Methane Detection Technology Workshop

Informational Webinar
April 15, 2024
1 pm – 4pm (ET)
Zoom Guidelines & Etiquette

• General Information for Zoom Participants
  • Questions can be submitted (at any time during the webinar) via Zoom’s “Q&A” feature.
    • To submit a question, click on the “Q&A” icon. Select the “Ask a Question” button and type in your question(s) in the pop-up text box window. When done, click submit.
  • Please ensure that your Zoom screen name displays your full name and affiliation, if any.
    • To rename yourself, click on the “Participants” button, located on your Zoom taskbar. Next, hover your mouse over your name in the Zoom “Participants” list. Click the “Rename” button. Enter the name you’d like to appear in the Zoom meeting and then click “OK.”
Zoom Guidelines & Etiquette

• Today’s webinar will be recorded and closed-captioning/live transcription has been enabled.

• Zoom Etiquette and Technical Issues Responses
  • Please turn off your video and microphone.
  • If you experience video or sound issues, try disconnecting and rejoining
Zoom Guidelines & Etiquette

• The US Environmental Protection Agency (US EPA) is committed to facilitating productive dialogue and an environment of mutual respect and safety. The Agency will not tolerate harassment, discrimination, intimidation, inappropriate language and images, or sustained disruption of the public hearing/event/meeting.

• EPA expects all participants, including panelists, registered speakers, and presenters, to conduct themselves in a respectful, professional, and civil manner. US EPA will monitor and moderate this virtual event to ensure that common standards of decency are upheld.
Today's Topics

Session 1 - EPA's Approach for Alternative Methane Detection Technology in NSPS OOOO Rules

Session 2 - Methane Alternative Test Method Submission Requirements

Session 3 – Submission Portal
EPA’s Approach for Alternative Methane Detection Technology in NSPS OOOO Rules

April 15th, 2024
Session 1 Topics

Background use of Alternative Technology in the Oil and Gas Rule

Periodic Screening and Continuous Emissions Monitoring

Super Emitter Program
Crude Oil and Natural Gas Operations: Where EPA’s NSPS Rules Apply

Production & Processing
EPA’s methane proposal covers equipment & processes at:
1. Onshore well sites
2. Storage tank batteries
3. Gathering & boosting compressor stations
4. Natural gas processing plants

Natural Gas Transmission & Storage
EPA’s methane proposal covers equipment & processes at:
5. Compressor stations
6. Storage tank batteries

Distribution
(not covered by EPA rules)
7. Distribution mains/services
8. City gate
9. Regulators and meters for customers

Crude Oil to Petroleum Refineries (covered by separate EPA rules)

Figure adapted from American Gas Association and EPA’s Natural Gas STAR Program
<table>
<thead>
<tr>
<th>Subpart</th>
<th>Source Type</th>
<th>Applicable Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 CFR part 60, subpart OOOO</td>
<td>New, modified, or reconstructed sources</td>
<td>After August 23, 2011, and on or before September 18, 2015</td>
</tr>
<tr>
<td>40 CFR part 60, subpart OOOOa</td>
<td>New, modified, or reconstructed sources</td>
<td>After September 18, 2015, and on or before December 6, 2022</td>
</tr>
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<td>New, modified, or reconstructed sources</td>
<td>After December 6, 2022</td>
</tr>
<tr>
<td>40 CFR part 60, subpart OOOOc</td>
<td>Existing sources</td>
<td>On or before December 6, 2022</td>
</tr>
</tbody>
</table>
§ 60.5398b(d) Alternative Test Method for Methane Detection Technology. Any alternative test method for methane detection technology used to meet the requirements specified in paragraphs (b) or (c) of this section or § 60.5371b must be approved by the Administrator as specified in this paragraph (d). Approval of an alternative test method for methane detection technology will include consideration of the combination of the measurement technology and the standard protocol for its operation.
EPA has included a pathway for the use of advanced methane detection technologies in recognition of the rapid and continuous advancement of these technologies.

Examples of these technologies are:
- Aerial flyovers using remote sensing technology
- Unmanned aerial systems
- On-site sensor networks
- Sentinel camera systems
- Ground-based mobile monitoring
- Satellite Detection and Retrieval

These technologies are to be used as an alternative to ground-based OGI surveys, EPA Method 21, and AVO inspections to identify emissions from well sites, centralized production facilities, and compressor stations.
- Periodic Screening Framework (i.e., matrix)
- Continuous Monitoring Approach
Periodic Screening

- The final rules provide greater flexibility
- Frequency will be based on the technology with the highest aggregate detection threshold
- Final rule also allows owner(s) or operator(s) to replace any periodic screening survey with an OGI survey

<table>
<thead>
<tr>
<th>Table 1 to Subpart OOOOb of Part 60—Alternative Technology Periodic Screening Frequency at Well Sites, Centralized Production Facilities, and Compressor Stations Subject to AVO Inspections with Quarterly OGI or EPA Method 21 Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Screening Frequency</td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td>Quarterly</td>
</tr>
<tr>
<td>Bimonthly</td>
</tr>
<tr>
<td>Bimonthly + OGI</td>
</tr>
<tr>
<td>Monthly</td>
</tr>
<tr>
<td>Monthly + OGI</td>
</tr>
<tr>
<td>* 3 kg/hr for a periods of 2-years from effective date of the rule.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 2 to Subpart OOOOb of Part 60—Alternative Technology Periodic Screening Frequency at Well Sites and Centralized Production Facilities Subject to AVO Inspections and/or Semiannual OGI or EPA Method 21 Monitoring</th>
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<tbody>
<tr>
<td>Minimum Screening Frequency</td>
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<tr>
<td>--------------------------------</td>
</tr>
<tr>
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</tr>
<tr>
<td>Triannual</td>
</tr>
<tr>
<td>Triannual + OGI</td>
</tr>
<tr>
<td>Quarterly</td>
</tr>
<tr>
<td>Quarterly + OGI</td>
</tr>
<tr>
<td>Bimonthly</td>
</tr>
</tbody>
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New element in the final rule from the December 2022 Proposal:
- Some remote sensing technology can determine the potential location of an emission point
- Technology providers must be able to provide evidence of their spatial resolution as part of the alternative test method review.

<table>
<thead>
<tr>
<th>Facility Level</th>
<th>Area Level</th>
<th>Component Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Must be able to identify emissions <em>within the boundary</em> of a well site, centralized production facility, or compressor station</td>
<td>Must be able to identify emission <em>within a radius of 2 meters</em> of the emission source</td>
<td>Must be able to identify emissions <em>within a radius of 0.5 meters</em> of the emission source</td>
</tr>
</tbody>
</table>
**Advanced Methane Detection Technology Work Practices: Periodic Screening**

## Periodic Screening: Follow-up monitoring

**Follow-up monitoring based on spatial resolution:**

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<th>Component Level</th>
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</thead>
<tbody>
<tr>
<td><strong>Fugitives</strong> - A monitoring survey of all fugitive emissions components in an affected facility using either OGI or EPA Method 21</td>
<td><strong>Fugitives</strong> - A monitoring survey of all fugitive emissions components located within a 4-meter radius of the location of the confirmed detection using either OGI or EPA Method 21</td>
<td><strong>Fugitives</strong> - A monitoring survey of all fugitive emissions components located within a 1-meter radius of the location of the confirmed detection using either OGI or EPA Method 21</td>
</tr>
<tr>
<td><strong>Covers and closed vent systems</strong> - Inspection of all covers and closed vent systems of the affected facility with either OGI or EPA Method 21 and; visual inspection of all closed vent systems and covers to identify if there are any defects</td>
<td><strong>Covers and closed vent systems</strong> - If the confirmed detection occurred in a portion of a site with a storage vessel or closed vent system, inspection of all covers and closed vent systems that are connected to all storage vessels and closed vent systems that are within a 2-meter radius of the confirmed detection location. Inspection must be conducted using either OGI or EPA Method 21*</td>
<td><strong>Covers and closed vent systems</strong> - If the confirmed detection occurred in a portion of a site with a storage vessel or closed vent system, inspection of all covers and closed vent systems that are connected to all storage vessels and closed vent systems that are within a 0.5-meter radius of the confirmed detection location. Inspection must be conducted using either OGI or EPA Method 21*</td>
</tr>
</tbody>
</table>

* You must inspect the whole system that is connected to the portion of the system, not just the portion of the system that falls within the radius of the detected event.
Periodic Screening: Confirmed Detection

- **These requirements include:**
  - Repair all fugitive emissions components, covers, and closed vent systems within **30 days**
  - Initiate an investigative analysis within **5 days** (closed vent or cover)
  - Initiate an investigative analysis within **24 hours** (failed control device)
  - Investigative analyses must be used to determine the underlying primary cause and other contributing causes to the emissions event.
- **Owners and operators must determine the actions needed to:**
  - Bring the control device into compliance
  - How to prevent future failures
- **Updates are necessary to the engineering analysis for the cover or closed vent system to prevent future emissions from the cover and closed vent system**
Continuous Monitoring Screening

• EPA has finalized the continuing monitoring approach and associated work practice with some revisions from the December 2022 Proposal, including:
  • Consideration of anthropogenic and site-level permitted emissions (i.e., background emissions) as part of the action level.
  • Revised language to potentially include a broader suite of technology.
• **Continuous monitoring work practice is modeled off EPA's fenceline monitoring work practice.**
  • Action is only required when an owner or operator exceeds a defined actions level.
Advanced Methane Detection Technology Work Practices: Continuous monitoring

Continuous Monitoring Screening

• The final rule includes defined requirements for operating continuous monitoring systems.

• This system must be set up in a manner:
  • To generate a valid methane mass emission rate (or equivalent) once at least every twelve-hour block
  • Have an operation downtime of less than 10 percent
  • Have checks in place to monitor the health of the system.

• We have revised the sensitivity requirements from the December 2022 proposal, these revisions include:
  • Allows systems with detection thresholds of **0.40 kg/hr** of methane or lower
  • Systems to transmit data at least once every **24 hours**
Continuous Monitoring Screening: Action Levels

What are Action Levels?
- The time-weighted average that triggers an investigative analysis to identify the cause(s) of the exceedance

<table>
<thead>
<tr>
<th>Affected Facilities</th>
<th>Action Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wellhead only well sites</td>
<td>- Rolling 90-day average of 1.2 kg/hr of methane*</td>
</tr>
<tr>
<td></td>
<td>- Rolling 7-day average of 15 kg/hr of methane*</td>
</tr>
<tr>
<td>Well sites with major production and processing equipment, small well sites,</td>
<td>- Rolling 90-day average of 1.6 kg/hr of methane*</td>
</tr>
<tr>
<td>centralized production facilities, and compressor stations</td>
<td>- Rolling 7-day average of 21 kg/hr of methane*</td>
</tr>
</tbody>
</table>

* Over the site-specific baseline
• The final rule includes new and defined set of criteria for the timeframe and site conditions under which to establish the site-specific baseline emissions.

• Establishing the site-specific baseline:
  • Owner or operator must perform inspections of fugitive emissions to ensure the site is leak free
  • Owner or operator must then record site-level emissions from the continuous monitoring system for 30 days
  • Requirement to remove maintenance events or unplanned releases during the baseline period.
Advanced Methane Detection Technology Work Practices: Continuous monitoring screening

Action Levels: Calculating rolling averages

- The final rule also maintained the intent of required follow-up activities when exceedances of the action-level have occurred

- The requirements of an investigative analysis are as follows:
  - Must be initiated within 5 days of an exceedance
  - When the 7-day action-level is exceeded:
    - Investigative analysis must be completed within 5 days after the exceedance
  - When the 90-day action level is exceeded:
    - Investigative analysis must be completed within 30 days after the exceedance
Action Levels: Developing mass emission rate reduction plan

An owner or operator must develop a mass emission rate reduction plan when any of the following conditions have been met:

- For an exceedance of the **90-day** action-level:
  - **30-day** average mass emission rate for the **30 days** following the completion of the investigative analysis
- For an exceedance of the **7-day** action-level:
  - Mass emission rate for the **24-hour** period after the completion of the investigative analysis.
- The actions needed to reduce the emission rate below the applicable action-level will take more than **30 days** to implement.
The Super Emitter Program: Background

Leverages third party expertise to find large leaks and releases known as “super emitters”

EPA will provide a strong oversight role and ensure the program operates with a high degree of integrity, transparency, and accountability

Only EPA-approved remote-sensing technologies/solution may be used. Third parties must assure remote sensing data is adequate and performed according to the EPA approved protocol.

EPA will make super emitter data publicly available on a timely basis
The Super Emitter Program: Background

A Super-Emitter event is an emission event which represents an emission that is >100 kg/hr and that may have been emitted from one or more of the following:

- An affected facility or associated equipment subject to regulation under NSPS OOOO, OOOOa, or OOOOb
- A designated facility or associated equipment subject to a state or Federal Plan promulgated pursuant to EG OOOOc
- An unregulated source
A third-party notifier certification request must be submitted to the Leader, Measurement Technology Group, 109 T.W. Alexander Drive, P.O. Box 12055, Research Triangle Park, NC 27711.

The certification request must include:

- General Identification
- Description of advanced methane detection technologies
- Curriculum vitae of the certifying official.
- Standard operating procedure(s)
- Description of the system
- A Quality Management Plan
Upon certification

• The entity must maintain the following records to retain certification status:
  • Records for all surveys conducted or sponsored
  • Record of any notification to EPA
  • Records or identification of databases used

• Third party notifier will receive a unique notifier ID which will be posted at www.epa.gov/emc/third-party-certifications
Third Party Notifiers must submit notifications to EPA with 15 calendar days after detection of a super-emitter event.

Third party notifications must be submitted into the Super Emitter Program Portal (https://www.epa.gov/super-emitter) and must include:

- Unique 3rd party Notifier ID
- Date of detection
- Location of event in latitude and longitude coordinates
- Owner(s) or operator(s) of an oil and natural gas facility within 50 meters of the coordinates
- Method used by the 3rd party to identify the owner(s) or operator(s)
- Identification of the detection technology
- Reference to the approval of the technology
- Documentation (i.e. imagery) depicting the detected event
- Estimated quantified emission rate of the event in kg/hr
- Attestation statement
Upon receipt of notification:

- EPA will evaluate the notification for completeness and accuracy
- When the notification meets these conditions, EPA must:
  - Assign a unique notification identification number
  - Provide notification to the owner(s)/operator(s)
  - Post the notification (except for the owner(s)/operator(s) attribution) at https://www.epa.gov/super-emitter
- EPA then notifies the owner(s) or operator(s)

After EPA notifies owner(s) or operator(s)

- Owner(s) or operator(s) must initiate an investigation with 5 days and report the results to EPA within 15 days.
The Super Emitter Program: Identification of Super-Emitter Events

Actions to identify possible cause of Super Emitter event:

1) Review any maintenance activities
2) Review all monitoring data from control equipment
3) Review any fugitive emissions survey performed
4) Review data from any continuous alternative technology systems
5) Screen the entire well site, centralized production facility, or compressor station with OGI, EPA Method 21, or an alternative test method(s)
The Super Emitter Program: Identification of Super-Emitter Events

Reporting Super-Emitter Event

- Notification Report ID
- Date and Time of end of SE event
- Confirmation that you are the owner or operator of the oil and gas facility within the immediate area (i.e., 50 meters)
- General identification for the facility
- If the affected facilities/equipment is subject to NSPS OOOO/a/b or EG OOOOc
- If unable to identify the source:
  - Confirmation that all possible investigations have been conducted
- If able to identify the source:
  - ID of the source
  - If source is subject to NSPS OOOO/a/b or EG OOOOc
- Attestation Statement
Review of Advanced Methane Detection Technology

General Requirements and Conditions
The entity must:
• Be an individual/organization located in or that has representation in the United States.
• Be an owner or operator of an affected facility under NSPS OOOOb or EG OOOOc.

If the entity is not the owner or operator of an affected facility:
• The entity must directly represent the provider of the candidate measurement system using advanced methane detection technology.
• The measurement system must have been applied to measurements and monitoring in the oil and gas sector (domestically or internationally).

The candidate measurement system must have been sold, leased, or licensed, or offered for sale, lease, or license to the general public or developed by an owner or operator for internal use and/or use by external partners.
To submit a request for an alternative test method for methane detection technology:

- Submissions through a public facing portal ([www.epa.gov/emc/oil-and-gas-alternative-test-methods](http://www.epa.gov/emc/oil-and-gas-alternative-test-methods))
- The Administrator will complete an initial completeness review of submissions within 90 days
- An approval/disapproval will be issued in writing within 270 days after receiving a request
More information is available on EPA’s website

Questions?

Contact : MethaneATM@epa.gov

Website
http://www.epa.gov/emc/oil-and-gas-alternative-test-methods
### What information is required in the request?

<table>
<thead>
<tr>
<th>Application Header Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description of Technology</strong></td>
<td><strong>Formal Alternative Test Method</strong></td>
</tr>
<tr>
<td>Tell us how your technology works in detail</td>
<td>Document the method protocol; Approved output from review</td>
</tr>
<tr>
<td><strong>Supporting Documentation</strong></td>
<td><strong>Executive Summary</strong></td>
</tr>
<tr>
<td>Provide documents to help us understand your technology</td>
<td>Optional: Road map the submitted documents</td>
</tr>
</tbody>
</table>
## What information is required in the request?

<table>
<thead>
<tr>
<th>Application Header Information</th>
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<td>Description of Technology Approval of the Technology</td>
<td>Supporting Documentation</td>
</tr>
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<td>Supporting Documentation</td>
<td>Executive Summary (optional but encouraged)</td>
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What information is required in the request? Application Headers

The application starts with contact information and contextualizing information that will be used for categorizing the submitted technologies.

**Company and Product**

**Company Name**
Jones Sensors

**Product Name**
Methane Detect 200+

**Leak Detection Resolution**
2.0 kg/hr

**Company Website**
http://jonessensors.com

**Desired Applicability**
Super-emitter detection

**Technology Type**
Airborne mobile remote sensor

What information is required in the request?

Application Headers

The application starts with contact information and contextualizing information that will be used for categorizing the submitted technologies.

Applicability:
- Site-Specific
- Basin Specific
- Broadly Applicable Across Sector
- Super-Emitter Detection
- Other

Technology Type:
- Satellite
- Stationary: in-situ or remote
- Ground Mobile: in-situ or remote
- Airborne Mobile: in-situ or remote
- Other

Company Website
http://jonessensors.com

Desired Applicability
Super-emitter detection

Technology Type
Airborne mobile remote sensor
What information is required in the request? Application Headers

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<th>Company</th>
<th>Product</th>
<th>Leak Resolution (kg/hr)</th>
<th>Technology Type</th>
<th>Applicability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC&amp;A, Inc.</td>
<td>X-OGI</td>
<td>5.0</td>
<td>Other</td>
<td>Basin-specific</td>
</tr>
<tr>
<td>SC&amp;A, Inc.</td>
<td>SCA Sat</td>
<td>100.0</td>
<td>Satellite</td>
<td>Super-emitter detection</td>
</tr>
<tr>
<td>The Phoenix Foundation</td>
<td>Paperclip</td>
<td>1.0</td>
<td>Stationary remote sensor</td>
<td>Broadly applicable across the sector</td>
</tr>
<tr>
<td>Methane Products, Inc.</td>
<td>MethaneGuard Plus</td>
<td>200.0</td>
<td>Airborne mobile remote sensor</td>
<td>Basin-specific</td>
</tr>
<tr>
<td>CH4</td>
<td>all seeing</td>
<td>None</td>
<td>Other</td>
<td>Broadly applicable across the sector</td>
</tr>
</tbody>
</table>

Submitted and Approved applications will be publicly visible and searchable based on the information entered in your application headers.

**What information is required in the request?**

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What information is required in the request?

Description of Technology

- **Description of Technology Document**
  A plain language document that details how the technology works from data collection to the calculation of emission rate

- **Visual Workflow**
  A visual workflow that accompanies the description of technology document following all data processing steps

The Description of Technology is for the applicant to provide a complete description of the technology consolidated into an easy-to-understand document

This will be the basis of the Technology Approval
What information is required in the request?

**Description of Technology**

- **Description of Technology Document**
  - A plain language document that details how the technology works from data collection to the calculation of emission rate

- **Visual Workflow**
  - A visual workflow that accompanies the description of technology document following all data processing steps

**A detailed description of the candidate measurement system**
- The validated mass emission rate calculation procedure
- All data management and processing steps
- Description of final product returned to the end-user
What information is required in the request?

Description of Technology

- A description of the candidate measurement technology system, including:
  - A description of the scientific theory and appropriate references outlining the underlying technology
  - A description of the physical instrument;
  - Type of measurement and desired application (airborne, in-situ, etc.);
  - Potential limitations of the candidate measurement system, including application limitations
- The request must also include information on how the system converts results to a mass emission rate or equivalent and include the following:
  - Workflow and description covering all steps and processes from measure technology signal output to final, validated mass emission rate (kg/hr) or equivalent
  - Description of how any meteorological data are used, including how they are collected and/or sourced
  - Identification of any model(s) used, including how inputs are determined or derived
  - All calculations used, including the defined variables for any calculations
  - A-priori methods and datasets used
  - Explanation of any algorithms/machine learning procedures used in the data processing, if applicable
- The request must also include:
  - A description of how data is collected, generated, maintained, and stored
  - How these data streams are processed and manipulated, including how the resultant data processing is documented;
  - A description of which data streams are provided to the end-user of the data and how that information is delivered or supplied
Advanced Methane Detection Technology

What information is required in the request?
Description of Technology

- Formatting is left to the discretion of the authors, but we may ask for revisions if needed for clarity
- Focus on detail and clarity
- Material may be divided between the public portal and the CBI system

Visual Workflow

- The visual workflow can be broken into sub-pieces for clarity OR included as its own document
- The workflow should allow a reader to clearly follow data flow and processing steps detailed in the written document
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Required Information: Formal Alternative Test Method for Methane Detection Technology

The Formal Alternative Test Method is for the applicant to document a complete description of their method protocol in the prescribed EPA method format

This will be the basis of the Protocol Approval

What is the difference between the Alternative Test Method and the Description of Technology documents?

The Description of Technology is to document how your technology works from first principles through calculated product

The Alternative Test Method is the document that details your protocol for running your technology in the field
Advanced Methane Detection Technology

Required Information: Formal Alternative Test Method for Methane Detection Technology

1. Scope and Application
2. Summary of Method
3. Definitions of method
4. Interferences
5. Safety
6. Equipment and Supplies
7. Reagents and Standards
8. Sample Collection, Preservation and Storage
9. Quality Control
10. Calibration and Standardization
11. Procedure
12. Data Analysis and Calculations
13. Method Performance
14. Pollution Preventions
15. Waste Management
16. References
17. Tables, Diagrams, Flowcharts and Validation Data

17 standard sections are required as a set standard for all alternative test methods approved by the EPA
Advanced Methane Detection Technology


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15. Waste Management
16. References
17. Tables, Diagrams, Flowcharts and Validation Data

The Formal ATM documents the protocol for how the method is operated and is the anchor for any application of your technology

Protocol should cover material necessary for running the method that may not be covered in the technology piece: i.e., siting decisions

Clients, Regulators, and the General Public should be able to use this document to understand how you operate your technology in the field
Advanced Methane Detection Technology


Required Information: Formal Alternative Test Method for Methane Detection Technology

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17. Tables, Diagrams, Flowcharts and Validation Data

The Formal ATM documents the protocol for how the method is operated and is the anchor for any application of your technology

- All material included will be publicly facing – do not include confidential material
- Cover any decision process needed for method operation
- Clearly define the method, scope, and details for your method
- Examples can be found in the EPA “Other Test Methods” (OTM) documents
Advanced Methane Detection Technology

Required Information: Formal Alternative Test Method for Methane Detection Technology

Additional information on each required section is provided in EMC Guideline Document 45. This document will be linked on the submission portal website.

Environmental Monitoring Management Council (EMMC) Methods Format

1.0 Scope and Application

Use a tabular format whenever possible for:

- Analyte list(s)
- Chemical Abstract Service (CAS) numbers
- Matrices
- Method Sensitivity (expressed as mass and as concentration with a specific sample size)

Include a list of analytes (by common name) and their CAS registry numbers, the matrices to which the method applies, a generic description of method sensitivity (expressed both as the mass of analyte that can be quantified and as the concentration for a specific sample volume or time interval). The description of sensitivity should include the method detection limit and a statement of accuracy.
### What information is required in the request?

<table>
<thead>
<tr>
<th>Application Header Information</th>
<th>Formal Alternative Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of Technology</td>
<td>Executive Summary (optional but encouraged)</td>
</tr>
<tr>
<td>Supporting Documentation</td>
<td></td>
</tr>
</tbody>
</table>
What information is required in the request? Supporting Documentation

Contextualizing documentation that will assist the review team in understanding the technology. Example categories include:

- Peer Reviewed Publications
- Publicly Facing Documentation
- Quality Control and Internal Guidance Documents
- Datasets and Validation Information

Documentation may be submitted to either the publicly facing portal or the Confidential Business Information arena.
What information is required in the request? Supporting Documentation

Contextualizing documentation that will assist the review team in understanding the technology. Example categories include:

- Peer Reviewed Publications
  - White Papers
  - Technical Slide Decks
  - Informational Brochures

- Publicly Facing Documentation
  - QA/QC Plans and Documents
  - Siting Guidelines
  - Best Practice Documents
  - Internal analysis How-Tos
  - Client Guidance Documents

- Quality Control and Internal Guidance Documents
  - Data demonstrating operation, applicability, resilience...
  - Spatial Resolution
  - Aggregate Detection Threshold data

- Datasets and Validation Information
### What information is required in the request?

<table>
<thead>
<tr>
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</tr>
</tbody>
</table>
What information is required in the request?

Executive Summary

OPTIONAL documentation that will assist with the review process. Include in this document:

- Short summary description of your technology
- List of documents submitted in the application
- Any additional contextualizing information

The list of documents should include:
- Document title with format extension
- Optional 1-2 sentence document description
- Submission location (Publicly facing portal or CBI submission)

A list of documents submitted as CBI is not considered CBI, but please ensure that no sensitive information is included in the file title or the optional 1-2 sentence document description.
What information is required in the request?

Important Takeaways

- Keeping your documents clear and organized will help to expedite the review process and benefit you and the review team.

- Everything in this presentation is covered, with additional detail, in our Guideline Document (available soon).

- Please read the guideline document in detail prior to submitting.

- This is not a race and will not be operated with a first-come first-served review process. Reviews will be handled based on completeness and clarity.
Guideline Document Overview

A guidance document with additional information covering the submission requirements will be provided on the submission portal.

Additional information includes:
- Additional details on the requirements for the description of technology document
- Procedure for submitting additional information
- Technologies capable of multiple emission rate thresholds
- Major modifications to an approved technology
- Withdrawing an application
- Frequently asked questions

The guideline document will be updated as needed with commonly asked questions, clarifications to procedures, and additional information.
Advanced Methane Detection Technology

EPA Review Process

Review team comes from the Source Methods Group. We have expertise in measurement technologies, source testing techniques, chemistry (atmospheric, organic, inorganic), meteorology, engineering (chemical, environmental), etc.

Request submitted (public after 7 days)

Read executive summary, assign primary and secondary reviewers

Meet with requestor - High level summary - Navigating request

Conduct completeness check

Full Review of Request

Set up meetings and communicate through chat window

Request additional documentation

Read and discuss all documentation internally

Inform requestor of decision

Reviewers present finding to full team

More questions

Team consensus
EPA Review Process: Communicating with the Review Team

Communication with the Review Team should be conducted through the submission portal Message Portal:

If you have questions, get help from the message portal.  

The Message Portal is accessible once an in-process application is saved, and all messages will be saved as part of the review record.

EPA Review Process: Guiding Questions for Reviewers

- Does this technology match the stated operational resolution?
- What are the environmental and operations conditions under which this technology operates well?
- What are the edge conditions where failure is expected?
- Has the company been upfront about the strengths and limitations of the technology?
- Does the supporting documentation provide sufficient evidence of the strengths?
- Are the limitations properly handled in the method?
- What is the testing environment and framework that this technology was developed within?
- Does the testing framework for development match the framework defined within the method?
- Did the testing environment during development properly capture the testing environment in which this technology solution hopes to be used?
- Outside of the field level operation, what kind of data products and models are needed in the application of this technology?
- Are those needs clearly stated and addressed?
**EPA Review Process:**
**A decision has been made, now what?**

### Approved
- Requestor will receive a decision letter
- Request status changed to "approved"
- All documents on portal remain public-facing
- Method is available for use by owner/operators

### Declined
- Requestor will receive a decision letter
- Request status changed to "declined"
- All documents on portal are hidden
Oil and Natural Gas
Advanced Methane Technology
Alternative Test Method

Website Overview
Oil and Natural Gas
Advanced Methane Technology
Alternative Test Method

Alternative Test Method (ATM) Request

Alternative Test Methods (ATMs) can be submitted to the Administrator for approval under the alternative test method provisions, specific to advanced methane detection in 40 CFR 60.5398(b)(d). This provision incorporates specific criteria for the review, evaluation, and potential use of advanced methane detection technology for use in periodic screening, continuous monitoring, and/or super-emitter detection and it is designed to facilitate state-of-the-art detection methods for emission sources. Providers that have developed new technology for detection may submit documentation and testimonials for consideration. To create a new request, please visit the New ATM Request page and fill out the form. Note that you are required to provide the appropriate contact information as a submitter.

For more information, please refer to the Guideline Document, the final rule and EPA’s Oil and Gas Regulatory site.

Approved alternative test methods that are broadly applicable will be posted on the EPA’s Emission Measurement Center webpage.
General Website Access

The ATM Requests website will be publicly accessible.

The public will be able to:

- Browse existing/newly submitted ATM requests,
- Review any approved requests,
- Look through submitted questions/answers, and
- Access available contact information.
Browse ATM Requests

Search by company name, product description, leak resolution, tech. type, etc., either using the search engine or the table's filter feature.

<table>
<thead>
<tr>
<th>Company</th>
<th>Product</th>
<th>Leak Resolution (kg/hr)</th>
<th>Technology Type</th>
<th>Applicability</th>
<th>Status</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH4</td>
<td>all seeing</td>
<td>None</td>
<td>Other</td>
<td>Broadly applicable across the sector</td>
<td>Approved on Mar 20, 2024</td>
<td>ALTECH-77</td>
</tr>
<tr>
<td>Javis Sensors</td>
<td>Methane Detect 3000</td>
<td>2.0</td>
<td>Airborne mobile remote sensor</td>
<td>Super-emitter detection</td>
<td>Submitted on Feb 05, 2024</td>
<td>ALTECH-71</td>
</tr>
<tr>
<td>Methane Products, Inc.</td>
<td>MethaneGuard Plus</td>
<td>200.0</td>
<td>Airborne mobile remote sensor</td>
<td>Basin-specific</td>
<td>Approved on Jan 26, 2024</td>
<td>ALTECH-69</td>
</tr>
<tr>
<td>The Phoenix Foundation</td>
<td>Paperclip + Duct Tape</td>
<td>1.0</td>
<td>Stationary remote sensor</td>
<td>Broadly applicable across the sector</td>
<td>Approved on Mar 19, 2024</td>
<td>ALTECH-74</td>
</tr>
<tr>
<td>The Phoenix Foundation</td>
<td>Paperclip + Duct Tape</td>
<td>None</td>
<td>Stationary remote sensor</td>
<td>Site-specific</td>
<td>Submitted on Mar 19, 2024</td>
<td>ALTECH-76</td>
</tr>
<tr>
<td>Atmospheric Solutions</td>
<td>Satellite Detect 4000</td>
<td>500.0</td>
<td>Ground based mobile in-situ sensor</td>
<td>Super-emitter detection</td>
<td>Submitted on Jan 23, 2024</td>
<td>ALTECH-85</td>
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<tr>
<td>SCA, Inc.</td>
<td>SCA Sat</td>
<td>100.0</td>
<td>Satellite</td>
<td>Super-emitter detection</td>
<td>Approved on Mar 01, 2024</td>
<td>ALTECH-73</td>
</tr>
<tr>
<td>Franklin Technology Ltd.</td>
<td>Stationary AtmosLite</td>
<td>1000.0</td>
<td>Stationary in-situ sensor</td>
<td>Basin-specific</td>
<td>Submitted on Jan 23, 2024</td>
<td>ALTECH-67</td>
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<tr>
<td>ABC</td>
<td>the winner</td>
<td>1.0</td>
<td>Other</td>
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<td>Submitted on Jan 24, 2024</td>
<td>ALTECH-64</td>
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<tr>
<td>SCA, Inc.</td>
<td>X.OGI</td>
<td>5.0</td>
<td>Other</td>
<td>Basin-specific</td>
<td>Approved on Mar 21, 2024</td>
<td>ALTECH-78</td>
</tr>
</tbody>
</table>
Approved ATM Requests

Search by company name, product description, leak resolution, tech. type, etc., either using the search engine or the table's filter feature

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<td>Airborne mobile remote sensor</td>
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<td>ALTTECH-03</td>
</tr>
<tr>
<td>The Phoenix Foundation</td>
<td>Paperclip</td>
<td>1.0</td>
<td>Stationary remote sensor</td>
<td>Broadly applicable across the sector</td>
<td>Approved on Mar 16, 2024</td>
<td>ALTTECH-78</td>
</tr>
<tr>
<td>SC&amp;A, Inc.</td>
<td>SCA Sat</td>
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<td>Satellite</td>
<td>Super-emitter detection</td>
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</table>
### Frequently Asked Questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>What information is required for an Alternative Technology Method (ATN) request?</td>
<td></td>
</tr>
<tr>
<td>When will the EPA contact me about their decision?</td>
<td></td>
</tr>
<tr>
<td>Is the information submitted to this site publicly available?</td>
<td></td>
</tr>
<tr>
<td>How should I submit CBI?</td>
<td></td>
</tr>
<tr>
<td>Will there be an opportunity to ask questions during the submission process?</td>
<td></td>
</tr>
<tr>
<td>Are there guidelines for the testing a company needs to do to confirm their technology?</td>
<td></td>
</tr>
<tr>
<td>Are we required to submit an EPA formatted Quality Assurance Project Plan (QAPP) as part of our submission?</td>
<td></td>
</tr>
<tr>
<td>Can additional data be added to the application once it's submitted?</td>
<td></td>
</tr>
<tr>
<td>Is there any material that should NOT be included in an application?</td>
<td></td>
</tr>
</tbody>
</table>
Contact Us

Measurement Technology Group - Methane Alternative Test Methods

P.O. Box 12055
109 TW Alexander Drive (E143-02)
Research Triangle Park, NC 27711

Email: MethaneATM@epa.gov
How to Submit a New ATM Request?
Website Access: Providers/Submitters

As a submitter you will be able to:

• Prepare and submit new ATM requests,
• Review any active/existing and approved requests,
• Look through submitted questions/answers, and
• Access available contact information.
Website Access: Providers/Submitters

Login-gov Account

• To submit an ATM request and access the online form, submitters must first “sign-in” to the site using their login.gov account.
• Login.gov is a secure sign in service available to the public. Specifically, it provides a simple way for the public to access government websites, using the same username and password.
• If you do not have an existing account, you can create a new account by visiting login.gov.
Website Access: Providers/Submitters

ATM Request Form

Using your existing or newly created login.gov account, click on the “Login” tab, located on the site header to sign-in to the ATM Request site and access the ATM Request form.
Providers/Submitters: New ATM Requests

Submitters can access the online ATM Request Form either through the “Home” page or the “New ATM Request” page.
ATM Request Form

Message Portal

Note About CBI
Do not submit information you claim as confidential business information (CBI) to EPA via this website. All information submitted through this website will be made available to the public without further notice to you.

Avoid personal information
Contact information will be hidden from the public, but you are encouraged to provide business (non-personal) email and phone.

1. Point of Contact
   - Full Name
   - Email
   - Phone

2. Company and Product
   - Company Name: ABC Solutions Inc.
   - Company Website: http://abcglobalsolutions.com
   - Product Name: My Detection Product
   - Desired Applicability: □
   - Leak Detection Resolution: □
   - Technology Type: □

Additional information (optional)

Message Portal

Use this messaging portal to ask questions or give clarification about the provided information. It is not a real-time service, and EPA staff will reply at their earliest convenience. All messages in this portal are excluded from your submitted request, and will remain private.

Message

Save the request to enable messaging.
ATM Request Form

Requested Information

• Point of contact
• Company and Product
  • Company and product name
  • Company website
  • Leak detection resolution (kg/hr.)
  • Desired applicability
  • Technology type
• Additional info. (optional)
ATM Request Form

Requested Information

- Documentation
  - Executive Summary (optional)
  - Description of Technology
  - Other supporting docs
- Indicate if information is provided elsewhere or is CBI.
- Download and updated files, as needed.
ATM Request Form

*CBI Information*

• Reminder: Do not submit information you claim as confidential business information (CBI) to EPA via this website.

• EPA will make all the information submitted through this website available to the public without further notice to you.

• Anything submitted using this website cannot later be claimed to be CBI.

• Furthermore, under CAA section 114(c) emissions data is not entitled to confidential treatment and requires EPA to make emissions data available to the public. Thus, emissions data will not be protected as CBI and will be made publicly available.
ATM Request Form

CBI Information

• Electronic submissions must be transmitted directly to the OAQPS CBI Office at the email address oaqpscbi@epa.gov.

• Electronic submissions should include clear CBI markings and be flagged to the attention of the Leader, Measurement Technology Group.

• Large electronic files that exceed the file size limit can submit a request for a file transfer link. *Note: If you cannot transmit the file electronically, you may mail (properly packaged) CBI information directly to the OAQPS Document Control Officer (DCO) through the postal service.*

• CBI must be associated with the ATM Request.
  • Please specify the "Request ID" as displayed in the upper right corner of the request form with any CBI you submit, regardless of which channel you send it through.
ATM Request Form
Save, Submit, Revise

• A reminder: Your progress may be saved at any time
  • Return to or access saved forms through the “Home” tab.

• Confirm submission and submit form when completed.
  • User/submitter will receive a notification if any information is missing or incomplete.
Questions and Closing Remarks
Thank you for joining.

*EPA’s Informational Webinar on Methane Detection Technology*