pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0217867**
Facility Type	**Non-Municipal**	APS ID	**1032609**
Major / Minor	**Minor**	Authorization ID	**1343735**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Resources for Human Development, Inc.**	Facility Name	**Resources For Human Development STP**
Applicant Address	6383 Tuscarawas Road	Facility Address	6383 Tuscarawas Road
	Midland, PA 15059-2041		Midland, PA 15059-2041
Applicant Contact	Kevin Korzdi	Facility Contact	Kevin Korzdi
Applicant Phone	(724) 508-3993	Facility Phone	(724) 508-3993
Client ID	347593	Site ID	486432
Ch 94 Load Status	Not Overloaded	Municipality	Ohioville Borough
Connection Status	No Exceptions Allowed	County	Beaver
Date Application Received	February 8, 2021	EPA Waived?	Yes
Date Application Accepted	February 24, 2021	If No, Reason	

Purpose of Application: Renewal of NPDES Permit PA0217867.

Summary of Review

On February 8, 2021 the Department received an NPDES renewal application from Resources for Human Development, Inc. for the Resources for Human Development STP (RHD STP) located in Ohioville Borough of Beaver County. The current permit was issued on August 23, 2016, transferred on September 26, 2019 (from Residential Resources Southwest), and expired August 31, 2021 but has been administratively extended. The renewal application was received timely.

The facility is in the health care business and treats wastewater generated at the facility at a hydraulic design capacity of 0.01 MGD. The average flow for the past two years is 0.0001 MGD. There are no combined stormwater flows, bypasses or overflows of raw or partially treated sewage. Influent sewage flows through an equalization tank, aeration tank, clarifier, chlorine contact tank, and dechlorination prior to final discharge. Soda ash briquettes are used as needed for pH adjustment. Chlorination and dechlorination are achieved by use of tablets. A total of 0.68 dry tons of sewage sludge was produced at the facility in 2020. The facility did not receive any additional sludge from other sources. The sludge is disposed at the New Castle WWTP via a third-party liquid sludge hauler.

Act 14 notifications were submitted to the Beaver County Courthouse and Ohioville Borough via certified mail. No comments were received.

Approve	Deny	Signatures	Date
X		Nicole H. Benoit, P.E. / Environmental Engineering Specialist	January 31, 2022
X		Mahbuba Iasmin, P.E. / Environmental Engineering Manager	February 11, 2022

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.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.01
Latitude	40º 40' 51"	Longitude	-80º 29' 5"
Quad Name	Midland	Quad Code	1302
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Upper Dry Run (WWF)	Stream Code	33505
NHD Com ID	99680158	RMI	1.26
Drainage Area	0.056 sq. mi.	Yield (cfs/mi^2)	0.00046
Q_{7-10} Flow (cfs)	0.000228	Q_{7-10} Basis	U.S.G.S. StreamStats
Elevation (ft)	1080	Slope (ft/ft)	0.024
Watershed No.	20-B	Chapter 93 Class.	WWF
Existing Use	Attaining	Existing Use Qualifier	N/A
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	N/A		
Source(s) of Impairment	N/A		
TMDL Status	N/A	Name	N/A

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

Nearest Downstream Public Water Supply Intake		City of East Liver Pool, Ohio, on the Ohio River	
PWS Waters	No	Flow at Intake (cfs)	Unknown
PWS RMI	3.55 miles downstream of West Virginia Border	Distance from Outfall (mi)	7.83

Changes Since Last Permit Issuance: None

Other Comments: This information is from the PA0217867 A-2 Fact Sheet from 2019 and updated as appropriate using eMapPA and U.S.G.S. StreamStats for the flow rates and RMI.

Treatment Facility Summary

Treatment Facility Name: Resources For Human Development STP

WQM Permit No.	Issuance Date
0498402	9/15/1998
0498402 T-1	12/20/2010
0498402 T-2	9/26/2019

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Hypochlorite	0.01

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.01	N/A	Not Overloaded	None	N/A

Changes Since Last Permit Issuance: None

Other Comments: None

Compliance History

DMR Data for Outfall 001 (from November 1, 2020 to October 31, 2021)

Parameter	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20
Flow (MGD) Average Monthly	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
pH (S.U.) Instantaneous Minimum	7.24	7.05	6.88	6.92	7.0	7.1	6.8	6.6	6.3	6.7	6.6	6.2
pH (S.U.) Instantaneous Maximum	8.24	7.92	7.65	7.22	7.4	7.3	7.3	8.3	7.3	7.2	7.1	7.4
DO (mg/L) Instantaneous Minimum	6.11	5.1	6.07	5.4	5.81	6.10	5.0	5.11	5.20	5.6	5.19	5.06
TRC (mg/L) Average Monthly	< 0.02	< 0.02	0.04	0.07	0.06	0.04	0.03	0.03	0.03	0.02	0.03	0.03
TRC (mg/L) Instantaneous Maximum	0.05	0.03	0.08	0.12	0.08	0.14	0.08	0.08	0.08	0.07	0.09	0.09
CBOD5 (mg/L) Average Monthly	< 4.0	4.5	< 3.4	3.75	9.3	6.0	4.55	9.43	**15.55**	< 3.00	< 3.00	3.70
CBOD5 (mg/L) Instantaneous Maximum	5.0	4.9	3.7	4.50	**22.10**	6.80	4.90	15.8	**25.40**	< 3.00	< 3.00	4.40
TSS (mg/L) Average Monthly	< 5.0	< 8.7	6.5	4.0	9.0	3.0	7.0	6.33	**23.50**	5.00	4.50	**15.0**
TSS (mg/L) Instantaneous Maximum	8.0	12.0	8.0	4.0	15.0	3.0	8.0	12	**37.00**	6.00	6.00	**27.0**
Fecal Coliform (No./100 ml) Geometric Mean	< 3.0	< 1.0	< 3	8	1	4	12	121	8.0	2.0	11	1
Fecal Coliform (No./100 ml) Instantaneous Maximum	8.0	1.0	10	56	1	11	18	2420	13.0	4.0	58	1
Total Nitrogen (mg/L) Daily Maximum											43.2	
Ammonia (mg/L) Average Monthly	0.3	0.3	0.30	0.97	0.33	0.39	0.33	0.67	0.55	0.24	0.24	0.27

Ammonia (mg/L) Instantaneous Maximum	0.31	0.30	0.31	1.62	0.34	0.52	0.44	2.35	0.85	0.27	0.24	0.34
Total Phosphorus (mg/L) Daily Maximum											6.07	

Compliance History

Effluent Violations for Outfall 001, from: December 1, 2020 To: October 31, 2021

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
CBOD5	02/28/21	Avg Mo	15.55	mg/L	10	mg/L
CBOD5	06/30/21	IMAX	22.10	mg/L	20	mg/L
CBOD5	02/28/21	IMAX	25.40	mg/L	20	mg/L
TSS	02/28/21	Avg Mo	23.50	mg/L	10	mg/L
TSS	02/28/21	IMAX	37.00	mg/L	20	mg/L

Summary of Inspections: On July 26, 2021 the Department conducted an inspection of the facility. Violations were noted for eDMR exceedances. It was recommended that repairs are completed for the comminutor and sand filter. At the time of inspection, the units were under repair and parts were backordered. The facility was previously inspected May 25, 2017 and no violations were noted.

Summary of Operations Compliance Check: The facility has had numerous intermittent effluent violations for TSS and CBOD5 from December 2018 and into 2021. Operations may pursue this matter later with inspection / enforcement.

Operations Compliance Check Summary Report

Facility: Resources_For_Human_Development_STP

NPDES Permit No.: PA0217867

Compliance Review Period: 11/18/2016 – 11/16/2021

Open Violations by Client Summary

None.

Inspection Summary

INSP ID	INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC	# OF VIOLATIONS
2598696	05/25/2017	Routine/Partial Inspection	PA Dept of Environmental Protection	No Violations Noted	0
2610782	04/11/2017	Administrative/File Review	PA Dept of Environmental Protection	Violation(s) Noted	1
3174309	04/07/2021	Administrative/File Review	PA Dept of Environmental Protection	Administratively Closed	0
2942485	10/08/2019	Administrative/File Review	PA Dept of Environmental Protection	Violation(s) Noted	1
3209072	06/22/2021	Administrative/File Review	PA Dept of Environmental Protection	Administratively Closed	0
3224399	07/26/2021	Compliance Evaluation	PA Dept of Environmental Protection	Violation(s) Noted	1

Violation Summary

VIOL ID	VIOLATION DATE	VIOLATION TYPE DESC	RESOLVED DATE
789761	04/11/2017	NPDES - Failure to use a format or process required by DEP for self-monitoring results	05/05/2017
864540	10/08/2019	Operator Certification - Failure to submit annual system fee	10/25/2019
924323	07/26/2021	NPDES - Violation of effluent limits in Part A of permit	08/12/2021

Enforcement Summary

ENF ID	ENF TYPE DESC	EXECUTED DATE	VIOLATIONS	ENF FINALSTATUS	ENF CLOSED DATE
354913	Notice of Violation	04/11/2017	92A.61(G)	Comply/Closed	05/05/2017
396541	Notice of Violation	08/12/2021	92A.44		
379560	Notice of Violation	10/08/2019	302.202	Comply/Closed	10/25/2019

DMR Violation Summary

Effluent limit violation summary 11/18/2016 – 11/18/2021:

MONITORING END DATE	OUTFALL	PARAMETER	SAMPLE VALUE	PERMIT VALUE	UNIT OF MEASURE	STATISTICAL BASE CODE
12/31/2018	001	Total Suspended Solids	22.00	10	mg/L	Average Monthly
12/31/2018	001	Total Suspended Solids	22.00	20	mg/L	Instantaneous Maximum
03/31/2019	001	Ammonia-Nitrogen	8.0	5.0	mg/L	Average Monthly
03/31/2019	001	Fecal Coliform	9360	2000	CFU/100 ml	Geometric Mean
03/31/2019	001	Ammonia-Nitrogen	13.0	10.0	mg/L	Instantaneous Maximum
03/31/2019	001	Fecal Coliform	86640	10000	CFU/100 ml	Instantaneous Maximum
04/30/2019	001	Total Suspended Solids	13.00	10	mg/L	Average Monthly
09/30/2019	001	Fecal Coliform	2420	1000	No./100 ml	Instantaneous Maximum
11/30/2019	001	Total Suspended Solids	22	10	mg/L	Average Monthly
11/30/2019	001	Total Suspended Solids	28	20	mg/L	Instantaneous Maximum
02/29/2020	001	Carbonaceous Biochemical Oxygen Demand (CBOD5)	35.60	10	mg/L	Average Monthly
02/29/2020	001	Total Suspended Solids	20.50	10	mg/L	Average Monthly
02/29/2020	001	Carbonaceous Biochemical Oxygen Demand (CBOD5)	68.20	20	mg/L	Instantaneous Maximum
02/29/2020	001	Total Suspended Solids	28.00	20	mg/L	Instantaneous Maximum
03/31/2020	001	Total Suspended Solids	15	10	mg/L	Average Monthly
03/31/2020	001	Total Suspended Solids	25	20	mg/L	Instantaneous Maximum
05/31/2020	001	Carbonaceous Biochemical Oxygen Demand (CBOD5)	10.40	10	mg/L	Average Monthly
07/31/2020	001	Total Suspended Solids	15	10	mg/L	Average Monthly
07/31/2020	001	Total Suspended Solids	26	20	mg/L	Instantaneous Maximum
11/30/2020	001	Total Suspended Solids	15.0	10	mg/L	Average Monthly
11/30/2020	001	Total Suspended Solids	27.0	20	mg/L	Instantaneous Maximum
02/28/2021	001	Carbonaceous Biochemical Oxygen Demand (CBOD5)	15.55	10	mg/L	Average Monthly
02/28/2021	001	Total Suspended Solids	23.50	10	mg/L	Average Monthly
02/28/2021	001	Carbonaceous Biochemical Oxygen Demand (CBOD5)	25.40	20	mg/L	Instantaneous Maximum
02/28/2021	001	Total Suspended Solids	37.00	20	mg/L	Instantaneous Maximum
06/30/2021	001	Carbonaceous Biochemical Oxygen Demand (CBOD5)	22.10	20	mg/L	Instantaneous Maximum

Compliance Status:

Facility has had numerous intermittent effluent violations from December 2018 and into 2021. Operations may pursue this matter later with inspection / enforcement.

Completed by: David Roote

Completed date: 11/18/2021

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .01
Latitude 40º 40' 51.00" **Longitude** -80º 29' 5.00"
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
Flow	Report	Average Monthly	-	92a.47, 92a.61(b)
	Report	Daily Maximum	-	92a.47, 92a.61(b)
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
	50	IMAX	-	BPJ
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)
	60	IMAX	-	BPJ
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2), 92a.47(a)(8)
	1.6	IMAX	-	BPJ
Ammonia-Nitrogen	Report (See SOP Note 5)	Average Monthly	-	BPJ
Dissolved Oxygen	4.0	Minimum	-	BPJ
pH	6.0 S.U.	Minimum	133.102(c)	95.2(1), 92a.47(a)(7)
	9.0 S.U.	IMAX	133.102(c)	95.2(1), 92a.47(a)(7)
Total Nitrogen	Report	Average Monthly	-	92a.61(b)
Total Phosphorus	Report	Average Monthly	-	92a.61(b)
Fecal Coliform (May – September)	200 / 100 ml	Monthly Geo Mean	-	92a.47(a)(4)
	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (October – April)	2,000 / 100 ml	Monthly Geo Mean	-	92a.47(a)(5)
	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
E. Coli	Report No./100 mL	IMAX	-	BPJ

Comments:

These technology-based effluent limitations and monitoring are being imposed in accordance with “Standard Operating Procedure (SOP) for Clean Water Program; Establishing Effluent Limitations for Individual Sewage Permits; SOP No. BCW-PMT-033; Final, November 9, 2012; Revised, March 24, 2021; Version 1.9”.

In addition to the effluent limitations for CBOD5 and Total Suspended Solids, a Part A Additional Requirements condition will require the 30-day (monthly) average percent removal to be not less than 85 percent in accordance with 40 CFR 133.102(a)(4)(iii) and 133.102(b)(3), respectively. In addition to the federal regulations, the state specifies this percent removal as well in 25 Pa. Code Chapter 92a.47(a)(3). The percent removal is to be on a concentration basis. The permittee shall report any exceedances in the DMR submittal and the Chapter 94 report.

25 Pa. Code Chapter 92a.47(a)(7) states sewage permits must comply with 95.2(1) for pH and 95.2(2) for oil in the discharge. The narrative standards in the Additional Requirements of Part A of the NPDES permit prohibits the presence of a film or sheen on the receiving water. A sheen or film is typically visible at concentrations around the detection level (approximately 5 mg/L) and therefore provides sufficient protection against oil or grease releases to the receiving stream. The sewage discharge is not expected to be oil-bearing and so imposition of numeric effluent limitations is unnecessary.

Annual monitoring of total nitrogen and total phosphorus will be required based on their presence as pollutants of concern in sewage.

Anti-Backsliding:

Section 402(o) of the CWA states "…a permit may not be renewed, reissued, or modified … 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." Similarly, 40 CFR 122.44(l)(1) states "(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.)"

A Best Professional Judgement (BPJ) does not need to be developed where anti-backsliding requirements are in effect. The permit issued September 26, 2019 established the following effluent limitations. It is noted if the SOP recommended limitations, or anti-backsliding, is more stringent and will continue to be applied in the renewed permit. It is noted if both SOP and current limits are the same.

Parameter (mg/L)	Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Most Stringent
Flow (MGD)		0.01			Anti-backsliding
pH (S.U.)	6.0			9.0	Same
Dissolved Oxygen	5.0				Anti-backsliding
TRC		0.10		0.24	Anti-backsliding
CBOD5		10		20	Anti-backsliding
TSS		10		20	Anti-backsliding
Fecal Coliform (No./100 mL) Oct 1 – Apr 30		2000 Geo Mean		10000	Same
Fecal Coliform (No./100 mL) May 1 – Sep 30		200 Geo Mean		1000	Same
Total Nitrogen			Report		Same
Ammonia-Nitrogen Nov 1 – Apr 30		5.0		10.0	Anti-backsliding (WQBEL)
Ammonia-Nitrogen May 1 – Oct 31		2.0		4.0	Anti-backsliding (WQBEL)
Total Phosphorus			Report		Same

Water Quality-Based Limitations

The discharge is to an unnamed tributary of Upper Dry Run (Stream Code 33505), categorized in 25 Pa. Code Chapter 93 as a Warm Water Fishery (WWF). Both the tributary and Upper Dry Run is attaining its designated use.

Total Dissolved Solids:

The requirements of §95.10 related to TDS and constituent solids are not applicable to this discharge. The facility's discharge was authorized prior to August 21, 2010 and has not expanded since. The SOP - Establishing Effluent Limitations for Individual Sewage Permits recommends monitoring where the TDS exceeds 1000 mg/L. There is no reasonable expectation that this sewage contains elevated TDS, and so TDS monitoring is not needed.

Toxics Management Spreadsheet:

The facility's discharge is well below 0.1 MGD at just 0.01 MGD and therefore is not required to conduct detailed effluent testing analysis in the renewal application. Toxic pollutants are not required for analysis, and there are no indications that these pollutants would be present in the sewage discharge. TMS modeling is not needed.

WQM 7.0 Model:

The WQM 6.3 model was run in 1998 to establish ammonia-nitrogen, CBOD5 and dissolved oxygen effluent limitations. The model results have continued to be referenced in subsequent renewals through 2019. There have been no significant changes at the facility but to ensure the most current criteria and calculations are applied, WQM 7.0 Version 1.1 was run for this renewal analysis.

WQM 7.0 for Windows determines wasteload allocations and effluent limitations for CBOD5, NH3-N and DO for single and multiple point source discharge scenarios. To accomplish this, the model simulates two basic processes. In the NH3-N module, the model simulates the mixing and degradation of NH3-N in the stream and compares calculated instream NH3-N concentrations to NH3-N water quality criteria. In the DO module, the model simulates the mixing and consumption of DO in the stream due to the degradation of CBOD5 and NH3-N, and compares calculated instream DO concentrations to DO water quality criteria. WQM 7.0 then determines the highest pollutant loadings that the stream can assimilate while still meeting water quality criteria under design conditions.

Title 25 Chapter 93 §93.7 of the Pennsylvania Code contains the NH3-N and DO criteria that are applicable to WQM 7.0. NH3-N criteria are divided into acute fish and aquatic life toxicity criteria, and chronic fish and aquatic life toxicity criteria. The NH3-N criteria are pH and temperature dependent. WQM 7.0 automatically calculates the appropriate NH3-N criteria for any given scenario based on the pH and temperature entered by the user. One of four possible criteria for DO is applicable to any given stream segment in the Commonwealth, depending on the designated water use for that stream segment specified in Chapter 93 §93.9. CBOD5 is important only because of its effect on DO concentrations in the stream.

The procedure for applying the model generally involves five steps. The first step is to select or create a set of data inputs, which include general, stream, discharge, and parameter data. The second step is to provide a set of modeling specifications, which specify how the model should handle the input data. The third step is to run the NH3-N module to determine allowable NH3-N wasteload allocations required to meet both acute and chronic toxicity NH3-N water quality criteria. The fourth step is to run the DO module to determine allowable CBOD5 and (where applicable) NH3-N wasteload allocations required to meet DO water quality criteria. The final step is to determine the allowable NPDES effluent concentrations based on the wasteload allocations determined in steps 3 and 4.

Total ammonia in an aqueous system is a balance between un-ionized ammonia (NH3-N) and the ionized ammonium ion (NH4+). The speciation between NH3-N and NH4+ is important, because NH3-N is highly toxic to fish and aquatic life, while NH4+ is much less toxic. High temperature and high pH favor the formation of NH3-N, while low temperature and low pH favor the formation of NH4+. For instance, much more of the toxic NH3-N will exist at pH 8 as compared to pH 7. WQM 7.0 calculates the applicable instream NH3-N water quality criteria for each reach based on equations defined in PA Code 25 §93.7. The calculated instream NH3-N water quality criterion is sensitive to the instream (analysis) temperature and pH, and substantially different water quality criteria and WLAs may result from relatively small changes in instream temperature and pH. It is important to assure that the simulation reflects the best data available for stream/tributary and discharge temperature and pH.

Using a default 25 mg/L CBOD5 concentration and 25 mg/L default ammonia concentration, the model was run. Detailed discharge temperature data was not provided and so default values were used. Q7-10 conditions occur during the summer months, and so the low-flow yield was doubled for the winter model run. The following input conditions were used for the summer and winter months:

Condition	**Tributary Temperature (°C)**	**Discharge Temperature (°C)**	**D.O. Stream Goal (mg/L)**	**Stream Yield (cfs/mi^2)**	**Stream Flow Rate (cfs)**
Summer (May – Oct)	25.0	20.0	5.0	0.00046	0.000228
Winter (Nov – Apr)	5.0	15.0	5.0	0.00092	0.000456

The model produced the following recommended effluent limitations. Included for reference is the current effluent limitations for ammonia.

	Proposed Ammonia Limitation		Current Ammonia Limitation	
	Monthly Average	**Daily Maximum**	**Monthly Average**	**Daily Maximum**
Summer (May – Oct)	1.9	3.8	2.0	4.0
Winter (Nov – Apr)	2.8	5.6	5.0	10.0

The ammonia water quality criterion and mixing dynamics are sensitive to temperature, and the lowered flow rate had a greater impact on changing the winter effluent limitations than the summer limits. The 1998 WQM6.3 Model used a Q7-10 flow rate of 0.0027 cfs for the summer condition whereas the current low flow estimate from the U.S.G.S. StreamStats model is 0.000228 cfs, approximately one order of magnitude less. The 1998 model used a winter Q7-10 estimate of 0.0054 cfs as opposed to the current 0.000456 cfs flow rate, which is also approximately one order of magnitude less.

Per the past 12 twelves of DMR data, the maximum ammonia concentration was 2.35 mg/L in March. During the summer months, the maximum concentration was 1.62 mg/L in July. Based on this, compliance is expected upon permit issuance and a Schedule of Compliance is unnecessary.

The model did not recommend a more stringent WQBEL for CBOD5 or dissolved oxygen. The TBELs are sufficient to protect the stream.

See Attachment A for model results.

Chlorination:

The facility uses hypochlorite tablets (bleach) for disinfection in the chlorine contact tank. The TRC spreadsheet was used to calculate the water quality based TRC limits since the TRC model previously used 4 samples per month instead of the current 5/week sampling frequency (approximately 20 samples per month). Also, like the ammonia modeling above, the flow rate was also corrected to the most current Q7-10 flow estimate (approximately 10% of previous flow). The updated model uses a default 0.3 Chlorine Demand of the Stream as recommended in the model instructions (previously 0.8) and a 0.5 mg/L BAT/BPJ value as recommended (previously 1.4). The stream chlorine demand is the portion of chlorine in the stream formed into other compounds not measurable as residual chlorine. A site-specific value was not provided and so the default value was used. The BAT/BPJ ratio is used as a technology-based average monthly effluent limit of 0.5 mg/L in the event the calculated WQBEL is less stringent.

The results of the model are in Appendix B. The previous permit established 0.10 mg/L as a monthly average and 0.24 mg/L as an IMAX. The proposed TRC effluent limitation is 0.01 mg/L as a monthly average and 0.04 mg/L as an IMAX. The Department's target quantitation level (QL) for TRC is 20 ug/L or 0.02 mg/L. The permittee will be able to detect values at and below the IMAX concentration, but may not with the 0.01 mg/L average monthly limitation. A Part C Condition will be added to allow for compliance with the monthly average effluent limitation in Part A of the permit and if the average result is less than the Department's QL.

Schedule of Compliance:

The DMR data for the past twelve months had an average monthly TRC range from <0.02 mg/L to 0.07 mg/L. Only the most recent two months were less than the QL value and one month was equal to it. The corresponding IMAX values ranged from 0.03 to 0.14 mg/L, with an average value of approximately 0.08 mg/L. This is twice the concentration of the proposed 0.04 mg/L IMAX. The monthly average 0.01 mg/L limit (evaluated as <0.02 mg/L) is also expected to be out of compliance upon permit issuance. A Schedule of Compliance (SOC) will be provided for the more stringent TRC effluent limitation. During the SOC period, the current effluent limits will remain in effect.

An SOC is defined in 25 Pa Code Chapter 92a.2 as "*Schedule of compliance*—A schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with effluent limitations, prohibitions, other limitations or standards." The authority to establish a SOC is provided in 25 Pa Code Chapter 92a.51. A Part C Condition will allow for site-specific studies to be conducted and submitted to the Department for consideration of modifying the TRC effluent limitations, or the permittee shall achieve compliance with the final effluent limits within three (3) years of the permit effective date.

Sampling Frequency

The current permit has the following sampling measurement frequencies:

Pollutants	Minimum Measurement Frequency
Flow, CBOD5, TSS, Fecal Coliform, Ammonia-N	2/month
pH, DO, TRC	5/week
Total N, Total P	1/year

With eDMR exceedances for CBOD5 and TSS across three months during the past year, sampling for those two parameters will be increased to 1/week. Flow will be increased to 1/week as well.

The proposed sampling frequency for all parameters is:

Pollutants	Minimum Measurement Frequency
Fecal Coliform, Ammonia-N	2/month
Flow, CBOD5, TSS	1/week
pH, DO, TRC	5/week
Total N, Total P, E. Coli	1/year

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 Three (3) Years After Permit Effective 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	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	0.01	XXX	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	5/week	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	5/week	Grab
TRC	XXX	XXX	XXX	0.10	XXX	0.24	5/week	Grab
CBOD5	XXX	XXX	XXX	10.0	XXX	20.0	1/week	Grab
TSS	XXX	XXX	XXX	10.0	XXX	20.0	1/week	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10,000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Ammonia May 1 – Oct 31	XXX	XXX	XXX	1.9	XXX	3.8	2/month	Grab
Ammonia Nov 1 – Apr 30	XXX	XXX	XXX	2.8	XXX	5.6	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

Compliance Sampling Location: End of pipe

Outfall 001, Effective Period: Three (3) Years After 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	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	0.01	XXX	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	5/week	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	5/week	Grab
TRC	XXX	XXX	XXX	0.01	XXX	0.04	5/week	Grab
CBOD5	XXX	XXX	XXX	10.0	XXX	20.0	1/week	8-Hr Composite
TSS	XXX	XXX	XXX	10.0	XXX	20.0	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10,000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Ammonia May 1 – Oct 31	XXX	XXX	XXX	1.9	XXX	3.8	2/month	8-Hr Composite
Ammonia Nov 1 – Apr 30	XXX	XXX	XXX	2.8	XXX	5.6	2/month	8-Hr Composite
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

Compliance Sampling Location: End of pipe

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment **A**)
☐	Toxics Management Spreadsheet (see Attachment)
☒	TRC Model Spreadsheet (see Attachment **B**)
☐	Temperature Model 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: New and Reissuance Sewage Individual NPDES Permit Applications; SOP No. BCW-PMT-002; Final, November 9, 2012; Revised, January 6, 2020; Version 1.9
☒	SOP: Establishing Effluent Limitations for Individual Sewage Permits; SOP No. BCW-PMT-033 Final, November 9, 2012; Revised, March 24, 2021; Version 1.9

Attachment A – WQM 7.0 Modeling

Summer Conditions

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20B	33505	Trib 33505 to Upper Dry 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)
1.260	Outfall 001	PA0217867	0.010	CBOD5	25		
				NH3-N	1.91	3.82	
				Dissolved Oxygen			5

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20B	33505	Trib 33505 to Upper Dry 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
1.260	Outfall 001	16.7	16.85	16.7	16.85	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
1.260	Outfall 001	1.88	1.91	1.88	1.91	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)		
1.26	Outfall 001	25	25	1.91	1.91	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20B	33505	Trib 33505 to Upper Dry Run

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.260	0.010	20.073	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
1.249	0.285	4.379	0.044
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
24.67	1.444	1.88	0.704
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.048	27.327	Owens	5
Reach Travel Time (days)			
1.734			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.173	19.19	1.67	7.32
0.347	14.92	1.48	7.71
0.520	11.61	1.31	8.01
0.694	9.03	1.16	8.23
0.867	7.02	1.02	8.23
1.040	5.46	0.91	8.23
1.214	4.25	0.80	8.23
1.387	3.31	0.71	8.23
1.560	2.57	0.63	8.23
1.734	2.00	0.56	8.23

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 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
20B	33505	Trib 33505 to Upper Dry 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												
1.260	0.00	0.00	0.00	.0155	0.02400	.285	1.25	4.38	0.04	1.734	20.07	7.00
Q1-10 Flow												
1.260	0.00	0.00	0.00	.0155	0.02400	NA	NA	NA	0.04	1.739	20.05	7.00
Q30-10 Flow												
1.260	0.00	0.00	0.00	.0155	0.02400	NA	NA	NA	0.04	1.729	20.10	7.00

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
20B	33505	Trib 33505 to Upper Dry Run	**1.260**	1080.00	0.06	0.02400	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	0.000	0.00	0.00	0.000	0.000	10.0	0.00	0.00	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
Outfall 001	PA0217867	0.0100	0.0000	0.0000	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	5.00	8.30	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
20B	33505	Trib 33505 to Upper Dry Run	**0.010**	920.00	1.48	0.02400	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	0.000	0.00	0.00	0.000	0.000	10.0	0.00	0.00	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
Outfall 001	PA0217867	0.0100	0.0000	0.0000	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	5.00	8.30	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Winter Conditions

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20B	33505	Trib 33505 to Upper Dry 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)
1.260	Outfall 001	PA0217867	0.010	CBOD5	25		
				NH3-N	2.78	5.56	
				Dissolved Oxygen			5

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20B	33505	Trib 33505 to Upper Dry 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
1.260	Outfall 001	24.1	24.56	24.1	24.56	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
1.260	Outfall 001	2.67	2.78	2.67	2.78	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)		
1.26	Outfall 001	25	25	2.78	2.78	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20B	33505	Trib 33505 to Upper Dry Run

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.260	0.010	14.714	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
1.254	0.286	4.383	0.044
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
24.34	1.489	2.70	0.466
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.094	24.074	Owens	5
Reach Travel Time (days)			
1.720			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.172	19.91	2.49	8.30
0.344	16.29	2.30	8.30
0.516	13.33	2.12	8.30
0.688	10.90	1.96	8.30
0.860	8.92	1.81	8.30
1.032	7.29	1.67	8.30
1.204	5.97	1.54	8.30
1.376	4.88	1.42	8.30
1.548	3.99	1.31	8.30
1.720	3.27	1.21	8.30

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 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
20B	33505	Trib 33505 to Upper Dry 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												
1.260	0.00	0.00	0.00	.0155	0.02400	.286	1.25	4.38	0.04	1.720	14.71	7.00
Q1-10 Flow												
1.260	0.00	0.00	0.00	.0155	0.02400	NA	NA	NA	0.04	1.730	14.81	7.00
Q30-10 Flow												
1.260	0.00	0.00	0.00	.0155	0.02400	NA	NA	NA	0.04	1.710	14.61	7.00

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
20B	33505	Trib 33505 to Upper Dry Run	**1.260**	1080.00	0.06	0.02400	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	0.001	0.00	0.00	0.000	0.000	10.0	0.00	0.00	5.00	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
Outfall 001	PA0217867	0.0100	0.0000	0.0000	0.000	15.00	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	5.00	8.30	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
20B	33505	Trib 33505 to Upper Dry Run	**0.010**	920.00	1.48	0.02400	0.00	☑

Stream Data

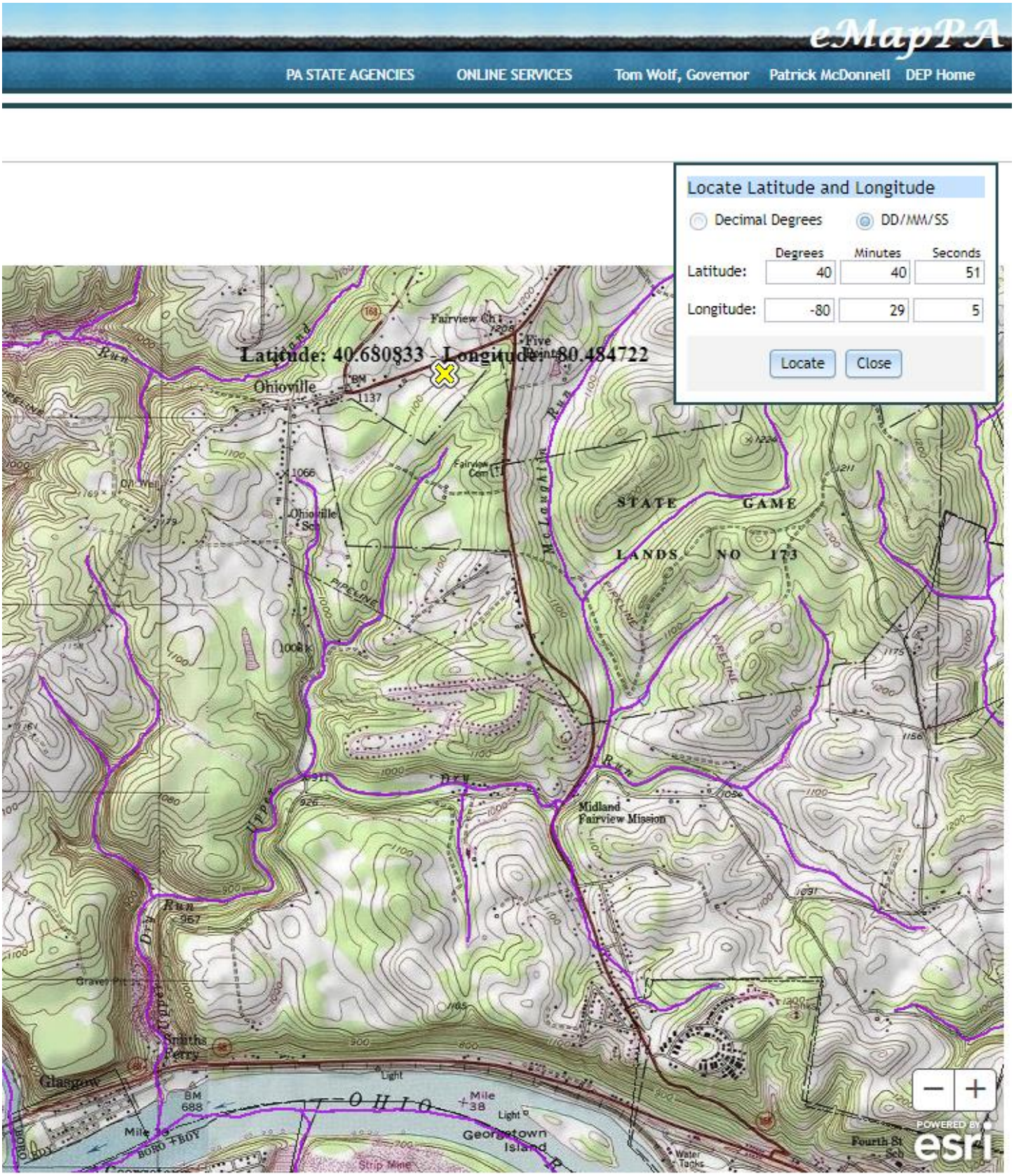
Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.001	0.00	0.00	0.000	0.000	10.0	0.00	0.00	5.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
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
Outfall 001	PA0217867	0.0100	0.0000	0.0000	0.000	15.00	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	5.00	8.30	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70


eMapPA
PA STATE AGENCIES
ONLINE SERVICES
Tom Wolf, Governor
Patrick McDonnell
DEP Home
Locate Latitude and Longitude
Decimal Degrees
DD/MM/SS
Degrees
Minutes
Seconds
Latitude:
40
40
51
Longitude:
-80
29
5
Locate
Close
Latitude: 40.680833 - Longitude: -80.484722
Ohioville
Fairview Ch
Five Points
STATE GAME LANDS NO 173
Midland
Fairview Mission
Glasgow
Smiths Ferry
Georgetown Island
OHIO
Strip Mine
Water Tanks
Fourth St Sch
POWERED BY esri

StreamStats Report

Region ID: PA
Workspace ID: PA20210928005953826000
Clicked Point (Latitude, Longitude): 40.67677, -80.48498
Time: 2021-09-27 21:00:13 -0400

Outfall 001

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.056	square miles
ELEV	Mean Basin Elevation	1141	feet

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.056	square miles	2.26	1400
ELEV	Mean Basin Elevation	1141	feet	1050	2580

Low-Flow Statistics Disclaimers [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 [Low Flow Region 4]

Statistic	Value	Unit

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00101	ft^3/s
30 Day 2 Year Low Flow	0.00222	ft^3/s
7 Day 10 Year Low Flow	0.000228	ft^3/s
30 Day 10 Year Low Flow	0.000604	ft^3/s
90 Day 10 Year Low Flow	0.00141	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/)

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

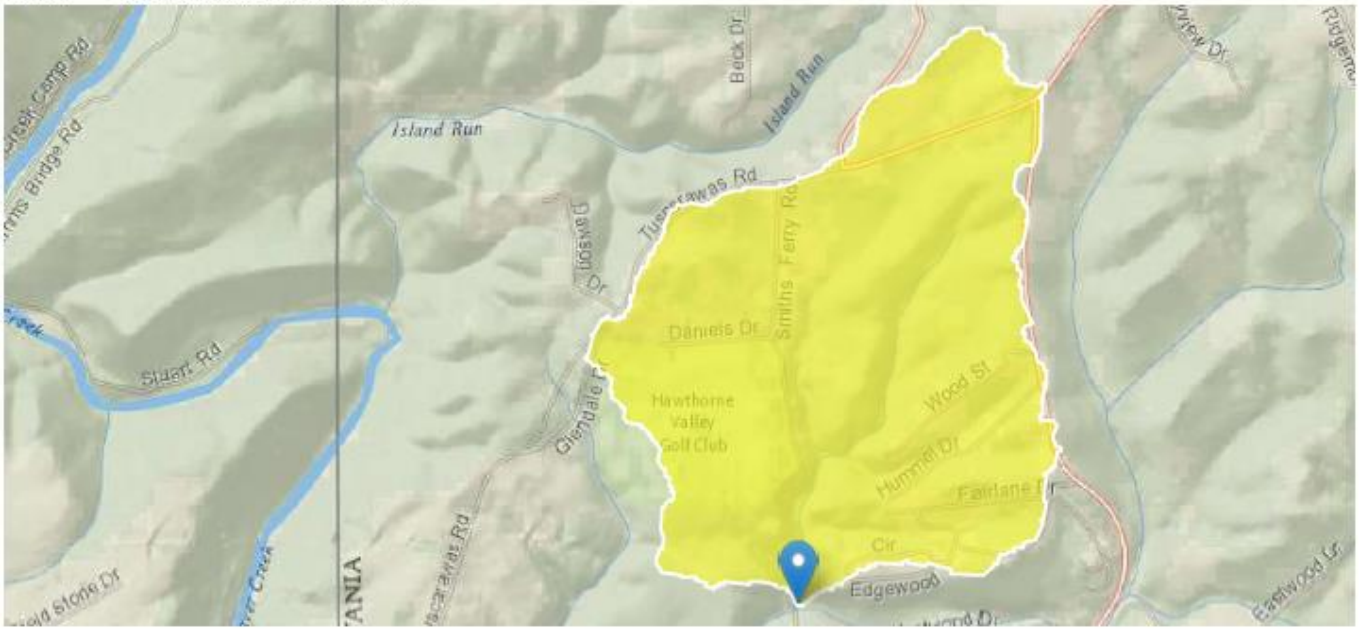
USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.6.2
StreamStats Services Version: 1.2.22
NSS Services Version: 2.1.2

StreamStats Report

Region ID: PA
Workspace ID: PA20210928010331543000
Clicked Point (Latitude, Longitude): 40.66165, -80.49350
Time: 2021-09-27 21:03:50 -0400



Downstream

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1.48	square miles
ELEV	Mean Basin Elevation	1089	feet

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.48	square miles	2.26	1400
ELEV	Mean Basin Elevation	1089	feet	1050	2580

Low-Flow Statistics Disclaimers [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 [Low Flow Region 4]

Statistic	Value	Unit

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0405	ft^3/s
30 Day 2 Year Low Flow	0.0762	ft^3/s
7 Day 10 Year Low Flow	0.0126	ft^3/s
30 Day 10 Year Low Flow	0.026	ft^3/s
90 Day 10 Year Low Flow	0.051	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/)

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.6.2
StreamStats Services Version: 1.2.22
NSS Services Version: 2.1.2

WQM6.3 Model Results:

```
   FILE: a:\DesimoW.wqm Warmer Period Modeling
NPDES PA0217867  DeSimone Personal Care Home STP
                 Residential Resources Southwest STP in 2010
                Default Data
 a. Stream Values
    1  Q1-10/Q7-10 ratio.....................: .64
    2  Q30-10/Q7-10 ratio....................: 1.36
    3  Temperature...........................: 25
    4  pH....................................: 7
    5  C-BOD5................................: 2
    6  NH3-N.................................: 0
    7  D.O. Saturation (%)...................: .9
    8  D.O. Goal.............................: 5
    9  Width/Depth ratio.....................: 10
   10  KC...(Headwaters only!)...............: 0
   11  KN....................................: .6
 b. Discharge Values (30-day avgs.)
   12  C-BOD5................................: 10
   13  NH3-N.................................: 3
   14  Effluent D.O..........................: 5
   15  Effluent Temp.........................: 20
   16  KC....................................: .6
   17  Balanced Technology(1=y 0=no).........: 0


  FILE: a:\DesimoW.wqm
NPDES PA0217867  DeSimone Personal Care Home STP

              REACH #  1
      Headwaters and Tributary data

No. of Reaches :  1

Rh    Q7-10     T       pH      DO     CBOD5   NH3-N
      (cfs)    (c)     (su)   (mg/l)  (mg/l)  (mg/l)
--  -------  -----   ----   ------ ------ ------
HW     0.0027   25     7       7.54     2       0
 1     0.0000


(WQAM63.EXE)  Release 1.2      05-12-1998      11:19:21
```

FILE: a:\DesimoW.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

Stream Characteristics

Rh	Q7-10 (cfs)	T (c)	pH (su)	DO (mg/l)	CBOD5 (mg/l)	NH3-N (mg/l)
1	0	25	7	7.54	2	0

Q 1-10/Q 7-10 = .64
Q 30-10/Q 7-10 = 1.36

FILE: a:\DesimoW.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

DISCHARGE # 1
Discharger Data
Q7-10 Design Conditions

Rh	FLOW (MGD)	T (c)	pH (su)	DO (mg/l)	CBOD5 (mg/l)	NH3-N (mg/l)	KC (1/days)
1	0.0100	20	7	5	10	3	.6

(WQAM63.EXE) Release 1.2 05-12-1998 11:20:44

FILE: a:\DesimoW.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

REACH # 1
Reach Characteristics

Rh	D.O. GOAL	KN (/D)	RCH. SL. (FT/FT)	RCH. LEN. (FT.)	DRAIN AREA (MI^2)	W/D
1	5	.6	0.02860	3500	.1	10

FILE: a:\DesimoW.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

REACH # 1
Reach Characteristics

Rh	KR (/D)	TT (Days)
1	0	0

(WQAM63.EXE) Release 1.2 05-12-1998 11:21:55

FILE: a:\DesimoW.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

NH3-N Discharge Allocations at Q30-10 (Uniform)

DIS	Q (mgd)	BASE. CONC. (mg/l)	MULT. CONC. (mg/l)	CRIT. RCH.	PCT. RED. (%)	NH3-N CRIT. (mg/l)
1	0.0100	3.00	2.21	1	26.2	1.79

FILE: a:\DesimoW.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

NH3-N Discharge Allocations at Q1-10 (Uniform)

DIS	Q (mgd)	BASE. CONC. (mg/l)	MULT. CONC. (mg/l)	CRIT. RCH.	PCT. RED. (%)	NH3-N CRIT. (mg/l)
1	0.0100	6.00	6.00	0	0	9.33

Allow NH_3-N limit = more stringent of
- limit at Q_{30-10} = 2.21 mg/l, or
- limit at $Q_{1-10}/2$ = 6 mg/l / 2 = 3 mg/l

The model uses 2.21 mg/l

(WQAM63.EXE) Release 1.2 05-12-1998 11:23:07

FILE: a:\DesimoW.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

D.O. Allocations (Uniform)

DIS #	Q	---NH3-N--- IND. Conc. (mg/l)	CUM. Conc. (mg/l)	---CBOD5---- IND. Conc. (mg/l)	CUM. Conc. (mg/l)	CRIT. RCH.	PCT. REM. (%)
	(MGD)						
1	0.0100	2.2	2.2	10	10	0	0

FILE: a:\DesimoW.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

(Total) Discharge = .01 MGD

Temp	= 20.7	pH	= 7	Width	=	2.06
CBOD-5	= 8.81000	NH3-N	= 1.87	Depth	=	0.21
D.O.	= 5.38	D.O. Goal	= 5	Velocity	=	0.043
KC'	= .573	KN	= .6	W/D RATIO	=	10
KR	= 48.667	(OWENS)				

Dis. 1 Rch. 1 Trvl Time: .948

KR = 48. Per our procedure, rerun using Max KR = 20

Tr.Tm. (Days)	CBOD-5 (mg/l)	NH3-N (mg/l)	D.O. (mg/l)
0.095	8.33	1.76	7.54
0.190	7.87	1.66	7.54
0.285	7.44	1.56	7.54
0.379	7.04	1.47	7.54
0.474	6.65	1.39	7.54
0.569	6.29	1.30	7.54
0.664	5.94	1.23	7.54
0.759	5.62	1.16	7.54
0.854	5.31	1.09	7.54
0.948	5.02	1.03	7.54

≈ DO at Saturation

(WQAM63.EXE) Release 1.2 05-12-1998 11:23:48

FILE: a:\DesimoW.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

Effluent Limitations Display

DIS #	Q MGD	NH3-N TOX. 1 DAY	30 DAY	DISS. OXYGEN C-BOD5 30-DAY	NH3-N 30-DAY	EFF. D.O.
1	.01	4.4	2.2	10	2.2	5

Limits at K_R = 48

FILE: a:\DesimoW.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

REACH # 1
Reach Characteristics

Rh	KR (/D)	TT (Days)
1	20	0

Rerun at Max K_R = 20

(WQAM63.EXE) Release 1.2 05-12-1998 11:25:09

FILE: a:\DesimoW.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

D.O. Allocations (Uniform)

DIS #	Q (MGD)	---NH3-N--- IND. Conc. (mg/l)	CUM. Conc. (mg/l)	---CBOD5---- IND. Conc. (mg/l)	CUM. Conc. (mg/l)	CRIT. RCH.	PCT. REM. (%)
1	0.0100	2.2	2.2	10	10	0	0

FILE: a:\DesimoW.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

(Total) Discharge = .01 MGD

Temp	=	20.7	pH	= 7	Width	=	2.06
CBOD-5	=	8.81000	NH3-N	= 1.87	Depth	=	0.21
D.O.	=	5.38	D.O. Goal	= 5	Velocity	=	0.043
KC'	=	.573	KN	= .6	W/D RATIO	=	10
KR	=	20	(USR DEF.)				

Dis. 1 Rch. 1 Trvl Time: .948

Tr.Tm. (Days)	CBOD-5 (mg/l)	NH3-N (mg/l)	D.O. (mg/l)
0.095	8.33	1.76	7.54
0.190	7.87	1.66	7.54
0.285	7.44	1.56	7.54
0.379	7.04	1.47	7.54
0.474	6.65	1.39	7.54
0.569	6.29	1.30	7.54
0.664	5.94	1.23	7.54
0.759	5.62	1.16	7.54
0.854	5.31	1.09	7.54
0.948	5.02	1.03	7.54

DO still at saturation, even at KR = 20

(WQAM63.EXE) Release 1.2 05-12-1998 11:26:16

FILE: a:\DesimoW.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

Effluent Limitations Display

DIS #	Q MGD	NH3-N TOX. 1 DAY	NH3-N TOX. 30 DAY	DISS. OXYGEN C-BOD5 30-DAY	DISS. OXYGEN NH3-N 30-DAY	DISS. OXYGEN EFF. D.O.
1	.01	4.4	2.2	10	2.2	5

Limits acceptable for warmer period
Round NH3-N down to 2mg/l,
for our procedure

(WQAM63.EXE) Release 1.2 05-12-1998 11:26:46

FILE: a:\DeSimoC.wqm Colder Period Modeling
NPDES PA0217867 DeSimone Personal Care Home STP
Residential Resources Southwest STP in 2010

Default Data

a. Stream Values

1	Q1-10/Q7-10 ratio	.64
2	Q30-10/Q7-10 ratio	1.36
3	Temperature	5
4	pH	7
5	C-BOD5	2
6	NH3-N	0
7	D.O. Saturation (%)	.9
8	D.O. Goal	5
9	Width/Depth ratio	10
10	KC...(Headwaters only!)	0
11	KN	.6

b. Discharge Values (30-day avgs.)

12	C-BOD5	10
13	NH3-N	6 ≈ 3x Warmer Limit - Equiv. to technology
14	Effluent D.O	5
15	Effluent Temp	15
16	KC	.6
17	Balanced Technology(1=y 0=no)	0

FILE: a:\DeSimoC.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

REACH # 1
Headwaters and Tributary data

No. of Reaches : 1

Rh	Q7-10 (cfs)	T (c)	pH (su)	DO (mg/l)	CBOD5 (mg/l)	NH3-N (mg/l)
HW	0.0054	5	7	11.45	2	0
1	0.0000					

(WQAM63.EXE) Release 1.2 05-12-1998 11:33:45

FILE: a:\DeSimoC.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

DISCHARGE # 1
Discharger Data
Q7-10 Design Conditions

Rh	FLOW (MGD)	T (c)	pH (su)	DO (mg/l)	CBOD5 (mg/l)	NH3-N (mg/l)	KC (1/days)
1	0.0100	15	7	5	10	6	.6

FILE: a:\DeSimoC.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

REACH # 1
Reach Characteristics

Rh	D.O. GOAL	KN (/D)	RCH. SL. (FT/FT)	RCH. LEN. (FT.)	DRAIN AREA (MI^2)	W/D
1	5	.6	0.02860	3500	.1	10

(WQAM63.EXE) Release 1.2 05-12-1998 11:35:17

FILE: a:\DeSimoC.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

REACH # 1
Reach Characteristics

Rh	KR (/D)	TT (Days)
1	20	0

Use Max. KR = 20 per our procedure (see warmer period modeling)

FILE: a:\DeSimoC.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

NH3-N Discharge Allocations at Q30-10 (Uniform)

DIS	Q (mgd)	BASE. CONC. (mg/l)	MULT. CONC. (mg/l)	CRIT. RCH.	PCT. RED. (%)	NH3-N CRIT. (mg/l)
1	0.0100	6.00	5.24	1	12.7	3.55

(WQAM63.EXE) Release 1.2 05-12-1998 11:36:26

FILE: a:\DeSimoC.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

NH3-N Discharge Allocations at Q1-10 (Uniform)

DIS	Q (mgd)	BASE. CONC. (mg/l)	MULT. CONC. (mg/l)	CRIT. RCH.	PCT. RED. (%)	NH3-N CRIT. (mg/l)
1	0.0100	12.00	12.00	0	0	16.10

Allow. NH3-N limit: the more stringent of
- the limit at Q_{30-10}: 5.24 mg/l
- the limit at $Q_{1-10}/2$: 12 mg/l / 2 = 6 mg/l

The model uses: 5.24 mg/l

FILE: a:\DeSimoC.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

D.O. Allocations (Uniform)

DIS #	Q (MGD)	---NH3-N--- IND. Conc. (mg/l)	CUM. Conc. (mg/l)	---CBOD5---- IND. Conc. (mg/l)	CUM. Conc. (mg/l)	CRIT. RCH.	PCT. REM. (%)
1	0.0100	5.2	5.2	10	10	0	0

(WQAM63.EXE) Release 1.2 05-12-1998 11:37:05

FILE: a:\DeSimoC.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

(Total)Discharge = .01 MGD

Temp	=	12.4	pH	=	7	Width	= 2.13
CBOD-5	=	7.93	NH3-N	=	3.85	Depth	= 0.21
D.O.	=	6.67	D.O. Goal	=	5	Velocity	= 0.046
KC'	=	.553	KN	=	.6	W/D RATIO	= 10
KR	=	20	(USR DEF.)				

Dis. 1 Rch. 1 Trvl Time: .878

Tr.Tm. (Days)	CBOD-5 (mg/l)	NH3-N (mg/l)	D.O. (mg/l)
0.088	7.66	3.74	9.55
0.176	7.40	3.63	10.07
0.263	7.16	3.53	10.17
0.351	6.91	3.43	10.20
0.439	6.68	3.33	10.21
0.527	6.46	3.23	10.23
0.614	6.24	3.14	10.24
0.702	6.03	3.05	10.26
0.790	5.83	2.96	10.27
0.878	5.63	2.87	10.28

DO rises above criteria of 5mg/l

FILE: a:\DeSimoC.wqm
NPDES PA0217867 DeSimone Personal Care Home STP

Effluent Limitations Display

DIS #	Q MGD	NH3-N TOX. 1 DAY	30 DAY	DISS. OXYGEN C-BOD5 30-DAY	NH3-N 30-DAY	EFF. D.O.
1	.01	10.5	5.2	10	5.2	5

Allowable colder period limits.
Round NH3-N limit down to 5mg/l, per our procedure

(WQAM63.EXE) Release 1.2 05-12-1998 11:37:51

Attachment B – TRC Model Spreadsheet

Proposed:

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.000228	= Q stream (cfs)	0.5	= CV Daily
0.01	= Q discharge (MGD)	0.5	= CV Hourly
20	= 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)
0	= % Factor of Safety (FOS)	0	=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 0.024	1.3.2.iii	WLA cfc = 0.016
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.009	5.1d	LTA_cfc = 0.009

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.288	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.011	AFC
		INST MAX LIMIT (mg/l) = 0.036	

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)**

(0.011/EXP(-K*CFC_tc/1440))+(((CFC_Yc*Qs*0.011)/(1.547*Qd)....
....*EXP(-K*CFC_tc/1440)))+Xd+(CFC_Yc*Qs*Xs/1.547*Qd))*(1-FOS/100)

Total Residual Chlorine (TRC) Spreadsheet Instructions

NPDES Total Residual Chlorine (TRC) effluent limits may be determined using the TRC Spreadsheet. The spreadsheet determines the applicable acute and chronic waste load allocations (WLAs) for TRC based on data supplied by the user and then compares the WLAs to the technology-based average monthly limit using the procedures described in the EPA Technical Support Document (EPA/505/2-90-001). See DEP's Implementation Guidance Total Residual Chlorine (TRC) Regulation (391-2000-015) for additional information on TRC regulation.

The TRC spreadsheet requires several inputs each are defined as follows:

- **Q stream (cfs)** – The Q7-10 flow of the stream in cubic feet per second (cfs).
- **Q discharge (MGD)** – The discharge flow in million gallons per day (MGD). Use the same discharge flow used in PENTOXSD and/or WQM 7.0 modeling.
- **No. samples** – The number of samples per month that will be established in the permit, except that this value may not be less than 4.
- **Chlorine Demand of Stream** – Portion of chlorine in the stream formed into other compounds not measurable as residual chlorine. Use the default value of 0.3 mg/L unless the procedure described in Appendix B of DEP-ID: 391-2000-015 has been performed and has produced a site-specific value.
- **Chlorine Demand of the Discharge** – Portion of chlorine in the discharge formed into other compounds not measurable as residual chlorine. Use the default value of 0 mg/L unless the procedure described in Appendix B of DEP-ID: 391-2000-015 has been performed and has produced a site-specific value.
- **BAT/BPJ Value** – The technology-based average monthly effluent limit. Use 0.5 mg/L unless there is a basis for a different BAT value.
- **Factor of Safety (FOS)** - This factor is used to account for the uncertainties in the input data for the discharge being evaluated. It is applied to the final maximum WQBEL as a percent. A default value of zero (0) is used and can be adjusted by the user.
- **CV daily** – The daily coefficient of variation of the discharge. If unknown use a default of 0.5.
- **CV hourly** – The daily coefficient of variation of the discharge. If unknown use a default of 0.5.
- **AFC_Partial Mix Factor** – The portion of the design flow of the stream that the discharge mixes with 15 minutes after discharge. This value may be obtained from the PENTOXSD analysis.
- **CFC_Partial Mix Factor** - The portion of the design flow of the stream that the discharge mixes with 12 hours after discharge. This value may be obtained from the PENTOXSD analysis.
- **AFC_Criteria Compliance Time (min)** – The amount of time (in minutes) after discharge when the acute criterion is applied. Either the time of complete mix or 15 minutes, whichever occurs first. This value may be obtained from the PENTOXSD analysis, but it will not affect recommended effluent limits unless a decay coefficient K is specified.
- **CFC_Criteria Compliance Time (min)** – The amount of time (in minutes) after discharge when the chronic criterion is applied. Either the time of complete mix or 720 minutes, whichever occurs first. This value may be obtained from the PENTOXSD analysis, but it will not affect recommended effluent limits unless a decay coefficient K is specified.
- **Decay Coefficient (K)** – The instream fate coefficient, unless measured use a default of 0.

For technical issues or questions, contact the Bureau of Clean Water's Division of NPDES Permitting at 717-787-8184.

Previous Basis:

Run to determine TRC limits since consultant stated tablet chlorination would most likely be used for disinfection. Chlorination is used for disinfection. Trc_calc.xls

	A	B	C	D	E	F	G
2	**TRC EVALUATION**				Enter Facility Name in E3		
3	Input appropriate values in B4:B8 and E4:E7				**DeSimone Personal Care Home STP**		
4		0.0027	= Q stream (cfs)		0.5	= CV Daily	
5		0.01	= Q discharge (MGD)		0.5	= CV Hourly	
6	from our RAHS TRC impl. guid	4	= no. samples		1	= AFC_Partial Mix Factor	
7		0.8	= Chlorine Demand of Stream		1	= CFC_Partial Mix Factor	
8			= Chlorine Demand of Discharge		15	= AFC_Criteria Compliance Time (min)	
9		1.4	= BAT/BPJ Value		720	= CFC_Criteria Compliance Time (min)	
			= % Factor of Safety (FOS)			=Decay Coefficient (K)	
10	Source	Reference	AFC Calculations		Reference	CFC Calculations	
11	TRC	1.3.2.iii	WLA afc = 0.162		1.3.2.iii	WLA cfc = 0.153	
12	PENTOXSD TRG	5.1a	LTAMULT afc = 0.373		5.1c	LTAMULT cfc = 0.581	
13	PENTOXSD TRG	5.1b	LTA_afc= 0.060		5.1d	LTA_cfc = 0.089	
14							
15	Source		Effluent Limit Calculations				
16	PENTOXSD TRG	5.1f	AML MULT = 1.720				
17	PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.104 } limits AFC				
18			INST MAX LIMIT (mg/l) = 0.243 }				

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)**

Impose TRC limits of 0.10 mg/l Avg. Month. / 0.24 mg/l Instan. Max.

Attachment C – Chapter 93 Stream Designation

§ 93.9w. Drainage List W.

Ohio River Basin in Pennsylvania
Ohio River

Stream	Zone	County	Water Uses Protected	Exceptions To Specific Criteria
1—Ohio River	Main Stem, Confluence of Allegheny and Monongahela Rivers to PA-OH State Border	Beaver	WWF; *Add* N	See Orsanco Pollution Control Standards

Ch. 93 WATER QUALITY STANDARDS **25 § 93.9w**

Stream	Zone	County	Water Uses Protected	Exceptions To Specific Criteria
3—Service Creek	Basin, J. C. Bacon Dam Mouth	Beaver	WWF	None
3—Frames Run	Basin	Beaver	WWF	None
3—Trampmill Run	Basin	Beaver	WWF	None
3—Gums Run	Basin	Beaver	WWF	None
3—Fishpot Run	Basin	Beaver	WWF	None
2—Fourmile Run	Basin	Beaver	WWF	None
2—Squirrel Run	Basin	Beaver	WWF	None
2—Sixmile Run	Basin	Beaver	WWF	None
2—Wolf Run	Basin	Beaver	WWF	None
2—Haden Run	Basin	Beaver	WWF	None
2—Peggs Run	Basin	Beaver	WWF	None
2—Smiths Run	Basin	Beaver	WWF	None
2—Upper Dry Run	Basin	Beaver	WWF	None
2—Little Beaver Creek	Main Stem (all sections in PA)	Beaver	WWF	None
3—Unnamed Tributaries to Little Beaver Creek	Basins (all sections in PA)	Lawrence-Beaver	WWF	None
3—North Fork Little Beaver Creek	Basin (all sections in PA)	Beaver	HQ-CWF	None
3—Bieler Run	Basin (all sections in PA)	Beaver	WWF	None
3—Island Run	Basin	Beaver	WWF	None
2—Mill Creek	Basin (all sections in PA)	Beaver	TSF	None
1—Ohio River (OH/WV)				
2—Unnamed Tributaries to Enlow Fork	Basins (all sections in PA), PA-WV State Border to Confluence with Dunkard Fork	Washington-Greene	WWF	None
2—North Fork Tomlinson Run	Basin (all sections in PA)	Beaver	WWF	None
2—South Fork Tomlinson Run	Basin (all sections in PA)	Beaver	WWF	None
2—Kings Creek	Basin (all sections in PA)	Washington	CWF	None
2—Harmon Creek	Basin (all sections in PA)	Washington	WWF	None
2—Cross Creek	Basin, Source to Avella Water Intake	Washington	HQ-WWF	None

93-239

(402045) No. 551 Oct. 20

Attachment D – Federal Regulations

§133.102 Secondary treatment.

The following paragraphs describe the minimum level of effluent quality attainable by secondary treatment in terms of the parameters—BOD_5, SS and pH. All requirements for each parameter shall be achieved except as provided for in §§133.103 and 133.105.

(a) *BOD_5.*

(1) The 30-day average shall not exceed 30 mg/l.

(2) The 7-day average shall not exceed 45 mg/l.

(3) The 30-day average percent removal shall not be less than 85 percent.

(4) At the option of the NPDES permitting authority, in lieu of the parameter BOD_5 and the levels of the effluent quality specified in paragraphs (a)(1), (a)(2) and (a)(3), the parameter $CBOD_5$ may be substituted with the following levels of the $CBOD_5$ effluent quality provided:

(i) The 30-day average shall not exceed 25 mg/l.

(ii) The 7-day average shall not exceed 40 mg/l.

(iii) The 30-day average percent removal shall not be less than 85 percent.

(b) *SS.* (1) The 30-day average shall not exceed 30 mg/l.

(2) The 7-day average shall not exceed 45 mg/l.

(3) The 30-day average percent removal shall not be less than 85 percent.

(c) *pH.* The effluent values for pH shall be maintained within the limits of 6.0 to 9.0 unless the publicly owned treatment works demonstrates that: (1) Inorganic chemicals are not added to the waste stream as part of the treatment process; and (2) contributions from industrial sources do not cause the pH of the effluent to be less than 6.0 or greater than 9.0.

[49 FR 37006, Sept. 20, 1984; 49 FR 40405, Oct. 16, 1984]

Attachment E – State Regulations

(2) Toxic reduction activities, effluent limitations based on WETT, and other measures that eliminate, or substantially reduce releases of pollutants at their source.

§ 92a.47. Sewage permit.

(a) Sewage, except that discharged from a CSO that is in compliance with subsection (b), or as provided for in subsections (f)—(i), shall be given a minimum of secondary treatment. Secondary treatment for sewage is that treatment that includes significant biological treatment and accomplishes the following:

(1) Monthly average discharge limitation for BOD_5 and TSS may not exceed 30 milligrams per liter. If $CBOD_5$ is specified instead of BOD_5 the limitation may not exceed 25 milligrams per liter.

(2) Weekly average discharge limitation for BOD_5 and TSS may not exceed 45 milligrams per liter for POTW facilities. If $CBOD_5$ is specified instead of BOD_5 the limitation may not exceed 40 milligrams per liter.

(3) On a concentration basis, the monthly average percent removal of BOD_5 or $CBOD_5$, and TSS, must be at least 85% for POTW facilities.

(4) From May through September, a monthly average discharge limitation for fecal coliform of 200/100 mL as a geometric mean and an instantaneous maximum effluent limitation not greater than 1,000/100 mL.

(5) From October through April, a monthly average discharge limitation for fecal coliform of 2,000/100 mL as a geometric mean and an instantaneous maximum effluent limitation not greater than 10,000/100 mL.

(6) Provision for the disposal or beneficial use of sludge in accordance with applicable Department regulations.

(7) Compliance with § 95.2(1) and (2) (relating to effluent standards for industrial waste).

(8) Compliance with § 92a.48 (b) (relating to industrial waste permit) if chlorine is used.

(b) Dischargers of sewage from a CSO shall implement, as approved by the Department, nine minimum controls (NMCs) and a long-term control plan (LTCP) to minimize or eliminate the CSO discharge impact on the water quality of the receiving surface water.

(c) Discharges from an SSO are prohibited.

(d) When pollutants contributed by indirect dischargers result in interference or pass through, and a violation is likely to recur, a permittee shall develop and implement specific local limits for indirect dischargers and other users, as appropriate, that together with appropriate sewerage facility or operational changes, are necessary to ensure renewed or continued compliance with the plant's NPDES permit or sludge use or disposal practices.

(352646) No. 433 Dec. 10

Copyright © 2010 Commonwealth of Pennsylvania

(e) POTWs that serve indirect dischargers shall give notice to the Department in accordance with 40 CFR 122.42(b) (relating to additional conditions applicable to specific categories of NPDES permits (applicable to State NPDES programs, see § 123.25)).

(f) POTWs with effluent limits that are less stringent than those specified in subsection (a)(1) and (2) in effect on October 9, 2010, shall meet the requirements of subsection (a)(1) and (2) when a new or amended water quality management permit authorizing an increase in the design flow of the facility is issued under the provisions of Chapter 91 (relating to general provisions).

(g) POTWs subject to this section may not be capable of meeting the percentage removal requirements established under subsection (a)(3) during wet weather, where the treatment works receive flows from combined sewers (that is, sewers which are designed to transport both storm water and sanitary sewage). For those treatment works, the decision must be made on a case-by-case basis as to whether any attainable percentage removal level can be defined, and if so, what the level should be.

(h) POTWs subject to this section may not be capable of meeting the percentage removal requirements established under subsection (a)(3) during dry weather, where the treatment works receive flows from combined sewers. The Department may substitute less stringent removal requirements than that specified in subsection (a)(3) for any POTW with less concentrated influent wastewater for combined sewers during dry weather. The Department may substitute either a lower percent removal requirement or a mass loading limit for the percent removal requirements specified in subsection (a)(3) provided that the permittee satisfactorily demonstrates all of the following:

(1) The treatment works is consistently meeting, or will consistently meet, its permit effluent concentration limits, but the percent removal requirements cannot be met due to less concentrated influent wastewater.

(2) To meet the percent removal requirements, the treatment works would have to achieve significantly more stringent effluent concentrations than would otherwise be required by the concentration-based standards.

(3) The less concentrated influent wastewater does not result from either excessive infiltration or clear water indirect dischargers during dry weather periods. The determination of whether the less concentrated wastewater results from excessive infiltration is discussed in 40 CFR 35.2005(b)(28) (relating to definitions), plus the additional criterion that either 40 gallons per capita per day or 1,500 gallons per inch diameter per mile of sewer may be used as the threshold value for that portion of the dry weather base flow attributed to infiltration. If the less concentrated influent wastewater is the result of clear water indirect dischargers, the treatment works must control these discharges pursuant to 40 CFR Part 403 (relating to general pretreatment regulations for existing and new sources of pollution).

(i) The Department may substitute less stringent removal requirements than that specified in subsection (a)(3) for any POTW with less concentrated influent wastewater for separate sewers, provided that the permittee satisfactorily demonstrates all of the following:

(1) The treatment works is consistently meeting, or will consistently meet, its permit effluent concentration limits but its percent removal requirements cannot be met due to less concentrated influent wastewater.

(2) To meet the percent removal requirements, the treatment works would have to achieve significantly more stringent limitations than would otherwise be required by the concentration-based standards.

(3) The less concentrated influent wastewater is not the result of excessive inflow/infiltration. The determination of whether the less concentrated wastewater is the result of excessive inflow/infiltration will be based on the definition of excessive inflow/infiltration in 40 CFR 35.2005(b)(16), plus the additional criterion that inflow is nonexcessive if the total flow to the POTW (that is, wastewater plus inflow plus infiltration) is less than 275 gallons per capita per day.

§ 92a.48. Industrial waste permit.

(a) Industrial waste regulated by this chapter must meet the following requirements:

(1) EPA-promulgated effluent limitation guidelines established under section 304(b) of the Federal Act (33 U.S.C.A. § 1314(b)).

(2) Compliance with § 95.2 (relating to effluent standards for industrial waste).

(3) For those industrial categories for which no effluent limitations have been established under paragraph (1), Department-developed technology-based limitations established in accordance with 40 CFR 125.3 (relating to technology-based treatment requirements in permits).

(b) For facilities or activities using chlorination, the following apply:

(1) If the EPA adopts a National categorical ELG promulgating limits for Total Residual Chlorine (TRC) or free available chlorine for a specific industry or activity under section 301 or 304(b) of the Federal Act (33 U.S.C.A. §§ 1311 and 1314(b)), that ELG constitutes BAT for the industry or activity. If the EPA has not promulgated a National ELG for TRC or free available chlorine for an industry or activity, the Department may develop a facility-specific BAT effluent limitation for TRC. Factors, which will be considered in developing a facility-specific BAT effluent limitation, include the following:

(i) The age of equipment and facilities involved.

(ii) The engineering aspects of the application of various types of control techniques and alternatives to the use of chlorine or reductions in the volume of chlorine used during the disinfection process.

(iii) The cost of achieving the effluent reduction.

(352648) No. 433 Dec. 10 Copyright © 2010 Commonwealth of Pennsylvania

Notes of Decisions

Authority of Department

This section contains no test to balance economic development against environmental harm, and the EHB appropriately concluded that the second prong of the section was designed to consider the environmental impact apart from the aspect of economic development. *Department of Environmental Resources v. Big B Mining Company, Inc.*, 554 A.2d 1002 (Pa. Cmwlth. 1989).

It was proper for the EHB to consider "need" in terms of market price and not in terms of public need. *Department of Environmental Resources v. Big B Mining Company, Inc.*, 554 A.2d 1002 (Pa. Cmwlth. 1989).

Evidence

Where a body of water is designated "high quality" under 25 Pa. Code § 93.9, that fact together with the provisions of subsection (b) demand that the permit holder developers and the DER be the parties responsible for justifying the permit after evidence has been presented showing the likelihood of environmental harm. *Marcon, Inc. v. Department of Environmental Resources*, 462 A.2d 969 (Pa. Cmwlth. 1983).

The nondegradation provision does not apply in the absence of evidence that a particular body of water is of better quality than the applicable water quality criteria. *Concerned Citizens for Orderly Progress v. Department of Environmental Resources*, 387 A.2d 989 (Pa. Cmwlth. 1978).

Cross References

This section cited in 25 Pa. Code § 89.57 (relating to treatment facility design); and 25 Pa. Code § 105.15 (relating to environmental assessment).

§ 95.2. Effluent standards for industrial wastes.

Industrial wastes must meet the following effluent standards:

(1) Wastes must have a pH of not less than 6 and not greater than 9, except where:

(i) The wastes are discharged to an acid stream, in which case the pH may be greater than 9.

(ii) The discharger affirmatively demonstrates, in writing, to the Department that biological respiration in the wastewater treatment system will cause the discharge to exceed the limits in this paragraph and that exceeding these limits will not result in a violation of applicable water quality standards or of the applicable treatment requirements and effluent limitations to which a discharge is subject under the Federal Act, in which case the Department may grant a variance, in writing, from the limitation set forth in this paragraph.

(2) Oil-bearing wastewaters, except those subject to paragraph (3), must comply with the following:

(i) At no time cause a film or sheen upon or discoloration of the waters of this Commonwealth or adjoining shoreline.

(ii) At no time contain more than 15 milligrams of oil per liter as a daily average value nor more than 30 milligrams of oil per liter at any time, or whatever lesser amount the Department may specify for a given discharge or

(384084) No. 506 Jan. 17 Copyright © 2017 Commonwealth of Pennsylvania

type of discharge as being necessary for the proper protection of the public interest or to meet any requirements based upon the State Act or the Federal Act, as defined in § 92.1 (relating to definitions).

(3) Petroleum marketing terminals must:

(i) Be provided with facilities to remove oil from waters, including stormwater runoff, before discharge into waters of this Commonwealth. Compliance with this paragraph constitutes compliance with paragraph (2)(i) except to the extent that the State Act or Federal Act or regulations promulgated thereunder impose a more stringent requirement.

(ii) Develop, implement and keep up to date pollution incident prevention plans as described in § 91.34 (relating to activities utilizing pollutants).

(iii) Design, maintain and utilize oil removal facilities that consist of an American Petroleum Institute (A.P.I.) listed oil separator, unless the person operating the facility can demonstrate to the Department that an alternate design is equivalent or better in removing oil from water to maintain and protect the waters of this Commonwealth, including all existing and designated uses established under Chapter 93 (relating to water quality standards).

(4) Waste may not contain more than 7 milligrams per liter of dissolved iron.

(5) When surface waters are used in the industrial plant, the quality of the effluent need not exceed the quality of the raw water supply if the source or supply would normally drain to the point of effluent discharge, unless otherwise required under the act or Federal Act or regulations promulgated thereunder.

Authority

The provisions of this § 95.2 issued under section 9 of the Pennsylvania Sewage Facilities Act (35 P. S. § 750.9); amended under sections 5 and 402 of The Clean Streams Law (35 P. S. §§ 691.5 and 691.402); and section 1920-A of The Administrative Code of 1929 (71 P. S. § 510-20).

Source

The provisions of this § 95.2 amended October 3, 1980, effective October 4, 1980, 10 Pa.B. 3917; amended February 17, 1989, effective February 18, 1989, 19 Pa.B. 636; amended November 17, 2000, effective November 18, 2000, 30 Pa.B. 6059; amended August 20, 2010, effective August 21, 2010, 40 Pa.B. 4835. Immediately preceding text appears at serial pages (344188) and (313617).

Cross References

This section cited in 25 Pa. Code § 92a.47 (relating to sewage permit); and 25 Pa. Code § 92a.48 (relating to industrial waste permit).

(i) The Department may substitute less stringent removal requirements than that specified in subsection (a)(3) for any POTW with less concentrated influent wastewater for separate sewers, provided that the permittee satisfactorily demonstrates all of the following:

(1) The treatment works is consistently meeting, or will consistently meet, its permit effluent concentration limits but its percent removal requirements cannot be met due to less concentrated influent wastewater.

(2) To meet the percent removal requirements, the treatment works would have to achieve significantly more stringent limitations than would otherwise be required by the concentration-based standards.

(3) The less concentrated influent wastewater is not the result of excessive inflow/infiltration. The determination of whether the less concentrated wastewater is the result of excessive inflow/infiltration will be based on the definition of excessive inflow/infiltration in 40 CFR 35.2005(b)(16), plus the additional criterion that inflow is nonexcessive if the total flow to the POTW (that is, wastewater plus inflow plus infiltration) is less than 275 gallons per capita per day.

§ 92a.48. Industrial waste permit.

(a) Industrial waste regulated by this chapter must meet the following requirements:

(1) EPA-promulgated effluent limitation guidelines established under section 304(b) of the Federal Act (33 U.S.C.A. § 1314(b)).

(2) Compliance with § 95.2 (relating to effluent standards for industrial waste).

(3) For those industrial categories for which no effluent limitations have been established under paragraph (1), Department-developed technology-based limitations established in accordance with 40 CFR 125.3 (relating to technology-based treatment requirements in permits).

(b) For facilities or activities using chlorination, the following apply:

(1) If the EPA adopts a National categorical ELG promulgating limits for Total Residual Chlorine (TRC) or free available chlorine for a specific industry or activity under section 301 or 304(b) of the Federal Act (33 U.S.C.A. §§ 1311 and 1314(b)), that ELG constitutes BAT for the industry or activity. If the EPA has not promulgated a National ELG for TRC or free available chlorine for an industry or activity, the Department may develop a facility-specific BAT effluent limitation for TRC. Factors, which will be considered in developing a facility-specific BAT effluent limitation, include the following:

(i) The age of equipment and facilities involved.

(ii) The engineering aspects of the application of various types of control techniques and alternatives to the use of chlorine or reductions in the volume of chlorine used during the disinfection process.

(iii) The cost of achieving the effluent reduction.

(352648) No. 433 Dec. 10

Copyright © 2010 Commonwealth of Pennsylvania

(iv) Nonwater quality environmental impacts (including energy requirements).

(v) Other factors the Department deems appropriate.

(2) For facilities where the EPA has not promulgated a National ELG setting forth limits for TRC or free available chlorine for an industry or activity, and the Department has not developed a facility-specific BAT effluent limitation for TRC under the factors in paragraph (1), an effluent limitation for TRC of 0.5 milligrams per liter (30-day average) constitutes BAT.

(3) Facilities using chlorination that discharge to an Exceptional Value Water, or to a High Quality Water where economic or social justification under § 93.4c(b) (1)(iii) (relating to implementation of antidegradation requirements) has not been demonstrated under applicable State or Federal law or regulations, shall discontinue chlorination or dechlorinate their effluents prior to discharge into the waters.

Cross References

This section cited in 25 Pa. Code § 92a.47 (relating to sewage permit).

§ 92a.49. CAFO.

NPDES permits for each CAFO must include, but are not limited to, conditions requiring the following:

(1) Compliance with the Nutrient Management Plan, the Preparedness, Prevention and Contingency Plan and the Erosion and Sediment Control Plan.

(2) A separate NPDES permit for stormwater discharges associated with a construction activity meeting the requirements of Chapter 102 (relating to erosion and sediment control) when applicable.

(3) Compliance with 3 Pa.C.S. Chapter 23 (relating to the Domestic Animal Law).

(4) Compliance with § 91.36 (relating to pollution control and prevention at agricultural operations).

(5) Recordkeeping and reporting requirements as described in the permit.

(6) When applicable, effluent limitations and other conditions as required under § 92a.12 (relating to treatment requirements) to meet water quality standards, for treated wastewater discharges.

(7) Measures necessary to prevent the discharge to surface water from storage of raw materials such as feed and supplies, which are not otherwise included in the nutrient management plan.

§ 92a.50. CAAP.

(a) Each discharger shall prepare and implement a BMP plan that addresses:

(1) Solids and excess feed management and removal.

(2) Proper facility operation and maintenance.

(3) Nonnative species loss prevention.

Cross References

This section cited in 25 Pa. Code § 92a.2 (relating to definitions); and 25 Pa. Code § 92a.23 (relating to NOI for coverage under an NPDES general permit).

§ 92a.55. Disposal of pollutants into wells, into POTW or by land application.

The provisions of 40 CFR 122.50 (relating to disposal of pollutants into wells, into publicly owned treatment works or by land application) are incorporated by reference.

Cross References

This section cited in 25 Pa. Code § 92a.3 (relating to incorporation of Federal regulations by reference).

Subchapter D. MONITORING AND ANNUAL FEES

Sec.
92a.61. Monitoring.
92a.62. Annual fees.

§ 92a.61. Monitoring.

(a) The provisions of 40 CFR 122.48 (relating to requirements for recording and reporting of monitoring results (applicable to State programs, see § 123.25)) are incorporated by reference.

(b) The Department may impose reasonable monitoring requirements on any discharge, including monitoring of the surface water intake and discharge of a facility or activity, other operational parameters that may affect effluent quality, and of surface waters adjacent to or associated with the intake or discharge flow of a facility or activity. The Department may require submission of data related to the monitoring.

(c) Each person who discharges pollutants may be required to monitor and report all toxic, conventional, nonconventional and other pollutants in its discharge, at least once a year, and on a more frequent basis if required by a permit condition. The monitoring requirements will be specified in the permit.

(d) Except for stormwater discharges subject to the requirements of subsection (h), a discharge authorized by an NPDES permit for a facility that is not a minor facility or contains toxic pollutants for which an effluent standard has been established by the Administrator under section 307(a) of the Federal Act (33 U.S.C.A. § 1317(a)) shall be monitored by the permittee for at least the following:

(1) Flow (in GPD or MGD).

Copyright © 2010 Commonwealth of Pennsylvania