Do these regulations apply to my operation?

A facility is subject to the Metal Finishing Category of the Pretreatment Standards if wastewater from one or more of the following operations is discharged to a publicly owned treatment works (POTW):

- Electroplating
- Electroless plating
- Anodizing
- Coating (including phosphating or chromating metal parts prior to application of a finish coating)
- Chemical etching and milling
- Printed circuit board manufacture

General Requirements

All industrial wastewater discharges to a publicly owned treatment works (POTW) are subject to the general regulations found in Title 40 of the Code of Federal Regulations (CFR), Part 403.5. These regulations prohibit wastewater discharges that include any pollutant which may pass through or cause interference with the POTW treatment process. Wastewater pollutants that create an explosion hazard, corrosive structural damage, obstructions to flow, excessive heat, and toxic gases are also prohibited.

Wastewater generated by any one of a number of categories of industries may also be subject to specific ‘Categorical Pretreatment Standards’ when discharged directly to a POTW. The federal Categorical Pretreatment Standards are found in 40 CFR Parts 405 to 471. The Metal Finishing Category is specifically covered in 40 CFR Part 433. These regulations address: 1) wastewater discharge (effluent) guidelines for existing sources, 2) standards of performance for new sources, and 3) pretreatment standards for both new and existing sources.

What are the benefits of proper wastewater management?

Wastewater regulations were established to minimize human and environmental exposure to hazardous chemicals and to protect ground and surface water. This includes limits on the types and concentration of chemicals that may be present in the discharged wastewater. Compliance with applicable wastewater regulations is an enforceable law. Noncompliance can result in significant fines and/or environmental cleanup liabilities.
Facility Requirements

Record Keeping/Reports

Baseline Monitoring Reports

Facilities subject to the Metal Finishing Pretreatment Standards must prepare and submit a baseline monitoring report (BMR) to their ‘control authority.’ The control authority is: 1) the local POTW if it has an approved pretreatment program or 2) the Iowa Department of Natural Resources. As the name implies, the BMR provides information on a facility’s current operations, its wastewater characteristics, and its compliance status with the applicable pretreatment standard. The following information must be included in a BMR:

- The name and address of the facility and its owners;
- A list of all environmental control permits held by the facility;
- A description of the operations conducted at the facility, including average production rates, Standard Industrial Classification (SIC) codes, and a schematic diagram of the processes that discharge to the POTW;
- Wastewater flow measurements from the regulated discharges;

Identification of the Pretreatment Standards applicable to each regulated process and pollutant concentration/mass data for regulated parameters, including:

- A statement certifying whether the facility is in or out of compliance with the applicable Pretreatment Standards; and
- If the facility is not in compliance, a description and schedule of actions that will be implemented to achieve compliance.

More detailed information regarding the BMR format can be found in 40 CFR 403.12(b) and (c). A BMR was due in February 1984 for facilities in operation at that time. Facilities with regulated processes beginning after February 1984 are to submit a BMR 90 days prior to starting operation.

Compliance Reports

In addition to the BMR, regulated facilities must submit:

- A Report on Compliance (90-Day Compliance Report)

An initial compliance report must be submitted to the control authority within 90 days of the final compliance date of the standards or the date a new facility began discharge of a regulated wastewater. This report indicates whether the Metal Finishing Pretreatment Standards are being met on a consistent basis. It includes information on the concentration of all regulated pollutants, average and maximum daily flow rates and, if not in compliance, what additional practices will be implemented to achieve compliance. See 40 CFR 403.12(d).
Periodic Reports of Continued Compliance

A periodic compliance report must be submitted to the control authority semi-annually. While the regulations state these reports should be submitted in June and December, the control authority can adjust the reporting dates to meet specific needs. Like the Report on Compliance, the periodic report includes information on concentration of the regulated pollutants discharged to the POTW, average and maximum daily flow rates, sampling and analytical methodology, and a certification statement indicating the methodology conforms with the regulations. See 40 CFR 403.12(e).

Notice of Slug Loading

Facilities must immediately notify the POTW if any pollutant is released to the POTW at a flow rate or concentration that will interfere with the POTW’s normal operation (i.e., the 40 CFR 403.5 prohibitions). See 40 CFR 403.12(f).

All records and monitoring activity data must be available for inspection for a minimum of three years and maintained on site.

Monitoring Requirements

Regulated wastewater discharges from metal finishing facilities, in operation prior to August 1982, must meet the pretreatment standards for existing sources (PSES) listed in Table 1. Facilities beginning operation after August 1982 are subject to pretreatment standards for new sources (PSNS). The PSNS standards are the same as the PSES standards listed in Table 1 with the exception of cadmium, which was reduced to 0.11 mg/l for the single day maximum and 0.07 mg/l for the monthly average maximum.

The total toxic organics (TTO) category includes approximately 110 compounds such as benzene, tetrachloroethylene, toluene, trichloroethylene, PCB, etc. Initial TTO monitoring and reporting must be included as part of the BMR for TTO “which would reasonably be expected to be present” in the waste stream. The Control Authority may exclude subsequent TTO monitoring if a facility demonstrates TTO compliance in the BMR and it meets both of the following requirements:

- The facility submits a solvent management plan to the control authority. The plan should include a list of the toxic organic compounds used at the facility, the method of disposal for these compounds (other than sewer discharge), and procedures for ensuring that toxic organics do not routinely spill or leak into the wastewater discharge. See 40 CFR 403.12(g), 40 CFR 433.12, and 40 CFR 433.16.
- The facility provides the following certification statement in each periodic report.

  “Based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitation [or pretreatment standard] for total toxic organics (TTO), I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that his facility is implementing the toxic organic management plan submitted to the control authority.”
Table 1 - Pretreatment Standards for Existing Sources (PSES)

<table>
<thead>
<tr>
<th>Pollutant or Pollutant Property</th>
<th>Single Day - Maximum Milligrams per liter (mg/l)</th>
<th>Monthly Average - Maximum Milligrams per liter (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cadmium</td>
<td>0.69 (0.11&lt;sup&gt;*&lt;/sup&gt;)</td>
<td>0.26 (0.07&lt;sup&gt;*&lt;/sup&gt;)</td>
</tr>
<tr>
<td>Total Chromium</td>
<td>2.77</td>
<td>1.71</td>
</tr>
<tr>
<td>Total Copper</td>
<td>3.38</td>
<td>2.07</td>
</tr>
<tr>
<td>Total Lead</td>
<td>0.69</td>
<td>0.43</td>
</tr>
<tr>
<td>Total Nickel</td>
<td>3.98</td>
<td>2.38</td>
</tr>
<tr>
<td>Total Silver</td>
<td>0.43</td>
<td>0.24</td>
</tr>
<tr>
<td>Total Zinc</td>
<td>2.61</td>
<td>1.48</td>
</tr>
<tr>
<td>Total Cyanide</td>
<td>1.20</td>
<td>0.65</td>
</tr>
<tr>
<td>Total Toxic Organics (TTO)</td>
<td>2.13</td>
<td>.................</td>
</tr>
</tbody>
</table>

Additional restrictions on wastewater pH levels and the amount of oil/grease and total suspended solids allowed in the discharge will likely be established by the local POTW.

* PSNS for cadmium. PSNS for all other parameters are the same as those listed for PSES.