EPA Proposed Combustion Rules- Comment Topic Highlights

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4 Interrelated Combustion Rules

Definition of solid waste (EPA OSW)

- Determines whether combustion of secondary materials considered “fuel” under §112 MACT or “waste” under §129

Boiler/Process Heater Major Source MACT

- ICI boilers and process heaters

ICI Boiler Area Source MACT

- ICI boilers firing coal, biomass, oil

CISWI (Commercial and Industrial Solid Waste Incinerator)

- Modifies existing
  - CCCC- NSPS for new units
  - DDDD- Emission guidelines for existing units

Overall Schedule

Currently all scheduled for final promulgation by December 16, 2010

Wholly inadequate time to re-evaluate the rule and consider thousands of comments

Recommendation to promulgate solid waste definition first so that other rules can be based on firm population/emissions data

EPA should get at least 6 months additional time

Definition of Solid Waste Rule Issues

Definition of Solid Waste Issues

- Do not automatically make secondary material “waste” when combusted outside the control of the generator
- Recognize different ownership configurations prevalent in industry, especially biofuels/bio based materials processing
- Transfer between co-located facilities should not cause the materials to be solid waste
- Recognize the value of biofuels/biomaterials production and consider byproduct streams as traditional fuels- clean biomass
- Importance of recycling/reuse of secondary materials relative to longstanding RCRA principles
- Problems with legitimacy criteria
  - Handle as a valuable commodity
  - Meaningful heating value
  - Comparable contaminant concentration
- Lab samples are not solid waste

Boiler/Process Heater MACT Rule Issues

Work Practice is Appropriate as Proposed for Gas 1 Units

Annual Tune-up required for

- Existing boilers & process heaters < 10MMBtu/hr
- New and existing boilers and process heaters in Gas 1 or metal processing furnace subcategories ≥ 10MMBtu/hr

Energy assessment required for an existing unit located at a major source facility

Need to extend work practice standard to Gas 2 units

- Hydrogen fueled off-gases- referenced flare study
- LFG- imposing Gas 2 emission limits on LFG combustion will result is loss of that beneficial use in boilers/process heaters
  - Obvious inconsistency within EPA vs LMOP

Also extend work practice standard to Distillate Oil fired units

Tune-up Requirements Need to be Revised

Do not require “minimize CO” since that may drive higher excess air and lower efficiency

Allow flexible scheduling

Do not require outside certification- allow use of internal qualified resources

Make listed tune-up requirements “as applicable” to specific units

Energy Assessment Scope is Too Broad

Energy consuming systems is well outside EPA authority

EPA cannot compel investments

Limit to affected sources under the rule

Allow use of internal company/facility resources & past energy assessments

Do not require extensive design development to determine accurate investment costs

Do not require Energy Star or other prescribed energy management programs but allow as an option

- Allow for use of existing or newly developed internal facility/company energy management systems or programs

Achievability of Limits

Actual real-world boilers and process heaters cannot meet all proposed MACT limits

- Floors determined on a pollutant-by-pollutant basis
- MACT being driven by math, not technology
- Only 6 existing boilers can meet all 5 emission limits per emission test data
- New Source MACT limits are so low that new boilers will be hard to build
  - Driven by single data point ≤ limit of detection
  - RIA predicts ZERO new biomass and coal fired boilers

Data Issues

Non-representative units used to establish floor

Not enough consideration of variability in MACT Floors

- CO - using only 3-run stack tests, even though CO is highly variable for most boilers- not even incorporating data they do have
- No fuel variability adjustment for some fuels/pollutants

1 or 2 boilers < DL drive dioxin/furan limits

- Trying to represent hundreds of boilers/process heaters firing various fuels

Little liquid data overall – very low limits

Need at least a better statistical approach given the data set does not represent the diverse population of units and fuels

- Data skewed toward top performers

Achievability Summary

Industrial sources must have assurance of their ability to meet emission limits routinely

- If not, there is a high level of risk that cannot be tolerated
  - Regulatory compliance; cost; capital investment life/recovery risk
- Drives investment decisions toward lower risk

Must be able to meet limits with available fuels and controls

- Need performance guarantees
- Fuel supplies will vary over time beyond the control of the user
- No understanding of D/F formation in conventional boilers/process heaters or methods of control at these emission levels

Lack of Understanding of Operational Issues

SSM

- Boilers and process heaters require time to come up to operating temperature/stable operation
- Emissions vary during SSM periods
- Averaging alone using steady state emission data to set the floor does not allow for SSM operations
- Even best performers have malfunctions, despite EPA contentions
  - EPA has no data to prove otherwise

Industrial boiler/process heater operation is highly variable

- Operating limits must allow for operating rate/feed rate variations

Risk Based Compliance Option

Risk based option under §112(d)(4) should be provided for HCl

- Not included in proposed rule, but mentioned in Preamble
- Include as an option with required health benchmarks
- Allow dispersion modeling to demonstrate compliance by fuel quality and/or controls

Cost Implications

EPA noted Boiler MACT capital cost as $9.5B

Industry estimate > $20B

Chemical industry- ~$4B without Gas 1 capital

- Compare to 2009 total capital for the industry of $15B and $1B for environmental protection
- Major impact on the overall industry
- Critical impact on specific facilities and production- will in some cases result in job losses

If Gas 1 limits imposed as discussed in the Preamble- possibly another $8B capital to chemical industry assuming controls can be installed and will actually control to those limits (> $50B total; $14B EPA estimate)

ICI Boiler Area Source MACT Rule Issues

MACT Floor Determination Issues

Emission limits are unachievable

- Choice and number of top performers
- Data and methodology problems
- Pollutant by pollutant approach
- Fuel variability must be considered

Oil fired boiler CO limit is unattainable- 2 ppm for existing units; 1ppm for new units (daily average)

- No data for long term CO emissions
- CO varies significantly with load for oil firing
- Support CO limit only applicable >50% rated capacity

Tune-up Requirements Need to be Revised

Applicable to units <10MMBtu/hr- biennially

- Do not require “minimize CO” since may drive higher excess air and lower efficiency
- Use elapsed operating time rather than every 2 years
- Do not require outside certification- allow use of internal qualified resources
- Make tune-up requirements as applicable to specific units
- Fuel use data is not necessary

Other Area Source MACT Issues

No SSM allowance

- SS periods not included for all floor units
- Applying CO limit only > 50% rated capacity does help
- Need to allow site specific SS plans as well as a M plan
- Operators must know how to properly respond to malfunctions

Energy assessment scope is too broad

- Energy consuming systems is well outside EPA authority; EPA cannot compel investments
- Limit to affected sources under the rule
- Allow use of internal company/facility resources & past energy assessments
- Do not require extensive design development to determine accurate investment costs

Exempt temporary boilers

CISWI Rule Issues

Additional Subcategories are Needed

Proposed rule included limits for 5 subcategories:

- Incinerators
- Energy recovery units
- Waste burning kilns
- Burn-off ovens
- Small remote incinerators

No differentiation by fuel type for energy recovery units, limits based on cleaner fuels

Reproposal of CISWI rule is needed

- New data available to EPA
- Additional subcategorization
- Potential solid waste definition final rule changes

Other CISWI issues

Emission limits are unachievable

- Data and methodology problems
- Pollutant by pollutant approach
- Fuel variability must be considered

Operating limits too restrictive

- Need to respond to normal operating variations
- Do not require maintaining within set percent of test values

No SSM allowance

- Need to allow site specific SS plans as well as a M plan
- Operators must know how to properly respond to malfunctions

Reinstate CISWI Exemptions

Burn-off ovens

- Small diverse units with insignificant HAP emissions
- Number and diversity grossly underestimated
- Short cycle times; emission testing impractical
- Retain exemption for rack, part, and drum reclamation units

Laboratory analysis units

- Would be treated as incinerators
- Samples are not solid waste anyway
- No data for units, emissions, or feasibility

Questions?