

sources. The CAA requires the NESHAP to reflect the maximum degree of reduction in emissions of HAP that is achievable. This level of control is commonly referred to as MACT.

The MACT floor is the minimum control level allowed for NESHAP and is defined under section 112(d)(3) of the CAA. In essence, the MACT floor ensures that the standards are set at a level that assures that all major sources achieve the level of control at least as stringent as that already achieved by the better-controlled and lower-emitting sources in each source category or subcategory. For new sources, the MACT floor cannot be less stringent than the emission control that is achieved in practice by the best-controlled similar source. The MACT standards for existing sources can be less stringent than standards for new sources, but they cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources in the category or subcategory for which the Administrator has emissions information (or the best-performing 5 sources for which the Administrator has or could reasonably obtain emissions information for categories or subcategories with fewer than 30 sources).

In developing MACT, we also consider control options that are more stringent than the floor. We may establish standards more stringent than the floor based on the consideration of cost of achieving the emissions reductions, any health and environmental impacts, and energy requirements.

C. How Were the Final Rules Developed?

We proposed standards for BSCP manufacturing and clay ceramics manufacturing on July 22, 2002 (67 FR 47894). The preamble for the proposed standards described the rationale for the proposed standards. Public comments were solicited at the time of proposal. The public comment period lasted from July 22, 2002 to September 20, 2002. Industry representatives, regulatory agencies, environmental groups, and the general public were given the opportunity to comment on the proposed rules and to provide additional information during the public comment period. We also offered at proposal the opportunity for oral presentation of data, views, or arguments concerning the proposed rules. A public hearing on the proposed BSCP rule was held on August 21, 2002, during which 21 presentations were made. Following the public hearing, we met with representatives of industry and

environmental groups on several occasions.

We received a total of 80 public comment letters on the proposed BSCP rule and 9 public comments letters on the proposed clay ceramics rule. Comments were submitted by industry trade associations, BSCP and clay ceramics manufacturing companies, State regulatory agencies and their representatives, and environmental groups. Today's final rules reflect our consideration of all of the comments received. Major public comments on the proposed rules, along with our responses to those comments, are summarized in this preamble.

D. What Are the Health Effects of Pollutants Emitted From the Brick and Structural Clay Products Manufacturing and Clay Ceramics Manufacturing Source Categories?

Today's proposed rules protect air quality and promote the public health by reducing emissions of some of the HAP listed in section 112(b)(1) of the CAA. Emissions data collected during development of the proposed rules show that HF, HCl, and small amounts of metals (antimony, arsenic, beryllium, cadmium, chromium, cobalt, mercury, manganese, nickel, lead, and selenium) are emitted from BSCP and clay ceramics manufacturing facilities. Exposure to these HAP is associated with a variety of adverse health effects. These adverse health effects include chronic health disorders (e.g., irritation of the lung, skin, and mucus membranes, effects on the central nervous system, and damage to the kidneys), and acute health disorders (e.g., lung irritation and congestion, alimentary effects such as nausea and vomiting, and effects on the kidney and central nervous system). We have classified three of the HAP as human carcinogens, four as probable human carcinogens, and one as a possible human carcinogen. We do not know the extent to which the adverse health effects described above occur, or if any adverse effects occur, in the populations surrounding these facilities. However, to the extent the adverse effects do occur, today's proposed rules would reduce emissions and subsequent exposures. The majority of the emissions reductions from this rule are HF (1900 tons per year nationwide) and HCl (390 tons per year nationwide), while the rule will only reduce emissions of the HAP metals listed below by a small amount (approximately 6 tons nationwide per year).

1. Hydrogen Fluoride

Acute (short-term) inhalation exposure to gaseous HF can cause severe respiratory damage in humans, including severe irritation and pulmonary edema. Chronic (long-term) exposure to fluoride at low levels has a beneficial effect of dental cavity prevention and may also be useful for the treatment of osteoporosis. Exposure to higher levels of fluoride may cause dental fluorosis or mottling, while very high exposures through drinking water or air can result in crippling skeletal fluorosis. One study reported menstrual irregularities in women occupationally exposed to fluoride. We have not classified HF for carcinogenicity.

2. Hydrogen Chloride

Hydrogen chloride, also called hydrochloric acid, is corrosive to the eyes, skin, and mucous membranes. Acute (short-term) inhalation exposure may cause eye, nose, and respiratory tract irritation and inflammation and pulmonary edema in humans. Chronic (long-term) occupational exposure to HCl has been reported to cause gastritis, bronchitis, and dermatitis in workers. Prolonged exposure to low concentrations may also cause dental discoloration and erosion. No information is available on the reproductive or developmental effects of HCl in humans. In rats exposed to HCl by inhalation, altered estrus cycles have been reported in females and increased fetal mortality and decreased fetal weight have been reported in offspring. We have not classified HCl for carcinogenicity.

3. Antimony

Acute (short-term) exposure to antimony by inhalation in humans results in effects on the skin and eyes. Respiratory effects, such as inflammation of the lungs, chronic bronchitis, and chronic emphysema, are the primary effects noted from chronic (long-term) exposure to antimony in humans via inhalation. Human studies are inconclusive regarding antimony exposure and cancer, while animal studies have reported lung tumors in rats exposed to antimony trioxide via inhalation. Effects of oral exposure to antimony are not well-described, but a single study has reported decreased longevity and changes in serum glucose and cholesterol in rats. We have not classified antimony for carcinogenicity.

4. Arsenic

Acute (short-term) high-level inhalation exposure to arsenic dust or fumes has resulted in gastrointestinal effects (nausea, diarrhea, abdominal