

**Standard Operating Procedure (SOP)¹ for Clean Water Program
Establishing Water Quality-Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic
Pollutants in NPDES Permits for Existing Dischargers**

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Version 1.5

This SOP describes the procedures and decision-making process that application managers in the Clean Water Program will use for establishing WQBELs and permit conditions for toxic pollutants in NPDES permits. For the purpose of this SOP, the term “toxic pollutants” means the toxic substances identified in 25 Pa. Code § 93.8c, Table 5, although the procedures may be applied to other substances not in Table 5 that are nonetheless known to be toxic in aquatic environments.

This SOP applies to existing sewage and industrial waste dischargers that seek to renew or amend their individual NPDES permits, including existing dischargers planning to increase flow. New dischargers are generally expected to comply with new WQBELs for toxic pollutants upon commencement of discharges.

A key issue that must be addressed throughout these procedures is whether a permittee can achieve compliance with an existing or proposed WQBEL. For technology-based effluent limitations or wastewater treatment standards established under the Clean Water Act, a permittee is expected to comply with the limits or standards immediately unless otherwise provided in a federal regulation (with one exception under 40 CFR § 122.29(d)(4) for new sources), regardless of a permittee’s existing capabilities to achieve such limits or standards. However, a certain degree of flexibility is available for complying with new or more stringent WQBELs and certain effluent standards and limitations established only by state regulation (e.g., § 95.10). For the purpose of determining whether a permittee can achieve a WQBEL or effluent standard and needs a schedule of compliance under this SOP, a permittee will be considered able to meet a WQBEL without a compliance schedule if either of the following are true:

- Effluent monitoring data collected by the permittee for Discharge Monitoring Reports (DMRs) or a permit application and/or collected by the Department of Environmental Protection (DEP) demonstrates compliance with the proposed maximum daily WQBEL or a proposed average monthly WQBEL at least 90%² of the time (where compliance would be achieved a higher percentage of the time with proper operation and maintenance); or
- DEP determines that the permittee has the technology or treatment processes in place that can achieve the WQBEL when the technology or processes are properly operated and maintained.

I. Reasonable Potential and Establishing WQBELs

- A. Application managers will conduct a reasonable potential (RP) analysis using all available and reliable analytical data from DMRs (individual sample results), permit applications, inspections, and

¹ **DISCLAIMER:** The process and procedures outlined in this SOP are intended to supplement existing requirements. Nothing in the SOP shall affect regulatory requirements. The process, procedures and interpretations herein are not an adjudication or a regulation. There is no intent on the part of DEP to give the rules in this SOP that weight or deference. This document establishes the framework within which DEP will exercise its administrative discretion in the future. DEP reserves the discretion to deviate from this policy statement if circumstances warrant.

² This threshold is used strictly for determining whether a schedule of compliance is necessary and not for enforcement purposes.

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other sources for all toxic pollutants that must be monitored for a permit renewal application and any other toxic pollutants for which monitoring data and water quality criteria under Chapter 93 exist. The RP analysis will be completed for each renewal application and each toxic pollutant for which there are available data, including those toxic pollutants with existing WQBELs. Application managers will use the Toxics Management Spreadsheet (TMS) to implement the RP analysis.

B. The application manager will run the TMS for all pollutants for which sampling data is available using all available site-specific data, including criteria modifiers as determined through a previous site-specific criteria study (SSCS) or a SSCS that is submitted with the permit renewal application, following DEP and EPA approval. The proper effluent concentration to use for the RP analysis is as follows:

1. For sample sizes less than 10, the maximum reported effluent concentration; or
2. For sample sizes greater than or equal to 10, the average monthly effluent concentration (AMEC) as determined by the TOXCONC spreadsheet.

NOTE 1 – For sample sizes less than 10, the application manager may not remove data perceived to be outliers unless there are extenuating circumstances such as laboratory or sampling error that are documented in the fact sheet. For sample sizes greater than or equal to 10, if outliers are suspected, the median rather than the AMEC should be used to determine whether a pollutant is a candidate for modeling.

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 (see **Attachment A**). Any new SSCS for Copper must be conducted using the Biotic Ligand Model (BLM).

NOTE 3 – For sewage discharges, the design flow to use in modeling is the average annual design flow. For industrial waste discharges, the flow to use in modeling normally is the average flow during production or operation, which may be taken from the permit application. If the maximum flow during production or operation reported on the permit application is, however, much greater than the average flow, the permit writer should investigate to determine the flow value that is most representative of actual and typical flow conditions for the discharge. Within the range established by the average and maximum flows reported on the application, the application manager has discretion to determine the most appropriate flow value to use in modeling.

C. The TMS will make a recommendation on whether the pollutant should receive a limit in the permit, should be monitored only, or does not need a limit or monitoring.

1. In general, establish limits in the draft permit where the effluent concentration determined in B.1 or B.2 equals or exceeds 50% of the WQBEL (i.e., RP is demonstrated). Use the average monthly, maximum daily and instantaneous maximum (IMAX) limits for the permit as recommended by the TMS (or, if appropriate, use a multiplier of 2 times the average monthly limit for the maximum daily limit and 2.5 times the average monthly limit for IMAX).
2. For non-conservative pollutants, in general, establish monitoring requirements where the effluent concentration determined in B.1 or B.2 is between 25% - 50% of the WQBEL.
3. For conservative pollutants, in general, establish monitoring requirements where the effluent concentration determined in B.1 or B.2 is between 10% - 50% of the WQBEL.

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NOTE 4 – If the effluent concentration determined in B.1 or B.2 is “non-detect” at or below the target quantitation limit (TQL) for the pollutant as specified in the TMS and permit application, the pollutant may be eliminated as a candidate for WQBELs or monitoring requirements unless
1) a more sensitive analytical method is available for the pollutant under 40 CFR Part 136 where the quantitation limit for the method is less than the applicable water quality criterion and
2) a detection at the more sensitive method may lead to a determination that an effluent limitation is necessary, considering available dilution at design conditions.

NOTE 5 – If the effluent concentration determined in B.1 or B.2 is a detection below the TQL but above or equal to the applicable water quality criterion, WQBELs or monitoring may be established for the pollutant.

4. Application managers may, on a site- and pollutant-specific basis, deviate from these guidelines where there is specific rationale that is documented in the fact sheet.
5. If the RP analysis determines that there is no reasonable potential for a discharger to exceed an in-stream water quality criterion for a particular pollutant, in general WQBELs will not be established in the permit for the pollutant unless the discharger has a wasteload allocation (WLA) in a Total Maximum Daily Load (TMDL) for the pollutant (see Notes 10 and 11, below). This applies even if the existing permit included WQBELs for the pollutant. Other limits based on technology or treatment standards may be imposed if appropriate.

NOTE 6 – If an existing discharge is to receiving waters with an approved TMDL, pollutant(s) of concern that are limited under the TMDL have been detected in the discharge, and the TMDL does not include a site-specific (individual) WLA for the discharge, WQBELs should be established that are equivalent to the most stringent water quality criteria if the discharge would contribute an appreciable amount of pollutant loading to the surface waters (i.e., in general at least 1% of the total point source loading). If WQBELs are not established, the pollutant(s) of concern should be monitored during the permit term.

D. The application manager will consider if there is zero assimilative capacity available for the pollutants of concern.

1. The following will be considered discharges to a stream with zero assimilative capacity:
 - a. Discharges that are assigned a WLA in a TMDL that is based on water quality criteria.
 - b. New discharges to waters where a TMDL has been established and does not include a WLA for the discharge.
 - c. Discharges to waters that are impaired for the pollutant of concern and where a TMDL has not been established.
 - d. Discharges where water quality modeling recommends limits at or below criteria.
2. Where there is zero assimilative capacity, the Average Monthly Limit (AML) will be set equal to the most stringent applicable water quality criterion. The values for the Maximum Daily Limit (MDL) and IMAX, as applicable, will be dependent on the most stringent criterion type:
 - a. For AFC, the MDL and IMAX should be set equal to the criterion when the background stream concentration exceeds criteria. When the WQBEL calculated by the TMS (as an AML) is set to criteria the MDL and IMAX recommended by the TMS may be used. In these cases, the IMAX will be set equal to the calculated MDL.

NOTE 7 – The TMS will automatically set the AML to criteria when the statistical calculations produce a limit below criteria.

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- b. For CFC, THH and CRL, and for Manganese, Total Iron, Phenolics, Chloride, Sulfate and Total Dissolved Solids, the MDL will be set to the MDL produced by the TMS. IMAX limits should be developed using a multiplier of 2.5 times the AML.

NOTE 8 – In some cases, the TMS will determine an AML based on CFC is more restrictive and will be the governing criteria after the AML to protect the AFC is set to criteria. In these cases, the AML may be based on CFC and the MDL & IMAX based on AFC.

NOTE 9 – Effluent limits may be established below criteria when an antidegradation analysis for discharges to HQ or EV waters shows those limits are necessary to protect existing water quality.

II. Continuation of Existing WQBELs

The term “existing WQBELs” refers to effluent limitations for a toxic pollutant that are in effect as of the expiration date of a permit for which a renewal application has been submitted.

A. Application managers will reestablish existing WQBELs in a renewed permit if RP is demonstrated based on the latest information, including site-specific data. If RP is not demonstrated, existing WQBELs may be relaxed or eliminated if one or more of the following anti-backsliding exceptions apply and are documented in the fact sheet:

1. A material and substantial alteration or addition to the permitted facility occurred after permit issuance which justifies the application of a less stringent effluent limitation.
2. Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

NOTE 10 – The removal of an existing WQBEL from a renewed permit or relaxation of the WQBEL may satisfy this anti-backsliding exception if the record demonstrates there is no longer a reasonable potential to exceed water quality criteria (see Clean Water Act § 402(o)(2)(B)(i), i.e., new monitoring data would constitute new information under the Act, with a specific exception set forth in Note 11 below). However, if there is no longer reasonable potential because the permittee has successfully implemented treatment to achieve the existing WQBEL in a prior permit term, the existing WQBEL should remain in the permit unless it can be documented that there would be no reasonable potential in the absence of continued treatment (e.g., reduced influent pollutant loading).

NOTE 11 – This exception is not applicable if the existing WQBEL is based on a WLA in a TMDL. If the existing WQBELs are based on WLAs, there must be a reallocation of load amongst all point source dischargers and/or non-point sources such that there is a net decrease in overall load in order to use the new information exception set forth in Note 10 above.

NOTE 12 – If a revised water quality criterion under Chapter 93 is published that is less stringent than the criterion used to establish an existing WQBEL, the existing WQBELs may be relaxed if the receiving water is attaining water quality standards and anti-degradation requirements are met. For non-attaining (impaired) waters the WQBEL may only be relaxed if the effluent limit was based on a TMDL or other WLA and relaxation of the WQBEL does not cause or contribute to an exceedance of the water quality standards, or the protected use not being attained is removed.

3. Good cause exists because of events beyond the permittee’s control (e.g., natural disasters) and for which there is no reasonably available remedy.

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4. The permittee has installed and properly operated and maintained required treatment facilities but still has been unable to meet the effluent limitations (relaxation may be allowed only to the treatment levels actually achieved).

NOTE 13 – To implement this provision, DEP will consider whether a permittee has installed and properly operated and maintained required treatment facilities if those treatment facilities are consistent with the definition of Best Demonstrated Technology (BDT) in 25 Pa. Code § 95.4(g) and DEP inspections have revealed satisfactory operation and maintenance. When this is documented, effluent limits will be established based on BDT performance (90th percentile of actual average monthly and maximum daily performance levels) or, alternatively, DEP may approve an extension of time to achieve WQBELs under 25 Pa. Code § 95.4, not to exceed five years. Application managers should consult with the Bureau of Clean Water prior to implementing this exception.

5. The existing WQBELs are based on WLAs in an approved TMDL in which relaxation of the WQBELs (coupled with other actions) would still result in attainment of water quality standards. This option is generally available only if there is a reallocation of WLAs amongst other point source dischargers.
6. Relaxation of the existing WQBELs for a discharge to waters (other than Exceptional Value waters) attaining its designated and existing uses could be done in a manner that is consistent with Pennsylvania’s anti-degradation policy and federal anti-backsliding exceptions.

NOTE 14 – Any existing WQBEL that is relaxed due to one of these exceptions may not be less stringent than federal Effluent Limitation Guidelines (ELGs), if applicable, and must achieve water quality standards, including anti-degradation.

NOTE 15 – These exceptions apply to all WQBELs, not just WQBELs for toxic pollutants.

- B. If 1) the permittee’s record during the previous permit term demonstrates that it cannot achieve existing WQBELs, 2) no exceptions to anti-backsliding apply, and 3) RP is demonstrated based on the latest information that will result in the continuation of the existing WQBELs in the renewed permit, DEP will attempt to enter into and/or will issue an enforcement document in conjunction with renewal of the permit that requires specific measures to achieve compliance with the WQBELs or otherwise terminate the discharge. The enforcement document may involve a § 95.4 time extension when the regulatory criteria are met. The WQBELs will be reestablished in the permit. Under an enforcement document, enforcement discretion may be utilized to allow for a schedule to correct or remediate violations of the WQBELs until such time that corrective measures are implemented by the permittee.

NOTE 16 – A compliance schedule may not be established in a renewed permit for an existing WQBEL, but may be established through an enforcement document.

III. New or More Stringent WQBELs

The procedures described in sections A, B and C are summarized in **Figures 1, 2 and 3**, respectively.

A. Procedures Applicable to All Permittees (see Figure 1)

1. When either of the following is demonstrated, and the application manager believes that the permittee will not be able to achieve WQBELs, the application manager will transmit a letter and pre-draft permit survey for toxic pollutants through mail or email to the permittee and the permittee’s consultant, if applicable:

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- c. RP is demonstrated for a toxic pollutant that does not have existing WQBELs, resulting in the need for new WQBELs for a pollutant.
- d. A pollutant has existing WQBELs but more stringent WQBELs for the pollutant are necessary for the renewed permit because of a revised water quality criterion, a new or revised WLA in a TMDL, or other reasons.

The letter and pre-draft permit survey are presented in **Attachment B**. The purpose of the survey is to provide the permittee an opportunity to explain whether it is aware of the source(s) of the pollutant(s), any efforts to control the pollutant(s) that are underway or have been done in the past, and whether a compliance schedule will be necessary to achieve final WQBELs, to help inform DEP's development of a draft permit. The application manager will request that the permittee complete and submit the survey within 30 days; however, completion of the survey is voluntary. If the permittee indicates additional sampling will be conducted immediately, additional time will be provided to the permittee and upon receipt a revised RP analysis for the pollutant(s) will be conducted.

If the application manager believes that the permittee will be able to achieve the new or more stringent WQBELs immediately, based on the record, the letter and survey do not need to be transmitted.

- 2. If the permittee indicates in the survey that it cannot immediately comply with the new or more stringent WQBELs on the effective date of the permit, the application manager will use the following considerations to determine whether to use a compliance schedule to meet final WQBELs in the draft permit:
 - a. The amount of time the permittee had to meet the WQBEL under prior permit(s), if applicable.
 - b. The need for modifications to treatment facilities, operations or other measures.
 - e. The amount of time needed to implement such modifications or conduct source review and control studies.

If the application manager determines that a compliance schedule is warranted, the application manager will generally use the date reported by the permittee in the survey as the effective date for the final WQBELs ("Final WQBEL Effective Date") in the draft permit, unless the date reported by the permittee exceeds five years, in which case the permit expiration date (minus one month) will generally be used in the draft permit. If the permittee indicates that it is uncertain when compliance could be achieved, does not address this question on the survey or does not return a survey, the application manager will use discretion in establishing the Final WQBEL Effective Date for the draft permit (in general, no more than 3 years). The technical basis for establishing the Final WQBEL Effective Date based on discretion will be articulated in the fact sheet.

- 3. The application manager will develop and issue a draft permit to the permittee with public notice in the *Pennsylvania Bulletin* for a 30-day comment period (unless the renewed permit incorporates WQBELs based on a site-specific standard that requires EPA approval, in which case a 45-day comment period will be used). If warranted, a compliance schedule will be established using a Part C condition (see **Attachment C**). If the Part C condition in Attachment C is used, the application manager will establish the final WQBELs and a Final WQBEL Effective Date in the Part C condition, and:
 - a. For new WQBELs, a "monitor and report" requirement will be specified in Part A of the permit for the pollutant(s) during the interim period.

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- b. For more stringent WQBELs, the existing WQBELs will be specified in Part A of the permit for the pollutant(s) during the interim period.

4. Optional Requirement in Part C Condition – Site-Specific Data Collection

If the application manager used input values that were not site-specific for any of the following TMS input parameters, or if the site-specific data used by the application manager was collected at least 10 years ago, the permittee will be required to conduct site-specific data collection to refine the accuracy of the WQBELs:

- Discharge pollutant concentration coefficients of variability.
- Discharge and background Total Hardness concentrations (hardness-based metals only).
- Background / ambient pollutant concentrations (naturally occurring pollutants only).
- Chemical translator(s) (metals only).
- The slope and width of the receiving waters.
- The velocity of the receiving waters under design stream flow conditions.
- The acute and chronic partial mix factors under design stream flow conditions.
- Volatilization rates (highly volatile organics only).

The permittee will be required to conduct site-specific studies of all parameters where default or model-derived input values were used or where data are at least 10 years old. The permittee may, at its discretion, submit a work plan for DEP review and comment prior to initiating the studies.

5. Optional Requirement in Part C Condition – Toxics Reduction Evaluation (TRE)

- a. If the permittee responds in the pre-draft survey that the source(s) of toxic pollutant(s) are unknown or are suspected but not known, or if the permittee does not respond, the permittee will be required to conduct a TRE to investigate and control the source(s) of the pollutant(s) subject to final WQBELs.
- b. Where WQBELs have been developed for Total Lead or Total Copper and the source is known or suspected to be corrosion of water lines, the application manager will require the TRE in the permit. In such cases the TRE must include a Corrosion Control Feasibility Study.
- c. The permittee must develop a TRE work plan prior to initiating the TRE, but is not required to submit it to DEP for review unless requested by DEP.
- d. A TRE is not required if 1) the permittee is aware of source(s) at the time of permit issuance and 2) the permittee has a plan to control the source(s) and/or treat the pollutant(s) at the time of permit issuance.
- e. Where the permittee is aware of the source(s) of pollutant(s) and has a plan to control the source(s) and/or treatment the pollutant(s) at the time of permit issuance, and the permittee indicates that it needs time to implement the solutions to meet the final WQBELs, the Part C condition in Attachment C will not be used. In general, a compliance schedule will be established in the permit without the need to conduct site-specific studies or a TRE. Interim milestones (e.g., the actions the permittee will undertake to meet the final limit, where applicable) will be established in the compliance schedule at intervals no greater than one year.

6. Following the comment period for the draft permit, DEP will issue a final renewed permit.

7. Final WQBEL Compliance Report

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Where the Part C condition presented in Attachment C is used, the permittee must submit a Final WQBEL Compliance Report, at least one year prior to the Final WQBEL Effective Date, that includes site-specific data, TMS results, a TRE Report, Corrosion Control Feasibility Study, and an application for a Major Amendment to the permit, as applicable.

The permittee must report one of the following conclusions in the Final WQBEL Compliance Report:

- a. The permittee can achieve the final WQBELs (or modified WQBELs based on site-specific studies) on or before the Final WQBEL Effective Date. In this case DEP does not need to take an action unless the permittee has submitted TMS results reflecting modified WQBELs based on site-specific data collection. The permittee will begin implementing actions identified in the TRE to reduce pollutant concentration upon completion of the TRE before the Final WQBEL Compliance Report Due Date or an alternative date approved by DEP, if applicable.
- b. The permittee can achieve the final or modified WQBELs, but after the Final WQBEL Effective Date. In this case, DEP may:
 - (1) Request additional studies or information to evaluate the appropriateness of an extension to the Final WQBEL Effective Date.
 - (2) Develop a draft permit amendment with an extension to the Final WQBEL Effective Date, not to exceed the permit expiration date, and, if appropriate, modified WQBELs based on site-specific data studies. If the compliance schedule will be modified, the application manager will document that good cause exists for modification in the fact sheet.

In the event that submission of the Final WQBEL Compliance Report coincides with the required submission of a permit renewal application, or if there are delays in processing a Major Amendment to the permit, DEP may establish a new Final WQBEL Effective Date and final WQBELs in the subsequent renewed permit (see Note 17).

NOTE 17 – If the WQBELs will not be modified in comparison to the original WQBELs in the previously issued permit, and a schedule of compliance in the subsequent renewed permit would provide more than 5 years to meet the WQBELs, an enforcement document will be required to provide a schedule exceeding 5 years to achieve compliance. If the WQBELs will be modified in comparison to the original WQBELs in the previously issued permit, and a schedule of compliance is needed, the subsequent renewed permit may include a new schedule of compliance (not to exceed 5 years) for the modified WQBELs.

- c. The permittee cannot achieve the final or modified WQBELs because it is infeasible. Refer to paragraph B of this section, below.

B. General Procedures for WQBELs Deemed Infeasible by Permittee (see Figure 2)

DEP will evaluate the site-specific data collection, TRE, and any changes to final WQBELs.

1. If DEP believes that the permittee overlooked important factors that would enable it to achieve the final WQBELs or has other concerns with the methodology of the studies, DEP will issue a comment letter to the permittee, which may request additional studies and provide notification of the actions DEP may take if such studies are not completed. Depending on the circumstances, DEP may act on an application for a Major Amendment to the permit to extend the Final WQBEL Effective Date, or otherwise revoke and reissue the permit for a new 5-year term. See Note 17 for factors to consider when extending the Final WQBEL Effective Date.

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2. If DEP finds that the studies were performed satisfactorily, the Final WQBELs are for Total Copper or Total Lead with a known source of water line corrosion or other pollutants that are not metals, but DEP does not agree that compliance is infeasible, DEP will issue a comment letter to the permittee, which may request additional studies and provide notification of the actions DEP may take if such studies are not completed. Depending on the circumstances, DEP may act on an application for a Major Amendment to the permit to extend the Final WQBEL Effective Date, or otherwise revoke and reissue the permit for a new 5-year term. See Note 17 for factors to consider when extending the Final WQBEL Effective Date.

NOTE 18 – For questions on evaluating a permittee's claim that achieving a WQBEL is infeasible contact the Bureau of Clean Water.

3. If DEP finds that the studies were performed satisfactorily, the Final WQBELs are for Total Copper or Total Lead with a known source of water line corrosion or other pollutants that are not metals, and DEP agrees that compliance is infeasible, the application manager will notify the permittee that a § 95.4 time extension will be considered upon submission of a request by the permittee. The notification letter will request an evaluation of all of the §§ 95.4(a)(1) – (4) criteria as part of the time extension request.
 - a. If the criteria are met, DEP will act on an application for a Major Amendment to the permit to remove the Part C condition presented in Attachment C, and replace it with the Part C condition presented in **Attachment D**, granting the time extension for no longer than a 5-year permit term. Performance-based effluent limits consistent with BDT under § 95.4 will be established in the amended permit.

NOTE 19 – In general, DEP will not authorize the use of a § 95.4 time extension for more than one permit term. If a longer period of time is necessary, DEP will attempt to enter into and/or issue an enforcement document.

- b. If the criteria are not met, DEP will attempt to enter into and/or will issue an enforcement document to the permittee to place the permittee on a schedule to meet the § 95.4 criteria. Alternatively, the schedule may be incorporated into a Major Amendment to the permit or a renewed permit, in which final WQBELs would be removed upon the permittee's satisfactory implementation of all actions necessary to meet the criteria. If neither of the above-referenced measures can be implemented, the application manager will consult with legal staff to determine an appropriate alternative.
4. If DEP finds that the studies were performed satisfactorily and the Final WQBELs are for metals other than Total Copper or Total Lead with a known source of water line corrosion, DEP will conduct a biological assessment of the receiving waters, upstream and downstream of the discharge, or otherwise require the permittee to complete these studies following DEP's published protocols (see Section III.C and Figure 3).

C. Specific Procedures for Metals (Other Than Copper and Lead Due to Water Line Corrosion) Deemed Infeasible by Permittee (see Figure 3)

1. DEP regional biologists will perform an assessment (survey) of the receiving waters, upstream and downstream of the discharge, following DEP's latest published protocols for determining surface water impairments, when 1) the permittee has completed all site-specific data studies and TRE required by the permit and DEP agrees that the studies were completed satisfactorily, 2) the pollutant(s) of concern are metals that are not Total Copper and/or Total Lead resulting from water line corrosion, and 3) compliance with the final WQBELs is deemed infeasible by the permittee.

NOTE 20 – DEP may rely on prior studies or an impairment status for the receiving waters in lieu of performing this assessment (e.g., where it is known that the receiving waters are

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impaired due to metals from abandoned mine drainage, the assessment may not be necessary).

2. If 1) the receiving waters upstream of the discharge are determined to be impaired for the pollutant(s) of concern, and 2) the final WQBELs are WLAs in a TMDL, the application manager will pursue reallocation of the WLAs in the TMDL to provide a feasible WQBEL for the permittee. If this cannot be done, the application manager will discuss the possibility of revising the TMDL to shift load allocation from non-point sources to WLAs with DEP's Bureau of Clean Water. Any reallocation of loads must result in a discharger achieving water quality criteria in the waters in which a discharge is made.
3. If 1) the receiving waters upstream of the discharge are determined to be impaired for the pollutant(s) of concern, and 2) there is no TMDL for the receiving waters or the discharge does not have WLAs in a TMDL, DEP will evaluate the permittee's claim that achieving the final or modified WQBELs is infeasible.
 - a. If DEP agrees that compliance is infeasible, the application manager will notify the permittee that a § 95.4 time extension will be considered upon submission of a request by the permittee. The notification letter will request an evaluation of all of the §§ 95.4(a)(1) – (4) criteria as part of the time extension request.
 - (1) If the criteria are met, DEP will act on an application for a Major Amendment to the permit to remove the Part C condition presented in Attachment C, and replace it with the Part C condition presented in **Attachment D**, granting the time extension for no longer than a 5-year permit term (see Note 19). Performance-based effluent limits consistent with BDT under § 95.4 will be established in the amended permit.
 - (2) If the criteria are not met, DEP will attempt to enter into and/or will issue an enforcement document to the permittee to place the permittee on a schedule to meet the § 95.4 criteria. Alternatively, the schedule may be incorporated into a Major Amendment to the permit or a renewed permit, in which final WQBELs would be removed upon the permittee's satisfactory implementation of all actions necessary to meet the criteria. If neither of the above-referenced measures can be implemented, the application manager will consult with legal staff to determine an appropriate alternative.
 - b. If DEP does not agree that compliance is infeasible, DEP will issue a comment letter to the permittee, which may request additional studies and provide notification of the actions DEP may take if such studies are not completed. Depending on the circumstances, DEP may act on an application for a Major Amendment to the permit to extend the Final WQBEL Effective Date, or otherwise revoke and reissue the permit for a new 5-year term. See Note 17 for factors to consider when extending the Final WQBEL Effective Date.
4. If 1) the receiving waters upstream of the discharge are determined to be attaining aquatic life use, but 2) the receiving waters downstream of the discharge are determined to be impaired for the pollutant(s) of concern, DEP will evaluate the permittee's claim that achieving the final or modified WQBELs is infeasible, and follow the procedures in paragraphs III.C.3.a and b, above.
5. If the receiving waters upstream and downstream are determined to be attaining aquatic life use, DEP will issue a notification letter to the permittee providing two options to achieve compliance: 1) completion of a SSCS and submission of a SSCS Report; or 2) achieve the §§ 95.4(a)(1) – (4) criteria.

NOTE 21 – SSCS procedures will be addressed in a separate SOP.

Figure 1: Procedures for Implementing New or More Stringent WQBELs

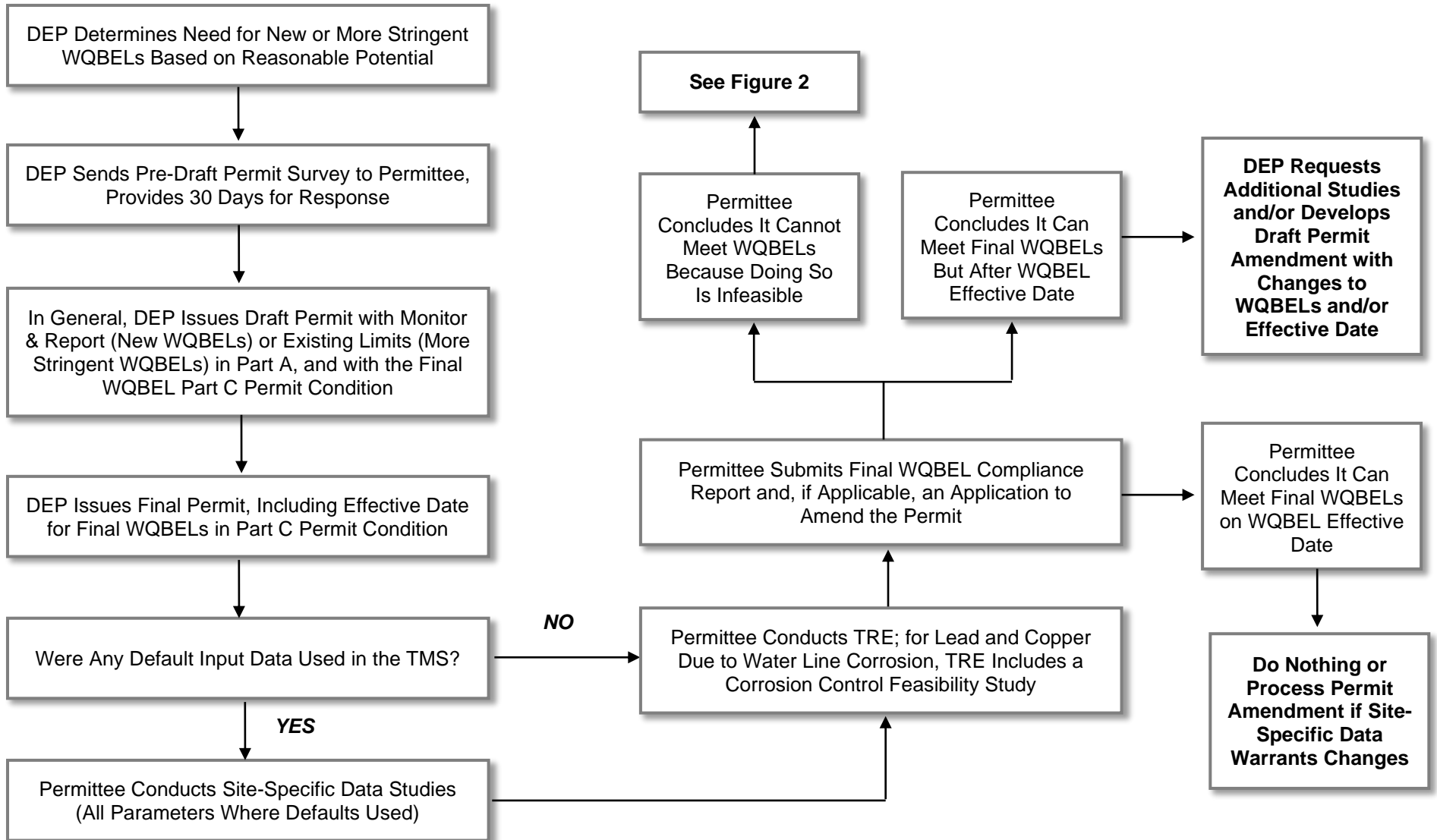


Figure 2: Procedures for WQBELs Considered Infeasible by Permittee

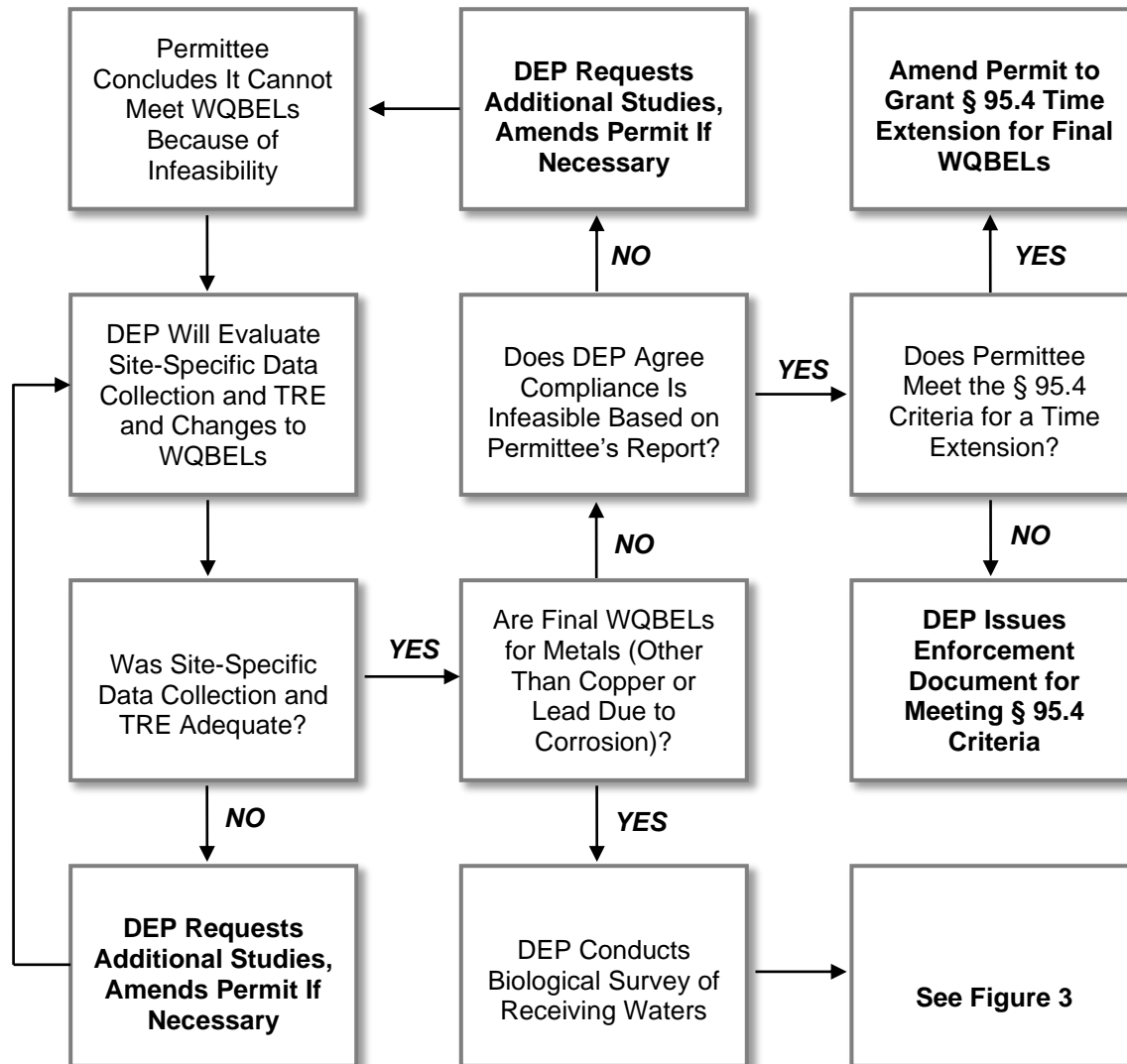
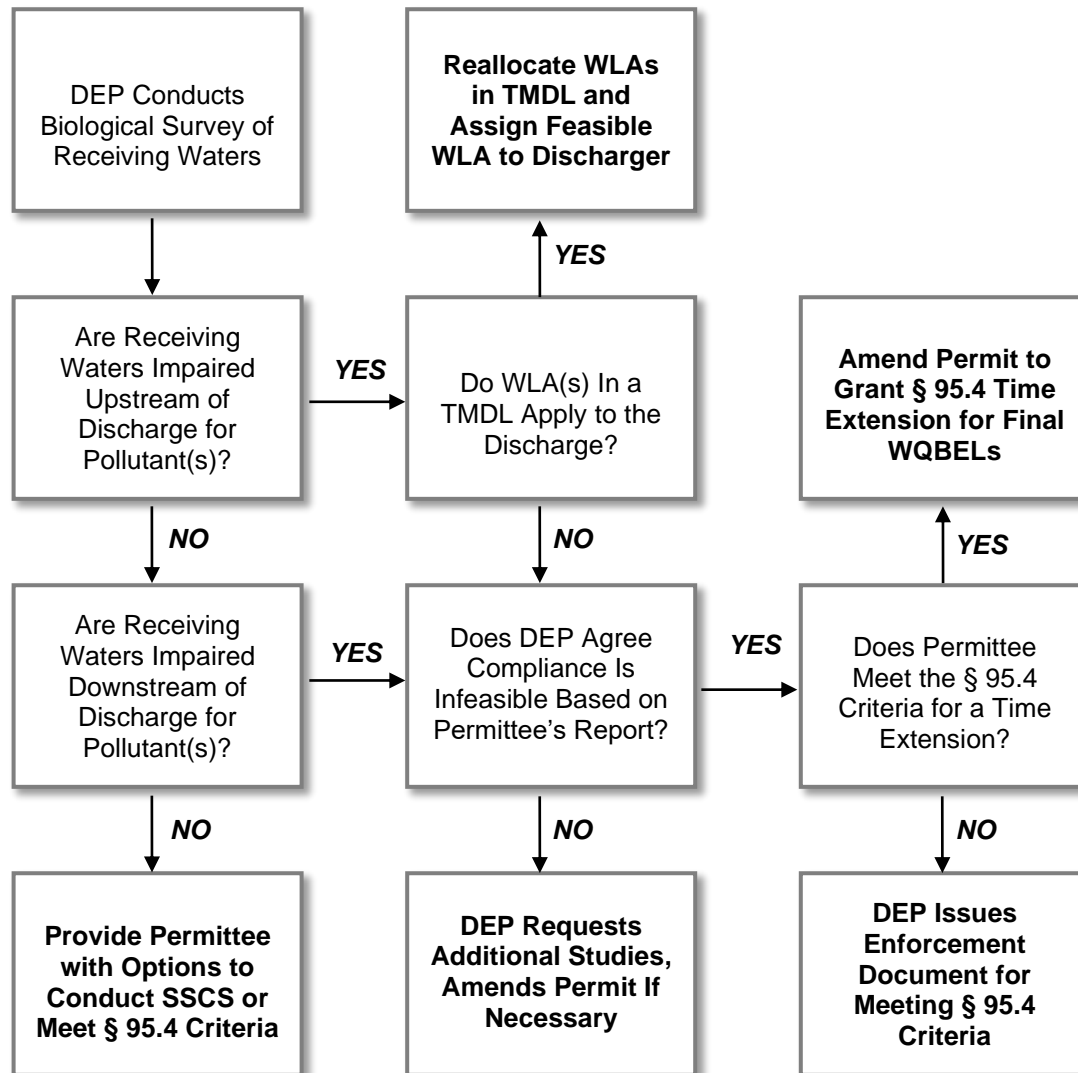


Figure 3: Procedures for WQBELs Considered Infeasible by Permittee – Metals Other Than Copper and Lead Due to Corrosion



ATTACHMENT A

PART C CONDITION – REQUIREMENT TO COMPLETE A NEW SSCS AND SITE-SPECIFIC DATA
COLLECTION IF WQBEL IS BASED ON PRIOR SSCS > 10 YEARS OLD

I. SITE-SPECIFIC CRITERIA STUDY (SSCS)

(USE IF EXISTING SSC WAS NOT BASED ON COPPER WER)

A. The permittee shall submit a Work Plan to perform a SSCS for the discharge of **(Pollutant Name)** in the effluent of **Outfall (Outfall No.)** within one year of the permit effective date, except where:

1. The permittee notifies DEP in writing that site-specific criteria are no longer required for the permittee to achieve water quality-based effluent limitations (WQBELs) for the pollutant.
2. The permittee requests an extension from DEP in writing so that site-specific data collection studies referenced in paragraph B, below, may be conducted first to determine whether a SSCS is necessary.

One copy of the Work Plan must be submitted to the Clean Water Program in the appropriate DEP regional office, and two copies of the Work Plan must be submitted to DEP's Bureau of Clean Water, Water Quality Division. The submission of the Work Plan electronically is acceptable. If a SSCS Work Plan is not submitted within one year of the permit effective date (or an alternative date approved by DEP), DEP will establish WQBELs in the subsequent permit based on water quality criteria under Chapter 93, if reasonable potential to exceed those criteria are demonstrated.

(USE IF EXISTING SSC WAS BASED ON COPPER WER)

A. The water quality-based effluent limitations (WQBELs) for Total Copper in Part A of this permit are based on a site-specific criterion (SSC) for Copper using a Water Effects Ratio (WER) study conducted in **(Year of WER Study)**. This WER-based criterion will not be used to develop WQBELs in subsequent permits. If the permittee wishes to pursue use of an SSC for subsequent permit renewals the permittee must complete a SSCS using the Biotic Ligand Model (BLM). Any SSC must be approved in accordance with 25 Pa. Code § 93.8d. If the permittee chooses not to proceed with a BLM SSCS per the below schedule, WQBELs for Total Copper will be developed based on statewide Copper criteria and discharge and surface water characteristics for the subsequent reissuance of this permit.

If the permittee chooses to complete a BLM-based SSCS, the permittee shall comply with the following schedule:

1. Submit a proposed Work Plan to DEP within 12 months of the permit effective date.
2. Begin the BLM SSCS within 3 months of Work Plan approval.
3. Submit quarterly progress reports throughout the term of the BLM SSCS.
4. Submit a completed SSCS Report within 3 months of BLM SSCS completion.

(OPTIONAL - USE PARAGRAPH B IF ANY OF THE TMS INPUT PARAMETERS WERE BASED ON DEFAULT DATA)

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B. Site-Specific Data Collection Studies

The WQBELs were developed by DEP using the default or model-derived estimates for the parameters listed below in DEP's Toxics Management Spreadsheet (TMS). The permittee shall collect site-specific data for all of the parameters listed below and submit the data to DEP with the SSCS Report referenced in paragraph C or, if an SSCS is not completed, as part of the next permit renewal application.

(DELETE ANY PARAMETERS THAT WERE SITE-SPECIFIC IN ORIGINAL MODEL RUN)

1. **Discharge pollutant concentration coefficients of variability** using DEP's *Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics* (391-2000-024).
 2. **(FOR HARDNESS-BASED METALS ONLY) Discharge and background Total Hardness concentrations** using DEP's *Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness* (391-2000-021).
 3. **(FOR NATURALLY OCCURRING POLLUTANTS (e.g., METALS) ONLY) Background / ambient pollutant concentrations** using DEP's *Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances* (391-2000-022).
 4. **(FOR METALS ONLY) Chemical translator(s)** using EPA's *The Metals Translator: Guidance for Calculating A Total Recoverable Permit Limit From A Dissolved Criterion* (EPA 823-B-96-007) or other EPA guidance.
 5. **The slope and width of the receiving waters** for the reach of stream modeled by DEP using the TMS as measured in the field.
 6. **The velocity of the receiving waters** for the reach of stream modeled by DEP using the TMS as measured through a time of travel study that provides an estimate of velocity under design stream flow conditions.
 7. **The acute and chronic partial mix factors** for the reach of stream modeled by DEP using the TMS as determined through a mixing study that provides an estimate of mixing under design stream flow conditions.
 8. **(FOR HIGHLY VOLATILE ORGANICS ONLY) Volatilization rates** using DEP's *Protocol for Estimating First Order Pollutant Fate Coefficients for Volatile Organic Substances* (391-2000-020).
- C. If an SSCS Work Plan is submitted by the permittee, the permittee shall implement the Work Plan and submit an SSCS Report to DEP **(with the next NPDES permit renewal application / according to the schedule in Paragraph A)**. One copy of the SSCS Report must be submitted to the Clean Water Program in the appropriate DEP regional office, and two copies of the SSCS Report must be submitted to DEP's Bureau of Clean Water, Water Quality Division. The submission of the SSCS Report electronically is acceptable. The permittee shall attach to the SSCS Report printouts of the TMS using the site-specific data along with all other assumptions and data used by DEP to establish the final WQBELs.
- D. Following receipt of an SSCS Report, DEP will review the report and solicit input from EPA and evaluate changes to the final WQBELs, including application of a criteria modifier determined by the permittee's study if applicable. This process may be coordinated with DEP's review of the

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permit renewal application that must be submitted no later than 180 days prior to the expiration date of this permit.

- E. If DEP and/or EPA disagree with the Report, DEP will provide written comments and/or request the collection of additional information. The permittee shall respond to the comments, provide additional information, and revise the Report as necessary in accordance with the schedule provided by DEP or an alternative agreed upon schedule.
- F. If DEP and EPA agree with the Report, DEP will notify the permittee in writing that the Report is approved and indicate the proposed changes to the final WQBELs. This process may be completed at the time a draft permit for reissuance is published in the *Pennsylvania Bulletin* for a 45-day comment period.

ATTACHMENT B

PRE-DRAFT PERMIT LETTER AND SURVEY

Dear Permittee:

The Department of Environmental Protection (DEP) has reviewed your NPDES permit application and has reached a preliminary finding that new or more stringent water quality-based effluent limitations (WQBELs) for toxic pollutant(s) should be established in the permit. This finding is based on DEP's assessment that reasonable potential exists to exceed water quality criteria under Chapter 93 in the receiving waters during design flow conditions. The following WQBELs are anticipated based on the information available to DEP during its review:

Outfall No.	Pollutant	Average Monthly (mg/L)	Maximum Daily (mg/L)	IMAX (mg/L)

Attached is a survey that DEP requests that you complete and return to DEP in 30 days. Completion of this survey will help DEP develop the draft NPDES permit and allow DEP to understand your current capabilities or plans to treat or control these pollutant(s). If you decide not to complete and return the survey, DEP will proceed with developing the draft NPDES permit based on all available information and certain assumptions. Your response to this notice does not constitute an official comment for DEP response but will be taken under consideration. When the draft NPDES permit is formally noticed in the *Pennsylvania Bulletin*, you may make official comments for DEP's further consideration and response.

(OPTIONAL - USE IF WQBELs NECESSARY BECAUSE OF CHANGE IN CH 93 CRITERIA, OTHERWISE DELETE) Please note that the water quality criteria for (POLLUTANT(S)) were modified under Chapter 93 in (YEAR), which may result in the need for (NEW OR MORE STRINGENT) limits in this permit term.

(OPTIONAL - THIS MAY BE USED IF TARGET QLs WERE NOT MET BUT IF THEY WERE WQBELs WOULD NOT NEED TO BE ESTABLISHED, OTHERWISE DELETE) In addition to completion of the survey, you may elect to collect a minimum of four (4) additional effluent samples, as 24-hour composites, and have the samples analyzed for the pollutant(s) identified above, using a quantitation limit (QL) that is no greater than the Target QLs identified in the permit application. The samples should be collected at least one week apart. If you elect this option, please check the appropriate box on the survey and return the survey to DEP. Review of your application will remain on hold until the additional sampling results are provided to DEP.

Please contact me if you have any questions about this information or the attached survey.

Sincerely,

[Application Manager Name]
[Application Manager Title]

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS**

Permittee Name: _____ Permit No.: _____

Pollutant(s) identified by DEP that may require WQBELs: _____

Is the permittee aware of the source(s) of the pollutant(s)? Yes No Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? Yes No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? Yes No Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? Yes No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

<input type="checkbox"/> Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
<input type="checkbox"/> Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
<input type="checkbox"/> Background / ambient pollutant concentrations	Year(s) Studied:
<input type="checkbox"/> Chemical translator(s) (metals)	Year(s) Studied:
<input type="checkbox"/> Slope and width of receiving waters	Year(s) Studied:
<input type="checkbox"/> Velocity of receiving waters at design conditions	Year(s) Studied:
<input type="checkbox"/> Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
<input type="checkbox"/> Volatilization rates (highly volatile organics)	Year(s) Studied:
<input type="checkbox"/> Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP regional office that is reviewing the permit application within 30 days of receipt.

ATTACHMENT C

PART C CONDITION FOR NEW OR MORE STRINGENT QWBELs WITH SCHEDULE

USE FOR ALL NEW OR MORE STRINGENT QWBELs WHERE PERMITTEE INDICATES IT CANNOT ACHIEVE QWBELs IMMEDIATELY

I. WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR TOXIC POLLUTANTS

A. Final Water Quality Based Effluent Limitations (QWBELs)

The final QWBELs listed below will become effective on **(ENTER DATE - USE PERMIT EXPIRATION DATE MINUS ONE MONTH WHERE PERMITTEE INDICATES IT WILL NOT BE ABLE TO ACHIEVE QWBELs SOONER THAN 5 YEARS. IN GENERAL USE 2 YEARS AT MINIMUM.)**(“QWBEL Effective Date”) unless DEP issues an amendment to this permit prior to that date:

Outfall No.	Pollutant	Average Monthly (mg/L)	Maximum Daily (mg/L)	IMAX (mg/L)

These limits are necessary to achieve water quality standards in the receiving waters. The permittee has not demonstrated the ability to achieve these limits as of the effective date of the permit. Prior to the QWBEL Effective Date, the permittee shall complete studies as described below.

(OPTIONAL - USE PARAGRAPH B IF ANY OF THE TMS INPUT PARAMETERS WERE BASED ON DEFAULT DATA)

B. Site-Specific Data Collection Studies

The QWBELs were developed by DEP using the default or model-derived estimates for the parameters listed below in DEP’s Toxics Management Spreadsheet (TMS). The permittee shall collect site-specific data for all of the parameters listed below and submit the data to DEP as part of a Final QWBEL Compliance Report.

(DELETE ANY PARAMETERS THAT WERE SITE-SPECIFIC IN ORIGINAL MODEL RUN OR ARE NOT APPLICABLE TO THE POLLUTANT)

1. **Discharge pollutant concentration coefficients of variability** using DEP’s *Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics* (391-2000-024).
2. **(FOR HARDNESS-BASED METALS ONLY)Discharge and background Total Hardness concentrations** using DEP’s *Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness* (391-2000-021).
3. **(FOR NATURALLY OCCURRING POLLUTANTS (e.g., METALS) ONLY)Background / ambient pollutant concentrations** using DEP’s *Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances* (391-2000-022).
4. **(FOR METALS ONLY)Chemical translator(s)** using EPA’s *The Metals Translator: Guidance for Calculating A Total Recoverable Permit Limit From A Dissolved Criterion* (EPA 823-B-96-007) or other EPA guidance.

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5. **The slope and width of the receiving waters** for the reach of stream modeled by DEP using the TMS as measured in the field.
6. **The velocity of the receiving waters** for the reach of stream modeled by DEP using the TMS as measured through a time of travel study that provides an estimate of velocity under design stream flow conditions.
7. **The acute and chronic partial mix factors** for the reach of stream modeled by DEP using the TMS as determined through a mixing study that provides an estimate of mixing under design stream flow conditions.
8. **(FOR HIGHLY VOLATILE ORGANICS ONLY)Volatilization rates** using DEP’s *Protocol for Estimating First Order Pollutant Fate Coefficients for Volatile Organic Substances* (391-2000-020).

The permittee may, at its discretion, submit a work plan to DEP for review and comment prior to initiating the site-specific data collection studies. If the permittee decides to submit a work plan, DEP’s approval is not necessary prior to commencing the studies.

(OPTIONAL - USE PARAGRAPH C IF THE PERMITTEE IS UNSURE OF THE SOURCE(S) OF POLLUTANT(S) AND HOW TO CONTROL SOURCES / TREAT POLLUTANTS AT THE TIME OF PERMIT ISSUANCE)

C. Toxics Reduction Evaluation (TRE)

The permittee shall conduct a TRE in accordance with DEP’s *Water Quality Toxics Management Strategy, Appendix C, Permittee Guidance for Conducting a Toxics Reduction Evaluation (TRE)* (361-0100-003). The permittee shall investigate and address the following as part of the TRE:

1. The source(s) of the toxic pollutants in the effluent through a comprehensive review of influent and effluent quality and contributors to the facility, if applicable.
2. An evaluation of approaches and strategies that exist to reduce or eliminate sources in order to achieve the final WQBELs.
3. An evaluation of approaches and strategies that exist to provide treatment to achieve the final WQBELs.
4. An analysis of the feasibility of the approaches and strategies identified in paragraphs 2 and 3, above. **(USE WHEN IT IS KNOWN OR SUSPECTED THAT ELEVATED LEAD OR COPPER IN EFFLUENT IS A RESULT OF WATER LINE CORROSION, OTHERWISE DELETE)**Specifically, the permittee shall implement a Lead and Copper Corrosion Control Feasibility Study as part of the TRE. The Feasibility Study shall consist, at a minimum, of an evaluation of treatment alternatives, an evaluation of lead and copper solubility, and effects of treatment alternatives on other water treatment processes.

The permittee shall develop a TRE work plan and submit the work plan to DEP for review and comment when requested by DEP. DEP’s approval of the work plan is not necessary prior to commencing the TRE.

D. Schedule and Final WQBEL Compliance Report

1. The permittee shall submit complete required studies and a Final WQBEL Compliance Report to DEP in accordance with the following schedule:

Action	Due Date
Complete TRE Work Plan and Submit Work Plan if Requested by DEP	(ENTER DATE TYPICALLY 6 MONTHS FROM PERMIT EFFECTIVE DATE)
Complete TRE and Site-Specific Data Collection	(ENTER DATE TYPICALLY 6 MONTHS PRIOR TO DATE OF FINAL WQBEL COMPLIANCE REPORT. ADD PROGRESS REPORTS BETWEEN THIS AND THE PRIOR MILESTONE IF NEEDED))

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Begin Implementing Actions Identified in the TRE to Reduce Pollutant Load (if applicable)	(ENTER TRE COMPLETION DUE DATE)
Submit Final QWBEL Compliance Report	(ENTER DATE ONE YEAR PRIOR TO QWBEL EFFECTIVE DATE)
Complete Actions Identified in TRE and Comply with Final Permit Limit	(ENTER QWBEL EFFECTIVE DATE)

2. The Final QWBEL Compliance Report shall consist of the following components:
 - a. Site-specific data collected in accordance with paragraph B, above.
 - b. If the permittee is requesting a modification to the final QWBELs based on the site-specific data, the permittee shall submit:
 - (1) Printouts of the TMS using the site-specific data along with all other assumptions and data used by DEP to establish the final QWBELs; and
 - (2) An application (3800-PM-BCW0027b) to DEP for a Major Amendment to the permit.
 - c. A TRE Report including a feasibility analysis or study, if applicable.
 - d. An assessment of whether the permittee will be capable of achieving the final QWBELs on the QWBEL Effective Date. The permittee shall notify DEP of one of the following conclusions:
 - (1) The permittee will achieve the final QWBELs on the QWBEL Effective Date. The permittee shall notify DEP of the measures that will be taken to comply.
 - (2) The permittee will or may be able to achieve the final QWBELs, but after the QWBEL Effective Date. The permittee shall notify DEP of its proposed alternative QWBEL Effective Date and include justification for the alternative date.
 - (3) The permittee will not be able to achieve the final QWBELs because all alternatives to control the toxic pollutant(s) are infeasible.
 - e. An application (3800-PM-BCW0027b) for a Major Amendment to the permit if the permittee concludes that it is not capable of achieving the final QWBELs on the QWBEL Effective Date or compliance is infeasible, or if the permittee believes the final QWBELs should be modified based on site-specific data.
3. In response to the receipt of the Final QWBEL Compliance Report, DEP may:
 - a. Request additional research, studies or clarification if the permittee concludes that it cannot achieve final QWBELs by the QWBEL Effective Date or compliance is infeasible and DEP disagrees with this conclusion or believes that additional efforts are necessary before reaching this conclusion. The permittee shall comply with the schedule provided by DEP in writing for such additional efforts or an alternative agreed upon schedule.
 - b. Issue a draft Major Amendment to the permit that modifies the QWBELs in response to site-specific data or modifies the QWBEL Effective Date, for public comment.
 - c. Deny the application for a Major Amendment to the permit or place review of the application on hold until additional research or studies requested by DEP are complete.
 - d. Notify the permittee that DEP will consider a time extension to achieve the final QWBELs under 25 Pa. Code § 95.4 for the discharge upon the receipt of a request submitted by the permittee using Form No. 3800-FM-BCW0302, if it can be demonstrated that the criteria for a time extension under § 95.4 are met.

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- e. Notify the permittee that DEP will consider the submission of a site-specific criterion study (SSCS) to further modify WQBELs, where applicable. The permittee shall comply with the requirements set forth in DEP's notification letter for completion of a SSCS, including submission of a SSCS work plan.

ATTACHMENT D

PART C CONDITION FOR § 95.4 TIME EXTENSIONS

I. TIME EXTENSION TO ACHIEVE WATER QUALITY-BASED EFFLUENT LIMITATIONS AND REPORTING REQUIREMENTS

A. Water Quality Based Effluent Limitations

In addition to the effluent limitations in Part A of this permit, the permittee is expected to ultimately achieve the following water quality-based effluent limitations (WQBELs):

Outfall No.	Pollutant	Average Monthly (mg/L)	Maximum Daily (mg/L)	IMAX (mg/L)
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

No final date for compliance is shown. The permittee has demonstrated that it meets the criteria for an extension of time to achieve WQBELs as set forth in 25 Pa. Code § 95.4.

B. Duration of Time Extension

This time extension for the pollutant(s) identified above is authorized for a period not to exceed 5 years, if the criteria in 25 Pa. Code § 95.4 continue to be met. If, at the conclusion of the time extension the permittee is unable to comply with the WQBELs identified above, the permittee shall request the execution of an enforcement document by DEP or otherwise shall terminate the discharge.

C. Annual Reports

In order for the permittee to continue to qualify for an extension, the permittee shall submit annual reports to DEP by the anniversary of the permit effective date. The submission of the justification for renewal of the extension described in paragraph B, above, shall constitute submission of the final annual report of the permit term. The annual report shall document all source reduction strategies, treatment studies and research completed during the annual reporting period by the permittee to achieve the WQBELs identified above. The report must include a feasibility analysis for application of new treatment technologies and best management practices.

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Revised, May 20, 2021**

Version History

Date	Version	Revision Reason
5/20/2021	1.5	Updated SSC requirements for Copper in permits that previously has limits based on WERs; Clarified that actions to achieve compliance must be implemented immediately upon completion of a TRE; Added implementation and completion dates for action items in TRE to permit language.
3/22/2021	1.4	Clarified that the results of Copper WERs cannot be used to develop limits; Clarified how to set limits to criteria for AFC-based WQBELs; Clarified when backsliding is allowed after less stringent criteria are promulgated; updated all references to NOTES to be the correct number.
10/1/2020	1.3	Updated references of PENTOXSD to TMS and made updates based on differences: all pollutants will be modeled for RP analysis, use the MDL & IMAX calculated by the TMS instead of setting it to criteria (AFC governed).
7/31/2019	1.2	Clarified that PENTOXSD should be run when the applicable effluent concentration exceeds or is equal to the most stringent criterion.
4/24/2019	1.1	Added Section I.E to described methods for permitting at criteria.
1/10/2019	1.0	Original