pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NORTHEAST REGIONAL OFFICE
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0061671**
Facility Type	**Sewage**	APS ID	**473070**
Major / Minor	**Minor**	Authorization ID	**1247181**

NPDES PERMIT FACT SHEET ADDENDUM

Applicant and Facility Information

Applicant Name	**Greenfield Township Sewer Authority Lackawanna County**	Facility Name	**Greenfield Township Sewer Authority WWTP**
Applicant Address	PO Box 501	Facility Address	111 Lakeview Avenue
	Carbondale, PA 18407-0501		Greenfield Township, PA 18407-3738
Applicant Contact	Glenn Shifler	Facility Contact	Sarah Shifler
Applicant Phone	(570) 222-4889	Facility Phone	(215) 368-3375
Client ID	1096	Site ID	239909
SIC Code	4952	Municipality	Greenfield Township
SIC Description	Trans. & Utilities - Sewerage Systems	County	Lackawanna
Date Published in PA Bulletin	March 16, 2019; Redraft: TBD	EPA Waived?	Yes
Comment Period End Date	April 16, 2019; Redraft: TBD	If No, Reason	-
Purpose of Application	Application for a renewal of an NPDES permit for discharge of treated Sewage		

Internal Review and Recommendations

Required Redraft NPDES Permit: A Redraft NPDES Permit is being issued for public comment (SOP No. BCW-PMT-002 New and Reissuance Sewage Individual NPDES Permit Applications) Part IV.O.2 required a redraft NPDES Permit due to age and template permit condition changes. Other changes from the previous Draft Permit are discussed below.

Permit Changes from Draft NPDES Permit:

- **Updated Permit Conditions:** The Part A and B permit conditions have been updated to the current standard Template conditions as needed.
- **IMP No. 101:** An influent monitoring point (existing headworks influent sampling point) has been administratively created to allow for raw sewage influent reporting separate from effluent sampling. Influent requirements were previously in the Draft NPDES Permit. (No new sampling requirement.)
- **Additional Mass Loading Report**: Added monthly average or daily max mass load reporting. No additional sampling required.
- **Revised Part A.I Proposed Copper Limit:** Modified per updated Reasonable Potential Analysis/Water Quality Modeling incorporating Long Term Average Monthly Effluent Concentration and COV (using Authority provided data in the TOXCONC Spreadsheet which uses EPA-approved statistical methodology). The Authority's Engineer copper metal translator calculations were invalid for reasons discussed below. No TRE Report provided. See water quality modeling output below.

Approve	Return	Deny	Signatures	Date
X			James D. Berger (signed) James D. Berger, P.E. / Environmental Engineer	June 22, 2021
X			Amy M. Bellanca (signed) Amy M. Bellanca, P.E. / Environmental Engineer Manager	6-28-21
NA			NA – not required for Redraft NPDES Permit. Bharat Patel, P.E. / Environmental Program Manager	NA

Internal Review and Recommendations

- **New Part A.I Proposed Zinc limits and Lead Monitoring:** The updated Reasonable Potential Analysis (incorporating discharge and stream total hardness data from 12/18/2020 Authority submittal due to hardness-dependent water quality criteria) showed there was reasonable potential for exceedances of the existing Water Quality Standards. The new Zinc limit will be effective in three years. Monthly interim monitoring for Zinc. Lead shall be monitored monthly. See water quality modeling output below.
- **Updated Part C Special Conditions:**
  - The regenerated permit changed some Part C permit condition numbering.
  - **Former Part C.I.L.1 (WWTP Composite sampler tied to SCADA)**: Condition was deleted as obsolete.
  - **Former Part C.V Part C.III (Schedule of Compliance: Permit Limit Exceedances and Pump Station Overflows):** Condition has been deleted as obsolete.
    - Pump Station Sanitary Sewer Overflows: The Authority has taken actions at the pump stations to prevent recurrences of prohibited sanitary sewer overflows. Therefore, the schedule of compliance for pump station corrections has been omitted. Any future SSO would be subject to compliance action as appropriate.
    - Previous Pattern of Permit Limit Exceedances: As the WWTP has been "refurbished" as of August 2020 per the 12/18/2020 E-mail submittal (sampling data) and has been generally in compliance with permit limits from September through November 2020, the updated condition omits any reference to ongoing exceedances of permit limits. Any future permit limit exceedance will not be covered under this Schedule of Compliance and subject to compliance action as appropriate.

Water Quality Modeling (using DEP Toxics Management Spreadsheet) Output:

☑ *Recommended WQBELs & Monitoring Requirements*

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	0.015	0.022	13.0	18.9	32.6	µg/L	13.0	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Lead	Report	Report	Report	Report	Report	µg/L	4.89	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	0.2	Report	167	167	µg/L	146	AFC	Discharge Conc > 10% WQBEL (no RP)

Public Comments:

Internal DEP comments: Clarification on Purpose for Phase 5 Chesapeake Bay Data Reporting: The previous draft NPDES Permit included additional Chesapeake Bay reporting for informational purposes (Chapter 92a.61) because previously gathered & submitted information was determined by the Authority's Engineer to be worthless.

GTSA Public Comments: DEP response bolded.

April 2, 2019 GTSA (EEMA) Letter and December 18, 2020 & February 2, 2020 E-mail (including Metal Translator calculation and updates on POTW work): Letter indicated two immediate issues:

- **Two Offsite Pump Stations (NPDES Permit Part C.V)**: Letter stated the two pump stations had previously installed overflows that were permanently sealed circa April 24, 2018, with no subsequent SSO events. **The previous Part C.V (Schedule of Compliance) has been deleted as obsolete.**
  - **The Authority statement was not completely correct, because the 2018 Chapter 94 Report included an 8/8/2018 SSO Report for the Route 247 Pump Station.**
  - **SSO Events are strictly prohibited (NPDES Permit Part B.I.H) and would be subject to appropriate compliance action.**
- **New Copper Limits (0.01 mg/l; NPDES Permit Part A.I.B and Part C.IV))**: The Authority does not believe the WQBEL can be met by conventional treatment technology, and are beginning to sample influent, effluent and upstream for Total and dissolved Copper. They indicated their intent is to develop a copper metal translator (soluble to total) and then a site-specific water effects ratio. They subsequently provided monthly copper and stream sampling data (20 monthly samples from 5/1/2019 through 12/2/2020. **The Reasonable Potential Analysis was updated with available information, resulting in revised proposed Copper limits. See above.**

Internal Review and Recommendations

- **Metal Translator Study:** The Authority's consultant submitted a table of copper sampling data with calculations of average values with Metal Translator Study, which was indicated to have been done in accordance with the EPA guidance referenced in Chapter 16.24 (b): "Chemical translators are used to convert dissolved criteria into effluent limitations which are required by Federal regulations to be expressed as total recoverable metal. The default chemical translator used by the Department is the reciprocal of the conversion factor (listed in the Conversion Factors Table located in § 93.8b (relating to metals criteria)) that was used to determine the dissolved criterion. If an NPDES discharger performs a chemical translator study for a dissolved criterion, the study of this site-specific translator should be conducted in accordance with the EPA's ''The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion'' (June 1996), as amended and updated"**. The Authority and its Engineer did not submit a Metal Translator Study Plan for previous Department review or comment. The Department reviewed the Metal Translator table and determined the Authority Engineer-calculated Metal Translator was invalid:**
  - **Discarded Data due to Insensitive Non Detect Concentration (0.010 mg/l whereas the DEP Target QL is 0.0040 mg/l): Per the EPA Guidance, when both the Total Copper and Dissolved Copper values are non-detect (ND), the data pair is discarded. Most of the sampling data had to be discarded, resulting in insufficient data points to scientifically calculate a site-specific Metal Translator for Copper. In addition, while the EPA Guidance Section 4.1 indicates that it "could be" assumed that the ND dissolved copper concentration was 50% of the detected Total Copper value, this assumption cannot be verified as accurate or representative with the available limited sampling data. The Department cannot ignore the scientifically-based Chapter 93.8b Copper Metal Translator (0.960) based on insufficient valid, accurate, and representative sample data (i.e. sample size) to generate a statistically supported Metal Translator.**
    - **Per EPA Guidance Section 4.2, page 18: "If both total recoverable and dissolved concentrations are nondetects, the data pair should be discarded". $\ln(C_D/C_T) = \ln(ND/ND) = \ln(1) =$ zero (0), automatically discarding value in the EPA Guidance-specified equation for calculating the Metal Translator.**
    - **17 of 21 downstream sampling results (critical for determining the site-specific downstream metal translator) were non-detect for both Total Copper and Dissolved Copper. One of the remaining samples had a higher concentration of Dissolved Copper than non-detect Total Copper. The other 3 samples were ND for Dissolved Copper.**
    - **18 of 21 upstream sampling results were non-detect for both Total Copper and Dissolved Copper. Both remaining samples were ND for Dissolved Copper.**
    - **16 of 21 (Treated Sewage) Effluent samples were ND for Dissolved Copper. One of the remaining results had higher Dissolved Copper than Total Copper. Difference in Total Hardness from stream conditions is one of the reasons that the effluent would not be representative of stream conditions.**
    - **Influent sample data (raw sewage only) would not represent the receiving stream or post-treatment effluent copper conditions.**
  - **Failure to Follow Guidance Requirements: The EPA Guidance Section 4.1 Box 1/Appendix C Box 1-required use of a specific equation to calculate the Metal Translator and calculation of the upper percentile values of the dissolved fraction.**
    - **Metal Translator = log normal geometric mean GM f_D = 1.1408 for n = number of samples (20 in first run) using EPA Guidance Section 4.3-specified equation: (log normal) GM $f_D = \text{Exp}\ (\Sigma_1^n \ln(f_D)/n)$). The Authority-calculated (invalid) metal translator value was not consistent with the EPA equation result. NOTE: See attached Table for calculation based upon original provided data set (n = 20).**
    - **The upper percentile values of the dissolved fractions were not calculated.**
  - **Critical Low Flow Conditions: Per the EPA Guidance (Executive Summary Page 1), normally the metal translator would have been determined during typical low flow periods when there is no functional relationship with other factors (TSS, pH, and Salinity) is being established (no related data submitted with the Metal Translator table). Section 3.1.2 recommends weekly or biweekly sampling during critical low flow periods (i.e. close to the Q7-10 low flow used in the Reasonable Potential Analysis to meet Chapter 96.3 requirements). Typical Low Flow**

Internal Review and Recommendations

periods are from July through November per DEP Technical Guidance on determining stream hardness.

- **One of the three available Downstream sampling & one of two available upstream sample results were in June. The (already limited) available sampling results would not accurately represent the Metal Translator during the critical low flow period.**
- **It is also unclear if the sampling was during base flows (i.e. more than 3 days since rainfall of 0.2 inches or more per EPA Guidance Section 5.5).**

▪ **<u>Stream Sampling Points</u>: The upstream and downstream sampling locations were not identified to allow for determination if they are reasonable to gather data for calculation of a metal Translator (downstream sampling points at the appropriate mixing zone). (EPA Guidance Sections 3.2, 5.2, and Appendix C.1).**

▪ **<u>Missing Lab Sheets and Missing Field Sampling Protocol</u>: No Field Sampling Protocol (EPA Guidance Appendix E) was provided to ensure collection of accurate and representative samples. No lab sheets were provided. The Authority-provided Table did not indicate whether the submitted results were from grab sampling, 8-hour composite sampling, or 24-hour composite sampling. The test method was not identified.**

- **"If only the dissolved concentration is nondetect, it could be assumed to equal one-half the detection level". This guidance was followed in the calculations.**
- **1 result was discarded ($C_D > C_T$ at ND level), as dissolved copper cannot exceed total copper, resulting in $C_D = C_T$ (both ND).**
- **If n was set at 3 (number of sample results with C_T above ND) for the EPA Guidance-specified equation, the metal translator would be 2.4 (more conservative) than the calculated value.**

○ **<u>Background Information on Metal Translator Requirements</u>**: For informational purposes:

▪ Chapter 16.24(b): Chemical translators are used to convert dissolved criteria into effluent limitations which are required by Federal regulations to be expressed as total recoverable metal. The default chemical translator used by the Department is the reciprocal of the conversion factor (listed in the Conversion Factors Table located in § 93.8b (relating to metals criteria)) that was used to determine the dissolved criterion. If an NPDES discharger performs a chemical translator study for a dissolved criterion, the study of this site-specific translator should be conducted in accordance with the EPA's ''The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion'' (June 1996), as amended and updated.

▪ Per the EPA guidance document:

- This technical guidance examines what is needed in order to develop a metals translator. The translator is the fraction of total recoverable metal in the downstream water that is dissolved; that is, the dissolved metal concentration divided by the total recoverable metal concentration.
- The translator is the fraction of total variables have on fraction of total recoverable metal in the downstream water that is dissolved: $f_D = C_D/C_T$. It may be determined directly by measurements of dissolved and total recoverable metal concentrations in water samples taken from the well mixed effluent and receiving water (i.e., at or below the edge of the mixing zone).
- The most direct procedure for determining a site-specific metal translator is simply to determine f_D by measuring C_T and C_D to develop the dissolved fraction as the ratio C_D / C_T. The translator is calculated as the geometric mean of the dissolved fractions.
- If the translator is not dependent on TSS, determine the geometric mean GM $f_D = \exp(\Sigma_1^n \ln(f_D)/ n)$ and upper percentile values of the dissolved fraction. If the data are found not to be log-normal, then alternative transformations should be considered to normalize the data and determine the transformed mean and percentiles. Also, alternative upper percentiles may be adopted as a state's policy to address MOS (e.g., 90th or 95th percentiles may be appropriate.).
- The dissolved fraction cannot be negative, but the logarithms of the dissolved fraction can be.

▪ The site-specific Metal Translator is inputted into the DEP Water Quality Modeling (Toxic Management Spreadsheet) Discharge section where it supersedes the Chapter 93.8b default.

Internal Review and Recommendations

- **LTAMEC & COV from December 18, 2020 Sampling Data (20 samples): The consultant (Environmental Engineering & Management Associates, Inc.) provided additional copper and Total Hardness monitoring data, which was used to update the Reasonable Potential Analysis. TOXCONC was used to calculate the Long Term Average Monthly Average Concentration (LTAMEC) and daily Coefficient of Variability (COV) for copper using EPA-approved statistical methodology (log normal distribution).**
  - **TOXCONC calculated the 0.0229232 mg/l LTAMEC (copper) and 0.3860194 COV, based on 20 monthly samples which was used in the updated water quality modeling. In addition:**
    - **Six (6) sample results were at an insensitive ND concentration (0.010 mg/l ND versus 0.0040 mg/l DEP Target QL for copper).**
    - **Only six (6) results were below the Draft NPDES Permit's originally proposed copper monthly average limit (0.010 mg/l) and nine (9) below the revised limit (0.013 mg/l)**
    - **Seven (7) sample results were above the Draft NPDES Permit's originally proposed Daily Max limit (0.016 mg/l) and five (5) above the revised Daily Max (0.018 mg/l).**
    - **Four (4) samples above the originally proposed Draft IMAX limit (0.020 mg/l). All were below the revised IMAX limit.**
    - **There were two (2) exceedance of the revised monthly average limit after the WWTP "refurbishment" (completed by end of August 2020 per GTSA consultant e-mail).**
  - **Stream hardness during the July – September time-frame (typical low flow time-frame) was in the range of 36.7 – 58.4 mg/l range. For conservatism, a stream hardness of 36.7 mg/l Total Hardness was assumed in the updated water quality modeling.**
  - **Effluent hardness during the July – September time-frame (typical low flow time-frame) was in the range of 139 mg/l – 154 mg/l Total Hardness. For conservatism, an effluent hardness of 139 mg/l Total Hardness was assumed in the updated water quality modeling. NOTE: This is a ~6.79:1 effluent-dominated stream, which means that effluent hardness will dominate during low flow periods and NPDES Permit-basis discharges.**
- **Conventional Technologies:**
  - **The Department does not concur with that the specified Copper limit is unattainable by conventional technology because process optimization (including pH adjustment to precipitate copper) and use of polymer products to remove solids are among available conventional technologies. The purpose of the Part C.III Toxics WQBELs compliance schedule is to allow the Authority to explore feasible alternatives. Evaluation of feasible methods to come into compliance is part of the Toxic Reduction Evaluation (TRE) process. Besides mentioned options, other technologies might become available during the three-year compliance schedule.**
  - **The Department is unaware of any law or regulations superseding Water Quality-Based Effluent Limits (WQBELs) due to the undefined limitations of undefined "conventional technology" and/or restricting POTWs to undefined "conventional technology".**
  - **The standard Part C.III (Water Quality-Based Effluent Limitations For Toxic Pollutants) sets forth the current process for addressing new copper limits (including refining DEP water quality modeling with site-specific information; public water supply corrosion control; etc.).**
    - **If more time is needed to come into compliance, the Authority can provide interim compliance milestones (with deliverables) not more than one year apart for up to 4.5 years into the permit term via the NPDES Permit Part C.IV.D.2.b permit amendment.**
    - **The Part C.IV.D.3.d Chapter 95.4 (Extensions of time to achieve water quality based effluent limitations) option places the burden of proof on the permittee. It is also only an extension of time, not relief from the permit limit.**
- **Proposed WER Option (Site-specific water quality criterion): SSC option can be pursued after submittal of the Part C.IV-required Final WQBEL Compliance Report (due 12 months prior to new permit limit effective date).**
  - **The Part C.IV condition requires addressing all site-specific data collection and TRE requirements in the Final WQBEL Compliance Report prior to seeking a site-specific criterion.**
  - **PA Chapters 16.24, 93.8a(i) and 93.8d require DEP/EPA preapproval of any proposed Site-specific Criterion (SSC) Study Plan (Water Effects Ratio or other) and the final Study Plan Report. DEP and EPA would review the SSC Study Plan.**

Internal Review and Recommendations

- **Pending Chapter 93 regulatory changes (effective upon EPA approval) would not allow for the use of the old simplified copper WER methodology (no longer EPA approved). The Biotic Ligand Model (BLM) can be proposed.**
- **There is no guarantee that a valid SSC can be determined or that it would not make the permit limit more stringent.**

▪ **Current SSC Process: For informational purposes only, as process might change in the future:**

- **An SSC study work plan must be submitted by a permittee to the Northeast Regional Office (Wilkes-Barre). There should be at least three (3) copies submitted, with courtesy electronic copy. Two copies (or an electronic copy is forwarded) will be forwarded to the DEP Bureau of Clean Water's Water Quality Division (WQS). DEP WQS will transmit the SSC study plan to EPA Region 3.**
- **If the Department/EPA approves the Study Plan in writing, then you may implement it.**
- **The SSC Final Report should be transmitted to the Northeast Regional Office (same number of copies) for DEP/EPA approval.**
- **If the DEP/EPA approve the SSC Final Report results, the Department will determine if the SSC changes the WQBEL (permit limit).**
- **An application for Major NPDES Permit Amendment would be required to modify the WQBEL and/or the permit limit effective date. After the permit effective date, additional regulatory "antibacksliding" requirements would have to be met as well.**

April 4, 2019 GTSA (JHA Companies) Letter and February 2, 2021 Authority (Engineer Ed Gillette, EEMI) E-mail which included copper sampling data and Metal Translator calculations:

February 2, 2021 Authority Engineer Updates:

- The plant has been refurbished and went online just prior to September 2020.
- The pump station overflows were eliminated by sealing the overflows in April 2019 as reported to PADEP. These overflows were unknown at the time to the new engineer, Operator, and Authority. Engineering work has begun to refurbish the pump stations with submersible pumps and VFDs. It has not yet been submitted to PADEP for a Part 2 Permit. It is expected to be submitted in February 2021.
- The appropriate effluent composite sampler was installed in July 2019. An influent composite sampler was rented until an appropriate sampler could be procured. With the refurbished plant, the influent sampler is flow paced.
- Attached is the currently available Copper data. Good composite data began in July 2019.
- The refurbished plant went online for the September 2020 sample. We are continuing to collect data. Using all available Copper data, the Copper concentration is less than 8% of the drinking water standard. All water service in the area is through individual wells. There is no public water system. Copper is a required nutrient in human nutrition. It will be in the sewage.
- The refurbished plant includes complete up to date SCADA for the plant. The design for the rebuilt pump station is nearing completion. The design will include up to date SCADA to the plant. It will be submitted to the Department for a Part 2 Water Quality Permit in February 2021.

Item 1 (New Copper Limit (NPDES Permit Part A.I.B and Part C.IV)): The specified Copper permit limit is believed to be unattainable by conventional technology. The Authority contractor (JHA) is coordinating with the contracted lab for bottle-ware and is currently preparing the Toxic Reduction Evaluation (TRE) study work plan for DEP review and comment. "Compliance conditions pending results of study".

- **The Department appreciates the proactive TRE-related steps, rather than waiting for final permit issuance. No TRE Study Plan has been received to date. See Part C.IV schedule of compliance.**
- **See above response regarding Copper issues.**

Item 2 (Offsite POTW Pump Stations condition for flows/alarms to be monitored and recorded by the POTW PLC within 90 days of PED (NPDES Permit Part C.I.L and former C.V)):

- The existing pump stations are not equipped with flow-meters and the existing POTW is not equipped with either a PLC or SCADA System, hence the time-frame might not be achievable. The permittee (JHA Companies) noted that it was assessing conditions, corresponding with supplier (instrumentation, controls, electrical and automation service provider) to assess costs and options for compliance. Flow meters, alarms and autodialers will be prioritized. Regular updates to be provided monthly.

Internal Review and Recommendations

- The February 2, 2021 Authority (Engineer) E-mail subsequently indicated a Part II WQM Permit Application for Pump Station upgrades (submersible pumps and VFDs) was being prepared and would be submitted in February 2021. A POTW SCADA system has been installed
- **The (Authority Engineer-referenced) Part II WQM permit application (pump station upgrades) should include provisions for addressing this requirement for pump station modification. The compliance schedule will provide adequate time for the Department to review and approve a complete and technically adequate Part II WQM permit application. The Department also retains authority to separately approve a minor Pump Station change outside of the WQM permitting process.**
- **Pump Stations flows are a function of pumping capacity and pump operation. Pumping data can be used as source of flow information to calculate the flows via a (programmed) SCADA/PLC System.**

Item 3 (Connection of mechanical 24-hour flow-proportional composite sampler controlled by WWTP PLC within 90 days of PED (NPDES Permit Part C.I.L)): The existing POTW is not equipped with either a PLC or SCADA System, hence the time-frame might not be achievable within the time-frame and might require additional PENNVEST funding. JHA (Authority contractor) has requested a copy of proposed equipment upgrades/design modifications from EEMA (Authority Engineer for PENNVEST and WQM Permitting). If this equipment is not part of the existing project, JHA is planning an April 15, 2019 site meeting to evaluate the options for flow metering, recording, controls as required by permit conditions. JHA regards the public comment as official "notification" that it might not be able to meet the permit condition requirement within the time-frame. Regular updates to be provided monthly. The February 2, 2021 Authority (Engineer) E-mail indicated:

- The refurbished plant includes complete up to date SCADA for the plant. The design for the rebuilt pump station is nearing completion. The design will include up to date SCADA to the plant. It will be submitted to the Department for a Part 2 Water Quality Permit in February 2021.
- With the refurbished plant, the influent sampler is flow paced.
- **The Department has deleted the former Part C.I.L.1 (Flow-proportional Influent Composite Sampling) Schedule of Compliance condition based on the Authority Engineer's assurance that the provisions have already been made. Please note that the existing NPDES permit requires Flow Proportional 240hour Composite sampling.**
- **In term of the original public comments, please accept the following general clarifications regarding "planned noncompliance":**
    - **The Department does not accept notifications of planned noncompliance prior the Permit Effective Date of the permit requirement. If the facility has an alternate schedule of compliance date, it must be provided with the public comments to allow for Department consideration in the final permit action.**
    - **The Department does not accept the apparent premise that "notification of planned noncompliance" and "regular updates" is sufficient. The regulations and permits require compliance at all times. The permit has specific requirements pertaining to bypassing for example.**
    - **Any noncompliance is subject to standard noncompliance notification requirements (NPDES Permit Part A.III.C.4 & 5; Part B.I.A) and appropriate compliance action.**

Item 4 (EDMR and Available Operator Notifications (NPDES Permit Part A.III.B.2): JHA noted that it had provided the Authority the required EDMR registration forms and is awaiting notification from the Department that it can use EDMR. JHA also noted that under current contract, JHA is in direct control of all system components, including collection system. Any work is performed by and/or coordinated/overseen by JHA and GTSA staff. While JHA and GTSA may still utilize another party (Koberlein), no work is performed without direct onsite supervision by JHA and GTSA. **Noted. EDMR data is being received from this facility at present. Please note that the Part A.I.G (Responsible Operator) condition will require written confirmation regarding the Responsible Operator within 30 days of PED, and notification of any subsequent changes (NPDES Permit Part C.I.G). The licensed Operator has responsibilities for the POTW as broadly defined in Part A.II (i.e. including the collection system with its pump stations).**

Item 5 (Chapter 94 Annual Municipal Wasteload Report (Part B.I.C.4 and Part C.III): The Authority noted that EEMA prepared the 2018 Chapter 94 Report, with JHA/GTSA to prepare future Chapter 94 Reports. **Noted. See Chapter 94 Report-related NPDES Permit Part B.I.C.4 and Part C.II.C requirements that are addition to the Chapter 94 requirements.**

Item 6 (Solids Management Conditions (NPDES Permit Part C.III): JHA is actively working to optimize solids wasting at this facility to the extent possible. Sludge storage within the treatment units will not occur. **Noted. The DEP Operator**

Internal Review and Recommendations

Webpage includes a spreadsheet that addresses NPDES Permit Part C.II.C-referenced EPA methodology for operator usage. See NPDES Permit Part B.I.C and Part C.III requirements.

Item 7 (Operation & Maintenance Planning (NPDES Permit Part C.I.H)): JHA is actively developing an O&M Plan in concert with Standard Operating Protocols that shall be a living document adjusted accordingly to facility changes, equipment modifications, etc. Upon completion, a copy will be provided to DEP for record purposes and copy kept on file at the WWTP at all times. **Noted**. **An updated O&M Plan must be submitted within 90 days of PED (NPDES Permit Part C.I.H).**

Item 8 (High Flow Management Plan (HFMP) (NPDES Permit Part C.I.I)): JHA will be developing a plan to evaluate and address applicable high flow issues. A letter will be mailed to all customers notifying them of the flow issues, educating them illegal connections, system conditions to watch for, and notifying the Authority and JHA. Follow-up inspections to work to reduce Inflow & Infiltration (I&I).

- **A High Flow Management Plan involves Authority actions at the pump stations and Treatment Plant as needed to prepare for and manage peak wet weather flow events (avoiding overflows, etc.). Submittal of an adequate HFMP, meeting NPDES Permit Part C.I.I requirements is due within one year of PED.**
- **An I&I Study Plan investigates and corrects the sources of I&I within the collection system. The Department interprets the Authority commitments as part of a collection system I&I Corrective Action Plan.**

Item 9 (1-Year Schedule of Compliance for Pump Stations SSOs and pattern of Permit Limits Exceedances) and Concluding Letter Paragraph (NPDES Permit Part C.V and Part A.III.C.4-5, and Part B.I.A): Conditions of compliance are also pending receipt of funding to enable the necessary capital improvements, and said scheduling is contingent thereto. JHA concurs that addressing I&I issues is paramount and has started assisting GTSA with this evaluation and reduction initiatives, and evaluating the collection system to identify any issues therewith based on the historical nature of the system as a whole. Consideration of amending compliance schedules to perhaps coincide with dates of funding award and specific dates thereafter would allow for assurance of compliance, especially with regards to the needs of SCADA and associated controls and automations. **This condition has been deleted as obsolete due to POTW upgrades and sealing of Pump Station Overflows per the February 2, 2021 Authority Engineer E-mail. All future noncompliance events will be subject to compliance action as appropriate.**

Compliance History Update: See Attached Compliance History Update.

Communications Log:

6/21/2019 Meeting Discussions on Authority Comments on Draft NPDES Permit:

- **Attendees:** DEP was represented by BR Patel, Amy Bellanca, Pat Musinski, Jeremy Miller, and James Berger. The Authority was represented by Ed Gillette (EEMA) and Travis Long (JHA). No one from the Authority itself came.
- **Facility Status**: Ed Gillette and Travis Long provided the following information:
    - Ed and Travis indicated that they had been trying to educate the Board about its responsibilities. Travis is the current site contact, being much closer to the facility than Ed's people.
    - Facility does not have either a PLC or SCADA system. The SBRs are being run by original timer cycle programming, with electronics removed previously along with other unapproved site changes. Other electronics were also previously removed, requiring new SBR equipment (replacement-in-kind with modern equipment from same manufacturer), etc.
    - Facility is doing 24-hour time-based composite sampling (they tied composite sampler to timer for intermittent SBR discharges). JHA has someone onsite during the weekly composite sampling event.
    - Two existing pump stations are shot, and must be replaced (hydrogen sulfide damage, unsafe electrical system not meeting code, etc.) with an estimated $0.25 – 0.5 million cost. They previously closed off illegal overflow points at the Pump Stations. They are hoping to fund rehab via PENNVEST change orders as Authority has no money. Koberline (different contractor) is no longer running pump stations.
    - PENNVEST funded work bid out, and approved by Authority the previous day. Ed said they would be looking at the bids to spot any problem with the low bid. The WWTP rehab project should be completed within one year.

Internal Review and Recommendations

- Travis will be project manager for construction.
- **The Department noted that Pat Devitt was the DEP Project Manager for the PENNVEST work. The Department also noted that the WQM Permitted construction certification had to be submitted to the DEP Clean Water Program separately.**

  - **EDMR: The Department noted that it had not received EDMR registration for JHA as site operator at that time. Central Office is directing the Regions to issues NOVs and fines for failure to submit EDMR registration. JHA had said that they submitted paperwork to the Authority already. The Authority needs to submit the EDMR paperwork soon or face compliance action.**
  - The Authority knows the collection system has I&I problems. They have done some investigating already, but think that there are illegal connections.

- **CO&A:**
  - **DEP (BR) noted legal issues and that the Department would be going to a Consent Order & Agreement approach due to public monies, need for enforceable schedule, public comments on NPDES Permit schedule of compliance dates (Chapter 92a.51 regs), etc.**
  - **The Authority will get a draft Schedule of Compliance within sixty (60) days for the Draft CO&A to the Department. The Department will incorporate the Schedule into a draft CO&A which will be sent to the Authority for comment. The CO&A schedule will be incorporated into the Final NPDES Permit. Noted need for interim compliance milestones of no more than 1 year apart for Chapter 92a.51 purposes, with CO&A giving additional flexibility.**
- **Copper:**
  - Ed was working on metal translator study. Travis was working on draft TRE (not provided to the Department). They might do stream sampling also (including upstream sampling 50 feet from outfall). Hardness makes a difference in copper limits. They said that site customers get their water from wells, that might have been impacted by copper sulfate usage in local reservoirs or local geology might have higher copper concentrations.
  - **DEP gave Ed a copy of the latest WQBEL SOP (pointing out section about options and time-frames) and required methodology for metal translator studies (same as in the Draft NPDES Permit Part C.IV). Travis said he already had copy of the SOP.**
  - **The Department needs the Authority to clarify what it wanted to do with the CO&A schedule.**
  - **The Department noted that Site-Specific Water Quality Criteria (SSC) would be an option after the Final WQBEL Report, with EPA requiring BLM (Biotic Ligand Model), not copper WERs (Water Effects Ratio). The Department noted that it was developing new SOPs for copper and for SSCs, so the Authority should not rush into a SSC proposal until the new guidance is available. (Moving target as Ed noted).**
- **Other Draft NPDES Permit Conditions:** The Authority indicated that they understood all of the NPDES Permit conditions, with the only real concern being the schedules of compliance (that will be addressed by the CO&A schedule of compliance).

NOTE: Before meeting, it was noted Planning originally included Clifford Township as part of service area, but that Township was not part of original NPDES Permitting. It would take a plant expansion to allow for connection now.

12/18/2020: Copper and Total Hardness data submittal.
1/20/2021: DEP (Berger) E-mail noting missing Metal Translator Study and need for additional information.
2/2/2021: Authority Engineer (Mr. Gillette) submittal of Metal Translator calculations and update on facility.

Table 1 (Metal Translator Calculations Using Submitted Copper Downstream Data)

Sample Date	C_T* (mg/l)	C_D* (mg/l)	f_{D**} (C_D/C_T)	ln(f_D)
5/1/2019	<0.01	<0.01	1	0
6/5/2019	**0.0127**	**<0.01**	0.3937	-0.9321
7/20/2019	<0.01	<0.01	1	0
8/7/2019	<0.01	<0.01	1	0
9/4/2019	<0.01	<0.01	1	0
10/2/2019	<0.01	<0.01	1	0

11/6/2019	<0.01	<0.01	1	0
12/4/2019	<0.01	<0.01	1	0
1/8/2020	<0.01	<0.01	1	0
2/5/2020	<0.01	<0.01	1	0
3/4/2020	<0.01	<0.01	1	0
4/1/2020	<0.01	<0.01	1	0
5/6/2020	<0.01	<0.01	1	0
6/3/2020	<0.01	<0.01	1	0
7/1/2020	**0.0132**	**<0.01**	0.7575	-0.9710
8/12/2020	<0.01	<0.01	1	0
9/2/2020	**0.0104**	**<0.01**	0.9615	-0.7325
10/7/2020	<0.01	<0.01	1	0
11/4/2020	<0.01	<0.01	1	0
12/2/2020	<0.01	<0.01	1	0
Minimum	<0.01	<0.01	0.7575	-
Maximum	0.0132	<0.01	1	-
Arithmetic Average	0.0103	0.01*	0.9753	-
Log Normal Geo Mean	-	-	**1.1408*** **	-

* EPA Guidance Section 4.2, page 18, indicates when both CD and CT are ND, the results are discarded (with the EPA equation automatically discounting the $f_D = 1$ results as zero (ln (ND/ND) = ln(1) = 0)).
**Negative numbers converted to positive numbers in the calculations to allow calculation of log normal geometric mean.
*** The EPA Guidance-specified formula must be used: **$GM\ f_D = \exp(\Sigma_1^n \ln(f_D)/n)$.**