Fact Sheet

December 14, 2000

EPA TO REGULATE MERCURY AND OTHER AIR TOXICS EMISSIONS FROM COAL- AND OIL-FIRED POWER PLANTS

TODAY'S ACTION

To reduce the risk mercury poses to people's health, the Environmental Protection Agency (EPA) is announcing that it will regulate emissions of mercury and other air toxics from coal- and oil-fired electric utility steam generating units (power plants).

EPA is focusing today's decision on mercury, because mercury has been identified as the toxic of greatest concern among all the air toxics emitted from power plants. Coal-fired power plants are the nation's largest source of mercury air emissions.

Also today, EPA is finding that such regulation will not be necessary for units fueled by natural gas - with the exception of combustion turbines.

Today's determination is one in a series of EPA actions to significantly reduce human exposure to mercury in the environment. Mercury exposure has been associated with both neurological and developmental damage in humans. The developing fetus is the most sensitive to mercury's effects.

EPA is making today's finding after several years of gathering and analyzing data on mercury and other air toxic emissions from coal- and oil-fired power plants. Before making today's determination, the Agency reviewed extensive comments from outside scientific experts - including the National Academy of Sciences - and from industry; other federal agencies; state, local and tribal agencies; and citizen groups.

While today's decision finds that it is necessary to control mercury emissions from coal-and oil-fired power plants, it does not create the regulations for doing so. EPA will propose regulations by December 15, 2003 and issue final regulations by December 15, 2004.

MERCURY EMISSIONS AND HEALTH

Mercury emitted from power plant stacks and other sources is carried by winds through the air and eventually is deposited to water and land. Mercury can be deposited locally, or it can travel great distances - depending on the form in which it is emitted, the height at which it is released and atmospheric conditions.

Mercury concentrations in the air are usually low and of little direct concern. However, once mercury enters water - either directly or through deposition from the air - biological processes transform it into methylmercury, a highly toxic form of mercury that *bioaccumulates* in fish and other animals that eat fish. When a substance bioaccumulates, its concentration increases as it moves through the food chain.

Human exposure to mercury occurs primarily through consumption of contaminated saltwater or freshwater fish. Mercury contamination in large, predatory fish can be thousands of times higher than concentrations in the water.

At high doses, mercury exposure can cause tremors, inability to walk, convulsions - and even death. At levels more commonly seen in the United States, documented mercury exposure effects include more subtle - yet still serious - damage to the senses and brain.

Women of childbearing age and people who regularly and frequently eat highly contaminated fish (or large amounts of moderately contaminated fish) are the most likely to be at risk from mercury exposure. Those groups include subsistence fishermen and some Native American populations.

The developing fetus is the most sensitive to the effects of mercury, because its brain is developing rapidly; therefore women of childbearing age are at the greatest risk. Children of women exposed to relatively high levels of

methylmercury during pregnancy have exhibited a variety of abnormalities, including delayed onset of walking and talking, cerebral palsy and reduced neurological test scores. Children exposed to far lower levels of methylmercury in the womb have exhibited delays and deficits in learning ability. In addition, children exposed after birth potentially are more sensitive to the toxic effects of methylmercury than adults, because their nervous systems are still developing.

BACKGROUND

The Clean Air Act requires EPA to study the public health effects of air toxic emissions from utilities that burn fossil fuels (coal, oil and natural gas) and to determine whether it is necessary to regulate those emissions. Air toxics, also known as hazardous air pollutants, are those pollutants known or suspected to cause cancer or other serious health problems in humans, such as birth defects or neurological effects.

In the winter of 1997-98, EPA published two reports to Congress:

The Mercury Study Report to Congress, in 1997, identified fossil-fuel fired power plants as the largest source of human-generated mercury emissions in the country.

The second report, the 1998 Utility Air Toxics Report to Congress, examined air toxics emissions from power plants. That report identified mercury as the toxic of greatest concern.

To learn more about mercury emissions from coal-fired units, EPA gathered additional data from power plants. Those data were used to estimate 1999 nationwide and plant-by-plant mercury emissions from coal-fired units. The data confirm that coal-fired power plants are the largest source of human-caused mercury emissions in the U.S. -- about 43 tons of mercury each year.

EPA also provided funding for the National Academy of Sciences (NAS) in 1999 to review the health effects data associated with methylmercury and the Agency's "reference dose" for mercury. A "reference dose" is the level at which most people could be exposed to methylmercury without the risk of health problems.
The NAS, in its July 2000 report, affirmed that EPA's reference dose of 0.1 micrograms of methylmercury per kilogram of body weight per day is scientifically justifiable. The NAS also affirmed that eating fish is a good dietary practice and that EPA's long-term goal should be to reduce levels of mercury in the environment.

EPA's 1998 Utility Air Toxics Report to Congress concluded that while risks from air toxic emissions from oil-fired plants are not high, they are not low enough to discount public health concerns. In light of that conclusion, EPA has determined that regulation is necessary for oil-fired plants.

The Report to Congress also concluded that air toxic emissions from natural gas-fired power plants are low and have a negligible effect on public health. As a result, EPA has determined that it does not need to regulate air toxics from natural-gas fired units, with the exception of combustion turbines.

WHAT HAPPENS NEXT

EPA must propose regulations to control mercury emissions - and any other air toxics the Agency deems necessary - from coal- and oil-fired power plants by December 15, 2003. In developing those regulations, the Agency will provide a number of opportunities for stakeholder and public participation.
EPA has found that there are cost-effective ways of controlling mercury emissions from power plants. Technologies available today and technologies expected to be available in the near future can eliminate most of the mercury from utilities at a cost far lower than 1 percent of utility industry revenues.

EPA'S EFFORTS TO REDUCE MERCURY

Although coal-fired power plants are the biggest source of mercury emissions to the air in the United States, mercury is emitted from a number of other sources as well, including municipal waste combustors, medical waste incinerators and hazardous waste combustors.

Mercury also can reach water through industrial wastewater discharges, or from the disposal of waste-containing batteries and other mercury sources.

EPA has taken a number of actions in recent years to significantly reduce mercury emissions from major sources other than power plants. Those actions include stringent regulations for municipal waste combustors, medical waste incinerators and hazardous waste combustors. When fully implemented, these actions will reduce total nationwide mercury air emissions by nearly 50 percent.

In addition, EPA's water program provides technical assistance to tribes and states in developing fish advisories that recommend consumption limits for locally caught fish.

EPA also is working with other countries to limit mercury releases worldwide.

FOR MORE INFORMATION

To download today's notice from EPA's web site on the Internet, go to "Recent Actions" at the following address: *http://www.epa.gov/ttn/oarpg/*.

For further information about the notice, contact Mr. William Maxwell at EPA's Office of Air Quality Planning and Standards at 919-541-5430.

For more information regarding the notice and the study of air toxics emissions from electric utility power plants that was required by section 112(n)(1)(A) of the Clean Air Act, visit EPA's web site at: *http://www.epa.gov/ttn/atw/combust/utiltox/utoxpg.html* .