

**STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION**

**STATE MATERIALS OFFICE
STRUCTURAL MATERIALS LABORATORY**

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**REPORT OF SURVEY RESULTS FOR NONDESTRUCTIVE
TESTING CERTIFICATION**

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BACKGROUND

During the Fall 2007, American Concrete Institute (ACI) convention, ACI Technical Committee 228 on Nondestructive Testing (NDT) initiated a task group to look into certifying technicians in the performance of nondestructive testing on site. The purpose of the certification scheme would be to ensure that the operator demonstrated an acceptable level of competence in the performance of a particular test. Therefore, it was decided to survey relevant government agencies to determine whether they would support a nondestructive testing certification program. This report presents the results from a questionnaire sent via electronic mail to the Department of Transportation (DOT) materials list serv, which includes the email addresses of the respective state materials engineers for each of the fifty state DOTs and the 13 provincial and territorial ministries responsible for transportation in Canada.

EVALUATION PROGRAM

A questionnaire provided by the task group from ACI committee 228 was designed to seek responses from DOT personnel that have an interest in using NDT as part of their daily inspection operations, ultimately to see if NDT technician certification would be considered desirable or necessary. The questionnaire contained the following five questions that were considered to be necessary to help the 228 task group assess the extent to which an NDT technician certification program is needed, and to tailor the program accordingly:

1. Does your agency currently use any of the ACI certification programs to qualify your employees for acceptance of materials?
2. Does your agency currently use nondestructive testing methods for the in-place evaluation of your concrete structures for acceptance?
3. Does your agency use any NDT testing for in-place concrete? If so, which ones?
4. Does your agency currently make use of any nondestructive certification programs for the qualification of personnel for concrete testing?
5. If ACI created a nondestructive testing certification program to qualify laboratory and field technicians, would your agency make use it?

RESULTS

Of the 50 state DOTs and the 13 provincial and territorial ministries there were a total of 33 respondents, 32 states and one ministry of transportation. Table 1 is a summary of the results for each question.

Table 1. Summary of results from responding agencies

Question Number	Answered "Yes"	Answered "No"	No response
1	28	3	2
2	26	7	0
3	15	18	0
4	3	30	0
5	19	10	4

The survey questions were designed to provide the 228 task group with “yes or no” answers to each of the questions. However, some of the responses to Question #5 “Would your agency make use of a certification program created by ACI?”, were returned without a response or with a response of “maybe” response. For the purposes of this survey, “maybe” responses are considered to be a “yes” answer as the relevant agency is considering the use of a potential NDT certification program created by ACI. Seven of the agencies responded to question 5 with a “maybe”. Table 2 provides a complete summary of the results from all responding agencies.

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Table 2 survey results

Organization Name	Answers to Questions					Comments
	1	2	3	4	5	
Alabama DOT	Yes	Yes	Yes	No	Yes	ALDOT would look into the possibility of incorporating the program in order to insure our trained technicians are up-to-date on non-destructive testing for forensics.
Arizona DOT	Yes	Yes	No	No	No, right now	#2 Rebound hammer for minor precast items
Colorado DOT	Yes	Yes	Yes	No	Yes	Chain Drag, Rebound Hammer, UPV
Connecticut DOT	Yes	No	Yes	No	Depends, Yes	Rebound hammer for informational purposes
Florida DOT	Yes	Yes	Yes	No	Yes	We use temperature monitoring for mass concrete structures, We've consulted out to testing firms to verify construction defects, in existing structures
Georgia DOT	No	No	Yes	No	Yes	#3 ASTM C805
Idaho DOT	Yes	Yes	Yes	No	Depends, Yes	Possibly, It would depend on items covered. Ease of obtaining certification, cost, etc.
Illinois DOT	Yes	No	No	No	No	
Iowa DOT	No	Yes	No	Yes (internal) / PCC level 1	No	#2 (Maturity)

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Kentucky DOT	YES	Yes	No	No	No, right now	#2 Rebound hammer in very limited situation when concrete cores cannot be obtained to verify low cylinder strength #5 With the very limited use of NDT that Kentucky uses, we would not use the certification. If the use of other NDT procedures started to be used in Kentucky we would look for a certification to cover them
Louisiana DOT	No answer	Yes	No	No	Maybe	I suggest we observe the future trend of other state DOTs and how/if they incorporate NDT in their specifications and then decide.
Maine DOT	Yes	No	No	No	No	We are not interested at this time.
Maryland DOT	No answer	No	Yes	No	Yes	We have used Ferrosan and GPR Technology for precast structures but not as an acceptance procedure
Massachusetts DOT	Yes	No	No	No	Maybe	
Michigan DOT	No	No	No	No	Incomplete	
New Jersey DOT	Yes	No	Yes	No	Yes	#2 Rebound hammer
New York DOT	Yes	Yes	Yes	No	Depends, Yes	#2 Cross Hole Sonic Logging ,Maturity Testing. #3 GPR, Impact Echo Tests, & Parallel Seismic Testing used

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Nebraska DOT	Yes	No	No	No	Probably not	
Nevada DOT	Yes	No	Yes	No	No	#3 MIT Scan Dowel Bars
North Dakota DOT	Yes	Yes	No	No	Yes	#2 (Maturity)
Ohio DOT	Yes	No	No	No	No	IN MY OPINION ACI DOESN'T HOLD THE SKILLS TO CERTIFY. THE FIRST ISSUE IS SPECIFIC SET TRAINING FOR NDT. THIS HAS GONE ON FOR YEARS IN THE STEEL INDUSTRY WITH NDT. JUST SETTING UP A CERTIFICATION CRITERIA WILL NOT WORK
Ontario MTO	Yes	Yes	Yes, Use	No	Yes	Covermeter, UPV, GPR, Field Perm, Rebound Hammer
Oregon DOT	Yes	No	No	Yes ASNT (steel)	Yes	They would use as need arises.
Pennsylvania DOT	Yes	No	No	No	No	
Rhode Island DOT	Yes	No	No	No	Maybe	not currently specified, costs may be prohibitive, not sure what is included in the NDT cert. program – although we do not use it now for acceptance, we may use some forms of it in the future.
South Carolina DOT	Yes	No	No	No	Yes	None
Tennessee DOT	Yes	No	No	No	Incomplete	None
Texas DOT	No / Can replace	No	Yes, Use	No	No	Portable Seismic Pavement Analyzer (PSPA) and the rebound hammer t, GPR & FWD for CP

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Utah DOT	Yes	Yes	No	No	Probably	Maturity Meters
Virginia DOT	Yes	No	Not Routinely	No	Incomplete	
Washington DOT	Yes	Yes	Yes	Yes FHWA	Yes	#2 Maturity, #3 Rebound Hammer Radiography
West Virginia DOT	Yes	No	Yes, Use	No	Incomplete	#3 IE, UPV, Windsor Probe
Wyoming DOT	Yes	No	No	No	No	