

technology used as the basis for the BPT, BAT, NSPS, and PSNS limitations and standards was emulsion breaking/gravity separation, secondary gravity separation, and dissolved air flotation (DAF). The PSES model technology was emulsion breaking/gravity separation, and DAF.

After EPA published the final rule, members of the regulated community evaluated different engineering strategies for complying with the promulgated limitations and standards. Several companies and a trade association submitted new information to EPA demonstrating that the model technology did not consistently remove certain pollutants from oils wastestreams. They reported to EPA that the limitations and standards were not technically achievable and petitioned EPA to delete these pollutants from the regulated parameters.

Based on the data submitted concerning metals removal and the model technology, EPA reexamined its model technology. As noted above, the model technology used for BPT, BAT, NSPS, and PSNS consists of emulsion breaking/gravity separation, secondary gravity separation, and DAF. During the DAF phase of treatment, surface active agents, coagulating agents, and polyelectrolytes are added to the wastewater, and the pH of the system is adjusted. The effect of adding coagulating agents and adjusting pH is to promote precipitation of metals and their consequent removal. Different metals are removed more effectively at different concentrations of coagulating agents and at different pH levels. EPA examined its database to identify which of the metal pollutants were removed consistently and predictably by the treatment system. Our review demonstrates that removals were not consistent and predictable for barium, molybdenum, antimony, and titanium. As a result, EPA is amending the regulations to remove the limitations and standards for these metal pollutants from Subpart B and to modify the related provisions of Subpart D to reflect these changes. In today's action, EPA is deleting BPT, BAT, and NSPS limitations and standards for barium, molybdenum, titanium, and antimony. EPA is also deleting PSES and PSNS standards for barium, molybdenum and antimony. (EPA had not promulgated pretreatment standards for titanium in the December 2000 rule.) Comments on the proposed amendment and EPA's record support these changes as explained in the following discussions.

Even though this amendment deletes the limitations and standards for these four metal pollutants, the control of

other metal pollutants ensures some incidental removals for these parameters. For direct discharge facilities, limitations for nine other metals remain in place. For indirect discharge facilities, pretreatment standards for six other metals remain in place.

A. Barium

EPA is amending 40 CFR part 437 by deleting from §§ 437.21, 437.23, 437.24, 437.25 and 437.26 the respective BPT, BAT, NSPS, PSES, and PSNS limitations and standards for barium. Section VI describes the methodology used to revise the related segments of the Multiple Wastestreams subcategory to reflect deletion of barium from the Oils Treatment and Recovery subcategory.

EPA received information and data from several companies and a CWT trade association concerning barium concentrations in different types of waste receipts treated at CWT facilities. EPA evaluated this information and concluded that the model technology would not reliably and consistently remove barium to the limits required in the oils subcategory. The record includes the additional information provided to the Agency with the request for changes to the regulation and EPA's review of that information (DCNs 43.2.49, 43.2.51, 43.2.54, 43.2.60, 44.2, 44.2.1, 44.3, 45.29.1, and 47.7).

EPA based its determination on the information noted above and other information supplied by commenters. Petitioners and commenters noted that CWT facilities accept a variety of oily waste receipts that contain barium including used lubricating oils and greases and oil and gas extraction drilling fluids and brine. The information and data indicate that barium is usually precipitated as barium sulfate and that sedimentation, rather than dissolved air flotation, would provide more consistent barium removals.

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 effectively increases 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 in 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 might 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 these circumstances, EPA determined that the model DAF technology would not reliably and consistently provide the pollutant reductions that were used for the promulgated limitations. Thus, EPA proposed to remove the limitations and standards for barium from Subpart B and the associated provisions of Subpart D. EPA 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. Further analysis of EPA data and that supplied by commenters and others confirms EPA's conclusions about barium removals in the model DAF treatment system. As a consequence, EPA is modifying the limitations and standards to remove barium as a regulated pollutant.

Although EPA is deleting 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 without incidental removals for barium, the estimated pollutant reduction for this regulation remains relatively unchanged from the December 2000 estimates. Specifically, the oils subcategory pollutant reductions would decrease by 2,117 lbs/yr or 0.25 percent of the total estimated reduction of 859,988 lbs/yr if no barium removals were included. Expressed as toxic pound-equivalents, the decrease assuming no barium removals is less than 0.008 percent or 4 lb-eq/yr of the total estimated subcategory reduction of 52,603 lb-eq/yr (DCN 48.1).

B. Molybdenum, Antimony, and Titanium

EPA is amending 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 describes the methodology used to revise the related segments of