



U.S. Department
of Transportation

**Federal Highway
Administration**

West Virginia Division

Geary Plaza, Suite 200
700 Washington Street, East
Charleston, West Virginia 25301
(304) 347-5928

June 29, 1999

IN REPLY REFER TO:

National Bridge Inspection Standards (NBIS)
Modification of Bridge Inspection Frequency

Samuel H. Beverage
Commissioner
West Virginia Division of Highways
Charleston, West Virginia 25305

Dear Mr. Beverage:

We have reviewed your submission dated March 30, 1999 along with the accompanying information and find that the proposal meets the basic requirements of the Technical Advisory T5140.21 "Revision to the National Bridge Inspection Standards (NBIS)." We therefore approve your criteria and offer the following suggestions to add clarity to the proposal:

- 1) A brief narrative should be furnished which defines the types or groups of bridges currently approved for routine inspections longer than two years along with a discussion of any failure experience, maintenance history, and latest inspection findings for these bridges.
- 2) As per Technical Advisory T5140.21, the interval established for routine inspections should be evaluated and if necessary, adjusted after each inspection. It should be noted that the assignment to the longer frequency of inspection will be subject to review and possible revision at the time of each inspection by both the WVDOH District and WVDOH Highway Operations Division. Our office should be officially made aware of any changes.

The Division Office must insure that the proposed list of 1271 bridges and any future additions meet the criteria provided in Technical Advisory T5140.21, of which a copy is enclosed.

We will be pleased to work with your staff in this area both for current bridges and newly constructed bridges on which the inspection frequency may be extended.

Sincerely yours,

Jack L. Justice
Structures and Research Engineer

Enclosure
cc: Reading, File 407.6, JLJustice:kt, 062999, s:\jlj\nbis99.wpd



U.S. Department
of Transportation
**Federal Highway
Administration**

Subject: **ACTION:** West Virginia Request for 4-year
Inspection Interval for Bridges

Date: June 15, 1999

From: David H. Densmore /S/ *Original signed by*
Director of Bridge Technology

Reply to HIBT
Attn of:

To: Mr. David E. Bender
Division Administrator
Charleston, WV

Please refer to your April 7 memorandum regarding the West Virginia Department of Highways' (WVDOH) request to extend the inspection interval for certain bridges from 2 years to a maximum of 4 years. You noted that several years ago the WVDOH requested to extend the inspection interval and comments on their proposal were provided by our Region 3 Office of Bridge.

We have reviewed the WVDOH's submission and find that the proposal meets the basic requirements of Technical Advisory T 5140.21 "Revisions to the National Bridge Inspection Standards (NBIS)" for the extended inspection interval. We approve the WVDOH's criteria and offer the following suggestions to add clarity to the proposal:

1. Your Division Office has the responsibility for ensuring that the proposed list of 1271 bridges and any future additions meet the criteria as specified in T 5140.21.
2. The WVDOH should submit a brief narrative to your office defining the types or groups of bridges currently approved for routine inspections at intervals longer than 2 years and a discussion of any failure experience, maintenance history, and latest inspection findings for these bridges.
3. As per T 5140.21, the interval established for routine inspections should be evaluated and, if necessary, adjusted after each inspection. It is noted that the assignment to the longer frequency of inspection will be subject to review and revision at the time of each inspection by both the WVDOH District Office and the WVDOH Highway Operations Division. The Division Office should be kept up to date on any changes.

We acknowledge the receipt of information from the WVDOH concerning the criteria to be utilized in determining those bridges that will be inspected at an interval less than 2 years.

If there are any questions, please contact Bob Wood (202) 366-4622, or Steve Ernst (202) 366-4619 in the Office of Bridge Technology.



Memorandum

U.S. Department
of Transportation

**Federal Highway
Administration**

Subject: Bridge Inspection Intervals Date: April 7, 1999

From: D. E. Bender Division Administrator Charleston, WV Reply To: HDA-WV Attn. of:

To: David Densmore Director, Office of Bridge Technology Washington, D.C. HIBT

Attached for your consideration is the West Virginia Division of Highways (WVDOH) request dated March 30, 1999 to extend the bridge inspection interval on the listed 1271 bridges. This request is being made in accordance with 23CFR, Subpart C (National Bridge Inspection Standard), Section 650.305 (Frequency of inspections) Paragraph (c).

Several years ago the WVDOH requested to extend the inspection interval and comments on their proposal was provided by our Region 3 Office of Bridge. As indicated they made revisions to the current proposal based on their considerations of those comments.

We would appreciate any comments you may have on the present proposal. If there are any questions on the information provided, you may contact the West Virginia Office at 304-347-5932.

Jack L. Justice
Structures and Research Engineer

Attachment

cc: Reading, File 407.6
s:\j\j\inspect\densmore.mem



**WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways**

1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • 304/558-3505

Cecil H. Underwood
Governor

Samuel G. Bonasso, P.E.
Secretary

March 30, 1999

Mr. David Bender
Division Administrator
Federal Highway Administration
Geary Plaza, Suite 200
700 Washington Street East
Charleston, West Virginia 25301

Dear Mr. Bender:

A	I	I		A	I	
			Div Admin			Samuel H. Beverage, P.E. Commissioner of Highways Secretary
			Asst Div Admin			Thomas F. Badgett Assistant Commissioner
			Op Mgt Eng			Admin Asst
			Financial Mgr			AE-1 Design
			Planning Eng			AE-2 Operations
			Env/Row Coord			AE-3 Materials
			Struc/Res Eng			Asst Sr/Res Eng
			Trans Specialist			Library
			Computer Spec			OMC
						File

**National Bridge Inspection Standards (NBIS)
Modification of Bridge Inspection Frequency**

The purpose of this letter is to again request approval to modify our inspection frequency in accordance with 23 CFR, Part 650, Subpart C (NBIS), Section 650.305 Paragraph C. Previous submittals and your responses have been reevaluated and incorporated, where appropriate, into this current proposal.

Attached for your review is the proposed criteria for determining which bridges are suitable for inspection at greater than the two years interval as well as a listing of 1271 structures we are proposing the frequency of inspections be extended to four years. Pertinent information related to each structure has been included in the listing. All bridges currently included in the listing have been evaluated and approved by the District Bridge Department, in conjunction with the Highway Operations Division. Assignment to the increased frequency of inspection will be subject to review and revision at the time of each inspection by both the district office and Highway Operations Division.

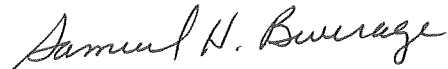
District determination of structures considered viable for the increased frequency has been made by the Bridge Evaluation Engineer with assistance and input from his inspection coordinator and inspectors as well as the District Bridge Engineer. The District Bridge Engineer will have the overall responsibility for the assignment of inspection frequency, subject to the concurrence of the Highway Operations Division. All Evaluation Engineers are experienced graduate engineers with most being registered professional engineers. The District Bridge Engineers are experienced registered professional engineers.

Mr. David Bender
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March 30, 1999

Also attached for your information is the criteria to be utilized in determining those bridges that will be inspected at an interval less than two (2) years. This requirement is being established under the National Bridge Inspection Standards (NBIS) Section 650.305(b).

Pending your approval, the inspection frequency modification will be by issuance of a Bridge Maintenance Directive (BMD) from the Highway Operations Division.

Very truly yours,



Samuel H. Beverage, P.E.
Commissioner

SHB:Lw

Attachments

3/30/99

**CRITERIA FOR DETERMINING BRIDGES
FOR INSPECTION AT GREATER THAN
TWO YEAR INTERVAL (MAX. FOUR YEARS)**

Highway bridges and culverts must meet all of the below criteria to be considered for inspection at an interval greater than two (2) years. (Max. four years)

- 1) Minimum Inventory Rating must be HS30 tons or greater.
 - 2) *Bridge must have been in service for a minimum of two years and must have undergone a minimum of one in-depth periodic condition and inventory inspection.
 - 3) Based on latest condition inspection, SI&A condition codes for deck, superstructure, substructure, channel and channel protection and culvert are rated six (6) or greater. Additionally, all SI&A appraisal ratings are coded four (4) or greater.
 - 4) Length of longest span must be 100.0 feet or less.
 - 5) Bridge has no fracture critical members (FCM) or fatigue prone details.
 - 6) Bridge has no Pin & Link details or direct bearing hinge details.
 - 7) A structure over 50 years old will not be eligible for consideration unless it has been reconstructed within the last 25 years.
 - 8) Bridge has no scour potential or has known foundation and has been evaluated for scour and determined to be low risk; SI&A scour coding equals 5 or greater.
 - 9) Bridge is of common design, i.e. no timber, cable stayed, segmental, and truss structures.
 - 10) Bridge has ADT less than 15,000 and ADTT less than 2,000 trucks per day.
 - 11) Bridge is not posted for a weight limit.
 - 12) Bridge is not subject to vessel collision.
 - 13) *Bridge is not subjected to a high frequency or degree of overloads.
 - 14) *Bridge has no history of structural component failure that either exists or has been repaired.
 - 15) Bridge has vertical clearance and/or under-clearance of 14.0 feet or greater.
 - 16) Bridge is not located on a designated Strategic Highway Corridor Network (STRAHNET), i.e. defense highway critical facility.
- * Determined by District Bridge Department

**CRITERIA FOR DETERMINING BRIDGES
FOR INTERIM INSPECTIONS AT AN INTERVAL
LESS THAN TWO YEARS**

A bridge meeting any of the following criteria must be inspected hands-on at a maximum interval of one year: #

- 1) Bridge with any type of fracture critical member.
- 2) Any bridge with pin and link or direct bearing hinge details not included in #1.
- 3) Any bridge composed of precast post-tensioned concrete channel beams.
- 4) Any bridge containing A514 steel or electroslog welds.
- 5) Any bridge of uncommon or unusual design such as, segmental, cable stayed or tension arch.
- 6) Any stressed laminated timber bridge, boxbeams (Type B) or tee-beams (Type C).
- 7) Any bridge with suspected or verified fatigue cracking.
- 8) Any bridge with a condition item rated critical, i.e., coded in the Structure Inventory and Appraisal (SI&A) file less than "3" (deck, superstructure, substructure, channel and channel protection or culvert.
- 9) Any bridge determined to be scour critical (coded "3" or less in the SI&A file).

The following bridges require a hands-on inspection at a maximum interval of six months: #

- 1) Acrow, Mabey, Bailey and any other type of panel structure.

The following bridges require a hands-on inspection at a maximum interval of three months: #

- 1) Stress laminated timber slab bridges (Type A).

Assuming condition of structure does not require more frequent inspection.