AGENDA ITEM 96-7-2

NOTICE OF PUBLIC HEARING TO CONSIDER THE AMENDMENT AND ADOPTION OF REGULATIONS REGARDING STATIONARY SOURCE TEST METHODS

Copies of the slide presentation which supported the Air Resources Board's oral staff presentation given by Frances Cameron.

Attachments

Proposed New and Revised Test Methods for Stationary Sources

California Environmental Protection Agency
Air Resources Board
Monitoring and Laboratory Division

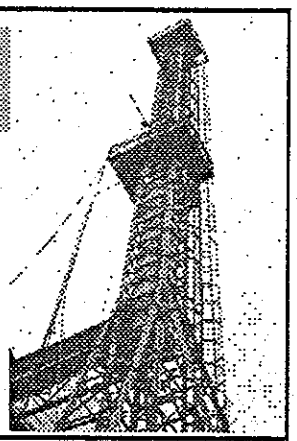
Cal /EPA Air Resources Board

What is emission testing used for?

- Determine compliance to district and ARB regulations
- Evaluate performance of air pollution control equipment
- Emissions inventory

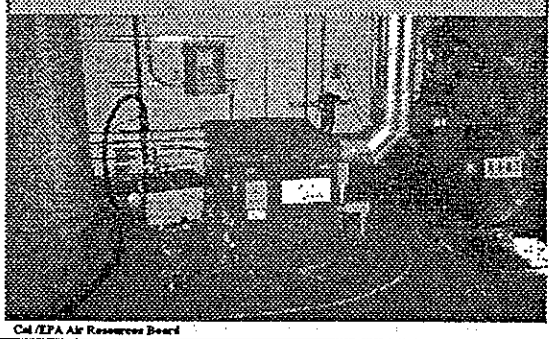
Cal /EPA Air Resources Board

Source Testing-Tall Stack



Cal /EPA Air Resources Board

Source Testing-Sterilizer Control

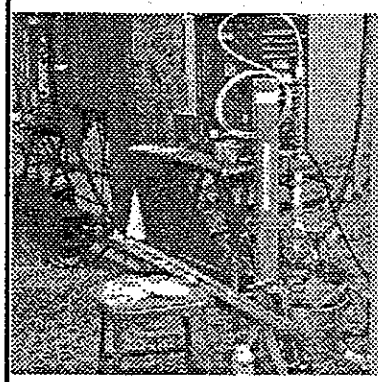


Cal /EPA Air Resources Board

Source Testing

- Source test team
- Test according to a specified procedure
- Result is a "snap shot" of emissions

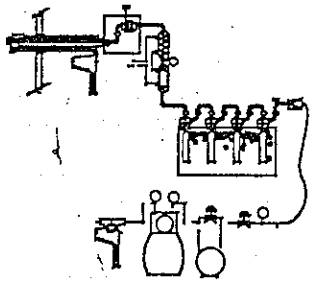
Cal /EPA Air Resources Board



Emissions Test Sample Train

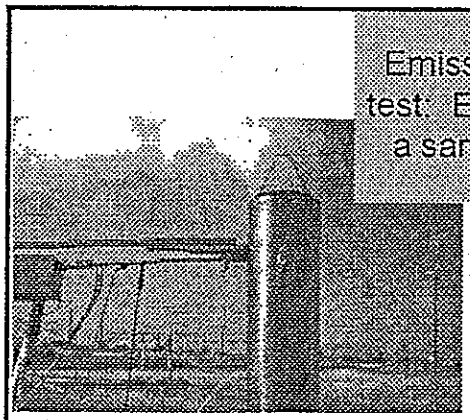
Cal /EPA Air Resources Board

Emissions Test Sample Train



Cal /EPA Air Resources Board

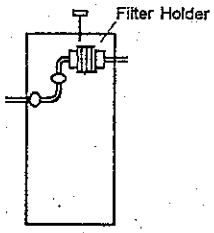
Emissions test: Extract a sample

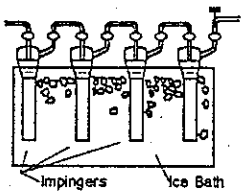


Cal /EPA Air Resources Board

Emissions Test: Collect a sample

- **On a filter**
- **In an impinger solution**

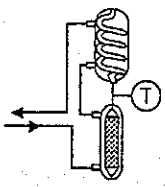


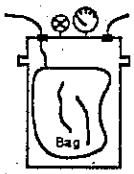


Cal /EPA Air Resources Board

Emissions Test: Collect a sample

- **On a resin cartridge**
- **In a Tedlar bag**

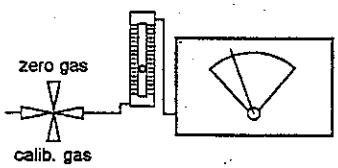




Cal /EPA Air Resources Board

Emissions Test: Collect a sample

- **Direct sample into a continuous analyzer.**



Cal /EPA Air Resources Board

Emissions Test: Laboratory analysis

Cal /EPA Air Resources Board

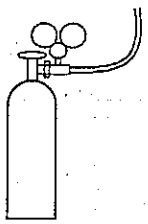
Emissions Test: Laboratory Analysis

- Weigh particulate matter on a filter
- Gas chromatography with FID or PID
- Colorimetry
- Ion Chromatography
- Atomic absorption spectroscopy
- Graphite furnace atomic absorption
- Gas chromatography/Mass spectrometry
- Inductively coupled plasma atomic emission spectroscopy (ICPAES) or ICP - mass spectrometry (ICPMS)

Cal /EPA Air Resources Board

Emissions Test: Quality Assurance

- Instrument and meter calibrations
- Determine sample interference effects
- Field and laboratory blanks
- Spiked samples



Cal /EPA Air Resources Board

Emissions Test: Quality Assurance

Cal /EPA Air Resources Board

Proposal to revise/adopt test methods:

- Revise 4 existing methods
- Adopt one new method
- Minor revisons for 2 existing methods

Cal /EPA Air Resources Board

Proposal: Revise 4 Methods

- Method 100 Gaseous Emission Stack Sampling
- Method 425 Total and Hexavalent Chromium
- Method 429 Polycyclic Aromatic Hydrocarbons (PAH)
- Method 431 Ethylene Oxide Emissions

Cal /EPA Air Resources Board

Proposal: Adopt New Method 436

- Determination of Multiple Metal Emissions
- Draft method used since 1989
- Includes 19 different metals from combustion sources

Cal /EPA Air Resources Board

Proposal: Minor revisions

- Method 5 Particulate Emissions
- Method 7 Nitrogen Oxide Emissions

Cal /EPA Air Resources Board

Need for Proposed Revisions

- Make ARB methods consistent with EPA methods
- Promote state-wide consistency in testing
- Add flexibility, update technology,improve data quality

Cal /EPA Air Resources Board

Revisions: Consistent with EPA Methods

Example: Method 100 for gas analyzers:

- Required by EPA for SIP approval
- Includes field calibration check for gas analyzers, performance standards
- 10% increase in test cost

Cal /EPA Air Resources Board

Revisions: Statewide Consistency

- Require ARB approval of test modifications
- Formerly districts could also approve modifications
- Source test companies requested statewide consistency
- Districts retain option to adopt own test methods

Cal /EPA Air Resources Board

Revisions: Add Flexibility

Example from Method 431 for ethylene oxide from sterilizers:

- Integrated bag sampling
  - More accurate
  - Lowers cost

Cal /EPA Air Resources Board

Public Process

- 2 workshops, 6 other mailouts
- Survey of source test contractors
- Comments received from instrument manufacturers, analytical laboratories, industrial firms, source test companies

Cal /EPA Air Resources Board

Economic Impacts

- Lowers source testing costs for industry
  - Statewide consistency
  - Consistency with EPA methods
- Minimal cost increase for one method

Cal/EPA Air Resources Board

Need for Adoption

- Eliminate case-by-case approval of ARB draft methods
- ARB methods needed because we cannot rely exclusively on EPA methods

Cal/EPA Air Resources Board

Recommendation

The Board should adopt:

- One new stationary source test method and the six revised test methods, and
- Regulations to incorporate the new and amended test methods by reference.

Cal/EPA Air Resources Board