Pennsylvania Department of Environmental Protection

SOUTHWEST REGIONAL OFFICE
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0026212**
Facility Type	**Sewage**	APS ID	**1091971**
Major / Minor	**Major**	Authorization ID	**1445806**

NPDES PERMIT FACT SHEET ADDENDUM

Applicant and Facility Information

Applicant Name	**Washington-East Washington Joint Authority**	Facility Name	**Washington-East Washington STP**
Applicant Address	2 Wilson Avenue PO Box 510	Facility Address	102 Arden Station Road
	Washington, PA 15301-3335		Washington, PA 15301-4514
Applicant Contact	Robert Herring	Facility Contact	Brian McKnight
Applicant Phone	(724) 225-1338	Facility Phone	Same as Applicant
Client ID	83942	Site ID	443810
SIC Code	4952	Municipality	South Strabane Township
SIC Description	Trans. & Utilities - Sewerage Systems	County	Washington
Date Published in PA Bulletin	Saturday, November 2, 2024	EPA Waived?	No
Comment Period End Date	Monday, December 2, 2024	If No, Reason	

Purpose of Application: Application for a renewal of an NPDES permit for discharge of treated Sewage

Internal Review and Recommendations

The Draft Permit Notification was published in the PA Bulletin on Saturday, November 2, 2024, and the Comment Period End Date is Monday, December 2, 2024.

On November 19, 2024, US EPA Region III made the following statement:

“According to our Memorandum of Agreement, the Environmental Protection Agency (EPA) Region III has received the draft National Pollutant Discharge Elimination System (NPDES) permit for:

Permittee name: Washington-East Washington Joint Authority
Facility name: Washington-East Washington STP
NPDES Number: PA0026212
EPA Received: 10/21/2024
30-day response due date: 11/20/2024

This is a major permit that discharges to Chartiers Creek and is impacted by the Chartiers Creek TMDL for Acid Mine Drainage and the Chartiers Creek TMDL for PCBs and Chlordane. EPA has performed a limited review of the draft permit based on the wasteload allocation (WLA) requirements of the approved Chartiers Creek TMDLs, the whole effluent toxicity test (WETT) results, the TMS evaluation, the WQBEL compliance schedule requirements, the pretreatment program implementation requirements, and the PFAS monitoring requirements. EPA has completed its review and offers the following comment(s):

1. Page 28 of the existing permit requires the permittee to do the whole effluent toxicity tests with a TIWC of 92% and with a dilution series of 23%, 46%, 92%, 96%, and 100%. However, the WET Analysis Spreadsheets indicates that

Approve	Return	Deny	Signatures	Date
X			William C. Mitchell, E.I.T. / Project Manager	October 9, 2025
X			Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager	October 10, 2025

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the tests were done with a TIWC of 93% and a dilution series of 23%, 47%, 93%, 97%, 100%. Did PADEP ask the permittee why they used the latter TIWC and dilution series for their WET tests?

2. The existing permit on page 28 required an annual testing frequency for WET. The WET Analysis Spreadsheets on the draft permit application shows that the past four submitted tests were dated 7/6/2020, 7/5/2021, 2/1/2022, and 8/2/2022. Were there any WET tests performed in 2023? If so, please share with us the WET Analysis Spreadsheets corresponding to those tests.

3. On the Wet Analysis Spreadsheets included in the application, the July 5, 2021 *Ceriodaphnia dubia* species test endpoints (both survival, p.228, and reproduction, p. 229) list, only 9 replicates in both the Control and TIWC groups. Table 3 (Page 164) of Method 1002.0: Daphnid, *Ceriodaphnia*, Survival and Reproduction Test; Chronic Toxicity indicates that there must be 10 replicates per concentration to meet test acceptability criteria. The lab bench sheets included on page 195 seem to indicate that the 2021 *Ceriodaphnia* species tests were done with 10 replicates initially, but then the data for replicate 5 in the control group and replicate 10 for the TIWC group was crossed out with a notation "M." Moreover, the notation "M" was noted in the bench sheets for all the dilutions in the series for the 2021 test. There are no notes or explanations regarding what notation "M" means on the bench sheet, therefore we could not determine whether it indicated that the organisms in question had died or whether the data was not included due to human error. Has PADEP spoken to the permittee about what "M" means on the lab bench sheets? If "M" means "death", then the data should be used to rerun the statistics for the test, including the data corresponding to replicates 5 and 10 which had previously been excluded from the analysis, as described above.

4. The Wet Analysis spreadsheet results on page 228 of the application corresponding to the July 6, 2020, *Ceriodaphnia* survival test has data listed for 10 replicates, while the corresponding July 6, 2020, *Ceriodaphnia* reproduction test (page 229) has 11 replicates worth of data. The lab bench sheets corresponding to the *Ceriodaphnia* species endpoint tests from July 2020 (page 153) indicate that there were only 10 replicates, and the *Ceriodaphnia* reproduction data for replicate 11 included in the WET lab sheet appears to be the result of a typo. Please redo the statistics for the July 2020 *Ceriodaphnia* species tests, using the correct data and ensuring that the data on the wet analysis spreadsheet mirrors that of the lab bench sheets.

5. The factsheet indicates on page 3 that the receiving stream, Chartiers creek, is impaired by metals (Aluminum, Iron, and Manganese) and has applicable TMDLs. The TMS analysis model results (page 42) indicate that the background/stream concentration entered for these parameters is 0 ug/l, which is not an appropriate assumption to make given the receiving stream's known impairments. Was there ambient data available for Aluminum, Manganese, and Iron which could have been entered into the model to account for the stream's background concentration? In the future, where ambient data is available for pollutants impairing the receiving water, please include this information in the model to obtain more accurate results."

The Department offers the following response to EPA's comments respectively:

1. In an email dated February 21, 2025, EnviroScience indicated that they have no record of the Authority providing them any updated information regarding changes to TIWC or dilution series. They stated they have been using the same testing concentrations since 2020. Annual WET testing is required in the permit consistent with 40 CFR 40 CFR 122.21(j)(5)(iv). Errors with past WET tests is considered a violation of the permit and the Authority will work with Operations to ensure future tests comply with the permit requirements. RP will be re-evaluated during the next permit renewal cycle.

2. An updated Department WET Analysis Spreadsheet is attached (**Attachment 1**). The spreadsheet reflects test dates of February 2022, August 2022, August 2023, and September 2024.

3. Regarding the July 2021 report, the letter "M" means the organism was missing. That is why the broods were not counted and the spaces were left blank on the Department's WET Analysis Spreadsheet. Please note on the last page of the lab test form there is a letters key.

4. The Authority's lab submitted a revised 2022 WET Test Summary Report that corrects mistakes made in reporting the results of the July 2020 WET Tests.
5. There was no ambient data available for Aluminum, Manganese, and Iron, which could have been entered into the TMS to account for the stream's background concentration. Section 3.0, of the April 2003 TMDL Report, indicates

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the upper reaches of the creek flow primarily through agricultural and forested regions before entering communities near Washington. Below Canonsburg, the relatively unpolluted Little Chartiers Creek meets the main stem of Chartiers Creek. Acid mine drainage impacts water quality primarily downstream of this point though deep and surface mines exist through much of the watershed. The STP is approximately 12.7 miles upstream of this point.

On December 2, 2024, the Authority's Engineer, KLH Engineers, Inc., provided the following comments:

KLH Engineers, Inc. (KLH) is writing on behalf of the Washington-East Washington Joint Authority (WEWJA) to offer the following comments and questions on the issued Draft NPDES Permit No. PA0026212 for Washington-East Washington WWTP (WEW WWTP). KLH requests PADEP's consideration and implementation of the following comments and questions when issuing the Final NPDES Permit No. PA0026212:

1. The following Toxic Reduction Evaluation (TRE) parameters are added to the Draft NPDES Permit No. PA0026212 under Part A.I.A, Part A.I.B, & Part C.IV.A:

PARAMETER	CONCENTRATION (ug/l) Average Monthly	CONCENTRATION (ug/l) Daily Maximum	CONCENTRATION (ug/l) Instant. Maximum	MINIMUM MEASUREMENT FREQUENCY	REQUIRED SAMPLE TYPE
Copper, Total	Report -Interim 22.8 – Final	Report-Interim 29.5 – Final	XXX 29.5 – Final	1/week	24-Hr Composite
Cyanide, Free	5.82-Interim 4.98 – Final	9.09-Interim 8.86 – Final	14.55 – Interim 12.4 – Final	1/week	24-Hr Composite
Chloroform	10.65-Interim 7.1 – Final	16.62-Interim 13.1 – Final	26.62-Interim 17.7 – Final	1/week	24-Hr Composite

The re-evaluation of Chlorodibromomethane, and Dichlorobromomethane resulted in relaxed water quality based effluent limitations (WQBELs) as noted in the following Table:

	EXISTING PERMIT LIMITS		DRAFT NPDES PERMIT LIMITS	
PARAMETER	Average Monthly (ug/l)	Daily Maximum (ug/l)	Average Monthly (ug/l)	Daily Maximum (ug/l)
Chlorodibromomethane	0.748	1.167	2.03	3.71
Dichlorobromomethane	1.026	1.604	2.42	4.39

The revised WQBELs will be imposed upon permit effective date. WEWJA is not able to comply with these revised effluent limits and will continue to have effluent limit violations for these pollutants until the WWTP upgrade is complete. KLH and WEWJA requests interim monitor and report limits for Chlorodibromomethane and Dichlorobromomethane. We request that these parameters be added to the TRE Schedule and the Final WQBEL limits will then become effective per the milestones identified in the TRE Schedule in Part C.IV.D, pages 29-30 of the Draft NPDES Permit.

The Department offers the following response:

WQBELs for Chlorodibromomethane, and Dichlorobromomethane were established and became effective in the previous NPDES Permit. Per applicability of 40 CFR 122.44(l)(2)(i)(B)(i), 40 CFR 122.44(l)(2)(i)(B)(ii) & Section II.A, SOP No. BCW-PMT-037 for Clean Water, Establishing WQBELs and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers, the WQBELs were re-evaluated and relaxed limits will be imposed upon permit issuance. WQBELs for Chlorodibromomethane, and Dichlorobromomethane cannot be added to Part C.IV., and monitoring cannot replace the numeric effluent limits contained in Part A.I.C of the permit. The final NPDES Permit will be attached to a forthcoming COA, which will manage long term compliance with these pollutants, and any effluent limit violations that may occur until the WWTP Facility Upgrade Project is completed. No changes will be made to the draft permit because of this comment.

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Part C.IV.D. Schedule and Final WQBEL Compliance Report – WEWJA is subject to the following Schedule and Milestones as per the Draft NPDES Permit. We request a time extension of the milestone dates as follows:

Action	Due Date	*Requested Extended Dates*
Complete TRE Work Plan and Submit Work Plan if Requested by DEP	Three (3) Months Following Permit Effective Date	*Three (3) Months Following Permit Effective Date*
Complete TRE and Site-Specific Data Collection	Six (6) Months Following Permit Effective Date	*Twelve (12) Months Following Permit Effective Date*
Begin Implementing Actions Identified in the TRE to Reduce Pollutant Load (if applicable)	Six (6) Months Following Permit Effective Date	*Date the Notice to Proceed is issued for the WWTP Facility Upgrade*
Submit Final WQBEL Compliance Report	Twelve (12) Months Following Permit Effective Date	*Date when construction is substantially complete on the WWTP Facility Upgrade*
Complete Actions Identified in TRE and Comply with Final Permit Limit	Twenty-Four (24) Months Following Permit Effective Date	*Twelve (12) Months following final acceptance of the WWTP Facility Upgrade.*

The revised Schedule and Milestones will accomplish the following:

- Align with the WEWJA WWTP Upgrade and Expansion Project Schedule
- Ensure the Site-Specific Data Collection work can occur during period of low-flow conditions

The Department offers the following response:

The Authority has stated (**Attachment 2** - Pre-Draft Survey) that they cannot comply with Total Copper, Free Cyanide, and Chloroform effluent limits until the WWTP Upgrade Project is completed and UV disinfection is installed. The project has a proposed completion date of May 1, 2032, which is greater than 5 years. In accordance with § 92a.51(a) WQBELs for Total Copper, Free Cyanide, and Chloroform will take effect on the beginning of the 59th month from the permit effective date. The final NPDES Permit will be attached to a forthcoming COA, which will manage long term compliance with WQBELs, and any effluent limit violations that may occur until the WWTP Upgrade Project is completed. Part C.IV.D.1. has been updated to include the project schedule in accordance with the WEWJA Final Basis of Design for Conveyance and Treatment Improvements Report (**Attachment 3**).

§ 92a.51. Schedules of compliance states the following:

(a) With respect to an existing discharge that is not in compliance with the water quality standards and effluent limitations or standards in § 92a.44 or § 92a.12 (relating to establishing limitations, standards, and other permit conditions; and treatment requirements), the applicant shall be required in the permit to take specific steps to remedy a violation of the standards and limitations in accordance with a legally applicable schedule of compliance, in the shortest, reasonable period of time, the period to be consistent with the Federal Act. Except as otherwise set forth in this subsection, a schedule of compliance specified in the permit must require compliance with final enforceable effluent limitations as soon as practicable, but in no case longer than 5 years, unless a court of competent jurisdiction issues an order allowing a longer time for compliance. Compliance schedules granted to CSO dischargers may exceed 5 years but may not exceed the period of implementation specified in an approved long-term control plan (LTCP).

3. **Free Cyanide** – Documentation is available which states the preservation chemical used for sample collection and holding times may interfere with the concentration results. Analytical methods using preservative chemicals is approved per EPA 40 CFR Part 136 regulations and PADEP 25 PA Code Chapter 16 – Appendix A, Table 2A. Is

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there a Free Cyanide Method WEWJA can use to demonstrate accurate laboratory results without preservative interference? Documentation on the Preservation Study is enclosed.

The sample type for Free Cyanide changed from a grab sample to 24-Hr Composite sample. The NPDES Application results are based on grab samples per the instructions. Please clarify why the sample type is now a 24-Hr Composite.

The Department offers the following response:

If the Authority wishes to have RP/WQBEL for Free Cyanide re-evaluated they should collect at least three additional samples (both influent and effluent) unpreserved and analyzed within 24 hours using Test Method 1677. The sample type for Free Cyanide is 24-Hr Composite Sampling consistent with Table 6-3 & Table 6-4, Self-Monitoring Requirements for Sewage Dischargers, from the Departments Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits (Document No. 386-0400-001). The Application sampling instructions have not been revised to be consistent with the permit requirements.

On October 7, 2025, on behalf of WEWJA, KLH Engineers submitted additional Free Cyanide samples (both preserved and unpreserved) analyzed using Test Method 1677. The influent and effluent results are summarized in **Attachment 4**.

The facility is seeking to revise the previously permitted WQBEL for Free Cyanide. Based on the resampling data, the Department agrees that elevated concentrations of Free Cyanide reported in the effluent upon which the previously calculated WQBELs were based are attributable to laboratory interference and sample preservation methods. The Department re-modeled the discharge using WEWJA's unpreserved Free Cyanide effluent results and determined that no WQBELs or reporting requirements are necessary for Free Cyanide (see **Attachment 5**).

The existing Free Cyanide limit will be removed from the permit in accordance with the exception to anti-backsliding given in Section 402(o)(2)(B)(i) of the Clean Water Act (33 U.S.C. 1342(o)(2)(B)(i)) regarding new information that justifies the application of less stringent effluent limitations.

The draft permit has been revised to remove reference to Free Cyanide in Part A.I.A., Part A.I.B., and Part C.IV.

4. **Part A.I.C** - The following PFAS parameters are added as monitor and report in the Draft NPDES Permit:

Parameter	Daily Maximum (ug/l)	TQL (ug/l)	Monitoring Requirements
PFOA	Monitor & report	0.004	1/quarter, Grab
PFOS	Monitor & report	0.0037	1/quarter, Grab
PFBS	Monitor & report	0.0035	1/quarter, Grab
HFPO-DA	Monitor & report	0.0064	1/quarter, Grab

EPA Draft Method 1633 – This Method is the recommended laboratory method used for analysis and detection of PFAS in wastewater. EPA Method 1633 is finalized and is subject to public comment. If changes are made to EPA Method 1633 following the public comment period, will the DEP still consider WEWJA's previously obtained lab results as valid and accurate?

The Department offers the following response:

The final version of EPA 1633A was released by the U.S. EPA on December 5, 2024, and published for public comment in the CFR as part of a Methods Update Rule on January 21, 2025. Although the method remains draft, EPA encourages the use of version 1633 or 1633A. Any sampling from the permit effective date until the time EPA 1633 or 1633A is finalized will be considered valid and accurate.

5. **Part C.II.C – Routine Monitoring** – Routine quarterly monitoring and analysis at the WEWJA WWTP is required per the Draft NPDES Permit for the influent, effluent and sludge. PFAS shall be monitored once a quarter for 12 quarters.

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Data from the quarterly monitoring is submitted with the Annual Report for the EPA Approved Municipal Industrial Pretreatment Program (MIPP). At this frequency of monitoring, the analytical costs will have a significant economic impact on WEWJA. Analytical costs alone for PFAS are $450 - $550 per sample. Over the course of 12 quarters, WEWJA must spend approximately $20,000 on PFAS parameter analysis alone. We request the frequency of PFAS sampling be reduced from quarterly to annually. In addition, is funding available to cover the costs of this increased expense?

The Department offers the following response:

Your comment has been acknowledged. Routine quarterly monitoring and analysis for PFAS will remain in Part C.II.C. in accordance with the federal Clean Water Act, the Pennsylvania Clean Streams Law, and the federal General Pretreatment Regulations at 40 CFR Part 403.

6. **Part C.IV.C.4 – TRE and the requirement to conduct a Lead and Copper Corrosion Control Feasibility Study** – The purpose of the Lead and Copper Corrosion Control Feasibility Study for Total Copper, is for the evaluation of treatment alternatives, evaluation of lead and copper solubility, and effects of treatment alternatives on other water treatment processes. The Feasibility Study focuses on drinking water systems, and not the wastewater collection, conveyance, and/or treatment system. Therefore, we request that the referenced Feasibility Study be removed from the Draft NPDES Permit.

The Department offers the following response:

Part C.IV.C.4., Lead and Copper Corrosion Control Feasibility Study, will remain in the permit. This is based upon your response in the Pre-Draft Survey and Section III.A.5.b., SOP No. BCW-PMT-037, Establishing WQBELs and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers.

7. **Part C.II.B.1 – Industrial Listing** – The NPDES Permit requires WEWJA to have an updated industrial listing providing the names and addresses of all current Significant Industrial Users and Non-Significant Categorical Industrial Users. How often does WEWJA need to complete an Industrial User Waste Survey to locate/identify potential IUs?

The Department offers the following response:

The Annual Report, required under Part C.II.B., shall contain an updated industrial listing providing the names and addresses of all current Significant Industrial Users (SIUs) and Non-Significant Categorical Industrial Users (NSCIUs), as defined in 40 CFR 403.3, and the categorical standard, if any, applicable to each. This list should be updated anytime there is a change in SIUs or NSCIUs that discharge into the system. The updated list should be made part of the Annual Report that is required to be submitted by March 31 of each year to EPA.

8. **Hydraulic Capacity** – WEWJA owns and operates the Chartiers Interceptor sewer which discharges directly into the existing WWTP. Based on flow monitoring data, hydraulic model results and field observations, the Chartiers Interceptor and the WWTP are stressed during wet-weather events. Based on the foregoing, WEWJA has completed a Basis of Design Report for Conveyance and Treatment Updates. The BOD Report concluded that the conveyance and treatment systems need to be upsized and that an equalization basin needs to be installed along the Chartiers Interceptor. WEWJA is currently working with the contributing municipalities to update their respective Act 537 Plans, and upon submission, WEWJA will submit a Regional Act 537 Plan for the proposed improvements.

The Department offers the following response:

You comment has been acknowledged.

9. **Part A Supplemental Information –** The draft NPDES Permit lists the hydraulic design capacity and the effluent discharge rate of WEWJA's WWTP as 9.77 MGD. WEWJA requests that DEP consider setting effluent limits based on WEWJA's historical 5-year Annual Average Flow of 6.16 MGD in lieu of the WWTP's Design Flow of 9.77 MGD, in accordance with DEP's Domestic Wastewater Facilities Manual, Section 43.4. The "hydraulic design capacity" is

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representative of Maximum Monthly Average Flow to be used for evaluating hydraulic capacity as per PA Code Chapter 94.

The Department offers the following response:

Annual Average Flow is defined as the total flow received at the facility during any one calendar year divided by 365. This is considered the "normal" design flow of the facility, and consists of domestic wastewater, industrial wastewater, and infiltration/inflow within the sewer system. The annual average design flow of the WWTP is currently 9.77 MGD, which is consistent with your Act 537 Plan Approval, dated May 21, 2009, and WQM Permit No. 6374419 A-5, issued February 16, 2010. Any changes to these flow values should be addressed in a WQM Permit Amendment prior to applying for an amendment to your NPDES Permit. Part A Supplemental Information 1 & 2 will remain unchanged.

10. **Part A.I.B - Total Copper Limits** – The Daily Maximum and Instantaneous Maximum for Total Copper are both 29.5 ug/L. Why is there an Instantaneous Maximum if it's identical to the Daily Maximum? Would WEWJA be liable for double the penalties/fines for Total Copper levels above 29.5 ug/L?

The Department offers the following response:

Total Copper has a required sample type of 24-Hr Composite Sampling. The DMR or eDMR will only include Average Monthly & Daily Maximum concentration based limitations. IMAX limitations were recommended by the TMS and are imposed to allow for grab samples to be collected by the appropriate regulatory agency to determine compliance. The Authority would not be liable for double fines for exceeding a Daily Maximum concentration based effluent limitation with the required sample type of 24-Hr Composite Sampling.

11. **Part A.I.B & C – Chloroform, Chlorodibromomethane, and Dichlorobromomethane –** The sample type is defined 4 grabs/24 hours. WEWJA staffs the WWTP for 8 hours per day, not 24 hours. How is this sample type defined? Can the 4 grabs be collected over the 8-hour shift?

The Department offers the following response:

The sample type for Chloroform, Chlorodibromomethane, and Dichlorobromomethane in Part A.I.A., Part A.I.B., and Part A.I.C. has been changed back to 24-Hr Composite Sampling. Part A.II of the permit defines how Composite Sampling shall be conducted. Please ensure sampling is consistent with the definitions.

12. **Part A Footnote (3)** – The draft NPDES Permit states that the permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in four (4) consecutive monitoring periods indicate nondetects at or below the listed quantification limits. Please confirm that any detections measured prior to the four (4) consecutive non-detect results would not impede the removal of that substance from testing protocol.

The Department offers the following response:

Confirmed, the permit only requires four (4) consecutive sampling events from PED.

13. **Part A.III.C.4.b.ii – Written Report** – The draft NPDES Permit requires WEWJA to submit a written report within five (5) days of becoming aware of any noncompliance. WEWJA is requesting the time period for submission be extended to fifteen (15) days to accommodate vacation schedules and staffing availability.

The Department offers the following response:

Part A.III.C.4.b.ii. is in accordance with the requirements of 40 CFR 122.41(l)(6)(i). No modification to this language will be made.

14. **Part C.II.B.4 – Discontinuance of IU Discharge Monitoring** – Footnote (2) is not consistent with the footnote identified in our Comment #10. Please advise.

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The Department offers the following response:

Part A Footnote (3) is a reporting requirement that must be reported on the DMR. This is a DEP implemented monitoring initiative for PFAS consistent with an EPA memorandum that provides guidance to states for addressing PFAS discharges per 25 Pa. Code § 92a.61(b) and Section II.G., SOP No. BCW-PTM-033, Establishing Effluent Limitations for Individual Sewage Permits.

Part C.II.B.4. Footnote (2) is a reporting requirement that must be included in the EPA Pretreatment Annual Report in accordance with the federal Clean Water Act, the Pennsylvania Clean Streams Law, and the federal General Pretreatment Regulations at 40 CFR Part 403.

The Authority should follow the sampling and reporting requirements of each of these permit requirements.

15. **Part C.IV.D.3.e –** In response to the receipt of the Final WQBEL Compliance Report, The Department will consider the submission of a site-specific criterion study (SSCS) to further modify WQBELs, where applicable. For Total Copper, this is the Biotic Ligand Model (BLM) Study, which replaced the Water Effect Ratio Method Study. If PADEP issues a SSCS Letter expecting WEWJA to use the BLM Study in a SSCS for Total Copper, please explain how WEWJA should implement such study when the Department has not yet approved the BLM on a statewide basis, and the Department has yet to provide any protocols or guidance for the use of the BLM in a SSCS for Total Copper.

The Department offers the following response:

Section I.B. Note 2, SOP No. BCW-PMT-037, Establishing WQBELs and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers, states the following:

"NOTE 2 – Where a site-specific criterion (SSC) has been applied to a pollutant in a previous permit, the application manager will, during review of the permit renewal application, consider RP for the pollutant by applying the SSC. If the SSC is more than 10 years old (since initially used in an RP analysis) or if the SSC was based on a Copper WER, the application manager will establish a Part C condition in the renewed permit that requires site-specific data collection and provides an option to conduct a new SSCS. Any new SSCS for Copper must be conducted using the Biotic Ligand Model (BLM)."

While Department has not yet approved the BLM on a statewide basis, BLM remains the only metal bioavailability model recognized for aquatic freshwater quality criteria for copper by EPA. Additional information on Site Specific Water Quality Criteria in PA can be found on our website at the following link:

https://www.pa.gov/agencies/dep/programs-and-services/water/clean-water/water-quality/site-specific-water-quality-criteria-in-pa.html

Please note that all requirements of Part C.IV.2. must be satisfied before DEP would notify the Authority that we would consider a submission of a site-specific criteria study.

16. **Part C.V – Whole Effluent Toxicity (WET) –** WET Test studies are required to be conducted on the WWTP Effluent every year. The results measure if there are any observable effect on the test species such as mortality, growth, or reproduction. WEWJA has not failed these tests, which indicates that the effluent is not toxic to aquatic life. Please explain why Total Copper, Free Cyanide, and Chloroform are identified as TRE parameters and why WQBEL limits are issued in the Draft NPDES permit if the effluent discharge is not toxic.

The Department offers the following response:

Please see **Attachment 6**, emails to KLH, dated November 14 & 19, 2024.

Section 1.5 of EPA's Technical Support Document for Water Quality-Based Toxics Control, explains the advantages and disadvantages of three approaches to evaluating toxicity: whole effluent, chemical-specific, and biological assessments.

There may be instances where modeling shows that chemical-specific limits are necessary even when WETT passes, or vice versa. Also, you should bear in mind that there is conservativeness built into chemical-specific WQBELs. For example, Q_{7-10} flow (a flow that occurs about 1% of the time) is used to develop WQBELs and DEP imposes WQBELs when a discharge

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concentration (often the maximum reported concentration) is within 50% of a WQBEL. A facility's chemical-specific effluent concentrations, on average, might be well below corresponding WQBELs and thus not contribute to whole effluent toxicity, but the facility could still get chemical-specific WQBELs based on conservative modeling assumptions.

The changes discussed above warrant a re-draft of the NPDES permit.

There are four Open Violations by Client ID that need resolved prior to final issuance. The final NPDES permit will be issued concurrently with the COA.

WATER MANAGEMENT SYSTEM
OPEN VIOLATIONS BY CLIENT

5/23/2025 8:28:16 AM

PROGRAM SPECIFIC ID	INSP ID	VIOLATION ID	INSPECTION CATEGORY	VIOLATION DATE	VIOLATION CODE	VIOLATION	PF INSPECTOR	INSP REGION
PA0026212	3714930	8175959	PF	02/21/2024	92A.44	NPDES - Violation of effluent limits in Part A of permit	ASCOLILLO,ANTHONY	SWRO
PA0026212	3714930	8175960	PF	02/21/2024	92A.47(C)	NPDES - Illegal discharge to waters of the Commonwealth from a sanitary sewer overflow (SSO)	ASCOLILLO,ANTHONY	SWRO
PA0026212	3963436	8230065	PF	04/23/2025	92A.44	NPDES - Violation of effluent limits in Part A of permit	ASCOLILLO,ANTHONY	SWRO
PA0026212	3963436	8230066	PF	04/23/2025	92A.47(C)	NPDES - Illegal discharge to waters of the Commonwealth from a sanitary sewer overflow (SSO)	ASCOLILLO,ANTHONY	SWRO

Attachment 1 – WET Analysis Spreadsheet

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.93
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Washington-East Washington STP

Permit No.: PA0026212

Test Completion Date: 2/1/2022

Replicate No.	Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail: **PASS**

Test Completion Date: 8/2/2022

Replicate No.	Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail: **PASS**

Test Completion Date: 8/7/2023

Replicate No.	Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail: **PASS**

Test Completion Date: 9/16/2024

Replicate No.	Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail: **PASS**

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.93
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Washington-East Washington STP

Permit No.: PA0026212

Test Completion Date: 2/1/2022

Replicate No.	Control	TIWC
1	30	32
2	25	29
3	28	23
4	32	28
5	30	29
6	33	27
7	30	32
8	26	21
9	36	33
10	32	30
11		
12		
13		
14		
15		
Mean	30.200	28.400
Std Dev.	3.293	3.893
# Replicates	10	10

T-Test Result	3.9440
Deg. of Freedom	15
Critical T Value	0.8662
Pass or Fail	**PASS**

Test Completion Date: 8/2/2022

Replicate No.	Control	TIWC
1	25	26
2	25	21
3	6	29
4	24	26
5	10	28
6	27	23
7	25	21
8	24	23
9	18	25
10	28	24
11		
12		
13		
14		
15		
Mean	21.200	24.600
Std Dev.	7.495	2.716
# Replicates	10	10

T-Test Result	4.4067
Deg. of Freedom	17
Critical T Value	0.8633
Pass or Fail	**PASS**

Test Completion Date: 8/7/2023

Replicate No.	Control	TIWC
1	18	21
2	25	24
3	31	26
4	31	30
5	21	28
6	22	24
7	23	26
8	24	31
9	26	27
10	29	30
11		
12		
13		
14		
15		
Mean	25.000	26.700
Std Dev.	4.320	3.164
# Replicates	10	10

T-Test Result	5.5510
Deg. of Freedom	17
Critical T Value	0.8633
Pass or Fail	**PASS**

Test Completion Date: 9/16/2024

Replicate No.	Control	TIWC
1	22	28
2	19	17
3	22	21
4	22	24
5	24	24
6	15	11
7	26	26
8	22	28
9	26	22
10	21	19
11		
12		
13		
14		
15		
Mean	21.900	22.000
Std Dev.	3.247	5.292
# Replicates	10	10

T-Test Result	3.0265
Deg. of Freedom	14
Critical T Value	0.8681
Pass or Fail	**PASS**

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.93
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Washington-East Washington STP

Permit No.: PA0026212

Replicate No.	Test Completion Date: 2/1/2022 Control	TIWC
1	1	0.9
2	1	1
3	1	1
4	1	0.8
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	1.000	0.925
Std Dev.	0.000	0.096
# Replicates	4	4
T-Test Result	8.0674	
Deg. of Freedom	3	
Critical T Value	0.7649	
Pass or Fail	**PASS**	

Replicate No.	Test Completion Date: 8/2/2022 Control	TIWC
1	0.9	1
2	1	1
3	1	1
4	1	1
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.975	1.000
Std Dev.	0.050	0.000
# Replicates	4	4
T-Test Result	26.1497	
Deg. of Freedom	3	
Critical T Value	0.7649	
Pass or Fail	**PASS**	

Replicate No.	Test Completion Date: 8/8/2023 Control	TIWC
1	1	1
2	1	1
3	0.8	0.8
4	1	1
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.950	0.950
Std Dev.	0.100	0.100
# Replicates	4	4
T-Test Result	7.1556	
Deg. of Freedom	5	
Critical T Value	0.7267	
Pass or Fail	**PASS**	

Replicate No.	Test Completion Date: 9/17/2024 Control	TIWC
1	10	10
2	10	9
3	10	10
4	10	10
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	10.000	9.750
Std Dev.	0.000	0.500
# Replicates	4	4
T-Test Result	7.6643	
Deg. of Freedom	3	
Critical T Value	0.7649	
Pass or Fail	**PASS**	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.93
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Washington-East Washington STP

Permit No.: PA0026212

Replicate No.	Test Completion Date 2/1/2022 Control	TIWC
1	0.363	0.394
2	0.414	0.407
3	0.377	0.353
4	0.361	0.368
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.379	0.381
Std Dev.	0.025	0.024
# Replicates	4	4
T-Test Result	6.2971	
Deg. of Freedom	5	
Critical T Value	0.7267	
Pass or Fail	**PASS**	

Replicate No.	Test Completion Date 8/2/2022 Control	TIWC
1	0.373	0.358
2	0.391	0.359
3	0.399	0.392
4	0.378	0.359
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.385	0.367
Std Dev.	0.012	0.017
# Replicates	4	4
T-Test Result	8.2556	
Deg. of Freedom	5	
Critical T Value	0.7267	
Pass or Fail	**PASS**	

Replicate No.	Test Completion Date 8/8/2023 Control	TIWC
1	0.428	0.444
2	0.386	0.413
3	0.27	0.371
4	0.36	0.366
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.361	0.399
Std Dev.	0.067	0.037
# Replicates	4	4
T-Test Result	4.1039	
Deg. of Freedom	5	
Critical T Value	0.7267	
Pass or Fail	**PASS**	

Replicate No.	Test Completion Date 9/17/2024 Control	TIWC
1	0.395	0.347
2	0.46	0.44
3	0.498	0.338
4	0.466	0.45
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.455	0.394
Std Dev.	0.043	0.059
# Replicates	4	4
T-Test Result	1.5568	
Deg. of Freedom	5	
Critical T Value	0.7267	
Pass or Fail	**PASS**	

WET Summary and Evaluation

Facility Name	Washington-East Washington STP
Permit No.	PA0026212
Design Flow (MGD)	9.77
Q_{7-10} Flow (cfs)	0.701
PMF_a	1
PMF_c	1

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	2/1/22	8/2/22	8/7/23	9/16/24
Ceriodaphnia	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	2/1/22	8/2/22	8/7/23	9/16/24
Ceriodaphnia	Reproduction	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	2/1/22	8/2/22	8/8/23	9/17/24
Pimephales	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	2/1/22	8/2/22	8/8/23	9/17/24
Pimephales	Growth	PASS	PASS	PASS	PASS

Reasonable Potential? NO

Permit Recommendations

Test Type	**Chronic**
TIWC	**96** % Effluent
Dilution Series	**24, 48, 72, 96, 100** % Effluent
Permit Limit	**None**
Permit Limit Species	

Attachment 2 – Pre-Draft Survey Response

THE WASHINGTON-EAST WASHINGTON JOINT AUTHORITY
2 WILSON AVENUE
P.O. BOX 510
WASHINGTON, PA 15301-4514

February 8, 2024

Mr. William C. Mitchell, EIT

Department of Environmental Protection

Clean Water Division

South West Regional Office Building

400 Waterfront Drive

Pittsburgh, PA 15222

Dear Mr. Mitchell,

On January 23, 2024, we received your revised Pre-Draft Survey associated with the NPDES Permit Renewal Application for the Washington-East Washington Joint Authority. Please see below for our detailed responses to the Pre-Draft Permit Survey for Toxic Pollutants:

Permittee Name: The Washington-East Washington Joint Authority

Permit Number: PA0026212

Pollutant(s) identified by DEP that may require WQBELs: Free Cyanide, Total Copper, Chloroform, Chlorodibromomethane, Dichlorobromomethane

Q1: Is the permittee aware of the source(s) of the pollutant(s)? If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

A1: We are aware of the source(s) for select pollutant(s), as described below:

- Chloroform, Chlorodibromomethane, Dichlorobromomethane
  - Disinfection byproduct created within the Chlorine Contact Tanks
  - Impacts from Arden Landfill owned by Waste Management
    - We suspected that the leachate from the Arden Landfill was contributing to the disinfection byproduct (DBP) concentrations within our effluent, but we were uncertain as to the extent of the impact.
    - The landfill has holding capacity to store leachate up to approximately 30 days.
    - In coordination with Waste Management, the landfill withheld leachate discharges into the public sewer system from December 6, 2022 to December 10, 2022.

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- We completed daily testing during that time period. Please refer to Attachment #1 for the lab results, which are also summarized below with the permit exceedances highlighted in RED:

Pollutant Concentrations, ug/L					
Pollutant	**12/6/2022**	**12/7/2022**	**12/8/2022**	**12/9/2022**	**12/10/2022**
Chloroform	5.99	4.1	2.82	4.84	0.96
Chlorodibromomethane	1.65	<1.0	<1.0	<1.0	<0.56
Dichlorobromomethane	4.58	1.38	1.57	2.79	1.05

- The results suggest that the landfill leachate is contributing to our DPB concentrations, but is not solely responsible for our permit violations

We suspect the source(s) for select pollutants, as described below:

- Total Copper
  - Public water service piping
  - Unknown industry discharges
- Free Cyanide
  - Suspected Sources of Total Cyanide:
    - Leachate from the Arden Landfill
    - Additional unknown industry discharges
  - Please refer to Attachments #2 and #3 for the lab results on free cyanide concentrations in our influent and effluent, respectively. The results are also summarized in the below table.
  - The results reveal that chlorine disinfection is aiding in the formation of free cyanide because the influent concentrations are less than the effluent concentrations.

Free Cyanide Concentrations within Influent and Effluent				
Permit Type	**Sample Date**	**Influent Conc., ug/L**	**Effluent Conc., ug/L**	**R.L.**
NPDES Renewal	March 7, 2023	4	7	0.5
2019 Headworks Analysis	October 30, 2019	6	7	0.5
2019 Headworks Analysis	October 31, 2019	2	6	0.5
2019 Headworks Analysis	November 1, 2019	3	4	0.5
2019 Headworks Analysis	November 2, 2019	2	7	0.5
2019 Headworks Analysis	November 3, 2019	3	49	0.5
2019 Headworks Analysis	November 4, 2019	2	7	0.5
2019 Headworks Analysis	November 5, 2019	5	7	0.5
2019 Headworks Analysis	November 6, 2019	No Report	8	0.5
2019 Headworks Analysis	November 7, 2019	3	8	0.5
2019 Headworks Analysis	November 8, 2019	2	5	0.5
2019 Headworks Analysis	November 9, 2019	6	6	0.5
2019 Headworks Analysis	November 10, 2019	<0.5	2	0.5

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2019 Headworks Analysis	November 11, 2019	2	5	0.5
2019 Headworks Analysis	November 12, 2019	2	8	0.5
2019 Headworks Analysis	November 13, 2019	3	3	0.5
2019 Headworks Analysis	November 14, 2019	4	7	0.5
2019 Headworks Analysis	November 15, 2019	4	10	0.5
2019 Headworks Analysis	November 16, 2019	5	10	0.5
2019 Headworks Analysis	November 17, 2019	5	11	0.5
2019 Headworks Analysis	November 18, 2019	5	9	0.5

Q2: Has the permittee completed any studies in the past to control or treat the pollutant(s)? If Yes, describe prior studies and results:

A2: Yes, please see below for detailed descriptions on the actions taken to control each pollutant:

- Chloroform, Chlorodibromomethane, Dichlorobromomethane
  - Chlorine Dosage Point
    - The aforementioned pollutants are volatile compounds that readily evaporate into the atmosphere.
    - Typically, we dose chlorine at the end of our treatment plant, between the Nitrification Trickling Filters and discharge point into Chartiers Creek. The Chlorine Contact Tanks are open to the atmosphere and provide the only opportunity for the pollutants to evaporate prior to the sampling point.
    - Based on the foregoing, we experimented with the chlorine dosage location to encourage the downstream evaporation of the pollutants. Please refer to Attachment #4 for a markup of our Process Flow Diagram.
    - We also experimented with operating the Nitrification Trickling Filters in series, rather than parallel, to encourage the evaporation of any disinfection byproducts created by the revised upstream chlorine dosage point. Please refer to the lab results in Attachment #5, which are summarized below with the permit exceedances highlighted in **RED**:

Pollutant Concentrations, ug/L					
Pollutant	**Permit**	**8/3/2022**	**8/4/2022**	**8/5/2022**	**8/6/2022**
Chloroform	16.628	1.31	2.83	2.73	9.71
Chlorodibromomethane	1.167	<1.0	**1.34**	1.05	**5.13**
Dichlorobromomethane	1.604	1.29	**2.6**	**2.44**	**9.94**

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- The alterations provided reduced pollutant concentrations, but did not reliably achieve effluent limits below our existing NPDES discharge requirements.

- Solids Retention and Removal
  - The aforementioned pollutants are formed when chlorine reacts with organic matter. As such, we have implemented operational changes to limit the amount of organic matter within the Chlorine Contact Tanks.
  - We convey solids from our primary clarifiers to the anaerobic digesters. To minimize the impact of solids washout during wet weather events, we increased the operational frequency of our sludge pumps from eight (8) hours to six (6) hours.
  - The Chlorine Contact Tanks are cleaned weekly to minimize the build-up of organic material.
  - Please be advised that the Nitrification Trickling Filters directly discharge into the Chlorine Contact Tanks without intermediary clarification. Microbial growth that detaches from the filter media is subject to chlorination which can encourage the creation of disinfection byproducts. Therefore, despite our operational changes, we are still limited in our ability to restrict organic material from entering the Chlorine Contact Tanks.
- Peracetic Acid Pilot Study
  - WEWJA coordinated with DEP to explore whether disinfection could be altered from chlorine to peracetic acid (PAA)
  - PAA is not currently approved by DEP for wastewater disinfection. As a result, WEWJA coordinated with Evonik to perform a pilot study to investigate the impacts of PAA on our effluent. WEWJA communicated to DEP in advance of the study and detailed the proposed parameters to be considered.
  - Please refer to Attachment #6 for the results of our PAA Field Scale Pilot Reactor Trial Study dated February 23, 2022. The results revealed the following:
    - Compliance with effluent limits on fecal coliform during both summer and winter
    - No impacts to pH, TSS and cBOD5
    - Whole Effluent Toxicity testing indicated no negative impact on aquatic specimens
    - Disinfection byproducts were not detected in the effluent
  - On July 21, 2022, DEP emailed WEWJA with follow-up questions on the pilot study results, which included a request for the required concentrations and contact times for various viruses.

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- On August 31, 2022, WEWJA and DEP representatives held a meeting to discuss the PAA pilot study.
- WEWJA explored additional pilot testing to test for the requested viruses. However, the total costs were determined to be cost prohibitive (> $100,000). A principal issue was that the DEP could not guarantee that compliant lab results would culminate in approval of PAA.

- Total Copper
  - We operate a Municipal Industrial Pretreatment Program that includes three industrial users within our collection system, as follow:
    - SMG Global Circuits, Inc.
      - Manufacturer of circuit boards
      - Industrial Wastewater Discharge Permit No. 15-4 establishes the following limits for Copper:
        - Mass Loading Monthly Average = 0.3 lb/day
        - Concentration Monthly Average not established
    - Arden Landfill
      - Municipal waste
      - Industrial Wastewater Discharge Permit No. 15-5 establishes the following limits for Copper:
        - Mass Loading Monthly Average = 0.18 lb/day
        - Concentration Monthly Average not established
    - Dynamet
      - Manufacturer of specialty metals
      - Industrial Wastewater Discharge Permit No. 15-1 establishes the following limits for Copper:
        - Mass Loading Monthly Average = 0.2171 lb/day
        - Concentration Monthly Average not established
  - Refer to Attachment #7 for copies of the MIPP permits.

Q3: Does the permittee believe it can achieve the proposed WQBELs now? If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

A3: The Chlorine Disinfection Process impedes our ability to reliably comply with the proposed WQBELs for the following pollutant(s):

- Chloroform
- Chlorodibromomethane
- Dichlorobromomethane
- Free Cyanide

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KLH Engineers is currently working on a Basis of Design Report to perform investigations and develop recommendations to resolve the following issues:

1. Non-compliance with our existing NPDES permit due to chlorine disinfection
2. Existing facilities not adequately sized to serve the future growth of contributing municipalities
3. Majority of treatment processes and mechanical equipment exceeds typical service life
4. Emerging and/or more stringent pollutant requirements

The BOD Report should be completed in Summer 2024. After, we will work toward updating our Act 537 Plan and moving toward design and construction.

We are uncertain if we will be able to comply with the proposed WQBEL for Total Copper. In October 2019, we performed sampling for the 2019 Headworks Loading Testing. We took grab samples at our Windsor Highlands Pump Station which receives wastewater flow from an entirely residential service area. The results are contained within Attachment #8, but are also summarized in the below table:

Date	Result (ug/L)	MDL (ug/L)	RL (ug/L)
October 29, 2019	19.0	2.0	5.0
October 30, 2019	18.0	2.0	5.0
October 31, 2019	16.0	2.0	5.0
November 1, 2019	24.0	2.0	5.0
November 2, 2019	18.0	2.0	5.0
November 3, 2019	25.0	2.0	5.0

The results suggest that background levels of copper within the wastewater system can spike above the proposed Average Monthly concentration of 22.8 ug/L. Please note that the results were completed for Total Copper, and do not report the allocation of solid and dissolved copper. Based on the foregoing, please refer to our response within Question #5 for the additional copper testing we wish to complete.

Q4: Estimated date by which the permittee could achieve the proposed WQBELs?

A4: We are uncertain when we would be able to comply with the proposed WQBELs. As discussed, KLH Engineers is currently working on the Basis of Design Report, which is the first step toward compliance. We acknowledge that updating a Regional Act 537 Plan can often be a time-intensive step because of the multi-municipal coordination. Based on the foregoing, we would roughly estimate that compliance with the proposed WQBELs could be achieved in the next five (5) to ten (10) years.

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Q5: Will the permittee conduct additional sampling for the pollutant(s) to supplement the application?

A5: We wish to conduct additional effluent sampling to supplement our application for the following select pollutant(s):

- Arsenic, Total
- Boron, Total
- Copper, Total
- Copper, Dissolved
- Iron, Total
- Iron, Dissolved
- Zinc, Total

In addition, we wish to conduct additional sampling as detailed below:

- Total and Dissolved Copper
  - Windsor Highlands Pump Station
    - Will inform us on the background levels of copper within the potable water supply system
  - Wastewater Treatment Plant
    - Will inform us on the impacts of industry discharges on copper concentrations
- Free Cyanide at the Influent and Effluent of the Wastewater Treatment Plant
  - Will provide additional insight into the impacts of chlorine disinfection on free cyanide concentrations

Should you have any questions, please do not hesitate to contact me directly.

Thanks,

Robert Herring, PE, PMP

Executive Director

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Attachment 3 – WEWJA Final Basis of Design Project Schedule

TABLE 9-2: POTENTIAL PROJECT SCHEDULE

Milestone	Date
WEWJA Approves the Final Basis of Design Report	November 2024
KLH Submits the Draft Regional Act 537 Plan for WEWJA Review	January 2024
Submit Regional Act 537 Plan to PADEP with Community Approval	May 2025
Regional Act 537 Plan Regulatory Approval	May 2026
Commence Detailed Project Design	June 2026
Complete Design/Submit WQM Part II Permit Application	February 2028
Submit Chapter 102, 105, 106 and other Miscellaneous Permit Applications	February 2028
WQM Part II Permit Application Approval	December 2028
Chapter 102, 105, 106 and other Miscellaneous Permit Application Approval	December 2028
Advertise for Public Bids	January 2029
Project Bid Opening	March 2029
Award Construction Contracts / Issue Construction Notice-to-Proceed	May 2029
Construction Substantially Complete	May 2032

Attachment 4 – Revised Free Cyanide Samples (Preserved & Unpreserved)

Date	Unpreserved Effluent (ug/l)	Preserved Effluent (ug/l)	Unpreserved Influent (ug/l)	Preserved Inffluent (ug/l)	Free Cyanide Analytical Method
08/14/2025	<0.79	4.4			OIA-1677
08/21/2025	0.97	2.0			OIA-1677
09/04/2025	<0.79	4.4	<0.79	18	OIA-1677
09/11/2025	0.94	3.9	1.1	4.8	OIA-1677
9/18/2025	0.96	4.0	1.7	59	OIA-1677

Attachment 5 – Revised TMS Version 1.4

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **WEWJS STP** NPDES Permit No.: **PA0026212** Outfall No.: **001**

Evaluation Type **Major Sewage / Industrial Waste** Wastewater Description: **Treated Sewage**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
9.77	250	7.4	1	1				

	Discharge Pollutant	Units	Max Discharge Conc		0 if left blank: Trib Conc	0 if left blank: Stream Conc	0.5 if left blank: Daily CV	0.5 if left blank: Hourly CV	0 if left blank: Strea m CV	0 if left blank: Fate Coeff	0 if left blank: FOS	1 if left blank: Criteri a Mod	1 if left blank: Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		673.73									
	Chloride (PWS)	mg/L		209.73									
	Bromide	mg/L	<	0.54									
	Sulfate (PWS)	mg/L		75.63									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		37									
	Total Antimony	µg/L	<	0.6									
	Total Arsenic	µg/L		3.4488758			0.4048						
	Total Barium	µg/L		57									
	Total Beryllium	µg/L	<	0.8									
	Total Boron	µg/L		273.890579			0.2273						
	Total Cadmium	µg/L	<	0.2									
	Total Chromium (III)	µg/L		3									
	Hexavalent Chromium	µg/L	<	0.1									
	Total Cobalt	µg/L	<	0.5									
	Total Copper	µg/L		35.6897243			0.2968						
	Free Cyanide	µg/L		0.97									
	Total Cyanide	µg/L	<	7									
	Dissolved Iron	µg/L		148.946256			0.6						
	Total Iron	µg/L		219.251237			0.2702						
	Total Lead	µg/L	<	0.6									
	Total Manganese	µg/L		61									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		9									
	Total Phenols (Phenolics) (PWS)	µg/L	<	23									
	Total Selenium	µg/L	<	2									
	Total Silver	µg/L	<	0.3									
	Total Thallium	µg/L	<	0.1									
	Total Zinc	µg/L		56.4033761			0.2342						
	Total Molybdenum	µg/L		37									
	Acrolein	µg/L	<	1									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	0.5									
	Benzene	µg/L	<	0.5									
	Bromoform	µg/L		0.7									
	Carbon Tetrachloride	µg/L	<	0.5									
	Chlorobenzene	µg/L	<	0.5									
	Chlorodibromomethane	µg/L		11.236242			0.9842						
	Chloroethane	µg/L	<	0.5									
	2-Chloroethyl Vinyl Ether	µg/L	<	0.5									

Group 3	Chloroform	µg/L		34.5667238			1.1087							
	Dichlorobromomethane	µg/L		23.2990461			0.9619							
	1,1-Dichloroethane	µg/L	<	0.5										
	1,2-Dichloroethane	µg/L	<	0.5										
	1,1-Dichloroethylene	µg/L	<	0.5										
	1,2-Dichloropropane	µg/L	<	0.5										
	1,3-Dichloropropylene	µg/L	<	0.5										
	1,4-Dioxane	µg/L	<	3.9										
	Ethylbenzene	µg/L	<	0.5										
	Methyl Bromide	µg/L	<	0.5										
	Methyl Chloride	µg/L	<	0.5										
	Methylene Chloride	µg/L	<	0.5										
	1,1,2,2-Tetrachloroethane	µg/L	<	0.5										
	Tetrachloroethylene	µg/L	<	0.5										
	Toluene	µg/L	<	0.5										
	1,2-trans-Dichloroethylene	µg/L	<	0.5										
	1,1,1-Trichloroethane	µg/L	<	0.5										
	1,1,2-Trichloroethane	µg/L	<	0.5										
	Trichloroethylene	µg/L	<	0.5										
	Vinyl Chloride	µg/L	<	0.5										
Group 4	2-Chlorophenol	µg/L	<	0.95										
	2,4-Dichlorophenol	µg/L	<	0.95										
	2,4-Dimethylphenol	µg/L	<	0.95										
	4,6-Dinitro-o-Cresol	µg/L	<	2.86										
	2,4-Dinitrophenol	µg/L	<	2.86										
	2-Nitrophenol	µg/L	<	0.95										
	4-Nitrophenol	µg/L	<	2.86										
	p-Chloro-m-Cresol	µg/L	<	0.95										
	Pentachlorophenol	µg/L	<	0.95										
	Phenol	µg/L	<	2.86										
	2,4,6-Trichlorophenol	µg/L	<	0.95										
Group 5	Acenaphthene	µg/L	<	0.95										
	Acenaphthylene	µg/L	<	0.95										
	Anthracene	µg/L	<	0.95										
	Benzidine	µg/L	<	4.76										
	Benzo(a)Anthracene	µg/L	<	0.95										
	Benzo(a)Pyrene	µg/L	<	0.95										
	3,4-Benzofluoranthene	µg/L	<	0.95										
	Benzo(ghi)Perylene	µg/L	<	0.95										
	Benzo(k)Fluoranthene	µg/L	<	0.95										
	Bis(2-Chloroethoxy)Methane	µg/L	<	0.95										
	Bis(2-Chloroethyl)Ether	µg/L	<	0.95										
	Bis(2-Chloroisopropyl)Ether	µg/L	<	0.95										
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	2.86										
	4-Bromophenyl Phenyl Ether	µg/L	<	0.95										
	Butyl Benzyl Phthalate	µg/L	<	2.86										
	2-Chloronaphthalene	µg/L	<	0.95										
	4-Chlorophenyl Phenyl Ether	µg/L	<	0.95										
	Chrysene	µg/L	<	0.95										
	Dibenzo(a,h)Anthrancene	µg/L	<	0.95										
	1,2-Dichlorobenzene	µg/L	<	0.18										
	1,3-Dichlorobenzene	µg/L	<	0.39										
	1,4-Dichlorobenzene	µg/L	<	0.43										
	3,3-Dichlorobenzidine	µg/L	<	0.95										
	Diethyl Phthalate	µg/L	<	0.95										
	Dimethyl Phthalate	µg/L	<	0.95										
	Di-n-Butyl Phthalate	µg/L	<	2.86										
	2,4-Dinitrotoluene	µg/L	<	0.95										
	2,6-Dinitrotoluene	µg/L	<	0.95										
	Di-n-Octyl Phthalate	µg/L		1.3										
	1,2-Diphenylhydrazine	µg/L	<	0.95										
	Fluoranthene	µg/L	<	0.95										
	Fluorene	µg/L	<	0.95										
	Hexachlorobenzene	µg/L	<	0.95										
	Hexachlorobutadiene	µg/L	<	0.24										
	Hexachlorocyclopentadiene	µg/L	<	0.95										
	Hexachloroethane	µg/L	<	0.95										
	Indeno(1,2,3-cd)Pyrene	µg/L	<	0.95										

	Isophorone	µg/L	<	0.95										
	Naphthalene	µg/L	<	0.23										
	Nitrobenzene	µg/L	<	0.95										
	n-Nitrosodimethylamine	µg/L	<	0.95										
	n-Nitrosodi-n-Propylamine	µg/L	<	0.95										
	n-Nitrosodiphenylamine	µg/L	<	0.95										
	Phenanthrene	µg/L	<	0.95										
	Pyrene	µg/L	<	0.95										
	1,2,4-Trichlorobenzene	µg/L	<	0.25										
Group 6	Aldrin	µg/L	<	0.025										
	alpha-BHC	µg/L	<	0.025										
	beta-BHC	µg/L	<	0.025										
	gamma-BHC	µg/L	<	0.025										
	delta BHC	µg/L	<	0.025										
	Chlordane	µg/L	<	0.25										
	4,4-DDT	µg/L	<	0.05										
	4,4-DDE	µg/L	<	0.05										
	4,4-DDD	µg/L	<	0.05										
	Dieldrin	µg/L	<	0.05										
	alpha-Endosulfan	µg/L	<	0.025										
	beta-Endosulfan	µg/L	<	0.05										
	Endosulfan Sulfate	µg/L	<	0.05										
	Endrin	µg/L	<	0.05										
	Endrin Aldehyde	µg/L	<	0.05										
	Heptachlor	µg/L	<	0.027										
	Heptachlor Epoxide	µg/L	<	0.025										
	PCB-1016	µg/L												
	PCB-1221	µg/L												
	PCB-1232	µg/L												
	PCB-1242	µg/L												
	PCB-1248	µg/L												
	PCB-1254	µg/L												
	PCB-1260	µg/L												
	PCBs, Total	µg/L												
	Toxaphene	µg/L	<	0.5										
	2,3,7,8-TCDD	ng/L												
Group 7	Gross Alpha	pCi/L	<	1.09										
	Total Beta	pCi/L		12.69										
	Radium 226/228	pCi/L		244.33										
	Total Strontium	µg/L		0.75										
	Total Uranium	µg/L		70.17										
	Osmotic Pressure	mOs/kg												

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

WEWJS STP, NPDES Permit No. PA0026212, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: Chartiers Creek

No. Reaches to Model: 1

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	036777	39.75	985	37	0.00147		Yes
End of Reach 1	036777	38.72	977	41.8			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	39.75	0.1			10	73.25						100	7		
End of Reach 1	38.72	0.1			10										

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	39.75														
End of Reach 1	38.72														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

WEWJS STP, NPDES Permit No. PA0026212, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | All | Inputs | Results | Limits

☑ ***Hydrodynamics***

$Q_{7\text{-}10}$

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time	Complete Mix Time (min)
39.75	3.70		3.70	15.114	0.001	0.579	73.25	10.	0.444	0.142	16.838
38.72	4.18		4.18					10.000			

Q_h

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time	Complete Mix Time (min)
39.75	23.31		23.31	15.114	0.001	0.793	73.25	92.397	0.662	0.095	100.018
38.72	25.936		25.94								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 1 Analysis Hardness (mg/l): 220.5 Analysis pH: 7.29

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	934	
Total Antimony	0	0		0	1,100	1,100	1,369	
Total Arsenic	0	0		0	340	340	423	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	26,141	
Total Boron	0	0		0	8,100	8,100	10,083	
Total Cadmium	0	0		0	4.341	4.77	5.93	Chem Translator of 0.911 applied
Total Chromium (III)	0	0		0	1088.799	3,446	4,289	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	20.3	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	118	
Total Copper	0	0		0	28.309	29.5	36.7	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	27.4	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	

Total Lead	0	0	0	150.973	223	278	Chem Translator of 0.676 applied
Total Manganese	0	0	0	N/A	N/A	N/A	
Total Mercury	0	0	0	1.400	1.65	2.05	Chem Translator of 0.85 applied
Total Nickel	0	0	0	914.092	916	1,140	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0	0	N/A	N/A	N/A	
Total Selenium	0	0	0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0	0	12.534	14.7	18.4	Chem Translator of 0.85 applied
Total Thallium	0	0	0	65	65.0	80.9	
Total Zinc	0	0	0	228.995	234	291	Chem Translator of 0.978 applied
Acrolein	0	0	0	3	3.0	3.73	
Acrylonitrile	0	0	0	650	650	809	
Benzene	0	0	0	640	640	797	
Bromoform	0	0	0	1,800	1,800	2,241	
Carbon Tetrachloride	0	0	0	2,800	2,800	3,485	
Chlorobenzene	0	0	0	1,200	1,200	1,494	
Chlorodibromomethane	0	0	0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0	0	18,000	18,000	22,406	
Chloroform	0	0	0	1,900	1,900	2,365	
Dichlorobromomethane	0	0	0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0	0	15,000	15,000	18,672	
1,1-Dichloroethylene	0	0	0	7,500	7,500	9,336	
1,2-Dichloropropane	0	0	0	11,000	11,000	13,693	
1,3-Dichloropropylene	0	0	0	310	310	386	
Ethylbenzene	0	0	0	2,900	2,900	3,610	
Methyl Bromide	0	0	0	550	550	685	
Methyl Chloride	0	0	0	28,000	28,000	34,854	
Methylene Chloride	0	0	0	12,000	12,000	14,938	
1,1,2,2-Tetrachloroethane	0	0	0	1,000	1,000	1,245	
Tetrachloroethylene	0	0	0	700	700	871	
Toluene	0	0	0	1,700	1,700	2,116	
1,2-trans-Dichloroethylene	0	0	0	6,800	6,800	8,465	
1,1,1-Trichloroethane	0	0	0	3,000	3,000	3,734	
1,1,2-Trichloroethane	0	0	0	3,400	3,400	4,232	
Trichloroethylene	0	0	0	2,300	2,300	2,863	
Vinyl Chloride	0	0	0	N/A	N/A	N/A	
2-Chlorophenol	0	0	0	560	560	697	
2,4-Dichlorophenol	0	0	0	1,700	1,700	2,116	
2,4-Dimethylphenol	0	0	0	660	660	822	
4,6-Dinitro-o-Cresol	0	0	0	80	80.0	99.6	
2,4-Dinitrophenol	0	0	0	660	660	822	
2-Nitrophenol	0	0	0	8,000	8,000	9,958	
4-Nitrophenol	0	0	0	2,300	2,300	2,863	
p-Chloro-m-Cresol	0	0	0	160	160	199	
Pentachlorophenol	0	0	0	11.639	11.6	14.5	
Phenol	0	0	0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0	0	460	460	573	
Acenaphthene	0	0	0	83	83.0	103	

Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	373	
Benzo(a)Anthracene	0	0		0	0.5	0.5	0.62	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	30,000	30,000	37,344	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	5,602	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	336	
Butyl Benzyl Phthalate	0	0		0	140	140	174	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	820	820	1,021	
1,3-Dichlorobenzene	0	0		0	350	350	436	
1,4-Dichlorobenzene	0	0		0	730	730	909	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	4,979	
Dimethyl Phthalate	0	0		0	2,500	2,500	3,112	
Di-n-Butyl Phthalate	0	0		0	110	110	137	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	1,992	
2,6-Dinitrotoluene	0	0		0	990	990	1,232	
1,2-Diphenylhydrazine	0	0		0	15	15.0	18.7	
Fluoranthene	0	0		0	200	200	249	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	10	10.0	12.4	
Hexachlorocyclopentadiene	0	0		0	5	5.0	6.22	
Hexachloroethane	0	0		0	60	60.0	74.7	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	12,448	
Naphthalene	0	0		0	140	140	174	
Nitrobenzene	0	0		0	4,000	4,000	4,979	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	21,162	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	373	
Phenanthrene	0	0		0	5	5.0	6.22	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	162	
Aldrin	0	0		0	3	3.0	3.73	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	0.95	0.95	1.18	
Chlordane	0	0		0	2.4	2.4	2.99	
4,4-DDT	0	0		0	1.1	1.1	1.37	
4,4-DDE	0	0		0	1.1	1.1	1.37	

4,4-DDD	0	0		0	1.1	1.1	1.37	
Dieldrin	0	0		0	0.24	0.24	0.3	
alpha-Endosulfan	0	0		0	0.22	0.22	0.27	
beta-Endosulfan	0	0		0	0.22	0.22	0.27	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.086	0.086	0.11	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.52	0.52	0.65	
Heptachlor Epoxide	0	0		0	0.5	0.5	0.62	
Toxaphene	0	0		0	0.73	0.73	0.91	
Total Strontium	0	0		0	N/A	N/A	N/A	

☑ *CFC* CCT (min): 16.838 PMF: 1 Analysis Hardness (mg/l): 220.5 Analysis pH: 7.29

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	274	
Total Arsenic	0	0		0	150	150	187	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	5,104	
Total Boron	0	0		0	1,600	1,600	1,992	
Total Cadmium	0	0		0	0.426	0.49	0.61	Chem Translator of 0.876 applied
Total Chromium (III)	0	0		0	141.630	165	205	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	12.9	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	23.7	
Total Copper	0	0		0	17.601	18.3	22.8	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	6.47	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	1,867	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	5.883	8.71	10.8	Chem Translator of 0.676 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	1.13	Chem Translator of 0.85 applied
Total Nickel	0	0		0	101.527	102	127	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	6.21	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	16.2	
Total Zinc	0	0		0	230.869	234	291	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	3.73	
Acrylonitrile	0	0		0	130	130	162	
Benzene	0	0		0	130	130	162	
Bromoform	0	0		0	370	370	461	
Carbon Tetrachloride	0	0		0	560	560	697	
Chlorobenzene	0	0		0	240	240	299	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	4,357	

Chloroform	0	0		0	390	390	485	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	3,859	
1,1-Dichloroethylene	0	0		0	1,500	1,500	1,867	
1,2-Dichloropropane	0	0		0	2,200	2,200	2,739	
1,3-Dichloropropylene	0	0		0	61	61.0	75.9	
Ethylbenzene	0	0		0	580	580	722	
Methyl Bromide	0	0		0	110	110	137	
Methyl Chloride	0	0		0	5,500	5,500	6,846	
Methylene Chloride	0	0		0	2,400	2,400	2,988	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	261	
Tetrachloroethylene	0	0		0	140	140	174	
Toluene	0	0		0	330	330	411	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	1,743	
1,1,1-Trichloroethane	0	0		0	610	610	759	
1,1,2-Trichloroethane	0	0		0	680	680	846	
Trichloroethylene	0	0		0	450	450	560	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	137	
2,4-Dichlorophenol	0	0		0	340	340	423	
2,4-Dimethylphenol	0	0		0	130	130	162	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	19.9	
2,4-Dinitrophenol	0	0		0	130	130	162	
2-Nitrophenol	0	0		0	1,600	1,600	1,992	
4-Nitrophenol	0	0		0	470	470	585	
p-Chloro-m-Cresol	0	0		0	500	500	622	
Pentachlorophenol	0	0		0	8.930	8.93	11.1	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	113	
Acenaphthene	0	0		0	17	17.0	21.2	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	73.4	
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.12	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	6,000	6,000	7,469	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	1,133	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	67.2	
Butyl Benzyl Phthalate	0	0		0	35	35.0	43.6	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	160	160	199	
1,3-Dichlorobenzene	0	0		0	69	69.0	85.9	
1,4-Dichlorobenzene	0	0		0	150	150	187	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	996	

Dimethyl Phthalate	0	0		0	500	500	622	
Di-n-Butyl Phthalate	0	0		0	21	21.0	26.1	
2,4-Dinitrotoluene	0	0		0	320	320	398	
2,6-Dinitrotoluene	0	0		0	200	200	249	
1,2-Diphenylhydrazine	0	0		0	3	3.0	3.73	
Fluoranthene	0	0		0	40	40.0	49.8	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	2	2.0	2.49	
Hexachlorocyclopentadiene	0	0		0	1	1.0	1.24	
Hexachloroethane	0	0		0	12	12.0	14.9	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	2,614	
Naphthalene	0	0		0	43	43.0	53.5	
Nitrobenzene	0	0		0	810	810	1,008	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	4,232	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	73.4	
Phenanthrene	0	0		0	1	1.0	1.24	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	32.4	
Aldrin	0	0		0	0.1	0.1	0.12	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0043	0.004	0.005	
4,4-DDT	0	0		0	0.001	0.001	0.001	
4,4-DDE	0	0		0	0.001	0.001	0.001	
4,4-DDD	0	0		0	0.001	0.001	0.001	
Dieldrin	0	0		0	0.056	0.056	0.07	
alpha-Endosulfan	0	0		0	0.056	0.056	0.07	
beta-Endosulfan	0	0		0	0.056	0.056	0.07	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.036	0.036	0.045	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.0038	0.004	0.005	
Heptachlor Epoxide	0	0		0	0.0038	0.004	0.005	
Toxaphene	0	0		0	0.0002	0.0002	0.0002	
Total Strontium	0	0		0	N/A	N/A	N/A	

☑ ***THH*** CCT (min): 16.838 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	6.97	

Total Arsenic	0	0		0	10	10.0	12.4	
Total Barium	0	0		0	2,400	2,400	2,988	
Total Boron	0	0		0	3,100	3,100	3,859	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	4	4.0	4.98	
Dissolved Iron	0	0		0	300	300	373	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	1,245	
Total Mercury	0	0		0	0.050	0.05	0.062	
Total Nickel	0	0		0	610	610	759	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	0.3	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	3.73	
Acrylonitrile	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	N/A	N/A	N/A	
Bromoform	0	0		0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	124	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	7.1	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A	
1,1-Dichloroethylene	0	0		0	33	33.0	41.1	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
1,3-Dichloropropylene	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	84.6	
Methyl Bromide	0	0		0	100	100.0	124	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	N/A	N/A	N/A	
1,1,2,2-Tetrachloroethane	0	0		0	N/A	N/A	N/A	
Tetrachloroethylene	0	0		0	N/A	N/A	N/A	
Toluene	0	0		0	57	57.0	71.0	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	124	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	12,448	
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A	
Trichloroethylene	0	0		0	N/A	N/A	N/A	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	30	30.0	37.3	
2,4-Dichlorophenol	0	0		0	10	10.0	12.4	
2,4-Dimethylphenol	0	0		0	100	100.0	124	

4,6-Dinitro-o-Cresol	0	0		0	2	2.0	2.49	
2,4-Dinitrophenol	0	0		0	10	10.0	12.4	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	N/A	N/A	N/A	
Phenol	0	0		0	4,000	4,000	4,979	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	87.1	
Anthracene	0	0		0	300	300	373	
Benzidine	0	0		0	N/A	N/A	N/A	
Benzo(a)Anthracene	0	0		0	N/A	N/A	N/A	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroisopropyl)Ether	0	0		0	200	200	249	
Bis(2-Ethylhexyl)Phthalate	0	0		0	N/A	N/A	N/A	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	0.1	0.1	0.12	
2-Chloronaphthalene	0	0		0	800	800	996	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	1,000	1,000	1,245	
1,3-Dichlorobenzene	0	0		0	7	7.0	8.71	
1,4-Dichlorobenzene	0	0		0	300	300	373	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	747	
Dimethyl Phthalate	0	0		0	2,000	2,000	2,490	
Di-n-Butyl Phthalate	0	0		0	20	20.0	24.9	
2,4-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
2,6-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
1,2-Diphenylhydrazine	0	0		0	N/A	N/A	N/A	
Fluoranthene	0	0		0	20	20.0	24.9	
Fluorene	0	0		0	50	50.0	62.2	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A	
Hexachlorocyclopentadiene	0	0		0	4	4.0	4.98	
Hexachloroethane	0	0		0	N/A	N/A	N/A	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	34	34.0	42.3	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	12.4	
n-Nitrosodimethylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	N/A	N/A	N/A	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	20	20.0	24.9	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.087	

Aldrin	0	0		0	N/A	N/A	N/A	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	4.2	4.2	5.23	
Chlordane	0	0		0	N/A	N/A	N/A	
4,4-DDT	0	0		0	N/A	N/A	N/A	
4,4-DDE	0	0		0	N/A	N/A	N/A	
4,4-DDD	0	0		0	N/A	N/A	N/A	
Dieldrin	0	0		0	N/A	N/A	N/A	
alpha-Endosulfan	0	0		0	20	20.0	24.9	
beta-Endosulfan	0	0		0	20	20.0	24.9	
Endosulfan Sulfate	0	0		0	20	20.0	24.9	
Endrin	0	0		0	0.03	0.03	0.037	
Endrin Aldehyde	0	0		0	1	1.0	1.24	
Heptachlor	0	0		0	N/A	N/A	N/A	
Heptachlor Epoxide	0	0		0	N/A	N/A	N/A	
Toxaphene	0	0		0	N/A	N/A	N/A	
Total Strontium	0	0		0	4,000	4,000	4,979	

☑ *CRL* CCT (min): ###### PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	

Acrylonitrile	0	0		0	0.06	0.06	0.15	
Benzene	0	0		0	0.58	0.58	1.47	
Bromoform	0	0		0	7	7.0	17.8	
Carbon Tetrachloride	0	0		0	0.4	0.4	1.02	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	2.03	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
Dichlorobromomethane	0	0		0	0.95	0.95	2.42	
1,2-Dichloroethane	0	0		0	9.9	9.9	25.2	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	2.29	
1,3-Dichloropropylene	0	0		0	0.27	0.27	0.69	
Ethylbenzene	0	0		0	N/A	N/A	N/A	
Methyl Bromide	0	0		0	N/A	N/A	N/A	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	20	20.0	50.8	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	0.51	
Tetrachloroethylene	0	0		0	10	10.0	25.4	
Toluene	0	0		0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0		0	0.55	0.55	1.4	
Trichloroethylene	0	0		0	0.6	0.6	1.53	
Vinyl Chloride	0	0		0	0.02	0.02	0.051	
2-Chlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dichlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dimethylphenol	0	0		0	N/A	N/A	N/A	
4,6-Dinitro-o-Cresol	0	0		0	N/A	N/A	N/A	
2,4-Dinitrophenol	0	0		0	N/A	N/A	N/A	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	0.030	0.03	0.076	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	3.81	
Acenaphthene	0	0		0	N/A	N/A	N/A	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	0.0001	0.0001	0.0003	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.003	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.0003	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.003	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.025	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	0.076	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	0.81	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	N/A	N/A	N/A	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	

Chrysene	0	0		0	0.12	0.12	0.31	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.0003	
1,2-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,3-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,4-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
3,3-Dichlorobenzidine	0	0		0	0.05	0.05	0.13	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	0.13	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	0.13	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	0.076	
Fluoranthene	0	0		0	N/A	N/A	N/A	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	0.00008	0.00008	0.0002	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.025	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	0.25	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.003	
Isophorone	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	N/A	N/A	N/A	
n-Nitrosodimethylamine	0	0		0	0.0007	0.0007	0.002	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.013	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	8.39	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	N/A	N/A	N/A	
Aldrin	0	0		0	0.0000008	8.00E-07	0.000002	
alpha-BHC	0	0		0	0.0004	0.0004	0.001	
beta-BHC	0	0		0	0.008	0.008	0.02	
gamma-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0003	0.0003	0.0008	
4,4-DDT	0	0		0	0.00003	0.00003	0.00008	
4,4-DDE	0	0		0	0.00002	0.00002	0.00005	
4,4-DDD	0	0		0	0.0001	0.0001	0.0003	
Dieldrin	0	0		0	0.000001	0.000001	0.000003	
alpha-Endosulfan	0	0		0	N/A	N/A	N/A	
beta-Endosulfan	0	0		0	N/A	N/A	N/A	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	N/A	N/A	N/A	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.000006	0.000006	0.00002	
Heptachlor Epoxide	0	0		0	0.00003	0.00003	0.00008	
Toxaphene	0	0		0	0.0007	0.0007	0.002	
Total Strontium	0	0		0	N/A	N/A	N/A	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

Pollutants	*Mass Limits* AML (lbs/day)	MDL (lbs/day)	*Concentration Limits* AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Arsenic	Report	Report	Report	Report	Report	µg/L	12.4	THH	Discharge Conc > 10% WQBEL (no RP)
Total Boron	Report	Report	Report	Report	Report	µg/L	1,992	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	1.86	2.4	22.8	29.5	29.5	µg/L	22.8	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	373	THH	Discharge Conc > 10% WQBEL (no RP)
Total Iron	Report	Report	Report	Report	Report	µg/L	1,867	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	µg/L	234	AFC	Discharge Conc > 10% WQBEL (no RP)
Chlorodibromomethane	0.17	0.3	2.03	3.71	5.08	µg/L	2.03	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Chloroform	0.58	1.07	7.1	13.1	17.7	µg/L	7.1	THH	Discharge Conc ≥ 50% WQBEL (RP)
Dichlorobromomethane	0.2	0.36	2.42	4.39	6.04	µg/L	2.42	CRL	Discharge Conc ≥ 50% WQBEL (RP)

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	750	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Barium	2,988	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Cadmium	0.61	µg/L	Discharge Conc < TQL
Total Chromium (III)	205	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	12.9	µg/L	Discharge Conc < TQL
Total Cobalt	23.7	µg/L	Discharge Conc < TQL
Free Cyanide	4.98	µg/L	Discharge Conc ≤ 25% WQBEL
Total Cyanide	N/A	N/A	No WQS
Total Lead	10.8	µg/L	Discharge Conc < TQL
Total Manganese	1,245	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.062	µg/L	Discharge Conc < TQL
Total Nickel	127	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	6.21	µg/L	Discharge Conc < TQL
Total Silver	14.7	µg/L	Discharge Conc < TQL

Total Thallium	0.3	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	3.0	µg/L	Discharge Conc < TQL
Acrylonitrile	0.15	µg/L	Discharge Conc < TQL
Benzene	1.47	µg/L	Discharge Conc < TQL
Bromoform	17.8	µg/L	Discharge Conc ≤ 25% WQBEL
Carbon Tetrachloride	1.02	µg/L	Discharge Conc < TQL
Chlorobenzene	124	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	4,357	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	25.2	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	41.1	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	2.29	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	0.69	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	84.6	µg/L	Discharge Conc < TQL
Methyl Bromide	124	µg/L	Discharge Conc < TQL
Methyl Chloride	6,846	µg/L	Discharge Conc < TQL
Methylene Chloride	50.8	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	0.51	µg/L	Discharge Conc < TQL
Tetrachloroethylene	25.4	µg/L	Discharge Conc < TQL
Toluene	71.0	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	124	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	759	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	1.4	µg/L	Discharge Conc < TQL
Trichloroethylene	1.53	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.051	µg/L	Discharge Conc < TQL
2-Chlorophenol	37.3	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	12.4	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	124	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	2.49	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	12.4	µg/L	Discharge Conc < TQL
2-Nitrophenol	1,992	µg/L	Discharge Conc < TQL
4-Nitrophenol	585	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	160	µg/L	Discharge Conc < TQL
Pentachlorophenol	0.076	µg/L	Discharge Conc < TQL
Phenol	4,979	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	3.81	µg/L	Discharge Conc < TQL
Acenaphthene	21.2	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	373	µg/L	Discharge Conc < TQL
Benzidine	0.0003	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.003	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.0003	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.003	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.025	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS

Bis(2-Chloroethyl)Ether	0.076	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	249	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	0.81	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	67.2	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	0.12	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	996	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	0.31	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.0003	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	199	µg/L	Discharge Conc < TQL
1,3-Dichlorobenzene	8.71	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	187	µg/L	Discharge Conc < TQL
3,3-Dichlorobenzidine	0.13	µg/L	Discharge Conc < TQL
Diethyl Phthalate	747	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	622	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	24.9	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	0.13	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.13	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.076	µg/L	Discharge Conc < TQL
Fluoranthene	24.9	µg/L	Discharge Conc < TQL
Fluorene	62.2	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.0002	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.025	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	1.24	µg/L	Discharge Conc < TQL
Hexachloroethane	0.25	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.003	µg/L	Discharge Conc < TQL
Isophorone	42.3	µg/L	Discharge Conc < TQL
Naphthalene	53.5	µg/L	Discharge Conc < TQL
Nitrobenzene	12.4	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.002	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.013	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	8.39	µg/L	Discharge Conc < TQL
Phenanthrene	1.24	µg/L	Discharge Conc < TQL
Pyrene	24.9	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	0.087	µg/L	Discharge Conc < TQL
Aldrin	0.000002	µg/L	Discharge Conc < TQL
alpha-BHC	0.001	µg/L	Discharge Conc < TQL
beta-BHC	0.02	µg/L	Discharge Conc < TQL
gamma-BHC	0.95	µg/L	Discharge Conc < TQL
delta BHC	N/A	N/A	No WQS
Chlordane	0.0008	µg/L	Discharge Conc < TQL
4,4-DDT	0.00008	µg/L	Discharge Conc < TQL
4,4-DDE	0.00005	µg/L	Discharge Conc < TQL
4,4-DDD	0.0003	µg/L	Discharge Conc < TQL
Dieldrin	0.000003	µg/L	Discharge Conc < TQL
alpha-Endosulfan	0.07	µg/L	Discharge Conc < TQL
beta-Endosulfan	0.07	µg/L	Discharge Conc < TQL
Endosulfan Sulfate	24.9	µg/L	Discharge Conc < TQL

Endrin	0.037	µg/L	Discharge Conc < TQL
Endrin Aldehyde	1.24	µg/L	Discharge Conc < TQL
Heptachlor	0.00002	µg/L	Discharge Conc < TQL
Heptachlor Epoxide	0.00008	µg/L	Discharge Conc < TQL
Toxaphene	0.0002	µg/L	Discharge Conc < TQL
Gross Alpha	N/A	N/A	No WQS
Total Beta	N/A	N/A	No WQS
Radium 226/228	N/A	N/A	No WQS
Total Strontium	4,979	µg/L	Discharge Conc ≤ 10% WQBEL
Total Uranium	N/A	N/A	No WQS

Attachment 6 – Toxicity Question: emails between DEP & KLH

Mitchell, William C (DEP)

From: Mitchell, William C (DEP)
Sent: Monday, November 18, 2024 9:47 AM
To: Joe Gianvito
Cc: Marisa Brletic; Roger Varner; Iasmin, Mahbuba
Subject: RE: [External] Toxicity Question

Joe,

I also would like to direct you to Section 1.5 of EPA's Technical Support Document for Water Quality-Based Toxics Control, which explains the advantages and disadvantages of three approaches to evaluating toxicity: whole effluent, chemical-specific, and biological assessments. In that section, EPA concludes:

> To more fully protect aquatic habitats and provide more comprehensive assessments of aquatic life use nonattainment, EPA recommends that States fully integrate chemical-specific, whole effluent, and bioassessment approaches into their water quality-based toxics control programs. It is EPA's position that the concept of "independent application" be applied to water quality-based situations. Since each method has unique as well as overlapping attributes, sensitivities, and program applications, no single approach for detecting impact should be considered uniformly superior to any other approach. For example, the inability to detect receiving water impacts using a biosurvey alone is insufficient evidence to waive or relax a permit limit established using either of the other methods. The most protective results from each assessment conducted should be used in the effluent characterization process (see Chapter 3). The results of one assessment technique should not be used to contradict or overrule the results of the other(s).

In closing, there may be instances where modeling shows that chemical-specific limits are necessary even when WETT passes, or vice versa. Also, you should bear in mind that there is conservativeness built into chemical-specific WQBELs. For example, Q_{7-10} flow (a flow that occurs about 1% of the time) is used to develop WQBELs and DEP imposes WQBELs when a discharge concentration (often the maximum reported concentration) is within 50% of a WQBEL. A facility's chemical-specific effluent concentrations, on average, might be well below corresponding WQBELs and thus not contribute to whole effluent toxicity, but the facility could still get chemical-specific WQBELs based on conservative modeling assumptions.

Thanks,

William C. Mitchell, E.I.T. | Project Manager
Department of Environmental Protection | Clean Water
South West Regional Office Building
400 Waterfront Drive | Pittsburgh, PA 15222
Phone: 412.442.4344
www.dep.pa.gov

DEP accepts permit and authorization applications, as well as other documents and correspondence, electronically through ePermitting and Public Upload with Electronic Payment.
Please use the link below to view the webpage, get instructions, and submit documents:
https://www.dep.pa.gov/DataandTools/ElectronicSubmissions/Pages/default.aspx

From: Mitchell, William C (DEP) <willimitch@pa.gov>
Sent: Thursday, November 14, 2024 2:58 PM
To: Joe Gianvito <jgianvito@klhengineers.com>
Cc: Marisa Brletic <mbrletic@klhengineers.com>; Roger Varner <rvarner@klhengineers.com>; Iasmin, Mahbuba <moiasmin@pa.gov>; Mitchell, William C (DEP) <willimitch@pa.gov>
Subject: RE: [External] Toxicity Question
Importance: High

Joe,

I would urge you to read through PA Code, Title 25, Chapter 16 for a complete understanding of how we evaluate Aquatic and Human Life Criteria. 25 Pa. Code Chapter 16. Water Quality Toxics Management Strategy—Statement Of Policy

This will give you a better understanding of why a WWTP can have a passing WETT result and still have WQBELS, for individual toxic pollutants, established in their NPDES Permit (below drinking water MCL's).

Basically think of WETT as a look into total toxicity of the entire effluent on aquatic life only.

When the Department looks at an individual toxic pollutant the TMS compares the effluent concentration of one pollutant to its most stringent criteria (either aquatic or human, as listed in PA Code Title 25, Chapter 93), to determine reasonable potential (RP) and the establishment of WQBELs in the NPDES Permit. In the case of WEWJA, the free cyanide the limit is based upon a human health criteria of 4.0 ug/L.

As stated during our call yesterday, I am not aware of a mathematical conversion to show when the exceedance one individual toxic pollutant would cause WETT failure. I've copied Dr. Iasmin on this email in the event she wishes to provide further clarification.

§ 16.1. General. States:

- Water quality criteria are the numeric concentrations, levels or surface water conditions that need to be maintained or attained to protect existing and designated uses. They are designed to protect the water uses listed in Chapter 93 (relating to water quality standards). The most sensitive of these protected uses are generally water supply, recreation and fish consumption, and aquatic life related. Therefore, criteria designed to protect these uses will normally protect the other uses listed in Chapter 93. This chapter specifies guidelines and procedures for development of criteria for toxic substances.

§ 16.52. Whole Effluent Toxicity Testing (WETT). States:

- The Department may require WETT, under § 92a.21(d)(4) (relating to application for a permit), for any discharges covered by an NPDES permit or other activities where it is determined that the testing is necessary to assure the protection of aquatic life. Where WETT is required, the Department will use the criteria of 0.3 TUA (Toxic Units Acute) and 1 TUC (Toxic Units Chronic) design conditions and other applicable factors as a basis for evaluating test results. WETT shall be conducted in accordance with 40 CFR Part 136 (relating to guidelines establishing test procedures for the analysis of pollutants), Chapter 252 (relating to environmental laboratory accreditation), the NPDES permit, Quality Assurance Quality Control guidance issued by the Department or other protocols approved by the Department.

§ 16.21 & § 16.22 further discuss Guidelines for Development of Aquatic Life Criteria.

§ 16.31 further discuss Guidelines for Development of Human Health-Based Criteria and states the following:

- In the development of water quality criteria for human health protection, the principles of risk assessment and risk management are applied in two distinct ways depending upon the toxic effect to be protected against. Traditional toxicology is developed upon a theory that the ''dose determines the poison'' (any substance is toxic if the dose becomes large enough). It is generally recognized, however, that for most substances there is a safe level below which no adverse effects will be seen. This ''threshold level'' approach is in contrast to the ''no threshold level'' approach generally ascribed to carcinogens.

§ 16.32. Threshold level toxic effects. States:

(a) A threshold effect is defined as an adverse impact that occurs in the exposed individual only after a physiological reserve is depleted. For these effects there exists a dose below which no adverse response will occur. Threshold toxic effects include most systemic effects and developmental toxicity, including teratogenicity. Developmental toxicity includes all adverse effects in developing offspring resulting from prenatal exposure to a causative agent.

(b) Control of threshold toxics is based upon animal testing or epidemiological studies that report no- or lowest-observed adverse effect levels of the substance (NOAEL or LOAEL). In evaluating a particular toxic, toxicologists weigh the merits of all the tests, and choose, in their best professional judgment, the safe level. By applying standard margins of safety to the NOAEL, extrapolations from the laboratory animals to humans (factor of 10), for sensitive subpopulations (10), and from short-term to chronic studies (10) can be taken into account. An additional factor of 10 is used if only a LOAEL is available. Modifying factors (1—10), which account for deficiencies in the toxicity studies, are also considered in determining an acceptable exposure level. The current term for this acceptable level is reference dose (RfD); it was previously called the acceptable daily intake (ADI). Adverse effect levels may be calculated using Benchmark Dose (BMD) Modeling. The purpose of the BMD is to derive a point of departure for calculating a risk value, such as a reference dose or a reference concentration. In the customary approach, the point of departure is the NOAEL or the LOAEL. The BMD values are calculated by dividing a point of departure by the uncertainty factors. This most sensitive effect is also called the critical effect, and it is used as the point of departure in establishing a toxicity benchmark. The RfD, can be calculated using a LOAEL, a NOAEL or BMD. It is adjusted for protection of an average (80 Kg) person. It is then divided by expected exposure conditions to result in an applicable criterion. Exposure conditions by means of water include 2.4 liters per day of drinking water and consumption of 22.0 grams of fish per day. The bioaccumulation of toxics in edible portions of fish is accounted for by use of bioaccumulation factors (BAF). The BAF is the ratio in liters per kilogram that accounts for the chemical accumulation in aquatic organisms from all potential exposure routes, including water, food and sediment.

(c) The Department will establish criteria for threshold toxics in accordance with the following guidelines:

(1) If the EPA has developed criteria, the Department will evaluate and accept the criteria when it is determined that they are adequate to protect the designated water uses.

(2) If the EPA criteria have been evaluated, and have been determined to be inadequate to protect designated uses, or when no criteria have been developed for a substance identified or expected in a discharge, the Department will develop criteria following EPA's standard toxicological procedures outlined in the Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (EPA-822-B-00-004, October 2000), as amended and updated.

(3) If no data are available to characterize the human health hazard of a chemical, no criterion will be developed. A criterion to protect the next most sensitive use will be used. A threshold criterion will be developed at a future date if information becomes available.

(d) The sources the Department uses to obtain relevant risk assessment values for protection for threshold level toxic effects to human health are as follows:

(1) Verified reference doses, listed in the EPA agency-wide supported data system known as IRIS (Integrated Risk Information System) and other EPA approved data sources referred through IRIS.

(2) Maximum Contaminant Level Goals.

(3) The EPA's CWA § 304(a) health criteria listed under the National Toxics Rule in 40 CFR 131.36 (57 FR 80848, December 22, 1992) (relating to toxics criteria for those States not complying with Clean Water Act section 303(c)(2)(B)), as amended and updated and other final criteria published by the EPA and the Great Lakes Initiative Clearinghouse.

(4) Teratology and other data that have been peer-reviewed may provide information for criteria development.

§ 16.33. Nonthreshold effects (cancer). States:

(a) A nonthreshold effect is defined as an adverse impact, including cancer, for which no exposure greater than zero assures protection to the exposed individual. Thus, in contrast to the threshold concept discussed in § 16.32 (relating to threshold level toxic effects), the nonthreshold approach to toxics control is based upon the premise that there is no safe concentration of the toxic.

(b) The Department has determined that the regulation of carcinogens from a water quality perspective in accordance with the procedure specified in the following subsections will adequately and reasonably protect human health.

(c) The Department accepts the evaluation and extrapolation modeling used by the EPA to quantitate the carcinogenic risk of particular chemicals. Cancer risk level criteria are, therefore, adaptations of the EPA's cancer potency (slope) factors. Criteria based on cancer risk levels are average lifetime exposure values.

(d) The Department's water quality toxics management program controls carcinogens to an overall risk management level of one excess case of cancer in a population of one million (1×10^{-6}). Expressing this another way, the probability of an individual getting cancer from an ambient water exposure to a carcinogen is increased by a factor of one in one million. This level appears to be protective of human health to a significant degree when compared to other risks encountered in life.

(e) The Department uses a 1×10^{-6} cancer risk level as specified in § 93.8a(d) (relating to toxic substances). Attainment of this risk level is predicated on exposure that includes drinking 2.4 liters of water and ingesting 22.0 grams of fish per day over a 70-year lifetime. Bioaccumulation of carcinogenic toxics in edible portions of fish are accounted for by use of bioaccumulation factors (BAFs).

(f) The Department will use the following guidelines in establishing criteria for nonthreshold toxics:

(1) The determination as to whether a substance is a carcinogen will be its identification by the EPA.

(2) For toxics for which (cancer potency) slope factors have been developed as evidenced by listing on IRIS the Department will either use the EPA developed criteria or will develop criteria based upon these potency factors using the Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (EPA-822-B-00-004, October 2000) and the *National Recommended Water Quality Criteria* (EPA-822-H-04-001, 2004), as amended and updated or EPA's Standard Toxicological Procedures outlined in Exhibit 3-2 of the *Water Quality Standards Handbook*, Second Edition, EPA 823-0-94-005A, August, 1994, as amended and updated.

(3) For carcinogens or suspected carcinogens for which cancer potency (slope) factors have not been developed, the Department will use an additional margin of safety (factor of 10) with threshold toxicity data to develop a protective health criterion.

Thanks,

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From: Joe Gianvito <jgianvito@klhengineers.com>
Sent: Wednesday, November 13, 2024 11:13 AM
To: Mitchell, William C (DEP) <willimitch@pa.gov>
Cc: Marisa Brletic <mbrletic@klhengineers.com>; Roger Varner <rvarner@klhengineers.com>
Subject: [External] Toxicity Question

Bill
Thank you for a very helpful meeting today. As promised, please see the following toxicity question. We have had to address this concern for multiple clients, so if you are able to provide a general response or some guidance, it would be greatly appreciated.

If a WWTP has consistently demonstrated, through WETT testing results, that there is no combined toxicity associated with the effluent, why are pollutants added to permits at levels lower than drinking water MCL's? In other words, WETT testing demonstrates that the effluent is not toxic to aquatic life, and the effluent levels are below MCL's, what environmental or human health risk are the low-level limits based on?

Thank you
Joe

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