

**Development of Standardized Test Procedures for Evaluating Deicing
Compounds (Project Number: 07-02)**

Progress Report #1

Covering the period of
Nov. 1 – Dec. 31, 2007

Submitted by

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The Clear Roads Program #TPF-5(092)



Dec. 31, 2007

Overview

Problem

Every year manufacturers introduce new deicing chemicals, additives or mixtures for use in snow and ice operations. Users do not currently have a comprehensive methodology for evaluating the performance of these new products prior to purchasing.

Objective

The goal of this project is to establish laboratory tests that can be applied to all deicing chemicals, additives and mixtures to measure performance. Manufacturers would then be required to have the tests run at independent laboratories before they can be marketed or used by Clear Roads states.

Expected Results

A standard set of performance tests for deicing chemicals, additives and mixtures that will help agencies anticipate how products may work in their specific environment.

Progress

The project is estimated to be on budget and on schedule, with approximately 12% of the scope completed. During this reporting period, the research team had a kick-off teleconference with the technical advisory committee (TAC). The team then conducted a comprehensive literature search and completed the Task 1 deliverable draft, which is ready for the TAC's review.

Task Report

Task 0: Project Management (12% Complete)

The research team maintained communication with the TAC throughout the reporting period. The research team also hired an undergraduate student to assist in the literature review.

At the outset of the project (Nov. 13, 2007), the research team had a teleconference with the TAC to review the work plan, receive suggestions, address concerns, and arrive at a consensus on the project scope of work. This teleconference helped determine how the research team should communicate with the TAC throughout the duration of the research. Responsibilities of the TAC members were identified, and issues with respect to the overall direction of the research effort were addressed.

Task 1. Comprehensive literature search (90% Complete)

The research team reviewed available literature to survey the state of the practice and the state of the art related to this project, focusing on relevant research and guidelines from around the country to identify existing and proposed standards for evaluating deicer performance. These include testing protocols, procedures and ranges pertinent to deicing chemicals, additives and mixtures used on roadways and other transportation facilities.

Task 2. Needs identification and recommendations (0% Complete)

No work has been completed on this task.

Task 3. Develop testing protocols, procedures and ranges (0% Complete)

No work has been completed on this task.

Task 4. Conduct baseline tests (0% Complete)

No work has been completed on this task.

Task 5. Final report (0% Complete)

No work has been completed on this task.

Upcoming Activities (Jan. 1- March 31, 2008)

The Principal Investigator will meet with the Clear Roads TAC via conference call after completion of the Task 1 (planned for Jan. 8, 2008). Prior to beginning Task 2, the Principal Investigator will present the results of the literature search, along with an analysis of the best standards and value ranges for each test identified, plans for proceeding with Task 2 (needs identification), and any barriers or concerns related to moving forward with the project.

Based on results of the literature search as well as TAC input in the interim conference call, plans for conducting Task 2 will be refined. To ensure that the research results will be useful and can be readily implemented, the research team will consult with representatives from the Clear Roads member states (*Colorado, Illinois, Indiana, Iowa, Massachusetts, Michigan, Minnesota, Missouri, New York, Ohio, Utah, Virginia, Wisconsin, and Wyoming*) to identify testing needs and priorities for performance requirements. Due to time and financial constraints, it is impossible to implement too many standard tests at once. Therefore, it is necessary to prioritize them and focus on the standard tests most needed by the transportation agencies for evaluating deicing chemicals, additives and mixtures.

To this end, an electronic survey will be developed and distributed to the identified winter maintenance practitioners in Clear Roads member states. Before proceeding with the survey, the research team will develop in greater detail the survey approach to be used, which will be submitted to the TAC for review and approval.

Pending approval of the TAC, the same survey can also be distributed to the Snow and Ice List Serve, maintained by the Snow and Ice Pooled Fund Cooperative Program (SICOP), in order to gather more diverse input from professionals with other state, provincial, or local transportation agencies. An alternative approach would be to focus on distributing surveys through membership organizations, such as the AASHTO Subcommittee on Maintenance¹, the American and

¹ Many provincial agencies are affiliate members of AASHTO.

Canadian Public Works Associations, or SICOP. Other potential venues include the Aurora Program, the Pacific Northwest Snowfighters, and the TRB Committee on Winter Maintenance. In all cases, more weight will be put on the responses from Clear Roads member states.

Project Schedule

Figure 1 shows the updated project schedule by month, reflecting the new project start date of Nov. 1, 2007 (instead of August 1, 2007). The project is on schedule.













		2007	2008												2009			
Tasks	Milestones	11 12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
Task 0. Project Management																		
Project kickoff	11/13/2007																	
Quarterly progress reports	End of each quarter																	
Task 1. Comprehensive Literature Review																		
Interim Conference Call Meeting/Presentation	1/8/2008																	
Task 2. Needs Identification and Recommendations																		
Interim Report: Needs Identification and Recommendations Summary	May-08																	
Task 3. Develop Testing Protocols, Procedures and Ranges																		
Task 4. Conduct Baseline Tests																		
Task 5. Final Report																		
Draft final report	Feb-09																	
Face-to-face TAC meeting	Mar-09																	
Final report	Apr-09																	

Figure 1: Project schedule by month