

EMAT GUIDED WAVE
TECHNOLOGY FOR INLINE
INSPECTIONS OF UNPIGGABLE
NATURAL GAS PIPELINES

KICKOFF MEETING, OCT 6, 2016



ULC

PIPELINE ROBOTICS
ENERGY SERVICES
RESEARCH AND DEVELOPMENT

AGENDA

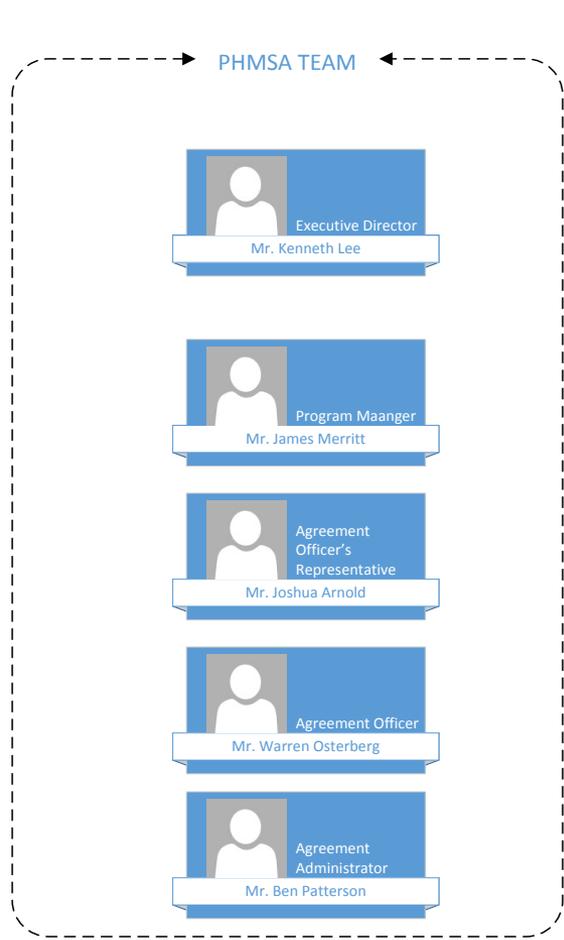
EMAT Guided Wave Technology Pre-Kickoff Meeting

- Project Summary
- Project Team
- Project Major Tasks
- Project Meeting/Events/Reports
- Next 90 Days: Tasks and Deliverables
- Contractual Provisions/Requirements
- Next Steps

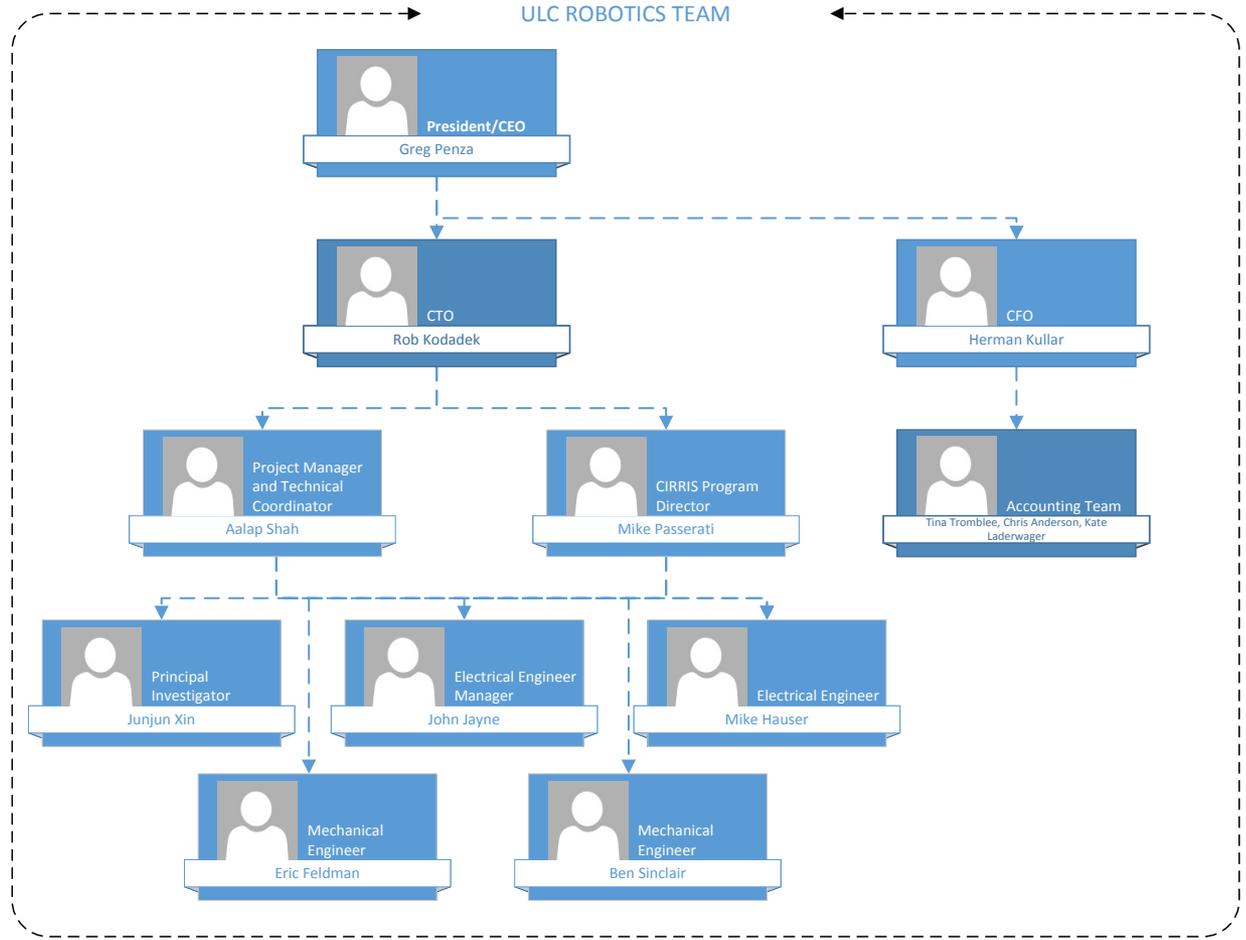
PROJECT SUMMARY

- EMAT Guided Wave Technology for Inline Inspections of Unpiggable Natural Gas Pipelines
- Government Funding: \$208,378
- Effective start date: Sept 30, 2016
- Project estimated end date: Sept 30, 2018
- Project Goals:
 - Evaluate EMAT guided wave sensor technology for unpiggable gas transmission and distribution mains
 - Evaluate and conceptually design the integration of the sensor with ULC's CIRRIIS robot

PROJECT TEAM

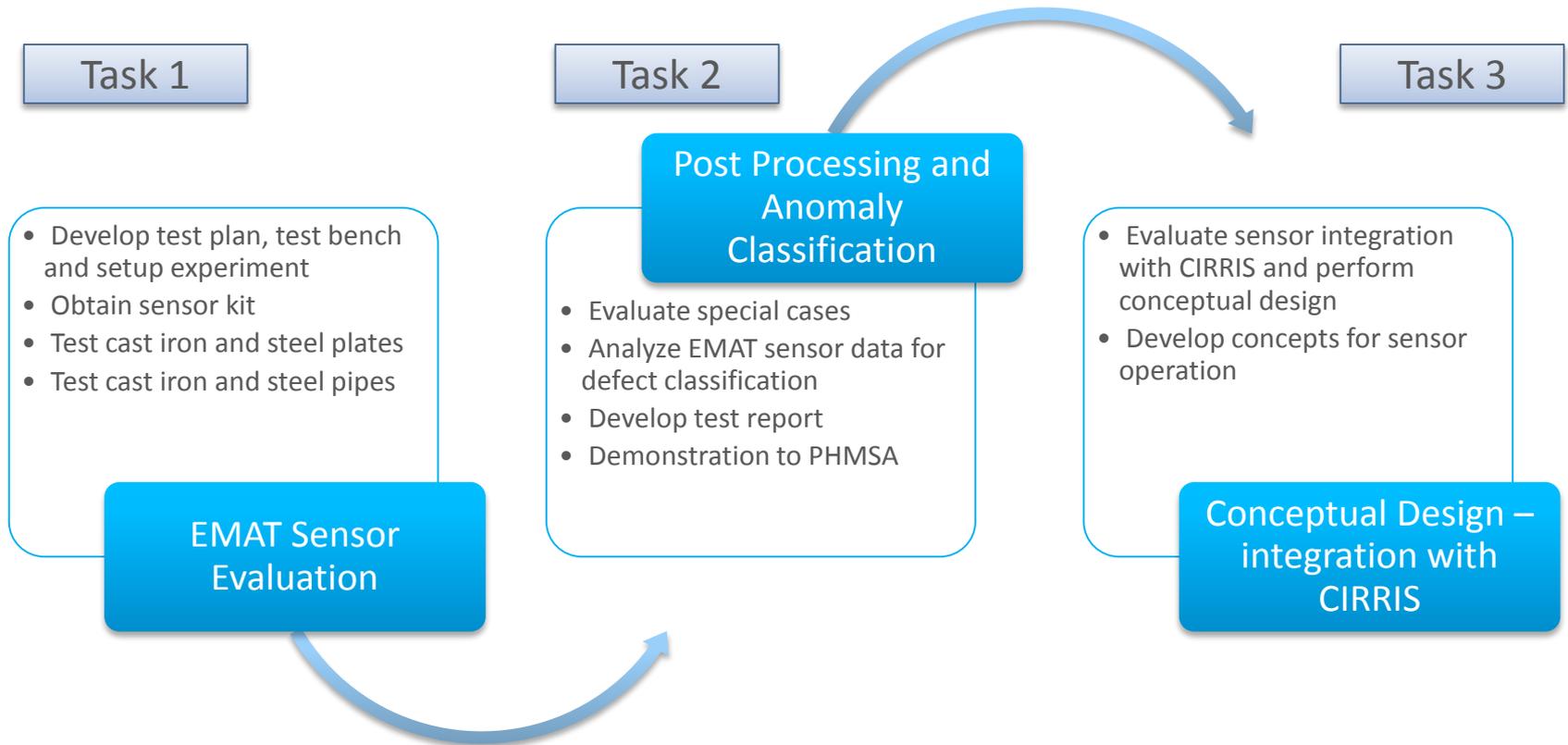


PHMSA: EMAT GUIDED WAVE TECHNOLOGY TEAM



ULC ROBOTICS: EMAT GUIDED WAVE TECHNOLOGY TEAM

PROJECT MAJOR TASKS



PROJECT MEETINGS/EVENTS/REPORTS

Communication Type	Objective of Communication	Medium	Frequency	Audience	Owner	Deliverable
Kickoff Meeting	Introduce the project team and the project. Review project objectives and management approach.	Teleconference	Once	ULC Project Team PHMSA team	Project Manager	Agenda Presentation
Monthly Status Update	Updates to PHMSA – accomplishments and forecast activities over next 30-60 days	Electronic Updates	Monthly, COB of 2 nd working day following month end	PHMSA team	Project Manager	Project Status Report
Quarterly Status and Project Report	Report on the status of the project to PHMSA	Document – submit electronically	Quarterly	Public	Project Manager	Project Status Report
Annual Peer Review	Discuss status of project	In person meeting	Annual, Q1 of calendar year	Office of Management and Budget ULC Project Manager	Project Manager	Presentation
Test Results Paper and Presentation	Disseminate information and to provide peer review of work	Public Conference/Forum/Workshop	Annual	Public	Research Scientist	Paper and Presentation
Draft and Final Project Report	Report the project overview and results	Document – submit electronically	Once	Public PHMSA team	Project Manager	Final Project Report

PROJECT TEMPLATES

Example: Internal Quarterly Report

Revised February 25, 2015

Date of Report: <Example: 4th Quarterly Report-February 25, 2015>
Contract Number: <Example: DTPH56-XX-X-XXXXX (see award documents for this number)>
Prepared for: <Government Agency: DOT and Co-funders (if applicable)>
Project Title: <Title> (see award documents for the project title)
Prepared by: <Contracting Organization>
Contact Information: <Person that prepared the report with e-mail and phone number>
For quarterly period ending: <Example: February 15, 2015>

Funds and Work Completed During this Quarterly Period:

<For work completed the PHMSA Agreement Officer's Representative (AOR) needs to understand in descriptive details how to associate work broken out by task as defined in the award document's that were started and or completed during this quarter with the invoice amount submitted for their review. The example of: TaskX.1-completed and report to follow, is NOT considered adequate descriptive detail. A description of the task as defined in the award documents attachment #2 to include descriptive details of the testing process: scientific experiments, field testing or other research studies including data collected are considered formatted data/results tend

A figure must be provided reflecting Quarterly Payable software can create such a scheme you like as long as must be updated each quarter paper(s) and student involv



Quarterly Report – Public Page

Date of Report: <Example: June 30, 2008>
Contract Number: <Example: DTRS56-04-T-9999 or DTPH56-04-T-9999>
Prepared for: <Government Agency: DOT and Co-funders (if applicable)>
Project Title: <Title>
Prepared by: <Contracting Organization>
Contact Information: <Person that prepared the report and their contact information (e-mail and phone number)>
For quarterly period ending: <Example: June 30, 2008>

Public Page Section- This section contains information on the technical status of the Project and the milestones completed during the quarter. Information will be information that PHMSA may release to the public in whole or in part at any time. The information must not contain proprietary data or confidential business information. The Team Project Manager must provide a point of contact for coordination, preparation, and distribution of any press releases.

General Information required on all Public Quarterly Reports

Research Project Peer Reviews



Pipeline & Hazardous Materials Safety Administration

Office of Pipeline Safety

Research & Development Program

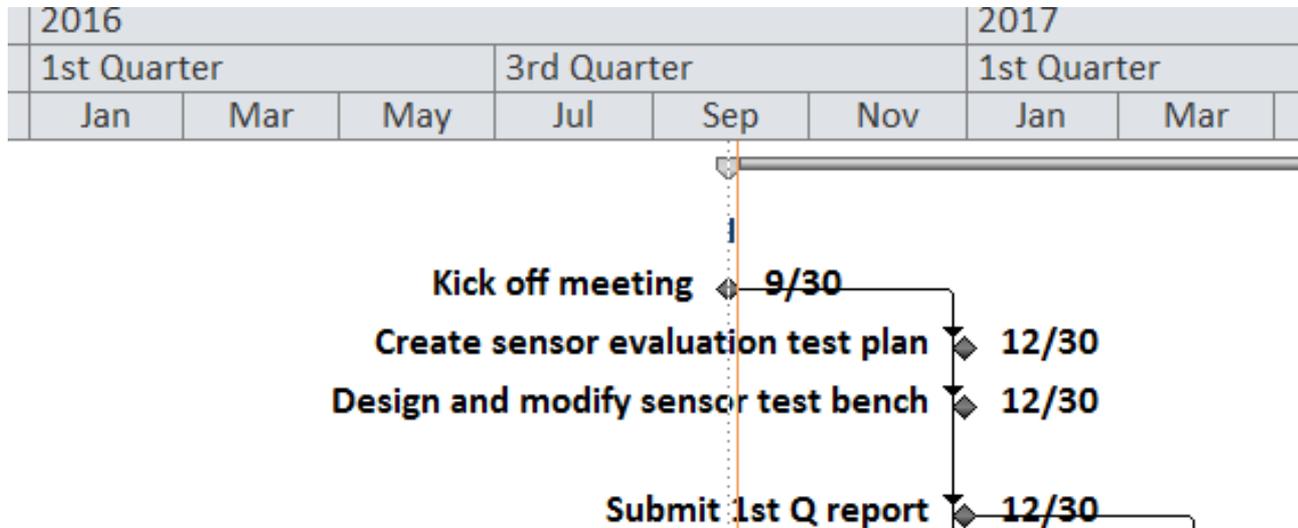
2016 Edition

NEXT 90 DAYS: TASKS

Scheduled Tasks

Task No.	Task Name	Start	Finish
1	Task 1: Evaluate EMAT guided wave sensor	Fri 10/7/16	Fri 12/29/17
1a	Perform test planning, test bench mods and sensor design	Fri 10/7/16	Fri 1/13/17
	Place order for sensor kit and instrumentation	Fri 10/7/16	Wed 10/12/16
	Develop and finalize sensor evaluation test plan	Fri 10/7/16	Thu 10/20/16
	Visit sensor vendor	Fri 10/21/16	Wed 10/26/16
	Participate in vendor discussions remotely	Thu 10/13/16	Wed 10/19/16
	Receive sensor kit	Fri 1/13/17	Fri 1/13/17
	Redesign test bench	Tue 10/25/16	Mon 11/7/16
	Procure and fab test test bench equipment and test materials	Tue 11/15/16	Mon 11/28/16
	Receive equipment and test materials	Tue 12/20/16	Tue 12/20/16
	Assemble test bench	Tue 12/20/16	Tue 1/3/17
	Perform frequency and wave mode selection	Thu 10/27/16	Wed 11/23/16

NEXT 90 DAYS: DELIVERABLES



<u>Item No.</u>	<u>Activity/Deliverable</u>	<u>Quarter No.</u>	<u>Expected Completion Date/Mos</u>	<u>Payable Milestone</u>
1	Develop test plan, design and modify test bench and design sensor	1	3 months	Test Plan completed, sensor selected and test bench modifications completed.
2	Procure equipment and materials for testing	1	3 months	Test Plan completed, sensor selected and test bench modifications completed.
3	1st Quarterly Status Report	1	3 months	Submit 1st quarterly report

CONTRACTUAL PROVISIONS/REQUIREMENTS

CONTRACT REFERENCE	PROVISION
Section 1.02, Item 5	Any proposed changes to Team cost share contributions must be provided within 90 days of the date of Agreement execution.
Section 6.07	After the Agreement is executed, the Agreement Officer will provide detailed instructions for submitting reports and Deliverables, including the specific web address, user ID, and password.
Section 8.03	<p>Each Team Participant must disclose to the Team Project Manager any inventions embodying New Technology (“New Technology Inventions”) conceived in the performance of work under this Agreement.</p> <p>The Team Project Manager must report on New Technology Inventions in the Technical Status Section of the Quarterly Status and Progress Report. The Team Project Manager must also report the information electronically using PRIMIS. PHMSA will track each step of the patent process from Application, Publication, and the final Patent stages.</p> <p>For purposes of this Article, “New Technology” means technology of a Team Participant conceived or first actually reduced to practice in the performance of work under this Agreement.</p>

CONTRACTUAL PROVISIONS/REQUIREMENTS

CONTRACT REFERENCE	PROVISION
Section 8.04	Each Team Participant must include, within the specification of any United States patent application and any patent that is issued covering New Technology Invention, the following statement: “This invention was made with Government support under Agreement No. DTPH5616T00004 awarded by the U.S. Department of Transportation, PHMSA. The Government may have certain rights to this invention.”
Section 9.03	Technical data, whether or not specifically identified or marked, that is subject to the export laws and regulations of the United States and that is provided to participant under this agreement will be treated as such, and will not be further provided to any foreign persons without proper U.S. Government authorization, where required.

CONTRACTUAL PROVISIONS/REQUIREMENTS

CONTRACT REFERENCE	PROVISION
ARTICLE XI	The Parties agree that articles for publication or presentation by THE RECIPIENT or any Team Participant must contain a statement on the title page worded substantially as follows: “This research was funded in part under the Department of Transportation, Pipeline and Hazardous Materials Safety Administration’s Pipeline Safety Research and Development Program. The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the official policies, either expressed or implied, of the Pipeline and Hazardous Materials Safety Administration, or the U.S. Government.”
Article XXIV	The recipient of this award must provide, in advance, to the PHMSA Contracting Officer, for review and concurrence, any proposed: -post-award announcement/press release when the content refers to PHMSA. -article, for publication or presentation, in which PHMSA is mentioned.

CONTRACTUAL PROVISIONS/REQUIREMENTS

CONTRACT REFERENCE	PROVISION
ARTICLE XXIII, Item B	<p>Recipient hereby agrees to satisfy the reporting and compliance requirements as set forth in the USDOT Public Access plan, including, but not limited to, the submission and approval of a Data Management Plan, the use of Open Researcher and Contributor ID (ORCID) numbers, the creation and maintenance of a research project record in the Transportation Research Board's (TRB) Research in Progress (RiP) database, and the timely and complete submission of all required publications and associated digital data sets as such terms are defined in the DOT Public Access plan. Additional information about how to comply with the requirements can be found at: http://ntl.bts.gov/publicaccess/howtocomply.html</p> <p>The US DOT Public Access Plan can be accessed at: https://www.transportation.gov/sites/dot.gov/files/docs/Official%20DOT%20Public%20Access%20Plan%20ver%201.1.pdf</p>

NEXT STEPS

- ULC needs to setup access to the Delphi eInvoicing System
- ULC needs to setup “PRIMIS”: the project database used for project management and project reporting.
- ULC will seek guidance from PHMSA to satisfy the reporting and compliance requirements as set forth in the USDOT Public Access plan
- ULC will start preparing the sensor evaluation test plan

THE END
End of slides

