

fuels used at the individual plants. Attempting to base a mercury standard (either a floor standard, or a beyond-the-floor standard) on raw material substitution (*i.e.*, ore substitution), however, would lead to unachievable standards for all sources, because this means of control is not duplicable or even replicable.

A study by the Coleraine Minerals Research Laboratory in 1997 stated that "the mercury volatilized during pellet induration is not the same for every taconite operation. There is a correlation between the amount of mercury volatilized during induration and the location of the taconite operation. The taconite operations that are located on the west end of the Mesabi Iron Range volatilize more mercury during pellet induration than those on the east end of the range." This correlation was confirmed in a report by the Minnesota Department of Natural Resources (Berndt, 2002) with the mercury concentrations present in the ore varying from 21 parts per billion (ppb) at the west end of the range to 0.6 ppb for facilities located on the east end of the range. Each taconite iron ore processing plant is located directly proximate to its own mining source. Transportation costs of procuring raw materials from other locations are prohibitive. A plant has no access to the raw ore used by another plant and, consequently, could not duplicate the mercury emissions performance of the other plant. The ore processing operations at a given plant are dependent on the type of ore mined. The east range ores are typically finer and harder requiring different processing steps in crushing, grinding, and flotation. Because of the differences in processing for each type of ore, it is not feasible for any one facility to process different ores mined from multiple locations in the range. Moreover, because iron ore deposits are variable in mercury content, there is no way to assure that even a source processing its own ore could replicate its own performance, since the next ore batch could contain higher concentrations of mercury. Based on the above justifications, we have determined that it is infeasible for taconite plants to reduce mercury emissions by switching to "cleaner" ores.

Natural gas is the primary fuel used by the taconite industry to fuel the process. From the period of 1995 to 1997, the burning of coal constituted only between 9 and 18 percent of the overall energy input for taconite indurating furnaces. During the same period, natural gas constituted between

73 and 83 percent of the overall energy input for taconite indurating furnaces. Although very little coal is used overall by the industry, it is critical for certain plants to have coal available to them as a backup fuel when natural gas may not be available or when seasonal fluctuations in the price of natural gas make its use uneconomical. Therefore, based on the negligible impact of coal on mercury emissions in the industry and the importance of maintaining backup fuel options, fuel switching is not a feasible means of controlling HAP metal emissions (including mercury) for the taconite industry.

Based on these facts, EPA cannot accept the comment that it must establish a floor standard by averaging the lowest mercury emission values of the so-called best-performing 12 percent of sources. In the next performance test, all of these mercury values could be higher (no matter what method would be used to establish "best performing"), because there are no means of controlling ore concentrations or feasibly using fuel substitution. Such a standard simply could not be achieved by any source. Not only is this not the intent of a technology-based standard, but would result in sources being out-of-compliance and, thus, possibly shutting them down. This is not how MACT was intended to function. "MACT is not intended * * * to drive * * *" (H.R. Rep. No. 101-490, 101st Cong. 2d sess. 328).

We note further that the mercury in the ore and the fuel is present in trace amounts. The Minnesota Department of Natural Resources stated that "mercury present in taconite occurs as a trace element, and cannot be eliminated by simply using a different fuel source or by eliminating mercury-bearing components from material to be combusted." (Berndt, 2002) This supports the Agency's technical determinations that control via substitutions of feed or fuel is neither feasible nor likely to be effective since random variability in the feed will likely result in equal amounts of mercury being emitted in any case. Indeed, as stated above, it is not clear that even a single source could reliably duplicate its own performance for mercury emissions due to the small amounts emitted and random variabilities in the mercury content of the iron ore.

The commenters themselves acknowledge that viable controls for mercury are not currently available for the taconite industry:

- One commenter stated that "viable mercury control technologies or

strategies may be identified in the very near future."

- One commenter stated that "setting a standard would induce the industry to invest in research and development to meet it." The commenter also stated that "promising mercury control technologies for the taconite industry are on the horizon."

- Two commenters stated that "control technologies being developed for coal-fired plants could be used to control mercury emissions from taconite facilities." Section 112(d) of the CAA requires that the EPA establish emission standards that are "achievable for new or existing sources." Since we have not been able to identify any currently employed operating practices that effectively reduce mercury emissions which are duplicable or replicable, we cannot develop an achievable floor standard.

Some commenters also suggested extended compliance periods (beyond the 3 years provided by section 112(i)(3) of the CAA). The problem, however, is not one of time but of the lack of existence of any means of floor control. Control of emissions via raw material or fuel substitution will not be available regardless of time allowed for compliance.

Several commenters also noted that EPA's action here could undermine efforts to control mercury deposition in the Great Lakes and questioned the adequacy of EPA's action in light of the Agency's obligation under section 112(m)(6) of the CAA to "determine whether the other provisions of this section 112 are adequate to prevent serious adverse effect to public health and serious or widespread environmental effects" in the Great Lakes. The EPA, however, is not reopening its existing determination that the section 112(d) and (f) standards are adequate for this purpose. See generally 63 FR 14090 (March 24, 1998); "Deposition of Air Pollutants to the Great Waters: First Report to Congress (EPA-453/R-93-055, 1994); "Deposition of Air Pollutants to the Great Waters: Second Report to Congress" (EPA-453/R-97-011, 1997). The EPA notes further that the section 112(f) residual risk process must evaluate (among other things) whether a more stringent standard for mercury is needed to prevent an adverse environmental effect (taking into consideration costs, energy, safety and other relevant factors).

The commenters' statements regarding potential at-the-stack control options are legitimate considerations for beyond-the-floor standards, but after evaluating the possibility of such