U.S. Department of Transportation
Federal Highway Administration

Memorandum

Subject: **ACTION**: Revisions to the Recording and Coding Guide for the Structure, Inventory and Appraisal of the Nation's Bridges (Coding Guide) - Item 31, Design Load, and Items 63 and 65, Method Used to Determine Operating and Inventory Ratings

Date: February 2, 2011

In Reply Refer To:
HIBT-30

/s/ Original Signed by
From: M. Myint Lwin, P.E., S.E.
Director, Office of Bridge Technology

To: Federal Lands Highway Division Engineers
Division Administrators

The purpose of this memorandum is to notify your offices that we are revising National Bridge Inventory (NBI) Item 31 – Design Load, Item 63 – Method Used to Determine Operating Rating, and Item 65 – Method Used to Determine Inventory Rating in the Recording and Coding Guide for the Structure, Inventory and Appraisal of the Nation's Bridges, (Coding Guide) report number; FHWA-PD-96-001. Attached are the revised NBI Items, which include new and revised codes and additional commentary.

Item 31 – Design Load

Three new codes are added and two existing code definitions are modified. The changes are being made to support the migration to the Load and Resistance Factor Rating method. The new and modified codes for Item 31 are as follows:

Code	Metric Description	English Description
9	MS 22.5 or greater	HS 25 or greater
0	Unknown	Unknown
A	HL93	HL 93
B	Greater than HL93	Greater than HL93
C	Other	Other

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Please note that there are two distinct codes for "Unknown" and "Other" now. Code 0 has been modified to only describe "Unknown" situations. This code is to be used where the design live load is unknown due to the absence of plans, design calculations, or other information. Code C for "Other" has been added for situations which increase the design load but are not based upon AASHTO design trucks. State specific design trucks that exceed AASHTO loading would be reported as a "C". Code A is to be used only for HL93 AASHTO design load configurations. Code B is to be used only for increased design loads which are based on the HL93 AASHTO design load configuration. Code 9 has been modified from MS 22.5 or HS 25 to MS 22.5 or greater or HS 25 or greater and is to be used for increased design loads which are based on those configurations.

Item 63 – Method Used to Determine Operating Rating and
Item 65 – Method Used to Determine Inventory Rating

One new code is added and one existing code definition is clarified for each item. These changes are being made to differentiate between bridges that have not been load rated or load rating documentation does not exist and bridges that have been load rated by field evaluation or engineering judgment.

The new and modified codes for Items 63 and 65 are as follows:

Code	Description
0	Field evaluation and documented engineering judgment
5	No rating analysis or evaluation performed

Existing code 5 is clarified to only be used for bridges that have not been load rated or load rating documentation does not exist. Code 0 has been added for use when the load rating is determined by field evaluation and documented engineering judgment, typically done when plans are not available or severe deterioration exists. Field evaluation and engineering judgment ratings must be documented. Bridges that are currently coded 5 must be reviewed to determine if code 0 or 5, or another code, is appropriate.

The NBI will be modified to accept the revised items beginning with the April 2012 NBI submittal. Accordingly, we request that State DOTs and Federal Agencies update Items 31, 63, and 65 for all affected bridges no later than the next scheduled routine inspection.

Please share this information and request with your State DOT or Federal Agency. If you have any questions you can contact Tom Everett (202) 366-4675 (thomas.everett@dot.gov),

Attachments

cc:
Directors of Field Services
Resource Center

Item 31 - Design Load 1 digit

Use the codes below to indicate the live load for which the structure was designed.

Code	Metric Description	English Description
0	**Unknown**	**Unknown**
1	M 9 or	H 10
2	M 13.5	H 15
3	MS 13.5	HS 15
4	M 18	H 20
5	MS 18	HS 20
6	MS 18 + Mod	HS 20 + Mod
7	Pedestrian	Pedestrian
8	Railroad	Railroad
9	MS 22.5 **or greater**	HS 25 **or greater**
A	**HL 93**	**HL 93**
B	**Greater than HL 93**	**Greater than HL 93**
C	**Other**	**Other**

Code other H, M, HS, or MS design live loads using the nearest equivalent of the numerical portion of the loading.

Code 0 refers to situations where the design live load is unknown due to the absence of plans, design calculations, or other information.

Code 6 references MS 18 + Mod (HS20+Mod). In this context ‘Mod’ indicates the inclusion of military loading.

Use Code 9 in situations where the design live load is MS 22.5 (HS 25) or greater.

Code A refers to the standard AASHTO LRFD HL 93 design live load.

Code B refers to the standard AASHTO LRFD HL 93 configuration modified to be greater than the standard HL 93 design live load.

Code C refers to other situations where the design live load is not based upon AASHTO design live load configurations, such as designs based on specific truck loads.

Item 63 - Method Used to Determine Operating Rating 1 digit
Item 65 - Method Used to Determine Inventory Rating 1 digit

Use one of the codes below to indicate which load rating method was used to determine the Operating Rating/Inventory Rating coded in Item 64/Item 66 for this structure.

Code	Description
0	**Field evaluation and documented engineering judgment**
1	Load Factor (LF)
2	Allowable Stress (AS)
3	Load and Resistance Factor (LRFR)
4	Load Testing
5	**No rating analysis or evaluation performed**
6	Load Factor (LF) rating reported by rating factor (RF) method using MS18 loading.
7	Allowable Stress (AS) rating reported by rating factor (RF) method using MS18 loading.
8	Load and Resistance Factor Rating (LRFR) rating reported by rating factor (RF) method using HL-93 loadings.

Code 0 is to be used when the load rating is determined by field evaluation and documented engineering judgment, typically done when plans are not available or in cases of severe deterioration. Field evaluation and engineering judgment ratings must be documented.

Code 5 is to be used when the bridge has not been load rated or load rating documentation does not exist.