

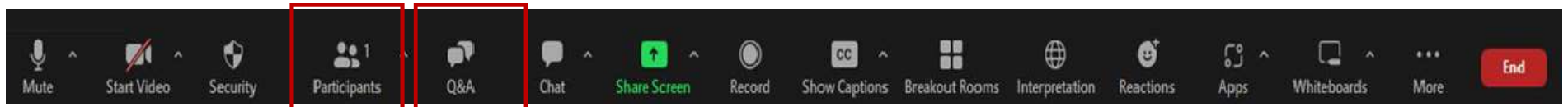


Methane Detection Technology Workshop

Informational Webinar
April 15, 2024
1 pm – 4pm (ET)

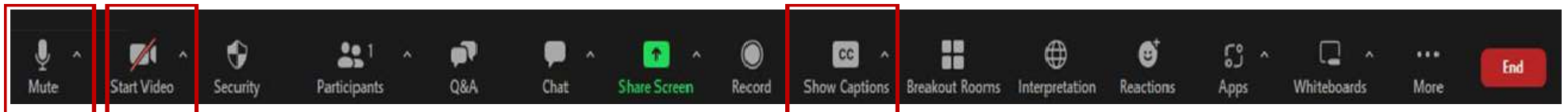
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Zoom Guidelines & Etiquette

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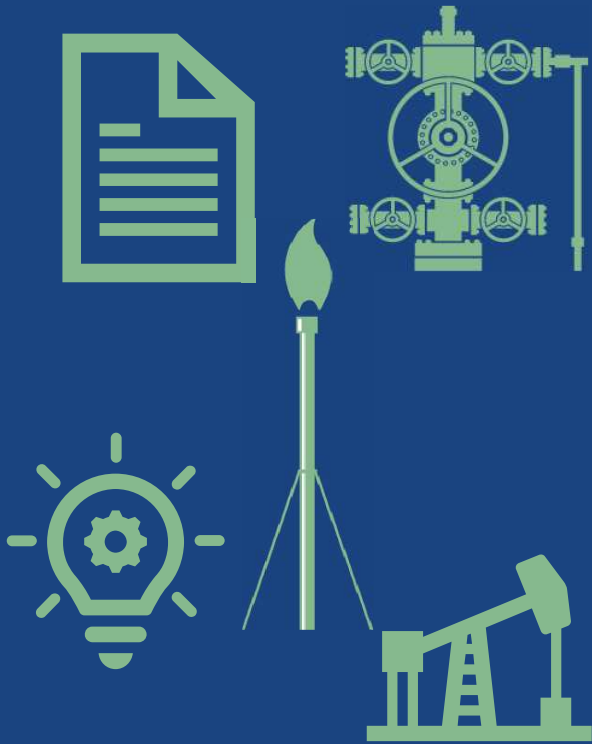


Zoom Guidelines & Etiquette

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- *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



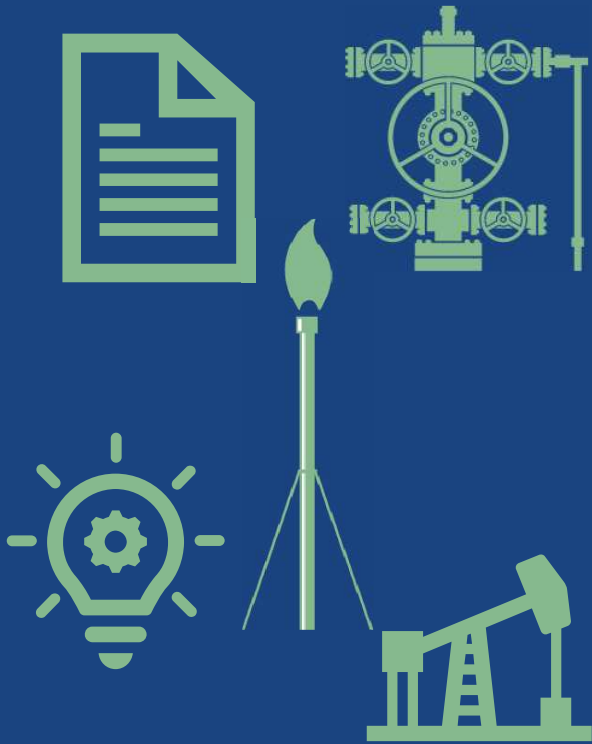
EPA's Approach for Alternative Methane Detection Technology in NSPS OOOO Rules

April 15th , 2024



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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

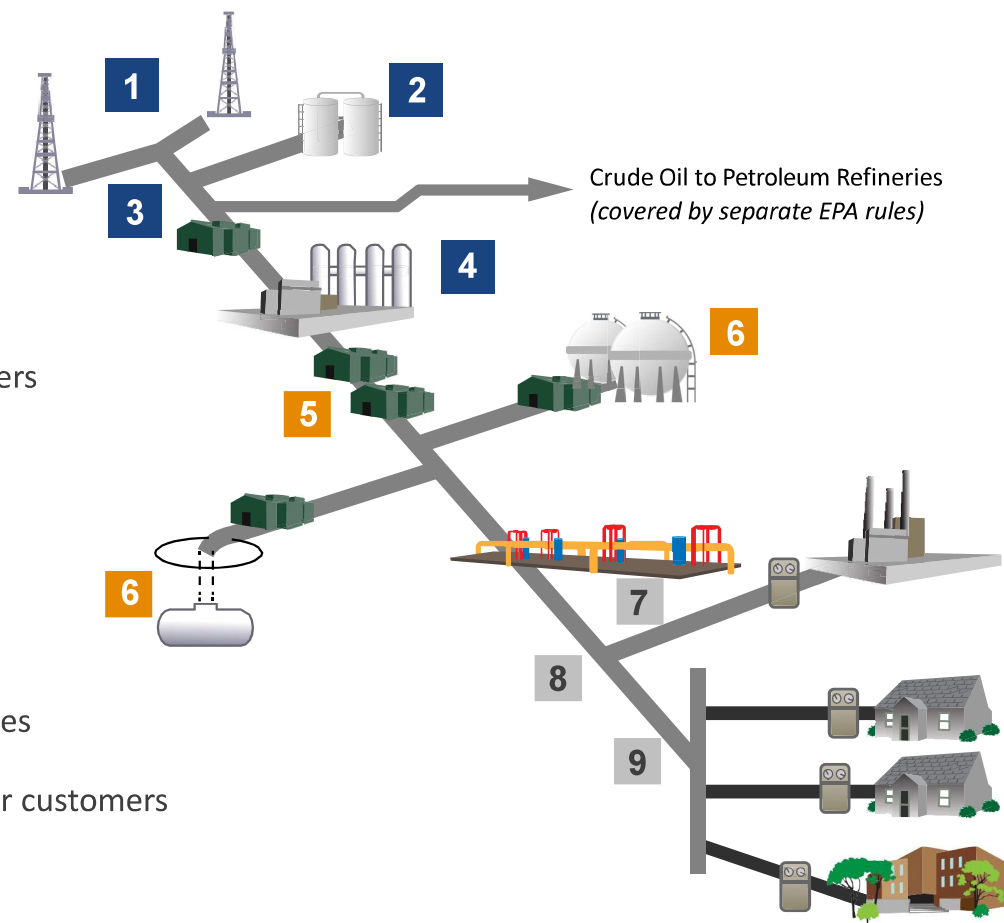


Figure adapted from American Gas Association and EPA's Natural Gas STAR Program

Applicability



Subpart	Source Type	Applicable Dates
40 CFR part 60, subpart OOOO	New, modified, or reconstructed sources	After August 23, 2011, and on or before September 18, 2015
40 CFR part 60, subpart OOOOa	New, modified, or reconstructed sources	After September 18, 2015, and on or before December 6, 2022
40 CFR part 60, subpart OOOOb	New, modified, or reconstructed sources	After December 6, 2022
40 CFR part 60, subpart OOOOc	Existing sources	On or before December 6, 2022

Definitions



§ 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.*

Advanced Methane Detection Technology Work Practices



- **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

Advanced Methane Detection Technology Work Practices: Periodic Screening



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 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

Minimum Screening Frequency	Minimum Detection Threshold of Screening Technology
Quarterly	≤1 kg/hr*
Bimonthly	≤2 kg/hr
Bimonthly + OGI	≤10 kg/hr
Monthly	≤5 kg/hr
Monthly + OGI	≤15 kg/hr

* 3 kg/hr for a periods of 2-years from effective date of the rule.

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

Minimum Screening Frequency	Minimum Detection Threshold of Screening Technology
Semiannual	≤1 kg/hr
Triannual	≤2 kg/hr
Triannual + OGI	≤10 kg/h
Quarterly	≤5 kg/hr
Quarterly + OGI	≤15 kg/hr
Bimonthly	≤15 kg/hr

Advanced Methane Detection Technology

Work Practices: Periodic Screening



Periodic Screening: follow-up monitoring (technology dependent)

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.

Facility Level	Area Level	Component Level
Must be able to identify emissions within the boundary of a well site, centralized production facility, or compressor station	Must be able to identify emission within a radius of 2 meters of the emission source	Must be able to identify emissions within a radius of 0.5 meters of the emission source

Advanced Methane Detection Technology Work Practices: Periodic Screening



Periodic Screening: Follow-up monitoring

- Follow-up monitoring based on spatial resolution:

Facility Level	Area Level	Component Level
<p>Fugitives - A monitoring survey of all fugitive emissions components in an affected facility using either OGI or EPA Method 21</p>	<p>Fugitives - 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</p>	<p>Fugitives - 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</p>
<p>Covers and closed vent systems - 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</p>	<p>Covers and closed vent systems - 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*</p>	<p>Covers and closed vent systems - 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*</p>

* 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

Advanced Methane Detection Technology Work Practices: Periodic Screening



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**

Advanced Methane Detection Technology Work Practices: Continuous monitoring



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**

**Advanced Methane
Detection Technology
Work Practices:
*Continuous
monitoring***



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

Affected Facilities	Action Levels
Wellhead only well sites	<ul style="list-style-type: none"> - Rolling 90-day average of 1.2 kg/hr of methane* - Rolling 7-day average of 15 kg/hr of methane*
Well sites with major production and processing equipment, small well sites, centralized production facilities, and compressor stations	<ul style="list-style-type: none"> - Rolling 90-day average of 1.6 kg/hr of methane* - Rolling 7-day average of 21 kg/hr of methane*

* Over the site-specific baseline

**Advanced Methane
Detection Technology
Work Practices:
Continuous
*monitoring screening***



Action Levels: Site-Specific Baselines

- **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.

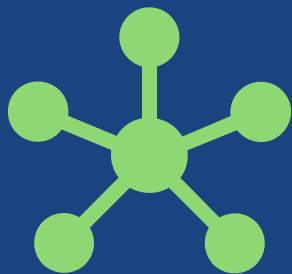
Advanced Methane
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Work Practices:
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Action Levels: Calculating rolling averages

- 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

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*Continuous
monitoring screening*

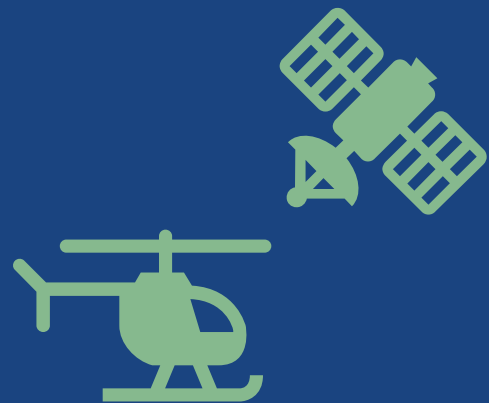


Action Levels: Developing mass emission rate reduction plan

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

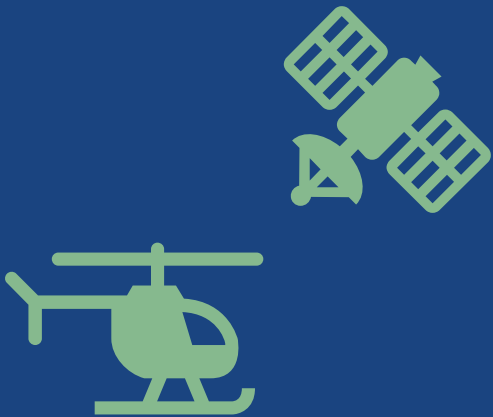
Only EPA-approved remote-sensing technologies/solution may be used. Third parties must assure remote sensing data is adequate and performed according to the EPA approved protocol.

EPA will make super emitter data publicly available on a timely basis

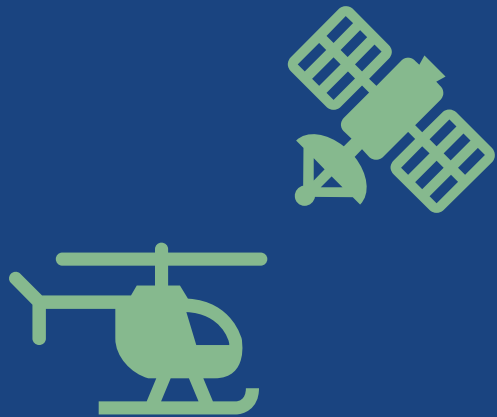
The Super Emitter Program: Background

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 0000, 0000a, or 0000b
- A designated facility or associated equipment subject to a state or Federal Plan promulgated pursuant to EG 0000c
- An unregulated source



The Super Emitter Program: Certification of Third Party Notifiers



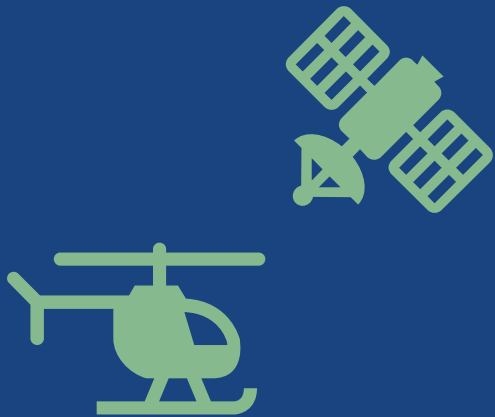
Certification of Third Party Notifier

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

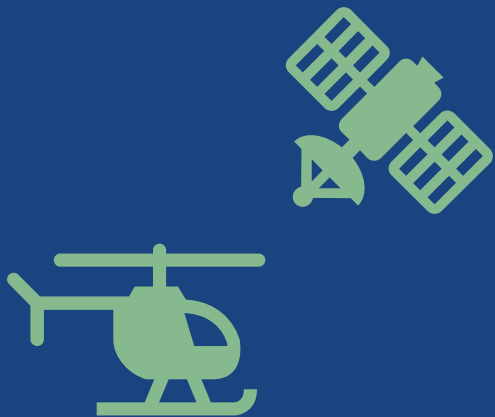
The Super Emitter Program: Certification of Third Party Notifiers



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**

The Super Emitter Program: Notification of Super-Emitter Events



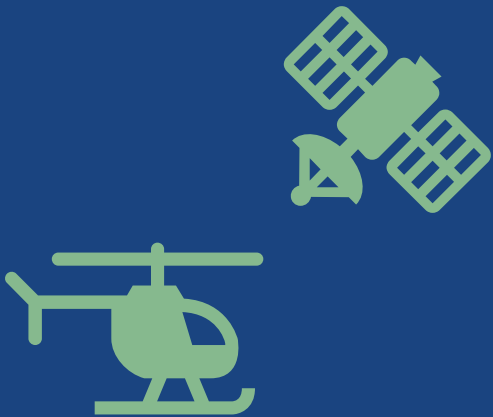
Third Party Notifications

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

The Super Emitter Program: Notification of Super-Emitter Events



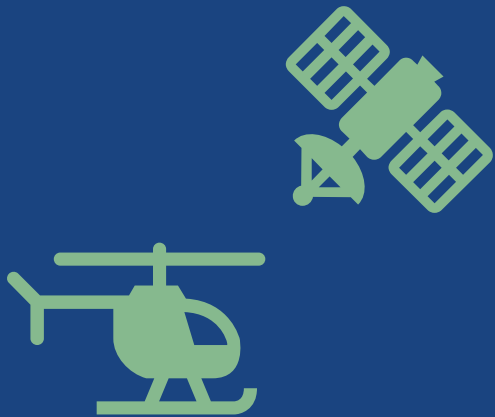
Upon receipt of notification:

- 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**.

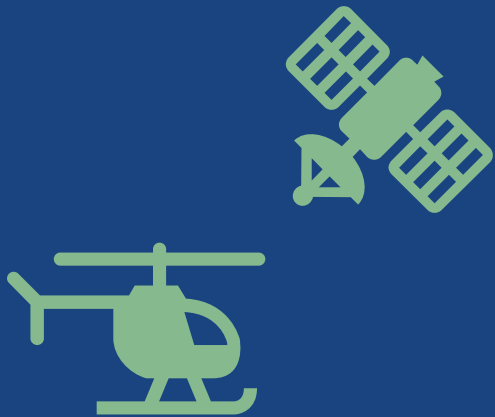
The Super Emitter Program: Identification of Super-Emitter Events



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)

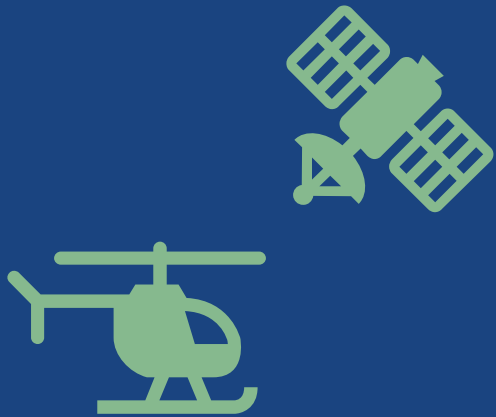
The Super Emitter Program: Identification of Super-Emitter Events



Reporting Super-Emitter Event

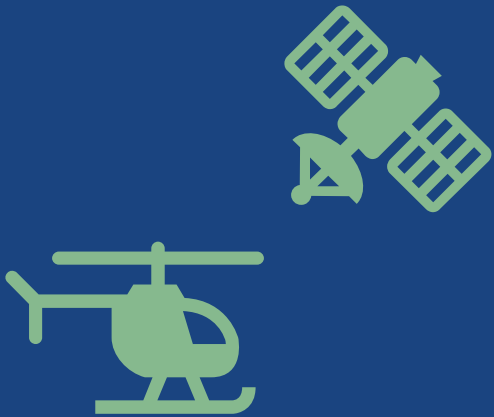
- Notification Report ID
- Date and Time of *end of SE event*
- Confirmation that you are the owner or operator of the oil and gas facility within the immediate area (i.e., 50 meters)
- General identification for the facility
- If the affected facilities/equipment is subject to NSPS 0000/a/b or EG 0000c
- 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 0000/a/b or EG 0000c
- Attestation Statement

Review of Advanced Methane Detection Technology



General Requirements and Conditions

Review of Advanced Methane Detection Technology: General Requirements



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.

Review of Advanced Methane Detection Technology: General Requirements



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)
- 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**



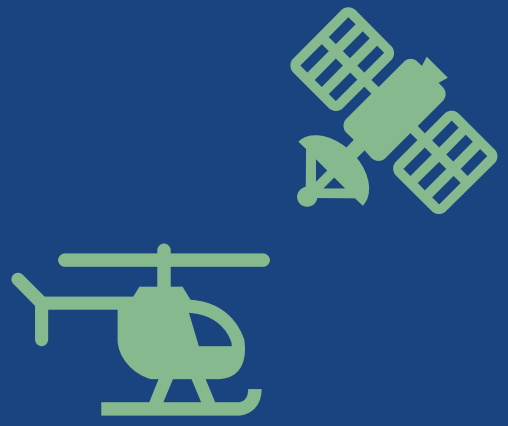
Questions?

Contact : MethaneATM@epa.gov

Website

**[http://www.epa.gov/emc/oil-and-gas-
alternative-test-methods](http://www.epa.gov/emc/oil-and-gas-alternative-test-methods)**

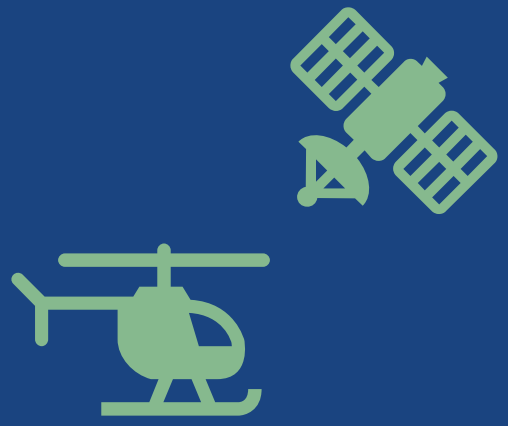
**Advanced Methane
Detection Technology
Work Practices:
Alternative Test
Method for Methane
Detection Technology**



What information is required in the request?

Application Header Information	
<p>Description of Technology Tell us how your technology works in detail</p>	<p>Formal Alternative Test Method Document the method protocol; Approved output from review</p>
<p>Supporting Documentation Provide documents to help us understand your technology</p>	<p>Executive Summary Optional: Road map the submitted documents</p>

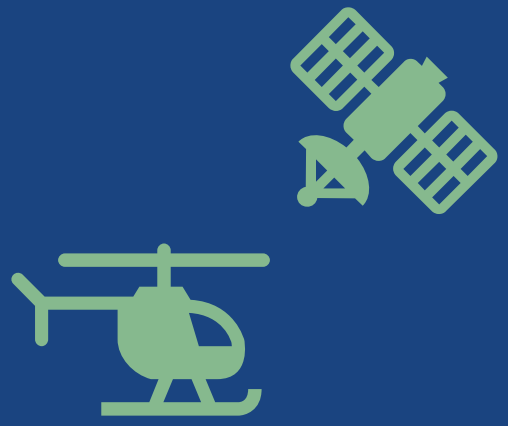
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What information is required in the request?

Application Header Information	
Description of Technology <i>Approval of the Technology</i>	Formal Alternative Test Method <i>Approval of the Protocol</i>
Supporting Documentation	Executive Summary (optional but encouraged)

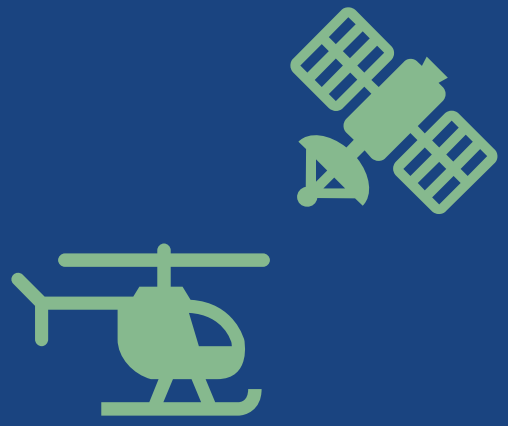
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What information is required in the request?

Application Header Information	
Description of Technology	Formal Alternative Test Method
Supporting Documentation	Executive Summary (optional but encouraged)

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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

Company Website

<http://jonessensors.com>

Product Name

Methane Detect 200+

Desired Applicability

Super-emitter detection

Leak Detection Resolution

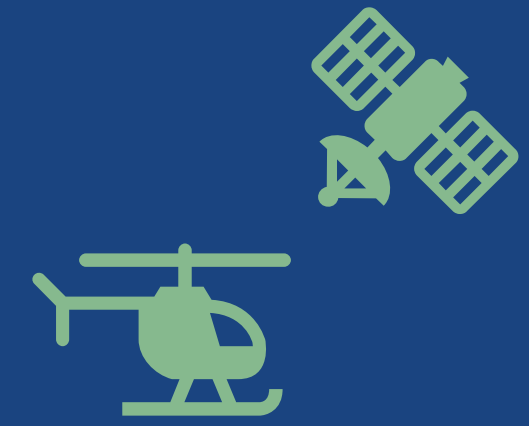
2.0 kg/hr

Technology Type

Airborne mobile remote sensor

Advanced Methane Detection Technology

Work Practices: Alternative Test Method for Methane Detection Technology



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

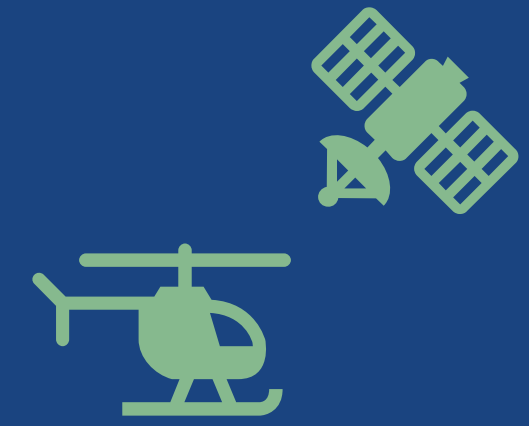
Technology Type:
Satellite
Stationary: in-situ or remote
Ground Mobile: in-situ or remote
Airborne Mobile: in-situ or remote
Other

Company Website
<http://jonessensors.com>

Desired Applicability
Super-emitter detection

Technology Type
Airborne mobile remote sensor

Advanced Methane Detection Technology Work Practices: Alternative Test Method for Methane Detection Technology



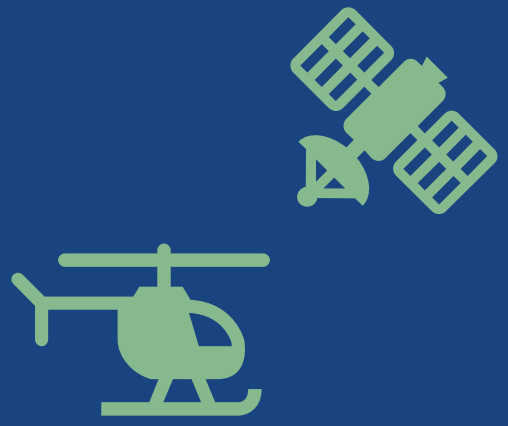
What information is required in the request? Application Headers

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

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

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

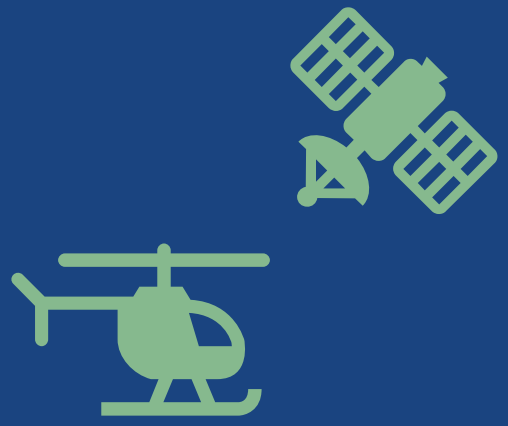
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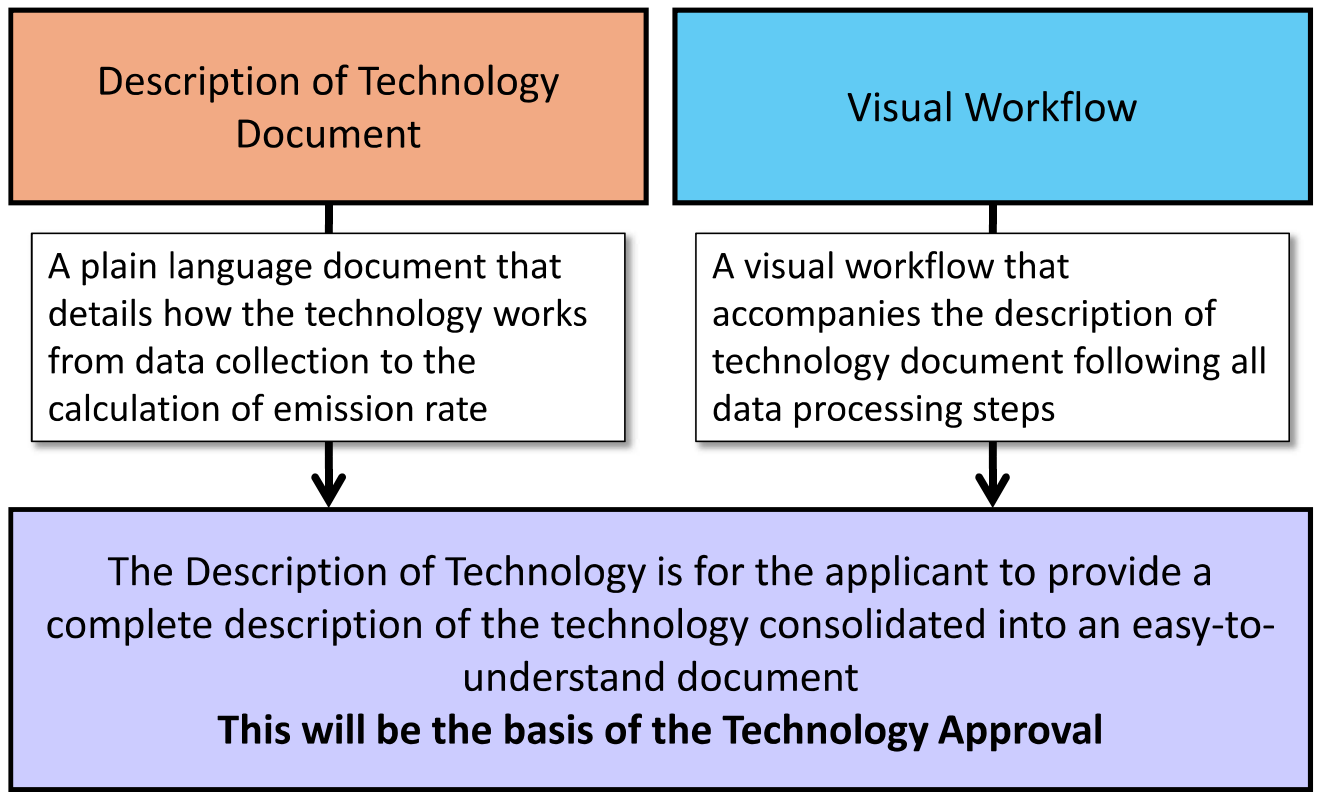
What information is required in the request?

Application Header Information	
Description of Technology	Formal Alternative Test Method
Supporting Documentation	Executive Summary (optional but encouraged)

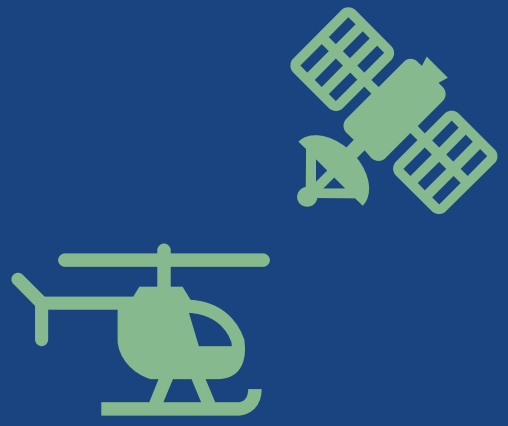
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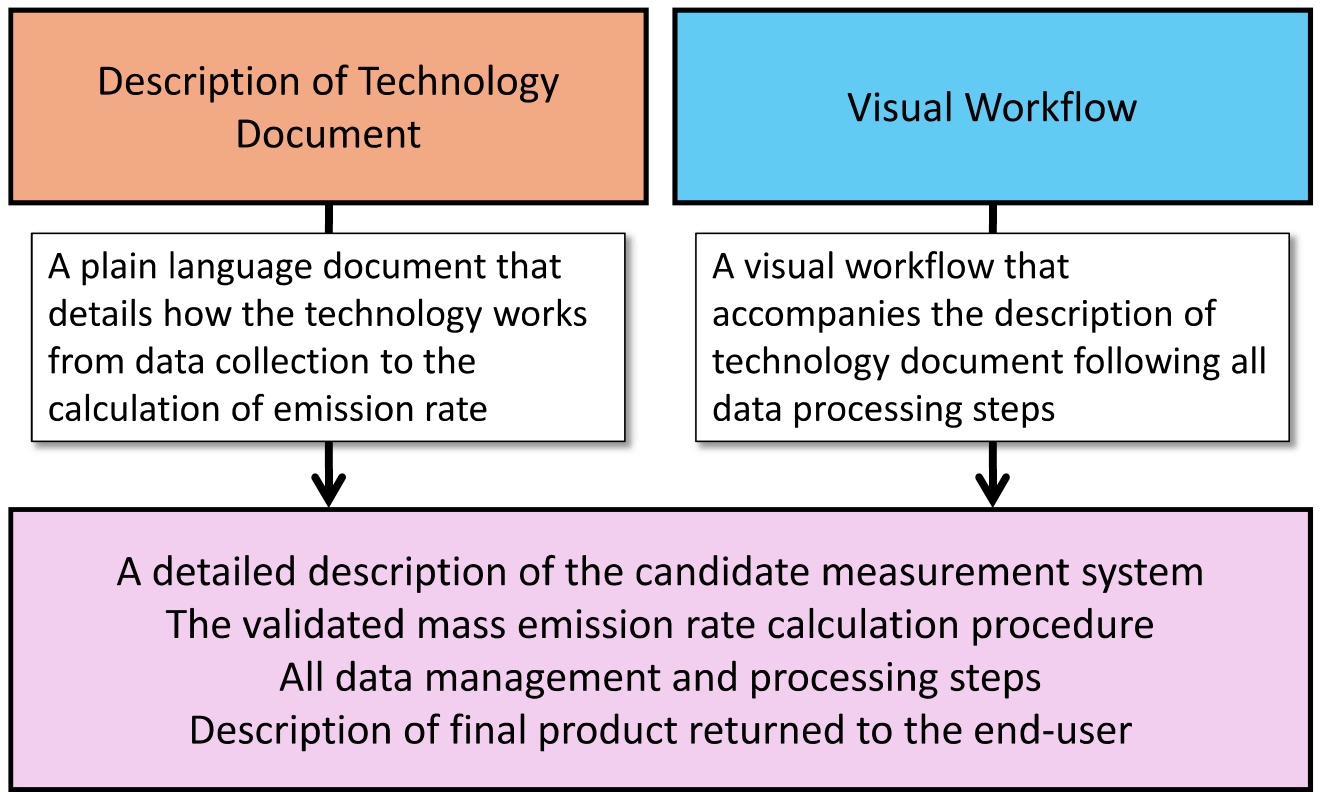
What information is required in the request?
Description of Technology



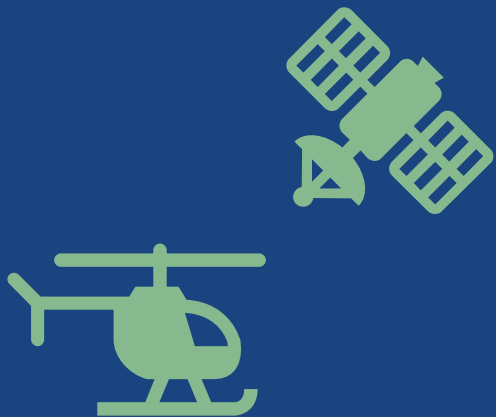
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**What information is required in the request?
Description of Technology**



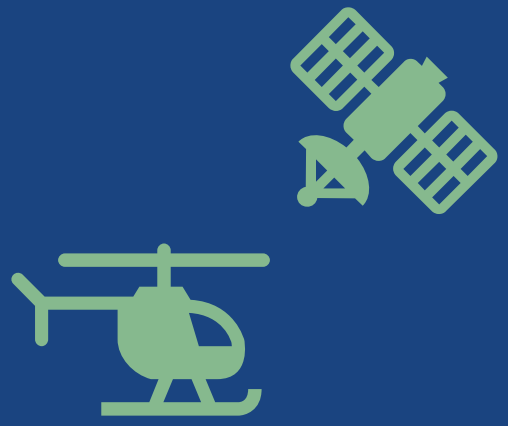
Advanced Methane Detection Technology Work Practices: Alternative Test Method for Methane Detection Technology



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
Work Practices:
Alternative Test
Method for Methane
Detection Technology**



**What information is required in the request?
Description of Technology**

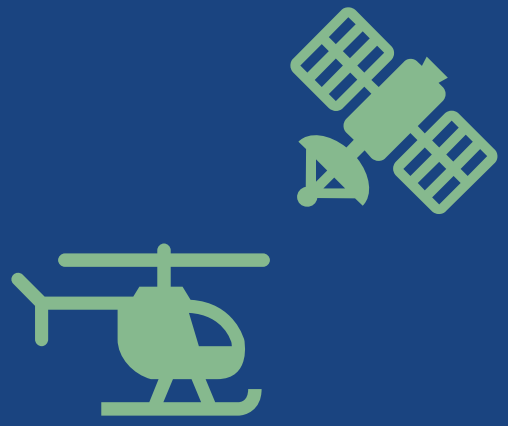
**Description of Technology
Document**

- 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

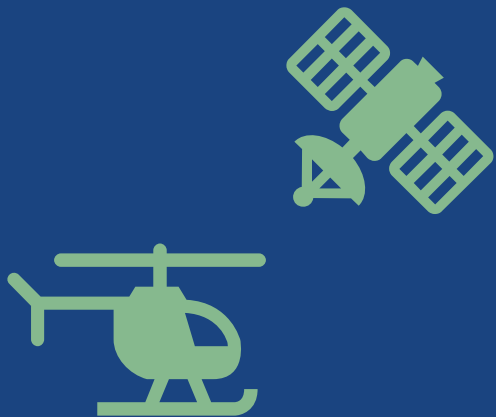
**Advanced Methane
Detection Technology
Work Practices:
Alternative Test
Method for Methane
Detection Technology**



What information is required in the request?

Application Header Information	
Description of Technology	Formal Alternative Test Method
Supporting Documentation	Executive Summary (optional but encouraged)

**Advanced Methane
Detection Technology
Work Practices:
Alternative Test
Method for Methane
Detection Technology**



**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

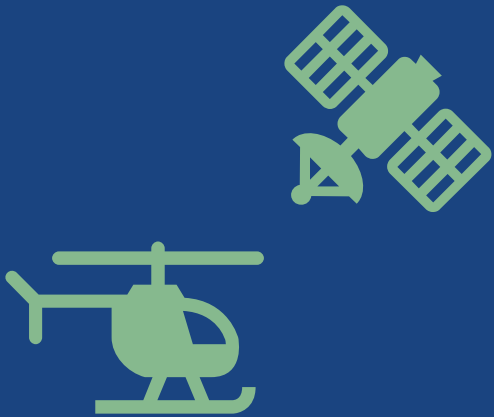
What is the difference between the Alternative Test Method and the Description of Technology documents?

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

Work Practices: Alternative Test Method for Methane Detection Technology

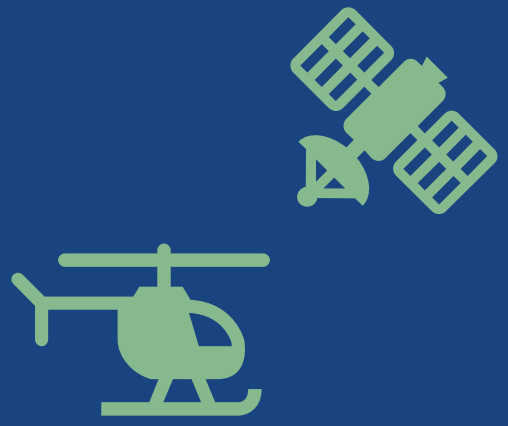


Required Information: Formal Alternative Test Method for Methane Detection Technology

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 Work Practices: Alternative Test Method for Methane Detection Technology



Required Information: Formal Alternative Test Method for Methane Detection Technology

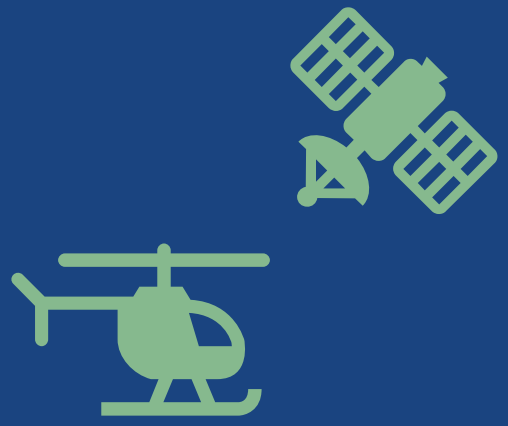
1. Scope and Application
2. Summary of Method
3. Definitions of method
4. Interferences
5. Safety
6. Equipment and Supplies
7. Reagents and Standards
8. Sample Collection, Preservation and Storage
9. Quality Control
10. Calibration and Standardization
11. Procedure
12. Data Analysis and Calculations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

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 Work Practices: Alternative Test Method for Methane Detection Technology



Required Information: Formal Alternative Test Method for Methane Detection Technology

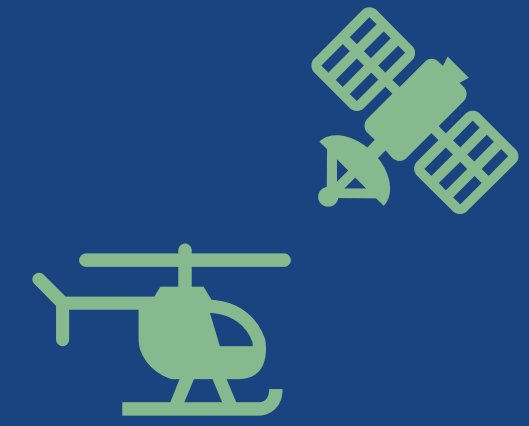
1. Scope and Application
2. Summary of Method
3. Definitions of method
4. Interferences
5. Safety
6. Equipment and Supplies
7. Reagents and Standards
8. Sample Collection, Preservation and Storage
9. Quality Control
10. Calibration and Standardization
11. Procedure
12. Data Analysis and Calculations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

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

Work Practices: Alternative Test Method for 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

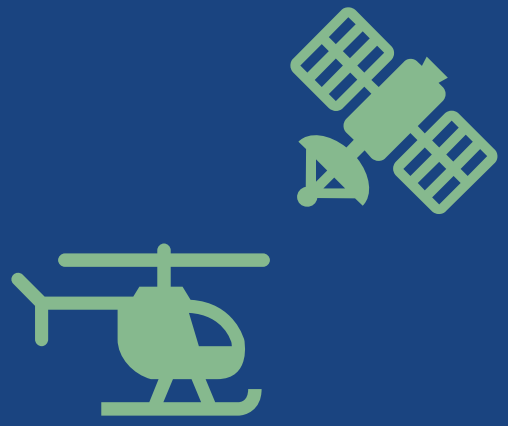
1.0 Scope and Application

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 size) and the detection limit, which the method is designed to meet. Method sensitivity is

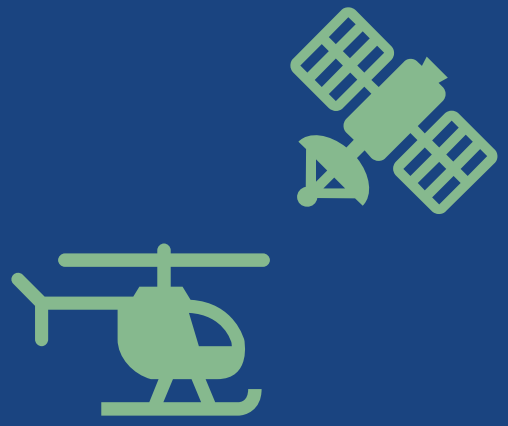
**Advanced Methane
Detection Technology
Work Practices:
Alternative Test
Method for Methane
Detection Technology**



What information is required in the request?

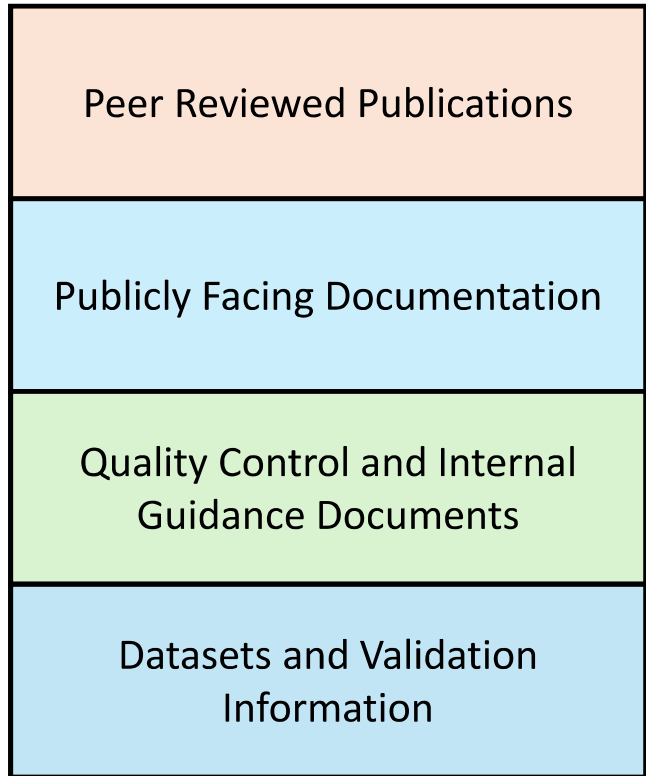
Application Header Information	
Description of Technology	Formal Alternative Test Method
Supporting Documentation	Executive Summary (optional but encouraged)

**Advanced Methane
Detection Technology
Work Practices:
Alternative Test
Method for Methane
Detection Technology**



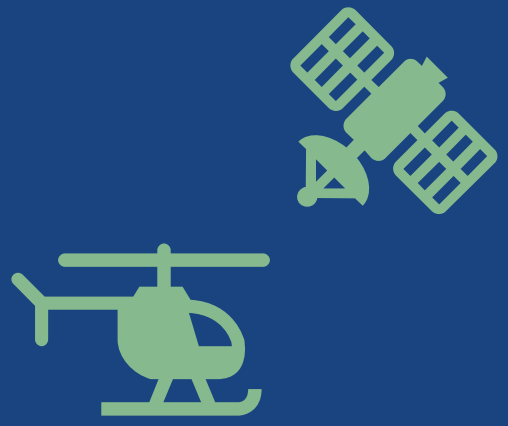
**What information is required in the request?
Supporting Documentation**

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



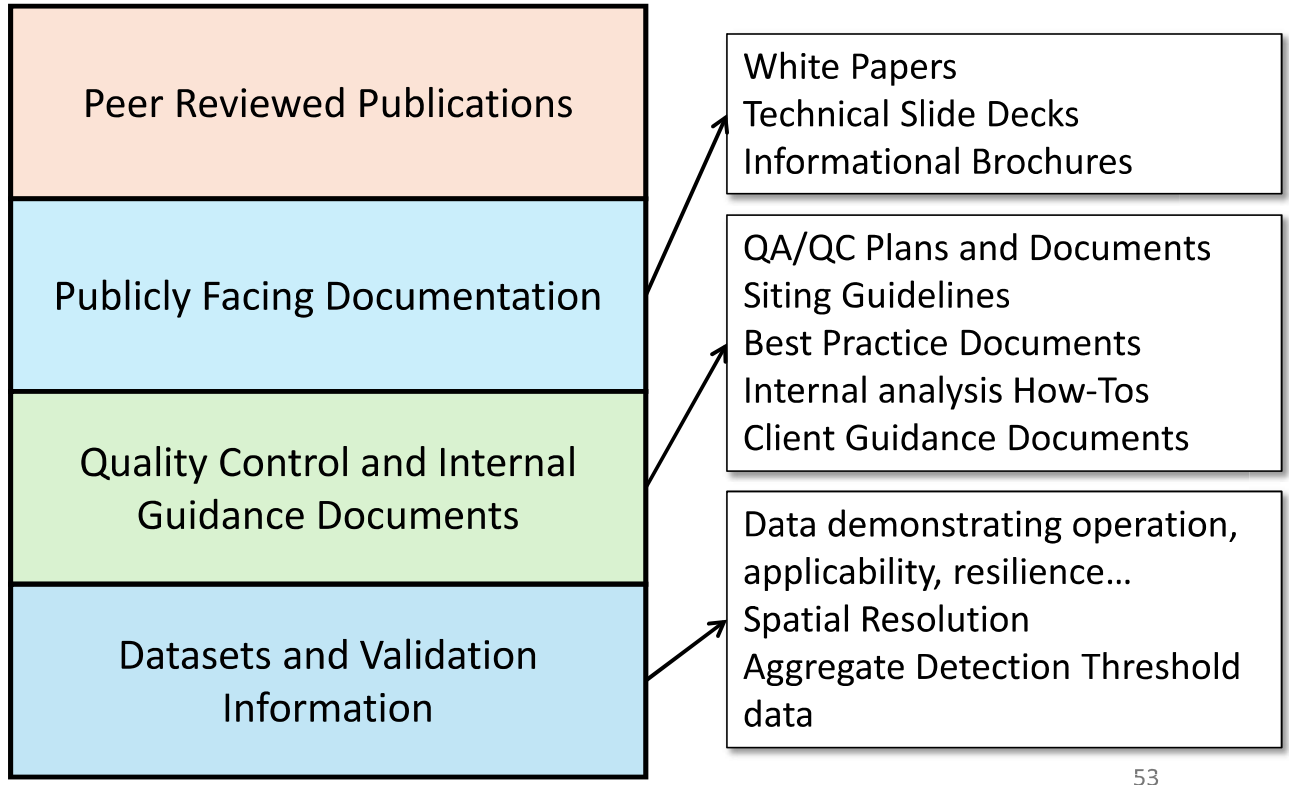
Documentation may be submitted to either the publicly facing portal or the Confidential Business Information arena

Advanced Methane Detection Technology Work Practices: Alternative Test Method for Methane Detection Technology

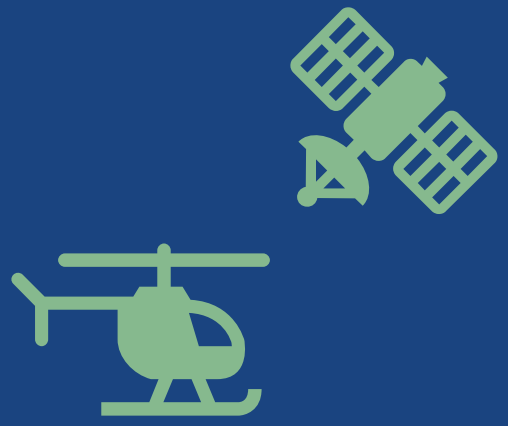


What information is required in the request? Supporting Documentation

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



**Advanced Methane
Detection Technology
Work Practices:
Alternative Test
Method for Methane
Detection Technology**



What information is required in the request?

Application Header Information	
Description of Technology	Formal Alternative Test Method
Supporting Documentation	Executive Summary (optional but encouraged)

**Advanced Methane
Detection Technology
Work Practices:
Alternative Test
Method for Methane
Detection Technology**



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

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

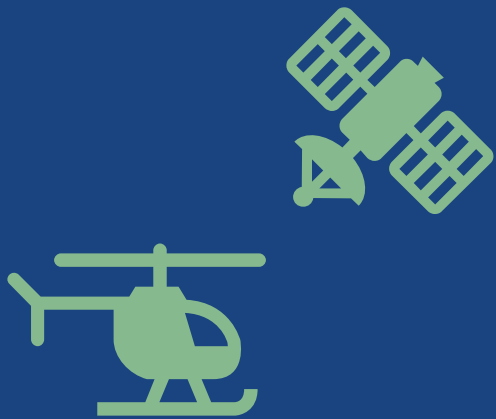
- Short summary description of your technology
- List of documents submitted in the application
- Any additional contextualizing information

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

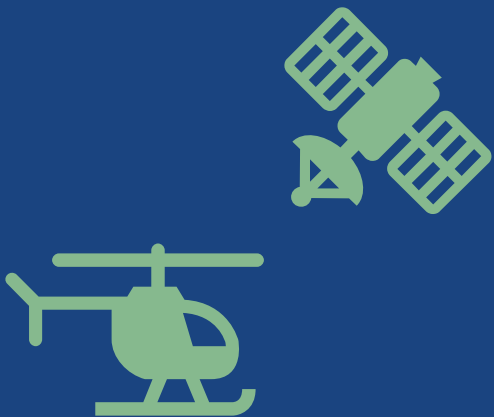
**Advanced Methane
Detection Technology
Work Practices:
Alternative Test
Method for Methane
Detection Technology**



What information is required in the request? Important Takeaways

- **Keeping your documents clear and organized will help to expediate 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.**

Advanced Methane Detection Technology Work Practices: Alternative Test Method for Methane Detection Technology



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

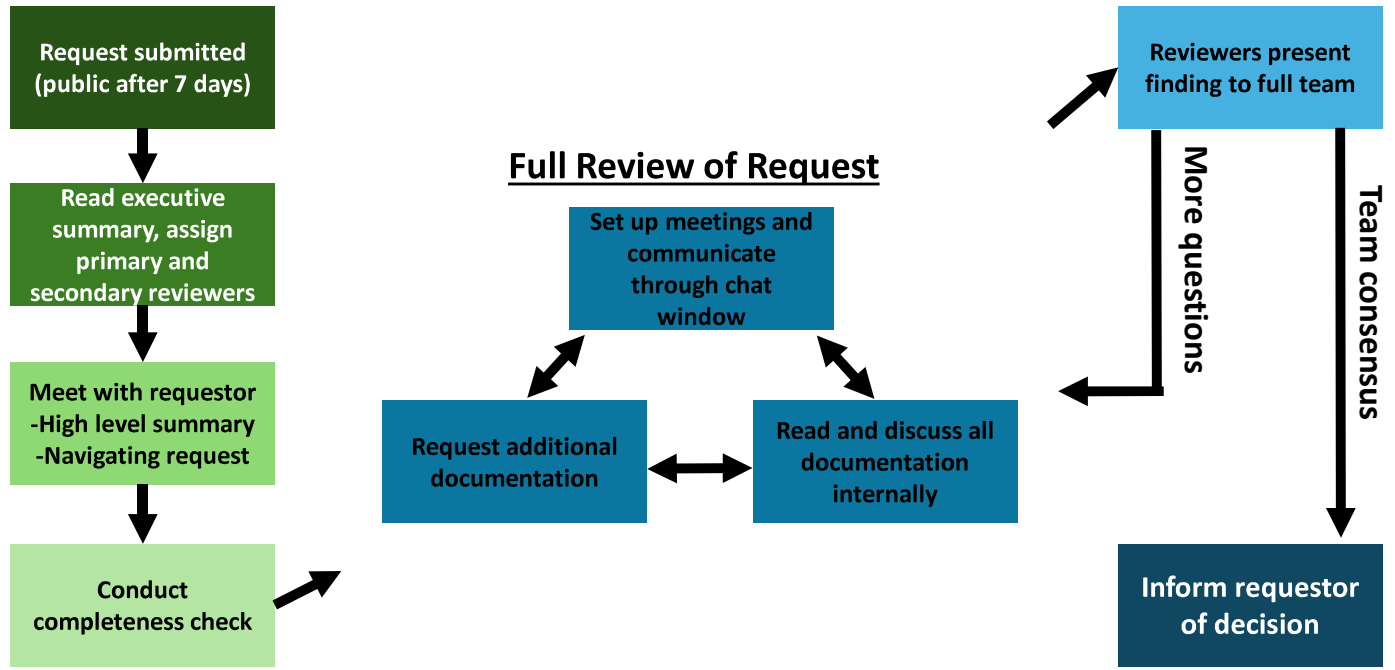
The guideline document will be updated as needed with commonly asked questions, clarifications to procedures, and additional information.

Advanced Methane Detection Technology Work Practices: Alternative Test Method for Methane Detection Technology

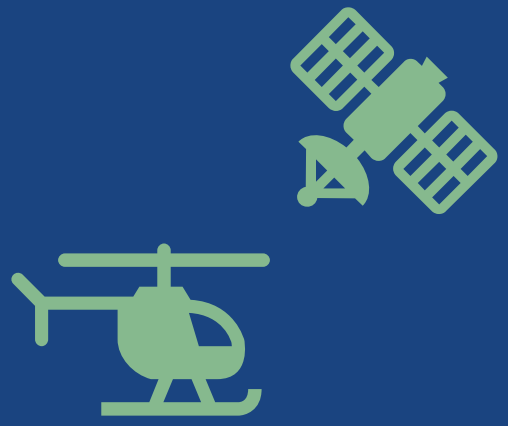


EPA Review Process

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.



Advanced Methane Detection Technology Work Practices: Alternative Test Method for Methane Detection Technology



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. [Get Help](#)

Message Portal

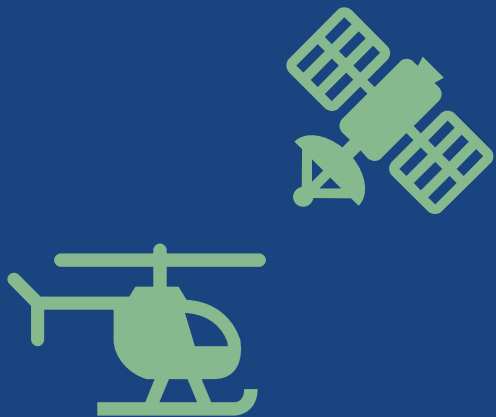
Use this messaging portal to ask questions or give clarification about the provided information. It is not a real-time service, and EPA staff will reply as time allows. All messages in this portal are excluded from your submitted request, and will remain private.

Message

[Post](#)

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

Advanced Methane Detection Technology Work Practices: Alternative Test Method for Methane Detection Technology



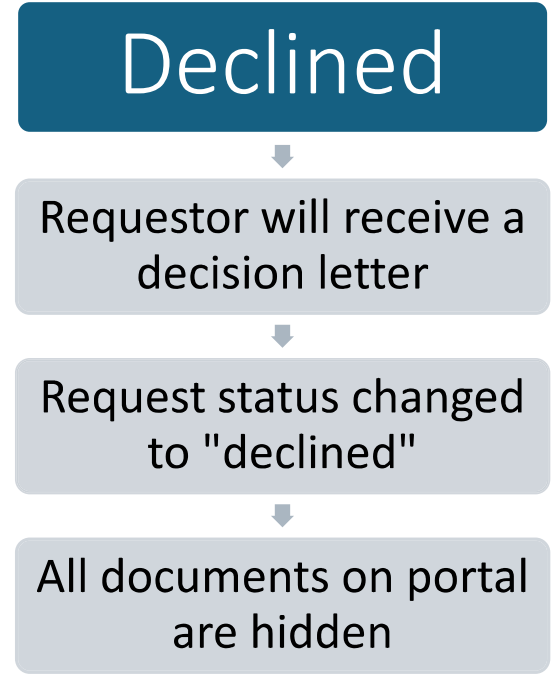
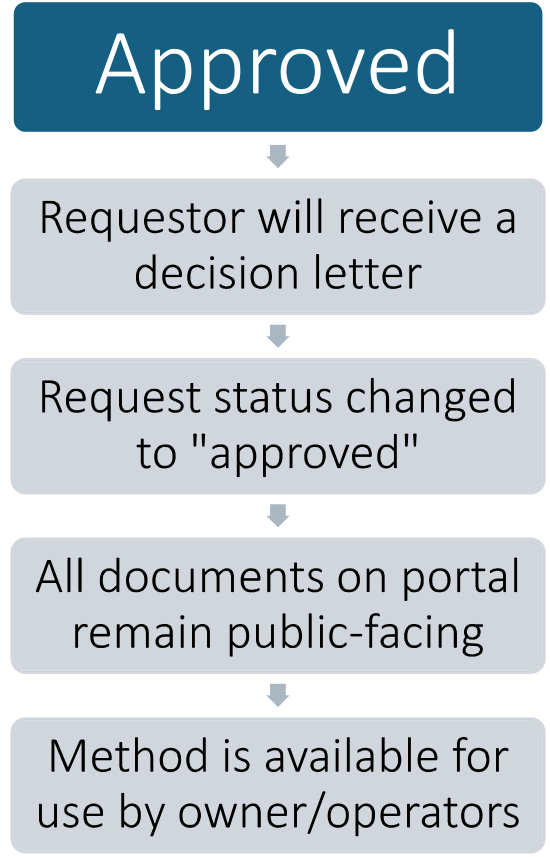
EPA Review Process: Guiding Questions for Reviewers

- 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?

**Advanced Methane
Detection Technology
Work Practices:
Alternative Test
Method for Methane
Detection Technology**



**EPA Review Process:
A decision has been made, now what?**





Oil and Natural Gas

Advanced Methane Technology

Alternative Test Method

Website Overview

Oil and Natural Gas

Advanced Methane Technology Alternative Test Method



Home

[New ATM Request](#)

[Browse ATM Requests](#)

[Approved ATM Requests](#)

[Frequently Asked Questions](#)

[Contact us](#)

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 60.5398b(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](#).

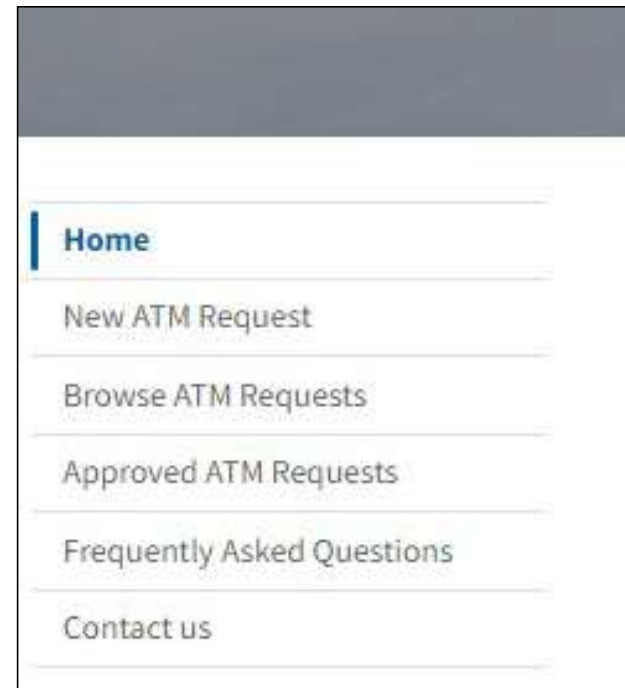
Approved alternative test methods that are broadly applicable will be posted on the EPA's [Emission Measurement Center webpage](#).

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

- Home
- New ATM Request
- Browse ATM Requests**
- Approved ATM Requests
- Frequently Asked Questions
- Contact us



Active Requests

Search companies, products etc.

Company	Product	Leak Resolution (kg/hr)	Technology Type	Applicability	Status	ID
CH4	all seeing	None	Other	Broadly applicable across the sector	Approved on Mar 20, 2024	ALTTECH-77
Jones Sensors	Methane Detect 200+	2.0	Airborne mobile remote sensor	Super-emitter detection	Submitted on Feb 05, 2024	ALTTECH-71
Methane Products, Inc.	MethaneGuard Plus	200.0	Airborne mobile remote sensor	Basin-specific	Approved on Jan 26, 2024	ALTTECH-63
The Phoenix Foundation	Paperclip	1.0	Stationary remote sensor	Broadly applicable across the sector	Approved on Mar 19, 2024	ALTTECH-74
The Phoenix Foundation	Paperclip + Duct Tape	None	Stationary remote sensor	Site-specific	Submitted on Mar 19, 2024	ALTTECH-76
Atmospheric Solutions	Satellite Detect 4000	500.0	Ground based mobile in-situ sensor	Super-emitter detection	Submitted on Jan 25, 2024	ALTTECH-65
SC&A, Inc.	SCA Sat	100.0	Satellite	Super-emitter detection	Approved on Mar 01, 2024	ALTTECH-73
Franklin Technology Ltd.	Stationary AtmosLite	1000.0	Stationary in-situ sensor	Basin-specific	Submitted on Jan 25, 2024	ALTTECH-67
ABC	the winner	1.0	Other	Broadly applicable across the sector	Submitted on Jan 24, 2024	ALTTECH-64
SC&A, Inc.	X-OGI	5.0	Other	Basin-specific	Approved on Mar 21, 2024	ALTTECH-78

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

- Home
- New ATM Request
- Browse ATM Requests
- Approved ATM Requests**
- Frequently Asked Questions
- Contact us



Approved Requests

Company	Product	Leak Resolution (kg/hr)	Technology Type	Applicability	Status	ID
CH4	all seeing	None	Other	Broadly applicable across the sector	Approved on Mar 20, 2024	ALTECH-77
Methane Products, Inc.	MethaneGuard Plus	200.0	Airborne mobile remote sensor	Basin-specific	Approved on Jan 26, 2024	ALTECH-63
The Phoenix Foundation	Paperclip	1.0	Stationary remote sensor	Broadly applicable across the sector	Approved on Mar 19, 2024	ALTECH-74
SC&A, Inc.	SCA Sat	100.0	Satellite	Super-emitter detection	Approved on Mar 01, 2024	ALTECH-73
SC&A, Inc.	X-OGI	5.0	Other	Basin-specific	Approved on Mar 21, 2024	ALTECH-78

Frequently Asked Questions

Home

New ATM Request

Browse ATM Requests

Approved ATM Requests

Frequently Asked Questions

Contact us



What information is required for an Alternative Technology Method (ATM) request?



When will the EPA contact me about their decision?

Is the information submitted to this site publicly available?

How should I submit CBI?

Will there be an opportunity to ask questions during the submission process?



Are there guidelines for the testing a company needs to do to confirm their technology?



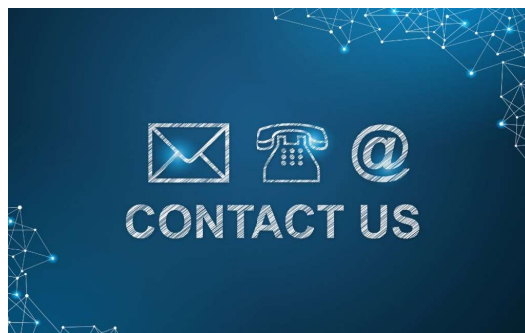
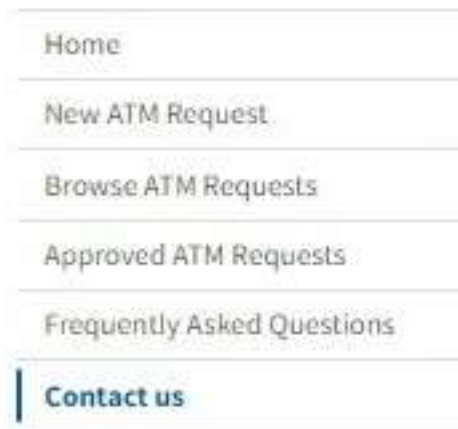
Are we required to submit an EPA formatted Quality Assurance Project Plan (QAPP) as part of our submission?

Can additional data be added to the application once it is submitted?



Is there any material that should NOT be included in an application?

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.



[Home](#)

[New ATM Request](#)

[Review ATM Requests](#)

[Approved ATM Requests](#)

[Frequently Asked Questions](#)

[Contact us](#)

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

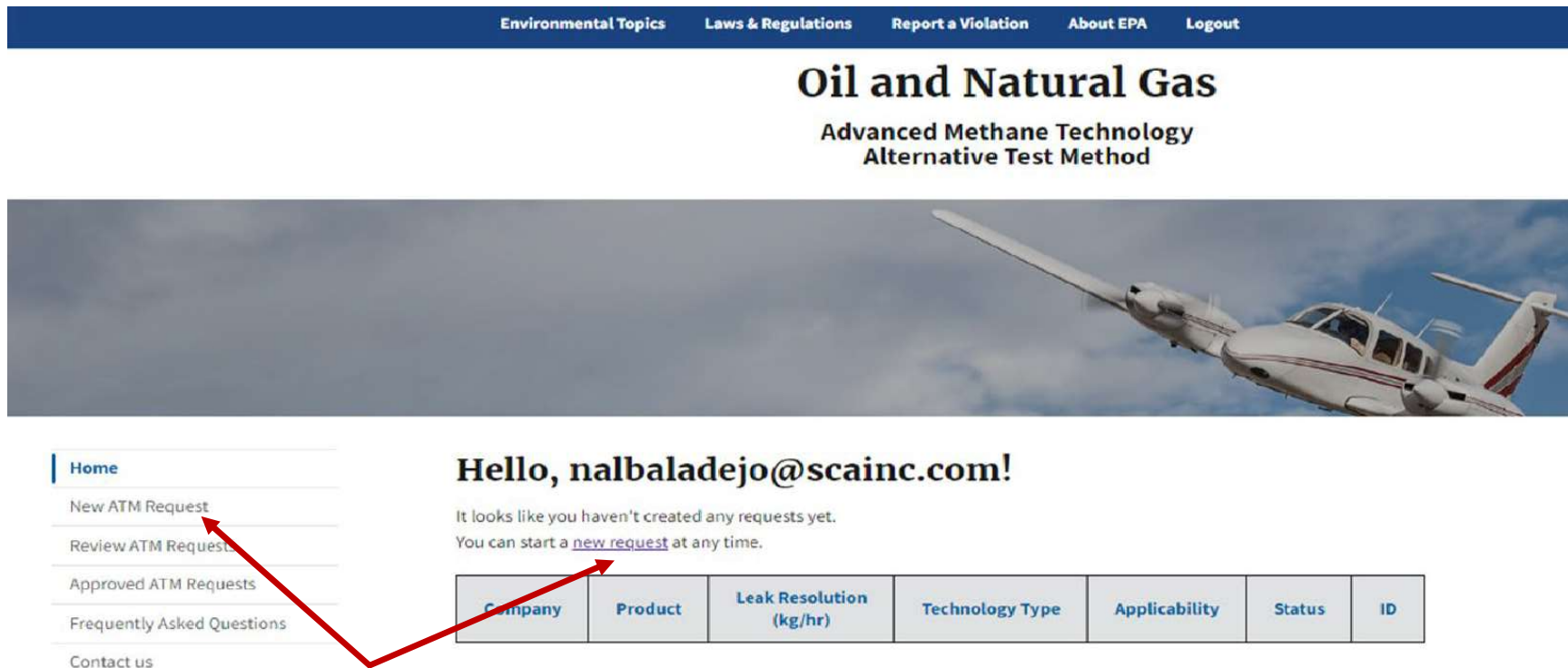
ATM Request Form

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.



The screenshot shows the EPA website interface for 'Oil and Natural Gas' under the 'Advanced Methane Technology Alternative Test Method'. At the top, a dark blue navigation bar contains links for 'Environmental Topics', 'Laws & Regulations', 'Report a Violation', 'About EPA', and 'Logout'. Below this, the main heading reads 'Oil and Natural Gas' followed by 'Advanced Methane Technology Alternative Test Method'. A large banner image of a white twin-engine propeller aircraft is displayed. On the left, a vertical navigation menu includes 'Home', 'New ATM Request', 'Review ATM Requests', 'Approved ATM Requests', 'Frequently Asked Questions', and 'Contact us'. A red arrow points from the 'New ATM Request' menu item to the 'New ATM Request' link in the main content area. The main content area features a personalized greeting: 'Hello, nalbaladejo@scainc.com!' followed by the message: 'It looks like you haven't created any requests yet. You can start a [new request](#) at any time.' Below this message is a table header with the following columns: 'Company', 'Product', 'Leak Resolution (kg/hr)', 'Technology Type', 'Applicability', 'Status', and 'ID'. A second red arrow points from the 'new request' link to the 'Product' column of the table.

ATM Request Form Template

- Home
- New ATM Request**
- Review ATM Requests
- Approved ATM Requests
- Frequently Asked Questions
- Contact us

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.

Please visit [Handling CBI](#) to learn more about CBI and the procedures for submitting and associating it with your request.

Please fill out the form below. You can save your progress at any time and return to it later. When you are finished, you can submit it for review. Your application will become publicly visible 7 days after you submit it (or sooner if it's approved.)

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

[Get Help](#)

Request ID
Not saved yet

i 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
<input type="text" value="Jane Doe"/>	<input type="text" value="jane@abcsolutions.com"/>	<input type="text" value="555-555-5555"/>

2. Company and Product

Company Name	Company Website
<input type="text" value="ABC Solutions Inc."/>	<input type="text" value="http://abcsolutions.com"/>

Product Name	Desired Applicability
<input type="text" value="My Detection Product"/>	<input type="text"/>

Leak Detection Resolution	Technology Type
<input type="text" value="1"/> kg/hr	<input type="text"/>

Continuous solution

Additional information (optional)

3. Documentation

CBI also submitted

Executive Summary (recommended) ⓘ

This information is provided in another file or not relevant

Add one or more files

Drag files here or [choose from folder](#)

Description of Technology ⓘ

This information is provided in another file or not relevant

Add one or more files

Drag files here or [choose from folder](#)

Supporting Documentation ⓘ

This information is provided in another file or not relevant

Add one or more files

Drag files here or [choose from folder](#)

Supporting information for Measurement Technology ⓘ

This information is provided in another file or not relevant

Add one or more files

Drag files here or [choose from folder](#)

[Save](#)

[Submit](#)

ATM Request Form

Message Portal

- Home
- New ATM Request**
- Review ATM Requests
- Approved ATM Requests
- Frequently Asked Questions
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[Get Help](#)

Request ID
Not saved yet

i 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
<input type="text" value="Jane Doe"/>	<input type="text" value="jane@abcsolutions.com"/>	<input type="text" value="555-555-5555"/>

2. Company and Product

Company Name	Company Website
<input type="text" value="ABC Solutions Inc."/>	<input type="text" value="http://abcsolutions.com"/>

Product Name	Desired Applicability
<input type="text" value="My Detection Product"/>	<input type="text" value=""/>

Leak Detection Resolution	Technology Type
<input type="text" value="1"/> kg/hr	<input type="text" value=""/>
<input type="checkbox"/> Continuous solution	

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 as time allows. All messages in this portal are excluded from your submitted request, and will remain private.

Message

Save the request to enable messaging.

[Post](#)

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)

Status: Approved by EPA staff on Mar 01, 2024 (1 existing update)	Request ID ALTTECH-73
--	--------------------------

Point of Contact (redacted for public)

Full Name	Email	Phone
[REDACTED]	[REDACTED]	[REDACTED]

Company and Product

Company Name SC&A, Inc.	Company Website http://www.scainc.com
-----------------------------------	---

Product Name SCA Sat	Desired Applicability Super-emitter detection
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Leak Detection Resolution 100.0 kg/hr	Technology Type Satellite
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Additional Information (optional)

Alternate contact is: joesmith@sca.com

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.

Documentation

CBI also submitted

Executive Summary (optional) ⓘ
SCA Sat 1.docx

Description of Technology ⓘ
 This information is provided in another file or not relevant

More info
Located in SCA Sat 1.docx

Supporting Documentation ⓘ
SCA Sat 2.docx

Supporting information for Measurement technology ⓘ
 This information is provided in another file or not relevant

More info
Located in SCA Sat 2.docx

Updates

Added Mar 01, 2024

More info
Adding updates shown in file attached.

IMG_2653.png

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.



can save your progress at any time and
d, you can submit it for review, at which
will be publicly visible.

[ge portal](#) to get help.

Request ID
ALTTECH-65

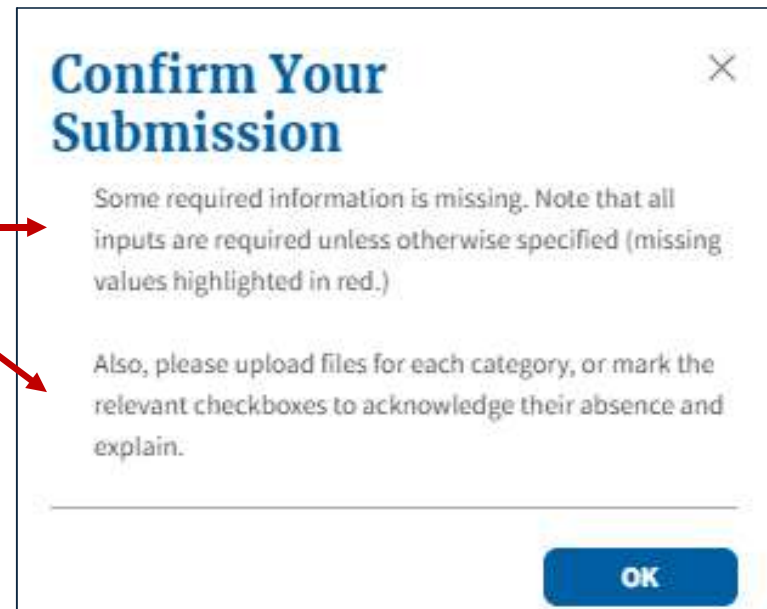
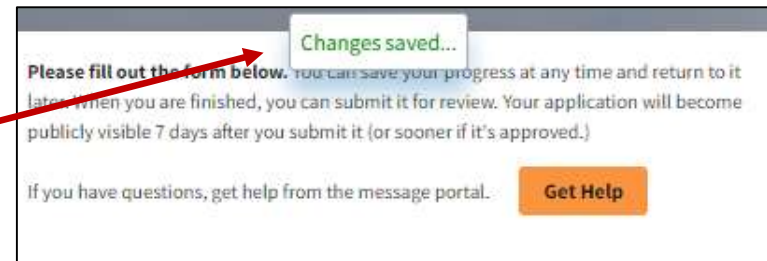
Phone

@detectmethane.org 555-234-5436

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