



LONGPATH
TECHNOLOGIES

Executive Summary

**Alternative Test Method: Detect and Localize Methane Emissions
using LongPath Emissions Sensing Network™ Technology**

Detection Threshold: ≤ 1 kg/hr with 90% Probability of Detection

Submitted To: Environmental Protection Agency Emission Measurement Center

<https://www.epa.gov/emc/oil-and-gas-alternative-test-methods>

Submitted By: LongPath Technologies

<https://www.longpathtech.com>

LongPath Technologies Methane Alternative Test Method Request – Executive Summary

Request Number – ALTTECH-50

Submission Date – September 19, 2024

Company Name	LongPath Technologies, Inc.
Submission Point of Contact Name	Caroline Alden
Submission Date	September 19, 2024
Product Name	LongPath Emissions Sensing Network™
Technology Type	Stationary remote sensor
Target Applicability	Broadly applicable across the sector
Target Emission Leak Rate Threshold	1.0 kg/hr
Request Numbers of Connected Submitted Requests	ALTTECH-13 (Continuous) ALTTECH-51 (2 kg/hr) ALTTECH-52 (3 kg/hr) ALTTECH-53 (5 kg/hr) ALTTECH-54 (10 kg/hr) ALTTECH-55 (15 kg/hr)

Technical Summary of Technology

This method is an alternative test method for demonstrating compliance for fugitive emissions components affected facilities and compliance with periodic screening under 40 CFR §60.5398b(b).

This method uses the LongPath Emissions Sensing Network™ technology to perform periodic screening of emissions. The monitoring system uses open-path laser beams to create geofences around monitored sites, providing detection and localization of fugitive emissions.

Notes for the MATM Review Team:

The tables below show which documents are the same or similar between this and other requests from LongPath Technologies, Inc. When documents differ, the text within the submitted document is highlighted to show those differences.

Updates to the Application:

None to list at this time.

Summary of Documents Submitted:
Description Document Submission Category:

Document Name(s) with extension	Document Description	Similarity to Other Submitted Documents
LESN_ATM_Description_Technology_1.1 - CBI.pdf	<p>Submission Location: CBI submission</p> <p>Description: This document demonstrates how the technology works, from first principles through calculated data product. This document includes a description of measurement technology, description of conversion to mass emission rate, and description of data handling and storage.</p>	<p>Similar to Description of Technology submitted for ALTTECH-13 (Continuous)</p> <p>Same as Description of Technology submitted for: ALTTECH-51 (2 kg/hr) ALTTECH-52 (3 kg/hr) ALTTECH-53 (5 kg/hr) ALTTECH-54 (10 kg/hr) ALTTECH-55 (15 kg/hr)</p>
LESN_ATM_Description_Technology_1.1 - nonCBI.pdf	<p>Submission Location: Publicly Facing Portal</p> <p>Description: Same as above, with confidential information removed.</p>	

Alternative Test Method:

Document Name(s) with extension	Document Description	Similarity to Other Submitted Documents
LESN_ATM_1kg_hr_Formal_ATM_1.1.pdf	<p>Submission Location: Publicly Facing Portal</p> <p>Description: Alternative Test Method Formatted Method, including the protocols for running the technology in the field and other method protocols.</p>	<p>Similar to Formal ATM submitted for: ALTTECH-13 (Continuous)</p> <p>Same as Formal ATM submitted for: ALTTECH-51 (2 kg/hr) ALTTECH-52 (3 kg/hr) ALTTECH-53 (5 kg/hr) ALTTECH-54 (10 kg/hr) ALTTECH-55 (15 kg/hr)</p>

Supporting Documents:

Document Name(s) with extension	Document Description	Similarity to Other Submitted Documents
LESN_ATM_Datasets_Validation_1.1.pdf	Submission Location: CBI submission	Same as Datasets and Validation Supporting Documentation submitted for: ALTTECH-13 (Continuous)

	<p>Description: This supporting documentation provides data demonstrating operation, applicability, resilience, and spatial resolution.</p>	<p>ALTTECH-51 (2 kg/hr) ALTTECH-52 (3 kg/hr) ALTTECH-53 (5 kg/hr) ALTTECH-54 (10 kg/hr) ALTTECH-55 (15 kg/hr)</p>
LESN_ATM_Detection_Threshold_1.1.pdf	<p>Submission Location: CBI submission</p> <p>Description: This supporting documentation provides verification that the technology meets the detection threshold, including demonstration as applied in the field, and how probability of detection is determined.</p>	<p>Same as Detection Threshold Supporting Documentation submitted for</p> <p>ALTTECH-13 (Continuous) ALTTECH-51 (2 kg/hr) ALTTECH-52 (3 kg/hr) ALTTECH-53 (5 kg/hr) ALTTECH-54 (10 kg/hr) ALTTECH-55 (15 kg/hr)</p>
LESN_ATM_End_User_Documents_1.1.pdf	<p>Submission Location: CBI Submission</p> <p>Description: This supporting documentation provides information for end users, including manuals and frequently asked questions documents.</p>	<p>Same as End User Documents Supporting Documentation submitted for:</p> <p>ALTTECH-13 (Continuous) ALTTECH-51 (2 kg/hr) ALTTECH-52 (3 kg/hr) ALTTECH-53 (5 kg/hr) ALTTECH-54 (10 kg/hr) ALTTECH-55 (15 kg/hr)</p>
LESN_ATM_Publications_and_Reports_1.1.pdf	<p>Submission Location: Publicly Facing Portal</p> <p>Description: This supporting documentation provides full copies of publications and reports demonstrating the method and technology.</p>	<p>Same as Publications and Reports Supporting Documentation submitted for:</p> <p>ALTTECH-13 (Continuous) ALTTECH-51 (2 kg/hr) ALTTECH-52 (3 kg/hr) ALTTECH-53 (5 kg/hr) ALTTECH-54 (10 kg/hr) ALTTECH-55 (15 kg/hr)</p>
LESN_ATM_Publicly_Facing_Documents_1.1.pdf	<p>Submission Location: Publicly Facing Portal</p> <p>Description: This supporting documentation provides white papers, technical slide decks and informational brochures that help to describe the technology and method.</p>	<p>Same as Publicly Facing Documents Supporting Documentation submitted for:</p> <p>ALTTECH-13 (Continuous) ALTTECH-51 (2 kg/hr) ALTTECH-52 (3 kg/hr) ALTTECH-53 (5 kg/hr) ALTTECH-54 (10 kg/hr) ALTTECH-55 (15 kg/hr)</p>
LESN_SOPs_QC_1.1.pdf	<p>Submission Location: CBI Submission</p> <p>Description: This supporting documentation describes</p>	<p>Same as SOP and QA Supporting Documentation submitted for:</p> <p>ALTTECH-13 (Continuous) ALTTECH-51 (2 kg/hr)</p>

	standard operating procedures and internal guidance documents for personnel, supplies, and quality control.	ALTTECH-52 (3 kg/hr) ALTTECH-53 (5 kg/hr) ALTTECH-54 (10 kg/hr) ALTTECH-55 (15 kg/hr)
LESN_ATM_Spatial_Resolution_1.1.pdf	<p>Submission Location: CBI Submission</p> <p>Description: This supporting documentation provides a description of the spatial resolution capabilities of the LongPath Emissions Sensing Network™ technology.</p>	<p>Same as Spatial Resolution Supporting Documentation submitted for:</p> <p>ALTTECH-51 (2 kg/hr) ALTTECH-52 (3 kg/hr) ALTTECH-53 (5 kg/hr) ALTTECH-54 (10 kg/hr) ALTTECH-55 (15 kg/hr)</p>