

To: Our Clients and Friends

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Environmental Regulatory Developments Affecting Electric Power Generation and Industrial, Institutional and Commercial Boilers

The electric-generating industry and the use of energy by industry are being re-ordered by low natural gas prices and increasingly stringent environmental regulations. To add to the mix, the D.C. Circuit has in recent months struck down several important Clean Air Act (CAA) regulations, leading to an uncertain regulatory environment. This Client Alert reviews recent environmental regulatory developments affecting the power sector and industrial, institutional and commercial boilers.

Regulation of Hazardous Air Pollutants from Electric Generating Units

On February 16, 2012, EPA published its Mercury and Air Toxics Standards rule (MATS), which applies to new and existing coal- and oil-fired electric generating units (EGUs) that produce more than 25 MW of electricity.¹ EPA estimates that there are approximately 1,400 such existing EGUs nationwide – 1,100 coal-fired units and 300 oil-fired units – at approximately 600 power plants.

MATS comprises rulemakings under two CAA provisions. Pursuant to CAA section 112, EPA issued National Emission Standards for Hazardous Air Pollutants (NESHAPS) for coal- and oil-fired electric utility steam generating units, which require new and existing sources to meet standards for hazardous air pollutants (HAPs) reflecting the application of maximum available control technology (MACT).² Pursuant to CAA section 111, EPA also issued revisions to New Source Performance Standards (NSPS) applicable to new coal- and oil-fired EGUs.³ The MACT limits apply to emissions of hydrogen chloride (as a surrogate for acid gases), filterable particulate matter (as a surrogate for non-mercury metals), mercury (at coal-fired EGUs) and hydrogen fluoride (at oil-fired EGUs). An alternative compliance option requires measurement of certain metals directly, instead of using filterable particulate matter as a surrogate, and provides a sulfur dioxide (SO₂) standard in place of the hydrogen chloride standard. The stringency of the emission limits varies depending on whether the EGU is new or existing, the type of coal or oil burned and other factors.

¹ 77 Fed. Reg. 9,304 (Feb. 16, 2012).

² 40 C.F.R. Part 63, Subpart UUUUU.

³ 40 C.F.R. Part 60, Subparts Da.

In November 2012, EPA proposed to revise MATS to reduce somewhat the stringency of the mercury emissions standard for certain new coal-fired units.⁴ EPA has stated that it intends to finalize its rule revising MATS by March 2013.

The compliance date for MATS is April 16, 2015 for existing sources, with a potential one-year extension for certain units. EPA has suggested that, in extraordinary cases and where necessary to maintain electric reliability, it may grant an additional (fifth) year using its administrative order authority under section 113(a) of the Clean Air Act.

As with all major EPA air regulations, a challenge has been brought in the D.C. Circuit.⁵ If the regulation is implemented as enacted, utilities will spend tens of billions of dollars installing new pollution control equipment on existing coal-fired units, and dozens of coal-fired units will be retired, creating opportunities for new generation in some markets. EPA's rulemaking predicts substantial air quality and health benefits from implementation of the rule.

Regulation of HAPs from Boilers at Major Sources

On March 21, 2011, EPA published a final NESHAP rule imposing new HAPs emission standards for industrial, institutional and commercial boilers and process heaters at major source facilities (*i.e.*, facilities that emit or have the potential to emit 10 or more tons per year (tpy) of any single HAP or 25 tpy or more of any combination of HAPs).⁶ The rule sets forth emissions standards for 15 subcategories of boilers, depending on their fuel and design. Those fueled by natural gas, and certain smaller and "limited use" units, are subject to work practice standards requiring regular tune-ups (and, for many boilers, energy efficiency assessments), instead of numerical emission limits. Others are subject to numerical emission limits for mercury, dioxin, particulate matter (as a surrogate for non-mercury metals), hydrogen chloride (as a surrogate for acid gases) and carbon monoxide (as a surrogate for non-dioxin organic HAPs). On the same day, acknowledging that its rulemaking had been rushed by a court-ordered deadline, EPA initiated a reconsideration of aspects of this rule.⁷ On January 31, 2013, EPA finalized changes to the NESHAP rules for boilers at major sources.⁸ According to EPA's estimates, there are approximately 14,000 major source boilers and process heaters in the U.S., all of which will be required to conduct periodic tune-ups. Approximately 1,700 units will also be subject to numerical emission limits for HAPs.

The compliance deadline for existing major sources is January 31, 2016, but sources may request an additional year if needed. Boilers subject to the numerical emission limits for HAPs must either install the pollution control equipment needed to meet the new limits (if lacking) or switch to a lower-polluting fuel such as natural gas. Natural gas boilers are not subject to numerical emission limits.

Regulation of HAPs from Boilers at Area Sources

Also on March 21, 2011, EPA published a final NESHAP rule imposing new HAPs emission standards for boilers at area source facilities (*i.e.*, facilities that do not emit or have the potential to emit 10 or more tons per year of any single HAP or 25 tpy or more of any combination of HAPs).⁹ The rule applies to boilers that burn coal, oil, or biomass, or non-waste materials, but not boilers that burn only natural

⁴ 77 Fed. Reg. 71,323 (Nov. 30, 2012).

⁵ See *White Stallion Energy Center, LLC v. EPA*, No. 12-1272 (D.C. Cir. opened June 28, 2012).

⁶ 76 Fed. Reg. 15,608 (Mar. 21, 2011) (promulgating 40 C.F.R. Part 63, Subpart DDDDD).

⁷ 76 Fed. Reg. 15,266 (Mar. 21, 2011).

⁸ 78 Fed. Reg. 7,138 (Jan. 31, 2013).

⁹ 76 Fed. Reg. 15,554 (Mar. 21, 2011) (promulgating 40 C.F.R. Part 63, Subpart JJJJJ).

gas, other gaseous fuels or any solid waste. This rule was also subject to reconsideration,¹⁰ and EPA published the revised final rule on February 1, 2013.¹¹

EPA estimates that the rule imposes numerical emission limits for HAPs on 600 boilers and work practice standards (such as tuneups and, for certain units, energy efficiency assessments) on 182,400 boilers. Unlike the rule for major sources (discussed above), the area source rule categorically exempts gas-fired boilers; a boiler that burns natural gas is still considered a gas-fired boiler even if it burns oil or another liquid fuel during periods of gas curtailment, gas supply interruption or startups, or for periodic testing not to exceed 48 hours during any calendar year. Units exempted from this rule include non-coal fired hot water heaters rated at less than 1.6 million Btu per hour (or less than 120 gallons), waste heat boilers (heat recovery steam generators), temporary boilers and residential boilers located in dwellings of four or fewer family units.

The compliance deadline for existing area sources is March 21, 2014, but sources may request an additional year if needed. Boilers subject to the rule must submit an initial notification by January 20, 2014.

Proposed NSPS for CO₂ Emissions From Power Plants

On April 13, 2012, EPA proposed NSPS for carbon dioxide (CO₂) emissions for new fossil fuel-fired power plants.¹² Like a rule already in effect in New York,¹³ the proposed EPA rule, by requiring new coal-fired units to meet an emission standard equivalent to the CO₂ emissions of a natural gas combined cycle unit (1,000 lbs of CO₂ per MWh, in the proposed EPA rule), would effectively ban the construction of new coal units that do not incorporate carbon capture and storage (CCS) technology. Unlike most NSPS regulations, the proposed NSPS would not apply to existing sources that are “modified” or “reconstructed,” as such terms are defined in EPA’s general NSPS regulations. From a methodological standpoint, EPA’s proposed rulemaking represents a point of departure from prior EPA practices by proposing to impose a single emission standard on all new power plants, regardless of fuel type or design, at a level that can be met only by high efficiency natural gas plants (absent the use of CCS technology). If the rule is promulgated as proposed, it can be expected that the power industry will challenge the rule on the ground that it does not comply with the requirement of the Clean Air Act that an NSPS reflect the “best system of emission reduction which (taking into account ... cost ... and energy requirements) ... has been adequately demonstrated.”¹⁴

The Demise of the Cross-State Air Pollution Rule

The Clean Air Act’s “good neighbor” provision requires each state to promulgate a State Implementation Plan (SIP) that contains “adequate provisions ... prohibiting ... any source ... within the State from emitting any air pollutant in amounts which will ... contribute significantly to nonattainment in, or interfere with maintenance by, any other State” with respect to any National Ambient Air Quality Standard (NAAQS).¹⁵ The good neighbor provision is enforceable by the SIP call procedure,¹⁶ which allows EPA to declare a SIP to be substantially inadequate and to require that it be revised. Upon receiving a SIP call, a state is required to revise its air quality regulations to remedy its substantial contribution to nonattainment or interference with NAAQS maintenance in a downwind state.

¹⁰ 76 Fed. Reg. 15,266 (Mar. 21, 2011).

¹¹ 78 Fed. Reg. 7,488 (Feb. 1, 2013).

¹² 77 Fed. Reg. 22,392 (Apr. 13, 2012).

¹³ 6 N.Y.C.R.R. Part 251.

¹⁴ CAA § 111(a)(1), 42 U.S.C. § 7411(a)(1).

¹⁵ CAA § 110(a)(2)(D)(i)(I), 42 U.S.C. § 7410(a)(2)(D)(i)(I).

¹⁶ CAA § 110(k)(5), 42 U.S.C. § 7410(k)(5).

Ultimately, if EPA is dissatisfied with the state's efforts to revise its SIP, it may promulgate, by rule, a federal implementation plan (FIP) to impose additional controls within the state.¹⁷

On July 6, 2011, EPA issued the Cross-State Air Pollution Rule (Cross-State Rule),¹⁸ which required power plants in 27 states to reduce their emissions of nitrogen oxides (NO_x) and power plants in 23 states to reduce their emissions of sulfur dioxide (SO₂). The Cross-State Rule used an allowance trading mechanism to facilitate cost-effective emission reductions, rather than requiring each plant to reduce its emissions to a specified level. The purpose of the rulemaking was to ratchet down power plant emissions that contribute to elevated concentrations of ozone and fine particulate matter (PM_{2.5}) in downwind states. The required emission reductions were substantial and, especially with respect to NO_x, exceeded those imposed by other EPA regulatory programs. The rule was to have replaced the Clean Air Interstate Rule (CAIR), which the D.C. Circuit remanded to EPA in *North Carolina v. EPA* in 2008.¹⁹

On August 21, 2012, in a 2-1 decision, the D.C. Circuit vacated the Cross-State Rule, holding that EPA had erred in setting the level of the required emission reductions from upwind states based on the cost-effectiveness of emission reduction opportunities in the upwind states rather than the extent of the upwind state's contribution to downwind non-attainment.²⁰ The D.C. Circuit also held that EPA must first inform an upwind state of the extent to which it must reduce emissions under the "good neighbor provision" and then give the state an opportunity to revise its SIP before EPA promulgates a FIP for the state. Since the D.C. Circuit subsequently declined to grant EPA's petition for rehearing *en banc*, the decision is final unless EPA files a petition for writ of certiorari to the U.S. Supreme Court by April 24, 2013 and the Court grants the petition.

As a result of the D.C. Circuit decision, the earlier CAIR rulemaking, promulgated in 2005, remains in effect. Like the Cross-State Rule, CAIR regulates power plant SO₂ and NO_x emissions as contributors to the long-range transport of PM_{2.5} and (with respect to NO_x) of ozone. Compared to the Cross-State Rule, CAIR in general sets less stringent emission limits. The earlier 2008 decision of the D.C. Circuit that remanded CAIR to EPA (without vacatur) held that CAIR had "fatal flaws," the most prominent of which, according to the court, is that it does not comply with the good neighbor provision's requirement that sources "within the [upwind] State" not "contribute significantly to nonattainment in ... any other State." The court came to this conclusion because under the cap and trade regime CAIR adopted, the sources in a particular upwind state might purchase allowances from another state, rather than reduce their emissions contributing to nonattainment in a downwind state. A second flaw, according to the 2008 decision, is that in establishing the emission reductions required of the upwind states, EPA ignored the separate requirement of the good neighbor provision that sources "within the [upwind] State" not "interfere with maintenance by ... any other State with respect to any [NAAQS]."

Numerous downwind states have relied upon the anticipated substantial emission reductions from the Cross-State Rule in the preparation of their SIPs to achieve the NAAQS for PM_{2.5} and ozone. The vacatur of the Cross-State Rule has complicated the task of preparing SIPs in these states, particularly in areas challenged by the new lower NAAQS for ozone (reduced from 80 ppb to 75 ppb over an 8-hour average, in 2008²¹) and PM_{2.5} (reduced from 15 µg/m³ to 12 µg/m³ over an annual average, in 2012²²).

Vacatur of the Cross-State Rule has also thrown a monkey wrench into the promulgation of visibility SIPs, as EPA, on June 7, 2012, had issued a final, industry-friendly rule allowing states participating in the Cross-State Rule trading programs to use those programs in place of requiring source-specific Best

¹⁷ CAA § 110(c), 42 U.S.C. § 7410(c).

¹⁸ 76 Fed. Reg. 48,208 (Aug. 8, 2011).

¹⁹ 531 F.3d 896 (D.C. Cir.), *modified*, 550 F.3d 1176 (D.C. Cir. 2008).

²⁰ *EME Homer City Generation, L.P. v. EPA*, 696 F.3d 7 (D.C. Cir. 2012).

²¹ 73 Fed. Reg. 16,436 (Mar. 27, 2008).

²² 78 Fed. Reg. 3,086 (Jan. 15, 2013).

Available Retrofit Technology (BART) for SO₂ and NO_x emissions from power plants subject to the regional haze rule.²³

Although EPA remains under the court order (issued by the D.C. Circuit in 2008) to fix the court-identified flaws in the CAIR rulemaking, it is likely to take several years for EPA even to propose a new rulemaking in this area. In the mean time, a number of downwind states may have substantial difficulty in preparing SIP submissions to demonstrate compliance with NAAQS, leading to uncertainty as to future emission requirements, regulatory complexities and further litigation.

D.C. Circuit Decision on PM_{2.5} NAAQS Implementation Rules

On January 4, 2013, the D.C. Circuit remanded EPA's rules specifying how states are to implement the NAAQS for PM_{2.5}.²⁴ The D.C. Circuit held that the rules had violated the Clean Air Act by allowing EPA to evade the requirement that certain moderate nonattainment areas be reclassified as serious nonattainment areas,²⁵ to extend attainment deadlines too far into the future,²⁶ to avoid the mandatory annual 5% pollutant reduction applicable to serious nonattainment areas that fail to timely attain the NAAQS,²⁷ and to side-step requirements that existing sources in certain nonattainment areas apply reasonably available control measures (RACM)²⁸ or best available control measures (BACM)²⁹ by certain specified milestones. Many of these statutory requirements put states in a strait jacket and impose unreasonably inflexible requirements on industry, which undoubtedly explains why EPA had determined them to be inapplicable to the roll-out of SIPs to achieve compliance with the PM_{2.5} NAAQS. Nevertheless, on the heels of its decision vacating the Cross-State Rule and thereby causing more downwind areas to be classified as PM_{2.5} nonattainment areas, the D.C. Circuit has interpreted the Clean Air Act to impose inflexible and in some cases unrealistic requirements on such areas. When implemented, these requirements are expected to affect – in particular – existing sources of PM_{2.5} and PM_{2.5} precursors (such as SO₂ and NO_x) that do not already use RACM or BACM controls. Notably, however, the D.C. Circuit remanded the EPA rules at issue without vacatur and without imposing a deadline on EPA's compliance with the court's ruling.

D.C. Circuit Decision on Pre-Permit Monitoring and Pre-Permit Cumulative Impact Modeling

To complete the trifecta of recent EPA losses in CAA rulemaking challenges, and in another blow to industry, the D.C. Circuit on January 22, 2013 vacated EPA's use of significant monitoring concentrations (SMCs) to exempt many sources from pre-permit PM_{2.5} monitoring requirements and the use of significant impact levels (SILs) to exempt many new PM_{2.5} sources from cumulative source modeling to obtain a prevention of significant deterioration (PSD) permit.³⁰ The D.C. Circuit's decision will make it more time consuming and costly to obtain a PSD permit for new or modified PM_{2.5} sources and may make it more difficult (or even impossible, in some cases) for sources to obtain a PSD permit even if their incremental concentrations are below SILs. As with the two previous D.C. Circuit

²³ 77 Fed. Reg. 33,642 (June 7, 2012).

²⁴ *NRDC v. EPA*, No. 08-1250 (D.C. Cir. Jan. 4, 2013) (reviewing 72 Fed. Reg. 20,586 (Apr. 25, 2007) and 73 Fed. Reg. 28,321 (May 16, 2008)).

²⁵ CAA § 188(a)-(c), 42 U.S.C. § 7513(a)-(c) (requiring a "moderate" nonattainment area to be reclassified as "serious" upon failure to attain the NAAQS).

²⁶ CAA § 188(e), 42 U.S.C. § 7513(e) (allowing only one extension for a maximum of five years in a serious nonattainment area).

²⁷ CAA § 189(d), 42 U.S.C. § 7513a(d).

²⁸ CAA § 189(a)(1)(C), 42 U.S.C. § 7513a(a)(1)(C).

²⁹ CAA § 189(b)(1)(B), 42 U.S.C. § 7513a(b)(1)(B).

³⁰ *Sierra Club v. EPA*, No. 10-1413 (D.C. Cir. Jan. 22, 2013) (reviewing 75 Fed. Reg. 64,864 (Oct. 20, 2010)).

decisions discussed above, the court's opinion does not discuss – much less give any weight to – the ruling's practical effects. The D.C. Circuit decision also all but ignores EPA's use of SMCs and SILs to ease PSD permitting requirements for more than 30 years, holding that the Clean Air Act is "extraordinarily rigid" in addressing the specific requirements for obtaining a PSD permit. The decision is limited to the use of SMCs and SILs for PM_{2.5} and thus does not apply directly to the use of SMCs and SILs for other pollutants. Permit opponents, however, may now attempt to challenge reliance upon *any* SMCs or SILs in PSD permitting.

Cooling Water Intake Structures

Existing steam electric generating stations and manufacturing facilities that withdraw more than two million gallons per day of water from waters of the United States for cooling must also plan for compliance with an anticipated new EPA regulation proposed on April 20, 2011, to regulate cooling water intake structures at such facilities.³¹ Under a settlement agreement, EPA has agreed to promulgate this regulation by June 27, 2013. It is likely to provide a further impetus to shut down existing facilities whose age, efficiency and market position do not justify the substantial capital investments that may be required to comply with the new rule.

Effluent Limitations Guidelines

Also on the horizon are revisions to EPA's limitations for pollutant discharges from steam electric generating units.³² The standards are technology based (*i.e.*, based on the performance of available treatment and control technologies), not on risks posed to, or impacts upon, receiving waters. The effluent guidelines for this industry category were last revised in 1982. Pursuant to a consent decree with two environmental groups, EPA has obligated itself to propose a new regulation by April 19, 2013 and to issue a final regulation by May 22, 2014.³³

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³¹ 76 Fed. Reg. 22,174 (Apr. 20, 2011).

³² 40 C.F.R. Part 423.

³³ http://water.epa.gov/scitech/wastetech/guide/steam-electric/upload/consentdecree_extension3.pdf.