

# 2019 Structure Inspection Program Administration

## 1.1 Welcome



Welcome to the Wisconsin Department of Transportation's Bridge Inspection Refresher Series.

## 1.2 Objectives

**Objectives**

- 1** List qualifications to be an inspection team leader (TL)
- 2** List qualifications to be an inspection program manager (PM)
- 3** List responsibilities of TL and PM
- 4** Define Quality Assurance (QA) and Quality Control (QC)

At the end of this session, you will be able to:

List the minimum qualifications required to be an inspection Team Leader for both routine and specialized inspections on bridge structures.

List the minimum qualifications required to be an inspection Program manager

List the responsibilities delegated to Team Leaders and Program managers.

Define Quality Assurance and Quality Control and list common methods

### 1.3 Route Inspections

	NHI Course 130055 or 130056 - Safety Inspection of In-Service Bridges	<b>Team Leader Qualifications Routine Inspections</b>
	Complete the current WisDOT Inspection Refresher training	
	WI P.E. Registration <u>or</u> 5 years of Bridge Experience	

The most common inspection type for highway bridges is the Routine inspection. To be certified as a Team Leader to perform Routine inspections in Wisconsin, the inspector shall have three requirements met:

- Attend and pass one of the two eligible National Highway Institute courses on In-service inspections of highway bridges.
- Successfully complete a Wisconsin DOT inspector refresher training course.
- Be registered as a Professional Engineer in Wisconsin, or have 5 years of bridge inspection experience.

Please note that recertification is required every 5 years, and requires the inspector to pass the current Wisconsin DOT refresher training course.

### 1.4 Special Inspections

<p><b>Fracture Critical</b></p> <ul style="list-style-type: none"> <li>✓ Routine TL qualifications</li> <li>✓ NHI Course 130078 (Fracture Critical Inspection Techniques for Steel Bridges)</li> </ul>	
<b>TL Qualifications Special Inspections</b>	
	<p><b>Underwater Dive</b></p> <ul style="list-style-type: none"> <li>✓ Routine TL qualifications</li> <li>✓ NHI Course 130091 (Underwater Bridge Inspection)</li> <li>✓ Certified Diver</li> </ul>

In addition, more technical and/or specialized inspections require additional certifications.

To inspect a Fracture Critical structure, the Inspection Team Leader shall also pass the National Highway institute course on Fracture critical inspection techniques.

To be a team leader on underwater dive inspections on a highway bridge in Wisconsin, the inspection Team Leader needs to pass the National Highway Institute course on Underwater Bridge Inspection, and be a certified diver.

The Federal Highway Administration requires that all States have an organizational structure in place to inspect, or cause to inspect, all highway bridges on public roads. Wisconsin has an organizational structure that includes:

## 1.6 PM Qualifications

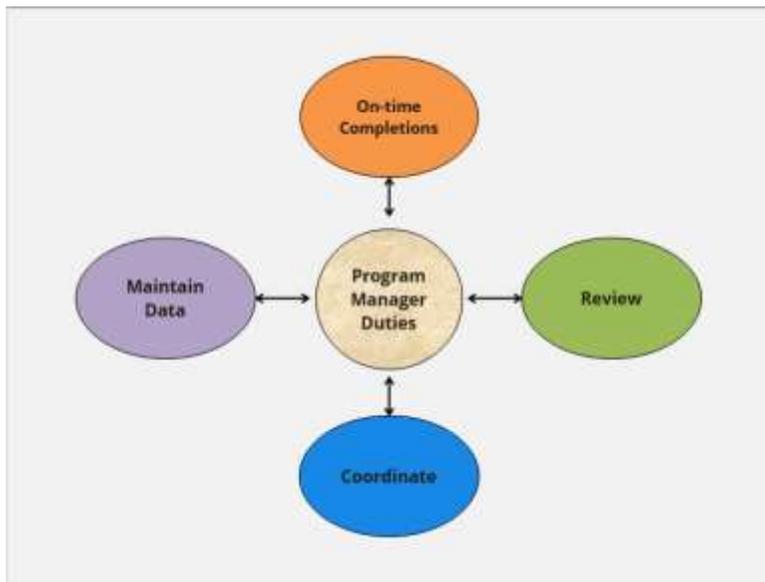


- A Statewide Program Manager that oversees all highway bridges owned by State or Local agencies in Wisconsin
- Multiple Regional Program Managers that oversee bridges in specific regions of the State regardless of ownership
- And County Program Managers that oversee locally owned bridges in his or her county.

To be qualified to be a Program Manager in Wisconsin, the candidate must:

- Attend and pass one of the two eligible National Highway Institute courses on In-service inspections of highway bridges.
- Successfully complete a Wisconsin DOT inspector refresher training.
- Be registered as a Professional Engineer in Wisconsin, or have 10 years of bridge inspection experience.

## 1.7 PM Duties



Program managers have extensive responsibilities, including:

- Ensuring all inspections and other assessments are completed on-time and with qualified personnel.
- Reviewing the inspection findings, repair and maintenance needs, and safety concerns and providing a summary of needs and priorities to the owner.

## 1.8 QC

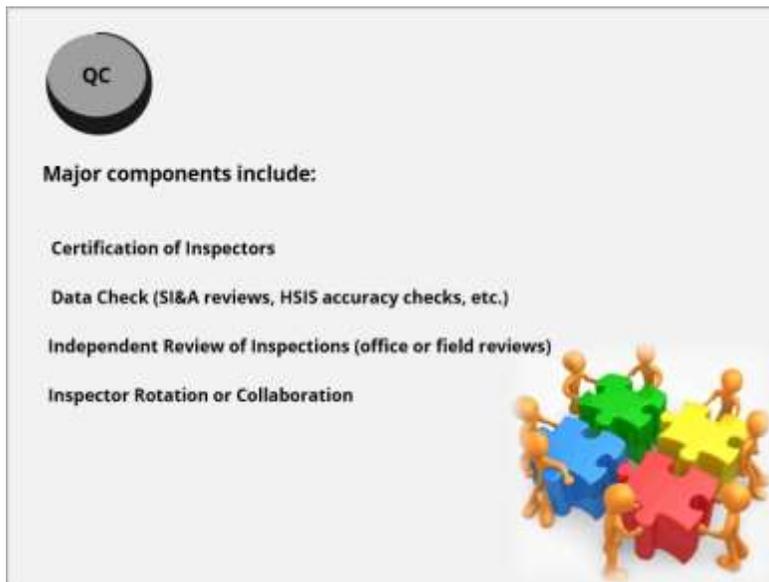


Given the complex nature of structural inspection work and the high consequence for errors, it is imperative that structure inspectors use quality control and quality assurance methods to reduce the risk of errors or omissions.

The purpose of quality control is to *ensure uniformity and consistency in inspector training and qualification, completeness and accuracy of inspection reports and structure data, and timeliness in adherence to inspection frequency requirements.*

The purpose of quality assurance is to *oversee the quality of the inspection program and to evaluate the need for adjustments to individual quality control programs.*

## 1.9 QC



Some components of QC for the Wisconsin Bridge inspection program include:

- Certification of Inspectors to assure that trained personnel are performing the inspections.
- Automated data checks by the Highway Structures information System to prevent errors in data entry and ensure proper inspection frequencies are adhered to.
- Scheduled data checks by inspectors and PM's, such as the Structural Inventory and Appraisal reviews every four years.
- Independent review of inspections by PM's.
- Inspector rotation or collaboration, so that different people get to inspect the structure and can offer different interpretations and insights to the condition of the bridge.

## 1.10 QC



Every county program is required to have a current DT2002 Quality Control Form on file with the Bureau of Structures (BOS)

Update and Submit form to the Regional PM and the Bureau of Structures:

- When a new County Highway Commissioner or Program Manager is hired

OR

- No later than January 15th of the year the Program is due for a Quality Assurance Review



Every program is required to have a Quality Control plan on file with the Bureau of Structures. Form DT2002 is used for this purpose and is prepared by the PM. The QC plan must be updated and submitted to the Bureau of Structures anytime a new commissioner or PM is hired and no later than January 15<sup>th</sup> of the year the program is due for a Quality Assurance review.

## 1.11 QC



Major components include:



Outcomes:

- Program performance is documented on the DT2003 (Structure Inspection Quality Assurance Form)
- Findings are used to determine emphasis areas for program improvement
- Inspector performance is also reviewed (If performance is found to be sub-standard, inspectors can be restricted from performing future inspections per guidelines in Section 1.2.6.7 of the Wisconsin Inspection Manual.)

There are many types of Quality Assurance reviews that take place on the bridge inspection program in Wisconsin.

FHWA reviews are performed by a team led by the FHWA Wisconsin Division Bridge Engineer. County reviews are performed by a team led by the WisDOT Regional Program manager, while Regional reviews are conducted by Bureau of Structures PM's. Supplemental reviews may be completed by any WisDOT PM, and usually are scheduled as a follow-up to findings from previous reviews.

The results of Quality assurance reviews performed by WisDOT personnel are documented using form DT2003 and kept on file at the Bureau of Structures. The findings help WisDOT determine areas where the program excels, and also areas of improvement.

During these reviews, inspector performance is appraised and inspectors are notified of both things they do well, as well as areas for improvement.

Though rare, this review can also initiate the process for disqualification of an inspector if he or she has been found to be in gross violation of inspection standards set forth by the department. More information on this process can be found in the Wisconsin Inspection Manual.

**1.12 End**

