Advice & Counsel

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The Regulations Just Keep Coming

On January 27, 1995, the U.S. Environmental Protection Agency (EPA) published proposed regulations for centralized waste treatment (CWT) facilities (60 CFR, page 5464). While not directly affecting the metal finishing industry, the impact on centralized waste treatment facilities will translate into higher costs for disposal/treatment of wastes generated by our industry. It may also limit the number of available treatment facilities in an already small group of companies. Let's take a look at the regulations.

What is a CWT?

EPA defines a centralized waste treatment facility as any facility that treats any hazardous or non-hazardous waste received from off-site by tanker truck, trailer/roll-off bins, drums, barge, or other forms of shipment. The facility is included in the regulations, whether the waste treated is exclusively from off-site locations, or if some of the waste is generated and treated on-site.

EPA divided CWTs into three subgroups:

1. Facilities that treat/recover metals from metal-bearing waste.
2. Facilities that treat/recover oils from oil-bearing wastes.
3. Facilities that treat/recover organics (except oils/greases) from organic-bearing wastes.

From each sub-group, EPA proposes best practicable control technology (BPT) currently available. For the metals sub-group, EPA chose selective metals precipitation, pressure filtration, secondary precipitation, solid-liquid separation, and tertiary precipitation as BPT, based on a relatively "insignificant increase in cost" over other options considered. BPT for wastes containing cyanide includes alkaline chlorination prior to metals treatment. EPA also proposes to make best control technology (BCT) and best achievable technology (BAT) equivalent to BPT.

The technology basis for the regulations included effluent data from questionnaires sent to CWT facilities and the sampling program conducted by EPA. The agency concluded that the wastewater treatment performance of the facilities it surveyed was, with very limited exceptions, very poor and, therefore, based BPT on one plant.

BPT & Existing Sources Effluent Limitations—Metals Sub-category (mg/L)

Parameter	Daily Max.	Monthly Avg.
Oil & Grease	45.0	11.0
Total Suspended Solids	55.0	18.0
Aluminum	0.72	0.16
Antimony	0.14	0.031
Arsenic	0.076	0.017
Barium	0.014	0.032
Cadmium	0.73	0.16
Chromium	0.77	0.17
Cobalt	0.73	0.16
Copper	1.0	0.23
Hexavalent Chromium	0.14	0.077
Iron	2.4	0.54
Lead	0.37	0.082
Magnesium	9.9	2.2
Manganese	0.18	0.039
Mercury	0.013	0.003
Nickel	5.4	1.2
Silver	0.028	0.0063
Tin	0.20	0.044
Titanium	0.021	0.0047
Total Cyanide	4.4	1.2
Zinc	1.2	0.27

For the oils sub-group, EPA proposes the use of ultrafiltration, followed by carbon adsorption and reverse osmosis, for treatment of less concentrated stable oily wastes, or for the additional treatment of wastewater from the emulsion breaking process.

For the organics sub-group, EPA is proposing equalization, air stripping, biological treatment, and multi-media filtration.

Rebirth of Removal Credits

Because EPA has regulations in place on the sludges generated by POTWs, the proposed regulations allow for the POTWs to apply for removal credits. In the case of metals, if a POTW applies its sludge to land, removal credits may be applied for up to10 metals. If the sludge is disposed of at a disposal site, only three metals may be included in the credit application. If the sludge is incinerated, seven metals may be included in a removal credit application. Removal credits may also be available for additional pollutants, as long as the sludge meets Part 403 regulations. If the POTW disposes of its sludge in a municipal solid landfill that meets 40 CFR Part 258, removal credits may be available for any pollutant in the sludge.

EPA estimates the cost of compliance of the metals sub-group by upgrading existing facilities will be about $2,000,000 per facility. Additionally, annual O&M costs will increase by about $800,000 per facility. EPA estimates that about 15 percent of CWTs will definitely go out of business, and that an additional

35 percent may also go out of business.

The accompanying table lists the BPT effluent limitations for the metals sub-category (refer to the *Federal Register* for regulations on the other sub-groups).

A quick review of the parameters regulated and the maximum allowed concentrations is a sobering exercise.

The joint Government Advisory Committee of AESF/NAMF/MFSA officially commented on these regulations through Bill Sonntag, director of government relations, AESF/NAMF/MFSA. The following is a summary of those comments:

Industry Concerns

Many companies in the metal finishing industry rely on CWT facilities to treat certain wastes. We are concerned that the proposal will adversely affect this service, and we are concerned with the precedent set by the effluent limitations for metals in the metals sub-category, and the addition of previously non-regulated compounds.

The industry questions the need for categorical pretreatment standards, because most CWT facilities are subject to local limits administered by their publicly owned treatment works (POTW).

Central Waste Treatment Costs and Services

The metal finishing industry has already made enormous investments in pollution control and waste minimization, partly in response to EPA regulatory initiatives pursuant to the Clean Water Act and the Resource Conservation and Recovery Act. The CWT industry was established, in part, to service our industry by taking the treatment residues, difficult-to-treat wastes such as tank bottoms, and peak flows exceeding on-site capacity. The limited capital available to many in our industry precluded the installation of equipment and facilities to handle every waste on-site, particularly peak flows and difficult-to-treat wastes that are generated.

The metal finishing industry is concerned that the proposed effluent guidelines will have adverse consequences on the CWT industry and its market. The costs that CWT facilities must bear to install and maintain adequate treatment equipment to meet these limitations will force many to go out of business, and discourage the development of new facilities. Other CWT facilities may no longer accept certain types of waste if the cost to treat the wastestream becomes prohibitively expensive. Undoubtedly, prices will increase for consumers of the CWT industry's services as the number of facilities decreases, and the cost of treatment increases.

For metal finishers who send wastewater to CWT facilities for treatment, the proposed rule may ultimately force them to install and maintain new or upgraded treatment equipment at their own facility. For a typical metal finishing operation with an average wastewater discharge, the cost to install a new treatment system is estimated to be $1 million (see George A. Cushnie, Pollution Prevention and Control Technology for Plating Operations, National Center for Manufacturing Sciences, Ann Arbor MI). Whether or not an entire new treatment system is required, the cost of additional equipment can cost tens of thousands of dollars.

In the proposed rule, EPA describes the working relationship between CWT facilities and their customers as heavily laden with analytic testing and paperwork before waste is accepted. This situation will be exacerbated when CWT facilities must ensure that the sub-categories of waste are properly segregated before treatment. Requiring the CWT industry to segregate wastestreams is impractical, and in direct conflict with the way these facilities currently operate.

Precedent-Setting Metals Limitations and Newly Regulated Compounds

The proposed effluent guidelines for CWT facilities include more stringent BPT limitations for almost all the metals than those in other categorical standards, such as metal finishing electroplating. Common sense suggests that metals limits for CWT facilities should be no more stringent that those for the metal finishing category, with wastes treated by CWT facilities consisting of spent plating baths, treatment residues, and recalcitrant wastes. The limitations seem excessively stringent, given that most CWT facilities indirectly discharge to their local POTWs, where the wastewater undergoes secondary treatment.

We question why a separate limit for hexavalent chromium is necessary. In a previous rulemaking for the metal finishing category (see 48 *Federal Register* 32479, July 15, 1983), limits for hexavalent chromium were not established, because it is controlled by regulated total chromium. For metal streams that contain concentrated cyanide complexes, BPT limitations under all three options for the metals sub-category are based on alkaline chlorination at specific operating conditions prior to metals treatment. We question why EPA has proposed an in-facility BPT limitation for total cyanide when current regulations usually address total cyanide at the effluent.

Included in the proposed limitations are compounds, such as aluminum, antimony, barium, cobalt, iron, magnesium, tin, and titanium. We question the need to regulate these compounds, which are not regulated by most POTWs, because they have little or no impact on operations. Effective removal of traditionally regulated metals, such as chromium, cadmium and nickel, serves as a surrogate for effective removal of most other metals. For that reason, EPA has previously ruled in 40 CFR Parts 413 and 433 (Electroplating and Metal Finishing Categories) that antimony, arsenic asbestos, beryllium, mercury, selenium, and thallium need not be regulated, because they are effectively removed by the precipitation technologies upon which limits were based.

Indeed, iron and aluminum are often used in wastewater treatment processes. At POTWs, compounds such as ferric chloride and aluminum are used for phosphorus removal. In addition, magnesium hydroxide is frequently used for metals precipitation. Accordingly, iron, aluminum, and magnesium should be deleted from the proposed list of regulated constituents.

Categorical Standards for CWT Facilities Unnecessary

The metal finishing industry questions the fundamental necessity for categorical standards for CWT facilities, when wastewater discharges from these facilities are already regulated under NPDES permits or local pretreatment programs. Application of more stringent categorical standards is not wasteful, but generally contradicts the underlying technical basis and purpose of local limits. Redundant pretreatment programs provide no additional environmental benefit, and appear to be "regulation for regulations sake."

Other Opportunities

As one of six industry sectors participating in EPA's "Common Sense Initiative" (CSI), we are working with the agency and other stakeholders, including POTWs, to identify opportunities for pollution prevention measures that are cleaner, cheaper, and smarter. We believe that the proposed CWT effluent guidelines will provide very little environmental benefit at an unjustifiable cost. Further, the proposed rule is based on the existing regulatory paradigm. This is wholly inconsistent with the direction that the CSI is working toward, and is in conflict with the stated goals of the White House's "Reinventing Environmental Regulation" effort.

Not only does this proposal impact the CWT industry, it will have unintended, but very real, negative consequences on POTWs and other industries. In preparing its final rule, the metal finishing industry urges EPA to consider these concerns and develop the CWT effluent guidelines with flexibility and common sense limitations. o