EPA POWER PLANT MERCURY AND OTHER TOXICS STANDARDS

OVERVIEW

On March 16, 2011, the Environmental Protection Agency (EPA) proposed the first national Clean Air Act standard to reduce mercury and other toxic air pollution from coal and oil-fired power plants. This fact sheet provides an overview of the benefits of these new clean air standards and highlights key facts and impacts associated with them.

IDENTIFYING THE PROBLEM: POWER PLANT EMISSIONS AND IMPACTS

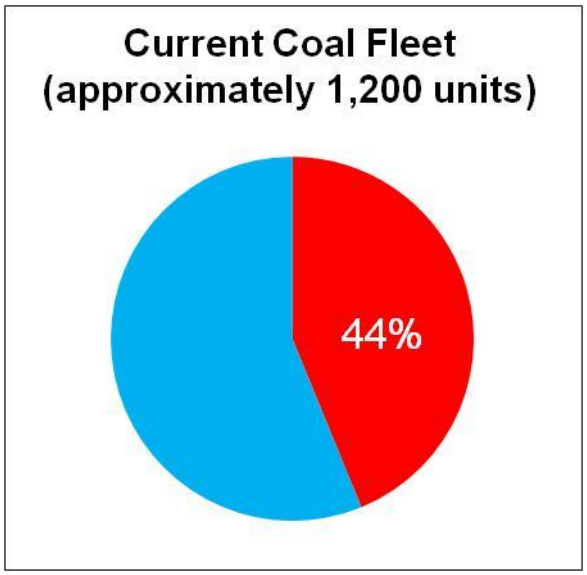
- There are about **1350** coal and oil-fired electric generating units (EGUs) at **525** power plants that emit harmful pollutants including mercury, non-mercury metallic toxics, acid gases, and organic air toxics including dioxin.

- Today, power plants are the dominant emitters of mercury (**50 percent**), acid gases (over **50 percent**) and many toxic metals (over **25 percent**) in the United States.

- While newer, and a significant percentage of older power plants already control their emissions of mercury, heavy metals, and acid gases, approximately **44 percent** of the current EGUs still do not have advanced pollution control equipment.

- Uncontrolled releases of toxic air pollutants like mercury from power plants damage children's developing brains, reducing their IQ and their ability to learn, and cause a range of dangerous health problems in adults. Mercury and many of the other toxic pollutants also pollution our nation's lakes, streams, and fish. Fish advisories have been issued across the United States as a result of mercury contamination.

Many Existing Coal Units Lack Advanced Controls



Percentage of existing coal units still without advanced SO2 and/or NOx controls

THE PROPOSED STANDARDS YIELD SIGNIFICANT HEALTH BENEFITS

By updating safeguards under the Clean Air Act to reduce mercury, acid gases, and other life-threatening pollution in our air, EPA is acting to protect our health and our families from the illnesses – and premature deaths – linked to these pollutants.

- The standards will have direct benefits to neighborhoods near power plants as well as neighborhoods hundreds of miles away from the nearest power plant.

- The value of the air quality improvements for human health alone totals **$59 billion** to **$140 billion** each year. That means that for every dollar spent to reduce this pollution, Americans get **$5-13** in health benefits.

- EPA modeling indicates that these standards will result in relatively small changes in the average retail price of electricity, primarily due to increased demand for natural gas, keeping electricity prices below 1990 levels.

The Proposed Utility Mercury and Toxics Standards Would Prevent:	*Once Implemented (cases each year)*
Premature Death	*17,000*
Chronic Bronchitis	*4,500*
Heart Attacks	*11,000*
Asthma Attacks	*120,000*
Hospital and Emergency Room Visits	*12,000*
Restricted Activity Days	*5,100,000*

This chart shows the health benefits of the proposed rules to reduce utility mercury and other air toxics emissions

- The benefits are widely distributed and are especially important to minority and low income populations who are disproportionately impacted by asthma and other debilitating health conditions.

COMPLIANCE WITH THE PROPOSED STANDARDS WILL RESULT IN SUBSTANTIAL EMISSION REDUCTIONS

- In 1990, three industry sectors made up approximately **two-thirds** of total U.S. mercury emissions: medical waste incinerators, municipal waste combustors, and power plants. Two of those sectors are now subject to standards and have reduced their mercury emissions by more than **95 percent**. In addition, mercury standards for industries such as cement production, steel manufacturing and for many others have reduced mercury emissions.

Industrial Category	*1990 Emissions tons per year (tpy)*	*2005 Emissions (tpy)*	*Percent Reduction*
Power Plants	***59***	***52***	***10%***
Municipal Waste Combustors	*57*	*2*	*96%*
Medical Waste Incinerators	*51*	*<1*	*>98%*

This chart shows that power plants are the largest remaining source of mercury emissions in the United States. Source: EPA's 2005 NATA Inventory Modified for the Toxics Rule 2005 Base Year (2010)

- The proposed rule establishes power plant emission standards for mercury, acid gases, and non-mercury metallic toxic pollutants would result in preventing: **91 percent** of the mercury in coal burned in power plants being emitted to the air, **91 percent** of acid gas emissions from power plants, and **53 percent** of sulfur dioxide emissions from power plants.

INVESTMENTS THAT KEEPING PEOPLE WORKING AND CREATE JOBS

- Over **850,000** missed work or "sick" days would be avoided each year, enhancing productivity and lowering health care costs for American families.

- Money spent on pollution control at power plants creates high-quality American jobs in manufacturing steel, cement and other materials needed to build pollution control equipment, creating and assembling pollution control equipment, installing the equipment at power plants, and operating and maintaining the equipment once it is installed.

- This proposed rule would provide employment for thousands, by supporting **31,000** short-term construction jobs and **9,000** long-term utility jobs.

REGULATORY CERTAINTY AND A LEVEL PLAYING FIELD FOR CLEANER ENERGY SOURCES

These updated and long overdue Clean Air Act standards would provide regulatory certainty, opening up opportunities for investment and would level the playing field so that all power plants would have to limit their emissions of mercury as newer plants already do.

- These standards would result in the upgrading of existing controls (particulate matter controls like electrostatic precipitators or ESPs) and the installation of good engineering controls (including dry sorbent injection of DSI) all of which are achievable by the 2015 compliance timeline.

- For example, in response to the Clean Air Interstate Rule, **160 gigawatts (GW)** of new generation was built between 2001 and 2003, and **20 GW** of scrubber capacity was installed each year from 2008 to 2010.

- Installing widely-available controls would help modernize the aging fleet of uncontrolled power plants, most of which are over 30 years old and many of which are over 50 years old.

Pollutant Addressed	*Existing Control Technologies To Address Toxic Pollutants*
Mercury	*Selective Catalytic Reduction (SCR)with Flue-gas Desulfurization (FGD), Activated Carbon Injection (ACI), ACI with Fabric Filter (FF) or Electrostatic Precipitators (ESP)*
Non-mercury metals	*FF, ESP*
Dioxins and Furans	*Work Practice Standard (inspection, adjustment, and/or maintenance and repairs to ensure optimal combustion)*
Acid Gases	*FGD, Dry Sorbent Injection (DSI), DSI with FF or ESP*
Sulfur Dioxide	*FGD, DSI*

This chart shows the proven, widely-available control technologies that by themselves, or installed together reduce mercury and other toxics.

BACKGROUND

Despite the availability of proven control technologies, and the more than 20 years since the 1990 Clean Air Act Amendments passed, there are still no existing federal standards that require power plants to limit their emissions of toxic air pollutants like mercury, arsenic and metals.

- These rules set standards to reduce air pollution from coal and oil-fired power plants under sections 111 and 112 (toxics program) of the 1990 Clean Air Act amendments.

- Emissions standards set under the toxics program are federal air pollution limits that individual facilities must meet by a set date. EPA must set emission standards for existing sources in the category that are at least as stringent as the emission reductions achieved by the average of the top **12 percent** best controlled sources.

- These rules set technology-based emissions limitation standards for mercury and other toxic air pollutants, reflecting levels achieved by the best-performing sources currently in operation.

- The proposed rule sets standards for all HAPs emitted by coal- and oil-fired EGUs with a capacity of **25 megawatts** or greater.

- All regulated EGUs would be considered major under the proposed rule. EPA did not identify any size, design or engineering distinction between major and area sources.

- Existing sources have up to four years to comply with these standards; all existing sources must comply in three years, but individual sources can obtain an additional year if technology cannot otherwise be installed in time.

- The regulations issued today are under a Consent Decree of the D.C. Court of Appeals requiring EPA to issue a proposal by March 16, 2011, and a final rule in November, 2011.

- These standards are long overdue. In 2000, after years of study, EPA issued a scientific and legal determination that it was "appropriate and necessary" to control mercury emissions from power plants. The prior administration finalized a rule to cut mercury pollution from power plants but the D.C. Circuit struck the rule down and required EPA to develop standards that follow the law and the science in order to protect human health and the environment.

FOR MORE INFORMATION

The proposed standards are available online at:
http://www.epa.gov/airquality/powerplanttoxics/