

ACCELERATED IMPLEMENTATION OF INTELLIGENT COMPACTION TECHNOLOGY FOR EMBANKMENT SUBGRADE SOILS, AGGREGATE BASE, AND ASPHALT PAVEMENT MATERIALS

10th Quarterly Progress Report – January 2010 to March 2009
Prepared by The Transtec Group, Inc.
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A. ACCOMPLISHMENTS/SIGNIFICANT FINDINGS BY TASK THIS QUARTER:

TASK 1 - Technical Working Group (TWG)

- This task is complete.

TASK 2 - Literature Review and Evaluation of Intelligent Compaction Equipment

- Updated contents (e.g., IC library) are being also updated on the IC website (www.IntelligentCompaction.com) to facilitate knowledge transfer and information sharing. Further detailed, technical review is under way. The site was updated at a regularly basis.

TASK 3 – Preparation of Interim Report and Work Plan Package

- This task is complete. The literature review will be updated continuously.

TASK 4 – Technical Working Group Initial Meeting

- This task is complete.

TASK 5 - Coordinated IC Field Demonstrations

- Planning for the 2010 IC demonstrations is progressing via web meetings, teleconference, emails, and website updates.
- The HMA IC at WisDOT is finalized to be conducted between May 10 and May13, 2010. The overall schedule of IC demonstrations is posted: (<http://www.intelligentcompaction.com/index.php?q=node/13>).
- Updates on reports and other related information for the past IC demonstration have been posted:
 - The KS Soils IC demonstration report is updated. (<http://www.intelligentcompaction.com/index.php?q=node/128>)
 - The GA HMA IC demonstration report is updated. (<http://www.intelligentcompaction.com/index.php?q=node/156>)
 - The NY HMA and Soils IC demonstration report is updated. (<http://www.intelligentcompaction.com/index.php?q=node/149>)
 - The MS HMA and Soils IC demonstration report is updated. (<http://www.intelligentcompaction.com/index.php?q=node/149>)

Summary of 2010 Full-scale IC Demo Projects

State	Dates	Materials	Rollers
Wisconsin	May 10 to 14	HMA	Sakai
Pennsylvania	Mid-June	Soils and HMA*	TBA
North Dakota	Mid-August	Soils	TBA
Indiana	Mid-July or early August	Soils**	TBA
Virginia	Early June	HMA	TBA

* Included mini HMA demonstration

** Funded by INDOT

Summary of IC-related Reports*

Topic	Last Revision	File Size (MB)	Pages of Reports	Figures
MN HMA demo report	Nov., 2008	11	76	56
TX soils/subbase demo report	Dec., 2008	56	93	76
KS soils demo report	May, 2009	26	125	93
NY HMA/Soils demo report	Feb., 2010	34	224	181
MS HMA/Soils demo report	April, 2010	14	198	148
MD HMA demo report	Sept., 2009	22	98	88
GA HMA demo report	March, 2010	33	96	78
IN HMA demo report	Dec., 2009	31	98	86
Generic IC Experimental Plan	June, 2008	0.7	41	7
Interim Report	June, 2008	1.4	76	3
2008 Annual Report	Feb., 2009	4.6	127	54
2009 Annual Report	Jan., 2010	21	108	91
IC Dana Management	Dec., 2009	21	118	81
IC Demo Tech Brief	Jan. 2010	0.18	4	
Soils IC Tech Brief	March, 2010	5.7	8	
HMA IC Tech Brief	Jan., 2010	0.9	6	
	Total	282.48	1496	1042

* excluding experimental plans.

TASK 6 – Database Management Plan

- A comprehensive IC data management plan document is revised and posted (http://www.intelligentcompaction.com/downloads/TPF/IC_Data%20Management_V1c_all.pdf).
- A revised IC data storage specification was developed and reviewed by all IC roller manufacturers.
- A research version of an IC Viewer software tool is under development and being revised.

TASK 7 – Development of a Feasibility Report for an European Scan

- This task is eliminated from the original scope.

TASK 8 – Quality Control/Assurance Training and Assistance

- Quality control/assurance training and assistance has been continuing for the pooled fund States.
- MnDOT is working with a panel to finalize IC specifications for the 2010 construction projects, expecting 6 in total.
- TxDOT is finalizing Soils IC specifications for the 2010 construction projects, expecting the first IC project in Dallas area this summer.
- The research team is also assisting NDDOT, PennDOT, VDOT, and WisDOT on their special provisions on IC.

TASK 9 – Presentations

- The project team has planned and delivered for presentations in several meetings in the near future.
 - August 1-5, 2010: International Conference on Asphalt Pavements, Nagoya, Japan. "Intelligent Compaction - Improved Construction Technologies for Hot Mix Asphalt that Benefits Agencies and Contractors", by Lee Gallivan.
 - March 31, 2010: Asphalt Institute webinar on "Intelligent Compaction - A Smart Innovation", by Bob Horan and Lee Gallivan. The live recording of the webinar is available from the above web link.
 - February 3, 2010: 2010 North Central Asphalt User/Producer Group (NCAUPG) Hot Mix Asphalt Technical Conference, "Advances in Intelligent Compaction" by Lee Gallivan.
 - January 10, 2010: TRB 2010 Intelligent Compaction Workshop, by the research team.
- The TRB 2010 IC workshop materials are posted online (<http://www.intelligentcompaction.com/index.php?q=node/177>).
- Presentation materials have been constantly updated and incorporated with recent findings.

TASK 10 – Annual and Final Reports

- The draft annual report for 2008 is revised and posted on the pooled fund page of the IC website.

http://www.intelligentcompaction.com/downloads/TPF/IC_Annual%20Report_2008_V4.pdf)

- The draft annual report for 2009 is revised and posted on the pooled fund page of the IC website.

http://www.intelligentcompaction.com/downloads/TPF/IC_Annual_Report_2009_V1c.pdf)

B. WORK PLANNED FOR NEXT QUARTER (APRIL 2010 TO JUNE 2010):

TASK 1 - Technical Working Group (TWG)

- This task is complete.

TASK 2 - Literature Review and Evaluation of Intelligent Compaction Equipment

- The first step of this task is complete. On-going update (e.g. in-depth IC technical information) is expected in the next quarter.

TASK 3 – Preparation of Interim Report and Work Plan Package

- This task is complete. However, the literature review will be updated continuously.

TASK 4 – Technical Working Group Initial Meeting

- This task is complete.

TASK 5 - Coordinated IC Field Demonstrations

- IC demo are likely to be conducted in WisDOT, PennDOT, PennDOT, and VDOT under this period.
- Planning for the field demonstration will be underway for the remaining full scale sites (NDDOT, and INDOT) and other mini demos.

TASK 6 – Database Management Plan

- A database plan will be finalized to manage data to be collected during the project period. An alpha version of an IC data process tool will be revised and tried out on the data collected so far.

TASK 7 – Development of a Feasibility Report for an European Scan

- This task is eliminated.

TASK 8 – Quality Control/Assurance Training and Assistance

- Quality control/assurance training and assistance will be conducted along with the IC field demonstration project.

TASK 9 – Presentations

- There are many presentations scheduled in the period. Other presentation may be provided if opportunity comes up.

TASK 10 – Annual and Final Reports

- No report will be produced during this period.

C. IDENTIFICATION OF PROBLEMS/RECOMMENDED SOLUTIONS:

- No problems are identified in this quarter.