Pretreatment Standards
Pretreatment Standards

- General and specific prohibitions
- Categorical standards
- Local limits
General Prohibitions [40 CFR § 403.5(a)(1)]

No user shall introduce into a POTW any pollutants which cause Pass Through or Interference.
Specific Prohibitions [40 CFR § 403.5(b)]

- Pollutant(s) creating a fire or explosion hazard
- Pollutants causing corrosive structural damage
- Solid/viscous pollutants causing obstruction
- Pollutants released at a flow rate or concentration causing Interference
Specific Prohibitions, cont.

[40 CFR § 403.5(b)]

- Heat in amounts causing interference
- Certain oils in amounts causing interference or pass through
- Pollutants resulting in the presence of toxic gases, vapors or fumes above acute worker exposure levels
- Trucked or hauled pollutants
Categorical Standards

- Applicable to specific industry categories
- Arose from 1976 EPA/NRDC agreement.
- Currently at 51 categories.
- Found in 40 CFR Parts 405-471.
- Applicable to direct & indirect dischargers.
- The CWA(304(m)) requires that every two years EPA develop and publish plans for effluent guidelines, review, revision, development, and adoption.
Flow Chart of Development Process

Data Collection → Regulatory Tasks

Proposed Development Document → Proposed Regulations

Public Comment → Revisions

Promulgation of Final Regulations → Final Development Document
Categorical Standards

- National standards
  - technology available
  - economic impacts
  - processes performed
- Apply to regulated process flow only
- Concentration or mass based limits
- Daily maximum and long term averages
- Developed for new and existing sources
Why is Existing/New Source Determination So Important?

- New source standards most times are more stringent
- New sources required to be in compliance upon commencement of discharge
- Existing sources can have up to three years after the effective date of the standard to achieve compliance
Production Based Standards

Equivalents

- mass based limitations
- concentration based limitation
Standards

Daily/Maximum................................. 0.004 kg Cu/ton of product
Maximum Monthly Average.............. 0.002 kg Cu/ton of product

Conditions

Average Production (2009)............. 500 tons of product/day
Average Flow (2009).................... 200,000 GPD (0.2 MGD)

Equivalent Mass Limits Calculations

Daily Maximum

0.004 kg Cu/ton \times 500 \text{ tons/day} = 2 \text{ kg Cu/day}

Maximum Monthly Average

0.002 kg Cu/ton \times 500 \text{ tons/day} = 1 \text{ kg Cu/day}
Standards

Daily/Maximum.......................... 0.004 kg Cu/ton of product
Maximum Monthly Average........... 0.002 kg Cu/ton of product

Conditions

Average Production (2009)........... 500 tons of product/day
Average Flow (2009)............... 200,000 GPD (0.2 MGD)

Equivalent Concentrations Limits Calculations

Daily Maximum

\[
\frac{0.004 \text{ kg Cu/ton} \times 500 \text{ tons/day}}{0.2 \text{ MGD}} \times 0.264^* = 2.6 \text{ mg/l}
\]

Maximum Monthly Average

\[
\frac{0.002 \text{ kg Cu/ton} \times 500 \text{ tons/day}}{0.2 \text{ MGD}} \times 0.264^* = 1.3 \text{ mg/l}
\]

* Factor converting kg/MGD to mg/l
Wastestream Types

- Regulated process wastestreams
- Unregulated process wastestreams
- Dilute wastestreams
Wastestreams and Calculations

**Combined Wastestream Formula (CWF)** is used where regulated, unregulated and/or dilution wastestreams are combined prior to pretreatment.

**Flow Weighted Average (FWA)** formula is used when regulated, and unregulated and/or dilution wastestreams combine after pretreatment, but prior to the specified monitoring location.
CWF vs. FWA

Regulated → Unregulated → Pretreatment → POTW

Point A: CWF

Point B: FWA or CWF

Dilution
<table>
<thead>
<tr>
<th>Category</th>
<th>Wastestream Type</th>
<th>Average Flow (MGD)</th>
<th>Daily Max ZN Limit (mg/l)</th>
<th>Max. Monthly Avg. Zn Limit (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal Finishing</td>
<td>Regulated</td>
<td>0.020</td>
<td>2.61</td>
<td>1.48</td>
</tr>
<tr>
<td>Sanitary Waste</td>
<td>Dilution</td>
<td>0.003</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**CWF Limit Calculations**

Daily Maximum  
\[ Z_{\text{cwf}} = \frac{2.61 \text{ mg/l} \times 0.02 \text{ MGD}}{(0.02 + 0.003) \text{ MGD}} \]  
\[ = 2.27 \text{ mg/l} \]

Maximum Monthly Average  
\[ Z_{\text{cwf}} = \frac{1.48 \text{ mg/l} \times 0.02 \text{ MGD}}{(0.02 + 0.003) \text{ MGD}} \]  
\[ = 1.29 \text{ mg/l} \]
Application of Categorical Pretreatment Standards
Total Toxic Organics ("TTOs")

- Defined in categorical regulation
- Toxic Organic Management Plan ("TOMP")
  - toxic organic compounds used
  - method of disposal
  - spill prevention/control
- Certification in lieu of self-monitoring
- Oil and grease
Other Things to Consider...

Dilution prohibition - [40 CFR § 403.6(d)]

Removal credits - [40 CFR § 403.7]

Fundamentally different factors - [40 CFR § 403.13]

Net/Gross calculation - [40 CFR § 403.15]
Question

A plating shop has been in business since 1980. In 1990, it was bought out by Such N Such Metal Finishing. Is Such N Such Metal Finishing, a new source?