Use of Recent Source Test Data to Develop Emissions Factors for WebFIRE

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Work being conducted by MACTEC is part of a comprehensive plan to improve emissions factors…..

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Background

The Measurement Policy Group (MPG) is re-engineering the emissions factors program.

- Making the program more responsive
- Improving the number and quality of emissions factors
- Improving emissions factors development
- Quantifying emissions factor uncertainty
- Increasing accountability

Emissions Factor Improvement and Re-engineering Effort

1. Guidance Documentation: Procedures for Preparing Emissions Factors
2. Electronic Reporting Tool (ERT)
3. WebFIRE

Procedures for Preparing Emissions Factors

- The new procedures document offers an updated approach to emissions factor development.
- Procedures incorporate a new set of steps including use of the Electronic Reporting Tool (ERT) by source testers and State agencies.
- Establishes a protocol for efficient development of quality emissions factors for inclusion in WebFIRE.
- MACTEC is currently working on incorporating comments and updating the document to include the latest information on the developing ERT and WebFIRE programs.

Electronic Reporting Tool (ERT)

- ERT is an interactive MS ACCESS application for collection and submission of stack test data to State agencies and EPA.
- Assists stack tester by highlighting the information needed for test documentation.
- Facilitates test planning and preparation.
- Standardizes test reports for efficient review.
- Provides complete electronic record for use by WebFIRE.

Electronic Reporting Tool (ERT)

http://www.epa.gov/ttn/chief/ert/ert_tool.html

Current Beta Version 3.0 is equipped to process the following EPA Test Methods:

Methods 1-4
Method 3A
Method 5
Method 6C
Method 7E
Method 10
Method 17
Method 25A
Method 26A
Method 29
Method 101
Method 101A
Method 201A
Method 202
Cond. Test Method 39
Cond. Test Method 40

WebFIRE

http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main

- WebFIRE is an internet based Cold Fusion Application
  - Combines AP-42 and FIRE
  - Makes emissions factor changes easier
  - Eventual plans to link to source test reports and background documentation
  - Will allow users to calculate emissions factors on the fly based on selected source tests

Collection of Recent Source Test Data to Develop Emissions Factors for WebFIRE

- MACTEC is working with State Agencies to obtain copies of source test reports.
- Focus on source test reports that have been reviewed by State agencies within the past five years.
- Targeting MACT area source categories and non-utility sources of PM2.5 where the condensable particulate matter emissions were included.
- We are also collecting test data for other criteria and toxic pollutants from these source tests.

Collection of Recent Source Test Data to Develop Emissions Factors for WebFIRE

- To date we have scanned approximately 750 public record test reports that have been conducted within the past 5 years and reviewed by State agencies.
  - North Carolina
  - Pennsylvania
  - Wisconsin
- We have access to several hundred more stack tests from Iowa and New Jersey

Collection of Recent Source Test Data to Develop Emissions Factors for WebFIRE

- Most of the reports contained total particulate matter and some other criteria pollutant data.
- A lesser number of reports contained air toxics data, and fewer contained condensable particulate data that could be used to calculate PM2.5.
- Some source test reports did not contain sufficient process information for emission factor development.

Collection of Recent Source Test Data to Develop Emissions Factors for WebFIRE

- We worked with the WebFIRE development team to develop a format for individual test records.
- Currently using the information from individual source tests to develop WebFIRE data records.

WebFIRE Format

- Source Classification Code (SCC)
- Pollutant ID
- Test Method used
- Process Description
- Process Parameters (e.g. throughput, fuel sulfur content, fuel ash content)
- Emission Controls
- Calculated Emissions Factor
- Test Quality
- Reference Information

Conversion of AP-42 Background Documents into WebFIRE Format

- Converting individual test records from AP-42 background documents into WebFIRE format.
  - Chapter 1: External Combustion Sources
  - Chapter 2: Solid Waste Disposal
  - Chapter 3: Stationary Internal Combustion Sources
- These records will be used to assist with the development of WebFIRE and can be used while new source test data is added to WebFIRE.

Other Emission Factors Improvements

- Uncertainty assessment of source test data based on Data Quality Questions (DQQs) in ERT
- Use of source test uncertainty assessment data to express emissions factor quality quantitatively

Next Steps

1. Continue to convert source test data and AP42 background documentation into WebFIRE format.
2. Run WebFIRE with test data
3. Work with States to encourage the use of ERT to improve the source test data collection and review process.

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