area sources as stringently as major sources. Other commenters stated that the costs to area sources regulated with MACT was unduly burdensome, particularly if those sources would be subject to title V. Two commenters suggested that the EPA apply GACT standards to small facilities to allow the Agency to focus its resources on facilities posing the greatest impact, or establish a threshold below which sources would be subject to GACT. Another commenter questioned the EPA's decision to apply MACT to area sources on the grounds that the Act does not intend a residual risk analysis for area sources. This commenter noted that it was important to have separate standards for area sources even if GACT was as stringent as MACT to preserve the intent of section 112(d).

In determining whether to apply MACT or GACT to the area sources in this source category, the EPA considered the toxicity of chromium compounds emitted from such sources and the availability of controls. The EPA has concluded that MACT should be applied to all area sources in all source categories. The basis for this decision is the toxicity of chromium compounds. The potency of hexavalent chromium, which is categorized as a Group A carcinogen, is well documented, and at least three epidemiological studies have shown a strong association between lung cancer and occupational exposures to mixtures of trivalent and hexavalent chromium. Therefore, the Agency has concluded that all chromium compounds emitted to the air should be considered toxic until adequate data are available to determine otherwise.

In selecting MACT over GACT for all area sources, the EPA also evaluated the availability of control technologies and the cost of compliance for area sources. The control technologies that form the bases for MACT are widely available.

Although § 112(d)(5) of the Act does allow an alternative standard for area sources, the EPA interprets this paragraph as authorizing the Administrator to establish GACT standard for area sources when the imposition of MACT is determined to be unreasonable. For the source categories subject to subpart N, the Agency considers it reasonable to apply MACT to area sources.

C. Selection of MACT for Hard Chromium Electroplating Tanks

1. Selection of the MACT Floor

Four commenters suggested that the MACT floor for new hard chromium electroplating tanks should be based on the use of a fiber-bed mist eliminator (FBME) because this is the best technology in use.

The EPA has gathered additional information since proposal in response to public comments received. Based on this information, a total of five facilities are known to be using FBME to control chromium emissions from affected hard chromium electroplating and chromium anodizing tanks. These five facilities represent different sizes of hard chromium electroplating and chromium anodizing operations.

Emission test data were obtained from four of the five facilities using FBME (see Item No. IV-B-01 of Docket A-88-02). The emission test data available from one facility were incomplete and could not be used to assess the performance of fiber-bed units. The test results from the other facilities were adequate to evaluate the performance of FBME. However, after a thorough evaluation, it was determined that the limited data are not sufficient to establish an emission limit which must be met on a continuous long-term basis. In one case, the data were inadequate because only a single traverse was made when two should have been performed. In the other cases, the quantity of emissions captured during sampling was too small to meet Agency guidelines on minimum quantification levels. These data, therefore, must be treated as qualitative rather than quantitative results and may not be used to establish achievable emission limits. Based on this qualitative assessment, it appears that FBME offer excellent control potential.

In evaluating control technologies, the Agency also must consider the sustainability of any performance level. The EPA is concerned with the longterm performance of these systems because of the tendency of the fiber beds to plug. In other contexts, most vendors of FBME systems do not recommend their use as primary pollution control systems. Rather, they recommend that coarse prefiltering be provided upstream of the fiber beds to prevent plugging. The prefiltering devices range from a series of mesh pads to a complete packed-bed scrubber unit. At present, there are no long-term data available to assess any actual deterioration or operational problems associated with FBME. Fiber-bed mist eliminators to control chromium electroplating and anodizing tanks have only recently been installed as a result of local air district requirements; therefore, it is unlikely that any long-term data are available.

Because of the uncertainties in both the measured FBME performance data and the potential long-term variability of the system performance, the

Administrator cannot at this time determine that a more stringent emission limit could be achieved based on the application of FBME technology for new hard chromium plating or chromium anodizing operations. Therefore, the final MACT performance level of new hard chromium electroplating and chromium anodizing tanks is unchanged from the proposal. However, the limited data do suggest that FBME systems can achieve the emission limits established for composite mesh-pad systems and fume suppressants. Because this standard is a performance standard, the use of a specific technology is not mandatory; therefore, any system that meets or exceeds the required performance level may be used.

In order to facilitate the use of FBME to achieve compliance with the standard, monitoring provisions have been included in the final rule for use with FBME. (See discussion in section V.H.) The test methods in the proposed rule are suitable for demonstrating compliance with the standard regardless of the control technology employed.

2. Regulatory Alternatives Considered

Eight commenters suggested that the EPA was too limiting in the regulatory alternatives for hard chromium electroplating operations. These commenters believed that the EPA should allow sources in this subcategory to use fume suppressants to comply with the standard, instead of locking sources into a control technology, such as packed-bed scrubbers. Four of the commenters also proposed that the EPA allow new and existing hard chromium electroplating operations the option of meeting the same surface tension limit allowed for decorative chromium electroplating operations that use a wetting agent-type fume suppressant.

The EPA has selected an emission limit format to provide sources with the flexibility to choose the emission control strategy best suited to their facility. The regulation only requires that any strategy selected meet the emission limits set out in the rule. As such, hard chromium electroplating sources can use fume suppressants to achieve compliance with the standard, as long as initial compliance testing demonstrates that the emission limit stipulated in the standard is being achieved. As discussed later in this preamble, however, on-going compliance monitoring is controltechnique specific. As such, the owner or operator of any source that uses a fume suppressant to comply with an emission limitation shall monitor surface tension or foam blanket