



RATA/Compliance Testing

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Overview

- RATAs/Compliance Tests
- ASTM D7036 Standard: Source Testing Accreditation
- Protocol Gas Verification Program (PGVP)
- Stationary Source Audit Program (SSAP)

Different Scopes of Work

Much of USA

- One initial compliance test
- Annual RATA, Quarterly CGA / linearity

California, OR, WA, AZ

- Annual or periodic compliance test
- Periodic Toxics tests (biennial, etc.)
- Annual RATA, Quarterly CGA / linearity

Different Tests

RATA only – mobile CEMS

Compliance including PM10 or PM2.5, toxics, other more complicated tests

Full Service including engineering tests (SCR, balancing, etc.)

Accreditation

- Part 75 RATA requirement – EPA pushing
- Quality System to include all the test methods the testing body conducts – the more you do, the more that's necessary for accreditation

Source Testing Accreditation (ASTM D7036 Standard)

Source Testing Accreditation

- ▶ Source Evaluation Society (SES)
- ▶ Qualified Source Test Individual (QSTI)
- ▶ Qualified Source Test Observer (QSTO)
- ▶ Air Emissions Testing Body (AETB)
- ▶ Stack Test Accreditation Council (STAC)

Purpose of QSTI/QSTO

- ▶ Guarantee of thorough and practical knowledge of source testing methods
- ▶ Demonstrate an understanding of
 - ▶ elementary physical gas laws
 - ▶ Chemistry
 - ▶ The basics of safety and hazardous material handling
 - ▶ primary theories of source testing (e.g., isokinetic and proportional sampling).
- ▶ Exemplify and demonstrate professional and ethical conduct as a QSTI

Main Components of QSTI/QSTO

▶ Qualifications

1. Experience must match ASTM D7036-04 standard
2. Pass at least one method group exam

▶ Application process

1. Document experience
2. Describe two projects per methods group
3. Include three letters of reference

Experience checklist (give specific examples to clearly demonstrate your level of experience in each area; be sure to indicate your direct role, why you chose specific approaches, how you accomplished activities, etc.):

- ▶ Test Methods (methods with which you have experience)
- ▶ Calibration/preparation/packing (calibration equipment, procedures, pre-test activities)
- ▶ Set-up at test site (logistics, challenges, best practices)
- ▶ Sample Analysis (lab interface, analytical equipment, sample preparation, selection of methods for purpose, interferences, detection limits vs. sampling times, validation, etc.)
- ▶ Procedure Compliance (test protocols, SSTPs, TSAs, SOPs, external audits, etc.)
- ▶ Data Reduction (calculations, special corrections, nondetects, QA/data quality objectives, etc.)
- ▶ Troubleshooting (equipment malfunction, delays, sampling locations, interferences, calibration, data acquisition, etc.)
- ▶ Training (education, classes, seminars, workshops, conferences, committees, professional societies; experience as instructor)
- ▶ Equipment Operation/Data Recording (types of equipment, meter boxes, CEMS, data logging/acquisition, etc.)
- ▶ Sample Recovery/handling/custody (procedures, reagents, storage, shipping, DOT, hold times, sign-off, etc.)
- ▶ QA/QC (QAPPs, SOPs, QA/QC samples, planning, audits, organization, validation)
- ▶ Reporting (types of reports, scope and purpose, use of templates, publications, etc.)
- ▶ Safety Training (safety seminars, PPE, workshops, tailgate meetings, certifications, application to adverse situations, HAZWOPR, refinery safety, confined spaces, DOT shipping, EHS compliance, site-specific safety orientations, etc.)

Six Test Groups

- ▶ **Group 1** – Gas flow, isokinetic sampling, and particulate matter testing
- ▶ **Group 1A** – Stack gas velocity & flow rate measurements
- ▶ **Group 2** – Sampling for gaseous pollutant concentrations with instrumental test methods
- ▶ **Group 3**- Measuring gaseous pollutants concentrations with instrumental test methods & conducting CEMS RATAs
- ▶ **Group 4** – Testing for emissions of hazardous metals test
- ▶ **Group 5** – Conducting Part 75 CEMS RATAs

Purpose of Accreditation

- ▶ Revisions to the Part 75 rule:
 - ▶ This rule became effective March 27, 2012
 - ▶ This means Part 75 RATAs must be conducted by an accredited or self-certified company (AETB)
 - ▶ Any AETB (includes accredited or self-certified company) conducting RATAs of CEMS or Hg sorbent trap monitoring systems, or Appendix E testing must conform to the requirements of ASTM D 7036-04

Main Components of AETB

- ▶ Testing must be *overseen and supervised* by at least one on-site Qualified Individual
- ▶ At the time of testing, the AETB provides a certification for relevant test methods demonstrating compliance with ASTM D 7036-04, this includes:
 - ▶ Certificate of accreditation or interim accreditation; or
 - ▶ Letter of certification signed by the AETB senior management and name, telephone number and e-mail of the AETB;
 - ▶ Name of the on-site QI and the date that the QI took and passed the relevant qualification exam(s)
 - ▶ The name and e-mail of the qualification exam provider

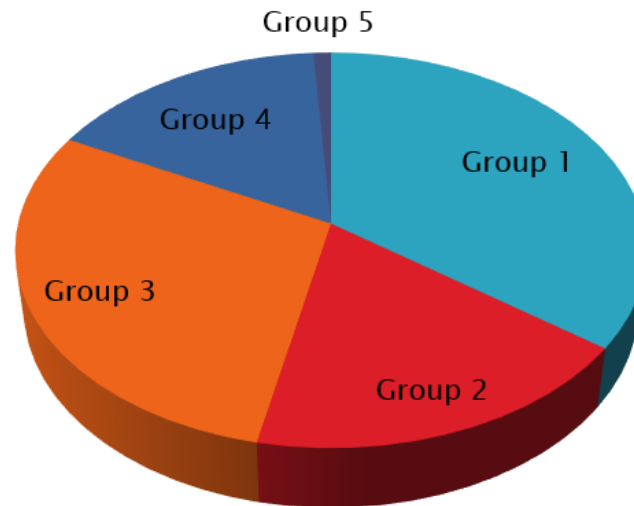
Main Components of AETB

- ▶ To ensure compliance with the Standard a Part 75 source should request that the AETB produce:
 - ▶ AETB's quality manual;
 - ▶ Results of external audits or internal audits performed by AETB within the last 12 months
 - ▶ Performance data
 - ▶ Training records

Some statistics (through 2014)

- ▶ 3 companies with STAC accreditation,
- ▶ 21 companies with STAC interim accreditation, unknown others self-certified
- ▶ ~ 437 QSTI's
- ▶ Only 9 QSTO's

Exams Distribution



Protocol Gas Verification Program

Protocol Gas Verification Program (PGVP)

This program requires participation:

- ✓ Annual “blind” audits of gases
- ✓ Vendor pays for the Audit
- ✓ EPA Ambient group has their own independent audit as well.
- ✓ Vendors must pay for their cylinders and audit by NIST



Protocol Gas Verification Program (PGVP) Objectives

- ✓ to ensure that EPA Protocol gases meet the accuracy requirements of 40 CFR Part 75;
- ✓ to assist calibration gas consumers in their purchasing decisions;
- ✓ to provide an incentive for gas vendors that perform well in the audits to continue to use good practices; and
- ✓ to encourage gas vendors that perform poorly in the audits to make improvements.



Stationary Source Audit Program (SSAP)

Stationary Source Audit Program (SSAP)

- ▶ SSAP is a way for the EPA to privatize audit samples
- ▶ An audit sample is obtained from NELAC based on anticipated emissions and/or limit.
- ▶ The audit sample(s) are transported in the field with the samples and then are sent to the laboratory for analysis (with the field samples).
- ▶ One audit sample is required per compliance test.
- ▶ On June 16, 2012, two (2) providers were approved.

SSAP Accredited Audit Sample Providers

1. Environmental Resource Associates – Golden, CO
 2. Sigma-Aldrich RTC, Inc. – Laramie, WY
- Samples must be coordinated with source owner/operator, and local regulatory agency
 - Audit samples currently available:
 - Methods 29, 12, 101A - Multiple Metals + Mercury
 - Methods 26, 26A – Hydrogen Chloride, Hydrogen Fluoride
 - Methods 13A, 13B - Fluoride
 - Methods 7 - Oxides of Nitrogen
 - Methods 6, 8 – Sulfur Dioxide/Sulfuric Acid
 - Method 23 – Dioxins/Furans
 - Method 25 – NMOC
 - Method 315 – Methylene Chloride Extractable Material (MCEM)

Top To Do Items for a Source Test

- Review permit, generate scope of work, testing time frame.
- Issue RFP, conduct site visit, review and answer questions.
- Review RFPs, qualify testing firms, set-up contract.
- Generate test plan; notify applicable regulatory agencies.
- Coordinate testing with all internal departments; shipping/receiving, operational staff; process operators; electricians, etc.

Top To Do Items for a Source Test

- A week or two prior to test, touch base with your source testing representative to confirm logistics. This would also be a time to confirm necessary support equipment are in place.
- On the day of test, make sure that you have all required personnel available to coordinate test program. *Make it a priority to communicate with the test team.*
- Review process and field data as it is being generated.
- At the end of the test program, confirm anticipated reporting dates along with any other missing information that will be needed for completion.

Questions ???



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