

EPA Regulations Impacting Coal-Fired Power Generation

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EPA Regulations Impacting Coal-fired Generation

- Cross-state Air Pollution Rule (CSAPR)
- Mercury and Air Toxics Standard (MATS)
- New Source Performance Standards for GHG emissions
- Coal Combustion Residuals Rule
- Effluent Guidelines for Steam Electric Power Generation

Cross-State Air Pollution Rule (CSAPR)

aka “Transport Rule” and “Good Neighbor Rule”

Basic Rule Finalized July 6, 2011

- 76 FR 48208 (Aug. 8, 2011) Original Rule (265 pages)
- 76 FR 63860 (Oct. 14, 2011) Error Correction Notice
- 76 FR 80760 (Dec. 27, 2011) Finalizes 5 additional FIPs
- 77 FR 10324 (Feb. 21, 2012) Final Rule Correcting Errors/Revising FIPs
- 77 FR 28785 (May 16, 2012) Withdrawal of Final Rule Correcting Errors/Revising FIPs
- 77 FR 34830 (June 12, 2012) Final Rule Correcting Errors

Imposes NO_x and SO₂ electric generating unit (EGU) emission budgets

Fulfills State Obligations To Prohibit Interstate Emissions

“Contribute significantly to nonattainment in, or interference with maintenance by, any other State with respect to any national primary or secondary ambient air quality standard.”

Clean Air Act, Section 110(a)(2)(D)(i)(I)

Replaces Clean Air Interstate Rule (CAIR) found to be unlawful in North Carolina v. EPA, 531 F.3d 896 (D.C. Cir. 2008)

**Annual and/or ozone season NO_x budgets
and/or annual SO₂ budgets for EGUs in 27
states**

Reductions for downwind states to achieve

- PM_{2.5} annual NAAQS (1997)
- PM_{2.5} 24-hr. NAAQS (2006)
- Ozone 1997 8-hr. NAAQS (1997)

Three Step Process to Design State Budgets

- Identify Nonattainment and Maintenance Challenged Communities
- Model Upwind Contributions
- Determine State-Specific Reductions

Identify “Nonattainment” and “Maintenance-Challenged Communities”

- 2005 inventory; 2003-2007 ambient air quality data
- 2012 modeled ambient air quality projections
- 721 monitoring sites across 38-states
- “Nonattainment” and “Maintenance-challenged communities”

Model Upwind Contributions

- Ignores CAIR-mandated reductions
- Linked if contributions exceed 1% of NAAQS

Determine State-Specific Reductions

- Knee of the curve analysis of control costs
- \$500/ton threshold for NO_x and Group 2 state SO₂ budgets
- \$2,300/ton threshold for Group 1 state SO₂ budgets
- Budgets reflect ability to utilize cost-effective controls

**Annual SO₂ and NO_x reductions in 23 states for
PM_{2.5}**

Ozone season NO_x reductions in 20 states

10 budgets achieve transport prohibition

10 budgets a “substantial down payment” on
eliminating prohibited transport emissions

**Group 2 SO₂ budgets (2012) established for 7
states**

Group 1 SO₂ budgets (2012 & 2014) for 16 states

Cross-State Air Pollution Rule (CSAPR)

Variability and Assurance Budgets

Limited Interstate Trading

- Eliminates CAIR and Acid Rain emission credits
- Allows Trading within Assurance Budgets

Immediate implementation with Federal Implementation Plans (FIPs)

Revokes State Implementation Plans (SIPs) approved to implement CAIR

Cross-State Air Pollution Rule (CSAPR)

Timing: CAIR vs CSAPR

CAIR

- Phase I – 2009/2010
- Phase II – 2015

CSAPR

- NO_x and SO₂ -2012
- Group 1 SO₂ - 2014

Reduction from 2005 Emissions

- 6.4 MM tons SO₂ (73%)
- 1.4 MM tons NO_x (54%)
- 0.34 MM ton ozone season NO_x

Reductions beyond CAIR mandate

- 1.8 MM tons SO₂
- 0.76 MM tons NO_x

Court Challenge – 45 Review Petitions

- 67 Industry and Labor Petitioners
- 24 State and Municipal Petitioners
- State of New York and City of New York Intervening in Support of Petitioners

Stay Issued December 30, 2011

Oral Argument conducted April 13, 2012

Final decision expected any day

Implements requirements in Section 112 of the Clean Air Act to regulate Hazardous Air Pollutants from EGUs

Outcome of year 2000 listing decision.

Regulating EGU HAP emissions is “appropriate and necessary” after considering “hazards to public health” and “alternative control strategies”
Section 112(n)

Mercury and Air Toxic Standard (MATS)

Requires emission reductions achievable utilizing Maximum Achievable Control Technology (MACT)

- Best-performing 12% of existing sources
- Average of best 5 sources if fewer than 30 sources exist in a subcategory
- For new sources, the best-controlled similar source
- Cost not considered

Expected EGU mercury emission reduction - 90%

- **Limitations and work practice standards address**

Mercury

Furans

Arsenic

Acid Gases

Nickel

Hydrochloric Acid

Dioxins

SO₂

- **Excludes natural gas-fired EGUs**

- **Preamble defends 2000 EGU listing using subsequent study results**

Compliance Deadline

- Three Years from April 16, 2012 (effective date)
- Extendable one year “if necessary for the installation of controls” 42 U.S.C. §7412(i)(3)(B)
- Extendable further utilizing enforcement proceedings 42 U.S.C. §7413(a)

Challenges

- **National Mining Association Review Petition, D.C. Court of Appeals, Case No. 12-1101.**
- **Joint Resolution of Disapproval under Congressional Review Act** - introduced by Senator Inhofe, R-Okla. (S.J. Res 37, 112th Congress Second Session)
- **National Mining Association Petition to Reconsider.** July 20, 2012 EPA granted the petition; July 27, 2012 issued a stay delaying the rule's effectiveness for three months

New Source Performance Standards for Greenhouse Gas Emissions from EGUs

- Review petition challenged EPA's failure to include greenhouse gas limits in 2006 EGU new source performance standards
- Action withdrawn after Massachusetts v EPA
- To avoid litigation EPA entered December 23, 2010 settlement committing to propose regulations by July 2011 and final regulations by May 2012
- April 12, 2012 EPA proposed a 1,000 lbs/MWH CO₂ limit for new fossil-fueled EGUs with a generating capacity greater than 25 MW (77 FR 22392)

Coal Combustion Residuals Rule

- Alternative schemes proposed for regulating coal combustion residual disposal. 75 FR 35128 (June 21, 2010).
- RCRA Subtitle D – solid waste subject to federal guidelines
 - Permits not required
 - Liners for existing and new impoundments, new landfills
 - Citizen suit enforcement
- RCRA Subtitle C – hazardous waste, minimum federal requirements
 - Permits
 - Federal and state enforcement
 - Land Disposal Restrictions, liners and monitoring
 - Tanks and containment buildings
- Risk assessment for beneficial use activities
- EPA says expect final rule late 2012

Effluent Limitation Guidelines for Steam Electric Power Generation (40 CFR Part 423)

- EPA study, announcement of intent to update - 2009
 - A major contributor of toxic and non-conventional pollutants
 - Last updated 1982
- EPA Information Collection Requests – 2010
 - 733 facilities polled
 - all coal and petroleum coke-fired units
 - sampling of oil, natural gas and nuclear units
- EPA to proposed amendments by July 2012 and final guidelines by January 2014