Questions and Answers on the National Bridge Inspection Standards, 23 CFR Part 650, Subpart C

Below are frequently asked questions and answers (Q&As) for the National Bridge Inspection Standards (NBIS) regulation, 23 CFR part 650, subpart C. If your question is related to the NBIS and not addressed by one of Q&As below, please send your question to: NBIS_SNBI_Questions@dot.gov. Responses will be provided to the requesters and, as appropriate, posted in the Q&A section of our website. We intend to periodically update these Q&As as new questions arise.

In these Q&As, any reference to the "final rule" or "NBIS" means the regulation as published in the Federal Register on May 06, 2022 (87 FR 27396), unless stated otherwise. Any reference to "prior regulation" is referring to any version of this regulation, prior to this rulemaking, unless stated otherwise.

Except for the statutes and regulations cited, the contents of this document do not have the force and effect of law and are not meant to bind the public in any way. This document is intended only to provide information to the public regarding existing requirements under the law or agency policies.

These Questions & Answers replace *Questions and Answers on the National Bridge Inspection Standards 23 CFR 650 Subpart C*, last updated on May 21, 2013.

General

QG-1 Why were the FHWA bridge inspection program regulations developed and what is the history of the program? (Updated 3/01/2023)

> **AG-1** The FHWA bridge inspection program regulations were developed as a result of the Federal-Aid Highway Act of 1968 (sec. 26, Public Law 90-495, 82 Stat. 815, at 829) that required the Secretary of Transportation to establish national bridge inspection standards (NBIS). The primary purpose of the NBIS is to locate and evaluate existing bridge deficiencies to ensure the safety of the traveling public.
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> The 1968 Federal-Aid Highway Act directed the States to maintain an inventory of Federal-aid highway system bridges. The Federal-Aid Highway Act of 1970 (sec. 204, Public Law 91-605, 84 Stat. 1713, at 1741) limited the NBIS to bridges on the Federal-aid highway system. After the

Surface Transportation Assistance Act of 1978 (STAA) (sec. 124, Public Law 95-599, 92 Stat. 2689, at 2702) was passed, NBIS requirements were extended to bridges greater than 20 feet on all public roads. The Surface Transportation and Uniform Relocation Assistance Act of 1987 (STURRA) (sec.125, Public Law 100-17, 101 Stat. 132, at 166) expanded bridge inspection programs to include special inspection procedures for fracture critical members and underwater inspection.

Additional changes have been made to the NBIS over the years with a revision made in 2004, that addressed scour critical bridges, required inspection procedures for complex bridges, and provided recommendations for addressing critical findings. Quality Assurance and Quality Control (QA/QC) procedures were also implemented and updates were made to the inspection interval for certain underwater inspections. Finally, a revision of the NBIS occurred in 2009 which updated a reference document used in the regulation.

A comprehensive history of the National Bridge Inspection Program is provided in the Bridge Inspector's Reference Manual (BIRM). The BIRM is defined in 23 CFR 650.305.

QG-2 Why revise the NBIS and what were the major revisions? (Updated 3/01/2023)

AG-2 The Moving Ahead for Progress in the 21st Century Act (MAP-21) (Pub. L. 112-141, 126 Stat 405) required the Secretary of Transportation to update the NBIS. Major revisions include:

1. Extending the applicability of the NBIS to tribally owned bridges.
2. Updating the methodology, training, and qualifications for inspection personnel.
3. Updating bridge inspection intervals, considering a risk-based approach.
4. Establishing a registry of nationally certified bridge inspectors.
5. Ensuring uniformity with the National Tunnel Inspection Standards enacted in 2015.
6. Establishing procedures for reporting and monitoring of critical findings.
7. Conducting annual reviews for compliance with the NBIS.
8. Collection and inventory of element level inspection data for bridges on the National Highway System (NHS).

Lastly, the final rule clarified NBIS regulatory language that was vague or ambiguous, incorporated advances in inspection practices, and incorporated by reference updated inspection documents.

Implementation

QI-1 When did the final rule of the National Bridge Inspection Standards (NBIS) take effect? (Updated 3/01/2023)

AI-1 The current NBIS took effect on June 6, 2022, which is thirty days after publication of the final rule in the Federal Register on May 6, 2022. However, compliance with several provisions in the final rule is not required before June 6, 2024. The implementation dates for these sections are stated in the final rule and described in the next question.

QI-2 What sections of the NBIS have implementation deadlines after the June 6, 2022, effective date? (New 3/01/2023)

AI-2 Compliance with the following sections of the final rule is required by June 6, 2024, which is 24 months after the effective date of the final rule:

Section	Description
650.309(a)	Program manager qualifications for existing PM
650.309(b)	Team leader qualifications for existing TL
650.309(c)	Team leaders on NSTM inspections
650.309(h)(3)	FHWA-approved alternate training under prior regulations
650.311(a)(1)(ii)	Routine inspections, Reduced intervals
650.311(b)(1)(ii)	Underwater inspections, Reduced intervals
650.311(c)(1)(ii)	NSTM inspections, Reduced intervals
650.311(g)(2)	Prior FHWA approved extended inspection interval policies

These sections are discussed in further questions below.

QI-3 When will the FHWA review compliance with the updated NBIS? (Updated 3/01/2023)

AI-3 FHWA understands that some requirements in the final rule will need to be implemented over time. Our Division Offices, Office of Federal Lands Highway, and Office of Tribal Transportation will work with the State transportation departments, Federal agencies, and Tribal governments to implement the final rule and ensure compliance with the NBIS. Additionally, our Office of Bridges and Structures will support the Divisions, Federal Lands Highway, and Tribal Transportation offices to ensure consistency as the final rule is implemented across the nation.

The final rule will change how the annual compliance review required by 23 U.S.C. 144(h)(3) is conducted. We are currently updating the NBIP Metrics and Compliance Review Manual in accordance with the final rule and will make that available as soon as possible. Consideration for aspects of the final rule that become effective after June 6, 2022 will be considered while developing the metric updates. See question QI-2 for a list of the sections that become effective June 6, 2024.

QI-4 Why is full compliance with the new training requirements for 23 CFR 650.309(a) Program Manager, 650.309(b) Team Leader, and 650.309(c) Team Leader on NSTM inspections not required until June 6, 2024? (New 3/01/2023)

AI-4 To allow persons currently serving in the Program Manager and Team Leader roles when the final rule became effective time to complete training courses that are now required.

Personnel newly identified as Program Managers, Team Leaders, and Team Leaders on NSTM inspections after June 6, 2022, must meet the qualification requirements when they begin serving in these roles.

QI-5 Why is full compliance with the new requirements for 23 CFR 650.309(h)(3) not required until June 6, 2024? (New 3/01/2023)

AI-5 To allow State transportation departments, Federal agencies, and Tribal governments that had alternate training materials approved by FHWA under prior regulations, time to revise their training materials to meet the requirements of the final rule.

QI-6 Why is full compliance with the new requirements in 650.311(a)(1)(ii), (b)(1)(ii), and (c)(1)(ii) not required until June 6, 2024? (New 3/01/2023)

AI-6 To allow State transportation departments, Federal agencies, and Tribal governments time to develop and document risk-based criteria for when inspection intervals must be reduced

below regular intervals for routine, underwater, and NSTM inspection types and then to apply that criteria to bridges in their inventory. Even though these are not required until June 6, 2024, State transportation departments, Federal agencies, and Tribal governments may implement them now.

QI-7 Why are prior FHWA approved extended inspection interval policies, 650.311(g), being rescinded on June 6, 2024? (New 3/01/2023)

AI-7 To ensure State transportation departments, Federal agencies, and Tribal governments adhere to the same requirements and use risk-based processes for setting inspection intervals. The recission will not occur until June 6, 2024, to provide time to develop new extended inspection interval policies using the risk-based methods in the final rule. State transportation departments, Federal agencies, and Tribal governments may continue to use their extended inspection interval policies that were approved by FHWA under prior regulations until this recission occurs.

650.303 Applicability

Q303-1 Does the NBIS apply to railroad and pedestrian bridges not carrying highway traffic? (Updated 3/01/2023)

A303-1 No, the NBIS only applies to bridges that carry highways (23 CFR 650.303). Railroad and pedestrian structures that do not carry highways are not covered by the NBIS. However, owners are strongly encouraged to inspect non-highway bridges in the interest of public safety.

Q303-2 Does the NBIS apply to ancillary structures? (New 3/01/2023)

A303-2 No, the NBIS does not apply to inspection of sign support structures, high mast lighting, retaining walls, noise barrier structures or overhead traffic signs (23 CFR 650.303). However, owners are strongly encouraged to inspect ancillary structures in highway rights of way in the interest of public safety.

Q303-3 Does the NBIS apply to privately owned bridges? (Updated 3/01/2023)

A303-3 The NBIS only applies to private bridges where a public road directly carries the traveling public to the bridge, the public road continues on the other side, and the bridge is open to public travel (23 CFR 650.303). These private bridges are subject to the NBIS because of the seamless nature of transportation infrastructure across the Nation and the public expects a uniform level of safety on bridges open to public travel.

There are many privately owned bridges that are not subject to the NBIS. Some examples include, but are not limited to:

- A bridge located entirely on a private road or driveway.
- A privately owned bridge connected on one end to a public road and a private road or driveway immediately on the other end.
- A bridge in a gated subdivision or community.
- A bridge in a shopping center.

The Program Manager should consult with right of way and legal personnel as necessary for bridges in question to understand where public/private boundaries are to determine whether or not the NBIS applies.

Q303-4 Is a toll bridge subject to the NBIS? (New 3/01/2023)

A303-4 The vast majority of toll bridges are publicly owned, often by a publicly chartered toll authority, therefore they are subject to the NBIS. In the case of a privately owned toll bridge, the applicability of the NBIS is limited to where a public road directly carries the traveling public to the bridge, the public road continues on the other side, and the bridge is open to public travel (23 CFR 650.303).

Q303-5 Does the NBIS apply to bridges partially open to traffic while under construction? (Updated 3/01/2023)

A303-5 Yes, when a highway bridge or any portion of a highway bridge is open to public traffic, even if portions are still under construction, it is subject to the requirements of the NBIS (23 CFR 650.303).

To assist in clarifying FHWA's expectations for inspections, as based on the NBIS (23 CFR 650.303), included are a few example scenarios (list is not exhaustive):

1. New bridge(s) - An initial inspection must be completed within 3 months for a bridge that opens to traffic. Completed new bridges not open to traffic are not subject to the NBIS since they are technically closed.
2. Phased construction of a new bridge(s) - An initial inspection must be completed within 3 months for any portion of a bridge that opens to traffic. This includes partially built bridges, bridges being constructed through multiple phases or stages, and bridges being rehabilitated. Those portions of the bridge open to traffic and the bridge members/elements that constitute or carry vehicular live load path are to be inspected.
3. Existing bridge being replaced with a new bridge – The existing bridge is to continue to be inspected per the NBIS as long as it or any portion remains in service as a highway bridge open to traffic. See example 2 above, for when any portion of the new bridge must be inspected.
4. Rehabilitation of existing bridge – If the bridge is closed to all traffic during rehabilitation work, an initial inspection must be completed within 3 months of any portion of the bridge reopening to traffic. For an existing bridge that is being rehabilitated under phased construction, any portions open to traffic must continue to receive regularly scheduled inspections. See example 2 above, for when a portion of the bridge reopens to traffic and must be inspected.

FHWA encourages owners to complete the initial inspection of bridges under construction as soon as practical, preferably before the bridge or portion of the bridge opens to traffic. This practice allows for an inspection under more convenient circumstances for both the inspector and the travelling public. It may also assist in completing the final punch list for the bridge.

It may be prudent to include provisions in construction contracting documents that require the contractor to perform NBIS inspections that are due while a construction project is underway.

If during a construction project, an inspection cannot be conducted due to extenuating circumstances such as a hazardous project site, then those circumstances should be documented, and the Program Manager should contact FHWA in advance of when the inspection is due to determine what can be done to complete the inspection.

Q303-6 Does the NBIS apply to temporary bridges? (Updated 3/01/2023)

A303-6 Yes, when a temporary bridge is open to traffic, it is to be inspected per the NBIS to ensure public safety (23 CFR 650.303).

650.305 Definitions

Q305-1 What is a Public Road? (Posted from 6/21/05)

A305-1 A public road is defined in 23 U.S.C. 101(a)(23) as "any road or street under the jurisdiction of and maintained by a public authority and open to public travel."

650.307 Bridge inspection organization responsibilities

Q307-1 Who is responsible for ensuring all bridges are inspected in accordance with the NBIS in a State? (Updated 3/01/2023)

A307-1 A State is ultimately responsible for the inspection of all public highway bridges that are fully or partially located within the State's boundaries, including those owned by local agencies or other public authorities, except for those that are federally or tribally owned (23 U.S.C. 144 and 23 CFR 650.307(a)).

A State may delegate certain functions of these standards, however, such delegation does not relieve the State transportation department of any of its responsibilities under the NBIS (23 CFR 650.307(f)).

Q307-2 Who is responsible for the inspection of city and county owned bridges? (Updated 3/01/2023)

A307-2 Under the NBIS, FHWA holds the State responsible for the inspection of public highway bridges that are owned by local agencies (23 CFR 650.307(a)). The State may delegate certain functions of these standards to local agencies, such as cities or counties, however this does not relieve the State of any of its responsibilities under the NBIS (23 CFR 650.307(f)). Because of the fundamental relationship established in title 23, U.S.C., between FHWA and a State, if the inspections by a city or county were not done in accordance with the NBIS, the FHWA could take action against the State for failure to comply with Federal laws and regulations (23 CFR 1.36).

Q307-3 Who is responsible for inspecting federally owned bridges? (Updated 3/01/2023)

A307-3 Federal agencies that have jurisdiction over public highway bridges are responsible for ensuring these bridges are inspected in accordance with the NBIS (23 CFR 650.307(b)). A Federal agency may delegate certain functions of these standards, however, such delegation does not relieve the Federal agency of any of its responsibilities (23 CFR 650.307(f)).

Q307-4 Who is responsible for inspecting Tribally owned bridges? (New 3/01/2023)

A307-4 Tribal governments that have jurisdiction over public highway bridges are responsible for ensuring these bridges are inspected in accordance with the NBIS (23 CFR 650.307(c)). However, Tribal governments may delegate their bridge inspection functions and responsibilities to the Bureau of Indian Affairs (BIA) or FHWA. This delegation must be documented in a formal written agreement between the Tribal government and the BIA or FHWA (23 CFR 650.307(f)).

Q307-5 Who is responsible for inspecting a private bridge that is subject to the NBIS? (New 3/01/2023)

A307-5 State transportation departments, Federal agencies, and Tribal governments are responsible for ensuring these bridges are inspected in accordance with the NBIS (23 CFR

650.307(a)-(c) & (f)). This does not mean that they must physically perform the inspection with their personnel; however, they must ensure that the owner has inspected the private bridge in accordance with the NBIS (23 CFR 650.303).

Q307-6 Is a joint written agreement required for border bridges? If so, what should be included in a joint written agreement? (New 3/01/2023)

A307-6 Yes, there must be a written agreement that describes each agency's role in performing the NBIS-related responsibilities for each border bridge (23 CFR 650.307(d)). This is to help ensure that timely bridge inspections and follow-up actions are accomplished in accordance with these standards. Joint written agreements are only required where a bridge crosses a border between a State transportation department, Federal agency, or Tribal government jurisdiction.

Written agreements should explain each agency's responsibility for items listed in 23 CFR 650.307(e) and should identify the lead agency, agencies supporting these roles, and any delegated responsibilities as appropriate. FHWA recommends a border bridge agreement include not just NBIS inspection responsibilities, but all aspects involved with the bridge such as maintenance and financing.

Q307-7 For bridges that cross a border, why do both owners have to submit inventory data? (New 3/01/2023)

A307-7 Both owners submit border bridge information because they are both responsible for bridges that are fully or partially located within the State's boundary, and Federal agency or Tribal government's jurisdiction (23 CFR 650.307(a)-(c)). Further, the National Performance Management Measures, 23 CFR part 490, subpart D, require all border bridges on the NHS be included in both State NBI data submissions. The Specifications for the National Bridge Inventory (SNBI) (incorporated by reference, 23 CFR 650.317(b)(1)) provide some relief because the SNBI only requires the lead State to submit a full bridge record, and the non-lead State may submit an abbreviated bridge record (SNBI, Page 21).

Q307-8 Is a registry of nationally certified bridge inspectors required? (New 3/01/2023)

A307-8 Yes, each State transportation department, Federal agency, and Tribal government must maintain their own specific registry of certified inspectors who perform or have performed inspections on their bridges (23 CFR 650.307(e)(2)). This requirement is consistent with the National Tunnel Inspection Standards (NTIS) regulation.

Q307-9 What is required in a registry of nationally certified bridge inspectors? (New 3/01/2023)

A307-9 The registry must include a method to positively identify each inspector (23 CFR 650.307(e)(2)), but the State transportation department, Federal agency, and Tribal government determines the identification method to be used. For example, a State may use a unique numbering system or naming convention as an identification method of qualified inspectors within their respective organization.

Records must be maintained in the registry for each inspector showing how they meet the qualification requirements (23 CFR 650.307(e)(2)). Records will vary depending on how the inspector is qualified. But this could include a summary of bridge inspection experience, verification of State Professional/Structural Engineer license, verification of passage of Fundamentals of Engineering examination, copies of academic degree(s) or transcript(s), and

copies of training course completion certificates. Each Team Leader must provide this information to the Program Manager (23 CFR 650.309(b)(4)).

The registry must contain current contact information for each inspector (23 CFR 650.307(e)(2)). This should include phone number(s), email address, mailing address, and name of employer.

The registry must contain detailed information about adverse actions that may affect the good standing of an inspector that occurred within the State transportation department, Federal agency, or Tribal government's jurisdiction (23 CFR 650.307(e)(2)). Including information about adverse actions in the registry is intended to ensure that the ability of an inspector to perform assigned inspection activities is not in question. The level of detail to be included in the registry is left to the judgement of the program manager.

Agency-specific requirements for inspectors may be incorporated into a registry. Information in the registry should be stored in a centralized, accessible location within the State transportation department, Federal agency, or Tribal government.

Q307-10 Are State transportation departments, Federal agencies, or Tribal governments required to publish or share their registries with other entities? (New 3/01/2023)

A307-10 No, the NBIS does not require State transportation departments, Federal agencies, or Tribal governments to publish or share their registry of nationally certified bridge inspectors with other entities. However, registry information must be provided to FHWA as necessary for conducting the annual compliance review (23 CFR 650.313(r)).

Q307-11 Are State transportation departments, Federal agencies, and Tribal governments allowed to delegate bridge inspection organization functions? (New 3/01/2023)

A307-11 Yes, certain functions of these standards, as described in 23 CFR 650.307(f) may be delegated to other units of government such as a city or county. However, for State transportation departments and Federal agencies, such delegation does not relieve them of any of their responsibilities (23 CFR 650.307(f)). Tribal governments may, with BIA or FHWA concurrence via a formal written agreement, delegate their functions and responsibilities to the BIA or FHWA (23 CFR 650.307(f)).

Q307-12 Do bridge inspection organization functions that are delegated have to be documented? (Updated 3/01/2023)

A307-12 Yes, functions of a bridge inspection organization that are delegated must be documented in the State transportation department, Federal agency, or Tribal government's bridge inspection policies and procedures (23 CFR 650.307(f)). FHWA also encourages documenting delegated functions in an agreement to ensure both parties have a consistent understanding of the functions being delegated and to serve as a record that both parties agree to the delegation. Ultimate responsibility for the inspection of highway bridges rests with the delegating State transportation department, Federal agency, or Tribal government (23 CFR 650.307(a)-(c)).

Q307-13 Can a consultant perform functions delegated to a local agency? (New 3/01/2023)

A307-13 Yes, but this does not relieve the State transportation department of any of its responsibilities under the NBIS (23 CFR 650.307(f)).

Q307-14 May a consultant perform the Program Manager role under the NBIS? (Updated 2/26/2025)

A307-14 No, each State transportation department, Federal agency, or Tribal government must employ a bridge inspection Program Manager (23 CFR 650.307(g)), with the exception that Tribal governments may delegate this responsibility to a qualified employee of the BIA or FHWA (23 CFR 650.307(f)-(g)).

Q307-15 Can there be more than one Program Manager? (New 3/01/2023)

A307-15 A State transportation department, Federal agency, or Tribal government may have more than one individual with program manager responsibilities. But to alleviate confusion with the intent of the final rule, there must be one individual who has the overall responsibility for the program (23 CFR 650.307(g)). The intent is that the Program Manager provides overall leadership and guidance for the inspection organization.

650.309 Qualifications of personnel

Q309-1 Can a State transportation department, Federal agency, or Tribal government establish more stringent personnel qualifications than the requirements in the NBIS? (New 3/01/2023)

A309-1 Yes, the qualifications of personnel in the NBIS are the national minimum standards (23 CFR 650.301). State transportation departments, Federal agencies, and Tribal governments may adopt more stringent qualification requirements for their programs. These requirements must be documented in their policies and procedures and the necessary records showing adherence to these requirements must be maintained in their registry (23 CFR 650.307(e)(2) & (e)(4)).

Q309-2 Does all the required bridge inspection experience for a Team Leader have to be obtained through bridge safety inspections? (Updated 3/01/2023)

A309-2 Evaluating an individual's overall qualifications for becoming a Team Leader can be complex. The goal of the NBIS is for all Program Managers and Team Leaders to have extensive experience in the bridge inspection field.

Desired Minimum Bridge Inspection Experience Level

The predominate amount (i.e., more than 50 percent) of experience should come from involvement in NBIS bridge safety inspections. The remaining experience should be obtained from bridge design, bridge load rating, bridge maintenance, or bridge construction.

Program Managers Approval

The Program Manager should evaluate and approve a potential Team Leader's overall bridge inspection experience.

Evaluating NBIS Bridge Safety Inspection Experience

When an individual's NBIS bridge safety inspection experience is less than 50 percent, the Program Manager may, in accordance with the evaluation of experience criteria below, review and approve an appropriately varied combination of NBIS bridge safety inspection and inspection experience associated with bridge design, bridge construction, and bridge maintenance to satisfy the fifty percent threshold. Since some NBIS bridge safety inspection experience is necessary to become familiar with inspection, safety, and data collection practices and procedures, NBIS bridge safety inspection experience shall be part of the experience required.

Evaluating Remaining Experience (non-predominate portion)

The remaining experience would preferably be obtained through other bridge design, bridge load rating, bridge maintenance, and bridge construction activities. The Program Manager may, in accordance with the evaluation of experience criteria below, approve for experience in other activities that enable an individual to develop skills directly applicable to the leadership of a bridge safety inspection team.

For rare and unusual circumstances contact FHWA.

Evaluation of Experience Criteria
When the Program Manager evaluates an individual's actual experience for compliance with the experience requirements for a Team Leader, the Program Manager should consider the following minimum criteria:

1. The relevance of the individual's actual experience (i.e., has the other experience enabled the individual to develop the skills needed to properly lead a bridge safety inspection).
2. Exposure to the problems or deficiencies common in the types of bridges being inspected by the individual.
3. Complexity of the structures being inspected in comparison to the knowledge and skills the individual gained through their prior experience.
4. The individual's understanding of the specific data collection needs and requirements.
5. Demonstrated ability, through some type of a formal certification program, to lead bridge safety inspections.
6. The level of oversight and supervision of the individual.

Q309-3 Does education obtained at foreign universities count toward qualification requirements for becoming a Program Manager or Team Leader? (Posted from 6/21/05)

A309-3 The Accreditation Board for Engineering and Technology (ABET) evaluates institutions outside of the United States. While the evaluation is not the same as accreditation, an ABET evaluation can result in an assessment of "substantial equivalency." The "substantial equivalency" determination implies reasonable confidence that the foreign institution's program has prepared its graduates to begin professional practice at the entry level. Information on the substantial equivalent programs, including a list of programs that have been assessed by ABET, is available at: http://www.abet.org/.

Additionally, in 1989, several countries, including the United States, entered an international agreement known as the "Washington Accord" which recognizes the substantial equivalency of engineering programs accredited by these countries. The Accord further recommends that graduates of accredited undergraduate programs in any of the signatory countries be recognized by the other countries as having met the requirements for entry into the practice of engineering. Additional information, including a list of signatory countries, may be obtained at: https://www.ieagreements.org/accords/washington/.

In consideration of international engineering education programs, the NBIS allows the substantial equivalency options available through the ABET.

Q309-4 Why do all Program Managers and Team Leaders have to complete an FHWA-approved comprehensive bridge inspection training course and refresher training? (Updated 3/01/2023)

A309-4 Such training is required to make sure that personnel serving in these roles are well qualified to provide accurate and reliable information through both training and experience (23 CFR 650.309).

Training provides an opportunity:
1. To thoroughly familiarize participants with bridge inspection terminology and techniques along with data collection practices and procedures to ensure consistency and reliability of the bridge inspection program.
2. To help participants keep up with changes in technology and practices, as well as perform a self-check: *Is what I've been doing for the past several years consistent with what is being taught today?*
3. To help FHWA address the weaknesses in accuracy and reliability identified through our research and training experiences.
4. For participants to share their experiences and learn from other participants as well as become familiar with the kinds of problems others are having in the field.
5. For Program Managers and participants to identify and discuss areas of inconsistent interpretation of policies and procedures.

For a Program Manager, the following benefits also apply.
1. As the person responsible for the overall bridge inspection program within the State transportation department, Federal agency, or Tribal government, it is desirable to have completed the same level of training as those who are performing the necessary fieldwork.
2. To become familiar with and monitor the training being provided to inspection personnel and be in a better position to identify additional training needs or areas for improvement.

FHWA approval of coursework ensures consistency in the information taught in the training materials and in the delivery of this information to personnel.

Q309-5 If a Program Manager or Team Leader qualified under prior regulations has never completed an FHWA-approved comprehensive bridge inspection training course, do they need to complete this training in order to continue to qualify under this final rule? (New 3/01/2023)

A309-5 Yes, all Program Managers and Team Leaders are required to have completed an FHWA-approved comprehensive bridge inspection training course (23 CFR 650.309(a)-(b)). Professional Engineers previously exempted from completing the comprehensive training course because they served in those roles prior to January 13, 2005, are now required to successfully complete that course.

As described in 23 CFR 650.309(a)-(b), Program Managers and Team Leaders who are in the position prior to June 6, 2022, have 24 months to successfully complete FHWA-approved comprehensive bridge inspection training.

Personnel newly identified as Program Managers or Team Leaders after June 6, 2022, must meet the qualification requirements at 23 CFR 650.309 when they begin serving in these roles.

Q309-6 How can a Program Manager determine if a potential Team Leader meets training requirements if the inspector has no documentation showing they successfully completed training? (New 3/01/2023)

A309-6 If the training was provided by NHI, NHI will, upon request, provide a transcript showing the courses attended and the number of CEUs earned by a student over the past seven (7)

years. NHI does not print a new copy of a certificate. Requests for transcripts should be sent to NHICustomerService@dot.gov or contact NHI at 1-877-558-6873.

If the training was provided by NHI more than seven (7) years ago or through an alternate source, the Program Manager should interview the inspector to verify the inspector possesses the knowledge taught in the applicable inspection training course(s). This interview should be documented and shared with the local FHWA Division or Federal Lands office to obtain FHWA concurrence the inspector is qualified.

Q309-7 Why are all Program Managers, Team Leaders, Team Leaders on NSTM inspections, and Underwater Bridge Inspection Divers required under 23 CFR 650.309 to score 70% or greater on an end-of-course-assessment for bridge inspection training courses? (Updated 3/01/2023)

A309-7 Every NHI course includes an assessment at the conclusion of the training to measure retention and understanding of the information presented in the course. Scoring 70% or greater on the assessment has been established as the threshold for ensuring attendees understand how to properly perform the inspection type(s) taught in the course. Additionally, NHI courses are endorsed by IACET (International Association for Continuing Education and Training). IACET requires students to attend 100 percent of the training and complete a final test with a minimum passing score of 70%. Successful completion of bridge inspection training is based on the same requirements as all courses provided by NHI.

Q309-8 Why do Team Leaders on NSTM inspections have to successfully complete an FHWA-approved training course for the inspection of NSTMs (23 CFR 650.309(c)(2))? (New 3/01/2023)

A309-8 Successful completion of an NSTM inspection training course ensures Team Leaders on NSTM inspections possess a higher level of training commensurate with the variability and complexity of structures with NSTMs. NSTM inspection training focuses on teaching the skills and knowledge necessary to perform NSTM bridge inspections, properly evaluate NSTMs, and collect data consistently across the nation.

Q309-9 Are Team Leaders on NSTM inspections that completed NSTM inspection training under prior regulations qualified under the final rule? (New 3/01/2023)

A309-9 Yes, completion of an FHWA-approved NSTM training (ex. FHWA-NHI-130078) under prior regulations satisfies the requirement in this section of the final rule (23 CFR 650.309(c)(2)).

Q309-10 Are underwater bridge inspection divers that completed underwater bridge inspection training under prior regulations qualified under the final rule? (New 3/01/2023)

A309-10 Yes, for an individual serving as an underwater bridge inspection diver prior to June 6, 2022, successful completion of either an FHWA-approved comprehensive bridge inspection training or an FHWA-approved underwater bridge inspection training under prior regulations satisfies the requirement in this section of the final rule (23 CFR 650.309(e)). Personnel newly identified as an underwater bridge inspection diver after June 6, 2022, must successfully complete an FHWA-approved underwater bridge inspection training to meet the qualification requirements.

Q309-11 Why do State transportation departments, Federal agencies, and Tribal governments need to document personnel qualifications for damage, special, and service inspection types? (New 3/01/2023)

A309-11 Since the scope of these inspection types can vary widely between owners and bridges, State transportation departments, Federal agencies, and Tribal governments must establish

minimum personnel qualifications aligning with their requirements for these inspection types (23 CFR 650.309(f)-(g)).

Q309-12 What documentation is required for personnel qualifications for damage, special, and service inspection types? (New 3/01/2023)

A309-12 It is important to have individuals with expertise in the items being inspected. Qualifications should describe experience, education, licensing, and training courses required to successfully perform the damage, special, and service inspection types within their organization.

Q309-13 Can a State transportation department, Federal agency, or Tribal government develop its own bridge inspection training courses instead of using the NHI bridge inspection courses? (Updated 3/01/2023)

A309-13 Yes, 23 CFR 650.309(h)(2) allows for developing alternate courses and describes requirements for course content, end of course assessments, obtaining FHWA approval, and periodic review of course materials to ensure they remain current.

Q309-14 How do State transportation departments, Federal agencies or Tribal governments obtain approval of alternate training classes? (Updated 3/01/2023)

A309-14 FHWA published a memo outlining the criteria and process for State transportation departments, Federal agencies, and Tribal governments to follow if they choose to utilize alternate bridge inspection training courses described in 23 CFR 650.309(h)(2). The memo can be obtained at: https://www.fhwa.dot.gov/bridge/pubs/memo_alternate_training_approval.pdf

Q309-15 Will FHWA consider alternate training in place of the NHI bridge inspection refresher training? (New 3/01/2023)

A309-15 Yes, in accordance with Section 650.309(h)(2), a State transportation department, Federal agency, or Tribal government may submit to FHWA a training course as an alternate to any of the required NHI courses.

Q309-16 Our state has developed and utilized its own bridge inspection refresher training, in lieu of the NHI Bridge Inspection Refresher Training, prior to the June 6, 2022, NBIS update. Since this course was being utilized by our state prior to June 6, 2022, do we have until June 6, 2024, to get FHWA alternate training approval of this training? (New 3/01/2023)

A309-16 For a State transportation department, Federal agency, or Tribal government, which had developed and utilized alternate refresher training prior to June 6, 2022, they will have until June 6, 2024, to update the training and submit to FHWA for approval, in accordance with 650.309(h)(3).

650.311 Inspection interval

Q311-1 Why are there two (2) methods for determining the interval of bridge inspections? (New 3/01/2023)

A311-1 Allowing two (2) methods provides State transportation departments, Federal agencies, and Tribal governments flexibility in how they consider risk in their bridge inventories. Method 1 offers a simplified assessment approach, while Method 2 offers a more rigorous assessment methodology, to determine inspection intervals. The methods for establishing risk-based

intervals are based on the NCHRP Report 782 Proposed Guideline for Reliability Based Bridge Inspection Practices[1] and FHWA's practice prior to this final rule for establishing 48-month inspection intervals.

Q311-2 How do State transportation departments, Federal agencies or Tribal governments use Method 1 and Method 2 to set inspection intervals on bridges in their inventory? (New 3/01/2023)

A311-2 FHWA published a memo outlining the criteria and process for State transportation departments, Federal agencies, and Tribal governments to follow as they develop inspection interval policies that fulfill the requirements of 23 CFR 650.311. The memo can be obtained at: https://www.fhwa.dot.gov/bridge/pubs/memo_inspection_interval_guidance.pdf

Q311-3 Why is there a bridge inspection interval tolerance? (New 3/01/2023)

A311-3 FHWA recognizes severe weather, bridge inspector safety, inspection quality, resource optimization, or other unique situations may be a reason to adjust the scheduled inspection date.

In these situations, the adjusted inspection date must 1) not extend more than two (2) months after the month the inspection was due for any inspection interval less than 24 months and 2) not extend more than three (3) months after the month the inspection was due for any inspection interval 24 months or greater (23 CFR 650.311(e)(1)-(2)).

Inspection interval tolerances are intended to provide some flexibility. When tolerances are applied, the longest time period allowed between inspections is the applicable interval plus the allowed tolerance. For example, a routine inspection on a 12-month interval could be performed during the 14th month if the tolerance is applied. Repeatedly applying the tolerance to the next inspection will create inspection date creep and may impact an owner's ability to perform future inspections in a timely manner due to other limitations (e.g., available resources, inspection workload, schedule, seasonal/weather conditions, etc.).

Q311-4 What if an inspection cannot be performed within the accepted tolerance? (New 3/01/2023)

A311-4 Exceptions to inspection interval tolerances due to rare and unusual circumstances must be approved by FHWA in advance of the inspection due date, plus the tolerance (23 CFR 650.311(e)(3)). For example, if an inspection with an interval of 24 months is due on June 17, 2022, an exception request must be approved by FHWA before the end of the 3-month tolerance (i.e., September 30, 2022). However, a request for exception should be made when the potential for not meeting the tolerance becomes known to provide FHWA with adequate time for review and approval.

650.313 Inspection procedures

Q313-1 Can advanced technologies be used in bridge inspection? (New 3/01/2023)

A313-1 Yes, proven advanced technologies may be used to supplement but not supplant bridge inspection personnel and inspection methods (23 CFR 650.313(a)). These technologies are not a

[1] The NCHRP Report 782 may be found at the following URL: http://www.trb.org/Publications/Blurbs/171448.aspx

replacement for personnel performing inspections nor are they intended to replace visual and physical methods. Advanced technologies may be useful when visual and physical methods are not able to assess fully a bridge component or when their use enables an inspection to be done more efficiently without compromising the thoroughness and effectiveness of the inspection. The BIRM provides additional information.

Q313-2 Can unmanned aircraft systems (UAS) or drones, be used in a bridge inspection? (New 3/01/2023)

A313-2 UAS may be used by qualified Federal Aviation Authority (FAA) licensed personnel to supplement portions of a bridge inspection, but it cannot address all aspects of an inspection (i.e. live load response, auditory cues, sounding of members). For example, UAS cannot currently perform physical (tactile) examination such as sounding or hammering on the surface of a bridge member. This type of examination is needed because it establishes the soundness of the material and if present, the dimensions of the defect for tracking deterioration over time and for determining strength or capacity when calculating a load rating. Use of UAS may also be subject to practical considerations such as lighting, the need for cleaning the portion inspected, and the potential for driver distraction.

When used effectively to supplement a bridge inspection, the use of UAS has the potential to provide efficiencies for some inspections such as limiting the amount of time access equipment is used and reducing the time working adjacent to live traffic. UAS may be used to supplement a bridge inspection when its capabilities are able to meet the requirements of a specific task in the bridge inspection. For example, a UAS may be an efficient tool for taking birds-eye view photography of a bridge site so that qualified personnel can observe and document changes in the channel since the last inspection. But even where UAS are used, if the photography shows concerning changes, the inspector must utilize physical (tactile) techniques to investigate further.

UAS operation is subject to all applicable FAA regulations. See https://www.faa.gov/uas for information.

Q313-3 What is an initial inspection? (New 3/01/2023)

A313-3 This term is defined in 23 CFR 650.305 “Initial inspection.” The initial inspection is the entry point for the bridge in the NBI. The initial inspection is the first routine inspection and follows the same requirements as a routine inspection, see Section 4.2 of the AASHTO Manual for Bridge Evaluation (incorporated by reference, 23 CFR 650.317(a)) for more information.

Q313-4 What is meant by rehabilitation of a bridge as this prompts the need for an initial inspection? (New 3/01/2023)

A313-4 This term is defined in 23 CFR 650.305 “Rehabilitation.” Rehabilitation typically includes deck or superstructure replacement, structure widening, or major modification to substantial portions of the bridge. Performing maintenance, repairs, or preservation work does not prompt a need to perform an initial inspection.

Q313-5 How does the initial inspection requirement apply on an accelerated construction project? (New 3/01/2023)

A313-5 On projects with many phases or rapid progression through phases (*e.g.* nightly or weekend closures), it may not be feasible to complete an initial inspection every time a portion

of a bridge opens to traffic. FHWA encourages owners to complete the initial inspection of bridges under construction as soon as practical, preferably before the bridge or portion of the bridge opens to traffic (23 CFR 650.313(b)). However, up to 3 months of construction work may occur and multiple phases might have elapsed before the initial inspection is required. See question Q303-5 "Does the NBIS apply to bridges partially open to traffic while under construction?" in the Applicability section for more information.

Q313-6 Does special equipment need to be used to perform a routine inspection? (New 3/01/2023)

A313-6 As stated in section 4.2 of the AASHTO Manual for Bridge Evaluation (incorporated by reference, 23 CFR 650.317(a)), special equipment, such as under-bridge inspection equipment, rigging, or staging, is necessary for routine inspection in circumstances where its use provides the only practical means of access necessary to identify the extent and severity of defects.

Q313-7 What are the objectives of a routine inspection? (New 3/01/2023)

A313-7 The objective of a routine inspection is it to observe and document the physical and functional condition of the elements of the bridge. The purpose is to identify any changes from the initial or previously recorded conditions and to ensure that the structure continues to satisfy present service conditions. These inspections are performed from the deck and ground or water level, or from permanent inspection structures. Access equipment, including ladders, bridge inspection cranes, rigging, and UAS, are utilized, as necessary, to view all areas of each bridge member in sufficient detail to identify the extent and severity of defects.

Q313-8 Is an underwater or NSTM inspection required on a rehabilitated bridge when the scope of rehabilitation work did not affect the underwater portions or the NSTMs on the bridge? (New 3/01/2023)

A313-8 No, a rehabilitated bridge only needs an underwater or NSTM inspection within 12 months if work was performed on portions of the bridge that are underwater (23 CFR 650.313(e)) or if the work was performed on a NSTM (23 CFR 650.313(f)). Any underwater portions or NSTMs that were not rehabilitated do not need an underwater or NSTM inspection within 12 months and can remain on their current underwater or NSTM inspection intervals, as applicable. See question Q313-10, for requirements in subsequent underwater and NSTM inspections.

Q313-9 For bridges which remain open to traffic while being rehabilitated, and the rehabilitation affects the underwater and/or NSTM portions of the bridge, does an underwater and/or NSTM inspection have to be performed within 12 months of completing the rehab work? (New 3/01/2023)

A313-9 Yes, for bridges with underwater portions or NSTMs that are being rehabilitated, those portions must receive an underwater or NSTM inspection within 12 months of rehabilitation work being completed (23 CFR 650 313(e) and (f)).

Q313-10 Once rehabilitation work is finished and the first underwater and NSTM inspection(s) is completed within 12 months or less, what needs to be inspected in subsequent underwater and NSTM inspections? (New 3/01/2023)

A313-10 Subsequent underwater and NSTM inspections must include all underwater portions (23 CFR 650.311(b)) or NSTMs on the bridge (23 CFR 650.311(c)) to ensure all elements that are the focus of these inspection types are regularly inspected at the same interval and timing on the bridge.

Q313-11 Can underwater imaging technology be used to supplement an underwater inspection? Can this technology be used instead of utilizing an underwater bridge inspection diver? (Updated 4/05/2024)

A313-11 Underwater imaging technology can supplement underwater inspections (UWI). These technologies provide owners a method of supplementing UWI by providing imaging of underwater elements, especially in cases where there are elevated safety risks in performing the UWI utilizing divers. As the imaging technology has advanced, FHWA recognized the need for a comprehensive evaluation of its capabilities, and in 2018 published the report "Underwater Inspection of Bridge Substructures Using Imaging Technology." The findings and conclusions of this report recommend the expanded use of sonar technology to improve the safety of bridges, including, but not necessarily limited to, Level I inspections, for broad characterization of bed conditions, and in conditions adverse to diving. However, it also concluded that sonar inspections have not demonstrated the ability to identify some smaller scale elements of substructure condition that may be important in assessing the bridge and recommending maintenance.

Based on this report, FHWA finds it acceptable to use imaging technology for the Level I portion of the UWI. The Level II portion of the UWI is still to be performed by an underwater bridge inspection diver. The combination of underwater imaging for Level I and diver for Level II will minimize the exposure time of the dive team. Attempts should be made to schedule the dive portion of the inspection during times when the risks are minimal. If there are diver safety issues which prevent performing the Level II portions of the UWI during the normally scheduled inspection, risks and consequences should be considered and a follow-up Level II inspection should be completed when it becomes safe to dive.

Q313-12 What is meant by a non-redundant steel tension member (NSTM) inspection? (Updated 4/05/2024)

A313-12 The terms NSTM, NSTM inspection, and hands-on inspection are defined in 23 CFR 650.305. An NSTM inspection is defined as a hands-on inspection of a nonredundant steel tension member. The intent of hands-on inspection is that the inspector is within arm's length of the entire NSTM being inspected so that they are able to locate small defects, such as fatigue cracks. The inspection may also include nondestructive evaluation or nondestructive testing methods.

Q313-13 Why is a hands-on inspection required for NSTMs? (New 3/01/2023)

A313-13 Bridges with NSTMs are at elevated risk of sudden collapse due to the inability of the system or member(s) to redistribute load and maintain stability in the event of full or partial fracture of the section. This, in turn, leads to a lower tolerance for cracking that can lead to fracture. Hands-on inspection mitigates this risk by identifying cracks in NSTMs at the early stages of growth so that they are addressed before propagating through, or fracturing, the section.

Q313-14 Do interior and exterior surfaces of NSTM box beams have to be inspected at arm's length? (New 3/01/2023)

A313-14 Yes, surfaces of NSTMs must receive a hands-on inspection (23 CFR 650.313(f)(2)). Hands-on inspection is performed at arm's length from a member's surfaces to find fatigue cracks at the early stages of growth before they fracture the section. Fatigue cracks may initiate on any surface of a NSTM. Experience has shown that most fatigue cracks initiate near weld

terminations of details, such as stiffeners which are often located on inside surfaces of box beams. Additionally, cracks initiate near material flaws or changes in member cross-section which are found on both inside and outside surfaces of box beams. As a result, interior surfaces where they are accessible and all exterior surfaces of NSTM box beams must receive a hands-on inspection to find fatigue cracks and other defects before serious problems develop. Finally, it is good practice to regularly check enclosed members for water intrusion so that problems are found early before serious corrosion defects and section loss develop.

There are NSTM box girders that do not have access hatches or are too small for inspectors to crawl through. Borescopes, mirrors, and other remote inspection tools/devices should be used to access the interior if they can be inserted. There are also large NSTM box girders where the interior can be accessed, but additional equipment (e.g. ladder) is needed inside in order to perform hands-on inspection of the NSTM's surfaces. Inspectors should carefully review the bridge's NSTM inspection procedures to understand what access methods and equipment are needed to properly conduct the NSTM inspection. Often times, additional manpower and/or equipment are needed to safely access the interior of the structure which is often a confined space.

Q313-15 How do State transportation departments, Federal agencies or Tribal governments demonstrate that a bridge member has system or internal redundancy? (New 3/01/2023)

A313-15 FHWA published a memo outlining the criteria and process for State transportation departments, Federal agencies, and Tribal governments to follow if they choose to implement procedures to identify members with system or internal redundancy as described in 23 CFR 650.313(f)(1)(i). The memo can be obtained at: https://www.fhwa.dot.gov/bridge/pubs/MEMO-ATTACHMENT_Inspection-Interval-Implementation-FINAL_508v2.pdf

Q313-16 What is required in inspection procedures on bridges which require NSTM, underwater, in-depth, and complex feature inspections? (New 3/01/2023)

A313-16 Inspection procedures must include items described in Section 4.2 of the AASHTO Manual for Bridge Evaluation (incorporated by reference, 23 CFR 650.317(a)). Procedures for these inspection types should address these topics as applicable for the bridge:

- Equipment needs
- Personnel needs and qualifications
- Access requirements
- Scheduling considerations
- Coordination with agencies and/or partners
- Risk factors
- Identify/describe those portions of the bridge to be inspected
- Explain the inspection methods and techniques to be utilized
- Description of the inspection interval
- Documentation requirements
- Reporting and follow-up processes

Each bridge that requires these inspection types must have written inspection procedures specific to that bridge that explain items unique to that bridge, so that inspectors can appropriately prepare for, perform, and document a thorough inspection (23 CFR 650.313(g)).

A State transportation department, Federal agency, or Tribal government may include general procedures in their procedures manual which address common aspects of these inspection types and are applicable to many bridges. These general procedures can be referenced in bridge specific inspection procedures as described in the prior paragraph. However, general procedures alone do not meet the requirement of this subsection.

Q313-17 Do inspection procedures for a complex feature address the entire bridge? (New 3/01/2023)

A313-17 No, complex feature inspection procedures focus only on those parts of the bridge that warrant additional attention due to their inherent complexity, not the entire bridge.

Q313-18 Are inspection procedures required for special inspections? (New 3/01/2023)

A313-18 Yes, the purpose of a special inspection is to monitor a known or suspected deficiency, or to monitor special details or unusual characteristics of bridges that do not necessarily have defects. As a result, the scope of special inspections can vary widely between owners and bridges and the parameters for performing a special inspection must be defined by the owner and documented in special inspection procedures described in 23 CFR 650.313(h) and AASHTO, Manual for Bridge Evaluation (MBE) (incorporated by reference, 23 CFR 650.317(a)).

Procedures for special inspections are required so that inspectors can appropriately prepare for, perform, and document a thorough special inspection. Special inspection procedures should identify the area(s) to be inspected, methods to be used, and other pertinent information necessary to properly conduct the inspection.

Q313-19 For a bridge which requires a reduced interval inspection because of a localized deficiency, can a special inspection be performed on the member(s) instead of completing a routine or underwater inspection of the entire bridge? (New 3/01/2023)

A313-19 Yes, 23 CFR 650.311(a)(1)(ii) and 650.311(b)(1)(ii) allow a special inspection for monitoring localized deficiencies in lieu of performing a routine inspection or underwater inspection of the entire bridge when one or more condition ratings are coded three (3) or less due to localized deficiencies. The special inspection may only be utilized for the reduced inspection interval. A routine or underwater inspection of the entire bridge is still required for the regular interval (650.311(a)(1)(ii)(C) and (b)(1)(ii)(C).

Q313-20 What is the intent of a service inspection? (New 3/01/2023)

A313-20 This term is defined in 23 CFR 650.305 "Service Inspection." A service inspection determines if any major deficiencies or safety issues are present on a bridge. This inspection type can be performed by personnel with general knowledge of bridge maintenance or bridge inspection. It is intended to be less rigorous and costly as compared to a routine inspection. Only the inspection date and any follow up actions are required to be documented in the bridge file for this inspection type. The service inspection is only required when the routine inspection interval is greater than 48 months (23 CFR 650.313(i)). When this occurs, the service inspection interval is half of the routine inspection interval and is to be performed during the month midway between routine inspections (23 CFR 650.311(a)(3)).

Q313-21 Are there any bridge inspection types that can be performed without a Team Leader on site? (Updated 3/01/2023)

A313-21 Yes, the NBIS does not require a Team Leader for the damage and service inspection types. Special inspections that do not meet the requirements of 23 CFR 650.313(h) also do not require a Team Leader. However, State transportation departments, Federal agencies, and Tribal governments are required to establish personnel qualifications for these inspection types and they may require a Team Leader and/or additional requirements (23 CFR 650.309(f)). It is important to have individuals with expertise in the special or damaged items being inspected.

Q313-22 When do bridges need to be re-rated for loads? (New 3/01/2023)

A313-22 There are many reasons a bridge would require re-rating for loads, such as but not limited to: a change in condition of a structural element; change in dead load; change in live load; or completion of construction, reconstruction, or rehabilitation (23 CFR 650.313(k)). The need to re-rate a bridge for loads is often in response to an inspection finding. However, there are other reasons a bridge may need to be re-rated for loads, such as new legal vehicles introduced or damage resulting from an unexpected event. The MBE and the BIRM provide additional information.

Q313-23 Are screening tools and other processes allowed to be used to process load permit requests that agencies routinely receive? (New 3/01/2023)

A313-23 Yes, screening tools and processes are acceptable methods of analyzing permit loads, provided they are founded upon actual modeling and analysis that envelope the hauling vehicle and load that is requesting a load permit.

Q313-24 Why do bridges which require a load posting have to be posted within 30 days or less? (New 3/01/2023)

A313-24 Load posting informs the travelling public of the maximum load that bridges can safely carry. For unrestricted legal loads, lack of load posting signs is a public safety issue, which some bridge owners consider to be a critical finding requiring immediate follow-up action. Due to the safety issue and other factors, owners must prioritize installation of load posting signs based upon the associated risks and need. In some situations, the urgency to implement a load posting is much less than 30 days. FHWA has established 30 days as the maximum time allowed to install or correct damaged, missing, or inaccurate load posting signs (23 CFR 650.313(l)(2)-(3)). This is consistent with the National Tunnel Inspection Standards.

Q313-25 What methods, other than posting, can be used to 'restrict' a bridge when it cannot carry permit or routine permit loading? (Posted from 6/21/05)

A313-25 When restricting permit or routine permit loads from crossing specific bridges, State transportation departments, Federal agencies, or Tribal governments may elect to issue restrictions to the permit holders to keep them from traveling specific routes with permit load capacity problems.

Q313-26 What does it mean to develop and document procedures for load posting a bridge? (New 3/01/2023)

A313-26 Document the process the bridge inspection organization uses to post a bridge. The process should describe the steps and timelines for posting a bridge. Procedures should identify the group(s) and position(s) that are responsible to complete the steps. There should be a process for escalating situations within the State transportation department, Federal agency,

and Tribal government that do not meet timelines required in the process. Posting procedures should also address correcting damaged, missing, or inaccurate posting signs.

Q313-27 What does it mean to develop and document procedures for closing a bridge? (New 3/01/2023)

A313-27 Document general criteria for when a bridge must be closed, permanently or temporarily. All factors requiring bridge closure cannot be anticipated; therefore, criteria are expected to be general in nature and should be applicable to many bridges. Document the process the bridge inspection organization uses to close a bridge. The process should describe the steps and timelines for closing a bridge. Procedures should identify the group(s) and position(s) that are responsible to complete the steps. There should be a process for escalating situations within the State transportation department, Federal agency, and Tribal government that do not meet timelines required in the process.

Q313-28 What information is required to be included in a bridge file? (New 3/01/2023)

A313-28 Section 2.2 of Chapter 2 of the AASHTO Manual for Bridge Evaluation (incorporated by reference, 23 CFR 650.317(a)) describes the required components of a bridge file. These components may exist in the bridge file electronically, on paper, or in locations outside the bridge file, as long as their location is appropriately referenced within the bridge file.

Other portions of Chapter 2 describe other excellent components that may be useful to an owner and could be contained in a bridge file. FHWA encourages maintaining these in the bridge files as well; however, those outside of Section 2.2 are not required as part of the NBIS.

Q313-29 How do the scour appraisal, scour evaluation, and the scour assessment processes work together? (New 3/01/2023)

A313-29 The scour appraisal is the overarching process that includes three methods for determining the worst case scour at a bridge; observed scour, scour evaluation, or scour assessment. These terms are defined in 23 CFR 650.305. The bridge owner must perform a scour appraisal for each bridge over water to determine if the bridge is scour critical (23 CFR 650.313(o)(1)). The scour appraisal for a bridge is based upon the least stable of observed scour, evaluated scour, or assessed scour.

Q313-30 Are Hydraulic Engineering Circulars (HECs) used for the scour appraisal determination? (New 3/01/2023)

A313-30 Yes. The scour appraisal procedure should be consistent with HEC 18 and 20 (23 CFR 650.313(o)(1)). Additionally, scour appraisal includes scour evaluation and scour assessment processes. Scour evaluation should be consistent with HEC 18 and 20. Scour assessment should be consistent with HEC 20.

Q313-31 When is a scour plan of action (POA) required for a bridge? (New 3/01/2023)

A313-31 Any bridge that is determined to be scour critical through the scour appraisal process or has unknown foundations requires a scour POA (23 CFR 650.313(o)(2)). Scour POAs should be consistent with HEC 18 and 23 (23 CFR 650.313(o)(2)).

Q313-32 Can the same scour POA be used for more than one highway bridge? (Updated 3/01/2023)

A313-32 No, a scour POA must be developed for each scour critical bridge and for each bridge with an unknown foundation (23 CFR 650.313(o)(2)). However, some portions of scour POAs

may be the same or very similar for some bridges. Examples of information in scour POAs that are unique for each bridge include: detailed information on the triggering event that initiates POA inspections, detailed instructions for decisions on closure, details to inspect, unique bridge inventory data, unique detour routing, and coordination with local public safety officials.

Q313-33 Does a scour POA need to describe installation of physical or hydraulic countermeasures or can it be based solely upon monitoring? (New 3/01/2023)

A313-33 For certain low risk bridges, a scour POA may be based solely on a monitoring program to manage risk associated with scour. As HEC 18 and 23 and other guidance documents explain, bridges with higher risk of scour-induced failure should have a scour POA that describes planned installation of physical or hydraulic countermeasures, or even replacement of the bridge, while also including a monitoring program that allows time to implement countermeasures or replace the bridge. It should be noted that implementing a POA based solely on monitoring does not remove the 'scour critical' status for that bridge.

Q313-34 Is a scour POA required for a bridge with designed and properly constructed scour countermeasures installed? (Updated 3/01/2023)

A313-34 A scour POA is not required for bridges whose foundations are protected by scour countermeasures that were properly designed and installed (in accordance with HEC-23) and are functioning. Countermeasures must be regularly inspected as part of routine and/or underwater inspections to ensure they perform as designed and scour problems do not reoccur (23 CFR 650.313(a)).

Q313-35 What is quality control and who performs it? (New 3/01/2023)

A313-35 This term is defined in 23 CFR 650.305 "Quality control." Someone knowledgeable in bridge inspection, such as the program manager or supervisor within the section shall review the report and inspection data for accuracy and completeness prior to finalizing the inspection (23 CFR 650.313(p)(2)). Quality control reviews also include checking calculations such as load ratings. Organizational structure can vary based on the owning entity performing or administering bridge inspections. If an inspection program is decentralized, the state program manager is still ultimately responsible for QC (23 CFR 650.307(f)), but the manner in which the program is carried out may differ according to each organization's policy. The BIRM and the AASHTO *MBE* provides guidance for the implementation of appropriate quality control and quality assurance procedures.

Q313-36 What is quality assurance and who performs it? (New 3/01/2023)

A313-36 This term is defined in 23 CFR 650.305 "Quality assurance". Quality assurance is generally an independent review and is accomplished by the re-inspection of a sample of bridges by an independent inspection team and an independent check of calculations such as those in load ratings. QA reviews are to be performed by personnel other than the individual who completed the original inspection or calculations, such as, another inspection team, an independent team comprised of qualified personnel, or their agent (e.g., consultants) (23 CFR 650.313(p)(2)). The BIRM and AASHTO *MBE* provides guidance for the implementation of appropriate quality control and quality assurance procedures.

Q313-37 What does it mean to "address" a Critical Finding? (New 3/01/2023)

A313-37 An owner has taken action to address public safety, such as closure, lane or load restriction, shoring, repair, or replacement of the bridge. Increased inspection intervals alone do not fully address a critical finding if the safety issue is not rectified.

Q313-38 What does it mean to "resolve" a Critical Finding? (New 3/01/2023)

A313-38 A permanent solution has been implemented to completely mitigate the deficiencies and protect public safety. This could involve permanent load restriction, repair, closure, or replacement of the bridge.

Q313-39 What type of notification is required for a critical finding on the NHS which results in a full or partial closure or an NSTM rated in serious or worse condition to FHWA? (New 3/01/2023)

A313-39 State transportation departments, Federal agencies, and Tribal governments must notify FHWA within 24 hours of discovery (23 CFR 650.313(q)(2)(i)). The notification does not require a written report. Notification can be quickly accomplished through a telephone conversation, email message, or other means. The method of notification should be agreed upon between the local FHWA division/FLH office and the State, Federal agency, or Tribal government and documented in the Critical Findings procedure.

Q313-40 What needs to be reported on critical findings to FHWA each month? (New 3/01/2023)

A313-40 State transportation departments, Federal agencies, and Tribal governments must provide at least monthly, a written status report for each critical finding until it is resolved (23 CFR 650.313(q)(2)(ii)). Each report must describe actions taken, underway, or planned to resolve the critical finding. The minimum information that is required in a status report is listed in 23 CFR 650.313(q)(2)(ii)(A)-(H). The minimum reporting requirement is once a month, unless there is a need for more frequent follow-up on a specific critical finding (23 CFR 650.313(q)(2)(ii)). The reporting process should be documented in the State transportation department, Federal agency, or Tribal government's Critical Findings procedure.

650.315 Inventory

Q315-1 Are State transportation departments required to maintain an inventory of federally or tribally owned bridges in their State? (Updated 3/01/2023)

A315-1 No, FHWA does not require that States collect, report, or retain Federal agency or Tribal government bridge information.

Q315-2 What is the intent of requiring State transportation departments, Federal agencies, and Tribal governments to incorporate the latest inspection information or changes in bridge status into their databases within 3 months after the month the field portion of an inspection is completed, a bridge opens to traffic, or a load restriction or closure status change? What is the significance of the time period? (Updated 3/01/2023)

A315-2 Up-to-date information is vital to the program oversight, management, and stewardship for the State and FHWA. It is also important that FHWA have current information because this data is used to 1) track bridge performance measures, 2) provide reports to Congress, and 3) make critical decisions regarding the bridge program. Longer timeframes could impact the program since data is collected only once a year by FHWA.

Q315-3 When do owners have to submit inventory data for temporary bridges? (New 3/01/2023)

A315-3 According to 23 CFR 650.315(a), owners are only required to submit inventory data to the NBI for a temporary bridge once it has been open to traffic greater than 24 months. This is not to be confused with the requirements of 23 CFR 650.303, which make temporary bridges open to traffic subject to the NBIS, and 23 CFR 650.313(b) which requires the initial inspection of a temporary bridge as soon as practical, but within 3 months of the bridge opening to traffic and establishes the timeline for all other types of inspections, load rating, and other actions that may be required for the bridge.

650.317 Incorporation by reference

Q317-1 Certain material is included in the NBIS through incorporation by reference. What does that mean? (Posted from 6/21/05)

A317-1 Incorporation by reference (IBR) is a technique used by Federal agencies to include and make enforceable materials published elsewhere without republishing those materials in full text in the agencies' regulations. Most typically this technique is used by agencies to incorporate widely used industry-developed codes such as the National Fire Protection Code. The FHWA uses IBR extensively to incorporate documents such as AASHTO design standards into 23 CFR part 625 and to incorporate FHWA's Manual on Uniform Traffic Control Devices into 23 CFR part 655.

Q317-2 Why was a specific version of the MBE incorporated by reference in the NBIS? (New 3/01/2023)

A317-2 A specific version of the MBE was incorporated by reference to provide for notice and comment as required by the Administrative Procedure Act (APA) (5 U.S.C. 552(a)) and to provide certainty to the users of the NBIS which standards apply. Versions of the MBE that might be developed in the future cannot be incorporated into the NBIS without notice and comment rulemaking. FHWA will continue to update, as necessary, the materials incorporated by reference in its regulations on a regular basis.

Q317-3 Why were only certain sections of the MBE incorporated by reference in the NBIS? (New 3/01/2023)

A317-3 Since the last update to the NBIS, AASHTO has revised the MBE to limit the provisions needed to implement the NBIS to specific sections in its manual. FHWA has only incorporated these specific sections to avoid inadvertently creating unnecessary additional requirements on highway bridge owners by incorporating all of the MBE as a reference. The MBE covers many topics, some of which may not be pertinent or beyond the requirements of the NBIS.

Q317-4 Why were the Specifications for the National Bridge Inventory (SNBI) incorporated by reference in the NBIS? (New 3/01/2023)

A317-4 The SNBI identifies data to be reported to the FHWA for inclusion in the National Bridge Inventory (NBI) for bridges subject to the NBIS. The SNBI ensures a consistent set of data is reported for bridges in the NBI.

Q317-5 What if there is implied or conflicting language between the NBIS and materials incorporated by reference? (Updated 3/01/2023)

A317-5 The NBIS takes precedence over any material incorporated by reference. Where there may be implied or conflicting language between the documents, the nationwide direction provided by the NBIS will always govern.