

scrubbers in series followed by a venturi scrubber.

We have two PM₁₀ emission tests for the melt/reactor which were conducted in May 1995 and May 2000. Both tests were conducted in accordance with EPA Method 201, and as far as we can determine, each test was performed under normal and representative operating conditions. The test results range from 2.1 to 5.7 lbs/hr and average 3.9 lbs/hr.

We evaluated the existing State limit as an option for establishing the MACT floor. The test results average about one-third of the standard. Considering that a reasonable margin of safety is necessary to assure continuous compliance, the existing State limit of 13.1 lbs/hr appears to be a reasonable proxy of actual performance, and as such, is appropriate for establishing the MACT floor. We have, therefore, determined the MACT floor for the melt/reactor to be the level of control indicated by the existing State limit of 13.1 lbs/hr of PM₁₀.

We have two hydrochloric acid emission tests for the melt/reactor. The tests were conducted in May 1995 and May 2000 in accordance with Method 26A. We believe that each test was performed under normal and representative operating conditions. The May 1995 test results average 3.2 lbs/hr, and the May 2000 test results average 2.8 lbs/hr. We evaluated the existing State limit as an option for establishing the MACT floor. A comparison of the State limit of 7.2 lbs/hr to the actual hydrochloric acid emissions data indicates that the State limit is a reasonable proxy of actual performance, and as such, is appropriate for establishing the MACT floor. Consequently, we determined the MACT floor for the melt/reactor to be the level of control indicated by the existing State limit of 7.2 lbs/hr of hydrochloric acid.

We have two chlorine emission tests for the melt/reactor. The test were conducted in May 1995 and May 2000 in accordance with EPA Method 26. The May 1995 test results average 21 lbs/hr, and the May 2000 test results average 50 lbs/hr. Again, we believe that each test was performed under normal and representative operating conditions. We evaluated the existing State limit as an option for establishing the MACT floor. A comparison of the State limit of 100 lbs/hr to the actual chlorine emissions data indicates that the State limit is a reasonable proxy of actual performance, and as such, is appropriate for establishing the MACT floor. Therefore, we determined the MACT floor for the melt/reactor to be the level of control

indicated by the existing State limit of 100 lbs/hr of chlorine.

We have source test data on dioxin/furan emissions from the melt/reactor stack which indicates total dioxin/furan emissions on the order of 80 grams per year (g/year) and emissions expressed in terms of TEQ of less than 3 g/year. The current title V operating permit includes no limitations on the emissions of dioxin/furan or any surrogate pollutant.

As previously stated, emission controls applied to the melt/reactor discharge include three packed bed scrubbers in series followed by a venturi scrubber for the control of hydrochloric acid and PM. Although not installed specifically for dioxin/furan control, we believe that some incidental control of dioxin/furan is in fact achieved by these scrubbers and that the floor level of control is represented by the available information on actual emissions. Specifically, we have data on two tests conducted in March of 1998 and May of 2000. Each test is comprised of three test runs conducted in accordance with EPA Method 23.¹ The 1998 TEQ test results range from 12.0 to 25.2 ng/dscm corrected to 7 percent oxygen and average 19 ng/dscm corrected to 7 percent oxygen. The 2000 TEQ results range from 10.4 to 35.9 ng/dscm corrected to 7 percent oxygen and average 24 ng/dscm corrected to 7 percent oxygen. The precision evidenced in the two tests, suggests that the variability due to process variations and control device performance is narrow, with the average results of both tests within ± 20 percent. We chose the highest of the individual runs, *i.e.*, 36 ng TEQ/dscm corrected to 7 percent oxygen as a representative value of the performance level that can be achieved. Thus, we have chosen 36 ng TEQ/dscm as the MACT floor. The source plans to conduct additional emissions testing in the near-term. We expect the testing to occur between proposal and promulgation. In determining the final standard for dioxin/furan, we will consider the results of the new test in addition to public comments that we receive.

We evaluated this multi-stage scrubbing system for any potential improvement to go beyond-the-floor. We concluded that the current scrubbing system is the best control option for removal of chlorine, hydrochloric acid, and PM₁₀. For dioxin/furan, we examined a beyond-the-floor alternative, and determined that the next increment of control beyond-the-floor is the

installation of a baghouse equipped with a catalytic filter that destroys gaseous dioxins and furans. We estimate the additional capital cost of adding baghouses to be \$650,000 and the total annualized cost to be \$390,000 per year. We estimate the emissions reductions to be 2.4 grams per year resulting in a cost per gram of total dioxin/furan reduction of \$163,865. We believe that the high cost, coupled with the small reduction in dioxin/furan emissions, does not justify the beyond-the-floor alternative at this time. Consequently, we chose the floor level of control of 36 ng TEQ/dscm as MACT.

Laundry Off-Gas System

The laundry off-gas system (LOG) collects fugitive emissions from the melt reactor area (*i.e.* hoods and laundries). The collected fugitive gases enter a horizontally aligned packed scrubber where chlorine, hydrochloric acid, and particulate matter are removed by scrubbing with water. The LOG scrubbed gases are exhausted to the atmosphere, and the scrubber water is returned to the waste water collection system.

We have three PM emission tests for the laundry off-gas system. The laundry off-gas system was tested in August 1993, July 1998, and January 1999 using EPA Method 5, and as far as we know, under normal and representative operating conditions. The test results of the three tests range from 2.6 to 19.1 lbs/hr and average 7.0 lbs/hr.

We evaluated the existing State PM emission limit as an option for establishing the MACT floor. We compared the State limit of 37.5 lbs/hr to the actual PM emissions data. Considering that a reasonable margin of safety is necessary to assure continuous compliance, the existing State limit of 37.5 lbs/hr appears to be a reasonable proxy of actual performance, and as such, is appropriate for establishing the MACT floor. Therefore, we determined the MACT floor for the laundry off-gas system to be the level of control indicated by the existing State limit of 37.5 lbs/hr of PM.

We have three hydrochloric acid emission tests for the laundry off-gas system. The laundry off-gas system was tested in August 1993, July 1998, and January 1999 using EPA Method 26A. We believe that the tests were performed under normal and representative operating conditions. The test results of the three tests range from 6.84 to 32.6 lbs/hr and average 15.6 lbs/hr.

We evaluated the existing State hydrochloric acid emission limit as an option for establishing the MACT floor.

¹ Method 23—Determination of Polychlorinated Dibenzo-P-Dioxins and Polychlorinated Dibenzofurans from Stationary Sources.