

# Public Quarterly Report

**Date of Report:** 3rd Quarterly Report- July 1, 2020

**Contract Number:** #693JK31910016POTA

**Prepared for:** DOT

**Project Title:** Develop Remote Sensing and Leak Detection Platform that can Deploy Multiple Sensor Types

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**For quarterly period ending:** June 30, 2020

## 1: Items Completed During this Quarterly Period:

Team Project Activities completed during this quarter.

<i>Item #</i>	<i>Task #</i>	<i>Activity/Deliverable</i>	<i>Title</i>
1	1	Project Plan development	Project Management and Reporting
7	3	Test Range & Protocol Update	Test Range & Staging Protocols
11	4	Aviation Safety Case – update	Airspace Development
12	5	1st Flight Test Campaign complete	Flight Test Program
14	7	3rd Quarterly Status Report	Submit 3rd quarterly report

## 2: Items Not Completed During this Quarterly Period:

Team Project Activities not completed this quarter

<i>Item #</i>	<i>Task #</i>	<i>Activity/Deliverable</i>	<i>Title</i>
13	6	Report on Campaign #1	Data Analysis and Benchmarking

## 3: Project Financial Tracking During this Quarterly Period:

On internal report.

## 4: Project Technical Status –

### Item #1 / Task 1 / Project Kick-Off, Protocol / Project Plan

**Description:** The Project Plan Development is designed to incorporate participant inputs and formalizes roles, responsibilities and schedule for the project team (PHMSA and PRCI).

**Status:** The Project Plan was presented to the Members at the Monthly project meeting. Members accepted the program plan and recommended practices (RPs) as presented. Project Plan actions were assigned at the meeting.

### Item #7 / Task 3 / Test Range Review / Test Range & Staging Protocols

**Description:** Multiple PRCI members have offered to make their ROW corridors available for this program. Multiple factors have been considered in the selection of location(s) for conducting these tests including, for example, population density, proximity to transportation corridors, towered airports, traffic patterns of ongoing aviation operations (helicopters, crop dusters, parachutists, balloonists and gliders, commercial & military

aircraft, etc.). Site selection recommendations were made using a risk-based approach to identify the optimum location for the flight test program.

**Status:** Flight Test Plan and procedures for threat detection have been developed and approved for Phase 1 Test flights which began in May 2020 at Woodbine, New Jersey, where machinery, thermal, and fire threat detection was conducted to mitigate Novel Coronavirus (2019-nCoV / Covid-19) costs. AATI published the initial Informational Interface Control Document (ICD) that meets member requirements in order to share data across projects to maximize value and minimize flight software modifications. Established flight test plans for liquid hydrocarbon and thermal detection. In-flight geoprocessing workflow and threat publishing and image post processing and distribution completed. Preparations currently in action to build liquid hydrocarbon and vegetative targets. AATI continues to build the flight operations in the San Joaquin Valley in California to begin in September 2020. AATI has built the target and specifications meeting the requirements for the test plans. We also continue to evaluate and develop East Coast and Midwest airspace options in the event that the program can be expanded.

#### **Item #11 / Task 4 / Aviation Safety Case – Initial Release / Airspace Development**

**Description:** The current state-of-the-art in BVLOS UAS operations requires the use of manned aircraft to follow the UAS to detect-and-avoid other air traffic – i.e., chase aircraft. Using chase plane operations as the approved baseline sense-and-avoid methodology, data sets will be developed to support the combined use of the FAA’s Air Traffic Management (ATM) system, Unmanned Aircraft Traffic Management (UTM), Automatic Dependent Surveillance - Broadcast (ADS-B) surveillance technology, ground-based radar (GBR) surveillance technology and/or airborne radar for this purpose. This project plans to provide valuable data to assist the FAA, PHMSA and PRCI members to advance the safety case for BVLOS UAS operations on pipeline corridors.

**Status:** Safety Case Development for elimination of chase aircraft has been developed and accepted by the FAA under an aligned program. AATI is working with the FAA UAS Program Office and LA ACO to refine the type certification process for the RE. A meeting is pending in the next 30 days to set the basis for type certification and review the draft CONOPS and ORA. Engine and component testing conducted this quarter and flight tests in June have begun the data collection for the certification. Biweekly meetings have resumed with FAA.

#### **Item #12 / Task 5 / 1<sup>st</sup> Flight Test Campaign complete / Flight Test Program**

**Description:** Conduct Test Program with automated multi-threat detection system on long endurance UAS flying hundreds of miles of pipeline corridor.

**Status:** Confidential

#### **Item #14 / Task 7 / 3rd Quarterly Report / Submit 3rd Quarterly Report**

**Status:** this document presents the 3rd Quarterly Report

### **5: Project Schedule –**

Current Flight programs are underway with minimal COVID-19 impacts that have not been mitigated in advance. We continue to monitor the increasing cases of COVID-19 in Texas, Oregon, and California in planning.

The development of the flight campaign program in the San Joaquin Valley is pending in September 2020 and is at risk due to the Blunt-nosed leopard lizard (BNLL), a California State endangered and Federally endangered fully protected species. Alternative locations for launch and landing zones are being surveyed and secured for the upcoming flight campaigns, and a BNLL survey may be pursued to prepare for future campaigns.

