pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHWEST REGIONAL OFFICE
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0021610**
Facility Type	**Municipal**	APS ID	**802527**
Major / Minor	**Major**	Authorization ID	**961299**

Applicant and Facility Information

Applicant Name	**Blairsville Municipal Authority**	Facility Name	**Blairsville Municipal Authority STP**
Applicant Address	203 East Market Street	Facility Address	529 Industrial Park Road
	Blairsville, PA 15717		Blairsville, PA 15717
Applicant Contact	Ronald Hood	Facility Contact	Tom Barberich
Applicant Phone	724-459-5020	Facility Phone	724-459-7181
Client ID	53197	Site ID	262089
Ch 94 Load Status	Not Overloaded	Municipality	Burrell Township
Connection Status	Not Limited	County	Indiana
Date Application Received	January 31, 2013	EPA Waived?	No
Date Application Accepted	January 31, 2013	If No, Reason	Major Facility
Purpose of Application	Renewal of NPDES permit		

Summary of Review

This application is for an NPDES permit renewal, which was previously issued on February 29, 2008, and amended on April 17, 2009 to allow for an increased average design flow from 0.903 to 1.353 mgd after plant expansion was completed.

Part II Permit No. 363S3-A3 issued on October 27, 2009 authorized expansion of the plant to treat the increased average design flow of 1.353 mgd to provide service to users along the Route 22 and Route 119 corridor. This Part II permit also approved separation of the sanitary and storm water collection systems and elimination of the13 remaining combined sewer overflows (CSOs) in the system. The expanded plant went into operation in approximately August, 2012.

The treatment process consists of primary clarification, activated sludge using oxidation ditches, secondary clarification and ultraviolet radiation disinfection. Chlorination was retained as backup for disinfection.

The receiving stream (Conemaugh River) is currently classified as a warm water fishery.

Effluent Limitations

Since there have been no changes to the receiving stream or Department Modeling Policies and Procedures, the limitations for the sewage related parameters are mainly based on the previously approved pollution report ,which is attached to this Fact Sheet and described below. Evaluation of the toxic related parameters of concern are also included in the pollution report and described below.

Sewage Related Parameters

Federal Minimum Secondary Effluent Limits for CBOD-5 and Total Suspended Solids are again applicable due to the large instream to wasteflow dilution in the Conemaugh River. Since ultraviolet radiation is now used for disinfection, the effluent limit for Total Residual Chlorine (TRC) is replaced with a monitoring requirement for ultraviolet radiation (UV) transmittance, based on our new Standard Operating Procedure (SOP) for Establishing Effluent Limitations for Individual Sewage Permits.

Approve	Deny	Signatures	Date
X		Anthony J. Setto, P.E. / Environmental Engineer	
X		Donald J. Leone, P.E. / Environmental Engineer Manager	

Summary of Review

A minimum Dissolved Oxygen limit of 4.0 mg/l considered as Best Professional Judgment (BPJ) for aeration type treatment systems, and an effluent monitoring requirement for NH3-N, Total Nitrogen and Total Phosphorus shall also now be imposed, in accordance with the above SOP.

Toxic Related Parameters

The subject permit application includes effluent sample analysis results for Pollutant Groups 1 through 5. Those pollutants of further interest (above detection level) were included in our PENTOXSD Model, to determine if effluent limits for these are needed. The modeling results, which are attached to this pollution report, show that no limits for these are required, considering reasonable potential. The application indicates that the STP serves two small industrial users, whose total wasteflow comprises approximately only 3% of the existing average flow of the STP. The application states that these users are subject to a local pretreatment process.

Combined Sewer Overflows (CSOs)

The subject application indicates that 5 CSOs (Outfalls 002, 003, and 005 through 007) still exist. Part C of the permit, section entitled “Combined Sewer Overflows”, reflects a schedule for the permittee to eliminate these remaining 5 CSOs within the new permit term, in accordance with a schedule provided by the consultant via email. The last of these CSOs is scheduled to be eliminated by December 31, 2017. Included in the above Part C permit section is a requirement that the permittee submit a Post Construction Compliance Monitoring Plan (PCCMP) during the next NPDES permit term to verify that all of the CSOs have been eliminated. This PCCMP will be due approximately June 30, 2019, or no later than 18 months after the last CSO has been eliminated, as will be stated in the draft permit cover letter.

The above 5 CSOs will also again be included in Part A of the permit as combined sewer reliefs to be used when excessive storm water enters the sewer system and exceeds the hydraulic capacity of the system. Part A contains a note referencing the Part C section with the schedule to eliminate the CSOs. This Part C section contains our current requirements for Management and Control of the CSOs, in addition to the schedule for eliminating the CSOs.

Whole Effluent Toxicity (WET) Tests

The permittee completed the required series of acute WET tests. The Department’s WET Evaluation Summary is shown on the following pages. The results show that the tests were all passes. Part C of the permit will contain our current requirements for the permittee to conduct chronic WET tests, which will now be required as shown in the following WET Evaluation Summary.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	1.353
Latitude	40° 26’ 18.00”	Longitude	79° 17’ 27.00”
Quad Name	Blairsville	Quad Code	1511
Wastewater Description:	Domestic Sewage		
Receiving Waters	Conemaugh River	Stream Code	43832
NHD Com ID	123714732	RMI	18.45
Drainage Area	775	Yield (cfs/mi^2)	0.25
Q_{7-10} Flow (cfs)	194	Q_{7-10} Basis	PA Water Resources Bull. 12, Sta. 03041500, Conemaugh River at Seward, with USGS Update
Elevation (ft)	920	Slope (ft/ft)	0.001
Watershed No.	18-D	Chapter 93 Class.	WWF
Existing Use	All uses	Existing Use Qualifier	None
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	Suspended Solids, pH, Metals		
Source(s) of Impairment	Abandoned Mine Drainage		
TMDL Status	Final, 01/29/2010	Name	Kiskiminetas-Conemaugh River Watersheds TMDL
Nearest Downstream Public Water Supply Intake	Buffalo Township Municipal Authority, Freeport Plant		
PWS Waters	Allegheny River	Flow at Intake (cfs)	2900
PWS RMI		Distance from Outfall (mi)	

Changes Since Last Permit Issuance: The TRC limit was replaced with a requirement to measure ultraviolet disinfection light transmittance. In addition, requirements for influent monitoring of BOD-5 and Total Suspended Solids, and effluent monitoring for Total Nitrogen and Phosphorus were added. Also, a minimum Dissolved Oxygen limit of 4.0 mg/l considered as Best Professional Judgment (BPJ) for aeration type treatment systems, and a monitoring requirement for NH3-N shall also now be imposed. See Summary of Review narrative above.

Other Comments: The subject STP is not known to cause the above stream impairment. The subject NPDES renewal application Analysis Results Table shows that the STP effluent analysis results for the metals in question causing impairment due to abandoned mine drainage (iron, manganese and aluminum) are extremely low, and far below the water quality criteria for these parameters.

Treatment Facility Summary

Treatment Facility Name: Blairsville Municipal Authority STP

WQM Permit No.	Issuance Date
363S3	August 19, 1963
363S3-A1	March 4, 1992
363S3-A2	April 2, 1996, with Letter Amendment dated March 1, 2002
363S3-A3	October 27, 2009

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary with NH3-N Reduction	Activated Sludge using Oxidation Ditches	Ultraviolet Radiation	1.353

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
1.353	1,638	Not Overloaded	Anaerobic Digestion and Reed Plant Sludge Drying Beds	Land Application

Changes Since Last Permit Issuance: See Previous Sheet

Other Comments: None

Compliance History

Summary of DMRs:	A review of the Discharge Monitoring Reports indicates general compliance.
Summary of Inspections:	A review of the last three inspection reports indicates general compliance with plant being maintained.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 1.353
Latitude 40° 26' 18.00" **Longitude** 79° 17' 27.00"
Wastewater Description: Domestic Sewage

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)
	37.5	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)
Dissolved Oxygen	4.0	Minimum	-	BPJ

Comments: Federal Minimum Secondary Effluent Limits for CBOD-5 and Total Suspended Solids are again applicable due to the large instream to wasteflow dilution in the Conemaugh River. The above Dissolved Oxygen limit is included, in accordance with our SOP for Establishing Effluent Limitations for Individual Sewage Permits.

Water Quality-Based Limitations

None

Whole Effluent Toxicity (WET)

For Outfall001, ☒ **Acute** ☐ **Chronic** WET Testing was completed:

☒ For the permit renewal application (4 tests).
☐ Quarterly throughout the permit term.
☐ Quarterly throughout the permit term and a TIE/TRE was conducted.
☐ Other:

The dilution series used for the tests was: 100%, 50%, 25%, 12.5%, and 6.25%. The Instream Waste Concentration (IWC) to be used for analysis of the results is: 10.60% IWCa/0.3 = 35.33**%** TIWCa (see calculations below for IWCa and TIWCa for acute testing).

Summary of Four Most Recent Test Results

(NOTE – Enter results into one table, depending on which data analysis method was used).

NOEC/LC50 Data Analysis

	***Ceriodaphnia* Results (% Effluent)**			***Pimephales* Results (% Effluent)**			
Test Date	**NOEC Survival**	**NOEC Reproduction**	**LC50**	**NOEC Survival**	**NOEC Growth**	**LC50**	**Pass? ***
9/13-17/2012	N/A	N/A	100	N/A	N/A	100	Yes
10/11-15/2012	N/A	N/A	100	N/A	N/A	100	Yes
11/15-19/2012	N/A	N/A	100	N/A	N/A	100	Yes
12/13-17/2012	N/A	N/A	100	N/A	N/A	100	Yes

***** *A "passing" result is that which is greater than or equal to the IWC value.*

Is there reasonable potential for an excursion above water quality standards based on the results of these tests? (*NOTE – In general, reasonable potential is determined anytime there is at least one test failure in the previous four tests).*

☐ **YES** ☒ **NO**

Comments: The results above show that the tests were all passes, as the LC50 values were all greater than the TIWCa of 35.33**%.** Therefore no reasonable potential exists for an excursion above water quality standards.

Evaluation of Test Type, IWC and Dilution Series for Renewed Permit

Acute Partial Mix Factor (PMFa):0.091 Chronic Partial Mix Factor (PMFc): 0.637

1. Determine IWC – Acute (IWCa):

$(Q_d \times 1.547) / (Q_{7\text{-}10} \times PMFa) + (Q_d \times 1.547)$

[(1.353 MGD x 1.547) / (194 cfs x 0.091) + (1.353 MGD x 1.547)] x 100 = 10.60**%**

Is IWCa < 1%? ☐ **YES** ☒ **NO (YES - Acute Tests Required OR NO - Chronic Tests Required)**

Type of Test for Permit Renewal: **Chronic**

2a. Determine Target IWCa (If Acute Tests Required) – N/A

TIWCa =10.60% / 0.3 = 35.33**%**

2b. Determine Target IWCc (If Chronic Tests Required) - Applicable

$(Q_d \times 1.547) / (Q_{7\text{-}10} \times PMFc) + (Q_d \times 1.547)$

(1.353 MGD x 1.547) / (194 cfs x 0.637) + (1.353 MGD x 1.547) = 1.67**%**

3. Determine Dilution Series

(NOTE – check Attachment C of WET SOP for dilution series based on TIWCa or TIWCc, whichever applies).

Dilution Series = 100%, 60%, 30%, 2%, and 1%.

WET Limits

Will WET limits be established in the permit? ☐ YES ☒ NO

If YES, identify the species and the limit values for the permit (TU).

N/A

If NO and reasonable potential was determined, indicate the rationale for not establishing WET limits:

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" (362-0400-001) and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	2/week	Grab
Dissolved Oxygen	XXX	XXX	4.0	XXX	XXX	XXX	2/week	Grab
CBOD5	282.3	423.4 Wkly Avg	XXX	25	37.5	50	2/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Suspended Solids	338.7	508.1 Wkly Avg	XXX	30	45	60	2/week	24-Hr Composite
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/week	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/week	Grab

Outfall 001, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Ultraviolet Disinfection Light Transmittance (mjoules/cm²)	XXX	XXX	Report	Report	XXX	XXX	30/month	Measured
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	24-Hr Composite
Ammonia-Nitrogen	Report	XXX	XXX	Report	XXX	Report	2/week	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	24-Hr Composite

Compliance Sampling Location: Outfall 001

Other Comments: None

Pollution Report

Adobe Acrobat Document