

Clean Air Act Advisory Committee
Permits/New Source Review/Air Toxics Subcommittee
Utility MACT Working Group
Summary of Teleconference/Meeting on June 27, 2002

At the Clean Air Act Advisory Committee (CAAAC) Utility MACT Working Group meeting held on June 3, 2002, Larry Monroe (Southern Company) summarized a list of suggested changes to the EPA IPM Base Case 2000 mercury modeling assumptions that were discussed at a May 30 workshop. These suggested changes included revised assumptions related to mercury control and regrouping of model run years. EPA agreed to consider these changes and also to provide the timeframes needed to implement any changes. In a subsequent document (dated June 18, 2002), EPA provided its initial thoughts on possible changes to IPM and estimated time frames to implement changes. These changes were presented and discussed with workgroup members in a June 27, 2002 meeting/teleconference.

This document provides a summary of the June 27th meeting and a discussion of changes to IPM that EPA plans to consider for use in its MACT analysis.

1) Update ACI cost and performance for cold-side ESP.

As part the decision to offer more menu choices for activated carbon injection (ACI) removal (see #3 discussion below), EPA will change the ACI cost and performance assumptions for cold-side ESP units. In IPM, ACI for cold-side ESP (with no added pulse-jet fabric filter) will be assigned a 60% removal level; EPA will update the ACI injection rates and costs to reflect this 60% removal. (Note that additional changes to the performance of ACI is discussed in #3 below.)

2) Mercury capture with spray cooling.

With regard to the removal a spray cooling as an option in the model, EPA is still in the process of examining the effectiveness of spray cooling in combination with ACI and will keep this option for ACI in IPM during that examination. Working Group members raised the concern that spray cooling could cause ash deposition problems and is no longer in use at any known utility unit. Members agreed to provide further information with regard to the problems associated with spray cooling on utility boilers to EPA's Office of Research and Development. EPA agreed to examine any further evidence related to this concern and will follow-up with the Working Group.

3) Offer more menu choices (removal rates) for ACI.

In EPA IPM Base Case 2000, only ACI with an 80% mercury removal rate is provided as a retrofit option. Providing additional menu choices, such as ACI with 60% and 90% mercury removals simultaneously within the model is expected to make the model too large to run. EPA suggests that approaching this issue by implementing the following:

a. Reduce existing model size – EPA Base Case 2000 provides SNCR technology options to every coal plant. EPA has noticed that SNCR technology is not a major control technology of choice in most of the analyses. Thus, this option could be dropped from the menu of compliance choices for coal plants larger than 100 MW. For similar reasons, EPA also suggests that gas reburning technology options not be provided to coal-fired power plants.

b. An additional option to reduce model size is to reduce the number of run years from five to four. These model size reduction options could allow EPA to endogenously model ACI with two removal rates. EPA is proposing to include a 60% and a 90% mercury removal option for ACI. With the 90% removal option, we could include the addition of a pulse-jet fabric filter for units with hot-side or cold-side ESPs.

4) Update SCR-FGD co-control; update base co-control (separate lignite from subbituminous and use latest ICR evaluations); and drop SNCR effects on Hg.

EPA is proposing to make the change to institute separate EMFs for lignite- and subbituminous-fired units and to update the EMFs using the latest ICR evaluations. EPA is not proposing to change its assumptions for SCR + FGD co-control for bituminous coals until ongoing testing at units with these configurations has been completed. EPA is also proposing to update its SCR + FGD for other coals and its SNCR + FGD assumptions with the alternative emission modification factors (based on EIA mercury removal assumptions) provided in Appendix 5 of EPA's IPM documentation.

For SCR + FGD on subbituminous coals, this would result in EMFs reflecting 25% mercury removal for units with HS-ESPs, 65% removal for units with CS-ESPs, and 85% removal for units with FFs. For SCR + FGD for lignite coals, EPA has not yet determined the EMFs that will be used. For SNCR + FGD on all coals, using the alternative EMFs will result in no additional mercury removal associated with SNCR.

5) Model run year timing.

It should be noted that because all the years mapped together take on the same dispatch characteristics (the average across the grouped years), it is usually advisable to place the output year in the middle of the years that are mapped together.

The Working Group member's concern with regard to model run year grouping is that the IPM capture the capital cost investments that are made for mercury reduction before the 2008 compliance date (i.e., the building of controls may be staggered over the years 2005 through 2007). In IPM, installation of controls, and the associated costs, begins when the policy (or rule) goes into effect (for a MACT rule, this would be the beginning of 2008). Mapping 2008 with some preceding years (e.g., 2006 and 2007) may capture some of the costs associated with staggering the building of controls since the costs are averaged across the mapped years. EPA is continuing to investigate whether this would be an appropriate way in which to examine the cost of a MACT rule.