

such as fabric filters, ESP, or wet scrubbers, achieve reductions in mercury emissions from liquid fuel-fired industrial, commercial, and institutional boilers and process heaters. The EPA identified no control technology being used in the existing population of boilers and process heaters that consistently achieved lower emission rates than uncontrolled levels, such that a best controlled similar source for mercury could be identified. We concluded the MACT floor for new sources in this subcategory is no emissions reductions for mercury.

We did find that monitoring CO can reduce organic HAP emissions and is used by at least one unit in this subcategory, and have included it in the new source MACT floor as described previously in this preamble.

Therefore, based on this analysis, EPA determined that the combination of a fabric filter, a wet scrubber, and CO monitoring forms the basis for the MACT floor level of control for new liquid fuel boilers and process heaters in this subcategory.

The emissions test database did not contain test data for limited use liquid fuel boilers and process heaters. In order to develop emission levels for this subcategory, we decided to use information from units in the large liquid fuel subcategory. We considered this to be an appropriate methodology because although the units in this subcategory are different enough to warrant their own subcategory (*i.e.*, different purposes and operation), emissions of the specific HAP for which limits are being proposed (HCl and metals) are more related to the type of fuel burned and the type of control used than to unit operation. Consequently, we determined that emissions information from units greater than 10 MMBtu/hr heat input capacity could be used to establish MACT floor levels for this subcategory because the fuels and controls are similar. The MACT floor emission level based on PM test data from a liquid fuel unit with an ESP representing the best controlled similar unit, and incorporating operational variability, is 0.03 lb PM/MMBtu. The MACT floor emission level based on a liquid fuel unit with a wet scrubber representing the best controlled similar unit, and incorporating operational variability, is 0.0009 lb HCl/MMBtu. We are requesting comment on using emission data from another subcategory to develop emission levels for this subcategory. We are also requesting any available emissions information for this subcategory.

3. Gaseous Fuel Subcategories

No existing units were using control technologies that achieve consistently lower emission rates than uncontrolled sources for any of the pollutant groups of interest, except organic HAP. At least one unit in the population database in the large and limited use gaseous fuel subcategories is required to monitor CO. Therefore, the MACT floor for gaseous fuel-fired units includes a CO monitoring requirement and emission limit, as described previously in this preamble, but it does not include any emission limits for PM, metallic HAP, mercury, or inorganic HAP based on the utilization of add-on control technology.

I. How Did EPA Consider Beyond-the-Floor for New Units?

The MACT floor level of control for new units is based on the emission control that is achieved in practice by the best controlled similar source within each of the subcategories. No technologies were identified that would achieve non-mercury metals reduction greater than the new source floors for the liquid and solid subcategories or CO monitoring for the solid, liquid, and gaseous subcategories. For inorganic HAP control, we determined that packed bed scrubbers achieve higher emissions reductions than MACT floors consisting of a wet scrubber. Packed bed scrubbers are the technology basis of the MACT floor for the large unit subcategory, but wet scrubbers were the technology basis of the floors for the small unit and limited unit subcategories. Therefore, we examined the cost and emission reduction benefits of applying a packed bed scrubber as a beyond-the-floor option for new solid and liquid units within the small and limited use subcategories. The results of this analysis indicated that annualized costs would be an additional 2 million dollars per year for additional reductions of approximately three tons of HCl per year. We determined that costs were excessive for the limited emissions reductions that would be achieved. Nonair quality health, environmental impacts, and energy effects were not significant factors, because there would be little difference in the nonair quality health and environmental impacts between packed bed scrubbers and wet scrubbers. Therefore, EPA did not select this beyond-the-floor option, and the proposed new source MACT level of control for PM, metallic HAP, and inorganic HAP (HCl) is the same as the MACT floor level of control for all of the subcategories.

In reviewing potential regulatory options beyond the new source MACT floor level of control, EPA identified one existing solid fuel-fired industrial boiler that was using carbon injection technology for mercury control. However, emission data obtained from this unit indicated that it was not achieving mercury emission reduction from the uncontrolled levels. Moreover, we do not have information to otherwise show that carbon injection is effective for reducing mercury emissions from industrial, commercial, and institutional boilers and process heaters. Information in the emissions database or from other source categories does not show that other control technologies, such as fabric filters, ESP, or wet scrubbers, achieve reductions in mercury emissions from liquid fuel-fired industrial, commercial, and institutional boilers and process heaters. Therefore, carbon injection, for solid fuel units, and other control techniques, for liquid fuel units, were not evaluated as regulatory options. However, EPA requests comments on whether carbon injection and/or other control techniques should be considered as beyond-the-floor options and whether new industrial, commercial, or institutional boilers and process heaters could use carbon injection technology, or other control techniques to consistently achieve mercury emission levels that are lower than levels from similar sources without such controls. Comments should include information on emissions, current demonstrated applications, and costs.

For the solid fuel and liquid fuel subcategories, fuel switching to natural gas is a potential regulatory option beyond the new source floor level of control that would reduce mercury and metallic HAP emissions. However, based on current trends within the industry, EPA projects that the majority of new boilers and process heaters will be built to fire natural gas as opposed to solid and liquid fuels such that the overall emissions reductions associated with this option would be minimal while the total cost of fuel switching would be approximately 600 million dollars. The additional emissions reductions would be 30 tons per year of HCl, 90 tons per year of inorganic HAP and 120 tons per year of total non-mercury metallic HAP. Section III.D of this preamble provides additional rationale for not going beyond the floor to require fuel switching. For example, natural gas supplies are not available in some areas, and supplies to industrial customers can be limited during periods when natural gas demand exceeds