Boiler and CISWI Rules Update

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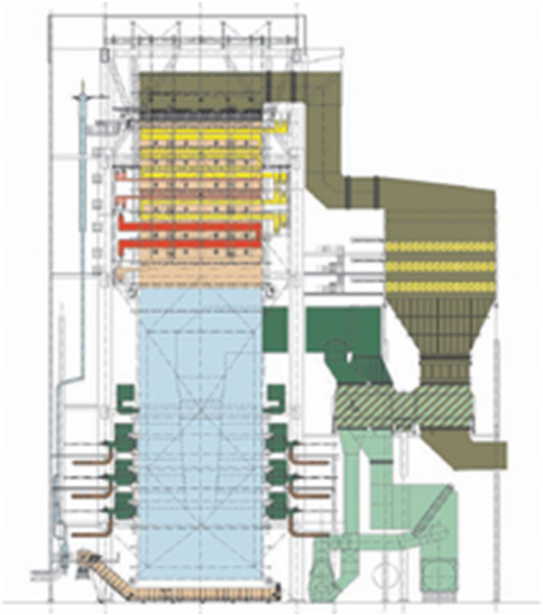
Agenda

- Boiler MACT
- Boiler GACT
- CISWI



https://www3.epa.gov/airquality/combustion/actions.html

https://www.epa.gov/rcra/identification-non-hazardous-secondary-materials-are-solid-waste

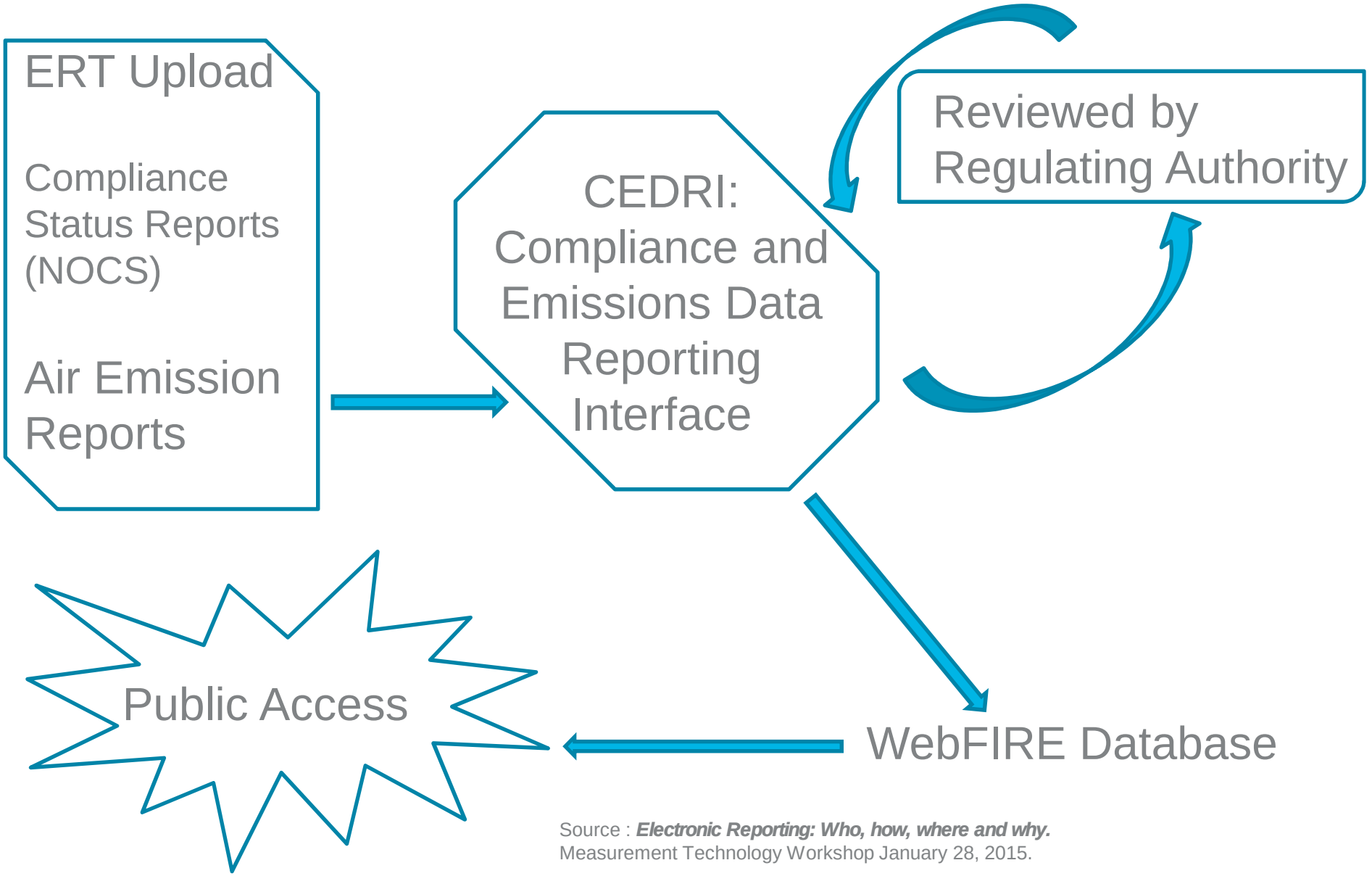
Boiler MACT Update and Schedule

- 2nd final reconsideration rule in Nov. 20, 2015 FR
- Updated QnA posted to TTN in January 2016
- Still waiting on package of technical corrections
- Jan. 31, 2016 – initial compliance date, unless 1 year extension. 180 days to demonstrate compliance with limits, 60 days to submit NOCS after all compliance activities complete or 60 days after compliance date for Gas 1 (note – **NOCS for BMACT is NOT in CEDRI**)
- **Jan. 31, 2017** – 1st compliance report in CEDRI for units with 1/31/16 compliance date (not July 2016)

Boiler MACT Compliance Issues/Challenges

- Performance Testing – how to design the test to allow max flexibility, make sure testing contractors follow rule procedures, make sure you understand how to set the operating parameter limits, summertime load, BMACT limits vs permit limits
- Timing of NOCS - 60 days after last initial compliance activity vs 60 days after compliance date, CEDRI/ERT
- Monitoring – 720 hr vs 30 days, CMS performance evaluations, O_2 trim vs O_2 CMS, gas-only operation
- Startup and ESPs
- Recordkeeping and Reporting – very complex, lots of information, new method of reporting online

Where does my compliance data go?



Source : ***Electronic Reporting: Who, how, where and why.***
Measurement Technology Workshop January 28, 2015.

Boiler GACT Status

- February 3, 2013 – first reconsideration rule
- March 21, 2014 compliance date
- Still waiting on 2nd final reconsideration rule – proposed January 21, 2015
  - Definitions of startup and shutdown periods
  - PM standard for units combusting low sulfur diesel
  - Limited use subcategory
  - Elimination of ongoing PM testing for certain units, based on initial performance test results
  - Elimination of ongoing Hg fuel sampling for certain units, based on initial results
  - Technical clarifications/corrections

CISWI Update – 2nd Reconsideration Rule

- Emission Guidelines and NSPS for Commercial and Industrial Solid Waste Incinerators – Part 60, Subparts CCCC and DDDD
- First reconsideration rule published February 7, 2013
- January 21, 2015 – EPA granted 2nd reconsideration
- Reconsideration rule has been signed (twice – 5.5.16 and 6.2.16) but not yet published in FR

https://www3.epa.gov/ttn/atw/129/ciwi/ciwipg.html

CISWI Revisions

- EPA granted reconsideration on 4 issues
  - Definition of CEMS data during startup and shutdown
  - PM limit for waste burning kilns
  - Fuel variability factor for coal-burning ERUs
  - Definition of kiln
- EPA denied reconsideration on all other issues by petitioners
- Technical clarifications
- Removal of affirmative defense provisions

CEMS data during startup and shutdown

- CISWI rule does not allow work practices for compliance during SU/SD – data during SU/SD are included in averages.
- 2011 final rule included O_2 correction for CO CEMS data during startup and shutdown – problematic.
- 2013 final rule modified definitions of startup and shutdown and CEMS data during SU/SD and did not require O_2 correction during SU/SD.
- 2016 final rule revises definition of CEMS data during SU/SD to be subcategory specific. ERU startup and shutdown definitions reflect Boiler MACT requirements, kiln startup and shutdown definitions are similar to Portland Cement MACT requirements.

CEMS data during startup and shutdown

- Incinerators: CEMS data collected during the first hours of a CISWI unit startup **from a cold start until waste is fed** to the unit and the **hours of operation following the cessation of waste material being fed to the CISWI unit during a unit shutdown**. For each startup event, the length of time that CEMS data may be claimed as being CEMS data during **startup** must be **48 operating hours** or less. For each shutdown event, the length of time that CEMS data may be claimed as being CEMS data during **shutdown** must be **24 operating hours** or less

CEMS data during startup and shutdown

- ERUs: Startup begins with either the first-ever firing of fuel for the purpose of supplying useful thermal energy or the firing of fuel for any purpose after a shutdown event. Startup ends **four hours after when the boiler or process heater makes useful thermal energy** or generates electricity, whichever is earlier.

- Shutdown begins when the ERU no longer makes useful thermal energy and/or generates electricity or when no fuel is being fed to the boiler or process heater, whichever is earlier. Shutdown ends when the ERU no longer makes useful thermal energy and/or generates electricity, and no fuel is being combusted in the ERU.

CEMS data during startup and shutdown

- Kilns: Startup means the time from when a shutdown kiln first begins firing fuel until it begins producing clinker. Startup begins when a shutdown kiln turns on the induced draft fan and begins firing fuel in the main burner. **Startup ends when feed is being continuously introduced into the kiln for at least 120 minutes or when the feed rate exceeds 60 percent of the kiln design limitation rate**, whichever occurs first.

- Shutdown means the cessation of kiln operation. Shutdown begins when feed to the kiln is halted and ends when continuous kiln rotation ceases.

PM Limit for Waste-burning Kilns

- EPA solicited comment on the data set used to set the PM standards for new and existing kilns.
- Kiln inventory and data set changed over time due to changes in NHSM definition and changes in operation.
- 24 stack tests for 3 top performers – enough data so using test averages rather than individual test runs in the UPL calculation is representative.

Table 1. Waste-burning Kiln PM Emission Limits from March 2011 Final Rule Through 2015 Final Reconsideration

Source type (units)	March 2011 Final Rule	December 2011 Proposed Rule	February 2013 Final Rule	2015 Final Rule Test Average-Based Limits[2]
New Sources (mg/dscm)[1]	2.5	8.9	2.2	4.9
Existing Sources (mg/dscm)[1]	6.2	9.2	4.6	13.5

[1] corrected to 7 percent oxygen (O_2).

[2] These final limits are the same as those discussed in the January 21, 2015 proposal.

FVF for coal-burning ERUs

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- EPA requested comment on need for FVF for coal ERUs
- EPA recalculated limits for Cd, HCl, Hg, Pb, PM, NO_x, SO_2 that incorporate a FVF and coal-only data – based on fuel analysis and CEMS data

Table 2. Existing Coal ERU Emission Limits from February 2013 Final Rule and Based on FVF Plus Additional CEMS Data

Pollutant (units)	**February 2013 Final Rule Emission Limit[1]**	**Final Emission Limits Using Additional Data and FVF[1]**
Cadmium (Cd) (mg/dscm)	0.0095	0.0017[2]
Hydrogen Chloride (HCl) (ppmv)	13	58[3]
Mercury (Hg) (mg/dscm)	0.016	0.013[2]
Lead (Pb) (mg/dscm)	0.14	0.057[3]
Particulate Matter (PM filterable) (mg/dscm)	160	130[2]
Nitrogen Oxides (NOx) (ppmv)	340	460[2]
Sulfur Dioxide (SO_2) (ppmv)	650	850

[2] Unable to calculate FVF, final emission limit reflects use of additional data for coal-only mode of operation.

Definition of Kiln

- Definition now consistent with Portland Cement MACT
- Finalizing proposed compliance methods for kilns that combine streams from in-line raw mill and/or in-line coal mill and exhaust through multiple stacks
- Finalizing clarifying language that makes monitoring requirements consistent with Portland Cement MACT – not requiring CEMS or CPMS on separate alkali bypass or in-line coal mill stacks (annual test).

Other Changes

- Clarified that new incinerators regulated under 2000 CISWI rule remain under that rule until the 2013 EG are added to an approved state plan, then they are regulated under the 2013 EG.
- Corrected various reference errors and typos
- Updates to reflect current electronic reporting guidance
- Revisions to reflect current guidance for HCl CEMS

Questions?

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