

3. Emission Limitations and Work Practice Standards

The proposed emission limitations were in the format of an outlet concentration. As outlined in the proposed preamble, we selected this format primarily due to concerns in distinguishing an HCl control device from an HCl production process. There were numerous comments received regarding this format and the data used to establish the emission limit. These proposed limits were developed by applying the MACT floor percent reduction efficiencies to the highest uncontrolled concentrations in the data set. Specifically, these highest uncontrolled concentrations were 2,044 ppmv for HCl and 9,650 ppmv for Cl₂. Commenters stated that we established the concentration equivalents to the MACT floor based on data that do not accurately reflect the variability of sources in the source category. The commenters noted that facilities in the source category often have emission points (with only one exception, all examples raised by the commenters were for storage tanks and transfer operations) that emit much higher concentrations of HCl and Cl₂ or emit at much higher air flow rates than the facilities included in the our database. The commenters stated that emission points with high concentrations would need removal efficiencies greater than the MACT floor levels in order to meet the proposed concentration limits, which we proposed as being equivalent to the MACT floor percent removal efficiencies. Therefore, the commenters maintained that the proposed emission limits were far beyond the MACT floor and not justified.

Alternatively, one commenter stated that the proposed emission limits were not as stringent as they should be. The commenter stated that the MACT floor control efficiencies are appropriate, but that they were inappropriately converted to equivalent concentration limits. The commenter stated that we chose as equivalent to the MACT floor control efficiency the highest concentration from the range of concentrations that are already being achieved and noted that recent court decisions reiterate that we must set the MACT floor at the average already being achieved by the best performing 12 percent of the sources, not at a level at which all sources can easily meet. The commenter urged us to establish emission limits that are appropriately stringent based on the MACT floor control efficiencies. Commenters offered three basic suggestions on how to deal with this perceived problem. Several

commenters requested that we collect and examine inlet concentration data from a variety of additional process vents, storage tanks, and transfer operations, and develop emission limits that are more appropriate to the actual inlet concentrations observed in the source category.

In the absence of more data, commenters encouraged us to establish a tiered control efficiency based on flow rate. That would avoid the situation in which already well-controlled scrubbers with high air flow rates incur a high additional cost to achieve the proposed concentration limit. The final suggestion by several commenters was that we allow compliance with either a control efficiency or an emission limit, whichever is less stringent. The commenters stated that such an alternative would relieve the situation where control devices have high removal efficiencies but cannot meet the proposed concentration limits because they have high inlet concentrations.

First, we reject the commenter's opinion that additional data are needed to establish these concentration equivalents. As discussed above, we believe that our data gathering approach was sound and are not convinced that additional data gathering would necessarily result in data that better characterizes the industry.

However, we recognize that none of the data used to establish the concentration equivalents were from storage tanks or transfer operations. We agree that uncontrolled concentrations from storage tanks and transfer operations are likely to be much higher than those for the process vents in our data set because HCl remains in storage tanks and transfer operations long enough for the concentration in the vapor to reach equilibrium with the concentration in the liquid, whereas HCl passes through HCl production units quickly. We would expect that, in many cases, the vapor space in storage tanks and transfer operations will be saturated. As discussed above, we have revised the HCl production facility definition to include production of liquid HCl at a concentration of 30 weight percent or greater. At saturation, the HCl vapor concentration above a 30 weight percent HCl liquid would be around 12,000 ppmv. Applying the existing source MACT floor reduction efficiencies (99 percent for storage tanks and for transfer operations) to this concentration results in an outlet concentration of 120 ppmv. Applying the new source MACT floor reduction efficiencies (99.9 percent for storage vessels and 99 percent for transfer operations) to this concentration results

in an outlet concentration of 12 ppmv for storage tanks and 120 ppmv for transfer operations. These are the emission limitations for storage tanks and transfer operations in the final rule.

With one exception, the comments did not indicate that the uncontrolled concentrations used to determine the emission limitations for process vents (2,044 ppmv for HCl and 9,650 ppmv for Cl₂) were inappropriate. Therefore, we applied the revised existing source MACT floor control efficiencies (99 percent for both HCl and Cl₂ emissions from process vents) to these concentrations to obtain 20 ppmv HCl and approximately 100 ppmv Cl₂. Applying the new source MACT floor reduction efficiencies (99.4 percent for HCl emissions from process vents and 99.8 percent for Cl₂ emissions from process vents) to this concentration results in outlet concentrations of 12 ppmv HCl and 20 ppmv Cl₂ (rounded up from 19 ppmv). These are the emission limitations for process vents in the final rule. We believe instances cited by one commenter regarding inlet Cl₂ concentrations in process vents would be addressed by the alternative format in the final rule, which is discussed below.

We disagree with the commenter who believed that the emission limitations were not as stringent as they should be. The percent reduction limits represent the average control level of the best-controlled sources, in accordance with CAA section 112(d)(3). The alternative concentration limits were determined using the appropriate percent reduction limits (which were based on the average of the best-controlled sources) and the available data on control device inlet concentrations. In determining the concentration limits, we made assumptions about these inlet concentrations for each type of emission source (for example, we chose the highest concentration) to consider the variability that will be encountered by the best-performing sources. We strongly disagree that all sources can easily meet these limits, and we believe that significant control measures will be required for facilities to meet the limits.

We do not believe that a tiered control efficiency based on flow rate is appropriate based on the available information, and we did not incorporate such a concept into the final rule. We do recognize, nevertheless, that situations could exist where sources could achieve the MACT floor reduction efficiency but fail to meet the applicable outlet concentration emission limitations. Further, the commenters alleviated our concerns at proposal regarding a percent reduction emission