



Stack Life 2016

Current Events in the Stack Testing Industry

Kyle Flowers

Catalyst Air Management, Inc.

September 22, 2016

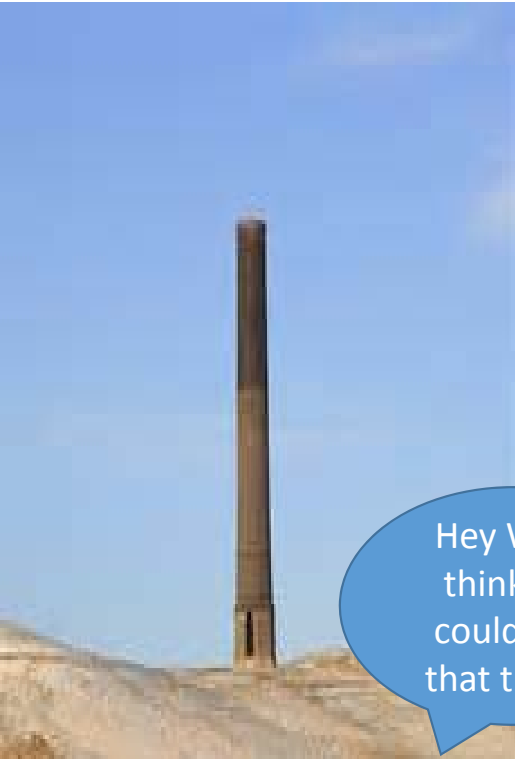


AIR & WASTE MANAGEMENT
ASSOCIATION

SINCE 1907

In the Beginning

Stack Testing Pre-history



Hey Walt,
think we
could test
that thing?

Why you think
I hollowed out
this stick?



1957 - ASME Performance Test code No. 27
“Determining Dust Concentrations in a Gas Stream”

1967 – APCA Paper (Walt Smith)
“Stack Testing Improved and Simplified”

1968 – I was born

1970 – Clean Air Act

1970 – APCA Paper (Walt Smith, Roger Shigahara)
“Interpreting Stack Test Data”

December 23, 1971

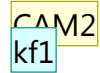
Birth of Federal Stack Testing Requirements

- Methods 1-9 Promulgated (36 FR 24876)
- For rules regulating PM, SO₂, and Sulfuric Acid from Steam Generators, Portland Cement Plants, Incinerators, Nitric Acid Plants and Sulfuric Acid Plants
- ASTM D2928-71 “Standard Method for Sampling Stacks for Particulate Matter” published in Book of ASTM Methods the same year





The List of Methods Today



Too many to list

- Part 60, Appendix A (NSPS): 72 Methods
- Part 61, Appendix B (NESHAP): 16 Methods
- Part 51 (SIP): 13 Methods
- Part 63, Appendix A (MACT/NESHAP) 28 Methods
- Approved Alternatives 120 Methods
- Other Test methods (OTMs) 29 Methods
- Historical Conditional Test Methods 35 Methods

Slide 4

CAM2 I might leave this column off. And I changed font.
Catalyst, 8/22/2016

kf1 agree - I removed the third column
kyle flowers, 8/23/2016

So What's Up these Days? ... **Lots!**

- MATS Rule
- Stationary Source Audit Program
- Electronic Data Reporting
- AETB/QSTI

Slide 5

CAM3 With AETB you might want to add PGVP - or not. It's kind of specific.
Catalyst, 8/22/2016

kf2 Not sure - I only have 15-20 minutes
kyle flowers, 8/23/2016

kf4 Do you think I should add it?
kyle flowers, 8/23/2016



MATS Rule

Mercury and Air Toxics Standards, 40CFR, Part 63, Subpart UUUUU

- Federal standard regulating air toxic emissions from Coal and Oil-Fired Power Plants (Final Rule 2012, Compliance Date April 2015 with exceptions)
- Emission limits for Metals, Filterable PM, Acid Gases (HCl or SO₂) and Mercury
- Quarterly Testing Requirements or Continuously Monitor PM, HCl
- Continuously Monitor Hg
- Requires a great deal of “New Stack Testing”
 - PS 11 PM CEMS Correlation – Initially 15 Runs (some more than an hour) at 3 Load conditions

CAM1
kf5

Slide 6

- CAM1** I
Catalyst, 8/22/2016
- kf5** Not sure of the comment
kyle flowers, 8/23/2016



MATS Rule

Mercury and Air Toxics Standards, 40CFR, Part 63, Subpart UUUUU

Low Emitting EGU or “LEE” Status

- A series of emissions tests prove that pollutant emissions are below a certain threshold
- May reduce testing frequency for PM, HCL
- May eliminate need for Hg CEMS (except for new sources)

Electronic Reporting of Emissions Data

- Emissions Collection and Monitoring Plan System (ECMPS)
- Same system used in Part 75 Acid Rain Program



Stationary Source Audit Program

- Several test methods require an audit sample to be analyzed with the test sample if proving compliance with a Federal Regulation
- Old Program EPA provided an inventory of audit samples to the state/local agency
 - State/Local Agency basically implemented the program
 - Discretion in interpreting results and Free to the regulated facility
- New Program – Final Rule issued September, 2010
 - EPA in conjunction with the NELAC Institute “approved” 2 sample providers
 - Facility responsible for ordering, paying for audit samples



Stationary Source Audit Program

- Positives
 - Checks ability/methodology of analyst
 - Additional step in ensuring a quality emissions test
- Negatives
 - Concentrations for some audit compounds are not realistic
 - Audit Samples must be on test site during test – why?
 - High volume labs/analysts are “audited to death”, often with the same compound and concentration range (When is enough, enough?)
 - State/Local Agency has very little discretion in accepting/rejecting audit results
 - Sample Providers have made mistakes which were inconvenient/costly to the auditee



LIST OF REQUIRED AUDIT SAMPLES

- Test methods that require Audit Samples
 - M13A, 13B Fluoride
 - M26, 26A Hydrogen Chloride, Hydrogen Fluoride
 - M7 Nitrogen oxides
 - M6, M8 Sulfur Dioxide, Sulfuric Acid Mist
 - M12 Lead
 - M101A Mercury
 - M29 Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, manganese, Mercury, Nickel, Selenium, Silver Thallium, Zinc



Electronic Data Submittal

- EPA Requirement that that certain air pollution data be submitted electronically – primarily emissions test data but other reports also.
- Has been around since the 1990's – Acid Rain Program (Power Plants).
- A few years ago EPA began requiring it in new or updated NSPS (Part 60) and NESHAP (Part 63) regulations.
- Facility/Consultant required to submit electronic report to EPA even if the state adopts the standard.
- Most State Regulatory agencies still require a paper copy of all Emissions Test Reports.





Electronic Data Submittal Tools

Most cases

- Compliance and Emissions Data Reporting Interface (CEDRI) – A process to allow submission of emissions test data, requires the use of the ERT.
- Electronic Reporting Tool (ERT) – provides a “friendly”, usable format for submitting the necessary information.
- WebFIRE –website where all the electronic data is stored.
- Purpose of this is to help the regulated community maintain continuous compliance with the regulations and create a more in-depth database of emissions data in order to develop more accurate emission factors.



Regulations that Currently Require Electronic Reporting

Source Category	Publication Date	Federal Regulation Reference
Chromium Electroplating	09/19/12	Part 63, Subpart N
Coal Prep and Processing	10/08/09	Part 60, Subpart Y
Commercial Industrial Solid Waste Incinerators	03/21/11	Part 60, Subpart CCCC, DDDD
Electric Utility Steam Generating Units	02/16/12	Part 60, Subpart Da; Part 63, Subpart UUUU
Gold Mines	12/16/10	Part 63, Subpart EEEEEEE
Area Source Boilers	03/21/11	Part 63, Subpart JJJJJ

Slide 13

CAM5 Not sure about these, unless you want to flip through them as you're talking, without stopping on any particular one. Need to reformat.

Catalyst, 8/22/2016

Regulations that Currently Require Electronic Reporting

Source Category	Publication Date	Federal Regulation Reference
Pharmaceuticals Production	04/21/11	Part 63, Subpart GGG
Polymers and Resins Group I	04/21/11	Part 63, Subpart U
Polyvinyl Chloride and Copolymer Production	04/17/12	Part 63, Subpart HHHHHHH
Portland Cement	08/09/10	Part 60, Subpart F; Part 63, Subpart LLL
Printing and Publishing Industry	04/21/11	Part 63, Subpart KK
Pulp and Paper Industry	09/11/12	Part 63, Subpart S

Slide 14

CAM5 Not sure about these, unless you want to flip through them as you're talking, without stopping on any particular one. Need to reformat.

Catalyst, 8/22/2016

Regulations that Currently Require Electronic Reporting

Source Category	Publication Date	Federal Regulation Reference
Major Source Boilers	03/21/11	Part 63, Subpart DDDDD
Other Steam Generating Units	02/16/12	Part 60, Subpart Db; Part 63, Subpart UUUUU
Other Steam Generating Units - Small	02/16/12	Part 60, Subpart Dc; Part 63, Subpart UUUUU
Marine Tank Vessel Loading Operations	04/21/11	Part 63, Subpart Y
Nitric Acid Plants	8/14/12	Part 60, Subpart Ga
Oil/Natural Gas Production	08/17/12	Part 60, Subpart OOOO; Part 63, Subparts HH and HHH



Regulations that Currently Require Electronic Reporting

Source Category	Publication Date	Federal Regulation Reference
Reciprocating Internal Combustion Engines (RICE)	12/14/12	Part 63, Subpart ZZZZ
Sewage Sludge Incinerators	03/21/11	Part 60, Subpart LLLL, MMMM
Steel Pickling – HCL Process Facilities and Hydrochloric Acid Regeneration Plants	09/19/12	Part 63, Subpart CCC

- March 2015 Proposal will expand rule to include almost all NSPS Subparts and General Provisions.
- Subparts D, Da, Db, Dc – will likely be addressed under a separate rule (eventually)



Electronic Data Submittal

- **Possible Advantages**
 - Regional office submittals may no longer be required
 - Reports required to be submitted electronically can be maintained electronically
- **Possible Disadvantages:**
 - States may continue to require hardcopies
 - Will add additional time and cost to an emissions testing event
 - May require Title V permit revisions for some sources
 - Participating agencies only get 60 days to review submitted data before it is publicly viewable
- **The 2015 Proposed Rule received a lot of comments, changes are likely but EPA plans to issue the Final Rule by the end of this year**





Stack Tester Certification

- **Qualified Stack Testing Individual (QSTI)**
 - Conducted by the Source Evaluation Society (SES)
 - Voluntary assessment of the individual tester's knowledge and abilities
 - Requires passing a written test / documentation of a minimum level of experience
 - Also Requires references regarding ones Professionalism and Ethical Standards
 - Fairly rigorous process
 - True Value of the QSTI program is not universally agreed upon within the stack testing industry



Stack Tester Certification

- **Standard Practice for Competence of Air Emission Testing Bodies (ASTM D7036-04)**
 - Under the Jurisdiction of ASTM Committee D22
 - In-Depth Practice that specifies competency requirements applicable to Stack Testing Firms
 - Focuses on a Quality System/Quality Manual that encompasses all areas of responsibility
 - Organization and Management, Document control, Personnel, Equipment, Etc.
 - Includes Requirement for a Qualified Individual (QI) to be on-site during testing
 - Must pass a test (such as QSTI) and demonstrate knowledge and experience for various methods
 - The company's authority must sign a Quality Statement indicating adherence to the standard
 - QI's must sign a statement agreeing to follow requirements of the Quality Manual and the Standard



Stack Tester Certification

- **Regulatory Requirements for Certification, 40 CFR Part 75 Acid Rain Program**
 - March 27, 2012 40 CFR 75, Appendix A, Section 6.1.2,
 - Part 75 Relative Accuracy Test Audits (RATA's) and 75.19 Appendix E Tests
 - Requires all AETB's (Air Emissions Testing Body) demonstrate conformance ASTM D7036-04
 - Currently the only Federal Requirement for any type of Stack Tester Certification
 - Some states have their own certification requirements
 - More to come in the future? We wouldn't be surprised.





QUESTIONS?

Kyle Flowers

Kyle.flowers@catalystair.com

(334) 303-0119