pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0008761**
Facility Type	**Industrial**	APS ID	**34617**
Major / Minor	**Minor**	Authorization ID	**1030948**

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

Applicant and Facility Information

Applicant Name	**Armstrong World Industries, Inc.**	Facility Name	**Armstrong World Industries – Marietta Ceiling Plant**
Applicant Address	1507 River Road	Facility Address	1507 River Road
	Marietta, PA 17547-9403		Marietta, PA 17547-9403
Applicant Contact	James Thompson	Facility Contact	James Thompson
Applicant Phone	(717) 426-7113	Facility Phone	(717) 426-7113
Client ID	40742	Site ID	238314
SIC Code	3296	Municipality	East Donegal Township
SIC Description	Manufacturing - Mineral Wool	County	Lancaster
Date Application Received	June 20, 2014	EPA Waived?	Yes
Date Application Accepted	July 1, 2014	If No, Reason	

Purpose of Application: NPDES Renewal.

Summary of Review

Armstrong World Industries, Inc. has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its National Pollutant Discharge Elimination System (NPDES) permit. The permit was issued on October 30, 2009 and became effective on November 1, 2009. The permit authorized discharge of industrial wastewater from the existing facility located in East Donegal Township, Lancaster County into the Susquehanna River. The existing permit expiration date was October 31, 2014, and the permit has been administratively extended since that time.

As per the previous protection report, a new secondary treatment plant was constructed at Armstrong in October 2003. Process water is settled at the primary treatment plant where 1,200 gpm is recycled and 550 gpm is sent to the secondary treatment plant. The new plant consists of a 131' diameter concrete tank that is divided into a storage tank, equalization, activated sludge aeration, and a final clarifier. 350 gpm of flow will be recycled back to the manufacturing process, and the remaining 200 gpm will discharge to the Susquehanna River. Armstrong currently produces ceiling tile, however; many years ago carpet was being produced which resulted in the facility being included on EPA's Major Discharge List. Since carpet is no longer manufactured here, a reevaluation was submitted on March 22, 1999 to remove them from the list. EPA removed them from the list on May 27, 1999.

Changes in this renewal: Monitoring requirements for Total Dissolved Solids (TDS), Bromide, Chloride, and Sulfate were added to the permit. The monitoring requirement for formaldehyde was removed from the permit. The existing stormwater monitoring requirements were replaced with the monitoring requirements from Appendix N of DEP's NPDES PAG-03 General Permit.

Approve	Deny	Signatures	Date
		Benjamin R. Lockwood / Environmental Engineering Specialist	July 25, 2019
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. / Program Manager	

Summary of Review

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.

Supplemental information for this report is located in an attachment below.

Armstrong World Industries PA000876

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.289
Latitude	40º 3' 15.6"	Longitude	76º 34' 22.3"
Quad Name	Columbia West	Quad Code	1833
Wastewater Description:	IW Process Effluent without ELG		
Receiving Waters	Susquehanna River (WWF, MF)	Stream Code	06685
NHD Com ID	57464871	RMI	33.4
Drainage Area	25,900 ft^2	Yield (cfs/mi^2)	0.126
Q_{7-10} Flow (cfs)	3,263	Q_{7-10} Basis	USGS Gage # 01576000
Elevation (ft)	240	Slope (ft/ft)	
Watershed No.	7-G	Chapter 93 Class.	WWF, MF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs), pH		
Source(s) of Impairment	Source Unknown		
TMDL Status	N/A	Name	N/A
Nearest Downstream Public Water Supply Intake	Columbia Water Company		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	5.5

Changes Since Last Permit Issuance: A drainage area of 25,900 mi^2 and a Q_{7-10} flow of 3,263 cubic feet per second (cfs) were determined by establishing a correlation to the yield of USGS Gage Station #01576000 on the Susquehanna River. The Q_{7-10} and drainage area at the gage are 3,270 cfs and 25,990 mi^2, respectively. These values are taken from the USGS document “Selected Streamflow Statistics for Streamgage Locations in and near Pennsylvania”. The Q_{7-10} runoff rate at the gage station was calculated as follows:

Yield = (3,270 cfs)/ 25,990 mi^2 = 0.126 cfs/mi^2

The drainage area at the discharge point, taken from USGS PA StreamStats = 25,900 mi^2

The Q_{7-10} at the discharge point = 25,900mi^2 x 0.126 cfs/mi^2 = 3,263 cfs

Other Comments: None

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	Variable (stormwater)
Latitude	40º 3' 19.1"	Longitude	76º 34' 43"
Quad Name	Columbia West	Quad Code	1833
Wastewater Description:	Stormwater from off-site agricultural and highway runoff		
Receiving Waters	Susquehanna River (WWF)	Stream Code	06685
NHD Com ID	57464771	RMI	33.4
Drainage Area	25,900 ft^2	Yield (cfs/mi^2)	0.126
Q_{7-10} Flow (cfs)	3,263	Q_{7-10} Basis	USGS Gage # 01576000
Elevation (ft)	240	Slope (ft/ft)	
Watershed No.	7-G	Chapter 93 Class.	WWF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs), pH		
Source(s) of Impairment	Source Unknown		
TMDL Status	N/A	Name	N/A
Nearest Downstream Public Water Supply Intake	Columbia Water Company		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	5.5

Changes Since Last Permit Issuance: None

Other Comments: None

Discharge, Receiving Waters and Water Supply Information

Outfall No.	003	Design Flow (MGD)	Variable (stormwater)
Latitude	40º 3' 21.4"	Longitude	76º 34' 57"
Quad Name	Columbia West	Quad Code	1833
Wastewater Description:	Stormwater from drummed materials, waste latex, and mineral wool transfer, off-site agricultural and highway runoff		
Receiving Waters	Susquehanna River (WWF)	Stream Code	06685
NHD Com ID	57464771	RMI	33.4
Drainage Area	25,900 ft^2	Yield (cfs/mi^2)	0.126
Q_{7-10} Flow (cfs)	3,263	Q_{7-10} Basis	USGS Gage # 01576000
Elevation (ft)	240	Slope (ft/ft)	
Watershed No.	7-G	Chapter 93 Class.	WWF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs), pH		
Source(s) of Impairment	Source Unknown		
TMDL Status	N/A	Name	N/A
Nearest Downstream Public Water Supply Intake	Columbia Water Company		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	5.5

Changes Since Last Permit Issuance: None

Other Comments: None

Discharge, Receiving Waters and Water Supply Information

Outfall No.	004	Design Flow (MGD)	Variable (stormwater)
Latitude	40º 3' 23.7"	Longitude	76º 34' 10.9"
Quad Name	Columbia West	Quad Code	1833
Wastewater Description:	Stormwater from trash compactor, off-site agricultural and highway runoff		
Receiving Waters	Susquehanna River (WWF)	Stream Code	06685
NHD Com ID	57464771	RMI	33.4
Drainage Area	25,900 ft^2	Yield (cfs/mi^2)	0.126
Q_{7-10} Flow (cfs)	3,263	Q_{7-10} Basis	USGS Gage # 01576000
Elevation (ft)	240	Slope (ft/ft)	
Watershed No.	7-G	Chapter 93 Class.	WWF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs), pH		
Source(s) of Impairment	Source Unknown		
TMDL Status	N/A	Name	N/A
Nearest Downstream Public Water Supply Intake	Columbia Water Company		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	5.5

Changes Since Last Permit Issuance: None

Other Comments: None

Discharge, Receiving Waters and Water Supply Information

Outfall No.	005	Design Flow (MGD)	Variable (stormwater)
Latitude	40º 3' 26.1"	Longitude	76º 34' 24.9"
Quad Name	Columbia West	Quad Code	1833
Wastewater Description:	Stormwater from paint transfer, drums and ammonium hydroxide totes, trash compactor, storeroom unloading of oils and boiler chemicals, raw material receiving, off-site agricultural and highway runoff		

Receiving Waters	Susquehanna River (WWF)	Stream Code	06685
NHD Com ID	57464771	RMI	33.4
Drainage Area	25,900 ft^2	Yield (cfs/mi^2)	0.126
Q_{7-10} Flow (cfs)	3,263	Q_{7-10} Basis	USGS Gage # 01576000
Elevation (ft)	240	Slope (ft/ft)	
Watershed No.	7-G	Chapter 93 Class.	WWF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs), pH		
Source(s) of Impairment	Source Unknown		
TMDL Status	N/A	Name	N/A

Nearest Downstream Public Water Supply Intake	Columbia Water Company		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	5.5

Changes Since Last Permit Issuance: None

Other Comments: None

Discharge, Receiving Waters and Water Supply Information

Outfall No.	006	Design Flow (MGD)	Variable (stormwater)
Latitude	40º 3' 29.2"	Longitude	76º 34' 38.5"
Quad Name	Columbia West	Quad Code	1833
Wastewater Description:	Clay, paper, mineral wool transfer, polymer / defoamer unloading, totes, off-site agricultural and highway runoff		
Receiving Waters	Susquehanna River (WWF)	Stream Code	06685
NHD Com ID	57464771	RMI	33.4
Drainage Area	25,900 ft^2	Yield (cfs/mi^2)	0.126
Q_{7-10} Flow (cfs)	3,263	Q_{7-10} Basis	USGS Gage # 01576000
Elevation (ft)	240	Slope (ft/ft)	
Watershed No.	7-G	Chapter 93 Class.	WWF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs), pH		
Source(s) of Impairment	Source Unknown		
TMDL Status	N/A	Name	N/A
Nearest Downstream Public Water Supply Intake	Columbia Water Company		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	5.5

Changes Since Last Permit Issuance: None

Other Comments: None

Discharge, Receiving Waters and Water Supply Information

Outfall No.	007	Design Flow (MGD)	Variable (stormwater)
Latitude	40º 3' 32.3"	Longitude	76º 34' 50.8"
Quad Name	Columbia West	Quad Code	1833
Wastewater Description:	Off-site runoff, rail spurs		
Receiving Waters	Susquehanna River (WWF)	Stream Code	06685
NHD Com ID	57464771	RMI	33.4
Drainage Area	25,900 ft^2	Yield (cfs/mi^2)	0.126
Q_{7-10} Flow (cfs)	3,263	Q_{7-10} Basis	USGS Gage # 01576000
Elevation (ft)	240	Slope (ft/ft)	
Watershed No.	7-G	Chapter 93 Class.	WWF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs), pH		
Source(s) of Impairment	Source Unknown		
TMDL Status	N/A	Name	N/A
Nearest Downstream Public Water Supply Intake	Columbia Water Company		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	5.5

Changes Since Last Permit Issuance: None

Other Comments: None

Discharge, Receiving Waters and Water Supply Information

Outfall No.	008	Design Flow (MGD)	Variable (stormwater)
Latitude	40º 3' 15.6"	Longitude	76º 34' 22.3"
Quad Name	Columbia West	Quad Code	1833
Wastewater Description:	Off-site agricultural and highway runoff		
Receiving Waters	Susquehanna River (WWF)	Stream Code	06685
NHD Com ID	57464771	RMI	33.4
Drainage Area	25,900 ft^2	Yield (cfs/mi^2)	0.126
Q_{7-10} Flow (cfs)	3,263	Q_{7-10} Basis	USGS Gage # 01576000
Elevation (ft)	240	Slope (ft/ft)	
Watershed No.	7-G	Chapter 93 Class.	WWF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs), pH		
Source(s) of Impairment	Source Unknown		
TMDL Status	N/A	Name	N/A
Nearest Downstream Public Water Supply Intake	Columbia Water Company		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	5.5

Changes Since Last Permit Issuance: None

Other Comments: None

Treatment Facility Summary				
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial	Secondary	Extended Aeration	No Disinfection	0.229
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.229		Not Overloaded	N/A	N/A

Changes Since Last Permit Issuance: None

Other Comments: The industrial wastewater treatment process consists of: Thickener Tank– Primary Clarifier – Water Storage Tank – Aerated Equalization Tank – Aeration Tank – Final Clarifier – Outfall 001.

The sludge generated by the treatment process is recycled back to the ceiling tile process.

Compliance History	
Summary of DMRs:	A summary of the past 12-month DMR effluent data is presented on the next page of this fact sheet.
Summary of Inspections:	11/9/2009: A routine inspection was conducted. It was noted that the industrial wastewater treatment operation looked good, and the effluent was the normal color: clear with a yellow tint. 12/8/2010: A routine inspection was conducted. It was noted that the industrial wastewater treatment operation looked okay, and all treatment units were operating properly. 1/10/2012: A routine inspection was conducted. It was noted that the industrial wastewater treatment operation looked good, and the plant effluent looked okay. TSS readings were slightly higher than normal due to a latex paint spill. 5/6/2013: A routine inspection was conducted. Samples were collected from the effluent, and the results were good. The effluent was yellowish brown but still translucent and clear of any visible solids. It was reported that this is the typical color of the effluent. An inspection of the outfalls was not completed. 5/5/2016: A routine inspection was conducted. Field readings were collected, and all parameters were within permit limits. The stormwater outfalls were inspected on 7/6/2016. All the outfalls were accessible, and no signs of pollution were noted.

Other Comments: There are currently no open violations for this permittee or facility.

Compliance History

DMR Data for Outfall 001 (from June 1, 2018 to May 31, 2019)

Parameter	JUN-18	JUL-18	AUG-18	SEP-18	OCT-18	NOV-18	DEC-18	JAN-19	FEB-19	MAR-19	APR-19	MAY-19
Flow (MGD) Average Monthly			0.092	0.093	0.104	0.062	0.116	0.112	0.110	0.112	0.120	0.119
Flow (MGD) Daily Maximum			0.097	0.098	0.129	0.115	0.126	0.120	0.116	0.118	0.131	0.135
pH (S.U.) Minimum			7.6	7.9	7.8	7.8	7.7	7.7	7.6	7.8	7.9	7.7
CBOD5 (lbs/day) Average Monthly			< 2.14	3.10	2.81	1.55	4.06	4.20	4.12	3.54	3.70	5.16
CBOD5 (lbs/day) Daily Maximum			< 2.265	5.23	38.73	2.93	5.88	4.82	6.08	4.81	5.53	9.67
CBOD5 (mg/L) Average Monthly			2.8	4	3.25	3	4.2	4.5	4.5	3.8	3.7	5.2
CBOD5 (mg/L) Daily Maximum			2.8	6.4	3.6	3.06	5.6	4.82	6.29	4.89	5.07	8.59
TSS (lbs/day) Average Monthly			< 10.74	22.4	16.65	8.79	26.79	22.79	8.8	9.71	9.007	8.83
TSS (lbs/day) Daily Maximum			< 16.17	53.94	32.27	22.05	43.08	30.72	14.22	15.35	13.11	17.23
TSS (mg/L) Average Monthly			14	29	19.2	17	27.7	24.4	8.8	10.4	9	8.9
TSS (mg/L) Daily Maximum			20	66	30	23	41	30.7	14.7	15.6	12	15.3
Formaldehyde (mg/L) Daily Maximum				0.024			< 0.050			< 0.02		

DMR Data for Outfall 005 (from June 1, 2018 to May 31, 2019)

Parameter	JUN-18	JUL-18	AUG-18	SEP-18	OCT-18	NOV-18	DEC-18	JAN-19	FEB-19	MAR-19	APR-19	MAY-19
pH (S.U.) Daily Maximum							7.71					
CBOD5 (mg/L) Daily Maximum							< 2.0					
COD (mg/L) Daily Maximum							23.2					
TSS (mg/L) Daily Maximum							2.24					
Oil and Grease (mg/L) Daily Maximum							< 1.4					
TKN (mg/L) Daily Maximum							< 0.50					
Total Phosphorus (mg/L) Daily Maximum							< 0.050					
Formaldehyde (mg/L) Daily Maximum							< 0.020					

DMR Data for Outfall 006 (from June 1, 2018 to May 31, 2019)

Parameter	JUN-18	JUL-18	AUG-18	SEP-18	OCT-18	NOV-18	DEC-18	JAN-19	FEB-19	MAR-19	APR-19	MAY-19
pH (S.U.) Daily Maximum							7.77					
CBOD5 (mg/L) Daily Maximum							< 2.0					
COD (mg/L) Daily Maximum							35.4					
TSS (mg/L) Daily Maximum							22.7					
Oil and Grease (mg/L) Daily Maximum							1.8					
TKN (mg/L) Daily Maximum							1.3					
Total Phosphorus (mg/L) Daily Maximum							< 0.050					
Formaldehyde (mg/L) Daily Maximum							0.022					

DMR Data for Outfall 007 (from June 1, 2018 to May 31, 2019)

Parameter	JUN-18	JUL-18	AUG-18	SEP-18	OCT-18	NOV-18	DEC-18	JAN-19	FEB-19	MAR-19	APR-19	MAY-19
pH (S.U.) Daily Maximum							7.40					
CBOD5 (mg/L) Daily Maximum							< 2.0					
COD (mg/L) Daily Maximum							17.0					
TSS (mg/L) Daily Maximum							14					
Oil and Grease (mg/L) Daily Maximum							2.3					
TKN (mg/L) Daily Maximum							< 0.50					
Total Phosphorus (mg/L) Daily Maximum							< 0.050					
Formaldehyde (mg/L) Daily Maximum							< 0.020					

Existing Effluent Limitations and Monitoring Requirements

Outfall 001

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	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
CBOD5	Report	Report	XXX	80	160	200	1/week	24-Hr Composite
TSS	Report	Report	XXX	80	160	200	1/week	24-Hr Composite
Formaldehyde	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite

Compliance Sampling Location: Outfall 001

Outfall 004, 005, 006 and 007

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		
CBOD5	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
COD	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
TKN	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Dissolved Iron	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Formaldehyde	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Development of Effluent Limitations

Outfall No.	001	**Design Flow (MGD)**	.289
Latitude	40º 3' 15.6"	**Longitude**	76º 34' 22.3"

Wastewater Description: IW Process Effluent without ELG

pH

PA Code §§ 95.2(1) requires effluent pH limits of 6.0 to 9.0 standard units (S.U.) at all times in effluent. The permit will continue to require pH limit of 6.0 to 9.0 S.U.

Total Dissolved Solids (TDS)

Total Dissolved Solids and its major constituents including Bromide, Chloride, and Sulfate have become statewide pollutants of concern and threats to DEP's mission to prevent violations of water quality standards. The requirement to monitor these pollutants must be considered under the criteria specified in 25 Pa. Code § 95.10 and the following January 23, 2014 DEP Central Office Directive:

For point source discharges and upon issuance or reissuance of an individual NPDES permit:

- Where the concentration of TDS in the discharge exceeds 1,000 mg/L, or the net TDS load from a discharge exceeds 20,000 lbs/day, and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for TDS, sulfate, chloride, and bromide. Discharges of 0.1 MGD or less should monitor and report for TDS, sulfate, chloride, and bromide if the concentration of TDS in the discharge exceeds 5,000 mg/L.

- Where the concentration of bromide in a discharge exceeds 1 mg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for bromide. Discharges of 0.1 MGD or less should monitor and report for bromide if the concentration of bromide in the discharge exceeds 10 mg/L.

- Where the concentration of 1,4-dioxane (CAS 123-91-1) in a discharge exceeds 10 µg/l and the discharge flow exceeds 0.1 mgd, Part A of the permit should include monitor and report for 1,4-dioxane. Discharges of 0.1 mgd or less should monitor and report for 1,4-dioxane if the concentration of 1,4-dioxane in the discharge exceeds 100 µg/l.

Armstrong reported the maximum effluent 2,260 mg/l for TDS, and 2.5 mg/l for Bromide. Based upon the data provided in the application, monitoring of TDS, Bromide, Chloride, and Sulfate will be required. A monitoring frequency of 1/week will be used for these parameters.

Total Suspended Solids

DEP's SOP No. BPNPSM-PMT-032 states that Best Professional Judgment (BPJ) Technology-Based Effluent Limits (TBELs) should be developed for TSS if the concentration exceeds 100 mg/l in the permit application or DMRs. The maximum TSS concentration from the application is 50 mg/l, therefore it is not necessary to develop a limit. However, the existing permit has an average monthly limit of 80 mg/l and instantaneous maximum limit of 200 mg/l for TSS, which will remain in the permit.

$CBOD_5$ / NH_3-N

DEP's SOP No. BPNPSM-PMT-032 states that the WQM 7.0 Model should be run if the maximum BOD_5 concentration exceeds 30 mg/l in the permit application or DMRs. The maximum BOD_5 concentration form the application is 15.4 mg/l, therefore it will not be necessary to run the WQM 7.0 Model. There is an existing average monthly limit of 80 mg/l and instantaneous maximum limit of 200 mg/l for $CBOD_5$, which will remain in the permit.

Chesapeake Bay Total Maximum Daily Load (TMDL)

DEP developed a strategy to comply with the EPA and Chesapeake Bay Foundation requirements by reducing point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP). This strategy can be located in the Pennsylvania Chesapeake Watershed Implementation Plan (WIP), dated January 11, 2011. Subsequently, an update to the WIP was published as the Phase 2 WIP. As part of the Phase 2 WIP, a Phase 2 Watershed Implementation Plan Wastewater Supplement (Phase 2 Supplement) was developed, providing an update on TMDL implementation for point sources and DEP's current

implementation strategy for wastewater. The Phase 2 Supplement was most recently revised on September 6, 2017. Industrial discharges have been prioritized by Central Office based on their delivered TN and TP loadings to the Bay. Significant industrial wastewater dischargers are facilities that discharge more than 75 lbs/day of TN or 25 lbs/day of TP on an average annual basis and the rest are classified as non-significant dischargers. This facility is classified as a non-significant discharger with little or no potential to introduce nutrients to the receiving stream; therefore, no monitoring for TP and TN series will be required at this time.

Toxics

Effluent sample results for toxic pollutants reported on the renewal application were entered into DEP's Toxics Screening Analysis worksheet and PENTOXSD to develop appropriate permit requirements for toxic pollutants of concern. Based on effluent sample results reported on the application; Fluoride, Total Antimony, Total Boron, Total Copper, Formaldehyde Total Mercury, and Total Selenium are candidates for PENTOXSD modeling as these pollutants are discharged at a level that has the reasonable potential to cause excursions above the state water quality criteria. A default stream hardness and pH were used in the modeling. A discharge hardness of 1400 mg/l was used in modeling. The resulting WQBELs from PENTOXSD were as follows: Fluoride – 1,465 mg/l, Total Antimony – 813.435 µg/l, Total Boron – 198,793.2 µg/l, Total Copper – 452.507 µg/l, Formaldehyde – 53993.22 µg/l, Total Mercury– 7.263 µg/l, and Total Selenium – 1,293.952 µg/l. When the WQBELs produced from PENTOXSD were entered into the Toxics Screening Analysis, the worksheet recommended that no limits or monitoring were necessary for any of these parameters. This data was analyzed based on the guidelines found in DEP's Water Quality Toxics Management Strategy (Document No. 361-0100-003) and DEP's SOP No. BPNPSM-PMT-033. PENTOXSD Model Results are attached to this fact sheet. The Toxics Screening Analysis uses the following logic:

a. Establish average monthly and instantaneous maximum (IMAX) limits in the draft permit where the maximum reported concentration exceeds 50% of the WQBEL.
b. For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.
c. For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10%-50% of the WQBEL.

Since the reported maximum concentrations were less than 10% of their respective WQBEL, per DEP's SOP No. BPNPSM-PMT-033, no limits or monitoring are necessary. There was a monitoring requirement for Formaldehyde in the existing permit to assess treatment performance. Based on the results of the Toxics Screening Analysis and the monitoring results in the DMRs, this parameter is no longer needed and can be removed from the permit.

Chemical Additives

The following chemical additives are currently used at the plant and are expected to be present in the effluent:

Chemical Additive	Purpose	Maximum Usage (lb/day)	Usage Frequency
3D Trasar 3DT465	Antiscale	13,369	Constant Feed
Advantage 1490	Defoamer	2,395	Constant Feed
DeAirex 8061	Defoamer	4,299	Constant Feed
Infinity SL4369	Antiscale	12,976	Constant Feed
Nalco 1720	Oxygen Scavenger	2,365	Intermittent
Nalco 60103	Defoamer	18,986	Constant Feed
Nalco 7346 TAB	Non-oxidizing Biocide	3.64	As Needed
NexGuard 22310	Boiler Treatment Chemical	5,569	Intermittent
Rezosol 4609	Release Agent	0.81	Constant Feed
Spectrum RX 3510	Biocide	89.09	As Needed
Spectrum RX 5080	Biocide	25.11	2/Day
Spectrum RX 9100	Biocide	29.24	2/Day
Spectrum XD 3899	Biocide	5,019	Intermittent
Spectrum XD 8800	Biocide	4.708	Hourly

These chemicals have been added to DEP's Approved List of Chemical Additives. The permit will include Part C conditions for chemical additive usage and reporting requirements.

Anti-Degradation

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

303(d) Listed Streams

The discharge is located on a stream segment that is designated on the 303(d) list as impaired. There is an impairment use for fish consumption due to PCB from an unknown source, and an aquatic life impairment due to pH from an unknown source.

Class A Wild Trout Fisheries

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

Anti-Backsliding

Pursuant to 40 CFR § 122.44(l)(1), all proposed permit requirements addressed in this fact sheet are at least as stringent as the requirements implemented in the existing NPDES permit unless any exceptions addressed by DEP in this fact sheet.

Development of Effluent Limitations

Outfall No.	002, 003, 004, 005, 006, 007, 008	**Design Flow (MGD)**	Variable (stormwater)
	40º 3' 19.1" (002) 40º 3' 21.4" (003) 40º 3' 23.7" (004) 40º 3' 26.1" (005) 40º 3' 29.2" (006) 40º 3' 32.3" (007)		76º 34' 43.0" (002) 76º 34' 57.0" (003) 76º 34' 10.9" (004) 76º 34' 24.9" (005) 76º 34' 38.5" (006) 76º 34' 50.8" (007)
Latitude	40º 3' 15.6" (008)	**Longitude**	76º 34' 22.3" (008)
Wastewater Description:	Stormwater		

Stormwater Limitations

The application lists seven (7) stormwater outfalls for this facility. Outfall 002 receives stormwater from off-site agricultural and highway runoff from 43.5 acres. Outfall 003 receives stormwater from an area containing drummed materials, waste latex, and mineral wool transfer. These are all contained and/or under a roof. Outfall 003 also receives stormwater from off-site agricultural and highway runoff. This outfall drains 64.9 acres. Outfall 004 receives stormwater from an area containing an enclosed trash compactor, and off-site agricultural and highway runoff from 64.9 acres. Outfall 005 receives stormwater from an area containing paint transfer, drums and ammonium hydroxide totes (contained), an enclosed trash compactor, storeroom unloading of oils and boiler chemicals (roofed), and raw materials receiving (roofed). Outfall 005 also receives stormwater from off-site agricultural and highway runoff. This outfall drains 64.9 acres. Outfall 006 receives stormwater from roofed clay, paper, and mineral wool transfer, contained polymer / defoamer unloading, and contained totes. Outfall 006 also receives stormwater from off-site agricultural and highway runoff. This outfall drains 59.1 acres. Outfall 007 receives stormwater from off-site runoff and rail spurs, and drains 9.5 acres. Outfall 008 receives stormwater from off-site agricultural and highway runoff, and drains 80.4 acres.

The existing permit requires semi-annual monitoring of $CBOD_5$, Chemical Oxygen Demand (COD), TSS, TP, Total Kjeldahl Nitrogen (TKN), Dissolved Iron, Oil and Grease, pH, and Formaldehyde at Outfalls 004, 005, 006 and 007. This monitoring requirement was derived from a previous NPDES PAG-03 General Permit. This facility falls under SIC code 3296. According to DEP's current NPDES PAG-03 General Permit, SIC Code 3296 is subject to Appendix N permitting requirements. This appendix requirements semi-annual monitoring for the parameters listed in the table below. These parameters will replace existing parameters in the permit renewal. Monitoring of these parameters will also be included in the permit renewal for Outfalls 002, 003, and 008, as they were not included in the previous permit.

Stormwater will be monitored and managed using best management practices. The permittee shall monitor and report analytical results for the parameters listed below on Discharge Monitoring Reports (DMRs) for Outfall 002, 003, 004, 005, 006, 007, and 008. The benchmark values listed on the table are not effluent limitations, and exceedances do not constitute permit violations. However, if the permittee's sampling demonstrates exceedances of benchmark values for two consecutive monitoring periods, the permittee shall submit a corrective action plan within 90 days of the end of the monitoring period triggering the plan.

Parameter	Minimum Measurement Frequency	Sample Type (mg/l)	Benchmark Values
pH (S.U.)	1 / 6months	Grab	9.0
TSS	1 / 6months	Grab	100
Total Aluminum	1 / 6months	Grab	XXX
Total Iron	1 / 6months	Grab	XXX

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 Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
CBOD5	Report	Report	XXX	80	160	200	1/week	24-Hr Composite
TSS	Report	Report	XXX	80	160	200	1/week	24-Hr Composite
TDS	Report	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Bromide	Report	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Chloride	Report	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Sulfate	Report	XXX	XXX	Report	Report	XXX	1/week	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 002, 003, 004, 005, 006, 007, 008 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
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Aluminum	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Iron	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Compliance Sampling Location: Outfalls 002, 003, 004, 005, 006, 007, 008

Other Comments: None

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	PENTOXSD for Windows Model (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☒	Toxics Screening Analysis Spreadsheet (see Attachment)
☒	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:
☐	Other: