



National Pretreatment Program

(40 CFR 403)



Pretreatment Streamlining Rule

Fact Sheet 3.0: Equivalent Mass Limits for Concentration Limits

Summary

In the Pretreatment Streamlining Rule of October 14, 2006, EPA finalized a provision that allows, in limited circumstances, the conditional use of equivalent mass limits in lieu of concentration-based limits to facilitate adoption of water-saving technologies. Industrial users whose wastewater discharges are controlled by equivalent mass limits have more flexibility to implement water conservation, as they may elect to control their wastewater discharges through more efficient wastewater control technologies and pollution prevention practices (i.e., resulting in lower pollutant concentrations in the discharged wastewater) or more efficient water conservation practices (e.g., resulting in less wastewater volume discharged from an industrial operation) or both.

Who might be affected by this provision?

This provision affects Pretreatment Programs that accept wastes from qualifying indirect dischargers in certain industrial categories and that want the discretion to express Categorical Industrial Users' (CIUs') concentration-based categorical Pretreatment Standards as equivalent mass limits. The affected industrial categories are those that have Pretreatment Standards expressed as concentration limits alone. Currently, this includes 14 industrial categories:

- Inorganic Chemicals (40 CFR 415)
- Fertilizer Manufacturing (40 CFR 418)
- Petroleum Refining (40 CFR 419)
- Steam Electric Power Generating (40 CFR 423)
- Leather Tanning (40 CFR 425)
- Glass Manufacturing (40 CFR 426)
- Rubber Manufacturing (40 CFR 428)

- Metal Finishing (40 CFR 433)
- Pharmaceutical Manufacturing (40 CFR 439)
- Transportation Equipment Cleaning (40 CFR 442)
- Paving and Roofing Materials (40 CFR 443)
- Commercial Hazardous Waste Combustors
Subcategory of the Waste Combustors Point Source
Category (40 CFR 444)
- Carbon Black Manufacturing (40 CFR 458)
- Electrical and Electronic Components (40 CFR 469).

The provision also affects states that plan to amend state law to allow POTW Pretreatment Programs the discretion to set equivalent mass limits.

How can a CIU qualify for an equivalent mass limit?

To qualify for an equivalent mass limit, a CIU must:

- ◆ Implement or demonstrate that it will implement water conservation measures that “substantially reduce” water use. This is intended to encourage prospective innovation in water conservation methods; there is no precondition that Industrial Users have already employed water conservation measures.
- ◆ Use control and treatment technologies adequate to achieve compliance with categorical Pretreatment Standards, and demonstrate that it has not used dilution as a substitute for treatment. (There are a number of ways the Control Authority may evaluate whether the CIU is diluting its flows. This evaluation can be made by comparing the CIU’s product to flow ratio relative to that of other facilities within its industry, reviewing historical monitoring reports, or comparing current flows to the flows that are assumed as part of the model technology for the standard in the Technical Development Document for the Effluent Guideline for that industry.)
- ◆ Provide monitoring data to establish its actual average daily flow rate and its baseline long-term average production rate.
- ◆ Demonstrate that it does not have daily flow rates, production rates, or pollutant levels that fluctuate so significantly that establishing equivalent mass limits would not be appropriate.

- ◆ Have consistently complied with the applicable Categorical Pretreatment Standards. While the regulations do not define a set period of consistent compliance, the Control Authority should evaluate a period of time that is long enough to ensure that seasonal violations do not occur. The regulations in 40 CFR 403.12(o) require that Industrial Users maintain records of all information from any monitoring activities for a minimum of three years; EPA recommends that these records should be reviewed and considered to the extent that they reflect compliance with current conditions. It is also important to note that “consistent compliance” is a more restrictive requirement than “not in SNC,” and that EPA expects that no Industrial User found to have been in SNC at any time during the previous two years would be considered to have achieved consistent historical compliance.

What constitutes a substantial reduction in water use?

The Streamlining Rule does not specify the amount of water conservation that should be achieved or that constitutes a substantial reduction in water use. EPA notes that several existing programs define thresholds that the Control Authority may consider for use in this context. For example:

- ◆ The final rule for the Pretreatment Community XL (XLC) Site-Specific Rulemaking for Steele County, MN indicates that the participating Industrial Users committed as a group reduce water usage by 10 percent over the initial 5 year project period.
- ◆ The National Metal Finishing Strategic Goals Program promotes a 50 percent water reduction from each participating industrial facility’s baseline 1992 water usage.
- ◆ In Agency guidance for the Use of Production Based Pretreatment Standards and the Combined Wastestream Formula (1985), EPA considers a 20 percent change in flow rate to be a significant change in flow rate.

How are equivalent mass limits put in place?

Once a POTW revises its approved pretreatment program to allow for mass-based limits, EPA anticipates that Industrial Users will initiate the process by requesting that their concentration-based limits be converted to equivalent mass limits and demonstrating that they meet the qualifications. Although a CIU may request an equivalent limit, the Pretreatment Control Authority has the discretion to decide whether an equivalent mass limit is appropriate. To approve the request, the Control Authority must:

- ◆ Work with the EPA or state Approval Authority to review, and revise as necessary, its Sewer Use Ordinance (or equivalent authority), program procedures, Enforcement Response Plan, and local limits to determine whether changes are needed. (In most cases, the legal authority will require revision.)
- ◆ Determine the CIU's actual average daily flow rate. Equivalent mass limits must be based on the CIU's actual average daily flow rate from the regulated processes at the designated sampling location. If necessary, the combined wastestream formula must be used to account for any flows not regulated by the standard. The flow rate used must be representative of current operating conditions, and the flows must be measured using a continuous effluent flow monitor.
- ◆ Calculate the equivalent mass limit by multiplying the Pretreatment Standard in the regulations (expressed as concentration) by the Industrial User's actual average daily flow rate for the regulated processes and the appropriate unit conversion factor. For example, the unit conversion factor is 8.34 when multiplying a concentration limit (expressed as milligrams/liter) by flow (expressed as millions of gallons per day). It is important to note that the same flow value (the CIU's actual long-term average daily flow rate) is used in the calculation of both the daily maximum and monthly average equivalent mass limits.
- ◆ Document how the mass limit calculations were derived and make the documents publicly available.

- ◆ Incorporate the equivalent mass limits into the CIU's permit (or other equivalent control mechanism). The Control Authority should include the four conditions listed below in the CIU's permit to clarify the requirements for continued use of the equivalent mass limits.

What is required after mass limits are in place?

After the Control Authority issues a permit (or control mechanism) with equivalent mass limits, the continued applicability of the equivalent mass limit depends on the CIU's continued compliance with certain requirements. The CIU must:

- ◆ Maintain and effectively operate control and treatment technologies adequate to achieve compliance with the equivalent mass limits;
- ◆ Record the facility's flow rates through the use of a continuous effluent flow monitoring device;
- ◆ Continue to record the facility's production rates and notify the Control Authority if the rates vary by more than 20 percent from the production rates used as the basis for the equivalent mass limits; and
- ◆ Continue to employ the same or comparable water conservation measures which made the facility eligible for receiving the equivalent mass limits.

If the CIU does not meet these requirements, the CIU's permit would have to be revised to require compliance with the pre-existing concentration-based Pretreatment Standard.

Can local limits be expressed as mass based limits?

The ability to establish mass-based local limits was not affected by the Pretreatment Streamlining rule. The POTW chooses its local limits implementation method (concentration, mass, or a combination) during the local limits determination process and adopts the limits into its program. For more information on developing local limits, see Local Limits Development Guidance (July 2004), available at EPA's Pretreatment Web site, http://www.epa.gov/npdes/pubs/final_local_limits_guidance.pdf

A POTW can allocate and apply its Maximum Allowable Industrial Loading (MAIL) to its controllable sources as mass-based limits. If a POTW allocates its MAILs on a

case-by-case basis, it may be easier to apply mass-based limits to Industrial Users that have the capability to accurately measure their flows at the designated sample points. If approved local limits are currently expressed as concentration-based limits, the POTW cannot convert the local limits to mass limits without modifying the approved program, which under certain circumstances would be a substantial modification (see 40 CFR 403.18(b)(2)). Specific circumstances under which the reallocation of a MAIL would be a substantial program modification are discussed in a 1997 Federal Register (see 62 FR 38409 and also 40 CFR 403.18(b)(2)).

Where can I get more information?

The regulations covering equivalent mass for concentration limits are found in 40 CFR 403.6(c)(5), which was published in the Federal Register on October 15, 2005 (70 FR 60134). You can get a copy of the rule at EPA's Pretreatment Web site, http://cfpub.epa.gov/npdes/home.cfm?program_id=3 Additional information is also available from your state or from EPA.