pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0218821**
Facility Type	**Municipal**	APS ID	**1055494**
Major / Minor	**Minor**	Authorization ID	**1382932**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Indiana County Municipal Service Authority**	Facility Name	**Penn Run STP**
Applicant Address	602 Kolter Drive	Facility Address	656 Spaulding Road
	Indiana, PA 15701-3570		Indiana, PA 15701
Applicant Contact	Tricia Lefko	Facility Contact	
Applicant Phone	(724) 349-6640	Facility Phone	(724) 349-6640
Client ID	38534	Site ID	534583
Ch 94 Load Status	Not Overloaded	Municipality	Cherryhill Township
Connection Status	No Limitations	County	Indiana
Date Application Received	January 25, 2022	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: NPDES Renewal of a municipal sewage treatment plant (STP).

Summary of Review

This is an existing discharge for a minor sewage treatment facility.

Act 14 – Proof of Notification was submitted and received.

Existing treatment consists of (WQM Permit No. 3202406): Equalization tank, aeration tank, clarifier, then UV disinfection unit. Sludge is air lifted from clarifier to a waste treatment tank.

There are 10 open violations in WMS for the subject Client ID (38534) as of 12/5/2023, all for Safe Drinking Water violations at facilities other than this one. *Permittee will be notified in the Draft Permit Cover Letter of open violations and given an opportunity to address them prior to final permit issuance. CWY 12/15/2023*

Annual monitoring for E. Coli has been added per Department SOP for new and reissued NPDES permits with design flows exceeding 2000GPD.

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		Jordan A. Frey, E.I.T. Jordan A. Frey, E.I.T. / Project Manager	December 5, 2023
X		Chad W. Yurisic Chad W. Yurisic, P.E. / Environmental Engineer Manager	12/15/2023

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.03
Latitude	40º 37' 36.99"	Longitude	-79º 0' 16.96"
Quad Name	Clymer	Quad Code	40079F1
Wastewater Description:	Sewage Effluent		

Receiving Waters	Penn Run (CWF)	Stream Code	44276
NHD Com ID	123716911	RMI	
Drainage Area	2.08	Yield (cfs/mi^2)	0.12
Q_{7-10} Flow (cfs)	0.2496	Q_{7-10} Basis	Streamstats
Elevation (ft)	1421	Slope (ft/ft)	---
Watershed No.	18-D	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	METALS, SILTATION		
Source(s) of Impairment	ACID MINE DRAINAGE, STREAMBANK MODIFICATIONS/DESTABILIZATION		
TMDL Status	Final, Final	Name	Kiskiminetas-Conemaugh River Watersheds TMDL,Penn Run Watershed

Background/Ambient Data		Data Source
pH (SU)	7.0	Default
Temperature (°F)	20	Default
Hardness (mg/L)	100	Default
Other:		

Nearest Downstream Public Water Supply Intake	PA American Water Company – Two-Lick Creek		
PWS Waters	Two-Lick Creek	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	

Changes Since Last Permit Issuance: None.

Other Comments: None.

Treatment Facility Summary

Treatment Facility Name: Penn Run STP

WQM Permit No.	Issuance Date
3202406	10/27/2003

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage		Aeration and Settling	Ultraviolet	0.011

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.031	75	Not Overloaded		

Changes Since Last Permit Issuance: None

Other Comments: None.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .03
Latitude 40º 37' 38.00" **Longitude** -79º 0' 18.00"
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)
E. Coli	Report	IMAX		92a.61

Comments: E. Coli monitoring is based on the Department's SOP for new and reissued permits.

Water Quality-Based Limitations

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
CBOD5	25.0	Avg. Monthly	WQM 7.0 v.1.1b
Dissolved Oxygen	3.0	Instant. Minimum	WQM 7.0 v.1.1b
NH3-N	15.0	Avg. Monthly	WQM 7.0 v.1.1b

Comments: WQM modeling calculated a minimum Dissolved Oxygen (DO) limit of 3.0 mg/l, but a 4.0 mg/l limit shall be imposed per the Department's SOP as a BPJ limit. *WQM modeling calculated a summertime NH3-N limit of 15.0 mg/l, but the more restrictive limit of 5.0 mg/l in the existing permit will be retained in accordance with the EPA anti-backsliding policy. CWY 12/15/2023*

Best Professional Judgment (BPJ) Limitations

Comments: Monitoring frequencies for Dissolved Oxygen and pH are established as 1/day in congruence with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits" (SOP No. BPNPSM-PMT-033, dated November 9, 2012, Revised March 24, 2021.

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). Sewage discharges with design flows > 2,000 GPD require monitoring, at a minimum, for Total Nitrogen and Total Phosphorus in new and reissued permits. Discharge flows below 0.500MGD are required to sample these two parameters at a rate of 1/year.

Anti-Backsliding

N/A

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	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
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
CBOD5	6.3	XXX	XXX	25.0	XXX	50.0	2/month	Grab
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	Grab
TSS	7.5	XXX	XXX	30.0	XXX	60.0	2/month	Grab
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
UV Transmittance (%)	XXX	XXX	XXX	Report	XXX	XXX	1/day	Measured
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	15.0	XXX	30.0	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	5.0	XXX	10.0	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab

Compliance Sampling Location: Outfall 001, after disinfection.

Other Comments: None.

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
18D	44276	PENN RUN

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
3.400	Penn Run STP	15.27	50	15.27	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
3.400	Penn Run STP	1.82	15.09	1.82	15.09	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)		
3.40	Penn Run STP	25	25	15.09	15.09	3	3	0	0

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
18D	44276	PENN RUN	**3.400**	1421.00	2.08	0.00000	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	0.120	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	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
Penn Run STP	PA0218821	0.0125	0.0300	0.0300	0.000	25.00	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

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
18D	44276	PENN RUN	**1.800**	1323.00	6.85	0.00000	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	0.120	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	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	25.00	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 D.O.Simulation

SWP Basin	Stream Code	Stream Name
18D	44276	PENN RUN

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
3.400	0.030	20.784	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
7.364	0.414	17.768	0.097
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
5.61	0.771	2.37	0.744
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.421	23.621	Owens	5
Reach Travel Time (days)			
1.008			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.101	5.17	2.20	8.12
0.202	4.77	2.04	8.12
0.302	4.40	1.89	8.12
0.403	4.06	1.75	8.12
0.504	3.75	1.63	8.12
0.605	3.46	1.51	8.12
0.706	3.19	1.40	8.12
0.807	2.94	1.30	8.12
0.907	2.71	1.21	8.12
1.008	2.50	1.12	8.12

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
18D	44276	PENN RUN

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)
3.400	Penn Run STP	PA0218821	0.013	CBOD5	25		
				NH3-N	15.09	30.18	
				Dissolved Oxygen			3

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
18D	44276	PENN RUN

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												
3.400	0.25	0.00	0.25	.0464	0.01160	.414	7.36	17.77	0.10	1.008	20.78	7.00
Q1-10 Flow												
3.400	0.16	0.00	0.16	.0464	0.01160	NA	NA	NA	0.08	1.235	21.13	7.00
Q30-10 Flow												
3.400	0.34	0.00	0.34	.0464	0.01160	NA	NA	NA	0.11	0.869	20.60	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		