Chapter

5

INDUSTRY SUBCATEGORIZATION

METHODOLOGY AND FACTORS CONSIDERED AS THE BASIS FOR SUBCATEGORIZATION 5.1

The CWA requires EPA, in developing effluent limitations guidelines and pretreatment standards that represent the best available technology economically achievable for a particular industry category, to consider a number of different factors. Among others, these include the age of the equipment and facilities in the category, manufacturing processes employed, types of treatment technology to reduce effluent discharges, and the cost of effluent reductions (Section 304(b)(2)(b) of the CWA, 33 U.S.C. § 1314(b)(2)(B)). The statute also authorizes EPA to take into account other factors that the Agency deems appropriate.

One way in which the Agency has taken some of these factors into account is by breaking down categories of industries into separate classes of similar characteristics. This recognizes the major differences among companies within an industry that may reflect, for example, different manufacturing processes or other factors. One result of subdividing an industry by subcategories is to safeguard against overzealous regulatory standards, increase the confidence that the regulations are practicable, and diminish the need to address variations between facilities through a variance process (*Weyerhaeuser Co.* v. *Costle*, 590 F.2d 1011, 1053 (D.C. Cir. 1978)).

The centralized waste treatment industry, as previously explained, is not typical of many of the industries regulated under the CWA because it does not produce a product. Therefore, EPA considered certain additional factors that specifically apply to centralized waste treatment operations in its evaluation of how to establish appropriate limitations and standards and whether further subcategorization was warranted. Additionally, EPA did not consider certain other factors typically appropriate when subcategorizing manufacturing facilities as relevant when evaluating this industry. The factors EPA considered in the subcategorization of the centralized waste treatment industry include:

- Facility age;
- Facility size;
- Facility location;
- Non-water quality impacts;
- Treatment technologies and costs;
- RCRA classification;
- Type of wastes received for treatment; and
- Nature of wastewater generated.

EPA concluded that certain of these factors did not support further subcategorization of this industry. The Agency concluded that the age of a facility is not a basis for subcategorization as many older facilities have unilaterally improved or modified their treatment process over time. EPA also decided that facility size was not an appropriate basis for subcategorizing. EPA identified three parameters as relative measures of facility size: number of employees, amount of waste receipts accepted, and wastewater flow. EPA found that CWTs of varying sizes generate similar wastewaters and use similar treatment technologies. Furthermore, wastes can be treated to the same level regardless of the facility size. Likewise, facility location is not a good basis for subcategorization. Based on the data collected,

no consistent differences in wastewater treatment technologies or performance exist because of geographical location. EPA recognizes, however, that geographic location may have an effect on the market for CWT services, the cost charged for these services, and the value of recovered product. These issues are addressed in the Economic Assessment Document.

While non-water quality characteristics (solid waste and air emission effects) are of concern to EPA, these characteristics did not constitute a basis for subcategorization. Environmental impacts from solid waste disposal and from the transport of potentially hazardous wastewater are a result of individual facility practices and EPA could not identify any common characteristics particular to a given segment of the industry. Treatment costs were not used as a basis for subcategorization because costs will vary and are dependent on the following waste stream variables: flow rates, wastewater quality, and pollutant loadings. Finally, EPA concluded that the RCRA classification was not an appropriate basis for subcategorization as the type of waste accepted for treatment appears to be more important than whether the waste was classified as hazardous or non-hazardous.

EPA identified only one factor with primary significance for subcategorizing the centralized waste treatment industry -- the type of waste received for treatment or recovery. This factor encompasses many of the other subcategorization factors. The type of treatment processes used, nature of wastewater generated, solids generated, and potential air emissions directly correlate to the type of wastes received for treatment or recovery. For today's proposal, EPA reviewed its earlier subcategorization approach and has decided to retain it. It is still EPA's conclusion that the type of waste received for treatment or recovery is the only appropriate basis for subcategorization of this industry.

PROPOSED SUBCATEGORIES 5.2

Based on the type of wastes accepted for treatment or recovery, EPA has determined that there are three subcategories appropriate for the centralized waste treatment industry:

- Subcategory A: Facilities which treat, recover, or treat and recover metal, from metal-bearing waste, wastewater, or used material from off-site (Metals Subcategory);
- Subcategory B: Facilities which treat, recover, or treat and recover oil, from oily waste, wastewater, or used material from off-site (Oils Subcategory); and
- Subcategory C: Facilities which treat, recover, or treat and recover organics, from other organic waste, wastewater, or used material from off-site (Organics Subcategory).

SUBCATEGORY DESCRIPTIONS 5.3

Metal-Bearing Waste Treatment and Recovery Subcategory 5.3.1

The facilities in this subcategory are those treating metal-bearing waste received from off-site and/or recover metals from off-site metal-bearing wastes. Currently, EPA has identified 59 facilities in this subcategory. Fifty-two facilities treat metal-bearing waste exclusively, while another six facilities recover metals from the wastes for sale in commerce or for return to industrial processes. One facility provides metal-bearing waste treatment in addition to conducting a metals recovery operation. The vast majority of these facilities have RCRA permits to accept hazardous waste. Types of wastes accepted for treatment include spent electroplating baths and sludges, spent anodizing solutions, metal finishing rinse water and sludge, and chromate wastes.

The typical treatment process used for metal-bearing waste is precipitation with lime or

caustic followed by filtration. The sludge generated is then landfilled in a RCRA Subtitle C or D landfill depending on its content. Most facilities that recover metals do not generate a sludge that requires disposal. Instead, the sludges are sold for metal content. In addition to treating metal bearing wastestreams, many facilities in this subcategory also treat cyanide wastestreams, many of which are highly-concentrated and complex. Since the presence of cyanide may interfere with the chemical precipitation process, these facilities generally pretreat to remove cyanide and then commingle the pretreated cyanide wastewaters with the other metal containing wastewaters. EPA estimates that nineteen of the metals facilities also treat cyanide wastestreams.

Oily Waste Treatment and Recovery Subcategory 5.3.2

The facilities in this subcategory are those that treat oily waste, wastewater, or used material received from off-site and/or recover oil from off-site oily materials. Currently, EPA estimates that there are 164 facilities in this subcategory. Among the types of waste accepted for treatment are lubricants, used petroleum products, used oils, oil spill clean-up, bilge water, tank clean-out, off-specification fuels, and underground storage tank remediation waste. Many facilities in this subcategory only provide treatment for oily wastewaters while others pretreat the oily wastes for contaminants such as water and then blend the resulting oil residual to form a product, usually fuel. Most facilities perform both types of operations. EPA estimates that 53 of these facilities only treat oily wastewaters and 36 facilities primarily recover oil for re-use. The remaining 75 facilities both treat oily waste and recover oil for re-use.

At the time of the original proposal, EPA believed that 85 percent of oils facilities were primarily accepting concentrated, difficult-to-treat, stable, oil-water emulsions containing more than 10 percent oil. However, during post-proposal data collection, EPA learned that many of the wastes treated for oil content at these facilities were fairly dilute and consisted of less than 10 percent oils. EPA now believes that, while some facilities are accepting the more concentrated wastes, the majority of facilities in this subcategory are treating less concentrated wastes.

Further, at the time of the original proposal, only three of the facilities included in the data base for this subcategory were identified as solely accepting wastes classified as non-hazardous under RCRA. The remaining facilities accepted either hazardous wastes alone or a combination of hazardous and non-hazardous wastes. In contrast, based on more recent information, EPA believes that the majority of facilities in this subcategory only accept wastes that would be classified by RCRA as non-hazardous.

The most widely-used treatment technology in this subcategory is gravity separation and/or emulsion breaking. One-third of this industry only uses gravity separation and/or emulsion breaking to treat oily wastestreams. One-third of the industry also utilizes chemical precipitation and one-quarter also utilizes dissolved air flotation (DAF).

Organic Waste Treatment and Recovery Subcategory 5.3.3

The facilities in this subcategory are those that treat organic waste received from off-site and/or recover organics from off-site organic wastes. EPA estimates that there are 25 facilities in this subcategory. The majority of these facilities have RCRA permits to accept hazardous waste. Among the types of wastes accepted at these facilities are landfill leachate, groundwater cleanup, solvent-bearing waste, off-specification organic products, still bottoms, used antifreeze, and wastewater from chemical product operations

and paint washes.

All of the organics facilities which discharge to a surface water use equalization and some form of biological treatment to handle the wastewater. The vast majority of organics facilities which discharge to a POTW primarily use equalization. One third of all the organics facilities also use activated carbon adsorption. Most of the facilities in the organics subcategory have other industrial operations as well, and the centralized waste treatment wastes are mixed with these wastewaters prior to treatment. The relatively constant make-up of on-site wastewater can support the operation of conventional, continuous biological treatment processes, which otherwise could be upset by the variability of the off-site waste receipts.

MIXED WASTE SUBCATEGORY CONSIDERATION 5.4

EPA has received numerous comments from industry that the subcategorization scheme developed for this rule is impractical for CWT facilities which accept wastes in more than one subcategory. These commenters are primarily concerned about incoming waste receipts that may be classified in more than one subcategory. While CWTs can encourage their customers to segregate their wastes, they argue that CWTs can not require segregation of incoming waste receipts. Additionally, commenters have suggested that, for ease of implementation, mixed waste subcategory limitations should be developed for all facilities in multiple subcategories. These commenters are primarily concerned that permit writers may impose additional and substantial record keeping burden in order to classify wastes in each of the subcategories. Commenters have suggested that limitations for the mixed waste subcategory could combine pollutant limitations from all three subcategories, selecting the most stringent value where they overlap.

While facilities have suggested developing a mixed waste subcategory with limitations derived by combining pollutant limitations from all three subcategories (selecting the most stringent value where they overlap), EPA does not believe facilities have adequately considered the costs associated with such an option. Assuming facilities employ appropriate treatment rather than dilution to meet these mixed waste limitations, EPA compared the compliance cost for facilities in multiple subcategories with the mixed waste subcategory limitations as described above to compliance costs for facilities meeting the limitations for the three subcategories separately. Costs were greater for the mixed waste subcategory since EPA had to cost for larger flows, more chemical addition, etc. EPA chose nine representative facilities that treat wastes in more than one subcategory to conduct the comparison. EPA found that, in all cases, the costs of complying with the mixed waste subcategory limitations were two to three times higher than the costs associated with complying with each of the subcategory limitations separately. Since the market for these services is, generally, very competitive and since many of these facilities are small businesses, EPA believes that few facilities would chose to meet the limitations for the mixed waste subcategory.

The primary reason industry suggested the development of a mixed waste subcategory was their concern that waste receipts may be classified in more than one subcategory. As detailed in Chapter 13, EPA believes that the information currently collected is sufficient to classify wastes into each of the three subcategories. Using the recommended subcategory determination procedure, EPA is able to classify each waste receipt identified by the industry during the development of this rule in a single subcategory. Therefore, EPA believes that mixed waste receipt concern has been alleviated.

The second reason industry suggested the

development of a mixed waste subcategory was to simplify implementation for mixed subcategory facilities. EPA agrees with commenters that developing appropriate limitations for mixed waste facilities presents many challenges, but is concerned that mixed wastes receive adequate treatment. In many cases, facilities which accept wastes in multiple subcategories do not have treatment in place to provide effective treatment of all waste receipts. While these facilities meet their permit limitations, compliance is generally due to dilution rather than treatment. As an example, a facility may have a treatment system comprised of equalization and biological treatment and accepts wastes from the organics subcategory and the metals subcategory (high concentrations of metal pollutants). Only the organic subcategory waste receipts would be treated effectively. The "mixed waste subcategory" limitations described above would not prevent ineffective treatment and could actually encourage it. Therefore, based on economic considerations as well as concerns that EPA has about ensuring compliance with effective treatment, rather than dilution, EPA is not proposing a mixed waste subcategory.