pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0062553**
Facility Type	**Industrial**	APS ID	**572938**
Major / Minor	**Minor**	Authorization ID	**1339743**

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

Applicant and Facility Information

Applicant Name	**PA American Water Co.**	Facility Name	**PA American Water Crystal Lake WTP**
Applicant Address	1799 Jumper Road	Facility Address	90 Johnson Street
	Wilkes Barre, PA 18701-8031		Mountain Top, PA 18707-1033
Applicant Contact	Nancy Donahue	Facility Contact	Sean Sorber
Applicant Phone	(570) 674-0525	Facility Phone	(570) 674-5661
Client ID	87712	Site ID	449233
SIC Code	4941	Municipality	Fairview Township
SIC Description	Trans. & Utilities - Water Supply	County	Luzerne
Date Application Received	January 12, 2021	EPA Waived?	Yes
Date Application Accepted	January 12, 2021	If No, Reason	

Purpose of Application: RENEWAL OF EXISTING NPDES PERMIT.

Summary of Review

This application is for an intermittent discharge up to 0.12 MGD of treated wastewater from the Crystal Lake water treatment plant through Outfall 001 to Big Wapwallopen Creek. Big Wapwallopen Creek is a Cold Water Fishery (CWF) and is in Toby – Wapwallopen Watershed 5B and is classified for aquatic life, water supply and recreation. . As per the Department's current existing use list, the receiving stream does not have an existing use classification that is more protective than the designated use. The discharge is not expected to affect public water supplies.

The Water treatment plant's wastewater is generated by backwash of filters, flocculators, and rapid mix drainage and drainage from sample sinks, plant floor drains, plant chemical unloading area, and plant overflow. The facility has two redundant lagoons. There is normally no discharge because it is a 100% recycle facility by design; however, a discharge will occur under abnormal conditions (i.e. switching between lagoons or problems such as pump breakdowns). In reviewing 2020 data this occurred for 3 months with a 0.053 MGD Daily Maximum discharge.

The TSS, Total Iron, Total Manganese, pH, and flow monitoring are BPT based from the Department's Technical Guidance Technology Based Control Requirements for Water Treatment Plant Wastes (362-2183-003). These technology limits will be continued unchanged. Total Residual Chlorine and Aluminum are Water Quality based limits and remain unchanged. The present Permit's maximum daily flow of 0.120 MGD will be retained.

The "Final Susquehanna River TMDL Luzerne County For Mine Drainage Affected Segments" sets Waste Load Allocations for aluminum, manganese, and iron. Water quality modeling warrants continuing the existing limits.

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*,

Approve	Deny	Signatures	Date
X		Bernard J. Feist Bernard Feist, P.E. / Environmental Engineer	February 5, 2021
X		Amy M. Bellanca (signed) Amy M. Bellanca, P.E. / Environmental Engineer Manager	2-12-21

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

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.12
Latitude	41º 10' 13.78"	Longitude	-75º 50' 55.84"
Quad Name		Quad Code	
Wastewater Description:	IW Process Effluent without ELG		
Receiving Waters	Big Wapwallopen Creek (CWF)	Stream Code	28231
NHD Com ID	65635145	RMI	
Drainage Area	4.29 mi^2	Yield (cfs/mi^2)	0.125
Q_{7-10} Flow (cfs)	0.54	Q_{7-10} Basis	USGS Gage 01538000
Elevation (ft)	17400.	Slope (ft/ft)	0.03
Watershed No.	5-B	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s):aquatic life, water supply and recreation		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Danville		
PWS Waters		Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	➢ 25 miles

Other Comments:

USGS 01538000 Wapwallopen Creek near Wapwallopen, PA
Latitude 41°03'33", Longitude 76°05'38" NAD27
Luzerne County, Pennsylvania, Hydrologic Unit 02050107
Drainage area: 43.8 square miles
Datum of gage: 752.41 feet above NGVD29.
LowFlowYield (cfs/mi^2) = LFY = 5.46/43.8 = 0.125

Outfall 001 at RMI 17.23 (1740 ft)
NAD 1983 Latitude: 41.1687 (41 10 07) NAD 1983 Longitude: -75.8523 (-75 51 09)
Drainage Area: 4.29 mi^2
Stream flow = LFY * sq. mi. = 0.125 * 4.29 =0.54 CFS (0.35 MGD)
Dilution is 2.9 : 1

Rt 437 at RMI 16.35 (1600 ft)
NAD 1983 Latitude: 41.1651 (41 09 54) NAD 1983 Longitude: -75.8635 (-75 51 49)
Drainage Area: 4.73 mi^2 slope = 0.03 ft/ft

DOWNSTREAM USES: In 2008, this creek was determined to have a HQ-CWF “existing use” as a Class A wild trout stream starting where Route 437 crosses the creek, starting approximately 0.88 miles downstream of the WTP discharge.

Technology-Based Limitations

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

Recommended BPT Effluent Requirements from the Department's Technical Guidance Technology Based Control Requirements for Water Treatment Plant Wastes (362-2183-003):

Parameter	Monthly Avg (mg/l)
Total Suspended solids	30.0
Iron (total)	2.0
Aluminum (total)	4.0
Manganese (total)	1.0
Total Residual Chlorine	0.5
pH	6.0 to 9.0
Flow monitoring	Report

Water Quality-Based Limitations

The proposed effluent limits for Outfall 001 are based on a design flow of .120 MGD
Water quality modelling warrants continuing existing limits. The M&R requirement for Zinc will be removed as modelling shows no reasonable potential (< 10%) :

Parameters	Mass Units (lbs/day)		Concentrations (mg/L)			
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum
Total Aluminum	1.3	2.0	XXX	1.3	2.0	2.6
TRC	XXX	XXX	XXX	0.5	XXX	1.0

TMS PA0062553 2021.pdf

2021TRC_CALC%20Crystal%20Lake.xls

Compliance History

DMR Data for Outfall 001 (from January 1, 2020 to December 31, 2020)

Parameter	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20	JAN-20
Flow (MGD) Average Monthly								0.004	0.011	0.007		
Flow (MGD) Daily Maximum								0.045	0.037	0.053		
Duration of Discharge (minutes) Average Monthly								7	23	13		

Duration of Discharge (minutes) Daily Maximum								60	60	90		
pH (S.U.) Minimum								6.6	6.5	6.5		
pH (S.U.) Maximum								6.7	6.8	6.7		
TRC (mg/L) Average Monthly								0.14	0.10	0.1		
TRC (mg/L) Instantaneous Maximum								0.16	0.15	0.14		
TSS (mg/L) Average Monthly								< 3.0	< 3.0	< 3.0		
TSS (mg/L) Daily Maximum								< 3.0	< 3.0	< 3.0		
Total Aluminum (lbs/day) Average Monthly								< 0.04	0.05	0.07		
Total Aluminum (lbs/day) Daily Maximum								< 0.04	0.06	0.07		
Total Aluminum (mg/L) Average Monthly								< 0.2	0.2	0.21		
Total Aluminum (mg/L) Daily Maximum								< 0.2	0.2	0.21		
Total Iron (mg/L) Average Monthly								< 0.2	< 0.2	< 0.2		
Total Iron (mg/L) Daily Maximum								< 0.2	< 0.2	< 0.2		
Total Manganese (mg/L) Average Monthly								0.17	0.1	0.1		
Total Manganese (mg/L) Daily Maximum								0.17	0.2	0.1		
Total Zinc (mg/L) Average Monthly								< 0.02	< 0.02	0.02		
Total Zinc (mg/L) Daily Maximum								< 0.02	< 0.02	< 0.02		