

Federal Highway Administration, DOT

§ 650.509

joint formal written agreement the inspection responsibilities of each State, Federal agency, and tribal government.

(e) Each State that contains one or more tunnels subject to these regulations, or Federal agency or tribal government with a tunnel under its jurisdiction, shall include a tunnel inspection organization that is responsible for all of the following:

(1) Statewide, Federal agency-wide, or tribal government-wide tunnel inspection policies and procedures (both general and tunnel-specific), quality control and quality assurance procedures, and preparation and maintenance of a tunnel inventory.

(2) Tunnel inspections, written reports, load ratings, management of critical findings, and other requirements of these standards.

(3) Maintaining a registry of nationally certified tunnel inspectors that work in their State or for their Federal agency or tribal government that includes, at a minimum, a method to positively identify each inspector, documentation that the inspector's training requirements are up-to-date, the inspector's current contact information, and detailed information about any adverse action that may affect the good standing of the inspector.

(4) A process, developed under the direction of a Professional Engineer and approved by FHWA, to determine when an inspection Team Leader's qualifications must meet § 650.509(b)(4) in order to adequately and appropriately lead an inspection of a complex tunnel or a tunnel with distinctive features or functions. At a minimum, the process shall consider a tunnel's type of construction, functional systems, history of performance, and physical and operational conditions.

(f) A State DOT, Federal agency, or tribal government may delegate functions identified in paragraphs (e)(1), (2), and (3) of this section through a formal written agreement, but such delegation does not relieve the State DOT, Federal agency, or tribal government of any of its responsibilities under this subpart.

(g) The State DOT, Federal agency, or tribal government tunnel inspection organization shall have a Program Manager with the qualifications listed

in § 650.509(a), who has been delegated responsibility for paragraphs (e)(1), (2), and (3) of this section.

§ 650.509 Qualifications of personnel.

(a) A Program Manager shall, at a minimum:

(1) Be a registered Professional Engineer, or have 10 years of tunnel or bridge inspection experience;

(2) Be a nationally certified tunnel inspector;

(3) Satisfy the requirements of paragraphs (a)(1) and (2) of this section by August 13, 2017; and

(4) Be able to determine when a Team Leader's qualifications must meet the requirements of paragraph (b)(1)(i) of this section in accordance with the FHWA approved process developed in accordance with § 650.507(e)(4).

(b) A Team Leader shall, at a minimum:

(1) Meet at least one of the four qualifications listed in paragraphs (b)(1)(i) through (iv) of this section:

(i) Be a registered professional engineer and have six months of tunnel or bridge inspection experience.

(ii) Have 5 years of tunnel or bridge inspection experience.

(iii) Have all of the following:

(A) A bachelor's degree in engineering or engineering technology from a college or university accredited or determined as substantially equivalent by the Accreditation Board for Engineering and Technology.

(B) Successfully passed the National Council of Examiners for Engineering and Surveying Fundamentals of Engineering examination.

(C) Two (2) years of tunnel or bridge inspection experience.

(iv) Have all of the following:

(A) An associate's degree in engineering or engineering technology from a college or university accredited or determined as substantially equivalent by the Accreditation Board for Engineering and Technology.

(B) Four years of tunnel or bridge inspection experience.

(2) Be a nationally certified tunnel inspector.

(3) Provide documentation supporting the satisfaction of paragraphs

(b)(1) and (2) of this section to the Program Manager of each State DOT, Federal agency, or tribal government for which they are performing tunnel inspections.

(4) Be a registered Professional Engineer and have six months of tunnel or bridge inspection experience if the Program Manager determines through the approved process developed under § 650.507(e)(4) that the tunnel being inspected is complex or has distinctive features or functions that warrant this level of qualifications.

(c) Load ratings shall be performed by, or under the direct supervision of, a registered Professional Engineer.

(d) Each State DOT, Federal agency, and tribal government shall determine inspection personnel qualifications for damage, cursory, and special inspections.

(e) A nationally certified tunnel inspector shall:

(1) Complete an FHWA-approved comprehensive tunnel inspection training course and score 70 percent or greater on an end-of-course assessment;

(2) Complete a cumulative total of 18 hours of FHWA-approved tunnel inspection refresher training over each 60 month period; and

(3) Maintain documentation supporting the satisfaction of paragraphs (e)(1) and (2) of this section, and, upon request, provide documentation of their training status and current contact information to the Tunnel Inspection Organization of each State DOT, Federal agency, or tribal government for which they will be performing tunnel inspections.

(f) Acceptable tunnel inspection training includes the following:

(1) *National Highway Institute training.* NHI courses on comprehensive tunnel inspection training.

(2) *FHWA approval of alternate training.* A State DOT, Federal agency, or tribal government may submit to FHWA a training course as an alternative to the NHI course. The FHWA shall approve alternative course materials and end-of-course assessments for national consistency and certification purposes. The Program Manager shall review the approved alternative training course every 5 years to ensure the

material is current. Updates to approved course materials and end-of-course assessments shall be resubmitted to FHWA for approval.

(g) In evaluating the tunnel inspection experience requirements under paragraphs (a) and (b) of this section, a combination of tunnel design, tunnel maintenance, tunnel construction, and tunnel inspection experience, with the predominant amount in tunnel inspection, is acceptable. Also, the following criteria should be considered:

(1) The relevance of the individual's actual experience, including the extent to which the experience has enabled the individual to develop the skills needed to properly lead a tunnel safety inspection.

(2) The individual's exposure to the problems or deficiencies common in the types of tunnels being inspected by the individual.

(3) The individual's understanding of the specific data collection needs and requirements.

§ 650.511 Inspection interval.

(a) *Initial inspection.* A State DOT, Federal agency, or tribal government tunnel inspection organization shall conduct, or cause to be conducted, an initial inspection for each tunnel described in § 650.503 as follows:

(1) For existing tunnels, conduct a routine inspection of each tunnel according to the inspection guidance provided in the Tunnel Operations, Maintenance, Inspection and Evaluation (TOMIE) Manual (incorporated by reference, *see* § 650.517) by August 13, 2017.

(2) For tunnels completed after these regulations take effect, the initial routine inspection shall be conducted after all construction is completed and prior to opening to traffic, according to the inspection guidance provided in the Tunnel Operations, Maintenance, Inspection and Evaluation (TOMIE) Manual (incorporated by reference, *see* § 650.517).

(b) *Routine inspections.* A State DOT, Federal agency, or tribal government tunnel inspection organization shall conduct, or cause to be conducted, routine inspections for each tunnel described in § 650.503 as follows:

(1) Establish for each tunnel the NTIS routine Inspection Date in a