pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0028134**
Facility Type	**Industrial**	APS ID	**997646**
Major / Minor	**Minor**	Authorization ID	**1280773**

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

Applicant and Facility Information

Applicant Name	**PA American Water Company**	Facility Name	**PA American Water Kittanning**
Applicant Address	852 Wesley Drive	Facility Address	104 Watertower Road
	Mechanicsburg, PA 17055-4436		Kittanning, PA 16201
Applicant Contact	Chris Abruzzo	Facility Contact	Kevin Mortimer (Superintendent)
Applicant Phone	(717) 550-1542	Facility Phone	(724) 287-7150 Ext. 5
Client ID	87712	Site ID	255172
SIC Code	4941	Municipality	Rayburn Township
SIC Description	Trans. & Utilities - Water Supply	County	Armstrong
Date Application Received	July 2, 2019	EPA Waived?	Yes
Date Application Accepted	July 25, 2019	If No, Reason	

Purpose of Application: Renewal of a NPDES Permit for an existing discharge of industrial waste.

Summary of Review

Raw water is withdrawn from the Allegheny River and is purified by clarification, sedimentation and filtration for use by customers in Kittanning Borough and Rayburn Township.

The discharge consists of mainly of treated filter backwash water and minimal amount of miscellaneous wastewater from lab sample taps and analyzers. The filter backwash wastewater discharge occurs 20 hours/day, 7 days/week. The maximum discharge rate is 0.099 MGD and the long-term average discharge rate is 0.032 MGD.

The permittee requested in the renewal application that sample type for the monitoring requirements remain the same as the current permit due to the plant operating unmanned.

PPC Plan for the facility was last updated in 2019.

There are currently 6 open violations listed in EFACTS for this client at other facilities (5/15/2020).

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.

Approve	Deny	Signatures	Date
X		Adam Pesek Adam J. Pesek, E.I.T. / Environmental Engineering Specialist	May 15, 2020
X		Justin C. Dickey Justin C. Dickey, P.E. / Environmental Engineer Manager	May 27, 2020

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.032
Latitude	40º 49' 10"	Longitude	-79º 30' 47"
Quad Name	Kittanning	Quad Code	1209
Wastewater Description:	Filter backwash water and miscellaneous wastewater from lab sample taps and analyzers		

Receiving Waters	Allegheny River	Stream Code	42122
NHD Com ID	123860342	RMI	45.6
Drainage Area	8970	Yield (cfs/mi^2)	---
Q_{7-10} Flow (cfs)	2070	Q_{7-10} Basis	L&D 7 min. release rate
Elevation (ft)	782	Slope (ft/ft)	0.0001
Watershed No.	17-E	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use	Add N	Exceptions to Criteria	Add TON
Assessment Status	Impaired		
Cause(s) of Impairment	POLYCHLORINATED BIPHENYLS (PCBS)		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status		Name	

Background/Ambient Data		Data Source
pH (SU)	7.4	9/28/2018 sample at USGS # 03036500
Temperature (°F)		
Hardness (mg/L)	50.8	Application sample for the renewal application
Other:		

Nearest Downstream Public Water Supply Intake		Buffalo Township Municipal Authority	
PWS Waters	Allegheny River	Flow at Intake (cfs)	2070
PWS RMI	29.4	Distance from Outfall (mi)	16.2

Changes Since Last Permit Issuance:

Other Comments: The stream segment is impaired for PCBs. There are no expected sources of PCB's from this facility beyond that in the source water, which is from the receiving stream. Therefore, monitoring of PCBs will not be proposed in the draft permit.

Treatment Facility Summary				
Treatment Facility Name: Kittanning Filter Plant				
WQM Permit No.	**Issuance Date**			
0376202 A-1 T-1	11/03/2008			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial	Primary	Settling	Liquid dechlorination	
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
		Not Overloaded		

Changes Since Last Permit Issuance:

Other Comments: Solids are removed on a yearly basis from the backwash holding tank and land applied.

Compliance History

DMR Data for Outfall 001 (from March 1, 2019 to February 29, 2020)

Parameter	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19
Flow (MGD) Average Monthly	0.030	0.031	0.031	0.030	0.035	0.040	0.043	0.034	0.036	0.031	0.027	0.025
Flow (MGD) Daily Maximum	0.042	0.042	0.042	0.042	0.042	0.050	0.050	0.050	0.078	0.053	0.049	0.047
pH (S.U.) Minimum	7.0	7.3	7.5	7.4	7.2	7.0	7.2	7.1	6.9	7.1	7.0	7.2
pH (S.U.) Maximum	7.5	7.6	8.7	7.8	7.6	7.6	7.5	8.7	7.2	7.4	7.3	7.4
TRC (mg/L) Average Monthly	0.28	0.37	0.28	0.28	0.21	0.19	0.19	0.17	0.25	0.22	0.20	0.19
TRC (mg/L) Instantaneous Maximum	0.36	0.44	0.40	0.37	0.28	0.30	0.28	0.23	0.37	0.45	0.43	0.27
TSS (mg/L) Average Monthly	2	4	< 2	< 5	< 2	< 2	2.0	< 2.0	< 2	< 2	< 2	4.5
TSS (mg/L) Instantaneous Maximum	2	4	< 2	7	< 2	< 2	2.0	< 2.0	2	< 2	< 2	5.0
Total Aluminum (mg/L) Average Monthly	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Total Aluminum (mg/L) Instantaneous Maximum	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Total Iron (mg/L) Average Monthly	0.62	0.70	0.60	0.59	0.27	0.17	0.24	0.26	0.40	0.30	0.63	0.75
Total Iron (mg/L) Instantaneous Maximum	0.71	0.72	0.64	0.74	0.28	0.18	0.24	0.26	0.45	0.34	0.72	0.83
Total Manganese (mg/L) Average Monthly	0.07	0.07	0.10	0.15	0.08	0.07	0.13	0.15	0.29	0.15	0.08	0.07
Total Manganese (mg/L) Instantaneous Maximum	0.08	0.07	0.10	0.19	0.08	0.07	0.13	0.16	0.31	0.17	0.09	0.08

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.032
Latitude 40º 49' 10.00" **Longitude** -79º 30' 47.00"
Wastewater Description: IW Process Effluent without ELG

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Parameter	Limit (mg/l)	SBC	Federal Regulation	State Regulation
Total Suspended Solids	30	Average Monthly		362-2183-003
Total Suspended Solids	40	Daily Maximum		362-2183-003
Aluminum	4.0	Average Monthly		362-2183-003
Aluminum	8.0	Daily Maximum		362-2183-003
Manganese	1.0	Average Monthly		362-2183-003
Manganese	2.0	Daily Maximum		362-2183-003
Total Iron	2.0	Average Monthly		362-2183-003
Total Iron	4.0	Daily Maximum		362-2183-003
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)
Total Residual Chlorine	1.0	Daily Maximum		362-2183-003
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)

Comments: 362-2183-003 References the Department's technical guidance document entitled "Technology-based Control Requirements for Water Treatment Plant Wastes." The limits are BPT (Best Practical Control Technology) and are not based on actual regulation. The Department has identified the TSD requirements as the Best Available Treatment (BAT) that, as a minimum, the permittee will be required to meet. Since no federal effluent limitation guidelines (ELGs) have been promulgated, the Department's Best Professional Judgment of BAT, as outlined in the TSD, satisfies the Federal requirements of the 40 CFR 125.3(d) regulations. All of the technology-based effluent limitations are documented in the Pollution Report for this facility and are incorporated herein as a reference.

Water Quality-Based Limitations

A "Reasonable Potential Analysis" (Attachment A) determined the following parameters were candidates for limitations: total led and total phenols.

Comments: The Dilution Ratio, a comparison of low stream flow rate to discharge flow rate, was found to be 41,814 to one. Therefore, performing a water quality toxic modeling is not deemed necessary for the parameters of concern.

Best Professional Judgment (BPJ) Limitations

Comments: None

Anti-Backsliding

The daily maximum limits found in the "Technology-Based Limitations" section above were previously applied as instantaneous maximum limits as a regional policy in the Southwest region and the limits have been able to be consistently achieved. Therefore, the limits will continue to be applied in the renewed NPDES Permit.

Other Considerations

Calcium thiosulfite is used as a wastewater treatment chemical to dechlorinate the filter backwash wastewater prior to discharge if needed.

Monitoring frequencies and sampling types in the permit are based on Table 6-4 of the Department's August 1993 "Technical Guidance for the Development and Specification of Effluent Limitations and Other Conditions in NPDES Permits" (Permit Writer's Guide).

The discharge from this facility is non-continuous and the characteristics of the wastewater are relatively constant. Based on the review of Discharge Monitoring Reports, this facility is in compliance with the current NPDES permit limits. Therefore, grab samples are specified instead of composite samples.

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	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	2/month	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1	2/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60	2/month	Grab
Total Aluminum	XXX	XXX	XXX	4.0	XXX	8	2/month	Grab
Total Iron	XXX	XXX	XXX	2.0	XXX	4	2/month	Grab
Total Manganese	XXX	XXX	XXX	1.0	XXX	2	2/month	Grab

Compliance Sampling Location: Outfall 001 (after disinfection)

Other Comments:

ATTACHMENT A

TOXICS SCREENING ANALYSIS
WATER QUALITY POLLUTANTS OF CONCERN
VERSION 2.7

Facility: Kittanning Water Systems
Analysis Hardness (mg/L): 60.8
Stream Flow, Q_{7-10} (cfs): 2070

NPDES Permit No.: PA0028134
Discharge Flow (MGD): 0.032

Outfall: 001
Analysis pH (SU): 7.4

	Parameter		Maximum Concentration in Application or DMRs (µg/L)	Most Stringent Criterion (µg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (µg/L)	Screening Recommendation
Group 1	Total Dissolved Solids		141000	500000	No		
	Chloride		39000	250000	No		
	Bromide		100	N/A	No		
	Sulfate		23000	250000	No		
	Fluoride		600	2000	No		
Group 2	Total Aluminum	<	50	750	No		
	Total Antimony	<	0.5	5.6	No (Value < QL)		
	Total Arsenic	<	0.5	10	No (Value < QL)		
	Total Barium		30.9	2400	No		
	Total Beryllium	<	0.5	N/A	No		
	Total Boron	<	20	1600	No (Value < QL)		
	Total Cadmium	<	0.1	0.164	No (Value < QL)		
	Total Chromium	<	0.5	N/A	No		
	Hexavalent Chromium	<	0.5	10.4	No (Value < QL)		
	Total Cobalt		0.4	19	No		
	Total Copper		4.2	5.2	No		
	Total Cyanide	<	10	N/A	No		
	Total Iron		386	1500	No		
	Dissolved Iron	<	20	300	No (Value < QL)		
	Total Lead		3	1.3	Yes		
	Total Manganese		220	1000	No		
	Total Mercury	<	0.1	0.05	No (Value < QL)		
	Total Molybdenum	<	10	N/A	No		
	Total Nickel	<	5	29.4	No		
	Total Phenols (Phenolics)		83	5	Yes		
	Total Selenium	<	0.5	5.0	No (Value < QL)		
	Total Silver	<	0.1	1.2	No (Value < QL)		
	Total Thallium	<	0.1	0.24	No (Value < QL)		
	Total Zinc		13	67.5	No		
Group 3	Acrolein	<		3			
	Acrylamide	<		0.07			
	Acrylonitrile	<		0.051			
	Benzene	<		1.2			
	Bromoform	<		4.3			
	Carbon Tetrachloride	<		0.23			
	Chlorobenzene	<		130			
	Chlorodibromomethane	<		0.4			
	Chloroethane	<		N/A			
	2-Chloroethyl Vinyl Ether	<		3500			
	Chloroform	<		5.7			
	Dichlorobromomethane	<		0.55			
	1,1-Dichloroethane	<		N/A			
	1,2-Dichloroethane	<		0.38			
	1,1-Dichloroethylene	<		33			
	1,2-Dichloropropane	<		2200			
	1,3-Dichloropropylene	<		0.34			
	Ethylbenzene	<		530			
	Methyl Bromide	<		47			
	Methyl Chloride	<		5500			
	Methylene Chloride	<		4.6			
	1,1,2,2-Tetrachloroethane	<		0.17			
	Tetrachloroethylene	<		0.69			
	Toluene	<		330			
	1,2-trans-Dichloroethylene	<		140			
	1,1,1-Trichloroethane	<		610			
	1,1,2-Trichloroethane	<		0.59			
	Trichloroethylene	<		2.5			
	Vinyl Chloride	<		0.025			
Group 4	2-Chlorophenol	<		81			
	2,4-Dichlorophenol	<		77			
	2,4-Dimethylphenol	<		130			
	4,6-Dinitro-o-Cresol	<		13			
	2,4-Dinitrophenol	<		69			
	2-Nitrophenol	<		1600			
	4-Nitrophenol	<		470			
	p-Chloro-m-Cresol	<		30			
	Pentachlorophenol	<		0.27			
	Phenol	<		10400			
	2,4,6-Trichlorophenol	<		1.4			

Kittanning Water Systems - Toxics Screening Analysis Spreadsheet (v 2.7), 5/14/2020