INFORMATION REQUIRED FOR PRETREATMENT PROGRAM LOCAL LIMITS EVALUATIONS

Final Version

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Introduction

This guidance has been developed by the Oregon Department of Environmental Quality (DEQ) to assist its pretreatment Control Authorities in the development of technically-based local limits. It is intended to describe the basic elements necessary for a complete local limits development document that can be submitted to the Department for review and subsequent approval.

Technically-based local limits are generally established as numerical pretreatment standards for various pollutants of concern to the Publicly Owned Treatment Works (POTW). These numerical standards are based on the predicted assimilative capacity of the treatment plant and ultimate disposal media (water, soil, and air), as well as the potential for various pollutants to cause problems in the collection system (e.g., explosions, corrosion, fume toxicity, flow obstruction, etc.). In order to determine the acceptable loading of each pollutant of concern, the Control Authority must use some type of predictive model. In using any predictive model, data must be input, and assumptions must be made in order to generate a response. As a rule, the fewer the assumptions and the more comprehensive and accurate the data, the more accurate the final result. Local limits modeling is no exception.

In this guidance, the Department describes the types of information necessary to perform an accurate modeling effort, as well as asking local limits modelers to question and discuss each of their assumptions. It is evident that all Control Authorities will not have all of the desired data elements; thus, it won't be expected. We will, however, expect a discussion of data gaps and deletions, and the rationale for all assumptions which are made.

In summary, the Department acknowledges that each submission will, by necessity, vary in content and complexity. We are requesting that Control Authorities follow the attached format and include as much actual data and development description as possible (or appropriate). Where assumptions are made, we would expect that they will err toward the conservative side of the equation. And finally, please remember the computer modelers' motto:

Garbage in, garbage out!!

Information Required for Local Limits Evaluations

I. Background

a. Provide name and phone number of the POTW contact for limits development.
b. Provide treatment plant description and configuration. Include a description of all processes utilized.
c. Provide POTW design and actual flows (influent, effluent and sludge).
d. Provide industrial source and background (domestic/commercial) flows. Discuss source of this information.
e. Provide receiving stream flow (7Q1O) and applicable mixing zone information. Also include a description of the discharge method (i.e., what type of diffuser, if any, is used).
f. Provide sludge treatment and disposal methods, including quantities (flows) to digestion and disposal.
g. Discuss sources and flows of hauled wastes (if applicable).

II. Data

a. Provide a summary of all applicable POTW influent, effluent and sludge monitoring data for all "pollutants of concern" (see section III below). The data should be tabulated and should be reflective of current operational conditions. A certification statement should be provided to verify that data were collected and analyzed according to approved methods.
b. Provide applicable industrial monitoring data in summary form. Include only data collected using approved methods.
c. Provide domestic/commercial monitoring data in summary form. Describe the sampling location and discuss why it is (or isn't) representative of all domestic/commercial discharges to the POTW.
d. Provide a discussion of any efforts to characterize background pollutant concentrations in the receiving stream. Also include any applicable historical in-stream sampling data (e.g., STORET data).
e. Provide a discussion of the data collection effort, including sampling and analytical techniques. Discuss why and how the data were obtained and why the POTW feels they are appropriate. Discuss detection limits and how results of analyses below detection limits were considered.
f. Clearly describe any use of literature or default data, and any omission of actual data.

III. Pollutants of Concern

a. Provide a detailed discussion of the determination of "pollutants of concern." Pollutants of concern must include, at a minimum, the following:

Arsenic	Nickel
Cadmium	Silver
Chromium	Zinc
Copper	BOD5
Cyanide	TSS
Lead	Fats, Oil and Grease
Mercury	pH

In addition, the POTW must describe why it included or excluded development of limits for other EPA priority pollutants and any regulated non-conventional pollutants (e.g., ammonia, phosphorus, chlorides, sulfates, etc.).

b. Provide a discussion of the need for numeric limits to implement each of the Specific Prohibitions of 40 CFR 403.5(b).

IV. Environmental Criteria

Note: The Department has provided references, in Attachment 3 of this document, for each of the environmental criteria listed below.

a. Provide a discussion of NPDES permit limits as basis for local limits.
b. Provide a discussion of Oregon Water Quality Standards as a basis for local limits (may use EPA Region 10 Water Quality spreadsheet).
c. Provide a discussion of sludge use and disposal practices as a. basis for local limits. All applicable sludge criteria, including Annual Application Rate, Cumulative Application Rate, and "Grade 1 Sludge" criteria must -be evaluated. POTWs that do not land apply sludge should contact DEQ for additional guidance.
d. Provide a discussion of unit process inhibition (for all applicable processes) as basis for local limits.
e. Provide a discussion of Worker Health and Safety criteria as a basis for local limits.
f. Provide a discussion of all other applicable Specific Prohibitions [40 CFR 403.5(b)] as a basis for local limits.

V. Headworks Loading Calculations

a. Provide a discussion of how removal efficiencies were calculated. If literature removals were used, the reason(s) for this must be clearly described.
b. Provide a discussion of the methodology used in calculating allowable headworks loadings (i.e., manual, PRELIM, IDMET, etc.)
    - If calculations were manual, all work must be provided.
    - If calculations were performed using a computer model (e.g., PRELIM, IDMET) then all input and output forms must be provided. In addition, the POTW must perform at least one sample calculation by hand to confirm the results.
c. Provide a discussion of how the "industrial flow" was determined for use in the local limits calculations. (i.e., Does the industrial flow include SIUs only, SIUs and a portion of the commercial users, or some other assumption?)
d. Provide a mass balance of predicted versus actual POTW flows and loadings. Predicted loadings are based on flows and concentrations from pollutant sources (industries and domestic and commercial sources). Actual loadings are based on POTW influent concentrations and flow.
e. Provide a mass balance of pollutant fate at the POTW. For conservative pollutants (e.g., metals), the influent loading should approximately equal the total of the effluent and sludge loadings.
f. Where significant discrepancies are found in either of the mass balance analyses (d. and e. above), a discussion of the possible reasons must be provided.

VI. Allocation of Maximum Allowable Loading (Final Limits)

Note: The Department expects that numeric limits will be developed for all "pollutants of concern." If this is not the case, a detailed discussion of the reasons must be provided.

a. Provide a discussion of the safety factor chosen.
b. Provide a discussion of the allocation methodology used.
c. Provide a discussion of how background loadings were established. This must include the types of commercial/industrial facilities considered as "background," and the reasons for their inclusion.
d. If background loadings are significant (e.g., >50 percent of allowable loadings), a detailed discussion of their source and possible control must be provided.

e. Provide a detailed description of how limits are to be applied to pollutant sources. This must include a discussion of who must meet the limits (e.g., significant users only, all nondomestic users) and what mechanism will be used to implement the limits (e.g., permits, letters, ordinance). In instances where the calculated limits will apply only to SIUs, a detailed discussion of how nonsignificant IUs will be regulated must be provided.

f. Provide a description of how limits will be incorporated in the ordinance (e.g., by reference, verbatim in a table, etc.) and include the specific language to be used.

VII. Other Considerations

a. Provide a discussion of achievability of proposed limits. This should include discussion of the proposed limits in relation to analytical detection limits and available treatment technologies, as necessary.

b. Provide a discussion of the need, or lack of need, for conventional pollutant limits based on POTW operational design parameters.

c. Provide a discussion of the basis for establishing limits for non-conservative pollutants (e.g., organic compounds). Include any pollutant fate or transport assumptions that were used.