

FHWA NEWS

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New NHI Course Meets NBIS Requirement for Divers Conducting Underwater Inspections

By Kevin Monaghan

The latest update to the National Bridge Inspection Standards (NBIS) became effective January 13, 2005, and requires bridge inspection training for all divers conducting underwater inspections. One way to meet the requirement is to successfully complete a Federal Highway Administration (FHWA)-approved training course on underwater bridge inspection. FHWA's National Highway Institute (NHI) has added such a course to its offerings—*Underwater Bridge Inspection* (FHWA-NHI-130091).

The course provides an overview of inspection methods useful to personnel responsible for managing and conducting underwater bridge inspections. Topics include methods of underwater inspection, inspection techniques for underwater materials and scour, and underwater element level rating. Practical exercises and demonstrations are also used to reinforce the course content.

Upon completion of the course, participants will be able to do the following:

- Describe typical underwater defects and deterioration, and identify conditions contributing to rates of deterioration.
- Identify inspection equipment and the advantages and limitations of each.
- Identify procedures for planning and performing thorough and safe underwater bridge inspections.
- Assign component and element level condition ratings for underwater components in accordance with the NBIS and Agency requirements.

The three-day course targets experienced divers, as well as bridge inspection program managers, structural engineers, and non-diver bridge inspectors from the public and private sector. There are no prerequisites. For more information on this course, contact Gary Moss at: 202-366-4654 or gary.moss@dot.gov.

NHI also offers several other courses related to inspecting structures and bridges:

Bridge Inspection Refresher Training (FHWA-NHI-130053)

Refresh your skills in visual inspection techniques and review inspectors' professional obligations. You also will discuss nationally significant issues relating to bridge infrastructure. At the course's end, you will be able to perform safety inspections, component or element level condition ratings, functional appraisals, and data collection, as well as evaluate channel scour as applied to waterway ratings and collect field data with precision.

Engineering Concepts for Bridge Inspectors (FHWA-NHI-130054)

This course is for technicians before taking a more intensive course in bridge inspection, such as NHI's two-week course on Safety Inspection of In-

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Service Bridges. It provides conceptual knowledge in bridge engineering, including materials, material properties, bridge components and details, loadings, stresses and strains, and deterioration of bridge materials and members.

Safety Inspection of In-Service Bridges (FHWA-NHI-130055)

This course fulfills the training requirements of the NBIS for comprehensive training. You will be administered mid-term and final examinations on the course, which is based on the new *Bridge Inspector's Reference Manual*. At the end of the course, you will be able to evaluate a variety of bridges and critical areas; review plans and reports before inspections; provide reports on defects; and identify equipment needed for inspections.

Fracture Critical Inspection Techniques for Steel Bridges (FHWA-NHI-130078)

This course replaces NHI Course 13036 and is expanded to include training and hands-on workshops for popular nondestructive testing equipment and a case study on preparing an inspection plan for a fracture critical bridge. At the course's end, you learn to identify fracture critical bridges and members, perform a thorough Fracture Critical Member inspection, identify various crack types and access their impact on performance, and recommend necessary action based on inspection findings.

Bridge Coatings Inspection (FHWA-NHI-130079)

During this course, you will focus on an inspection of surface preparation and application of protective coating systems for bridge and highway structures and navigate through the State's painting specification. At the end of the course, you will understand coating specifications and diagnose premature coating failures. The course includes lectures, discussion, demonstrations, and hands-on workshops.

Inspection and Maintenance of Ancillary Highway Structures (FHWA-NHI-130087)

You will learn all you need to establish and conduct an inspection program in accordance with the FHWA *Guidelines for the Installation, Inspection, Maintenance, and Repair of Structural Supports for Highway Signs, Luminaries, and Traffic Signals*. At the course's end you will be able to identify common visible weld defects, appropriate nondestructive testing techniques, factors that lead to corrosion, and repair techniques, as well as explain mitigation methods used in ancillary structures.

Bridge Construction Inspection (FHWA-NHI-130088)

This core course ensures uniformity and establishes minimum competencies among inspectors. You will gain requisite knowledge of construction and an awareness of the problems and consequences, and how these factors affect the structure's safety and service life. You will interpret drawings and specifications; describe the construction sequence for various bridge systems, types, and materials; maintain bridge controls for location and election; and perform surveys and dimensions checking.

Please visit the NHI Web site at www.nhi.fhwa.dot.gov for more detailed course information. To schedule a course, contact the NHI Training Coordinator at 703-235-0534 or nhitraining@dot.gov. To obtain information about all NHI courses, access the course catalog at www.nhi.fhwa.dot.gov or contact NHI at 703-235-0500 (phone) or 703-235-0593 (fax).

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