

thresholds. While our approach in this particular action may not be the same as an approach for a NAAQS, it has been certainly more than cursory. We have looked at emissions and exposure data for each of the sources in the subcategory. We have established hazard indices for chlorine and HCl for each source in the subcategory. We performed a qualitative ecological assessment. Moreover, in response to comment received, we have adjusted our analyses and taken into account comments that we have received when performing these re-assessments. We will base each risk assessment for this and future regulatory action on sound scientific principles.

Comment: In the proposed action, the risk assessment modeling was conducted by placing receptors at the geographic center of census blocks within 2 kilometers of the site and in the population-weighted centers of census block groups or census tracts out to 50 kilometers. Two commenters did not agree with that methodology for determining receptor location for threshold pollutants. One commenter stated that EPA's methodology would be more appropriate for cancer causing agent, where the risk is based on probabilities of health effects. The commenter argued that for non-cancer (*i.e.*, threshold pollutants) compounds, placing the receptors at the center of census tracts would not properly identify the highest impacts close to the facility. They felt that it was more appropriate to measure the exposure of the most exposed individual (*e.g.*, someone living at the fence line of a facility or directly downwind).

Response: We agree with the commenters that the greatest impacts will likely occur near the facility for this source category. However, we do not agree with the commenters that our approach fails to meet statutory requirements. We do not feel that considering an "ample margin of safety" means that we must demonstrate no risk or adverse health effects for a theoretical person living at the fence line. Rather, we feel it is appropriate to assess the risks at locations where people most likely reside. A census block is the smallest geographic unit for which the Census Bureau tabulates 100-percent data. While census blocks in rural areas may be larger, many blocks correspond to individual city blocks in more populated areas. The commenter is correct in that an individual could live closer to the plant than the center of the census block, and our approach would have slightly underestimated risk. It is just as likely, however, that the closest individual could live farther from the

plant than the center of the census block causing our risk estimates to be slightly overestimated. By placing receptors at the center of populated census blocks on all sides of a facility, we have evaluated people living downwind. In conclusion, we continue to feel that placing a receptor in the geographic center of populated census blocks near a facility is a well established approach to exposure modeling which results in a reasonable approximation of estimating the risks where people actually live, and we maintain that this methodology is appropriate for actions taken under the authority of either CAA section 112(d)(4) or CAA section 112(c)(9)(B)(ii).

Comment: One commenter stated that the total chlorine and HCl emissions from some of the facilities included in the risk assessment were grossly underestimated. In support of their argument, the commenter pointed out potential inconsistencies in the background emissions data contained in the docket. Specifically, the total chlorine emissions from the Dow Chemicals, Freeport, Texas facility were reported in the risk assessment document to be 22 pounds per year (lb/yr), but in the 1996 Chlorine Production Summary Report, chlorine emissions from only one production process located at the Dow Chemicals facility (the diaphragm cell process) were reported to be 9,800 lb/yr. The commenter stated that since emissions from other processes at the Dow facility were not included in the summary report, the emissions were likely to be much higher. The commenter also noted that the Dow facility had the lowest emissions (22 lb/yr) of facilities reported in the risk assessment document and the highest chlorine production volume (1.8 million lb Cl₂/yr), which also indicates that the emissions from the Dow facility were underestimated.

According to the commenter, the inconsistencies between the reports undermine the credibility of the risk assessment to support a decision to not regulate this source category. Furthermore, the commenter stated that they believe that the emission inventory information provides justification for a need to establish a MACT floor. The commenter concluded that the risk assessment was flawed because the potential impacts on health and the environment were underestimated.

Response: The primary sources of the emission estimates used in the risk assessment for this source category were responses submitted directly by the facilities in response to a request for information under our authority in section 114 of the Clean Air Act. A

review of the data was conducted as they were received, and follow-up questions asked of the industry representatives to clarify the information submitted. After the analysis, we were satisfied with the quality of the data, with one exception. Only one-half of the facilities submitted chlorine emission estimates from fugitive sources. One of the areas of focus in the follow-up questions was to verify the fugitive emission estimates for those facilities that did submit such estimates. Our conclusion was that fugitive emissions are to be expected from every non-mercury cell chlorine production plant, so we estimated fugitive emissions for those that did not submit estimates. That was done using the highest emission factor calculated from the plants that did report fugitives. The use of the "worst-case" factor was appropriately conservative for this assessment.

The commenter compared the emissions used in the assessment to 1991/1992 base year emissions in an earlier report on this industry, the 1996 Chlorine Production Summary Report, and correctly noted that there is a large discrepancy between the emissions levels for Dow Chemical's plant in Freeport, Texas. As a result of that comment, we made a comparison of the emissions from all plants between these two sources of information.

The comparison revealed that the Dow Freeport facility is only one of only two plants whose emissions used in the risk assessment were lower than the 1991/1992 base year emissions in the 1996 summary report. In fact, the 2000/2001 emissions used in the risk assessment for the other facilities with reported emissions in both documents averaged five times HIGHER than those reported in the 1996 summary document. Clearly, the comparison does not lead to the conclusion that the risk assessment was based on grossly underestimated emissions. A review of the data submitted by the two facilities whose 2000/2001 emissions were substantially lower than their 1991/1992 emissions did not result in any obvious errors or questionable assumptions that could be disputed with the available information. Furthermore, according to the facility, the chlorine and HCl emissions reported in the 1996 summary document included emissions from processes within the plant not related to chlorine production. That was corrected for the 2000/2001 emissions data submittal. Therefore, no changes were made as a result of the review of the reported emissions data.

The comparison did result in the concern that the emissions, particularly