

Mercury and Air Toxics Standards (MATS) for Power Plants Regulatory Update

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Topics



- Updates on three MATS Activities
 - Supplemental Appropriate and Necessary Finding
 - Technical Corrections
 - Electronic Reporting
- Compliance Monitoring Approaches as Reported via the Electronic Reporting Tool (ERT)

MATS Background : Industry



- MATS covers hazardous air pollutant (HAP) emissions from coal- and oil-fired electric utility steam generating units (EGUs) that are larger than 25 megawatts (MW). These emissions include:
 - Mercury (Hg) and other hazardous metals
 - Acid gases
 - Organic HAP
- 2011 MATS coverage estimate
 - 1100 coal-fired EGUs
 - 300 oil-fired EGUs
 - 400 gigawatts (GW)

MATS Background: Monitoring & Compliance



- Monitoring Innovations
 - Continuous compliance demonstrated using continuous monitoring systems or frequent testing
 - Reduced requirements for lower emissions
 - Low-emitting EGU (LEE) provisions
 - Limited use oil-fired EGUs
 - Electronic reporting
- Compliance Schedule:
 - On startup New EGUs
 - April 2015 Existing EGUs without extensions
 - April 2016 Existing EGUs with 1 year extension

MATS Background : Costs & Benefits



- Projected Electric Utility Annual Revenue - \$227 to 357 billion
- Projected Annual Benefits - \$37 to 90 billion
- Projected Annual Cost - \$9.6 billion
- Projected Annual Monitoring and Reporting Cost - \$158 million
 - 1.6% of projected annual cost
 - $< \frac{6}{100}$ % of projected average annual revenue

MATS Background : Litigation



- Rule challenged in U.S. Court of Appeals for the D.C. Circuit by many petitioners
 - Petitioners include industry, states, environmental groups, and public health organizations
- Court denied all challenges to the rule, including:
 - Challenge based on use of frequent testing and LEE status to demonstrate compliance
 - Challenge based on assertion that EPA must consider compliance costs when determining whether regulation is “appropriate and necessary”

Three Current MATS Activities



- Supplemental Appropriate and Necessary Finding
- Technical Corrections
- Electronic Reporting

Supplemental Appropriate and Necessary Finding



- Some industry and petitioners sought further judicial review of MATS
- U.S. Supreme Court granted certiorari only on cost issue
 - June 2015: Ruled that EPA erred by not considering cost in making the “appropriate and necessary finding”
 - Remanded the rule to the DC Circuit Court for further proceedings
- In response, EPA issued a supplemental finding in 2016

Supplemental Appropriate and Necessary Finding



- For final cost consideration, EPA evaluated:
 - Four cost metrics:
 - MATS-related costs relative to power industry revenues
 - MATS-related compliance capital and operating expenditures compared to the sector's annual capital and operating expenditures
 - MATS-related projected effects on retail electricity rates
 - MATS-related compliance potential impact on reliability
 - 2012 cost benefit analysis
 - Public comments

Supplemental Appropriate and Necessary Finding



- After considering cost, Administrator confirmed it is appropriate and necessary to regulate HAP emissions from EGUs under CAA section 112
 - Published April 25, 2016 (81 FR 24420)
- 5 groups have petitioned for judicial review
 - 2 groups seek to intervene
 - Petitions currently in DC Circuit
- MATS rule remains in effect

Technical Corrections



- Clarifications and corrections proposed Feb. 2015
 - 79 separate items identified by sources and agencies
 - Range from correcting references to accommodating new performance specification for HCl CEMS
 - Included removing affirmative defense provisions in light of a 2014 judicial ruling
- Promulgated April 6, 2016 (81 FR 20172)
- 3 groups filed petitions for judicial review
 - Concerns:
 - Removing affirmative defense provisions
 - Revising coal refuse definition
 - Changing provisions beyond corrections
 - Petitions currently at DC Circuit Court

Electronic Reporting



- MATS is one of the first MACTs with electronic reporting requirements
- Originally, rule required electronic reporting through separate systems
 - Acid rain program – like data submitted via familiar ECMPS
 - Other data submitted using CEDRI
- Regulated community requested using ECMPS only
- Proposal in agency review
 - Anticipate publication later this summer

MATS Monitoring Submission Overview



- Up to 500 EGUs with about 208 GW reported through June
- Forty percent rely on CEMS for compliance
 - About half rely on sorbent traps for mercury
- Most use PM and HCl as surrogates for metals and acid gases

MATS Monitoring Submission Overview



- Incentives work – of reported EGUs
 - 11% with LEE status
 - Reduce Hg and PM emissions by 8%
 - Reduce HCl emissions by 4%
 - 59% with limited use oil use status
 - Potential oil-fired EGU emission reductions of 53%

MATS Monitoring Submission Overview



- Industry Changes
 - 47 GW retired since 2011

# EGUs	Fuel type	GW
246	Coal	41
80	Oil	6
1	Petroleum coke	0.2

MATS Monitoring Submission Overview



- Industry Changes
 - 17 GW switched to natural gas-fired
 - 88 GW of coal-fired EGUs added pollution control equipment
 - \$6.1 billion invested

Submitted Mercury Data



# EGUs	Compliance Method	GW
166	Hg CEMS	79
186	Sorbent trap	84
72	LEE	16

Submitted Metals Data



# EGUs	Compliance Method	GW
152	PM CEMS	67
9	PM CPMS	4
147	Stack testing	76
100	LEE	28

Submitted Acid Gas Data



# EGUs	Compliance Method	GW
230	SO ₂ CEMS	58
9	HCl CEMS	4
109	Stack testing	54
50	LEE	15

Submitted Incentives Data – LEE Impact



	Hg tons	PM ktons	HCl ktons
MATS baseline	6	202	10
Current LEE reductions	0.5	16.4	0.4
Potential extra reductions	2.5	43.8	1.6

Submitted Incentives Data – Limited Use Oil



Type	# EGUs	GW
Limited Use	29	6
Reported to Date	49	20
Potential	165	51

MATS Next Steps



- Adjudicate petitions
 - Supplemental finding and technical corrections
- Promulgate electronic reporting revisions
- Report remaining EGU information
 - 1 year extension data due July 30, 2016

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