



Overview of ASTM D7036: A Quality Management Standard for Emission Testing

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Presentation Will Cover Three Areas

1. A review of process based management standards
2. An introduction to ASTM D7036
3. An overview of the ASTM D7036 Accreditation Process

Standards Level the Field

ISO/IEC Guide 2: 1996 defines a standard as:

a document, established by consensus and approved by a recognized body, that provides for common and repeated use, rules, guidelines or characteristics for activities or their results aimed at the achievement of the optimum degree of order in a given context.

Standards Provide Known Benefits

From the 1991 Annual Report of ASTM:

*“Standards are a vehicle of communication for producers and users. They serve as a common language, **defining quality and establishing safety criteria.***

Costs are lower if procedures are standardized. Training is simplified. And consumers accept products more readily when they can be judged on intrinsic merit.”

Standards Support Process-based Management

- Consensus-based standards:
 - reflect the input of a broad cross-section and establish a common denominator.
 - rarely define specific process requirements – instead they address expected involvement or outcomes.
 - are adaptable to reflect the business needs of the organization.

The Quality Cycle is Central to Process-based Management

Policies, procedures, instructions, and framework define a management system

Plan

Do

Trained & empowered employees work in accordance with procedures



Act

Check

Policies, procedures, instructions, framework are revised & employees are retrained

Performance data are collected and used to guide management system improvements

ASTM D7036 is a Process-based Management System for Emission Testing

An Overview of ASTM D7036

Purpose	Enables Air Emission Testing Bodies (AETBs) to deliver data of defined and documented quality
Applicability	For use by firms making emission testing measurements. Required by USEPA for AETBs performing Part 75 tests.
History	First published in 2004. Modeled after ISO 17025.
Current Version	2012, but no material change from 2004 version
Accreditations	~ 5 Accredited AETBs, 18 Interim Accredited AETBS
Benefits	Ability to perform Part 75 work. Excellent platform for AETBs involved in other ISO 17025-based standards. Consistent, predictable delivery of services. A management standard without scope limitations.
Criticisms	Adoption expense, accreditation expense, “won’t change data quality,” just a “paper exercise.”

Six Key Terms are Essential for Understanding ASTM D7036 (1/3)

- **Air Emission Testing**

- Stationary source sampling and analysis, *exclusive* of fuel sampling, visible emissions testing, and daily operation and maintenance of continuous emission monitoring systems (CEMS)

- **Air Emission Testing Body (AETB)**

- A company or other entity that conducts air emission testing. The AETB must conform to ASTM D7036.

- **Approved Test Protocol**

- An approved test plan. Required for all projects.

Six Key Terms are Essential for Understanding ASTM D7036 (2/3)

■ Performance Data

- Data generated, or collected, or both by the AETB indicating conformance with the standard
 - Feedback from observers or customers
 - Internal and external audit results
 - Proficiency testing results
 - Any other data that provides objective documentation of AETB data quality

Six Key Terms are Essential for Understanding ASTM D7036 (3/3)

■ **Qualification Exam**

- A test, internal or external, used to evaluate the knowledge of an individual to become qualified.

■ **Qualified Individual (QI)**

- Experience, at least 10 tests for which they are seeking qualification or at least 1 year of general emission testing experience.
- Exam, internal ok but external must be used if available.
- Some confusion with Qualified Source Testing Individual (QSTI).

Five Elements Define ASTM D7036 Conformance

1. The AETB must have a Quality Manual (QM) that addresses requirements of ASTM D7036
2. The AETB must operate with prescribed functions
 - Technical Manager
 - Quality Manager
 - Qualified Individual
3. Test Plans are required for all projects
4. The AETB must conduct annual internal audits
5. Management must affirm that each test program conforms to ASTM D7036

The Qualified Individual is Central to ASTM D7036 Implementation

The Qualified Individual:

- Is qualified by both experience and method-specific examination
- Must oversee tests performed by the AETB
- Must sign a statement agreeing that all overseen tests conform the AETB's Quality Manual and ASTM D7036 in **all** respects

A Test Plan Is Mandatory and Must Address Minimum Requirements

- Objectives and Summary of Test Program
- Source Information
- Test Matrix
- Sampling Locations
- Test Methods, Number of Runs, Run Duration
- Process Data
- QC Procedures & Audits
- Reporting Format, Units
- Plant Entry and Safety
- Personnel Responsibilities
- Tentative Test Schedule

Why is Test Plan Mandatory?

- Primary source of testing and QC procedures for a test project
- Test plan, along with QM, forms the basis for a field audit
- **As essential to ASTM D7036 conformance as test program oversight by a Qualified Individual**
- *But ASTM D7036 defines content requirements, not form. A test plan/protocol can take any form as long as content requirements are satisfied.*

The Accreditation Process (1/2)

- The Stack Testing Accreditation Council (STAC) began accrediting AETBs in 2007
- Process involved:
 - Submission of an application with fee
 - Submission of a checklist
 - Submission of a Quality Manual
 - A two-part assessment process:
 - Structural – Are the proper management system components in place?
 - Functional – Is the management system being properly implemented?
- Process evolved slowly

The Accreditation Process (2/2)

- STAC signed an MOU with A2LA in 2014.
- A2LA manages the assessment process
- Importantly, A2LA conforms to ISO 17011, a standard applicable to “Accreditation Bodies.”
- A2LA and STAC jointly issue certificate of accreditation

ASTM D7036 and Greenhouse Gas Management

- Process based management standards rely on systems that produce defined results
- ASTM D7036 is a management standard applicable to emission testing
- Greenhouse gas (GHG) management will rely on emission testing
- GHG management programs can benefit from the application of ASTM D7036

Thank you

Questions?

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