

of increasing the efficiencies of DAF treatment systems in removing suspended solids and may also enhance the removal of metals (DCN 41.2, pages 8–13 to 15). The operating conditions of the model treatment technology evaluated for the final regulation included the addition of treatment chemicals (aluminum sulfate, caustic soda, and polymers). Use of aluminum sulfate (alum) precipitates barium sulfate which has a specific gravity 4.5 times heavier than water; the use of polymers flocculate suspended particles.

Because of the density of barium sulfate and the use of polymers, large floc formations would tend to sink and smaller floc formations would tend to float. However, if colloidal suspensions are formed, DAF would tend to be ineffective. Therefore, removing barium sulfate by DAF requires a careful balance between forming a large enough floc to be floated but not too large to sink. In this situation, it appears that the model DAF technology would not reliably and consistently provide the pollutant reductions that form the basis for the promulgated limitations. Thus, EPA proposes to remove the limitations and standards for barium from Subcategory B and the associated provisions of Subcategory D. We did not intend to regulate a pollutant in the oils waste receipts subcategory for which compliance could not be consistently and predictably achieved with the model DAF treatment system.

Although EPA proposes to delete the regulatory limits for barium, operation of treatment systems required to achieve compliance with other metals limits will ensure some continued removal of barium, even if not at a consistent and predictable rate. Even if there were no incidental removals for barium, the estimated pollutant reduction for this regulation remains relatively unchanged, *i.e.*, the December 22, 2000, estimated oils subcategory pollutant reductions would decrease by 2,115 lbs/yr or 0.22 percent of the total estimated reduction of 941,622 lbs/yr. Expressed as toxic pound-equivalents, the decrease as a result of assuming no barium removals is less than 0.008 percent or 4 lb-eq/yr out of the total estimated reduction of 52,447 lb-eq/yr (DCN 47.3).

#### *B. Molybdenum, Antimony, and Titanium*

EPA proposes to amend 40 CFR part 437 by deleting the respective BPT, BAT, and NSPS limitations and standards for molybdenum, antimony, and titanium from §§ 437.21, 437.23, 437.24; and by deleting the respective PSES and PSNS standards for

molybdenum and antimony from §§ 437.25 and 437.26. Section VI below describes the methodology used to revise the related segments of the Multiple Wastestreams Subcategory to reflect deletion of molybdenum, antimony, and titanium from the Oils Treatment and Recovery subcategory.

EPA's single-stage DAF model treatment system was designed primarily to remove suspended solids and dispersed oil and grease from oily wastewater. The use of treatment chemicals provides an effective means of increasing the efficiencies of DAF treatment systems in removing suspended solids and may also enhance the removal of metals (DCN 41.2, pages 8–13 to 15). The conditions under which the model treatment technology operated which EPA evaluated for the final limitations and standards included the addition of treatment chemicals (aluminum sulfate, caustic soda, and polymer) with pH adjustments to relatively strong base levels between 9 to 11. These operating conditions optimize the removals of the more traditional heavy metals including chromium, zinc, lead, nickel, copper, and cadmium.

After publication of the December 2000 final rule, the regulated community evaluated several different engineering strategies for complying with the limitations and standards. Several companies and a CWT trade association submitted new information to EPA demonstrating that the model technology would not consistently remove certain pollutants from oils wastestreams in specified circumstances. They concluded and reported to EPA that the antimony, molybdenum, and titanium limitations and standards were not technically achievable, petitioning EPA to delete these pollutants as regulated parameters. The docket includes the additional information provided to the agency and EPA's review of that information (DCNs 45.12.1, 45.12.2, 45.12.3, 45.12.4, 45.25, 45.25.2, 46.5.1, 46.5.2, 46.5.3, 46.10, 46.11, 46.12, 46.15, 46.21, and 47.5).

Based on the materials submitted to the Agency, EPA reexamined its model technology and the associated removal data. The new information and data demonstrate that the oils subcategory model DAF treatment technology is unable to consistently meet the antimony, molybdenum, and titanium oils subcategory limitations and standards. Furthermore, the new data demonstrate that optimum removals of antimony, molybdenum, and titanium require treatment with high concentrations of iron (ranging from

1,000 to 5,000 mg/l) and, for antimony and molybdenum, pH adjustments to relatively strong acid levels between 4 to 5. Therefore, to ensure compliance with the antimony, molybdenum, and titanium limitations and standards, many oily waste facilities would need to add a second-stage chemical precipitation step operated at a relatively low pH (between 4 and 5) and/or the addition of large quantities of iron (1,000 to 5,000 mg/l), and followed by clarification or filtration.

EPA did not intend to regulate a pollutant in the oils waste receipts subcategory for which compliance could only be obtained with the addition of uniquely designed chemical precipitation systems to the model technology. Based on the information and data provided, we conclude that in many situations CWT facilities subject to Subpart B would not be able to comply with the antimony, molybdenum, and titanium limitations and standards through the use of the model DAF technology alone. Many facilities would need to add chemical precipitation unit operations uniquely designed for antimony, molybdenum, and titanium removal. Due to these circumstances, EPA proposes to remove the limitations and standards for these pollutants from Subcategory B and revise the associated provisions of Subcategory D.

Although EPA proposes to delete the regulatory limits for antimony, molybdenum, and titanium, operation of treatment systems required to achieve compliance with other metals limits will ensure some continued removal of antimony, molybdenum, and titanium, even if not at consistent and predictable rates. Even if there were no incidental removals for antimony, molybdenum, and titanium, the estimated oils subcategory pollutant reduction for this regulation remains relatively unchanged, *i.e.*, the December 22, 2000, estimated pollutant reductions would decrease by 7,828 lbs/yr or 0.83 percent of the total estimated reduction of 941,622 lbs/yr. Expressed as pollutant pound-equivalents, the decrease as a result of assuming no antimony, molybdenum, and titanium removals is about 2.89 percent or 1,518 lb-eq/yr out of the total estimated reduction of 52,447 lb-eq/yr (DCN 47.3).

#### **VI. Amendment To Revise the Related Multiple Wastestreams Subcategory Segments**

EPA, in the December 2000 final rule, established limitations and standards for facilities that treat a combination of metal-bearing, oily or organic wastes, wastewater or used material. Use of