



JONES DAY  
**COMMENTARY**

## EPA PROPOSES HAZARDOUS AIR POLLUTANT EMISSION LIMITS FOR ELECTRIC GENERATING UNITS

On March 16, 2011, the U.S. Environmental Protection Agency (EPA) proposed a rule (the EGU MACT Proposal) containing the first national standards to reduce hazardous air pollutant (HAP) emissions from new and existing coal- and oil-fired electric utility steam generating units (EGUs). The EGU MACT Proposal requires the application of maximum achievable control technology (MACT), pursuant to Section 112(d) of the Clean Air Act (CAA). This *Commentary* focuses on the proposed emission standards and deadlines for existing EGUs.

The 1990 CAA Amendments required EPA to study EGUs and make a determination whether they should be included in the list of HAP emissions sources required to apply MACT. EPA submitted the study to Congress in 1998 and, without notice and comment, listed EGUs as a source category under Section 112(c) of the CAA two years later. On March 29, 2005, EPA issued a final rule removing coal- and oil-fired EGUs from the list of sources regulated under Section 112(c) of the CAA but adopting a mercury cap-and-trade rule for EGUs under other CAA authority for HAP emissions

regulation. On February 8, 2008, however, the United States Court of Appeals for the District of Columbia Circuit vacated this action because it did not comply with the delisting requirements of CAA Section 112(c) (9). *State of New Jersey v. EPA*, 517 F.3d 574, 578, 583 (D.C. Cir. 2008), *cert. denied*, 129 S. Ct. 1308, *cert. dismissed*, 129 S. Ct. 1313 (2009). Section 112(c)(9) allows EPA to delist source categories only if it first determines that no adverse environmental effect will result, which EPA did not do. *Id.* at 578–79. EPA subsequently entered a consent decree requiring the EGU MACT Proposal to be issued by March 16, 2011, with a final rule no later than November 16, 2011.

The EGU MACT Proposal addresses emissions of mercury and a variety of other HAPs from EGUs. The chart below presents the EGU MACT Proposal's numerical emission limits for mercury (Hg), particulate matter (PM), and hydrogen chloride (HCl) for existing coal-fired EGUs. EPA proposes that PM be a surrogate for various HAPs (either as total nonmercury metals or as certain individual nonmercury metals). HCl is a surrogate for toxic acid gases.

Alternate pollutants exist for each surrogate category. Total non-Hg HAP metals and certain individual HAP metals are alternates for PM. Sulfur dioxide (SO<sub>2</sub>) is an alternate for HCl.

The recommended controls in each category apply to all the pollutants in that category.

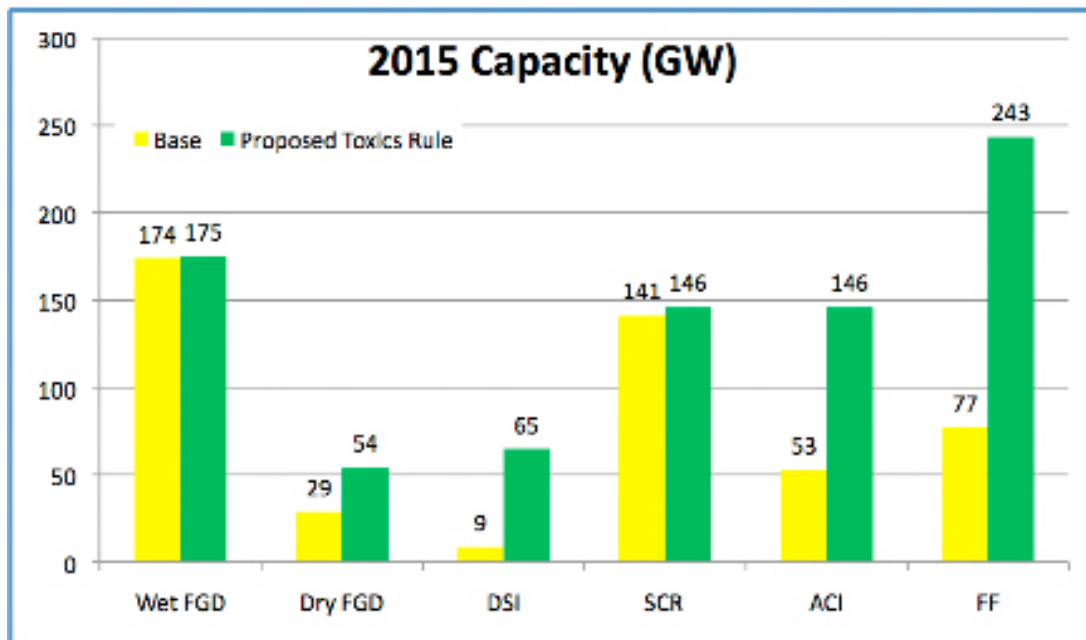
Pollutant(s)	Emission Limits (Existing Coal-Fired EGUs)	Controls
Total particulate matter (PM) OR Total non-Hg HAP metals OR Individual HAP metals: Antimony (Sb) Arsenic (As) Beryllium (Be) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Lead (Pb) Manganese (Mn) Nickel (Ni) Selenium (Se)	0.030 lb/MMBtu or 0.30 lb/MWh  0.000040 lb/MMBtu or 0.00040 lb/MWh  0.60 lb/TBtu or 0.0060 lb/GWh 2.0 lb/TBtu or 0.020 lb/GWh 0.20 lb/TBtu or 0.0020 lb/GWh 0.30 lb/TBtu or 0.0030 lb/GWh 3.0 lb/TBtu or 0.030 lb/GWh 0.80 lb/TBtu or 0.0080 lb/GWh 2.0 lb/TBtu or 0.020 lb/GWh 5.0 lb/TBtu or 0.050 lb/GWh 4.0 lb/TBtu or 0.040 lb/GWh 6.0 lb/TBtu or 0.060 lb/GWh	Electrostatic precipitators (ESPs)  Fabric filters (FFs)  Downstream secondary PM control device ( <i>e.g.</i> , secondary FF or wet ESP downstream of a wet flue gas desulfurization [FGD] scrubber)
Hydrogen chloride (HCl)  OR  Sulfur dioxide (SO <sub>2</sub> ) <sup>1</sup>	0.0020 lb/MMBtu or 0.020 lb/MWh  0.20 lb/MMBtu or 2.0 lb/MWh	Dry sorbent injection (DSI)  Fluidized bed combustion (FBC)  Slurry streams used in wet scrubber and dry spray dryer absorber FGD systems
Mercury (Hg)	1.0 lb/TBtu or 0.008 lb/GWh (coal-fired unit designed for coal greater than or equal to 8,300 Btu/lb)  4.0 lb/TBtu or 0.040 lb/GWh (coal-fired unit designed for coal less than 8,300 Btu/lb)	FFs  Wet FGD scrubbers  Selective catalytic reduction (SCR)  Halogen additives  Activated carbon injection (ACI)  ESPs

<sup>1</sup> The alternate SO<sub>2</sub> limit can be used only for coal-fired EGUs where wet or dry flue gas desulfurization technology is installed and will be operated at all times.

The EGU MACT Proposal's emission limits apply to EGUs as defined in CAA Section 112.<sup>2</sup> According to EPA estimates, the EGU MACT Proposal will affect approximately 1,200 existing coal-fired units and 150 oil-fired units at about 525 power plants. In justifying the EGU MACT Proposal, EPA estimated that every dollar spent on installing and operating the proposed emission controls would result in \$5 to \$13 in health benefits, such as preventing premature deaths, heart attacks, asthma attacks, and days of missed work.

The chart on page 2 lists the recommended controls for each group of pollutants. EPA believes that these control technologies are widely available. According to EPA, more

than half of all coal-fired power plants already use one or more of the recommended technologies. It remains to be determined if existing EGUs can install controls that will meet all of the proposed limits simultaneously or whether the proposed limits are not achievable in combination with each other. The graph below, taken directly from EPA, compares retrofit emission control installations on coal-fired capacity (by technology) in a resource-planning model base case to the expected installations under the EGU MACT Proposal in 2015, measured in gigawatt (GW) capacity. These technologies can also reduce emissions of substances in addition to the HAPs targeted by the EGU MACT Proposal.



Source: Integrated Planning Model run by EPA, 2011.

Abbreviations:

FGD: Flue gas desulfurization (scrubber)

DSI: Dry sorbent injection

SCR: Selective catalytic reduction

ACI: Activated carbon injection

FF: Fabric filter

<sup>2</sup> The CAA definition includes "any fossil fuel fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale shall be considered an [EGU]." CAA Section 112(a)(8).

EPA agreed in a consent decree to issue the final MACT rule by November 16, 2011. The EGU MACT Proposal sets a deadline for compliance at three years after the date of the final rule's publication in the *Federal Register*. The EGU MACT Proposal, however, grants discretion to the permitting authority to grant an additional year under the CAA. Under the EGU MACT Proposal, existing sources must demonstrate their initial compliance no later than 180 days after the compliance date. Among other aspects of the EGU MACT Proposal, EPA is soliciting comments specifically on the ability of affected sources to meet this deadline.

EPA is also proposing to revise the new source performance standards (NSPS) for EGUs. The NSPS would revise the standards new coal- and oil-fired power plants must meet for particulate matter (PM), sulfur dioxide (SO<sub>2</sub>), and nitrogen oxides (NO<sub>x</sub>). On February 27, 2006, EPA promulgated amendments to the NSPS for PM, SO<sub>2</sub>, and NO<sub>x</sub>. EPA was subsequently sued on the amendments and on September 2, 2009, was granted a voluntary remand without vacatur of the 2006 amendments. The proposed revisions to the NSPS are in response to that voluntary remand and will not generally apply to existing EGUs. They cover construction of new facilities and reconstruction or modification of existing facilities commencing after the *Federal Register* publication date for the proposal.

EPA will accept public comments on the EGU MACT Proposal for 60 days following its publication in the *Federal Register*. EPA will hold public hearings on the proposal in Atlanta, Chicago, and Philadelphia. Details on the hearing dates and precise locations will be available in a separate *Federal Register* notice and at <http://www.epa.gov/airquality/powerplanttoxics/>. The docket includes a significant amount of data collected by EPA pursuant to an information request sent to EGUs that can be used to analyze the proposal.

All affected EGUs should review the proposed standards to determine whether the proposed emission limits are appropriate and achievable. The proposed MACT standard applies to HAP emissions at all EGUs. The proposed NSPS applies to certain projects that commence construction after the *Federal Register* publication date of the proposal. Aspects of the proposal that do not receive comment during the 60-day comment period cannot subsequently be challenged.

## LAWYER CONTACTS

For further information, please contact your principal Firm representative or one of the lawyers listed below. General email messages may be sent using our "Contact Us" form, which can be found at [www.jonesday.com](http://www.jonesday.com).

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