



The Newest Face of MACT

The 2009 Proposed PC MACT & Other Potential Industry Implications

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Presentation Topics

- History of the Portland Cement MACT
- Impacts of Lawsuits on MACT Rules
- New PC Standards & Control Technologies
- Implementation Topics
- Planning Steps for Cement Manufacturers & Other Effected Industries



A Decade of PC MACT Rulemaking

1999	<ul style="list-style-type: none">-Final Portland Cement NESHAP published-Rule challenged by Earthjustice and industry
2000	<ul style="list-style-type: none">-D.C. Circuit Decision; rule remanded back to EPA
2002	<ul style="list-style-type: none">-Final rule implementation-EPA litigation settlement
2005	<ul style="list-style-type: none">-Proposed rule revisions
2006	<ul style="list-style-type: none">-Final rule revisions – Hg & HC standards added for new/modified facilities-Final rule subsequently reconsidered
2007	<ul style="list-style-type: none">-Brick MACT decision-Extensive 114 data request
2009	<ul style="list-style-type: none">-Newest proposed rule revisions-Drastic changes proposed

Key Points from Recent Decisions/Changes

- Regulated Pollutants: Standards to be established for all HAPs emitted by relevant industry
- Achievability: Floors for existing sources must reflect average performance of best 12% of sources, not levels EPA considers to be achievable by all sources
- Variability: May be included in establishing floor, but EPA cannot use variability of worst performers
- Control: EPA cannot set floors of “no control”
- Non-technology factors: EPA cannot ignore factors that reduce HAP emissions

Other Court Cases Potentially Impacting Cement & Other Sources

- 2007: (112 vs. 129) Court Interpretation Based on NRDC Challenge - Combustion Unit Combusting “any” Solid Waste is a Solid Waste Incineration Unit
- 2008: Exemption Vacated for Major Sources from MACT Standards During Startup, Shutdown & Malfunctions

Decision Will Continue to Impact MACTs Under Development

- Power Plants
- Boilers

34 Additional Industries? (2009 NRDC Petition for Rulemaking)

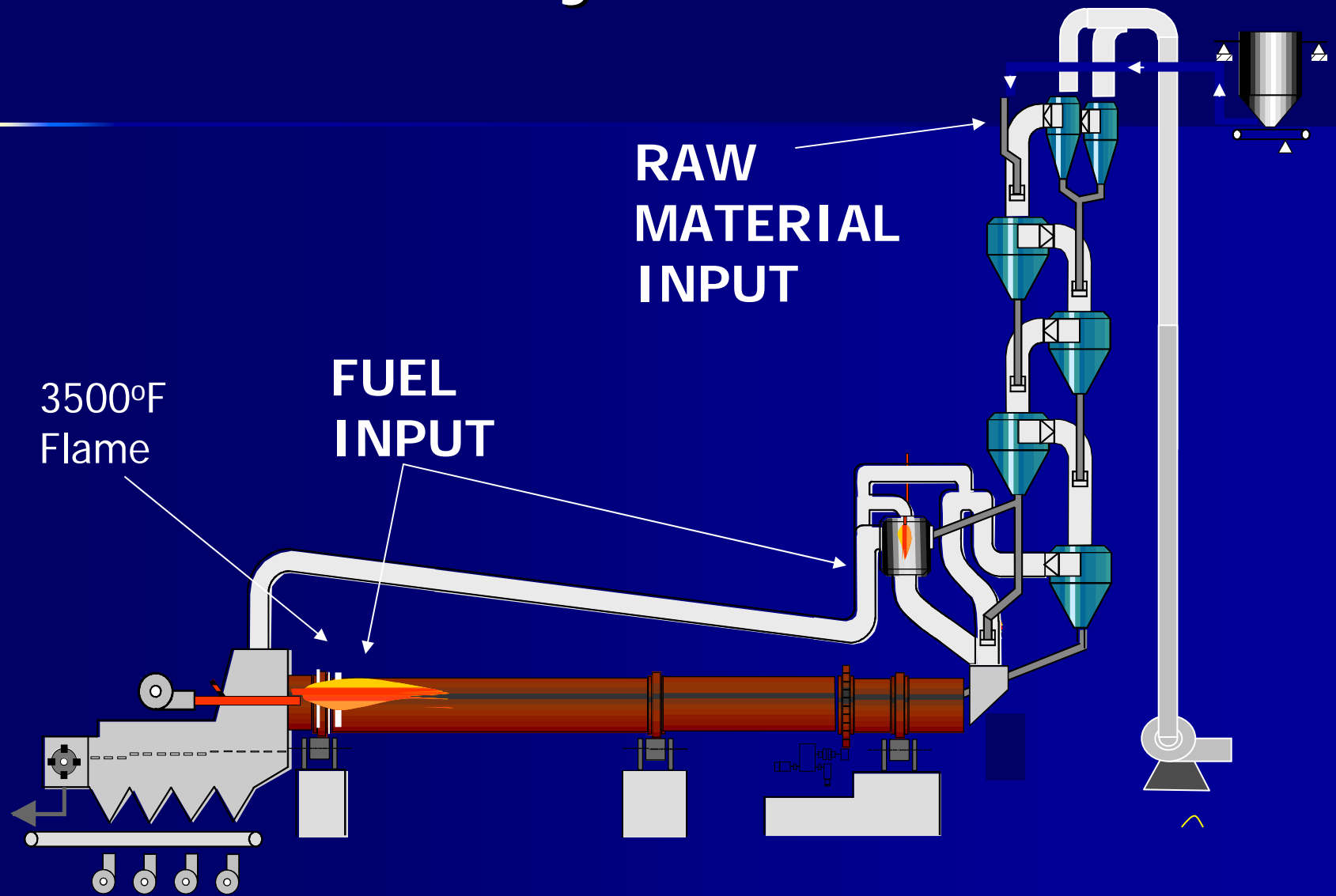
Aerospace Manufacturing and Rework Facilities	Asphalt Processing and Asphalt Roofing Manufacturing
Surface Coating of Automobiles and Light-Duty Trucks	Cellulose Products Manufacturing
Engine Test Cells/Stand	Flexible Polyurethane Foam Fabrication Operations
Flexible Polyurethane Foam Production	Friction Materials Manufacturing Facilities
Generic MACT I: Acrylic and Modacrylic Fiber (AMF) Production	Generic MACT II: Carbon Black Production
Generic MACT II: Ethylene Production	Generic MACT II: Cyanide Chemicals Manufacturing
Hazardous Organic NESHAP	Hydrochloric Acid Production
Surface Coating of Large Appliances	Lime Manufacturing Plants
Manufacturing of Nutritional Yeast	Marine Tank Vessel Loading Operations
Mercury Cell Chloro-Alkali Plants	Mineral Wool Production
Oil and Natural Gas Production	Petroleum Refineries
Phosphoric Acid Manufacturing and Phosphate Fertilizers Production	Polyether Polyols Production
Polymers and Resins I	Polymers and Resins III
Polymers & Resins IV	Primary Lead Smelting
Publicly Owned Treatment Works (POTW)	Pulp and Paper Mills
Secondary Lead Smelters	Stationary Combustion Turbines
Taconite Iron Ore Processing	Wet Formed Fiberglass Mat Production
Wool Fiberglass Manufacturing	

What Can Be Gleaned from the 2009 Portland Cement Proposed MACT Rule?

PC MACT 2009 Proposal

- Applicability:
 - New & existing kilns
 - Major & area sources
 - Revised kiln, raw mill, and clinker cooler standards
 - Standards also apply during SSM events
 - 3 year implementation after rule finalized

Cement Kiln System





Cement Manufacturing:

- Large, Hot! Industrial Process
- Driven by Raw Material Inputs
- Alternative Fuel Program in Place for 20+ Years
- Product Used World-Wide as Key Construction Material

New MACT Standards for Cement Kilns

New Limits (Major and Area Sources) for Kilns or Kilns with In-line Raw Mills

Standard	Existing Kilns	New or Modified Kilns
Mercury	43 lb/million tons clinker (30 day rolling average)	14 lb/million tons clinker (30 day rolling average)
PM ¹	0.085 lbs/ton of clinker	0.080 lbs/ton of clinker
THC	7 ppmv or, 2 ppmv total organic HAP ² (30 day rolling average)	6 ppmv or, 1 ppmv total organic HAP ² (30 day rolling average)
HCl (<i>major sources only</i>)	2 ppmv (30 day rolling average)	0.1 ppmv (30 day rolling average)

1 Combined kiln and alkali bypass, where applicable

2 For HAP alternative, also must establish site-specific THC limit based on testing

HAPs – Formaldehyde, benzene, toluene, styrene, m,p,o-xylene, acetaldehyde, naphthalene

New Limits for Clinker Coolers & Raw Material Dryers

(Major and Area Sources)

Standard	Existing Coolers	New or Modified Coolers
PM	0.085 lbs/ton of clinker	0.080 lbs/ton of clinker

Standard	Existing Dryers	New or Modified Dryers
THC	7 ppmv (30 day rolling average) ¹	6 ppmv (30 day rolling average) ¹

¹ For HAP alternative, also must establish site-specific THC limit based on testing

About the Proposed Standards

- Proposed Standards are Very Low (Below Health Based Criteria)!
- Compliance Expected to Necessitate Installation of Additional Air Pollution Control Device(s)
- EPA Anticipates Several Kilns Shutting Down Due to Inability to Meet Standards (Raw Material Driven)

Proposed Control Technologies

- Hg – Activated Carbon, Wet Scrubber
- THC – Activated Carbon, RTO
- HCl – Limestone Scrubber
- PM – Baghouse

Monitoring Methods

- CEMS Required
 - Hg CEMS
 - THC CEMS
 - HCl CEMS
 - PM – BLDS or ESP Predictive Model
 - Stack test every 5 years

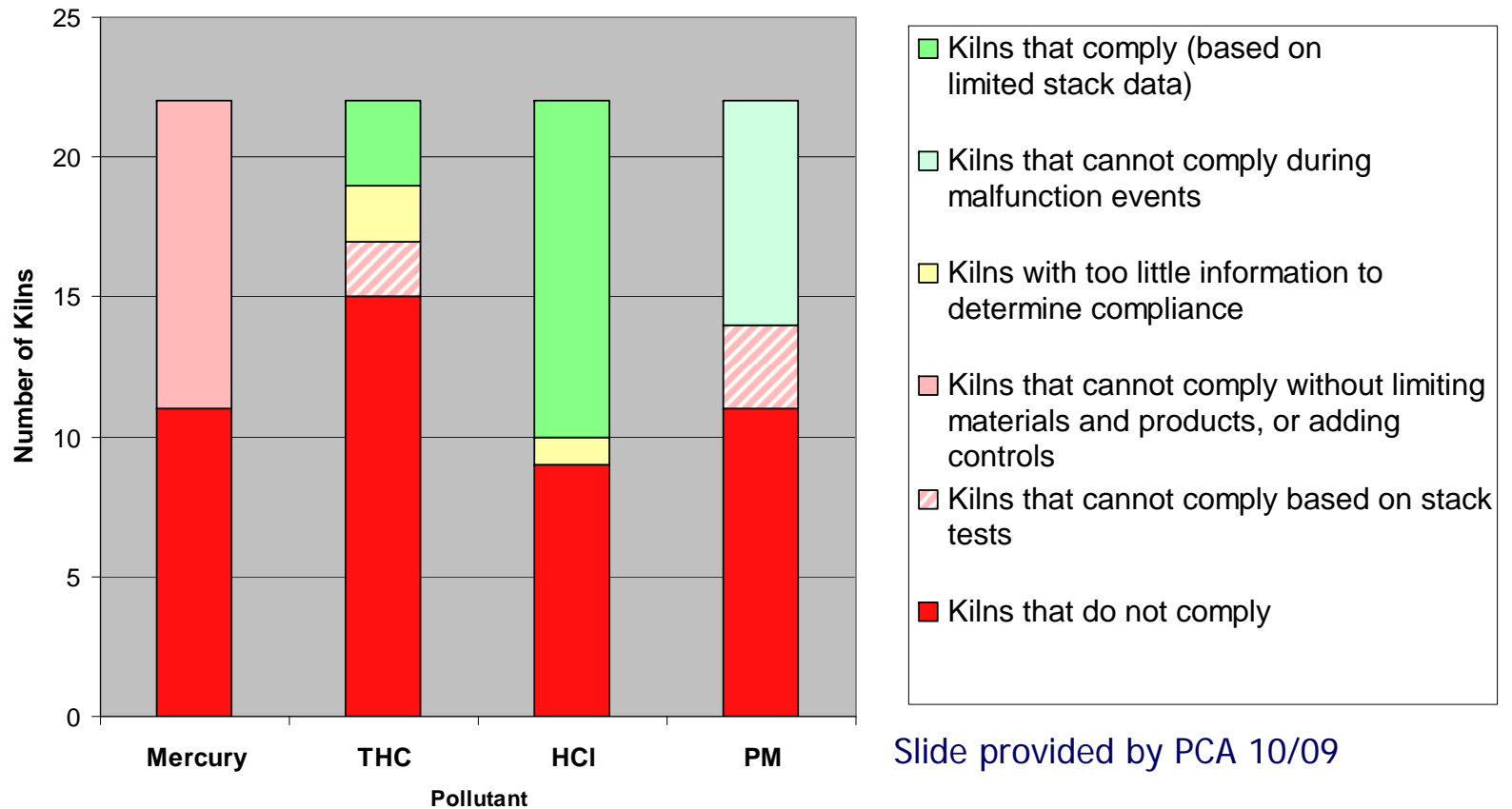
Industry Comments on Standards

- Variability Analysis Critical to Workability of Final Emission Standards
- Subcategorization Requested for Hg Standard
- Data not sufficient to establish standard or variability for HCl Standard
- HAP by HAP Approach Not Appropriate
- SSM Limits Not Appropriate

Industry Comments on Standards (con't)

- Removal Efficiency of APCDs Overstated; Unintended Environmental Consequences Not Considered
- Hg and HCl CEMS Not Proven Technology
- Costs Much Higher Than EPA Estimates
- Number of Facilities Required to Close Significant; Necessitates Increased Cement Imports

None of the Kilns Used to Set the Standards Can Comply with All of the Proposed Limits



Slide provided by PCA 10/09

Planning for Future Compliance

- Track Future EPA Actions
- Comment as Rules are Developed
- Communicate to General Public
- Start Early for 3 Year Compliance Schedule
 - Perform/confirm gap analysis
 - Purchase/install control equipment
 - Purchase/install monitoring equipment
 - Prepare/update SOPs, O&M & SSM plans
 - Prepare for any necessary testing
 - Employee training!



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