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SUBJECT: NBI Condition Ratings When a Localized Condition Affects the Structural Integrity of the Component

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FHWA has issued an amendment to the NBIS (below) to clarify rating NBI elements for localized conditions. This guidance will be incorporated in the next revision of the Bridge Inspectors Reference Manual and the Code Guide. Until the new version is published, inspectors are advised to keep a copy with their inspection reference materials and BI-QC Engineers should verify every inspector has a copy and are applying it.

NBI Condition Ratings When a Localized Condition Affects the Structural Integrity of the Component

NBI condition ratings for deck, superstructure, or substructure components, in general, should reflect the overall condition of the component rather than localized conditions. This has been true for many years and emphasized in the Coding Guide with the following wording: *Condition codes are properly used when they provide an overall characterization of the general condition of the entire component being rated. Conversely, they are improperly used if they attempt to describe localized or nominally occurring instances of deterioration or disrepair. Correct assignment of a condition code must, therefore, consider both the severity of the deterioration or disrepair and the extent to which it is widespread throughout the component being rated.*

Although the Coding Guide states that it is improper use the condition codes to describe localized instances of deterioration or disrepair, it also states that the inspector must consider both the severity and extent of the deterioration. With this in mind, there are occasions when a severe, localized condition affects the structural capacity of a component member. It is important to recognize that the coding applies to all primary members of a component and therefore localized conditions that impact the structural capacity of just one member can impact the overall performance of the entire component. The affect on structural capacity is dependent upon several factors including the type and extent of the deterioration, as well as the location along the member. An inspector may need to discuss the observed condition with an engineer to make this determination. When these situations occur, it is appropriate to assign a lower condition rating for that component from a safety perspective and is in keeping with the intent of the National Bridge Inspection Program.

When these localized conditions are determined to be such that prompt action is needed and/or the overall component condition rating is affected, the conditions should also be addressed through the “critical findings” process that is identified in the NBIS regulation. The NBI component rating should be reviewed and appropriately adjusted once the critical finding has been addressed. This adjustment will depend on how the critical finding was addressed and how that action relates to the original rating rationale.