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U.S. Department of Transportation
Dockets Management Facility, Room PL-401
400 Seventh Street, SW.
Washington, DC 20590

Docket Number: FHWA-2001-8954

The California Department of Transportation has reviewed the Advance Notice of Proposed Rulemaking (ANPRM) docket number FHWA-2001-8954 pertaining to 23 CFR 650 Subpart C. Based on our review, we would like to register the following comments and suggestions on all key areas of the notice. Specific comments on each section of the notice are detailed below:

1 Application of Standards

The ANPRM seeks comments from the States regarding a potential change in the federal definition of a bridge. Currently a bridge is defined by the American Association of State Highway and Transportation Officials (AASHTO) as any structure spanning greater than 20 feet in length. The length measurements are made from the undercopings of abutments, spring lines on arches or extreme ends of multiple box culverts.

Response: The current definition is adequate and should not be changed.

2 Inspection Procedures

The ANPRM seeks comments on the frequency of underwater inspections, post major storm event inspections, and the inclusion of FHWA technical Advisory T 5140.23 in the Code of Federal Regulations (CFR). Each question is bulleted below with corresponding comments following.

a) Should the FHWA change the requirements for underwater inspection frequencies to account for relatively benign site conditions such as with lined channels?

Response: Experience has shown that site conditions, water quality, type of materials, type of foundation, and structure type have a significant role in determining an appropriate underwater inspection frequency. The CFR should allow the States to determine underwater inspection frequencies based on specific bridge and site conditions and observed history.

b) Should the NBIS specify requirements for what public agencies should do following major storm events?

Response: Based on the experience of many emergency responses, it is our opinion that the CFR should not mandate the need for, and extent of, post-natural disaster inspections. The ANPRM mentions only flood events, but similar prudent courses of action are required after any event that could jeopardize the integrity of the structures (e.g. earthquake, impact, etc.). Individual owners should have the flexibility to respond appropriately to events based on prudent engineering judgement and event specific conditions.

c) The ANPRM is seeking comments from the states on the potential of including the FHWA Technical Advisory T5140.23in the CFR.

Response: California believes that it would be appropriate to include the general intent of the Technical Advisory T5140.23 into the CFR.

3 Frequency of Inspections

The ANPRM is seeking comments from the States on the appropriateness of the current inspection frequency for routine inspections.

Response: The current routine inspection frequency of 24 months with the potential for FHWA approval to move to a less frequent 48-month inspection cycle is appropriate. The current guidelines recognize the varying complexities of structures in the system while insuring safety. Our recommendation is that no changes be made to routine inspection frequency in the CFR.

4 Qualifications of Personnel

The ANPRM is seeking input on several topics within this category. Each topic is listed below with comments immediately following.

a) Should the PE in charge of an inspection be required to have the same training and bridge inspection experience as an unlicensed inspector?

Response: No. A licensed professional civil or structural engineer has demonstrated competence in the area of civil engineering and is bound by state law to be competent in the area of practice.

b) Should bridge inspections be restricted to just licensed, professional civil or structural engineers?

Response: Yes. Civil and structural engineers are the only professionally licensed disciplines that should be allowed to inspect bridges without meeting other training and experience requirements.

c) Should a graduate with a civil/structural engineering degree, and Engineers in Training (EIT) certificate and 2 years of general bridge experience be qualified to be an inspection team leader?

Response: Yes. Clarification should be provided regarding how the measurement of bridge inspection experience should be determined. Qualification under this alternative should specify regular active participation in bridge inspections over the qualifying experience timeframe.

d) How would you define "in a responsible capacity" as it pertains to the NBIS inspector qualifications?

Response: The term "responsible capacity" should not be used to determine qualifying bridge inspection experience, but reserved for defining the responsibilities of a team leader or the person responsible for the organizational unit. Instead, any and all time spent actively participating in the bridge inspection should qualify as bridge inspection experience.

The NBIS should clarify that the team leader is the individual who is in "responsible capacity" of the inspection in the field, and must therefore be present during the field inspection.

e) Should the NBIS be modified to incorporate certification requirements for bridge inspectors based on structural complexity?

Response: No. We are strongly opposed to the idea of multi-level certifications for bridge inspectors. We believe that simple structure types can experience complex problems and therefore the idea of certification based on structure type carries the potential of jeopardizing the safety of the traveling public.

f) Should underwater inspectors be required to be licensed civil/structural engineers?

Response: It is our opinion (and in agreement with ASCE criteria) that the team leader for underwater inspections must be a licensed civil or structural engineer and a qualified diver. In addition, other team members should be individually qualified as team leaders and qualified divers.

To summarize the qualification requirements for bridge inspectors, it is proposed that Section 307, paragraphs (a) and (b) incorporate the following language:

The individual in responsible charge of the organizational unit that has been delegated the responsibility for bridge inspection, reporting, and inventory shall possess the following minimum qualifications:

- Be a registered Professional Civil or Structural engineer, and;
- Have a minimum of 5 years experience of active participation in bridge inspections on a regular basis, in either a field inspection, supervisory, or management role.

The individual in responsible charge of a bridge inspection team (team leader), who is in charge of conducting, and actively participates in the bridge inspection in the field shall possess the following qualifications:

- Be a registered Professional Civil or Structural engineer, or;
- Possess an Engineer-in-Training certificate and have two years experience in inspection of bridges or have completed a comprehensive 80-hour training course based on the *Bridge Inspector's Training Manual*, or;
- Have a minimum of five years experience in bridge inspection and have completed a comprehensive 80-hour training course based on the *Bridge Inspector's Training Manual*, or;
- Possess current certification as a NICET level III or IV Bridge Safety Inspector under the National Society of Professional Engineers' program for National Certification in Engineering Technology.

5 Inspection Report

The ANPRM is seeking comments on the possibility of only allowing those present during the field inspection to make changes to the content of an NBIS report.

Response: In general we are in agreement with the proposed change, provided that the restriction is limited to condition items only. There are some NBIS items (e.g. scour vulnerability, traffic counts, load ratings etc.) that cannot be properly assessed during a field inspection and are commonly updated through office staff.

6 Inventory

The ANPRM states that the FHWA believes that the current inventory and requirements for entering new data into the inventory are adequate.

Response: The current requirements are appropriate. Recognition should be made that any reference to the *Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges* may need to change since this document is currently under revision and is expected to bear a new name.

7 Additional General Questions

What specific procedures would you recommend to enhance the NBIS regulations?

1) The California Department of Transportation believes that the CFR should clarify that the individual in charge of the inspection team (team leader) must be on site participating in every bridge inspection.

2) Currently the inspection frequency for fracture critical bridges is not specified in the CFR while the routine and underwater frequencies are established. Based on the risk associated with fracture critical bridges, we believe that the fracture critical inspection frequency should be explicitly defined in the CFR.

3) The AASHTO element level inspection criteria (Commonly Recognized Structural Elements) has proven to be more comprehensive than the existing

condition rating system used in the NBIS. The NBIS should be modified to recognize the AASHTO elements as the preferred condition assessment method. Additionally, the FHWA should investigate utilizing element level inspection data to determine eligibility criteria for bridge funding.

Any questions regarding this response should be directed to Mr. Michael B. Johnson, P.E. of my staff. Mr. Johnson can be reached at (916) 227-8768 or by e-mail at michael_b_johnson@dot.ca.gov.

Sincerely,

Tom Harrington

for THOMAS M. RUT
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