Utility MACT – Impact and Compliance Strategy

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Why should you be concerned?

• You are directly affected - All coal and oil fired utility boilers > 25 MW
  • Air Quality Control (AQC) pathway for compliance
  • Alternate generation pathway for compliance
  • Holistic compliance – Several other regulations in the pipeline

• Your customers/clients are directly affected
  • Vendors of AQC and BOP equipment
  • Vendors for alternate generation technologies
  • Technical and economic feasibility studies

Compliance timeline clock will begin to tick soon
MACT overview

- CAAA Section 112 sets minimum stringency criteria (MACT Floor) for major Hazardous Air Pollutant (HAP) sources within a source category
  - Existing: The average emission limitation achieved by the best performing 12 percent of existing sources
  - New: The emission control achieved in practice by the best controlled similar source
  - Does not consider costs
- USEPA may regulate “beyond the floor” where justified – can consider costs
- USEPA can also establish work practice requirements
Utility MACT regulatory history

- **February 8, 2008** – DC Circuit Court vacates the Clean Air Mercury Rule (CAMR) and reinstates coal- and oil-fired electric generating units > 25 MW that produce electricity for sale (i.e., Utility Boilers or EGUs) as a MACT source category.
- **Reconsideration Petitions:** *September 16, 2008* by UARG and *October 17, 2008* by the USEPA.
- **December 18, 2008** – Mandatory duty suit filed by American Nurses Assn and other advocacy groups for failure to establish MACT standards for coal- and oil-fired electric generating units by December 20, 2002.
- **February 6, 2009** – USDOJ on behalf of the USEPA asks U.S. Supreme Court to drop its petition for reconsideration.
- **February 23, 2009** – U.S. Supreme Court denies UARG petition for reconsideration and accepts U.S. Government’s request to drop its petition.
- USEPA enters into a consent decree with the advocacy groups:
  - Propose emissions standards for coal- and oil-fired power plants by March 16, 2011.
  - Finalize the standards by November 16, 2011.
- **December 24, 2009** - USEPA approves an Information Collection Request (ICR) requiring all US power plants with coal-or oil-fired utility boilers to submit emissions information for use in developing the Utility MACT emission limits.
Regulated pollutants and surrogates

USEPA is considering the following pollutants/surrogates for the Utility MACT and has requested data as part of the ICR testing:

- Mercury – no surrogate
- Filterable PM – for non-mercury metallic HAP
- SO₂ or HCl – for acid gas HAP
- VOC / CO / THC – for non-dioxin / furan organic HAP
- S / Cl ratio – for dioxin / furan organic HAP

Red font indicates pollutants addressed by Boiler MACT
Lessons from the Boiler MACT

- Sub-categorization of units
- MACT floors
  - USEPA’s statistical method used for addressing variability
  - “MACT-on-MACT” type approach
  - “Cherry Picking” - Pollutant-by-pollutant or HAP-by-HAP analysis that relies on a different set of best performing sources for each separate HAP standard – Relative performance of the AQC technology not used in selecting the best performing sources
  - Emission limits applicable at all times including SSM
  - Emissions averaging periods
Compliance strategy considerations

- What are emission limits and how will our facilities comply with them at all times?
- How is my existing control equipment performing against the new requirements?
- Do we need to switch fuels?
- Do we need to install add-on controls?
- Is the unit economically viable after adding the required equipment or changing fuels?
- Do we have enough time and can we obtain the required financing?
- Will implementation of certain MACT compliance options or boiler modifications trigger New Source Review?
- Can our solutions also allow us to comply with applicable Renewable Portfolio Standards, transport rule, regional haze, nonattainment and Green House Gas regulations?
## Compliance methods

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**Blue Box: Front-End Control Technology**

**Green Box: In-situ Control Technology**

**Purple Box: Back-End Control Technology**
Implementation issues

- Fuel switch and repowering costs (if applicable)
- Retrofit costs
- Outage requirements
- Combustion modifications (i.e., reheat, air heaters, etc.)
- Space limitations for new control equipment
- Balance of plant impacts (i.e., auxiliary electric)
- Availability and redundancy requirements
- Available suppliers and construction labor
Next steps – post proposal

• Pay particular attention to the statistical analysis and proximity of the proposed emission limits to the detection limits
• Vendors...can you provide guarantees?
• Pay careful attention to the EPA’s basis for emissions limits
• Explore technical feasibility of achieving emission limits
• Examine the feasibility and cost of monitoring requirements
• Examine whether or not the averaging period for continuous compliance would be adequate
• Determine whether solutions can be implemented in parallel with other regulations
• Take an active part in the comments process

Get Engaged
Compliance strategy

- Determine MACT applicability
- Gather intelligence on your facility
- Develop compliance flowcharts and checklists
- Explore feasibility of front-end, in-situ and back-end control methods
- Conduct economic analyses
- Set internal deadlines and finalize strategy
- Agency interaction and execution of strategies

Proven steps to achieve compliance
Questions

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