

We examined the data to determine if subcategories are needed for different battery designs as mentioned by the commenter. We could find no difference in performance levels achieved by short vs. tall batteries, under jet vs. gun flue, furnace vs. foundry coke, or the other factors mentioned by the commenter. We found a difference in performance when batteries are placed on extended coking, which reduces sealing carbon on the oven walls. Consequently, we developed a separate emission limit for batteries on extended coking. We also acknowledge that batteries operating routinely on coking cycles that are longer than that for which they are designed could qualify as extended coking. To accommodate this, we have revised the definition for "batterywide extended coking" to mean increasing the average coking time for all ovens in a battery by 25 percent or more over the manufacturer's design rate.

*Comment:* One commenter stated that EPA must develop a work practice standard for battery stacks because it is not feasible to set performance standards. The commenter noted that EPA uses three approaches to determine MACT floors (emissions data, existing emission limits from State regulations or operating permits, or technology). We used the technology approach for battery stacks. The commenter believes that the use of a technology approach for battery stacks is inappropriate because the technology is not an air pollution control device but is good O&M. The commenter further states that good O&M results in widely varying degrees of emission control. Good O&M is not a "technology" for the purposes of applying the technology approach because, unlike an add-on control device, good O&M cannot be associated with specific emission control levels at different batteries. The only way to establish a floor for battery stacks is to use actual emissions data. However, EPA does not have enough emissions data to subcategorize batteries adequately or to characterize performance over time and under the worst foreseeable operating conditions.

The commenter provided details for a suggested work practice program for battery stacks. The program would be implemented when a daily average opacity trigger is exceeded. The commenter suggests that the values EPA proposed for the emission limits (15 percent for normal coking time and 20 percent for extended coking time) be used as the triggers. The work practice program would include requirements for worker training as well as procedures for controlling oven to flue leakage, including diagnostic

procedures for identifying problem ovens and a list of corrective actions.

*Response:* The EPA established the MACT floor for battery stacks by identifying the level of performance consistently achieved by the best-performing units. Because units in this category currently do not use add-on control devices to reduce stack emissions, we looked at other measures employed by existing facilities in order to identify the best-performing units. Specifically, we looked at equipment, work practices, and operational factors that reduce emissions at existing facilities. We identified good systematic operation and maintenance, along with operation of COMS to monitor stack opacity, as the most important factors affecting the level of emissions from coke oven battery stacks. In fact, we determined that all of the best-performing batteries employ measures that have the same basic features, including COMS monitoring to identify problems, ongoing systematic maintenance of oven walls, and procedures for prompt and efficient repair of damaged ovens. We also identified, based on the large amount of available COMS data, the level of performance that units employing such measures are consistently achieving. Therefore, this approach identifies what is being done at existing facilities to reduce coke oven emissions from battery stacks and correlates those control activities to a specific level of performance. Because a sufficient number of units in the category are employing these control strategies and achieving the identified emissions limitation, this limit is MACT for existing sources.<sup>2</sup> Contrary to the commenter's assertion, there is no basis to conclude that any existing battery, with appropriate repairs, monitoring and maintenance, would be unable to achieve a similar level of control. Therefore, it was reasonable here for EPA to use this approach to identify the best units and to establish emission limits based on the performance of those units.

Because the opacity data used to establish the emissions limits are, in fact, representative of what a well operated coke oven battery can achieve (with comprehensive O&M, continuous monitoring, and an efficient repair

<sup>2</sup> While, in the proposal, we described this as a "technology approach" and referred to good O&M as the "MACT technology," these were merely short hand references for EPA's detailed analysis of the measures employed by best facilities to achieve the greatest degree of emissions reductions. In fact, the emission limit for battery stacks is based on the level of performance that the best existing sources consistently achieve, as demonstrated by actual emission test data (in the form of COMS readings).

program), it is not only reasonable but required that EPA establish such a limit. Because these emissions are emitted through a stack, can be measured, and could be captured and controlled with the application of available emission control technologies, it would not be appropriate for EPA to establish a work practice standard in lieu of an emissions standard. Thus, the CAA requires us to develop an emission standard in this case because a work practice standard is allowed in lieu of an emission standard only if it is not feasible to prescribe or enforce an emission standard.

The primary factor affecting battery stack emissions is the condition of oven walls. Batteries that are well maintained can achieve the MACT limits. When the walls are allowed to deteriorate and cracks occur, coke oven emissions escape through the cracks into the underfiring system and lead to high stack opacity. Another important factor in meeting the proposed limit is using COMS for diagnostic purposes. When an opacity spike occurs, the last oven charged can be identified and corrective actions can be made to repair the oven. High stack opacity may on occasion be caused by combustion problems, which also result in HAP emissions. However, these are easily remedied by proper adjustment and operation of the underfiring system.

We identified batteries with good O&M practices, and we collected opacity data from their COMS to characterize the level of control they have achieved. As discussed earlier, these batteries are representative of the types currently operating, and aside from the effect of extended coking, we found no basis to develop additional subcategories. The opacity limits identified as MACT have been achieved by these different types of batteries by using good O&M procedures. The performance level associated with the floor has been demonstrated as achievable and is representative of the performance of the top performing sources.

We agree that a good work practice program is essential to maintain control of battery stack emissions and that we derived the emission limits based on the best-controlled batteries which have such programs. However, a work practice standard alone would not ensure that battery stacks are well maintained on a continuing basis. In contrast, a performance standard will ensure that battery stack emissions are well controlled and allows plant owners or operators the flexibility to implement a site-specific program appropriate for their operation. In addition, we are obligated under the CAA to set