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FACT SHEET

FINAL AIR TOXICS RULE FOR PRIMARY ALUMINUM REDUCTION PLANTS

TODAY'S ACTION

- ◆ The Environmental Protection Agency (EPA) is issuing a final rule that will reduce emissions of air toxics from primary aluminum reduction plants. Air toxics are those pollutants that are known or suspected to cause cancer or other serious health effects.
- ◆ Primary aluminum reduction plants produce molten aluminum metal (virgin aluminum) from alumina ore. Other types of manufacturing facilities, such as secondary aluminum plants, use aluminum metal to make a variety of products such as cans, aircraft and automotive products, and construction materials.
- ◆ EPA worked in partnership with the State of Washington, the aluminum industry, other State regulators, tribal governments, and STAPPA/ALAPCO (State and Territorial Air Pollution Program Administrators /Association of Local Air Pollution Control Officials) in developing the final rule.

WHAT ARE THE HEALTH AND ENVIRONMENTAL BENEFITS?

- ◆ This action will reduce emissions of air toxics, including polycyclic organic matter and hydrogen fluoride, that are released during the production of molten aluminum metal. Polycyclic organic matter is strongly suspected of causing cancer and other serious health effects in humans. Exposure to hydrogen fluoride can cause serious respiratory damage.
- ◆ EPA's final rule will reduce emissions of polycyclic organic matter by approximately 2000 tons per year, representing about a 50 percent reduction from current levels. The final rule will also reduce emissions of fluoride by approximately 3,700 tons per year, representing about a 50 percent reduction from current levels.
- ◆ EPA's final rule will also reduce emissions of particulate matter by 16,000 tons per year. Exposure to particulate matter has been linked with adverse health effects, including aggravation of existing respiratory and cardiovascular disease and increased risk of premature death. EPA recently revised health-based national ambient air quality standards for particulate matter.
- ◆ This action will also reduce the deposition of polycyclic organic matter to sensitive

ecosystems, such as the Great Lakes. EPA's second Report to Congress on the Deposition of Air Pollutants to the Great Waters, issued in June 1997, identified polycyclic organic matter as one of fifteen pollutants of concern because of its persistence in the environment, potential to accumulate, and toxicity to humans and the environment. Data indicate that these pollutants of concern are present in at least some of the Great Lakes and that atmospheric deposition (e.g. rainfall) is a pathway by which they reach the water bodies.

WHO WAS INVOLVED IN THE DEVELOPMENT OF THE FINAL RULE?

- ◆ EPA developed this action as a pilot project through a rulemaking process known as "MACT" (maximum achievable control technology) Partnerships. This process combines State and local skills in monitoring and controlling sources of air toxics with EPA's national program experience in order to develop better regulations in a more common sense and cost-effective manner.
- ◆ EPA's MACT partnership program involves a cooperative effort among stakeholders (such as industry and State and local agencies) from the outset of the rule development process, including identifying data needs, as well as collecting, exchanging and analyzing data. For example, facilities conducted emissions tests for this final rule using shared funding from EPA, the Washington State Department of Ecology, and the aluminum industry. The State of Washington has the largest number of primary aluminum facilities nationwide that would be affected by the final rule.
- ◆ EPA's MACT partnership process has subsequently been applied during the development of several other air toxics or MACT standards, including those for pharmaceutical production and acrylic/modacrylic fibers production.

BACKGROUND

- ◆ Under the Clean Air Act Amendments of 1990, EPA is required to regulate sources of 188 listed toxic air pollutants. (Note that this list originally contained 189 pollutants, but EPA has subsequently removed the chemical caprolactum from the list.) On July 16, 1992, EPA published a list of industry groups (known as source categories) that emit one or more of these air toxics. For listed categories of "major" sources (those that emit 10 tons/year or more of a listed pollutant or 25 tons/year or more of a combination of pollutants), the Clean Air Act requires EPA to develop standards that require the application of stringent air pollution reduction measures known as maximum achievable control technology (MACT).
- ◆ EPA's published list of industry groups to be regulated includes primary aluminum reduction plants, which are major sources of air toxics.

HOW DOES EPA'S FINAL RULE PROVIDE FLEXIBILITY TO INDUSTRY?

- ◆ EPA's final rule contains an "emissions averaging" provision that would allow facilities to vary the level of control among certain emission sources in order to achieve the required emission reductions in the most cost-effective manner possible. In some situations, facilities may find it more cost-effective to "over-control" certain emission points and "under-control" others, so that the overall result would be equivalent or greater emission reductions at lower control costs. The rule explains in detail how facilities may use emissions averaging and which emission sources may be included.
- ◆ This action provides a cost-saving incentive to plant owners and operators if they improve plant performance; EPA's final rule contains a provision that allows facilities to reduce the frequency of sampling or emissions testing if the plant shows consistent performance below the levels set in the standard. Additionally, the rule provides several alternatives to reduce the cost of monitoring.

WHAT DOES EPA'S FINAL RULE REQUIRE?

- ◆ EPA's final rule is based on a combination of control techniques that either prevent the escape of hydrogen fluoride and polycyclic organic matter emissions, or capture the pollutants and return them to the process (a form of recycling). The pollution prevention measures described in the rule include work practices, equipment modifications, operating practices, housekeeping measures, and in-process recycling.
- ◆ This action will limit emissions of hydrogen fluoride and polycyclic organic matter from new and existing primary aluminum potlines and anode bake furnaces, as well as emissions of polycyclic organic matter from paste production plants and new pitch storage tanks.
- ◆ This action also includes monitoring, recordkeeping and reporting requirements. The final rule describes these requirements in detail.

WHO WOULD BE AFFECTED BY EPA'S FINAL RULE?

- ◆ There are 23 primary aluminum reduction plants and one off-site anode production facility nationwide that will be affected by EPA's final rule.

HOW MUCH WILL THE RULE COST?

- ◆ EPA estimates capital cost of the final rule for all of the affected facilities to be about \$160 million.
- ◆ EPA estimates the total annual cost of the final rule to be about \$40 million.

- ◆ The price of domestic U.S. aluminum is projected to increase by less than one percent as a result of the requirements of this rule.

FOR MORE INFORMATION

- ◆ Interested parties can download the rule from EPA's web site on the Internet under recently signed rules at the following address: (<http://www.epa.gov/ttn/oarpg/rules.html>). For further information about the final rule, contact Mr. Stephen Fruh of EPA's Office of Air Quality Planning and Standards at (919) 541-2837.
- ◆ EPA's Office of Air and Radiation's homepage on the Internet contains a wide range of information on the air toxics program, as well as many other air pollution programs and issues. The Office of Air and Radiation's home page address is: (<http://www.epa.gov/oar/>).