As noted above, EPA is also considering further subcategorizing batch and intermittent MWI's by size or capacity to burn medical waste. Specifically, some have suggested EPA consider alternatives, such as subcategorizing these categories into incinerators with capacities of 50 pounds per hour or less, 100 pounds per hour or less, 200 pounds per hour or less, etc. A number of States have regulations which exempt the smallest medical waste incinerators or impose less stringent requirements on such incinerators.

Subcategorization of the batch and intermittent MWI categories could find that the MACT floor for small intermittent and/or small batch incinerators is less stringent than the MACT floor for larger incinerators in these categories. The MACT floor for small intermittent and/or small batch MWI's within these categories, for example, could be much less stringent than the MACT floor of 69 mg/dscm identified above for both batch and intermittent incinerators.

2. MACT for Existing Continuous MWI's

As discussed in section VI, the discussion that follows is based on limited test data on wet scrubber systems. The EPA requests comment on the performance and costs of wet scrubber systems. Also, while the paragraphs that follow focus on specific control technologies in determining MACT for existing continuous MWI's the guidelines do not require the use of any specific technology. The Agency's assessment of the performance of specific technologies is used to develop emission limitations, which appear in the guidelines. Any control technology that can comply with the emission limitations may be used.

a. *MACT for PM, Pb, and Cd.* Uncontrolled PM emissions typically are 570 mg/dscm for MWI's with 0.25sec combustion and 300 mg/dscm for MWI's with 1-sec combustion. The MACT floor for PM is 46 mg/dscm. A fabric filter system is necessary to meet the MACT floor level. The FF system is capable of achieving PM emission levels of as low as 30 mg/dscm.

Typical uncontrolled Pb and Cd emission are 4.2 mg/dscm and 0.29 mg/ dscm, respectively. The MACT floors for Pb and Cd are 8.65 mg/dscm and 0.56 mg/dscm, respectively. Although no control is necessary to achieve the MACT floor levels for Pb and Cd, the fabric filter system that would be needed to meet the MACT floor emission level for PM, would reduce Pb and Cd emissions to 0.10 mg/dscm and 0.05 mg/dscm, respectively. Because this system is already necessary to meet the MACT floor level for PM, there is no cost associated with reducing emissions of Pb and Cd from the uncontrolled MACT floor levels to the level of control achieved by the FF system. Additional control beyond the FF system has not been demonstrated for any of these pollutants. As a result, the proposed MACT for PM, Pb, and Cd for continuous MWI's are the levels achievable with the FF system: 30 mg/ dscm for PM, 0.10 mg/dscm for Pb, and 0.05 mg/dscm for Cd.

b. *MACT for Carbon Monoxide.* Typical uncontrolled emissions of CO at continuous MWI's are 690 ppmv for units with 0.25-sec combustion and 300 ppmv for units with 1-sec combustion. As discussed earlier, the MACT floor for CO is 76 ppmv. Two-second combustion control is necessary to meet the MACT floor level for CO and is capable of achieving CO levels as low as 50 ppmv at no additional cost. Further reduction of CO emissions has not been demonstrated. Therefore, the proposed MACT for CO is 50 ppmv, the level achievable by 2-sec combustion.

c. *MACT for Dioxins and Furans.* Typical uncontrolled emissions of dioxins and furans (CDD/CDF) are 25,000 ng/dscm for MWI's with 0.25-sec combustion and 6,600 ng/dscm for MWI's with 1-sec combustion. The MACT floor for CDD/CDF is 1,619 ng/ dscm. Two-second combustion control is necessary to meet the MACT floor level for CDD/CDF and is capable of achieving CDD/CDF levels of 1,500 ng/ dscm, at no additional cost.

As discussed earlier, an FF system is needed to achieve the MACT floor for PM. Control of CDD/CDF beyond the level of emissions achievable with 2-sec combustion control can be attained either by adding a wet system or by injecting activated carbon into the FF system. Although the wet system is capable of reducing CDD/CDF emissions, the less expensive approach would be to inject carbon into the FF system because the FF system is already needed to meet the MACT floor level for PM. By injecting carbon into the FF system, CDD/CDF emissions could be reduced to about 80 ng/dscm and Hg emissions could substantially be reduced. The nationwide incremental annual cost of carbon injection is about \$9.4 million/yr, or about \$12/ton of waste burned in continuous MWI's. This incremental cost represents an increase of only about 5.8 percent over the cost of the FF system without carbon injection. As a result, MACT for CDD/ CDF is the level of control achievable with an FF system with carbon injection, 80 ng/dscm total CDD/CDF, or 1.9 ng/dscm TEQ. To arrive at the TEQ, measured emissions of each tetrathrough octa- CDD and CDF congener are multiplied by the corresponding toxic equivalency factor (TEF) specified in § 60.36c of the proposed emission guidelines. The products are then added to obtain the concentration of CDD/CDF emitted in terms of TEQ.

d. *MACT for Mercury.* Typical uncontrolled Hg emissions are 3.1 mg/ dscm. The MACT floor for Hg is 4.04 mg/dscm. No control of Hg is necessary to meet the MACT floor emission level.

The only control system capable of consistently reducing Hg emissions is the FF system with carbon injection, which can achieve emissions of 0.47 mg/dscm Hg or 85 percent reduction from uncontrolled emissions. The FF system without carbon injection is necessary to meet the MACT floor for PM and the injection of carbon is necessary to meet the proposed MACT emission level for CDD/CDF. As mentioned above in the discussion on CDD/CDF, the nationwide incremental annual cost of injecting carbon is about \$9.4 million/yr, or about \$12/ton of waste burned. This additional cost represents an increase of only about 5.8 percent over the cost of the FF system without carbon injection. Therefore, the proposed MACT for Hg is 0.47 mg/dscm or 85 percent reduction.

e. MACT for acid gases (HCl and SO₂). Typical uncontrolled emissions of HCl and SO₂ from continuous MWI's are 1,400 ppmv for HCl and 16 ppmv for SO₂. In general, acid gases controls are capable of reducing emissions of both HCl and SO₂. However, in EPA's experience, acid gases controls are not effective in reducing emissions of SO₂ from MWI's because of the low SO₂ inlet levels associated with the incineration of medical waste. The emissions of HCl from MWI's, on the other hand, are reduced by acid gas controls. As discussed earlier, the MACT floor for HCl is 43 ppmv. A reduction of 97 percent from uncontrolled levels is necessary to achieve the MACT floor for HCl. Wet systems and FF systems are each capable of reducing HCl emissions to 42 ppmv or by 97 percent from uncontrolled levels. Therefore, MACT for HCl is 42 ppmv or 97 percent reduction.

Typical uncontrolled emissions of SO_2 are 16 ppmv, but can range as high as 45 ppmv. The MACT floor for SO_2 is 284 ppmv, and can be achieved at uncontrolled levels. Consequently, the MACT floor requires no control of SO_2 . As discussed earlier, acid gas controls are not effective in reducing SO_2 emissions from MWI's. Therefore, MACT also reflects no control of SO_2 .