



# FACT SHEET

## NETC 13-3: Improved Regionalization of Quality Assurance (QA) Functions

### RESEARCH PROJECT TITLE

*Improved Regionalization of Quality Assurance (QA) Functions*

### STUDYTIMELINE

03-2015 – 06-2017

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### MORE INFORMATION

[POSTER](#)

The New England Transportation Consortium, a cooperative effort of the transportation agencies of the six New England States, funded this research. Through the Consortium, the states pool professional, academic and financial resources for transportation research leading to the development of improved methods for dealing with common problems associated with the administration, planning, design, construction, rehabilitation, reconstruction, operation and maintenance of the region's transportation system.

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### Introduction or What was the Problem?

The use of quality assurance (QA) systems in highway infrastructure is critical to ensure durable, safe, and economical transportation operations. The cost associated with the required manpower and testing on part of agencies can accumulate quickly.

For regions such as New England, a significant cost savings can be achieved if the QA resources are shared amongst the agencies. This is especially true for the components of highway construction where: (1) limited variability is present between state specifications; (2) the quantity of work is not large enough to warrant a large number of inspectors within each agency and their district offices; (3) several contractors provide materials and construction for multiple agencies.

The purpose of the study was to develop common acceptance standards for the PCE/PSE in the construction of highway bridges for New England State Transportation Agencies.

### Methodology or What was done?

In order to determine the appropriate common QA process for all the State DOTs in New England, an in-depth evaluation of the current of PCE/PSE acceptance specifications of all constituents was conducted through specification reviews and interview of agency staff.

The information gathered throughout the process was analyzed and a set of unified QA process recommendations were developed. Development was based on information obtained through the literature review, the agency interview process, and through interview of producers.

### Conclusion or What are the next steps?

On the basis of the review, recommendations are made regarding unification of QA processes between New England state transportation agencies. The recommendations are broadly divided into major categories associated with the QA process: producer qualification, quality control and quality service manual, and quality assurance inspection. Recommendations are provided for pre-stressed elements, structural precast elements, and non-structural precast elements.

The aforementioned recommendations for the proposed specifications could be used to limit the cost of inspection amongst the agencies by utilizing shared inspectors that could ultimately perform work for multiple agencies during the work day. This would prevent the surplus of inspectors at a given plant performing similar inspections. The next step towards implementation is to develop a cost-sharing mechanism for the agencies to be able to appropriately allocate the cost of inspection for the correct elements. After a cost-sharing mechanism has been developed, it is important to implement a pilot plan to refine the recommended procedures to ensure a smooth transition for the various agencies.

### What are potential impacts?

With availability of the unified quality assurance processes for precast and pre-stressed concrete elements that are commonly used in highway construction, various New England DOTs will be able to streamline aspects of their QA process, specifically the plant certification and QA inspection. This will lead to substantial financial advantages to the agencies due to lowering of costs associated with personnel travel to various fabricators and also lowering of costs for fabricators due to more homogenous quality and process control procedures.

