

Memo

To: D. Harris, L. Sutter, R. Shuchman, and rest of Project Team
From: T. Ahlborn, H. de Melo e Silva
CC: C. Singh
Date: January 13, 2012
Number: 23
Subject: Update for No-cost Time Extension and Final Report Outline

This is to inform the project team of two items critical to the completion of our project using remote-sensing technologies for bridge condition assessment.

First, the project has been granted a no-cost time extension, with a new completion date of September 30, 2012. As such, quarterly reports items and dates for deliverables must be adjusted to meet the new completion date. Below is an updated list and timeline of our project deliverables (as of December 8, 2011), including additional information for content of technical memorandums (starting on page TM#23 - 1).

Second, an outline (as of December 8, 2011) of our final report has been developed and can also be found below (starting on page TM#23 - 3).

DELIVERABLES

Quarter 8 (September-December 2011)

Items 28 – 30: Due to the United States Department of Transportation (USDOT) within twenty-four (24) months of the effective date of the Agreement (due 1/15/12).

28. Technical memorandum n^o 23 provides an update for the timeline and deliverables for this project in light of the no-cost time extension (thru September 30, 2012). This memorandum also includes the outline of the final report.
29. Technical memorandum n^o 24 describing health indicators for each technology with progress related to the Decision Support System (DSS) as well as a DSS progress update.
30. Technical memorandum n^o 25 reporting on progress of the economic valuation of the technologies and the DSS tool, software and components for bridge condition assessment.

Quarter 9 (January-March 2012)

Items 31 – 32: Due to USDOT within twenty-seven (27) months of the effective date of the Agreement (due 4/15/12).

31. Technical memorandum n^o 26 describing final papers developed for each technology and the economic evaluation.
32. Technical memorandum n^o 27 explaining the DSS beta version evaluation by our Michigan Department of Transportation focus group and by our Technical Advisory Committee (TAC) through a secure web-portal, summarizing the capabilities of the DSS for integrated bridge assessment as well as the DSS.

Quarter 10 (April-June 2012)

Items 33 – 34: Due to USDOT within thirty (30) months of the effective date of the Agreement (due 7/15/12).

33. Technical memorandum n^o 28 describing the assessment from the comprehensive project review workshop.
34. Final draft report submitted to USDOT June 30, 2012 (internal deadline May 15, 2012).

Quarter 11 (July-September 2012)

Items 35 – 36: Due to USDOT within thirty-three (33) months of the effective date of the Agreement (due 9/30/12).

35. Conduct *Remote Sensing Workshop*, following American Society for Nondestructive Testing NDE/NDT for Highway and Bridges: Structural Materials Technology (SMT) <<http://www.asnt.org/events/conferences/smt12/smt12.htm>>, August 24, 2012 – New York, NY.
36. Deliver Final report, incorporating comments received from USDOT and TAC members by September 30, 2012.

FINAL REPORT OUTLINE

Project Documentation Page

Executive Summary

Acknowledgments

Disclaimer

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List of Appendices

Chapter 1 – Introduction, Project Overview

Chapter 2 – Selected RS literature review, cite Appendix A (CSE report)

Chapter 3 – State of the Practice, cite Appendix B (SOA report)

Retool the SOP report: selection for our project focus

Chapter 4 – Methodology

Lab work, field demonstration (general)

Chapter 5 – Technology Performance and Evaluation

Each technology here: lab work, field performance, complementing technologies

Chapter 6 – Decision Support System

Development, layout, framework

Condition data integration (existing NBI, RS and other inspection techniques)

Chapter 7 – Economic valuation

Chapter 8 – Implementation and Field Readiness

Combine complementing technologies discussion

Chapter 9 – Conclusions and the Path Forward

Note About Chapter Five

Chapter 5 will be written as a series of papers for the following topics:

3D Optical Bridge-evaluation System (3DOBS)

Bridge Viewer Remote Camera System (BVRCS)

GigaPan System (GigaPan)

Thermal Infrared (ThIR)

Digital Image Correlation (DIC)

Light Detecting and Ranging (LiDAR)

Ultra Wide Band Imaging Radar System (UWBIRS) / Ground Penetrating Radar (GPR)

Synthetic Aperture Radar (SAR)

Interferometric Synthetic Aperture Radar (InSAR)

Multispectral Satellite Imagery (MSI)

Each paper/sub-chapter includes intro/background/details on lab and field work, applications, results/pros/cons, limitations for implementation, costing comments, integration into the DSS, combining with other technologies (surface, subsurface, global, etcetera).

Other papers include a “combined field deployment or R/S technologies” and “economic evaluation for R/S technologies for bridge inspection”.