

eastern end of the Mesabi Range where acicular (needle-like) minerals may be present in the ore. The commenter also stated that the proposal preamble overstated the efforts of EPA's work group investigation of asbestos in taconite ore. The commenter asserted that the work group is focused mainly on vermiculite and is unlikely to study or recommend "solutions" for the taconite industry.

One commenter stated that EPA's refusal to set beyond-the-floor standards for asbestos is unlawful.

Response: Although we are compelled to develop MACT standards for HAP from major sources, and "asbestos" is listed as a HAP in section 112(b) of the CAA, "asbestos" is not a single chemical substance or an easily identified group of chemicals or substances. Our previous regulatory experience with asbestos as an air pollutant has been limited to those substances commercially used for their properties, such as a high resistance to heat and most chemicals. More recently, the Agency has become concerned with those and similar substances that may occur as a contaminant in other mined materials and then be released into the air during processing activities.

When Congress listed "asbestos" as a HAP in section 112(b)(1), it did not further explain the term in the statute, and EPA is not aware of any legislative history addressing the term asbestos. Currently, EPA regulatory definitions for "asbestos" are provided in the Asbestos NESHAP, as revised in 1990 (40 CFR 61.141, subpart M), and the regulations for addressing asbestos-containing materials in schools (40 CFR 763.83). Both rulemakings, which focus on commercial asbestos, define asbestos as the asbestiform varieties of six different minerals: chrysotile (serpentine), crocidolite (riebeckite), amosite (cummingtonite-grunerite), anthophyllite, actinolite, and tremolite. As some commenters have indicated, it is correct that the ore from the eastern end of the Mesabi Range is comprised to some extent of cummingtonite-grunerite and ferroactinolite (an iron-based form of actinolite), two of the above listed asbestos-like minerals.

Similarly, other Federal agencies' standards for "asbestos," for example, the Occupational Safety and Health Administration (OSHA), were developed for commercial asbestos products and not asbestos as a contaminant in another material (29 CFR parts 1910, 1915, and 1926). Current OSHA workplace air regulations apply only to chrysotile, crocidolite, amosite, and the asbestiform varieties of anthophyllite, tremolite, and actinolite.

The word asbestos is often added after the mineral (e.g., tremolite asbestos) to signify that the asbestiform variety of the mineral is being referred to. This is not necessary for chrysotile, crocidolite, or amosite because these are terms specific to the asbestiform varieties of the minerals (which are serpentine, riebeckite, and cummingtonite-grunerite, respectively).

Since the EPA first regulated asbestos as a HAP, a distinction has been made on applying the term asbestos to commercially manufactured products and not as a contaminant in other materials. When the Asbestos NESHAP was promulgated in 1973, the EPA Administrator made explicit in accompanying comments that the NESHAP only apply to asbestos mines and asbestos mills. Approximately 1 year after the rule was promulgated, EPA further clarified the rule by stating it does not apply to asbestos occurring as a contaminant as distinguished from asbestos as a product (39 FR 15397, May 3, 1974). In a 1974 revision to the Asbestos NESHAP, the Administrator added a definition of "commercial asbestos" to distinguish asbestos which is produced as a product from asbestos which occurs as a contaminant in other materials.

Furthermore, when the CAA was amended in 1990, EPA's approach in developing NESHAP was significantly altered through the use of the HAP list under section 112(b) and the application of technology-based standards under section 112(d) instead of a strict risk-based approach. However, the CAA amendments in 1990 did not provide any further guidance on how the definition of asbestos could be applied beyond its use in the Asbestos NESHAP to address asbestos as a contaminant in other materials.¹ Based on EPA's historical use of the term "asbestos," it has been used in the context for commercially produced products and not, as yet, as a contaminant in other products. In summary, there is no technical or regulatory consensus on the set of minerals pertinent to contaminant asbestos.

Notwithstanding the real technical uncertainties as to how to classify the fibers in the Northshore emissions,

commenters argued that the issue had already been decided by virtue of the Eighth Circuit's *Reserve Mining* decision, which found that *Reserve Mining* (now Northshore) emitted asbestos for purposes of ordering injunctive relief. First, any suggestion that EPA is now precluded from making a different factual determination is not correct. The issue decided in *Reserve Mining* is different from the one involved here: whether the Northshore fibers are "asbestos" for purposes of section 112 (b) of the CAA, a provision not at issue in *Reserve Mining* since it did not even exist at the time of the decision.

Second, EPA is not acting in the context of a plea for general injunctive relief (as in *Reserve Mining*), but rather to implement a limited grant of statutory authority to regulate the HAP "asbestos." We have looked for existing, objective means of determining if Northshore's fibers are "asbestos" and currently find the situation uncertain. In light of this uncertainty, we are not establishing MACT standards for the fibers emitted by Northshore. Rather, the issue of which non-commercial fibers are "asbestos" for purposes of section 112(b) is one that must first be decided in a broader context.

In response to the events surrounding exposures of residents to asbestos that occurred as a contaminant in a vermiculite mine in Libby, Montana, EPA is currently studying the complex issues involved with asbestos emissions from beneficiation and subsequent processing of minerals where asbestos may be present as a contaminant. One component of this activity is a comprehensive update to the asbestos entry in the Agency's Integrated Risk Information System (IRIS). In the hazard and dose-response assessment pieces of the update, the current information on mineralogy, size, bioactivity and chemistry of different asbestos fibers is being considered. Within the past 3 years, the Agency has sponsored or co-sponsored several technical meetings aimed at bringing together the current knowledge on asbestos, its characteristics and related health effects. These include, but are not limited to:

- May 24–25, 2001, "Asbestos Health Effects Conference" in Oakland, California;
- February 25–27, 2003, "Asbestos Cancer Risk Peer Consultation" in San Francisco, California; and
- June 12–13, 2003, "Asbestos Mechanisms of Toxicity Workshop" in Chicago, Illinois. Integration of the information gathered through these and other mechanisms will compose the

¹ We thus disagree with the commenter who stated, without citation, that the 1990 amendments to the CAA were intended to compel section 112(d) standards to control the fibers emitted from non-commercial sources. The commenter is correct in that section 112 is not limited to commercial asbestos emissions, but nothing in the statute or its legislative history of which EPA is aware indicate that Congress intended a particular meaning of "asbestos" or that particular fiber-emitting sources be regulated under section 112 by virtue of the inclusion of "asbestos" in the list of HAP.