

plant is not significantly overachieving the limits. Therefore, we believe that the permit limits reasonably approximate actual emissions and performance and present an accurate picture of the level of control achieved by the best performing source.

An underlying presumption when setting MACT standards is that all emission limitations must be complied with at all times. Consequently, when establishing MACT floors and ultimately a MACT standard, we must consider the long-term variability in performance expected to occur under reasonable worst-case conditions. We must assure that an ensuing standard reflects the level of emission control determined to be MACT. We must also assure that the standard is achievable under normal and recurring worst-case circumstances.

As part of our development of the proposed MACT standard, we assessed the viability of requiring additional or different control equipment to obtain beyond-the-floor emissions reductions. Each control system on the four emission points (*i.e.*, spray dryer stack, magnesium chloride storage bin stack, melt/reactor system stack, and launder off-gas system stack) was evaluated to see if it was the best control equipment to achieve the maximum amount of reduction of chlorine, hydrochloric acid, PM, PM₁₀, and dioxin/furan. For all four emission points, US Magnesium uses wet scrubbers (packed-bed and venturi scrubbers) to achieve the emission limits. We concluded that wet scrubbing systems are the most appropriate and practical control systems for chlorine, hydrochloric acid, PM, PM₁₀, and dioxin/furan and that there is no other control equipment or methods of control that would be more effective for reducing their emissions taking into consideration cost and feasibility. Therefore, we determined that the emission limitations at the MACT floors also represent MACT.

We also propose that the source prepare and operate according to a fugitive dust emission control plan that describes in detail the measures that will be put in place to control fugitive dust emissions from all unpaved roads and other unpaved operational areas. The existing fugitive dust emission control plan that has been approved as part of the source's title V permit would be acceptable.

Spray Dryers

There are three spray dryers in the source category. The exhaust gas from each is controlled by two venturi scrubbers followed by a packed-bed scrubber. All three dryers are subject to

Utah's PM emission limit of 100 lbs/hr. Each test was conducted according to EPA Method 5, and, as far as we know, under normal and representative operating conditions.

We have seven PM emission tests for the three dryers. Dryers 01 and 03 were tested in May 1997; dryers 01 and 02 were tested in December 1997; and all three dryers were tested in June 2002. The May 1997 test includes seven runs, and the other two tests include three runs each. The test results of all seven tests range from 25 to 53 lbs/hr. The average and median values are 37 lbs/hr and 36 lbs/hr, respectively.

We evaluated the existing State PM emission limit as an option for establishing the MACT floor. The test results recorded range from about one-fourth to one-half of the standard and average a little more than one-third of the standard. Considering that a reasonable margin of safety is necessary to assure continuous compliance, the existing State limit of 100 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 spray dryers to be the level of control indicated by the existing State limit of 100 lbs/hr of PM.

All three dryers are subject to Utah's hydrochloric acid emission limit of 200 lbs/hr. We have seven hydrochloric acid emission tests conducted according to EPA Method 26A for the three dryers. Dryers 01 and 03 were tested in May 1997; dryers 01 and 02 were tested in December 1997; and all three dryers were tested in June 2002. The May 1997 test included seven runs, and the other two tests included three runs each. Again, as far as we can determine, each test was performed under normal and representative conditions. The test results of all seven tests range from 51 to 82 lbs/hr and average 68 lbs/hr. The median value is also 68 lbs/hr.

We evaluated the existing State hydrochloric acid emission limit as an option for establishing the MACT floor. The test results recorded range from about one-fourth to almost one-half of the standard and 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 200 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 spray dryers to be the level of control indicated by the existing State limit of 200 lbs/hr of hydrochloric acid.

We next examined possibilities for beyond-the-floor options. We concluded that the current multi-stage wet scrubbing system is the best available control technology for the removal of hydrochloric acid and particulate matter contained in the spray dryer discharge. Therefore, we have selected the mass rate emission limits established in the source's title V operating permit as MACT for both new and existing spray dryers.

Magnesium Chloride Storage Bins

Magnesium chloride powder from the spray dryers is pneumatically conveyed to storage bins. The exhaust air from the conveyor contains particle matter and low levels of hydrochloric acid. The exhaust gases are directed to vertical packed-bed scrubbers where hydrochloric acid and particulate matter are removed.

The source's title V operating permit limits hydrochloric acid to 47.5 lbs/hr and PM₁₀ to 2.7 lbs/hr. Packed bed scrubbers are used to achieve these emission limits. We do not have any emissions test data for this emission point. As such, we decided to adopt the source's title V operating permit limits for PM₁₀ and hydrochloric acid. Emissions testing was recently conducted on the magnesium chloride storage bins, and we expect test results within a few weeks of publishing the proposed rule. This data will be added to the public docket as soon as we receive it, and we will consider the data and public comments prior to publication of the final rule.

We evaluated this wet scrubbing system for any potential beyond-the-floor control technology and concluded that the packed-bed scrubber system is the best available control technology for the removal of hydrochloric acid and particulate matter. Thus, we adopted the emission limits established in the source's title V operating permit as MACT.

Melt/Reactor

The melt/reactor system melts and chlorinates dehydrated brine powder to produce high purity molten magnesium chloride feed for electrolysis. The melt/reactor off-gases are cooled in a quench tower and then enter a venturi scrubber where PM is removed. The off-gases are then directed to the chlorine reduction burner where they are combined with tail gases from the chlorine plant and burned with natural gas to form hydrochloric acid.

The gases exit the chlorine reduction burner and enter a scrubber train where hydrochloric acid is recovered. The train consists of three packed bed