

PRETREATMENT CORNER

Local Limits Evaluations

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The basic premise of an industrial pretreatment program is to protect the POTW against pass through of pollutants to the receiving stream to protect aquatic organisms and the public, to prevent interference of the POTW's biological treatment processes, and to protect sludge quality so that biosolids may be beneficially used.

40 CFR §403.8(f)(4) requires that... "The POTW shall develop local limits as required in §403.5(c)(1), or demonstrate that they are not necessary." 40 CFR §403.5(c)(1) further states that... "Each POTW with an approved pretreatment program shall continue to develop these limits as necessary and effectively enforce such limits."

EPA and PA DEP have decided that the NPDES permit renewal cycle, which is typically every 5 years, is the most appropriate time for such evaluation of local limits. The standard language in Part C of the NPDES permit often looks like this... "Headworks Analysis – The permittee shall submit to EPA and DEP, a reevaluation of its local limits based on a headworks analysis of its treatment plant within one year of permit issuance. The list of pollutants to be evaluated, as well as a sampling plan for the collection of necessary data, shall be submitted to EPA and DEP within three months of permit issuance. Within six months of acceptance of the headworks analysis by the Approval Authority, the permittee shall adopt the revised limits and notify all contributing municipalities of the need to adopt the revised limits."

There may also be other events that trigger a reevaluation of local limits, including but not limited to the following: the wastewater treatment facility has been modified, expanded or upgraded; treatment processes have been removed, added or altered; new significant industrial dischargers have moved into the sewer service area; existing industrial dischargers ceased operations; the commercial or institutional sewer customer base has significantly changed; the treatment facility influent flow has changed by more than 10 percent; or, influent, effluent or biosolids priority pollutant analyses have identified new pollutants of concern.

A very important first task in a local limits evaluation is to compile all domestic, commercial, industrial, influent, other intermediary process wastestreams, effluent, hauled waste and biosolids analytical test data collected since the last evaluation. This task is probably one of the most crucial aspects of conducting a local limits evaluation. If the data is not valid, every other calculation that follows will also not be valid. Once the data is tabulated, review individual data points to make sure there are no outliers that may be several magnitudes higher than other data points and eliminate such outliers. Refer to EPA's *Local Limits Development Guidance*¹ for the statistical determination of outliers.

EPA allows the use of the past 5 years of test data for the local limits evaluation. However, some of the older data may have been analyzed at a higher detection level so use your best judgment as to whether the data is valid for this evaluation. It is imperative that the laboratory conduct analyses using a test method that provides the most stringent detection level. In addition, if treatment processes or equipment have significantly changed during the 5-year period between evaluations, some of the older data collected may not be appropriate for inclusion with the current reevaluation.

As a simple rule of thumb, EPA typically recommends that if most of the test data for a pollutant is non-detected, then one-half of the reported detection level may be used for those non-detect data points when averaging the data. On the other hand, if the majority of the individual data points are detected, then the non-detects should be averaged using the pollutant reporting level.

When all of the data has been compiled, develop a preliminary list of pollutants of concern (POC) by including all pollutants that are detected in the above named wastewater and biosolids samples. Fine tune

¹ US EPA *Local Limits Development Guidance*, EPA 833-R-04-002A, July 2004 and *Local Limits Development Guidance Appendices*, EPA 833-R-04-002B, July 2004.

the POC list by determining which pollutants have NPDES or water quality based effluent limits (WQBELs); chronic, acute or human health water quality criteria; trickling filter, activated sludge, nitrification or anaerobic digestion inhibition criteria; and biosolids disposal criteria. If the POTW operates a sewage sludge incinerator or other permitted sources of air contaminants, air quality criteria may also need to be evaluated.

The WQBELs are found in the Water Protection Report DEP prepares as part of its review process for the NPDES permit renewal. In Pennsylvania, one should reference the water quality criteria found at 25 Pa Code §§93.8b and 93.8c, and only use EPA's *National Recommended Water Quality Criteria*² values if no other criteria exists for a pollutant. An interesting caveat in EPA's document...if a drinking water standard exists for a specific pollutant, that standard, if more stringent than the listed criteria, may be used as the human health criteria. One such example of this is Beryllium.

Basically, EPA wants a POTW to evaluate a pollutant as a potential local limit based on the following criteria: (1) pollutant is on EPA's list of 15 pollutants; (2) pollutant is an existing local limit; (3) pollutant is limited by a permit or applicable environmental criteria; (4) pollutant has caused operational problems in the past; or (5) the pollutant has important implications for the protection of the treatment facility, collection system, or the health and safety of POTW workers.

The first EPA hurdle is to secure approval for a proposed Sampling Plan, which may be required for additional testing of sample locations and/or pollutants. A Sampling Plan³ guidance document with these requirements is found at the EPA Region 3 website.

Expect to receive comments from EPA on the initial local limits evaluation that will require revisions or modifications to the evaluation. Even though a POTW is required to submit the headworks analysis within specific time frames, EPA's response time may lag. It is not unheard of for a local limits evaluation to take several years until final local limits are approved by EPA.

Do not delay in meeting the 3-month after permit issuance Sampling Plan submission deadline or the 1-year after permit issuance local limits evaluation submission deadline to EPA, as 10 POTWs found out during the summer of 2010.

² US EPA *National Recommended Water Quality Criteria*, 2009 found at www.epa.gov/ost/criteria/wqctable/

³ US EPA Region 3 Sampling Plan for Local Limits Development found at www.epa.gov/reg3wapd/pretreatment/pdf/sampling_guidance.pdf