXX	30 Avg Mo	60	75	1/week	24-Hr Composite
Oil and Grease	72	XXX	XXX	15 Avg Mo	XXX	30	1/week	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	XXX	XXX	1,000	1/quarter	Grab
Total Nitrogen	30.9 Avg Qrtly	XXX	XXX	Report	XXX	XXX	1/quarter	24-Hr Composite
Ammonia	2.6 Avg Qrtly	XXX	XXX	0.5	XXX	XXX	1/quarter	24-Hr Composite
Total Phosphorus	1.6 Avg Qrtly	XXX	XXX	0.3	XXX	XXX	1/quarter	24-Hr Composite
Total Antimony	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	24-Hr Composite
Total Cadmium	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	24-Hr Composite
Total Copper	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	24-Hr Composite
Total Lead	0.16	0.25	XXX	0.033 Avg Mo	0.052 Daily Max	0.083	1/month	24-Hr Composite

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Quarterly	Daily Maximum	Instant. Maximum		
Total Zinc	1.01	2.99	XXX	Report Avg Mo	0.62 Daily Max	0.78	1/month	24-Hr Composite

Compliance Sampling Location: Outfall 001

Other Comments: None

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 016, 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
DO	XXX	XXX	6.4 Inst Min	XXX	XXX	XXX	1/week	Grab
Temperature (ºF)	XXX	XXX	XXX	XXX	XXX	110	1/week	I-S
CBOD5	21 Avg Qrtly	XXX	XXX	5.0 Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
TSS	99	199	XXX	30.0	60.0	75	1/week	24-Hr Composite
Oil and Grease	50	XXX	XXX	15	XXX	30	1/week	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	XXX	XXX	1,000	1/quarter	Grab
Total Nitrogen	33 Avg Qrtly	XXX	XXX	10.0 Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Ammonia	2.09 Avg Qrtly	XXX	XXX	0.5 Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Total Phosphorus	1.25 Avg Qrtly	XXX	XXX	0.3 Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Hexavalent Chromium	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Copper	XXX	XXX	XXX	Report	Report	XXX	1/month	24-Hr Composite
Fluoride	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Fluoride Upstream Monitoring	XXX	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite

Outfall 016, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Iron	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Lead	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Nickel	Report	XXX	XXX	Report	Report	XXX	1/month	24-Hr Composite

Compliance Sampling Location: Outfall 016

Other Comments: Fluoride sample at No. 4 Dam per previous permit (Upstream Monitoring)

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 900, 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	Report	Report	XXX	1/year	Grab
CBOD5	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
COD	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
TSS	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Oil and Grease	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Arsenic	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Cadmium	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Chromium	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Copper	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Fluoride	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Dissolved Iron	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Lead	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Nickel	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Zinc	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab

Compliance Sampling Location: Outfall 900

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 960, 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	Report	Report	XXX	1/year	Grab
CBOD5	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
COD	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
TSS	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Oil and Grease	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Arsenic	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Cadmium	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Chromium	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Copper	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Fluoride	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Dissolved Iron	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Lead	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Nickel	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Zinc	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab

Compliance Sampling Location: Outfall 960

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 985, 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	Report	Report	XXX	1/year	Grab
CBOD5	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
COD	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
TSS	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Oil and Grease	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Arsenic	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Cadmium	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Chromium	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Copper	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Fluoride	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Dissolved Iron	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Lead	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Nickel	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Zinc	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab

Compliance Sampling Location: Outfall 985

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 988, 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	Report	Report	XXX	1/year	Grab
CBOD5	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
COD	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
TSS	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Oil and Grease	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Arsenic	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Cadmium	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Chromium	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Copper	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Fluoride	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Dissolved Iron	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Lead	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Nickel	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Zinc	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab

Compliance Sampling Location: Outfall 988

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 992, 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	Report	Report	XXX	1/year	Grab
CBOD5	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
COD	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
TSS	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Oil and Grease	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Arsenic	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Cadmium	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Chromium	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Copper	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Fluoride	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Dissolved Iron	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Lead	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Nickel	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab
Total Zinc	XXX	XXX	XXX	Report	Report	XXX	1/year	Grab

Compliance Sampling Location: Outfall 992

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	PENTOXSD for Windows Model (see Attachments A and C)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☒	Toxics Screening Analysis Spreadsheet (see Attachment A and C)
☐	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: New and Reissuance Industrial Waste and Industrial Stormwater Individual NPDES Permit Applications (BPNPSM-PMT-001, Final November 9, 2012, Revised October 11, 2013 Version 1.5) SOP for Establishing Effluent Limitations for Individual Industrial Permits (BCW-PMT-032) SOP for Chemical Additives, SOP No. BPNPSM-PMT-030, Final November 9, 2012, Revised January 14, 2015 Version 1.4 SOP for Whole Effluent Toxicity (BPNPSM-PMT-031, Final November 9, 2012; Revised May 13, 2014; Version 1.4)
☒	Other: Christina River Basin TMDLs