

Worldwide Pollution Control Association

Gulf Power Coal to Gas Seminar
May 30-31, 2012

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Regulatory Update

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- EGU MACT/MATS
- New Source Performance Standards
- New Source Review
- Fuel Switches
- Cross State Air Pollution Rule
- 316(b)/Coal Combustion Residuals



Mercury and Air Toxics Standards



- First ever national emissions standards for power plants air toxics effective in April, 2012
- Goal is to reduce HAPs related to human health issues
- Approximately 1,400 units affected
- EPA estimates the total national cost to be \$9.6 billion



MATS Requirements



- Emission rate (lb/mmBtu) standards for specified pollutants
 - Mercury
 - Non-mercury metals (measured as PM)
 - Acid gases (measured as HCl or SO₂ surrogate standard)
- Alternative emissions standards for certain subcategories of power plants using 90-day averages
- Work practice standards for:
 - Organic air toxins (e.g., dioxin and furans)
 - Annual performance test programs for each unit
 - Startup and shutdown processes



Key Changes from March 2011 Proposal



- Some emissions limits adjusted (e.g., using filterable PM as a surrogate for the metal toxics limit);
- Definition of coal subcategories altered;
- Revised monitoring and recordkeeping requirements;
- New work practice standards and s/s definitions; and
- Averaging approach as an alternative compliance method



MATS Requirements



- Does not apply to natural gas units
- Defined as:
 - A unit that meets the CAA § 112(a)(8) definition of an EGU but that combusts natural gas exclusively or in combination with another fossil fuel
 - If the EGU combusts natural gas in combination with another fossil fuel, the natural gas must constitute at least 90% of the average annual heat input during any 3 consecutive years OR 85% of the average annual heat input in 1 year



MATS Litigation Update

- 20 Petitions for Reconsideration filed with EPA
 - EPA has yet to act on any petition for reconsideration
 - Petitions filed by environmental organizations, industries
- 30 Petitions for Review filed in the D.C. Circuit;
Lead Case: White Stallion Energy Center, LLC
 - 111 total parties: 71 petitioners (including 24 states), 35 parties have been granted intervention, and 19 parties have moved for intervention
 - Some petitioners are requesting that the court sever and expedite briefing on issues related to new units. The court has not ruled on this request.



- **Status of the Case:**
 - Deadline for filing petition for review or reconsideration was April 16, 2012
 - Most petitioners have filed their statement of issues



New Source Performance Standards (NSPS)




- New Source Performance Standards
 - Establishes technology-based emission standards for new and modified sources within a source category
 - Applies to “affected facilities” at a source or plant
 - Trigger NSPS if a project constitutes a
 - “modification” that “increases the maximum hourly emissions of any pollutant . . . above the maximum hourly emissions achievable at the unit 5 years prior to the change”



New Source Performance Standards



- EPA is proposing NSPS for greenhouse gas (GHG) emissions (limited to CO₂) for new fossil fuel-fired EGUs
 - First ever NSPS for CO₂
 - Promulgated on the same date as MATS
 - Limited to new EGUs, however new standard could establish precedent that will affect existing EGUs
 - Applies to new EGUs (commencing construction after April 13, 2012) with a base load rating of more than 250 million Btu/hour heat input (73 MW)
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NSPS Requirements



- Proposed standard will prohibit emissions exceeding 1000 pounds of CO₂ per MW/hour generated for new EGUs
- Based on the best demonstrated technology (BDT) for natural gas combined-cycle gas turbines (NGCC units)
- Gas turbine units, including IGCCs, and steam EGUs grouped into a single category





Effects of NSPS



- CO₂ emissions reduction in new power plants comparable to that achieved by NGCC units
- CCS systems required
 - Coal- or coke-fired unit will average its CO₂ emissions over a 30-year period
 - Rule could effectively eliminate the construction of new coal-fired power plants



New Precedents

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- NSPS for GHG emissions established
 - Application of standard to new but not modified units
 - Single standard applies to different types of equipment
 - BDT from one equipment type used to establish emissions standards for other equipment types
 - Required use of CCS although it arguably does not meet NSPS BDT criteria
 - 30-year averaging period allowed
 - NSPS established for a particular pollutant
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New Source Review (NSR)



- New Source Review (NSR)
 - Regulates increases in annual emissions above the pollutant's significance level
- Includes Prevention of Significant Deterioration (PSD) for sources in attainment areas, a non-attainment NSR (NNSR) for sources in non-attainment areas





- Trigger PSD when:
 - Physical change or change in the method of operation . . . that causes a significant net emissions increase in a regulated pollutant (No_x, PM, SO₂, SAM, CO, VOCs, CO₂)
 - Changes excluded
 - Fuel switches
 - Routine maintenance/repair/replacement (RMRR)
 - Increase in hours of operation





- Fuel switch exclusion
 - Was the unit continuously “capable of accommodating” the fuel type before January 6, 1975?
 - Case by case analysis; EPA guidance on this issue indicates that this is a fact-specific inquiry
 - Physical capability
 - Fuel handling?
 - Operational capability





- Emission Analyses:
 - Physical change or change in the method of operation . . . that causes a significant net emissions increase in a regulated pollutant (No_x, PM, SO₂, SAM, CO, VOCs, CO₂)
 - Projected Actual Emissions
 - 5 – 10 years
 - Causation Analysis
 - Rates and Operations
 - CO
 - Reporting/Recordkeeping





- NSR Permitting
 - Attainment v. non-attainment
 - Potentially lengthy permitting process
 - Additional pollution control equipment and/or new emissions limits (PSD: BACT; NNSR: LAER)
 - Significant civil fines and penalties for failure to obtain a permit
- NSR Recordkeeping and reporting requirements
 - Vary by state
 - Tied to use of actual-to-projected-actual emissions analysis



Cross-State Air Pollution Rule (CSAPR)



- CSAPR is designed to improve air quality by requiring power plants to reduce emissions that contribute to ozone pollution
- In 2011, US Court of Appeals for the DC Circuit stayed CSAPR pending judicial review
 - CAIR remains in effect pending review of CSAPR



Cooling Water Intake Structures Clean Water Act §316(b)



- Final rule scheduled for July, 2012
- Rule affects approximately 1,260 existing facilities
- Requires that NPDES permits reflect best technology available (BTA) for cooling water intake structures
- 3 components to the proposed regulation:
 - Existing facilities subject to an upper limit on the number of fish that can be killed or require facilities to reduce intake velocity
 - Require existing facilities withdrawing very large amounts of water to conduct studies
 - New units required to install technology equivalent to closed-cycle cooling technology



Coal Combustion Residuals (CCR)

- EPA issued proposed rule in June, 2010
 - Rule issued as a response to coal ash spill at TVA's plant in Kingston, Tennessee
- Rule considers two options for coal ash management:
 - Subtitle C of RCRA Option
 - Coal ash residuals regulated as special wastes
 - Subtitle D of RCRA Option
 - Coal ash regulated as a non-hazardous waste
 - Subtitle D Prime Option
 - Existing facilities allowed to remain in operation for their useful life



- Final rule expected sometime in the near future
- Until CCR rule is finalized, coal ash is regulated at the state level
 - Specific requirements vary from state to state
 - Facilities using natural gas are not subject to CCR rule

