pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NORTHEAST REGIONAL OFFICE
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET ADDENDUM

Application Type	**Renewal**	Application No.	**PA0027006**
Facility Type	**Sewage**	APS ID	**480064**
Major / Minor	**Major**	Authorization ID	**1144225**

Applicant and Facility Information

Applicant Name	**Tamaqua Borough**	Facility Name	**Tamaqua WWTP**
Applicant Address	320 East Broad Street	Facility Address	Sewage Plant Road
	Tamaqua, PA 18252		Tamaqua, PA 18252
Applicant Contact	Kevin Steigerwalt	Facility Contact	Richard Baddick
Applicant Phone	(570) 668-3444	Facility Phone	(570) 668-0669
Client ID	62429	Site ID	253253
SIC Code	4952	Municipality	Walker Township & Tamaqua Borough
SIC Description	Trans. & Utilities - Sewerage Systems	County	Schuylkill
Date Published in PA Bulletin	July 30, 2022	EPA Waived?	No
Comment Period End Date	August 29, 2022	If No, Reason	Major Facility, Pretreatment Requirements
Purpose of Application	Renewal of existing NPDES permit.		

Internal Review and Recommendations

Public notification of the 3rd draft permit issuance appeared in PA Bulletin on July 30, 2022. Open violations have prevented issuance of a final permit. Due to the length of time since last draft permit issuance, a new 4th draft permit must be issued before the final permit can be issued. Comments were received from the applicant's consulting engineer, Gannett Fleming, in a letter dated August 25, 2022. The comments and responses are below:

Comment 1. Total Zinc Discharge Limit

"The Effluent Limits Table on page 7 of the draft NPDES includes new Total Zinc discharge limits. These limits will be effective beginning four (4) years after NPDES Permit effective date. During the first 4 years of the Permit cycle, a monitor-only requirement is included. The monitoring frequency throughout the first four (4) years of the Permit cycle is once per month and then increases to once per week during the last year of the Permit cycle (when the limit is implemented).

GF Comment: Gannett Fleming's May 24, 2022 comment letter to PADEP regarding the April 2022 second draft NPDES Permit requested that PADEP consider the additional final effluent sample results that the Borough was collecting prior to making a final decision on this Total Zinc limit. PADEP has indicated in the Fact Sheet Addendum of the July 2022 third draft Permit that they would consider these additional results. The Borough has collected seven (7) additional weekly samples for Total Zinc and analyzed them at a Quantification Limit (QL) of 5 µg/L. The laboratory reports and results are enclosed with this letter.

The highest concentration of the seven (7) Total Zinc results is 0.0745 mg/L, which is less than half of the WQBEL of 0.233 mg/L. Following PADEP guidelines, a discharge limit should not be necessary for Total Zinc since the highest reported result is only 32% of the proposed WQBEL. We request that the Department consider these attached sample results when finalizing the Borough's NPDES Permit and remove the discharge limit requirement from the final Permit."

Approve	Return	Deny	Signatures	Date
X			Brian Burden Brian Burden, E.I.T. / Project Manager	January 9, 2024
X			Amy M. Bellanca (signed) Amy M. Bellanca, P.E. / Program Manager	1-24-24

Internal Review and Recommendations

Response:

A long-term average concentration for Total Zinc was determined using DEP's TOXCONC spreadsheet and the 10 most recent sample results. After modeling the results (see comment 2 response below), monitoring/reporting requirements were recommended instead of limitations. Quarterly monitoring/reporting is included in the permit for Total Zinc.

Comment 2. Total Residual Chlorine

The Effluent Limits Table on pages 5 and 7 of the third draft Permit include more stringent Total Residual Chlorine (TRC) monthly average and instantaneous maximum limits. For the first four (4) years of the Permit cycle, the monthly average limit is reduced to 0.50 mg/L and instantaneous maximum limit is 1.6 mg/L. Beginning with the fifth year of the Permit cycle, the monthly average limit is further reduced to 0.23 mg/L and the instantaneous maximum limit is 0.96 mg/L. While WWTP staff believe that the limits of 0.50 mg/L and 1.6 mg/L can be consistently met, the lower limits of 0.29 mg/L and 0.96 mg/L will be problematic to comply with.

GF Comment: We noted that the TRC_CALC spreadsheet model (issued with the January 2022 first draft Permit) yielded a monthly average TRC concentration of 0.312 mg/L and an instantaneous maximum of 1.029 mg/L, while the third draft Permit includes a monthly average limit of 0.29 mg/L and instantaneous maximum limit of 0.96 mg/L. We question this discrepancy.

While we understand the Department's concern regarding the validity of the Q7-10 flow established as part of the Borough's 1997 Mixing Study, the partial mix factors established as part of this study should still be valid (regardless of any changes in Q7-10 flow. The Borough WWTP's outfall structure is a submerged outfall structure with three (3) underwater diffusers across the length of the receiving stream and should be assumed to produce complete mix conditions. We believe that the acute PMF utilized in the TRC-CALC spreadsheet model should be 1.0, not 0.543. The Borough requests that an acute PMF of 1.0 be utilized in the TRC_CALC modeling for the determination of TRC discharge concentration limits.

Response

The partial mixing factor results of the 1997 mixing study (attached) were not considered for TRC or TMS modeling in the earlier draft permits. The study concluded complete mixing of the discharge is achieved within 10 minutes of travel time and a distance of 1,100 feet downstream of the discharge point, therefore, the acute partial mixing in the models is updated to 1 and the models were re-run. Changes made to the permit between the previous draft and this 4th draft permit are outlined below:

- Total Residual Chlorine: No new WQBEL effluent limitations will come into effect. The 0.5 mg/L monthly average and 1.6 mg/L IMAX technology-based limitations will come into effect 1 year after the permit effective date. The Part C condition related to WQBELs for TRC is removed from the permit.

- Total Zinc: No new WQBEL effluent limitations will come into effect. Monthly monitoring/reporting requirements are included in the permit. The Part C condition related to WQBELs for Total Zinc is removed from the permit.

Additional sample results were provided for Heptachlor. The QL used to analyze the results, 1 µg/L, is higher than DEP's target QL of 0.05 µg/L. All sample results were non-detect, however, the QL was too high to gain any new information about Heptachlor concentrations in the discharge since the governing WQBEL is 0.0001 µg/L. Quarterly monitoring/reporting requirements for Heptachlor remain in the permit. If Heptachlor results during the permit term are non-detect and analyzed at DEP's target QL, the monitoring requirements can be removed in future permit renewals. As required in Part A.III.A.4. of the permit, test procedures (methods) for the analyses of pollutants shall be sufficiently sensitive. A method is considered sufficiently sensitive when it has the lowest minimum level of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR Chapter I, Subchapters N or O.

Internal Review and Recommendations

An Administrative Order on Consent (AOC) for compliance was issued to the Borough of Tamaqua and the Tamaqua Borough Authority by the U.S. EPA on September 29, 2023 for (but not limited to):

- Effluent limitation violations
- Failure to implement Nine Minimum Controls
- Failure to properly record discharge monitoring reports for CSOs
- Failure to properly operate and maintain the facility
- Failure to notify PA DEP of unanticipated noncompliance with the permit
- Failure to properly sample
- Failure to provide information

The order includes several requirements and timetables for compliance. A general requirement for following the requirements of the AOC is included in the Part C.III.C.3 LTCP implementation schedule. Other milestones from Part C.III.C.3 of the previous draft permit have been either removed or modified to reflect projects/goals already completed.

WQM permit 5496403 A-1 was issued on December 6, 2023 for various upgrades/modifications to the WWTP. The upgrades require some changes to the NPDES permit. The reviewing engineer for that permit, James Berger, P.E., also made several recommendations for the final NPDES permit. The changes made to this draft permit resulting from WQM permit issuance include:

- Two stormwater outfalls will be added back to the permit after completion of the upgrades under the amended WQM permit at the following locations: 40° 47' 2.06", -75° 57' 46.03" and 40° 47' 6.35", -75° 57' 47.15". They will be designated as outfalls 018 & 019 in DEP's eFACTS, respectively. Semiannual monitoring/reporting requirements from Appendix J of the most recent PAG-03 permit are included in Part A for the stormwater outfalls and the Part C condition Requirements Applicable to Stormwater Outfalls is updated to include the outfalls. Before completion of outfall construction, the permittee should report the appropriate "no discharge" code on eDMR for each applicable semiannual reporting period.

- The minimum monthly average reduction percentage for $CBOD_5$ and TSS will be monitored and reported on eDMR. The WWTP had been having difficulties maintaining a discharge within effluent limitations and this information will aid in helping the permittee and DEP understand the performance of the WWTP. As per the permit, the monthly average percent removal of BOD_5 or $CBOD_5$ and TSS must be at least 85% for POTW facilities on a concentration basis except where 25 Pa. Code 92a.47(g) and (h) are applicable to facilities with combined sewer overflows (CSOs) or as otherwise specified.

- Part A CSO Outfall No. 014 flow reporting was recommended due to installation of the replacement flow meter/parshall flume and history of CSO bypassing. "Daily when discharging" flow monitoring is included in this draft permit Part A for Outfall 014 and total monthly flow shall be reported on eDMR. The CSO Supplemental Report shall include daily volumes for Outfall 014 and any other CSO outfalls with metering capabilities (if installed during the permit term). Before installation of the CSO metering system, the permittee should report "GG" on eDMR for Outfall 014.

- The potential need for WQM permitting at CSO 003 was brought up due to the solids/floatable issues observed at the outfall. Section V.67.i of the AOC required development and submittal of standard operating procedures (SOPs) or a plan for the detection, reporting, and removal of all future accumulation of sewage solids in the receiving stream. If the issues at Outfall 003 persist after implementation of the submitted SOPs and Corrective Action Plan (most recent version dated 12/27/2023), they will need to be remedied through the requirements of the AOC.

- The recently issued WQM permit covers the conversion of the two large aeration tanks into dual use aeration/influent equalization tanks. No adjustments are made to the hydraulic or organic design capacities. High Flow Management Plans (HFMPs) were included with the Corrective Action Plan for both pre- and post-construction conditions.

- After construction approved under the WQM permit is completed, no bypassing would be allowable below a 7.8 MGD discharge. Part C.II (Maximizing Treatment at the Existing POTW) is adjusted to reflect the 7.8 MGD threshold for post-construction conditions. The submitted post-construction HFMP discusses the 7.8 MGD threshold.

Internal Review and Recommendations

- The DRBC has received a DRBC docket update application (Authority was last docket holder). Future DRBC public comments on the NPDES Permit may be received. The old 1/16/1991 DRBC Docket No. D-90-60 CP (issued to Authority for expansion to 2.60 MGD NPDES permit basis discharge) referenced more stringent 3/5/1990 Ammonia-N limits than in the last draft NPDES Permit. The less stringent Ammonia-N limitations are a result of the 1997 mixing study performed. A new mixing study must be performed and submitted with the next renewal application as per Part C.VIII. If the DRBC includes more stringent Ammonia-N limitations in their next docket, the NPDES permit will be updated to include those limitations afterwards.

  In an email dated 5/26/2023, a request was made from the DRBC to include quarterly monitoring/reporting for Total Dissolved Solids in the permit. The parameter is added to this draft permit.

Updated CSO outfall coordinates were provided to DEP in an email from the permittee's consulting engineer in an email dated November 15, 2023. The coordinates were updated in Part A of the permit and eFACTS.

TMS PA0027006 Mixing Study.pdf

TRC Calculation Mixing Study.pdf