**Frequently Asked Questions**

**Policy and Inspector Qualifications**

**What are the additional requirements for Team Leaders of various bridge inspections? (4/1/2014)**

Fracture Critical Inspection Team Leaders require having taken and passing the NHI Fracture Critical Course as well as meeting the other necessary qualifications as laid out in the Structural Inspection Manual.

Underwater Dive Inspection Team Leaders require having taken and passing the NHI Underwater Inspection Course and must be certified divers as well as meeting the other necessary qualifications as laid out in the Structural Inspection Manual.

Sign/Signal Structure Inspection Team Leaders require having taken and passed the NHI Ancillary Structures Course and must be certified welding inspectors (CWI).

**With the 14 day auto complete feature that HSI will have, and the requirement to get inspection entered within 28 days after the inspection due date? (4/1/2014) Experience showed that it was difficult to get everything completed with the 45 day auto complete.**

Inspections must be completed and entered in a timely fashion. Our Inspection procedures require inspections to be entered directly into the HSI database and inspection entry can be performed on-site from a mobile device. Efficiencies in the move from paper only inspection documentation and data storage to fully digital bridge inspection documentation and data storage has allowed shorter timelines for inspection entry. Current data is required so that Inspection Program Managers, County Commissioners, WisDOT management, and FHWA can assess compliance to the National Bridge Inspection Standards (NBIS) and timely detect and provide assistance in resolving challenges to meeting the NBIS requirements.

**Who is required to review reports? (4/1/2014) Does it have to be a PM? (4/1/2014) Does it have to be a WisDOT PM? (4/1/2014)**

On the local side, statewide PM and regional PM’s are there to provide QA as documented in the current structures inspection manual, the QC should be handled by the inspection team leader and local inspection program manager. The QC portion of inspection is being better documented and expectations to the county and local inspection program managers will be found in the Structure Inspection Manual.

**Does someone who took the two week course just to have it but is not a bridge inspector need to go to the 2014 Bridge Inspector Refresher Training? (4/1/2014)  Or if someone was a Bridge Inspector but has moved on to a different job, do they need this training? (4/1/2014)**

*Only those that may need to perform and enter bridge inspections in the future need the course. That would include anyone might be a backup bridge inspector in the future - due to staffing and/or resource demands. Though inspection of simple structures in good condition like box culverts may not take much more time to inspect using the new Elements & Defects, the more typical on-system bridges in fair to poor conditions may take more inspection time - as the inspectors verifies that elements have been translated correctly, along with adding and quantifying the defects to those elements on the inspection forms. Some additional office time may be required to compute or verify quantities of elements – such as SF of coating.*

**Why not some type of correlation between NBIS inspection ratings and element/defect condition states? (4/1/2014) The NBIS is still a driving force in determining maintenance actions.**

*We have been moving away from NBI Ratings towards element based inspections over the last 15+ years and the ability that this provides in utilizing bridge management systems that just the NBI numbers don’t support. Maintenance or preventative maintenance actions/actives should be driven by the type of defect and severity of that defect for an element not a global number that doesn’t define the type of problem or the specific element that is being affected.*

**What are the basic qualifications for the UW-Profile activity? (4/1/2014)**

*The person conducting the profile should be a team-member who is supervised by a certified team-leader. They should also be trained to properly assess and record the profile of a bridge and to review the profile with previous versions to ascertain if movement of the channel is being experienced. If movement is observed, the person should notify the program manager as soon as possible.*

**Do all Team Leaders from the same organization need their own email address on file? (4/1/2014)**

*Yes. Each inspector is now required to have an email address to be qualified as a team leader.*

**General Inspection**

***What does an inspector do when he/she comes across a noise wall on a bridge railing with an N-number assigned to it? (4/1/2014)***

Similar to retaining walls (R-numbered) and Sign structures (S-numbered) a separate ancillary structure inspection is required and covers that element(s). Note that not all ancillary structure types can be uploaded into HSIS just yet but will sometime in 2015. For retaining wall & noise barriers a paper inspection form would be used for now.

**How should the inspector or PM handle the streambed profile since many times it is not performed at the same time as the routine inspection? (4/1/2014) Will the inspector be able to open the report back up and only insert the streambed profile? (4/1/2014)**

The inspector will have to enter a separate stand-alone inspection for the streambed profile if done on a different date.

**How are pipe culverts going to be handled for streambed profile? (4/1/2014) Will each one need to have a profile? (4/1/2014) What about box culverts with a solid bottom and apron? (4/1/2014)**

Pipe culverts and structures will structural floors will not require a streambed profile. In the past certain “stable” structures were appropriately inspected using a paragraph describing the condition of the streambed and adjacent channel slopes. Refer to the Structure Inspection Manual for the newest policy on Streambed Profiles.

**Within HSI, is the U/W Probe inspection report lumped in with the routine inspection, or are there still two separate check boxes? (4/1/2014)**

U/W Probe will be lumped into an inspection, and is a check-box. However, the inspector is required to enter comments related to the probe inspection in the “underwater” button.

**When the team leaders are updating their emails in the HSI system, can the name of the firm also be listed? (4/1/2014) This is to attach a firm to the inspection of a structure.**

HSI has the functionality to add the firm. It is important to note that team leaders must keep their emails up to date within HSI in order to receive pertinent communications, correspondence, HSI database updates, and to retain their inspector credentials.

**Is there a standard excel spreadsheet an inspector may utilize for streambed profiles? (4/1/2014)**

Currently, there is no one standard spreadsheet created by the Department. Currently, an inspector may create his/her own spreadsheet or obtain a sample from one of the Regional Program Managers and upload the file to HSI for use in future inspections. Some representative spreadsheets examples are expected to be collected and provided on the department’s Structure Inspection webpage.

**I am more confused now that before the class. I just can’t figure how to do all this measuring and breaking down the elements with the resources available. For large bridge inspections we only have 14 days to complete. I could spend one day on each pier doing the crack mapping and there maybe 43 bridge piers. There are some improvements in the new HSIS but the time involved to do each report is more than the benefit. It appears like design work has crept into the inspection reports? (4/1/2014)**

*Yes – the inspections have gotten a lot more specific in going down to quantifying defects on each element VS when it was just the NBI’s. Larger structures and those in poor condition may take additional time/resources during this next inspection cycle. The drive continues to have specific data behind the decisions that Inspection program manages and program planners make.*

*As you may recall from the two week course, direction is to sketch and document the issues/deterioration/defects over the bridge components being very specific, but when practicality hit and you’re out at the bridge – you don’t have all week to inspect a single bridge. Thus you estimate and use judgment as to percentages of a component displaying a specific defect and provide appropriate notes. That is what we will be doing as we move forward. Not closing the deck or lanes to traffic to create a map of the wearing surface cracking/defects or trying to map the cracks/defects on the underside of the deck, but developing rough sketches of the cracking locations and measuring at the gutter line /estimating a representative crack size, or documenting an estimate of density/size of pattern cracking. And were warranted by the placement of a defect in CS 4, access maybe be needed to perform a more in-depth inspection of the element to properly document the data needed to perform a proper structural analysis*.

**Can we print a field inspection form for a single bridge easily? (4/1/2014)**

*Yes. Open the structure screen for the bridge in question, and click the Inspection tab and then click the Create tab. The button labeled “Field Inspection” will open the PDF that you can print out.*

**What about printing field inspections for multiple bridges? (4/1/2014)**

*Yes, by using the collection feature. On the home page, place a checkmark by the structures you wish to print field inspection forms for and then click Collection. Then select Print and Field Inspections. Follow the instructions from there.*

**How do you update the vertical clearance? (4/1/2014)**

*Currently you must enter vertical clearance as part of an inspection. This alerts the bridge management unit of the change (if it falls within certain parameters) and may prompt follow-up actions from that unit.*

**Does the cover photo for inspections need to be updated? (4/1/2014)**

*The photo stays with the structure for as long as it’s still valid. It’s up to the discretion of the program manager for that particular structure to upload a new photo at this time.*

**Do team members need an inspector ID to be able to enter in HSI? (4/1/2014)**

*The department requires all team members to have a registered inspector id.*

**How can an inspector enter that maintenance work has been completed? (4/1/2014)**

*If the maintenance recommendation from a past inspection shows the item, the inspector can change the status to “work completed” either while entering the inspection in the maintenance tab associated with the inspection, or in the maintenance tab associated with the General Inventory tab.*

**If we have inspection procedures in a word or PDF document, can we upload them to the system? (4/1/2014)**

*Yes. During an inspection, on the documents/images tab, select “Inspection Procedures” and upload the file accordingly. It’s recommended in the notes for inspection procedures (on the NBI/Notes/Requirements tab) that the inspector enters “see attached procedure document”.*

**AASHTO Elements (NBE, BME, ADE)**

***Can an inspector use different material defects for timber and metal bridge railing elements to rate the curbs, posts, blocking, etc. of the railing? (4/1/2014)***

Yes, steel and timber railing elements will allow defects for other materials, such as concrete, timber, steel, etc. to code those other railing components.

**How should an inspector code the diaphragms on curved superstructures? (4/1/2014)**

The inspector shall capture these components under element 8170 Other Primary Structural Members. Only in this case are the diaphragms acting as primary members as they are not simply reacting to lateral forces.

**If an approach slab is overlaid with asphalt between inspections, how should I code the approaches? (4/1/2014)**

Approach slabs (as with other items) are inspected by what you see and know is there. Thus if you see asphalt approaches but the previous inspection report shows concrete approach slabs, you need to assess whether you have asphalt layer over the concrete ( thus leaving the concrete approach slab assessment and noting the asphalt overlay) or change the assessment to an asphalt approach. The Inspection Program Manager may or may not know what is actually there based on recent construction activity.

**When measuring the quantity for Wearing Surface elements (including Wearing Surface – Bare), should I include the area under the sidewalks, parapets and medians? (4/1/2014)**

Wearing surface quantity will be the actual square foot of overlay or exposed deck (for Wearing Surface – Bare) not including areas under parapets, raised sidewalks or medians.

**Defect 8903 Wingwall Deterioration appears to significantly downgrade our wingwall rating. Can we place the Each quantity into percentages to try and alleviate this problem? (4/1/2014)**

No, the Inspector should use their judgment in selecting CS based on how any defects are affecting the integrity of the wing wall. Cosmetic or edge defects that do not compromise the wing wall strength or serviceability should not result in a down grade of the condition state of the wing wall.

**How do I code the roadway going over a structure (particularly a culvert) if there is not greater than 9 inches of fill at any point over the structure? (4/1/2014) For instance, a 2” asphalt overlay is placed directly on the top of a reinforced concrete twin box culvert.**

The intent of the Roadway Over Structure assessment is to observe any deficienices that may be occurring in the fill on top of or adjacent to the structure. Does the road show settlement in the general vicinity of the edges of the culvert or structure? (4/1/2014) The condition of the roadway can be indicative of issues with the fill or the structure itself. In the case where less than 9 inches of fill is present, the most appropriate Wearing Surface element should be utilized. In the case of the example provided, element 8511 Asphalt Overlay would be used to evaluate the roadway placed directly on the structure.

**When will I report a joint element (provide a quantity) between approach slabs? (4/1/2014)**

An inspector will measure and report those joints that allow for significant expansion and contraction. An example would be a strip seal expansion joint located over a grade beam supporting a structural and non-structural concrete approach slab. If the two approach slabs simply butt up against one another with a piece of filler material between, the inspector would not report this element on the inspection report. The inspector may recommend maintenance on the area through a maintenance item, however.

**If an inspector comes across a concrete bridge parapet with a new thrie beam installed across the front face but the concrete curb is spalled with exposed reinforcing along the length of the bridge, will the curb deterioration reduce the bridge railing condition state even though the thrie beam has no defects? (4/1/2014)**

Yes. The evaluation of bridge railings now includes the condition of the curbs. In this case the curbs are spalled with exposed reinforcing which will most likely reduce the Condition State of the metal bridge railing element to 3. It is important to note that for bridge railings, when there are overlapping defects in the same condition state, only the bridge railing defect should be quantified on the report. This focuses the condition state of the bridge railing element on the actual rail rather than the posts, curb or blocking that may be in a similar state of disrepair. However, if the condition state of the posts, curb or blocking is a lower condition state than the railing, the appropriate material defects for that component shall be quantified on the report.

The curb’s concrete defects define a need to repair the curb which would be an item coded in the maintenance action. The curb defects are not what a bridge management system will be looking at as these concrete defects would not define the need to replace the railing. That determination would come from the steel defect condition states.

**If an inspector notices the cracking on a wearing surface (including Wearing Surface – Bare) are sealed will this increase the condition state of both the wearing surface and the deck/slab it is protecting? (4/1/2014)**

Only the wearing surface element condition state will be increased to Condition State 1. The deck/slab/top flange element will be evaluated based on what is observable. If the cracks on the undersurface are unsealed they will be evaluated as such.

**When are timber wingwalls considered integral? (4/1/2014)**

Timber wingwalls will be considered integral up to the second butt joint (if present). In most cases the lagging for the timber wingwall butts up to the backside of the abutment timber lagging at an angle (this is the first butt joint). This wingwall will be considered integral and thus element 8400 Integral Wingwall shall be used to evaluate it.

In the instance a second wingwall is required off the end of the first wingwall, the second wingwall will be evaluated using the most appropriate retaining wall element.

When the timber lagging of the abutment simply extends off parallel to the face of the abutment, the wingwall will be considered integral and will be taken from the tip of the wingwall to the edge of the superstructure.

Steel Wingwalls will be coded similarly. As long as the abutment and wingwall sheeting is properly installed (locked), element 8400 Integral Wingwall shall be used to evaluate the element.

**Will the Program Manager be able to edit the reinforced concrete steel protective coating element? (4/1/2014) For example, if a deck is rehabbed and the reinforcing steel is now coated bar.**

Yes. The PM will be able to edit the field in HSIS, as will the inspector.

**Where is the best place to capture the defects associated with approach guardrails? (4/1/2014)**

There is no requirement to spend time coding defects on approach railing/parapet including guardrail. The inspector could note developing issues in the note for the approach pavement assessment. The inspector may also recommend repairs through Maintenance Actions.

**Are photos required for Assessments in Condition States Poor to Severe? (4/1/2014)**

Unlike defects in elements, there are no requirements for photos with assessments. It is at the inspector’s discretion as to whether a photo is warranted or not. Assessments are more related to maintenance actions not a bridge management process or a load condition evaluation.

**Can an inspector break out the paint quantities under each appropriate element in HSI? (4/1/2014)**

An inspector can certainly tabulate coating quantities in many different ways (notes on the inspection form). However, reporting it in HSIS will be by total area of the superstructure (excluding the bridge railing).

**How should an inspector evaluate the piling supporting a wingwall? (4/1/2014) Is it a separate piling element or is it evaluated with the wingwall? (4/1/2014)**

These piles or other elements have been captured as part of the wingwall and will continue to be addressed as part of the wingwall. The Department has defined the abutment as supporting the superstructure and wing walls as outside the footprint of the superstructure. Thus in some cases the “original” wing wall may be shortened and a portion becomes abutment when a bridge superstructure is widened.

**How should an inspector code the pilasters found on the exterior girders over the pier cap? (4/1/2014)**

This is a non-structural component and in most cases not truly an aesthetic treatment. If the inspector notices the pilaster is close to falling off onto the travelling public, the inspector may use a Maintenance Action to have them removed.

**What is the extent of a culvert end treatment, or bridge wingwall, if it is not a R-numbered structure? (4/1/2014) For instance, a culvert wing that extends for miles as part of a drainage system.**

In this case the apron or bridge wingwall is not a culvert end treatment or integral to a bridge wingwall but a retaining wall. If it has a “R-“ number it gets its own inspection, if no number is assigned to the wall than a wall element is used in the culvert or bridge inspection for the retaining wall. The inspector must use judgment in selecting the portion of the wall that is inspected and defects documented. It may be reasonable for the Program manager to assign a “R-“ number to this wall to inventory and maintain data on the retaining wall structure. For long walls, it may be more appropriate to treat them similar to decks with the inspector judging what percent of length has each specific defect while accounting for overlapping defects when recording the data on the inspection form.

**Will inspectors now be required to use snooper trucks to capture the defects on the underside of decks and slabs? (4/1/2014)**

The department is not expecting the effort to be much different than the previous practice using the deck element and soffit smart flag. Inspectors will need to estimate percentage of deck area with deterioration/defects and estimate or measure defect sizes (crack width, spall depth). They may be able to measure a representative defect size on the deck underside from the abutment slope or using other access methods. Where there will be a difference is the percentage no longer defines the single condition state, the percentages now spread the Condition State over the range of defect Condition States and the inspector must account for overlapping defects.

Any defect or element put into Condition State 4 will need pictures and the inspector will need access to measure the specifics of the defects to collect the information needed to allow an engineer to evaluate or analyze this condition to determine if restricting loading is appropriate.

**Can we rate ALL the defects? (4/1/2014) I think we should – even if they overlap and then rate the element section based on the “worst” defect. In other words, I don’t think we should “ignore” defects in an area just because there is another defect in that area. I think this may cause a lot of confusion for not only the state and local inspectors, but also for the programmers and decision makers.**

The decision was made to only code the controlling defect for elements instead of all defects. This decision was made considering the resource needs of inspections using element based inspections with defects and the data collection limitations that proposed bridge management systems would be able to utilize in our future. Good notes are still required under the element to properly document all defects and their deteriorated state.

**Where stay-in-place forms exist, how do you rate the deck since the top of the deck is considered a wearing surface and bottom is not exposed? (4/1/2014)**

*Even though we do not have visual access to the element we would include in on our inspection report and use indirect evidence of deck/slab deterioration. Are the Stay-in-place forms corroding? (4/1/2014) If so you have water seeping through the deck element indicating cracking or worse. If you suspect worse, one can always use non-destructive testing methods to determine the extents and severity of the deterioration.*

**If you delete the deck element, for instance, what happens to the projective systems and defects? (4/1/2014)**

*Elements, defects, and protective systems use a “parent-child” relationship where in order to have a defect, or protective system, the parent must exist. So if a users deletes the deck (which is a parent, or “Main” element), all the associated defects and protective systems will be deleted as well.*