LOCAL LIMITS REVIEWS VS LOCAL LIMITS RE-EVALUATIONS

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ACWA Workshop: Setting Pretreatment Local Limits
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WHAT DO THE REGULATIONS TELL US TO DO ABOUT LL REVIEWS?
WHAT DO THE REGULATIONS TELL US TO DO ABOUT LL REVIEWS?

Look at your data!

What he said!

EPA

DEQ
CODE OF FEDERAL REGULATIONS

• 40 CFR 122.44(j)(2)(ii) states that POTWs must:
  ▪ “Provide a written technical evaluation of the need to revise local limits under 40 CFR 403.5(c)(1), following permit issuance or reissuance.”

• In Oregon, DEQ includes this requirement in Schedule E (Pretreatment Activities) of NPDES permits:
  ▪ “The permittee must perform a technical evaluation of the need to revise local limits within 18 months after permit issuance unless DEQ authorizes or requires, in writing, an alternate time frame.”
• **Reviews** compare current headworks loadings with the Maximum Allowable Headworks Loadings (MAHLs)
• **Reviews** also examine any recent violations
• **Re-evaluations** are necessary for changed conditions not addressed in the periodic reviews, including plant conditions, regulatory changes, and changes in the industries that discharge to the POTW
PERFORMING A REVIEW—EPA RECOMMENDATIONS

• If a POTW has had performance issues in the past, EPA recommends performing a review annually as part of preparation for its annual report.

• Oregon DEQ has made this a standard part of annual reporting for all POTWs with Pretreatment Programs, regardless of whether or not there have been performance problems.
PERFORMING A REVIEW-EPA RECOMMENDATIONS (Continued)

- POTWs should calculate the maximum daily and maximum monthly average headworks loadings for each pollutant of concern (POC) for which it has calculated MAHLs
- Includes all POCs for which a MAHL has been calculated, even if a local limit was not adopted
• Calculate the percentage of the MAHL that is represented by the influent loadings observed in the previous year

\[
\text{% of MAHL} = \frac{\text{Observed Influent Loading}}{\text{MAHL}} \times 100\%
\]

• This percentage of MAHL can be compared to the threshold that was used to determine whether a local limit was adopted (if a threshold was used in this decision)
PERFORMING A REVIEW-EPA RECOMMENDATIONS (Continued)

• EPA guidance on using the % of MAHL to make decisions on revising existing local limits or establishing limits for new pollutants makes an assumption that a POTW used a specific threshold for establishing local limits, e.g.:
  ▪ If the average loading for a toxic metal or organic pollutant exceeds 60% of the MAHL, a local limit should be developed
  ▪ If the average loading for a conventional pollutant exceeds 80% of the MAHL, a local limit should be developed
• The assumption that a specific threshold was used is often not valid!
PERFORMING A REVIEW-EPA RECOMMENDATIONS (Continued)

• Many POTWs (probably most POTWs in Oregon) develop local limits for POCs whose headworks loadings are a small fraction of the MAHL

• POTWs in OR commonly develop local limits for arsenic, cadmium, cyanide, and silver, even though influent loadings for these pollutants are usually < 10% of the MAHL

• Thus, POTWs in Oregon do not use a specific “percentage of MAHL” threshold to decide to develop a local limit

• This makes EPA guidance somewhat less than useful
PERFORMING A REVIEW-EPA RECOMMENDATIONS (Continued)

• One part of EPA guidance that does not rely on a threshold value is the case where the current POC headworks loading exceeds the MAHL

• When the loading exceeds the MAHL, EPA recommends:
  ▪ Establishing (or revising) a local limit
  ▪ Investigate the cause of elevated loading
  ▪ Increase IU monitoring
  ▪ Identify noncomplying industries
  ▪ Consider implementing pollution prevention efforts
• If a POC influent loading approaches the MAHL:
  ▪ Investigate to determine whether the loading is an unusual, one-time occurrence with a known cause
  ▪ Compare current IU loadings with Maximum Allowable Industrial Loadings (MAILs)
    ❖ If increased loadings not coming from regulated IUs, they may be due to increased domestic/commercial sources
  ▪ Review the data used to set the local limits in the first place
    ❖ There have been changes that would alter local limits calculations – a fundamental change would be if removal efficiencies are different than they were when local limits were developed
OREGON DEQ GUIDANCE FOR CONDUCTING REVIEWS

• Pretreatment annual report guidance instructs POTWs to compare the highest observed influent loading during the previous year to the MAHL
• If the highest influent loading meets or exceeds a threshold of 90% of the MAHL, the POTW must provide a detailed narrative discussing reasons for the high loading
• Oregon guidance also includes instructions for determining whether an exceedance of the MAHL caused a pass-through (violation of WQ standard)
A LOOK AT SOME REAL DATA

• Zinc influent loadings at the Rock Creek Plant
• Five years of data reported on annual reports
• The 60% of MAHL threshold was not adopted, either for the original local limits development, or for subsequent reviews
Observed Daily Zinc Influent Loadings
Rock Creek Plant, 2011-2015

MAHL = 31.9 Lbs/Day

60% of MAHL = 19.2 Lbs/Day
Observed Daily Zinc Influent Loadings
Rock Creek Plant, 2011-2015 (May-October)

MAHL = 31.9 Lbs/Day

60% of MAHL = 19.2 Lbs/Day
WHEN TO RECALCULATE LOCAL LIMITS

- Treatment plant has been modified
- Plant processes have been changed
- Significant change in flow
- New or revised NPDES limits
- Changes in state WQ standards
WHEN TO RECALCULATE LOCAL LIMITS (Continued)

- Change in sludge disposal method
- Loadings affected by new IUs, changes in current IUs, or IUs that have stopped discharging
- New information about POTW or IUs that invalidate previous assumptions used in LL development
WHEN TO RECALCULATE LOCAL LIMITS (Continued)

• If any of the conditions in the previous slides has changed, EPA guidance states that a detailed re-evaluation of local limits is generally appropriate.
• DEQ Pretreatment Coordinator should be consulted when making this determination.
WHEN A POTW MIGHT NOT HAVE TO RECALCULATE LOCAL LIMITS

• If loadings have increased because of new IUs or increased discharges from current IUs, the POTW might be able to reallocate loadings that were allocated to the expansion/growth allowance when LLs were developed.

• This is only feasible if the POTW dedicated part of its MAHL to keep in reserve for future growth.

• Reallocating an existing MAHL is much simpler and less expensive than a full-blown local limits re-development!
WHEN A POTW MIGHT NOT HAVE TO RECALCULATE LOCAL LIMITS

• If the POTW has the data and information to show that none of the following have changed since the last time local limits were developed:
  ▪ Removal efficiencies
  ▪ Total or IU loading
  ▪ Limiting criteria (NPDES permit limits, WQ standards, sludge disposal criteria)
  ▪ Sludge characteristics or method of disposal
  ▪ Background concentration of pollutants in receiving water
HAPPY CALCULATING! QUESTIONS?

\[ E = \left[ \frac{\hbar c}{2 \lambda} \right] + \left[ \frac{1}{2} \left( \frac{\hbar^2}{\alpha^2} \right) \cos^2(\phi_1) + \left( \frac{B^2}{2}\alpha \right) \sin^2(\phi_1) \right] \]

\[ E = \text{The energy} \quad B = \frac{\mu_0 \cdot e}{\alpha} \quad V = \frac{23}{2} \frac{\text{energy}}{\text{dog years}} \]

"There it is. You forgot to convert to dog years."