pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0217786**
Facility Type	**Municipal**	APS ID	**785031**
Major / Minor	**Minor**	Authorization ID	**1396776**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**New Eagle Borough Municipal Sewer Authority**	Facility Name	**New Eagle Borough STP**
Applicant Address	157 Main Street	Facility Address	Robinson Street
	New Eagle, PA 15067-1145		New Eagle, PA 15067
Applicant Contact	Mr. Paul Pro	Facility Contact	Mr. William Tatar
Applicant Phone	(724) 258-2393	Facility Phone	(412) 915-3753
Client ID	116675	Site ID	481246
Ch 94 Load Status	Not Overloaded	Municipality	New Eagle Borough
Connection Status	No Limitations	County	Washington
Date Application Received	May 18, 2022	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Application for the Renewal of a NPDES permit for the discharge of treated Sewage.

Summary of Review

The applicant has applied for a renewal of an existing NPDES Permit, PA0217786, which was previously issued by the Department on November 16, 2017. That permit expired on November 30, 2022.

WQM Permit No. 6397409, issued on May 12, 1998, authorized construction of a STP with an annual average design flow of 0.8 MGD. The existing facility consists of influent mechanical screening & grit removal, 2 SBRs, aerobic sludge digestion, chlorine disinfection, and a belt filter press.

Application data indicates that there are no industrial or commercial users in the system, and the facility does not receive hauled-in wastes.

The receiving stream, Monongahela River, is currently classified as a WWF, located in State Watershed No. 19-C.

The applicant has complied with Act 14 Notifications and no comments were received.

Sludge use and disposal description and location(s): Application data indicates that dried sewage sludge is disposed of at Westmoreland Landfill, 901 Tyrol Blvd., Belle Vernon, PA 15012.

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-

Approve	Deny	Signatures	Date
X		William C. Mitchell, E.I.T. / Environmental Engineering Specialist	September 8, 2023
x		Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager	September 12, 2023

Summary of Review
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)	0.8
Latitude	40º 12' 34.00"	Longitude	-79º 56' 52.00"
Quad Name	Monongahela	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Monongahela River (WWF)	Stream Code	37185
NHD Com ID	99409154	RMI	30.7
Drainage Area	5,300	Yield (cfs/mi^2)	0.10377
Q_{7-10} Flow (cfs)	550	Q_{7-10} Basis	US Army Corp of Engineers
Elevation (ft)	730	Slope (ft/ft)	0.0001
Watershed No.	19-C	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use	NONE	Exceptions to Criteria	NONE
Assessment Status	Impaired		
Cause(s) of Impairment	POLYCHLORINATED BIPHENYLS (PCBS)		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	Final	Name	Monongahela River TMDL

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake	PA American Water Company Pittsburgh, PWSID #5020039		
PWS Waters	Monongahela River	Flow at Intake (cfs)	550
PWS RMI	25.51	Distance from Outfall (mi)	5.19

Changes Since Last Permit Issuance: None

Other Comments: The discharge is to the Monongahela River which has an EPA Approved TMDL and is impaired by PCBs and Chlordane. No WLAs have been developed for this sewage discharge, as neither PCB nor Chlordane is typically found in sewage, but instead found in legacy sediments.

Treatment Facility Summary

Treatment Facility Name: New Eagle Borough STP

WQM Permit No.	Issuance Date
6397409	05/12/1998

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Sequencing Batch Reactor	Gas Chlorine	0.8

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.8	1,334	Not Overloaded	Aerobic Sludge Digestion & Belt Filter Press	Landfill

Changes Since Last Permit Issuance: None

Other Comments: N/A

Compliance History

DMR Data for Outfall 001 (from July 1, 2022 to June 30, 2023)

Parameter	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22	SEP-22	AUG-22	JUL-22
Flow (MGD) Average Monthly	0.200	0.182	0.207	0.432	0.274	0.547	0.236	0.271	0.228	0.192	0.193	0.187
Flow (MGD) Daily Maximum	0.626	0.389	0.435	2.036	0.669	2.624	0.886	1.500	1.517	0.498	0.909	0.676
pH (S.U.) Minimum	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
pH (S.U.) Maximum	7.2	7.2	7.2	7.1	7.1	7.1	7.2	7.2	7.2	7.2	7.2	7.2
DO (mg/L) Minimum	4.95	4.95	5.39	6.11	5.96	6.58	6.61	5.92	5.33	5.22	4.73	4.27
TRC (mg/L) Average Monthly	0.43	0.42	0.41	0.38	0.40	0.38	0.38	0.42	0.42	0.42	0.43	0.43
TRC (mg/L) Instantaneous Maximum	0.45	0.47	0.45	0.44	0.45	0.45	0.44	0.46	0.46	0.46	0.46	0.46
CBOD5 (lbs/day) Average Monthly	4	3	3	13	6	24	9	3	3	3	5	2
CBOD5 (lbs/day) Weekly Average	6	4	6	40	8	31	30	4	8	3	15	4
CBOD5 (mg/L) Average Monthly	3	2	2	3	2	3	3	2	2	2	2	1
CBOD5 (mg/L) Weekly Average	3	2	3	3	3	4	4	3	3	3	3	2
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	188	146	137	532	167	599	237	147	131	118	291	113
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	379	209	166	1834	191	938	672	279	194	161	895	158
BOD5 (mg/L) Raw Sewage Influent Average Monthly	106	102	95	98	72	80	80	91	68	99	94	81
BOD5 (mg/L) Raw Sewage Influent Weekly Average	144	126	106	136	87	92	96	135	80	110	124	118

TSS (lbs/day) Average Monthly	1	2	2	4	5	12	3	3	2	3	1	3
TSS (lbs/day) Raw Sewage Influent Average Monthly	205	169	152	313	292	412	177	196	158	229	152	222
TSS (lbs/day) Raw Sewage Influent Daily Maximum	384	357	190	473	490	594	193	439	242	324	198	400
TSS (lbs/day) Weekly Average	3	2	3	8	9	21	4	5	3	5	2	6
TSS (mg/L) Average Monthly	1	1	1	1	2	2	2	2	1	2	1	1
TSS (mg/L) Raw Sewage Influent Average Monthly	117	112	104	118	103	83	104	106	87	147	129	83
TSS (mg/L) Raw Sewage Influent Weekly Average	157	147	122	125	111	90	127	175	115	201	175	122
TSS (mg/L) Weekly Average	1	2	2	2	2	3	2	2	2	3	2	2
Fecal Coliform (No./100 ml) Geometric Mean	10	8	10	11	13	17	14	9	8	9	8	9
Fecal Coliform (No./100 ml) Instantaneous Maximum	14	10	11	12	18	25	16	14	8	12	11	11
Total Nitrogen (mg/L) Daily Maximum							1.22					
Ammonia (mg/L) Average Monthly	0.400	0.400	0.400	0.800	0.800	0.800	0.800	0.800	0.800	0.800	0.800	0.800
Ammonia (mg/L) Weekly Average	0.400	0.400	0.400	0.800	0.800	0.800	0.800	0.800	0.800	0.800	0.800	0.800
Total Phosphorus (mg/L) Daily Maximum							4.9					

Compliance History

Operations Compliance Check Summary Report

Facility: New Eagle Borough STP

NPDES Permit No.: PA0217786

Compliance Review Period: 8/28/18-8/28/23

Inspection Summary:

INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC
08/29/2022	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted

Violation Summary:

No violations noted during review period

Open Violations by Client ID:

No open violations for Client ID 116675

Enforcement Summary:

No enforcements executed during review period

Effluent Violation Summary:

No effluent exceedances are indicated in eDMR during the review period. During the September 2019 monitoring period, A Non-Compliance incident was reported for an unauthorized discharge to Mingo Creek from C Pump Station. The sewage release occurred for an unknown duration when one pump failed, and a second pump became clogged with a piece of PVC pipe. The release quantity was reported as 0.001 gallons, but it is presumed that the Client intended to report the quantity as .001 MGD.

Compliance Status: Facility does not currently have any open violations or pending enforcements.

Completed by: Amanda Schmidt

Completed date: 8/28/23

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .8
Latitude 40º 12' 34.00" **Longitude** -79º 56' 52.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Comments: The discharge was evaluated using WQM 7.0 Version 1.1 & TRC_CALC (Attachments 2 & 3) to evaluate $CBOD_5$, Ammonia Nitrogen, Dissolved Oxygen, and TRC parameters. The modeling results show the above technology based effluent limitations are appropriate.

For existing discharges, if WQM modeling results for summer indicates that an average monthly limit of 25 mg/L (ammonia-nitrogen) is acceptable, the application manager will generally establish a year-round monitoring requirement for ammonia-nitrogen (Section I.A, Note 5, SOP for Clean Water Program, Establishing Effluent Limitations for Individual Sewage Permits, Final November 9, 2012, Revised March 24, 2021, Version 1.9).

Water Quality-Based Limitations

Comments: NO WQBELs will be established at this time for this facility.

Best Professional Judgment (BPJ) Limitations

Comments: A minimum Dissolved Oxygen (DO) limit of 4.0 mg/L will be established based on BPJ to ensure adequate operation and maintenance (Section I.A, Note 6, SOP for Clean Water Program, Establishing Effluent Limitations for Individual Sewage Permits, Final November 9, 2012, Revised March 24, 2021, Version 1.9).

Anti-Backsliding

Section 402(o) of the Clean Water Act (CWA), enacted in the Water Quality Act of 1987, establishes anti-backsliding rules governing two situations. The first situation occurs when a permittee seeks to revise a Technology-Based effluent limitation based on BPJ to reflect a subsequently promulgated effluent guideline which is less stringent. The second situation addressed by Section 402(o) arises when a permittee seeks relaxation of an effluent limitation which is based upon a State treatment standard of water quality standard.

Previous limits can be used pursuant to EPA's anti-backsliding regulation 40 CFR 122.44 (l) Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued. Interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the

time the permit was issued and would constitute cause for permit modification or revocation and reissuance under §122.62). (2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

The facility is not seeking to revise the previously permitted effluent limits.

Additional Considerations

Monitoring frequency for the proposed effluent limits are based upon Table 6-3, Self-Monitoring Requirements for Sewage Dischargers, from the Departments Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits (Document No. 386-0400-001).

For POTWs, mass loading limits will be established for CBOD5, TSS, NH3-N, and where necessary Total P and Total N. In general, average monthly mass loading limits will be established for CBOD5, TSS, NH3-N, and where necessary Total P and Total N, and average weekly mass loading limits will be established for CBOD5 and TSS (Section IV, SOP for Clean Water Program, Establishing Effluent Limitations for Individual Sewage Permits, Final November 9, 2012, Revised March 24, 2021, Version 1.9).

For POTWs with design flows greater than 2,000 GPD and for non-municipal sewage facilities that service municipalities or portions thereof, the application manager will establish influent BOD5 and TSS monitoring in the permit using the same frequency and sample type as is used for other effluent parameters (Section IV.E.8, SOP for Clean Water Program, New and Reissuance Sewage Individual NPDES Permit Applications, Final November 9, 2012, Revised February 3, 2022, Version 2.0).

Sewage discharges will include monitoring, at a minimum, for *E. Coli*, in new and reissued permits, with a monitoring frequency of 1/quarter for design flows >= 0.05 and < 1 MGD per 92a.61and Section I.A, Note 12, SOP for Clean Water Program, Establishing Effluent Limitations for Individual Sewage Permits, Final November 9, 2012, Revised March 24, 2021, Version 1.9.

Nutrient monitoring is required to establish the nutrient load from the wastewater treatment facility and the impacts that load may have on the quality of the receiving stream(s). A 1/quarter monitoring requirement for Total N & Total P has been added to the permit per Chapter 92a.61and Section I.A, Note 7 & 8, SOP for Clean Water Program, Establishing Effluent Limitations for Individual Sewage Permits, Final November 9, 2012, Revised March 24, 2021, Version 1.9. Discharge is to waters not impaired for nutrients.

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" (386-0400-001), 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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	165	265	XXX	25.0	40.0	50	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
TSS	200	300	XXX	30.0	45.0	60	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	24-Hr Composite
Ammonia-Nitrogen	XXX	Report Avg Mo	XXX	Report	XXX	XXX	1/week	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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	24-Hr Composite

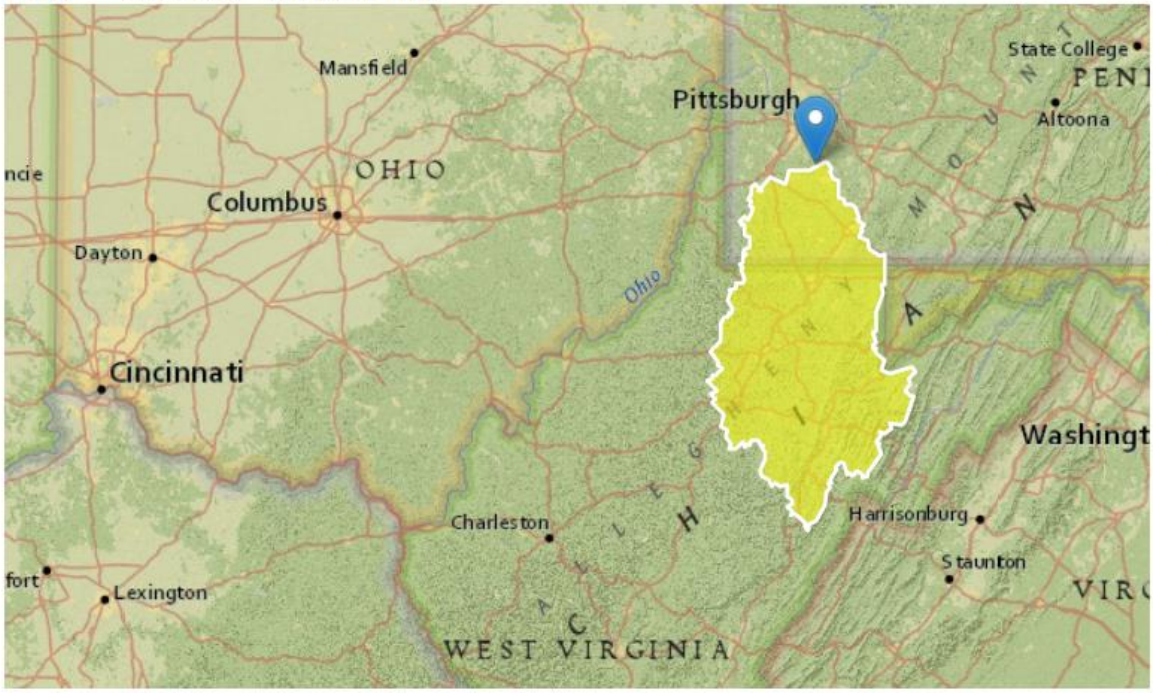
Compliance Sampling Location: Outfall 001

Other Comments: N/A

Attachment 1 – USGS StreamStats Report

PA0217786 - StreamStats Report

Region ID: PA
Workspace ID: PA20230831185517626000
Clicked Point (Latitude, Longitude): 40.20924, -79.93811
Time: 2023-08-31 14:55:46 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	5300	square miles
ELEV	Mean Basin Elevation	1830	feet

Low-Flow Statistics

Low-Flow Statistics Parameters [99.9 Percent (5290 square miles) Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5300	square miles	2.26	1400
ELEV	Mean Basin Elevation	1830	feet	1050	2580

Low-Flow Statistics Disclaimers [99.9 Percent (5290 square miles) Low Flow Region 4]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [99.9 Percent (5290 square miles) Low Flow Region 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	698	ft^3/s
30 Day 2 Year Low Flow	926	ft^3/s
7 Day 10 Year Low Flow	408	ft^3/s
30 Day 10 Year Low Flow	477	ft^3/s
90 Day 10 Year Low Flow	707	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

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Application Version: 4.17.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Attachment 2 – WQM 7.0 Version 1.1 – Summer Period

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
19A	37185	MONONGAHELA RIVER	**30.700**	730.00	5300.00	0.00010	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.104	550.00	0.00	0.000	0.000	0.0	783.10	9.50	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
New Eagle STP	PA0217786	0.8000	0.8000	0.8000	0.000	20.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
19A	37185	MONONGAHELA RIVER	**30.200**	730.00	5300.50	0.00010	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.104	550.00	0.00	0.000	0.000	0.0	890.39	9.50	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	0.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19A	37185	MONONGAHELA RIVER

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
30.700	550.00	0.00	550.00	1.2376	0.00010	9.5	783.1	82.43	0.07	0.412	24.99	7.00
Q1-10 Flow												
30.700	352.00	0.00	352.00	1.2376	0.00010	NA	NA	NA	0.05	0.644	24.98	7.00
Q30-10 Flow												
30.700	748.00	0.00	748.00	1.2376	0.00010	NA	NA	NA	0.10	0.303	24.99	7.00

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19A	37185	MONONGAHELA RIVER

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
30.700	New Eagle STP	11.09	50	11.09	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
30.700	New Eagle STP	1.37	25	1.37	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
30.70	New Eagle STP	25	25	25	25	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19A	37185	MONONGAHELA RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
30.700	0.800	24.989	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
783.100	9.500	82.432	0.074
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.05	0.029	0.06	1.028
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.233	0.135	O'Connor	5
Reach Travel Time (days)			
0.412			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.041	2.05	0.05	7.54
0.082	2.05	0.05	7.54
0.124	2.04	0.05	7.54
0.165	2.04	0.05	7.54
0.206	2.04	0.05	7.54
0.247	2.03	0.04	7.54
0.289	2.03	0.04	7.54
0.330	2.03	0.04	7.54
0.371	2.02	0.04	7.54
0.412	2.02	0.04	7.54

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19A	37185	MONONGAHELA RIVER

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
30.700	New Eagle STP	PA0217786	0.800	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

Attachment 3 – TRC CALC

PA_0217786_TRC_CALC

TRC EVALUATION

550	= Q stream (cfs)	0.5	= CV Daily
0.8	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 141.785	1.3.2.iii	WLA cfc = 138.222
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 52.833	5.1d	LTA_cfc = 80.356

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) = 1.635	

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