

# Portland Cement NESHAP Amendments

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Presented to the Institute of Clean Air Companies  
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# Background

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- ▶ September 9, 2010 – EPA issued final amendments to Portland Cement NESHAP and NSPS
- ▶ EPA received four industry petitions for reconsideration of MACT and NSPS rules; two included requests for stay
- ▶ December 9, 2011 in *Portland Cement Association (PCA) v. EPA*, the court found that EPA refused to reconsider the NESHAP to account for the fact that some cement kilns were now classified as CISWI as a result of the promulgated solid waste definition
- ▶ The court left the NESHAP in place, with the exception for standards for fugitive emissions from clinker piles, which were stayed
- ▶ EPA entered into a settlement agreement with PCA to propose the reconsideration on June 20, 2012 and finalize on December 20, 2012
- ▶ Proposal was published on July 18, 2012
- ▶ Final Signature Date, December 20, 2012

# Proposed Revised Emission Limits

	<i>2010 Rule</i>		<i>Proposed Emissions Limit<sup>a</sup></i>	
	<b>Existing Source</b>	<b>New Source</b>	<b>Existing Source</b>	<b>New Source</b>
<b>Hg</b>	55 lb/MM tons clinker	21 lb/MM tons clinker	55 lb/MM tons clinker (30 day average)	21 lb/MM tons feed (30 day average)
<b>THC</b> (Surrogate for Organic HAP)	24 ppmv	24 ppmv	24 ppmv for all kilns (30 day average)	24 ppmv for all kilns (30 day average)
<b>PM</b> (Surrogate for nonmercury metal HAP)	0.04 lb/ton clinker via CEM compliance	0.01 lb/ton clinker via CEM compliance	0.07 lb/ton clinker via PCMS compliance	0.02 lb/ton clinker via PCMS compliance
<b>HCl</b>	3 ppmv	3 ppmv	3 ppmv	3 ppmv

<sup>a</sup> For Hg, THC, and PM these limits would apply to major and area sources. For HCl these limits only apply to major sources

# Other Requirements and Emissions Reductions

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- ▶ Emissions Monitoring – All sources
  - ▶ Continuous monitors for mercury and THC
  - ▶ Bag Leak detectors (option to M22 for raw mill or finish mill)
  - ▶ Continuous parameter monitors for HCl equipped with wet and dry scrubbers; otherwise CEMS
  - ▶ CPMS for PM
- ▶ Test Methods and Performance Specifications
  - ▶ Mercury CEMS – PS12A
  - ▶ Alkali bypass and Coal mill – EPA Method 25A
  - ▶ THC – Reference test method for relative accuracy testing Method 25A; THC CEMS – PS8
  - ▶ HCL CEMS – PS 15; Method 321 for reference test method for relative accuracy testing; sources equipped with wet scrubber can use M321 or SO<sub>2</sub> CEMS
  - ▶ PM- Method 5
  - ▶ Visible emissions observed via Method 22 then use Method 9
  - ▶ o-HAP emission test – Method 320 (or ASTM6348-03) or Method 18

# Projected Control Technologies

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- ▶ Mercury
  - ▶ Limestone wet scrubber (Max 80 percent removal)
  - ▶ Activated Carbon injection (Max 90 percent removal)<sup>a</sup>
- ▶ THC
  - ▶ Activated Carbon Injection (Max 80 percent removal)<sup>a</sup>
  - ▶ Regenerative Thermal Oxidizer (Max 98 percent removal, requires a wet scrubber upstream for acid gas removal)
- ▶ PM
  - ▶ Addition of membrane bags
  - ▶ Replacement of ESPs with fabric filters
- ▶ HCl
  - ▶ Limestone wet scrubber
  - ▶ Dry sorbent injection

<sup>a</sup> Includes a second fabric filter for carbon capture

# Projected Control Technologies

Control Type	Pollutants Controlled	Maximum estimated control efficiency (percent) (based on 2010 rule)	Number of projected Installation <sup>c</sup> (based on 2012 rule)
Limestone wet scrubber	Mercury HCl	Mercury – 80 HCl – 99.9	89-92
Activated Carbon Injection <sup>a</sup>	Mercury THC	Mercury – 90 THC - 80	100-106
Regenerative Thermal Oxidizer <sup>b</sup>	THC	98	11
Membrane Bags added to existing Fabric Filter	PM	>99.9	21
Fabric Filter	PM	>99.9	0-5

<sup>a</sup> Includes a second fabric filter for carbon capture

<sup>b</sup> Requires a wet scrubber upstream for acid gas removal

<sup>c</sup> Based on a population estimated in 2012, of 116 existing and 16 new kilns . Many kilns have multiple controls

# Questions ?

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