pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0063711**
Facility Type	**Municipal**	APS ID	**446245**
Major / Minor	**Major**	Authorization ID	**1245970**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Central Carbon Municipal Authority**	Facility Name	**Central Carbon Municipal Authority WWTP**
Applicant Address	1000 Lehigh Drive	Facility Address	1000 Lehigh Drive
	Lehighton, PA 18235-2239		Lehighton, PA 18235-2239
Applicant Contact	Timothy Eckhart	Facility Contact	Michael Takerer
Applicant Phone	(610) 377-4002	Facility Phone	(610) 377-9530
Client ID	111725	Site ID	483685
Ch 94 Load Status	Not Overloaded	Municipality	Mahoning Township
Connection Status	No Prohibitions	County	Carbon
Date Application Received	August 28, 2018	EPA Waived?	No
Date Application Accepted	August 29, 2018	If No, Reason	Major Facility

Purpose of Application: Renewal of existing NPDES permit.

Summary of Review

The applicant is requesting renewal of an NPDES permit to discharge 1.6 MGD of treated sewage to the Lehigh River, a TSF/MF designated receiving stream in state water plan basin 02-C (Lower Lehigh River). As per the Department's current existing use list, the receiving stream does not have an existing use classification that is more protective than its designated use.

A Total Maximum Daily Load (TMDL) for the Lehigh River was finalized on March 27, 2009. The TMDL addresses the three primary metals associated with acid mine drainage (Iron, Manganese and Aluminum) and pH. Treated sewage is not considered a major contributor of the primary metals to the affected stream, however, annual monitoring and reporting requirements are carried over from the previous permit for Total Iron, Total Manganese and Total Aluminum.

The pH, Fecal Coliform, TSS and $CBOD_5$ limits are technology-based limits carried over from the previous permit. WQM 7.0 modeling didn't recommend more stringent limitations for Ammonia-Nitrogen, $CBOD_5$ or Dissolved Oxygen (see WQM Modeling attachments).

For modeling inputs, RMI values were obtained using the "PA Historic Streams" feature of eMapPA as well as the "measure" tool. Drainage areas were delineated using USGS's StreamStats Interactive Map and elevations were obtained using the elevation profile feature of StreamStats (see Watershed Information attachment). The LFY of 0.25 cfs/mi^2 was calculated using data for stream gage 01449000 (Lehigh River at Lehighton, PA) from the USGS Open File Report 2011-1070 (same as previous renewal).

The TRC Calculation spreadsheet didn't recommend more stringent limitations for Total Residual Chlorine (TRC). The permittee shall report operation of the ultraviolet (UV) disinfection system on a daily basis using the Daily Effluent Monitoring Form (3800-FM-BCW0435) and the parameter named "UV Functional" The permittee shall report values of "1" for Yes (i.e., the UV system is functional) and "< 1" for No (i.e., the UV system is not functional).

Approve	Deny	Signatures	Date
X		*Brian Burden* Brian Burden, E.I.T. / Project Manager	October 18, 2021
X		Amy M. Bellanca (signed) Amy M. Bellanca, P.E. / Environmental Engineer Manager	10-19-21

Summary of Review

2/week influent monitoring for BOD_5 and TSS is continued in this permit renewal. As per DEP guidance, 1/month E. Coli monitoring/reporting is added to the permit.

DEP's Toxics Management Spreadsheet recommends the limitations and monitoring requirements in the table below. Limitations will come into effect four years after the permit effective date. **Note:** Limitations and monitoring requirements were recommended for several parameters not detected in the effluent during the Pollutant Group sampling results submitted with the application. Those parameters are identified below and the permittee may choose to re-sample for them during the draft permit public notice period at the Department's target QLs found in the current application instructions document.

				Limitations (µg/L)		
Pollutants	**Max Application Concentration (µg/L)**	**Governing WQBEL (µg/L)**	**WQBEL Basis**	**Average Monthly**	**Daily Maximum**	**IMAX**
Total Zinc	142	761	AFC	Report	Report	Report
3,3-Dichlorobenzidine*	< 10*	12.5	CRL	12.50	19.50	31.30
Hexachlorobutadiene*	< 1*	2.5	CRL	Report	Report	Report
Hexachloroethane*	< 10*	25	CRL	Report	Report	Report

* Pollutant was not detected in the sampling results using the laboratory's highest QL of the three submitted sampling results. Three additional non-detect samples at the Department's target QL (or sufficiently sensitive QL) are required to remove this pollutant from the final permit.

The previously issued permit included annual monitoring requirements for Total Copper and Total Zinc based on water quality modeling of pollutant group sampling results submitted with the previous application. Using the latest pollutant group sampling results, Total Copper is not considered a parameter of concern and annual monitoring/reporting requirements are removed from the permit. The monitoring frequency for Total Zinc remains at 1/year.

The Part C.III.C condition regarding Toxics Reduction Evaluations (TREs) is added to the permit and applies to each of the toxic pollutants. The permittee will have the option to accept the implementation of the limitations or to perform site-specific studies to verify or refine the WQBELs if they choose not to resample for the identified pollutants during the draft permit public notice period. Limitations for 3,3-Dichlorobenzidine will come into effect 4 years after the permit effective date and must be sampled for weekly. Quarterly monitoring requirements are included for Hexachlorobutadiene and Hexachloroethane.

To remain consistent with 40 CFR 122.47, milestones are added to Part C.III.D requiring the permittee to develop a schedule/plan for meeting the final WQBELs for all new water-quality based effluent limitations/monitoring requirements in the permit.

The permittee was required to conduct annual Whole Effluent Toxicity (WET) testing in the previously issued permit. All WET tests submitted by the permittee between 2014 – 2020 passed the T-test analysis of chronic survival and reproduction data for *Ceriodaphnia dubia* and chronic survival and growth data for *Pimephales promelas*.

The standard Part C condition, Whole Effluent Toxicity – No Permit Limits, is continued in this permit. WET testing shall be conducted annually during the upcoming permit cycle, at a minimum. The WET Analysis Spreadsheet (see attached) was used to determine that the permittee must generate chronic survival and reproduction data for *Ceriodaphnia dubia*, and chronic survival and growth data for *Pimephales promelas*. The permittee shall perform testing using the following dilution series: 1%, 2%, 30%, 60%, and 100% effluent, with a control, where 2% effluent is the facility-specific Target In-Stream Waste Concentration (TIWC). TMS modeling determined the acute and chronic partial mix factors (PMFs) are 0.142 and 0.987, respectively.

Monitoring requirements for Nitrate-Nitrite as N, TKN, Total Nitrogen and Total Phosphorus are carried over from the previous permit.

Summary of Review

DRBC Docket No. D-1999-048 CP-3 recommended the following quarterly average limitations:

- Total Dissolved Solids – 1,000 mg/L
- Ammonia-Nitrogen – 20 mg/L

The permit renewal application indicates there are no industrial users discharging to the WWTP and no CSOs in the collection system. Antibacksliding requirements have been met since no limitations were made less stringent.

Monitoring requirements for stormwater outfalls 002, 003 and 004 are continued in this permit for the parameters specified in Appendix J of the most recently issued PAG-03 stormwater general permit, TSS and Oil & Grease. The standard Part C.V "Requirements Applicable to Stormwater Outfalls" condition is included in the permit.

Sludge use and disposal description and location(s): The August 2021 DMR supplemental report for sludge/biosolids indicates 2.24 dry tons of dewatered sludge was disposed of at Grand Central Sanitary Landfill via Waste Management.

There are no projected hydraulic/organic overloads at the WWTP and DMR review of the past 2 years revealed no concentration limitation exceedances.

The previously issued permit expired on February 28, 2019 and the application for permit renewal was submitted on time. There are three open WPC NPDES violations for the client that could warrant withholding the issuance of the final permit:

- Inspection ID 3248534, Violation ID 929307 – NPDES - Failure to take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of a permit.
- Inspection ID 3248534, Violation ID 929308 – NPDES - Violation of effluent limits in Part A of permit.
- Inspection ID 3248534, Violation ID 929309 – NPDES - Failure to monitor pollutants as required by the NPDES permit.

On September 13, 2021, a Notice of Violation (NOV) was sent to the permittee regarding the above violations (attached).

EPA waiver is not in effect.

DRBC Docket.pdf
September 2021 NOV.pdf
Toxics Management Spreadsheet.pdf
TRC Calculation.pdf
Watershed Information.pdf
WET Dilution Series.pdf
WQM 1.pdf
WQM 2.pdf
WQM 3.pdf
WQM 4.pdf
WQM 5.pdf
WQM 6.pdf

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)	1.6
Latitude	40º 49' 19"	Longitude	-75º 41' 39"
Quad Name	Lehighton	Quad Code	1240
Wastewater Description:	Sewage effluent.		

Receiving Waters	Lehigh River (TSF/MF)	Stream Code	3335
NHD Com ID	26289115	RMI	41.77
Drainage Area	628 mi^2	Yield (cfs/mi^2)	0.25
Q_{7-10} Flow (cfs)	157	Q_{7-10} Basis	Gage 01449000
Elevation (ft)	439	Slope (ft/ft)	0.0029
Watershed No.	2-B	Chapter 93 Class.	TSF/MF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired		
Cause(s) of Impairment	Metals		
Source(s) of Impairment	Acid Mine Drainage		
TMDL Status	Final	Name	Lehigh River TMDL

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

Nearest Downstream Public Water Supply Intake	Northampton Borough Municipal Authority		
PWS Waters	Lehigh River	Flow at Intake (cfs)	234
PWS RMI	24.7	Distance from Outfall (mi)	17

Treatment Facility Summary

Treatment Facility Name: Central Carbon Municipal Authority

WQM Permit No.	Issuance Date
1310402	10/29/2010

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Oxidation Ditch, Activated Sludge	UV Radiation	0.85 (2020)

Design Flow (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
1.6	2,936	Not Overloaded	Aerobic Digestion, Reed Drying Beds	Landfill or GHJSA WWTP

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 1.6
Latitude 40º 49' 19" **Longitude** -75º 41' 39"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	1.1	IMAX	-	-

Water Quality-Based Limitations

The following limitations were determined through water quality modeling (output files attached) or by other means:

Parameter	Limit (mg/l)	SBC	Model / Basis
Dissolved Oxygen	5.0	Minimum	Previous modeling
Total Dissolved Solids	1,000	Average Quarterly	DRBC Docket No. D-1999-048 CP-3
Ammonia-Nitrogen	20.0	Average Quarterly	DRBC Docket No. D-1999-048 CP-3
3,3-Dichlorobenzidine	12.5 µg/L	Average Monthly	2021 Toxics Management Spreadsheet, v.1.3
	19.5 µg/L	Daily Maximum	
	31.3 µg/L	IMAX	

Comments: Limitations for 3,3-Dichlorobenzidine come into effect 4 years after the permit effective date.

Whole Effluent Toxicity (WET)

For Outfall 001, ☐ **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: **Annually throughout the permit term.**

The dilution series used for the tests was: 100%, 60%, 30%, 2%, and 1%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 2%.

Summary of Four Most Recent Test Results

TST Data Analysis

(NOTE – In lieu of recording information below, the application manager may attach the DEP WET Analysis Spreadsheet).

Test Date	*Ceriodaphnia* Results (Pass/Fail)		*Pimephales* Results (Pass/Fail)	
	Survival	Reproduction	Survival	Growth
2017	Pass	Pass	Pass	Pass
2018	Pass	Pass	Pass	Pass
2019	Pass	Pass	Pass	Pass
2020	Pass	Pass	Pass	Pass

***** *A "passing" result is that in which the replicate data for the TIWC is not statistically significant from the control condition. This is exhibited when the calculated t value ("T-Test Result") is greater than the critical t value. A "failing" result is exhibited when the calculated t value ("T-Test Result") is less than the critical t 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**

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

Acute Partial Mix Factor (PMFa): **0.142** Chronic Partial Mix Factor (PMFc): **0.987**

1. Determine IWC – Acute (IWCa):

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

[(1.6 MGD x 1.547) / ((157 cfs x 0.142) + (1.6 MGD x 1.547))] x 100 = **10%**

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

If the discharge is to the tidal portion of the Delaware River, indicate how the type of test was determined:

N/A

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

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

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

[(1.6 MGD x 1.547) / ((157 cfs x 0.987) + (1.6 MGD x 1.547))] x 100 = **2%**

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

Has reasonable potential been determined? ☐ YES ☒ NO

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

If WET limits will be established, identify the species and the limit values for the permit (TU).

N/A

If WET limits will not be established, but reasonable potential was determined, indicate the rationale for not establishing WET limits:

N/A