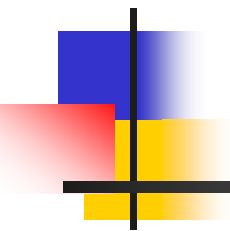


Regulatory Concepts Related to the Control of Mercury From Coal-fired Electric Generating Units

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Mercury Emissions from Plants in Pennsylvania

- Seventy-one EGUs located in thirty-three coal-burning power plants in Pennsylvania.
- Approximately 18,500 MW of from coal fired EGUs in PA.
- In 2004, EGUs in PA accounted for 78.5% of the 4.23 tons of mercury emitted from air contamination sources in the Commonwealth.
- Based on 2004 Toxic Release Inventory Data, mercury emissions from reporting sources in Pennsylvania were second only to sources in Texas.



General Principles Related to Draft Mercury Rule Concepts

- No trading of Hg emission allowances.
- Achieve greater reductions in Hg than EPA's CAMR.
- Maximize the Hg reduction co-benefits from other SO₂ and NO_x emission control programs such as CAIR.
- Discourage fuel switching from bituminous coal.
- Avoid adverse impacts on the capacity and reliability of power generation.



Conceptual Approach for PA's Draft Mercury Rule

- Applicability - Any coal-fired EGU with a nameplate capacity of 25 MW or more.
- Each EGU would be required to meet –
 - a numerical emission standard or minimum control efficiency and
 - an annual emission limit in ounces of Hg emitted.



Proposed Exception

- The owner or operator of an existing EGU that enters into an enforceable agreement for the shutdown of an EGU and replacement with Integrated Gasification Combined Cycle (IGCC) will be exempted from compliance with both the Phase 1 Hg emission standards and the Phase 1 annual emission limit requirements.



Compliance Deadlines

- Phase 1 (January 1, 2010)
 - Initial level for numerical emission standard or control efficiency, **and**
 - an annual emission limit by unit.
- Phase 2 (January 1, 2015)
 - More stringent emission standard or control efficiency, **and**
 - annual emission limit by unit.



Emission Standards

- Phase 1 and 2 standards for existing EGU units:
 - Pulverized Coal (PC) – Fired
 - Circulating Fluidized Bed (CFB)
- New EGU standards apply at construction for:
 - IGCC
 - PC-Fired
 - CFB



Emission Standards for New EGUs

- PC-Fired - output based emission standard of
 - 0.011 lb/GWh or
 - 90% control efficiency.
- CFB
 - Bituminous coal - 0.011 lb/GWh or 90% control efficiency.
 - Waste Coal – NSPS standard (currently 0.0014)
- IGCC - output based emission standard of
 - 0.0048 lb/GWh or
 - 95% capture efficiency.



Phase 1 Emission Standards for Existing EGUs

- PC-Fired - output based emission standard of
 - 0.024 lb/GWh or
 - 80% capture efficiency.
- CFB - output based emission standard of
 - 0.0058 lb/GWh or
 - 95% capture efficiency.



Phase 2 Emission Standards for Existing EGUs

- PC-Fired - output based emission standard of
 - 0.012 lb/GWh or
 - 90% capture efficiency.
- CFB - output based emission standard of
 - 0.0058 lb/GWh or
 - 95% capture efficiency.



Annual Emission Limit

- Established for each EGU on ounces per year basis.
- Based on CAMR allocation distribution methodology using three highest heat input from the years 2000-2004.
- Established identical CFB unit annual emission limits for Phase 1 and Phase 2.
- Provides regulatory assurance for Pennsylvania to meet the EPA CAMR Hg budgets.



Phase 1 Emission Standards Compliance Options

- Proposed on a unit-by-unit basis.
- Allows emissions averaging among the units at a specific facility.
- Provides a Compliance Presumption
 - Cold-side ESP and wet FGD where 100% bituminous coal is fired.
- Provides an alternative emission standard/compliance schedule.



Phase 2 Emission Standards Compliance Options

- Proposed on a unit-by-unit basis.
- Allows emissions averaging among the units at the same facility.
- Provides a compliance presumption
 - Cold-side ESP, wet FGD and SCR where 100% bituminous coal is burned.
- Provides an alternative emission standard/compliance schedule.



Annual Emission Limit Compliance Components

- Allocate to each EGU an available amount of non-tradable allowances based on CAMR caps.
- Set aside for New Source EGUs.
 - Phase 1--5%; Phase 2-- 3%
- Same CFB allocation for both Phases.
- The owner/operator of the EGU may petition Department for additional allowances.
- Order of preference established for additional allowances.



Additional Requirements

- Monitoring Requirements
 - Similar to CAMR
- Testing Requirements
 - Similar to CAMR
- Recordkeeping and Reporting Requirements
 - Similar to CAMR



Tentative Mercury Rule Timeline

May 17, 2006	EQB Action on the proposed rulemaking
September/October 2006	EQB considers final-form mercury regulation
November 2006	Independent Regulatory Review Commission Meeting
November 2006	Publish final mercury rulemaking. Submit State Plan to EPA Region III

Questions?

