

Limits Issues

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Types of Limits

- Environmentally-based
- Technology-based
- Narrative
- Numerical
 - Concentration
 - Mass
- General
- Individualized
- Management practice

Problems

- Existing and new sources
- Multiple categorical standards
- Categorical and non-categorical operations
- Production-based limits with variable production rates
- Mass limits with variable flow rates
- Facilities that present unique risks
- Technology keeps changing
- New concerns

Problem 1

Local limit and categorical limit for the same pollutant, with the same units

Solution: Apply the most stringent limit

Problem 2

Local limit and categorical limit for the same pollutant, one limit is a concentration, the other limit is a mass

Solution: Apply both limits

Alternative: Harmonize the limits and apply the most stringent limit

Problem 3

Facility has highly variable batch discharges throughout the day.
Pollutant requires a grab sample.

Alternative 1: Implement multiple sample protocol.

Alternative 2: Clarify in ordinance or permit that one sample determines compliance.

Alternative 3: Persuade facility to install a mixed equalization tank.

Problem 4

Facility has

- two electroplating lines from the 1970s
- two electroplating lines from the 1980s
- one galvanizing line
- one degreasing line
- four deburring bowls

All parts are owned by others

All process wastewater is combined for treatment

Problem 4 Continued

Solution: Step 1: Category determination

- The electroplating standards apply to the old lines.
- The metal finishing standards apply to all other process wastewater.
- Galvanizing is metal finishing, not iron and steel manufacturing, because it is not done where the steel is manufactured and is done on parts owned by others.

Problem 4 Continued

Step 2: Calculate limits

- Estimate average flows from all unit operations.
- Translate the electroplating 4-day averages to monthly limits.
- Using flows and concentration limits for operations in the different categories, calculate total allowable mass from each category.
- Sum the allowable mass for each category for each pollutant.
- Divide the total allowable mass by the total average flow.
- Apply metal finishing cyanide limits after cyanide treatment, before mixing with other wastewater

Problem 5

User discharges highly variable pollutants causing odor complaints, foaming events, and worker safety issues related to volatile organic compounds (VOCs).

Solution:

- For odor and foam, a business disruption standard. A violation occurs if neighbors need to change how they do their business.
- For VOCs, apply fume toxicity screening levels, which are available in EPA's local limits guidance.

Problem 6

Categorical limits exist for o-cresol and p-cresol. However, no commercial laboratory can distinguish these two compounds at the regulatory levels for this matrix.

Solution: Compare the result obtainable from the laboratory to both limits separately.

Problem 7

A non-categorical user has occasional very large batch discharges with significant concentrations of metals.

User is located near water reclamation facility, preventing attenuation in the sewerage system.

Discharge complies with local limit, but metal load causes metals concentration in biosolids near the limit.

Problem 7 Continued

Solution: Develop and apply a facility-specific mass limit based upon the biosolids production rate and biosolids limit, with a safety factor.

Problem 8

Under Superfund, the federal government is managing a large remedial action. The remedial action involves much groundwater removal. Groundwater will be pumped, treated, and discharged. Groundwater may contain PCBs, PAHs, and metals.

Solution: Discharges are exempt from local requirements. Hope for a cooperative Superfund project manager.

Problem 9

Facility forges aluminum, nickel, steel, and titanium.

Facility uses the same equipment for all four metals.

Metals types are forged in batches lasting from a few weeks to a few months.

Production rates and metal forged are unpredictable and highly variable.

Facility may be forging different metals at the same time on different machines.

Wastewater is combined before discharge. No treatment except for oil skimming.

Problem 9 Continued

Step 1: Category determination

- Aluminum Forming
- Non-ferrous Metals Forming (nickel and titanium)
- Non-categorical (steel)

Problem 9 Continued

Issues

- Aluminum Forming and Non-ferrous Metals Forming standards are production-based.
- The standards regulate different pollutants.
- Applying local limits to steel forging would make the more stringent categorical limits meaningless when limits are combined.
- Long-term average production rates are unlikely to represent any actual production day.

Problem 8 Continued

Option 1:

- Determine long-term average daily production rates.
- Using the production rates and the standards, calculate mass allowances for aluminum, nickel, and titanium production.
- For steel, assume flow from steel production is proportional to steel production. Multiply steel flow by achievable concentrations from the non-ferrous metals *Development Document*.
- Sum the allowances to get a total mass limit.

Problem 8 Continued

Option 2:

Include the standards, but not limits, in the permit.

Obtain production data for the day of sampling.

Recalculate limits using production data from each sampling day.

Option 3:

Establish limits equal to the most stringent treatment technology performance data in the *Development Document* for aluminum forming or non-ferrous metals forming.