

Insight M 10 kg/hr Methane Alternative Test Method Request: Executive Summary

1 Submission Information

Request Number	ALTTECH-24
Original Submission Date	06/16/2024
Company Name	Insight M, Inc.
Submission Point of Contact Name	V Chai Oliver Prentice
Product Name	LeakSurveyor™ - 10 kg/hr
Technology Type	Airborne mobile remote sensor
Target Applicability	Broadly applicable across sector
Target Emission Leak Rate Threshold	10 kg/hr
Request Nos. of Connected Requests	ALTTECH-25

2 Introduction and Technical Summary of Technology

On June 16, 2024, Insight M, formerly known as Kairos Aerospace, submitted an application to the United States Environmental Protection Agency (EPA) to seek approval of its aircraft-based LeakSurveyor technology as an Alternative Test Method for Methane Detection Technology that may be used to meet the requirements of 40 CFR § 60.5398b(b). We have since submitted certain updates to our application, as described in sections 3 and 5 below.

Insight M is a leading provider of methane performance management with direct and extensive experience applying our LeakSurveyor technology and measurement system commercially in basin-scale aerial methane survey campaigns to deliver actionable emissions data to oil and gas industry clients since 2017.

Insight M is seeking broadly applicable, nationwide approval for our facility-level leak detection technology and operational protocol.

3 Updates to the Application

Date	Description
6/16/2024	Initial application submitted
1/13/2025	Updated application materials submitted (on or before date)

4 Notes for Review Team

Insight M is applying for approval of our LeakSurveyor technology at both the 10 kg/hr and 15 kg/hr minimum detection thresholds. This application is for Insight M's broadly applicable 10 kg/hr methane detection technology. The separate, related application for Insight M's broadly applicable 15 kg/hr methane detection technology can be found under Request ID ALTTECH-25.

5 Summary of Documents Submitted

5.1 Description of Technology

Document Name with Extension	Document Description	Submitted as CBI
IM10-01-02_Description_of_Technology.pdf	Insight M LeakSurveyor Description of Technology (Updated): Public-facing description of how Insight M's technology works to deliver actionable emissions data to oil and gas industry clients.	
IM10-02-04_Description_of_Measurement_Technology_and_Data_Handling_CBI.xlsx	Description of Measurement Technology and Data Handling (Updated): Detailed end-to-end description of Insight M's analytical pipeline, from pre-flight requirements to generating end-user reports.	✓
IM10-03-01_Visual_Workflow_CBI.pdf	Visual Workflow: Visual representation summarizing the Description of Measurement Technology and Data Handling.	✓
IM10-04-01_InsightM_Quantification_White_Paper.pdf	Insight M Methane Emissions Quantification Methodology: White paper that explains how Insight M quantifies methane emission rates and the accuracy of quantification during controlled methane releases.	

5.2 Formal Alternative Test Method

Document Name with Extension	Document Description	Submitted as CBI
IM10-05-02_LeakSurveyor_Formal_Alternative_Test_Method.pdf	Insight M LeakSurveyor - Formal Alternative Test Method for 10 kg/hr & 15 kg/hr Deployment (Updated): Detailed description of Insight M's alternative testing procedure, formatted as described in EMC Guideline Document 45.	

5.3 Supporting Documentation

Document Name with Extension	Document Description	Submitted as CBI
IM-Supp06_Article_EI_Abbadi_2024.pdf	El Abbadi et al. (2024): Independent, peer-reviewed research article detailing a single-blind test of LeakSurveyor technology.	
IM-Supp07_Article_Conrad_2023.pdf	Conrad et al. (2023): Independent, peer-reviewed research article evaluating the impact of sensor height and wind on sensitivity.	
IM-Supp08_US_Patent_LeakSurveyor.pdf	LeakSurveyor United States Patent	
IM-Supp09_InsightM_Operational_History.pdf	Insight M Operational History: High-level summary of Insight M's history and operational scope.	
IM-Supp10-v3_Controlled_Release_Metadata_Summary_CBI.xlsx	Controlled Release Metadata Summary (Updated): Metadata summary of baseline controlled release datasets.	✓
IM-Supp11_Sample_Customer_Report_CBI.pdf	Sample Customer Report: Anonymized example of a customer survey report demonstrating the data the end user of Insight M's technology will receive.	✓
IM-Supp12_Customer_Kickoff_Deck_CBI.pdf	Customer Kickoff Deck: Anonymized example of a customer kickoff deck demonstrating the	✓

Document Name with Extension	Document Description	Submitted as CBI
	information provided to end users of Insight M's technology at the beginning of a project.	
IM-Supp13_Virtual_Analysis_Training_Syllabus_CBI.pdf	Virtual Analysis Training Syllabus: Internal procedure detailing the training process each Insight M analyst must complete.	✓
IM-Supp14-v3_Facility_Level_Analysis_SOP_CBI.pdf	Facility-Level Analysis Standard Operating Procedure (Updated): Internal procedure detailing how analysts review and validate data quality for data collected at 10 kg/hr and 15 kg/hr target sensitivities, validate emission detections, and associate to a facility-level emission source.	✓
IM-Supp15_Supplemental_Articles_CBI.pdf	Supplemental Articles: Supplemental peer-reviewed research articles cited in CBI submissions.	✓