

scrubbers relative to wet scrubbers. In this case, the EPA may conclude that the additional costs associated with dry scrubber limits are unreasonable relative to the emission reductions achieved. On the other hand, if new data on wet scrubber performance shows that wet scrubbers are capable of achieving the proposed emission limitations, then it is likely that the emission limitations will remain unchanged. In this case, the emission limitations would reflect the use of either wet scrubbers or dry scrubbers.

The performance of air pollution control equipment can best be established when both APCD inlet and APCD outlet concentration data are measured and compared. Several pollutants are waste related. The EPA test program identified significant variations in the uncontrolled concentrations of these pollutants from source to source, which could be a result of differences in the types and amounts of various materials included in the waste stream. Therefore, the Agency solicits APCD inlet concentration data, to the extent available, wherever outlet concentration data are provided.

Additionally, the Agency solicits comments on the technical feasibility of injecting activated carbon into wet scrubber systems to control CDD/CDF and Hg emissions. Specifically, the Agency is requesting information on whether carbon injection is necessary to reduce CDD/CDF and Hg using wet scrubbers and if so, what problems are associated with the injection of carbon into a wet system or what other means of using the carbon adsorption mechanism are available to reduce emissions of these pollutants. If carbon injection is not necessary to reduce emissions of CDD/CDF and Hg, the EPA is soliciting information on what wet scrubber mechanisms reduce emissions of CDD/CDF and Hg. The EPA specifically requests that, if available, Hg emissions data be broken down by various species emitted (e.g., Hg chloride versus elemental Hg).

In addition to performance data, the EPA is requesting information on the costs associated with the installation of new higher efficiency wet scrubber systems and with the retrofit of existing wet scrubber systems to achieve the same performance capabilities of the higher efficiency wet scrubber systems. The Agency also solicits information on the performance and cost of dry scrubber systems, as well as information on whether there are technical limitations associated with the application of air pollution control

systems to various sizes and types of MWI's.

There is some concern about the impacts on other media from the use of wet scrubber systems—specifically, the fate of metals transferred from the stack gas to the scrubber water with subsequent disposal to a sewer system. Wastewater pretreatment may be necessary to remove these metals. As a result, the Agency is soliciting information on pretreatment techniques that are, or could be, used to remove metals from the scrubber effluent prior to discharge to a sewer system and on the costs associated with these techniques. The additional costs of scrubber effluent pretreatment may increase the total annual costs associated with wet scrubber systems to a level that is more comparable to the use of a dry scrubber system. Because the Act directs the Agency to consider all media in developing regulations, the final standards and guidelines may include requirements that address the pretreatment of MWI wastewater to ensure that water quality is not compromised.

4. Determining MACT for MWI's

While section 129 of the Act requires that the standards and guidelines be no *less* stringent than the MACT floor, it does provide EPA with the authority to establish emission limitations that are *more* restrictive than the MACT floor. In deciding whether the standards and guidelines should be more restrictive than the MACT floor, section 129 requires the Administrator to consider the cost, any nonair quality health and environmental impacts, and energy requirements associated with the more restrictive standards and guidelines.

As described in section V of this notice, EPA has concluded that dry scrubbers are the only technology available to meet the MACT floor. Furthermore, dry scrubbers achieve substantially lower emissions than the MACT floor for little, if any, additional cost. Consequently, EPA was faced with two options: (1) propose more restrictive emission limitations that reflect the performance of the technology needed to meet the MACT floor (i.e., scrubber limits); or (2) propose less restrictive emission limitations that reflect the MACT floor (i.e., floor limits). On one hand, there is essentially no cost associated with the scrubber limits relative to the floor limits because the dry scrubber would be installed to meet the floor limits. On the other hand, the installation of a dry scrubber will result in the lower emissions associated with a dry scrubber. Therefore, it can be argued that there is also no

environmental benefit associated with the more restrictive emission limits.

The EPA specifically requests comment on the advantages and disadvantages of MACT floor-based emission limits versus dry scrubber-based emission limits. The Agency has chosen the more restrictive dry scrubber-based emission limits for the following reasons. First, as discussed above, the EPA believes that a dry scrubber is the only technology capable of meeting the MACT floor. In addition, activated carbon can be injected into a dry scrubber to further reduce dioxin and Hg emissions for a relatively small cost. Other technologies have not been identified that are able to incorporate carbon injection for dioxin and Hg removal. Incineration of medical waste has been identified as the largest known source of dioxin and Hg emissions. The additional reduction of dioxin and Hg emissions achieved by the injection of activated carbon is discussed earlier in this preamble. The EPA believes that the benefits of activated carbon injection outweigh the costs.

Secondly, by setting emission limitations rather than control equipment specifications, EPA encourages and promotes the development of new emission control technologies that can meet the emission limits at lower costs. If the Agency proposes the MACT floor emission limits, it will promote new technologies that are only capable of meeting the floor. In this case, the use of new technologies capable of meeting the MACT floor may result in higher emissions than current technologies (i.e., dry scrubbers). The Agency believes that new technologies should be promoted and encouraged, but that the dry scrubber based emission limits are the more appropriate target for these new technologies. Therefore, today's proposal has set dry scrubber emission limits as the target for new technologies. The Agency specifically requests comment on the appropriate target emission limits for developing technologies.

As noted above, however, vendors of wet scrubbers believe that current wet scrubber technologies are not only capable of achieving the MACT floor levels, but may also be capable of achieving more stringent control levels. If EPA receives additional data that confirms this level of performance, then EPA would have to review the decision to base the emission limits on dry scrubbers. Thus, EPA would consider the potential incremental emission reductions and the potential gains from technology development with the