

“Third Time’s the Charm?”

Industrial Boiler MACT – Impact and Control Options

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Overview

- Essential Background
- Changes in the Final Rule
- Proposed “Reconsideration” Rule
- Significant Changes in Limits
- Other Major Changes
- Uncertainty Remains – Q & A

Essential Background

“Maximum Achievable Control Technology” is:

- “the **maximum degree** of reduction in [HAPs],” ...
- “taking into consideration
 - the **cost** of achieving such emission reduction,
 - any non-air quality health and environmental impacts and energy requirements,”
- that the Administrator “determines is **achievable** ...”

The MACT “floor” is deemed achievable:

EXISTING: “the average emission limitation achieved by the best performing 12 percent of existing sources”

NEW: the emission limit achieved by the best controlled “similar” source

Essential Background

- EPA adopted the first Industrial Boiler MACT in 2005, along with a “definitions rule” to separate industrial boilers from waste incinerators based on “energy recovery”
- However, the D.C. Circuit vacated both rules in 2007
 - The Court held that any facility combusting “any solid waste” at all must be regulated as an incinerator (CAA 129) instead of a boiler (CAA 112)

Essential Background

- EPA Proposed 2nd MACT June 4, 2010 (75 Fed. Reg. 32006)
 - Increased stringency from 2005 rule
 - Addition of new limits not found in the 2005 MACT rule (dioxins/furans)
 - Subcategorized by fuel (coal, biomass, oil, natural gas)
 - Subcategorized biomass sources by combustion technology (stokers and fluidized bed)

Essential Background

After considering the numerous comments submitted, EPA recognized:

- Some of the proposed limits were unachievable
- If EPA issued a final rule with higher limits, its rule may be subject to challenge for failure to take comment on those higher limits
- Additional time was needed to re-propose the rule, take comment, and issue a new final rule

EPA asked for an extension until June 2011 for the re-proposal and until April 2012 for the final rule.

Essential Background

The court denied EPA's request for more time, stating that it had already delayed the release of the standards for too long:

- EPA signed the rule February 21st and published it March 21st.
- On the very same day it was published, EPA announced it would “reconsider” the rule, and stayed the rule in May 2011, promising a new proposal and a final rule in 2012

Changes in 2011 Final Rule

Type of Unit	PM	CO	HCl	Hg	D/F
New Pulverized Coal	Green	Red	Green	Green	Green
Existing Pulverized Coal	Green	Green	Green	Green	White
New Biomass Stoker	Red	Red	Red	Green	Green
New Biomass Fluidized Bed	Red	Green	Red	Green	Green
Existing Biomass Stoker	Green	Red	Green	Green	Green
Existing Biomass Fluidized Bed	Green	Green	Green	Green	White
New Liquid Fuel	Red	Green	Green	Red	White
Existing Liquid Fuel	Green	Green	Red	Red	Green

Proposed “Reconsideration” Rule

- Released to the public December 2, 2011
- Proposes all new emission limits for 14 categories of units
 - 3 categories of coal-fired units
 - 7 categories of biomass-fired units
 - 2 categories of liquid-fired units
- Significant changes in compliance demonstration requirements

Proposed “Reconsideration” Rule

Type of Unit	PM	CO	HCl	Hg	D/F
New Pulverized Coal	Green	Red	Green	Red	×
Existing Pulverized Coal	Green	Red	Red	Red	×
New Biomass Stoker	Green	Green	Green	Red	×
New Biomass Fluidized Bed	Green	Red	Green	Red	×
Existing Biomass Stoker	Red	Green	Red	Red	×
Existing Biomass Fluidized Bed	Green	Red	Red	Red	×
New Liquid Fuel	Green	Green	Red	Green	×
Existing Liquid Fuel	Green	White	Green	Green	×

Significant Changes in Limits

- Most changes driven by a reassessment of underlying data
 - New data from additional units
 - Removal of some data due to data quality concerns
 - Adjustments related to measurement imprecision
- EPA eliminated D/F limits because 55% of data was below detection and nearly 100% was below “determination” limits
- PM now considered a “combustion-related” pollutant
- EPA changed the calculation method for CO and also set two different limits – one for stack tests and one for CEMS

Significant Changes in Limits

- Improvement for “new” biomass boilers:
 - PM:** unachievable 0.0011 lb/mmBtu → 0.029 (stokers) / 0.0098 (BFB)
 - HCl:** difficult 0.0022 lb/mmBtu → 0.022 lb/mmBtu
 - CO:** unachievable 160 ppm (stokers) → 590 ppm / 410 ppm
- Keep in mind – existing boilers become new if “reconstructed”
 - Over 50% of the cost of a comparable new source
 - Technically and economically feasible to meet standards
- Mercury more stringent except for liquid-fueled units
- CO for existing coal more stringent (160 ppm → 41 / 28 ppm)

Other Major Changes

Less Stringent	More Stringent
<ul style="list-style-type: none">• Choice of CO CEMS with different emission limits• PM CPMS instead of CEMS• Resetting deadline clock for compliance at existing units	<ul style="list-style-type: none">• Startup and Shutdown limited to 25% of full load operation• More prescriptive energy assessment process• Limited to 110% of level achieved during test

Current Status

- D.C. District Court vacated the stay of 2011 final rule, rendering the rule effective
 - New Sources?
 - Notification requirements for existing sources?
- EPA responded by issuing a guidance document indicating it will not enforce the rule and will issue a new stay if needed.
- EPA originally promised a final rule in April 2012, but has now indicated May 2012 (and additional delays are possible).
- Could the 2012 final rule be as different from the 2011 proposal as the 2011 rule was from the 2010 proposal?

Thank you.

**If you have additional questions,
please feel free to contact me:**

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