# Presented by:

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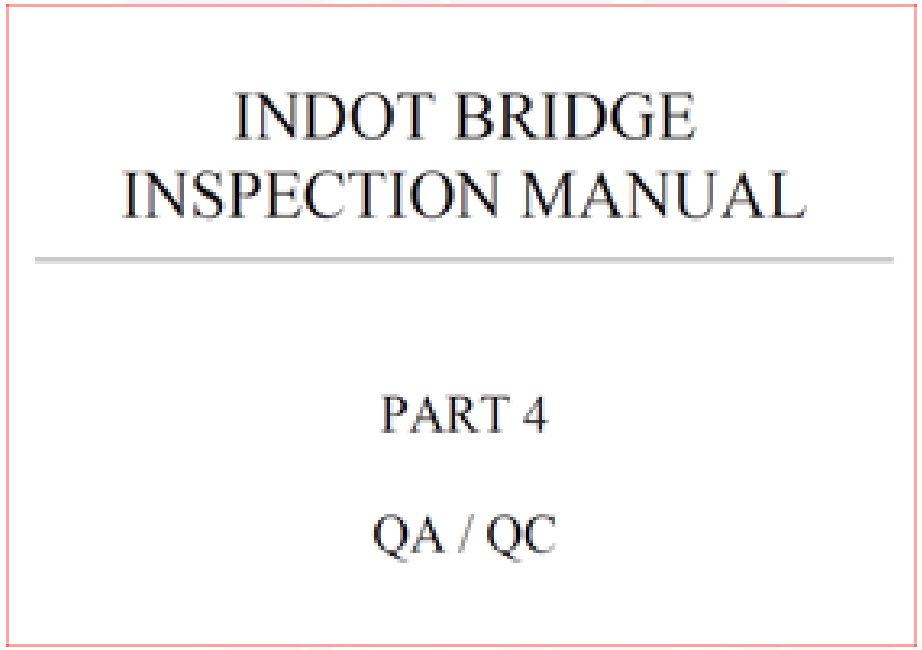
# Part 4 (QA/QC)- Randy




QA is a set of activities for ensuring quality in the processes

QC is a set of activities for ensuring quality in products.

23 CFR 650.313(g) National Bridge Inspection Standards

**(g)** ***Quality control and quality assurance.*** Assure systematic quality control (QC) and quality assurance (QA) procedures are used to maintain a high degree of accuracy and consistency in the inspection program. Include periodic field review of inspection teams, periodic bridge inspection refresher training for program managers and team leaders, and independent review of inspection reports and computations.

# Part 4 (QA/QC)- Randy

## QUALITY CONTROL

- **4-2.04 Quality Control Office Review**
- For the purposes of quality control, each team leader will ensure that two bridge files are reviewed per year.

- **4-2.05 Quality Control Field Review**
- For the purposes of quality control, each team leader will ensure that one bridge file is field reviewed per year.

Metric #6: Inspection frequency – Routine – Lower risk bridges.....

Metric #7: Inspection frequency – Routine – Higher risk bridges.....

Metric #8: Inspection frequency – Underwater – Lower risk bridges ...

Metric #9: Inspection frequency – Underwater – Higher risk bridges...

Metric #10: Inspection frequency – Fracture Critical Member.....

Metric #11: Inspection frequency – Frequency criteria .....

Metric #12: Inspection procedures – Quality Inspections.....

Metric #13: Inspection procedures – Load Rating .....

Metric #14: Inspection procedures – Post or Restrict .....

Metric #15: Inspection procedures – Bridge Files .....

Metric #16: Inspection procedures – Fracture Critical Members.....

Metric #17: Inspection procedures – Underwater .....

Metric #18: Inspection procedures – Scour.....

Metric #19: Inspection procedures – Complex Bridges.....

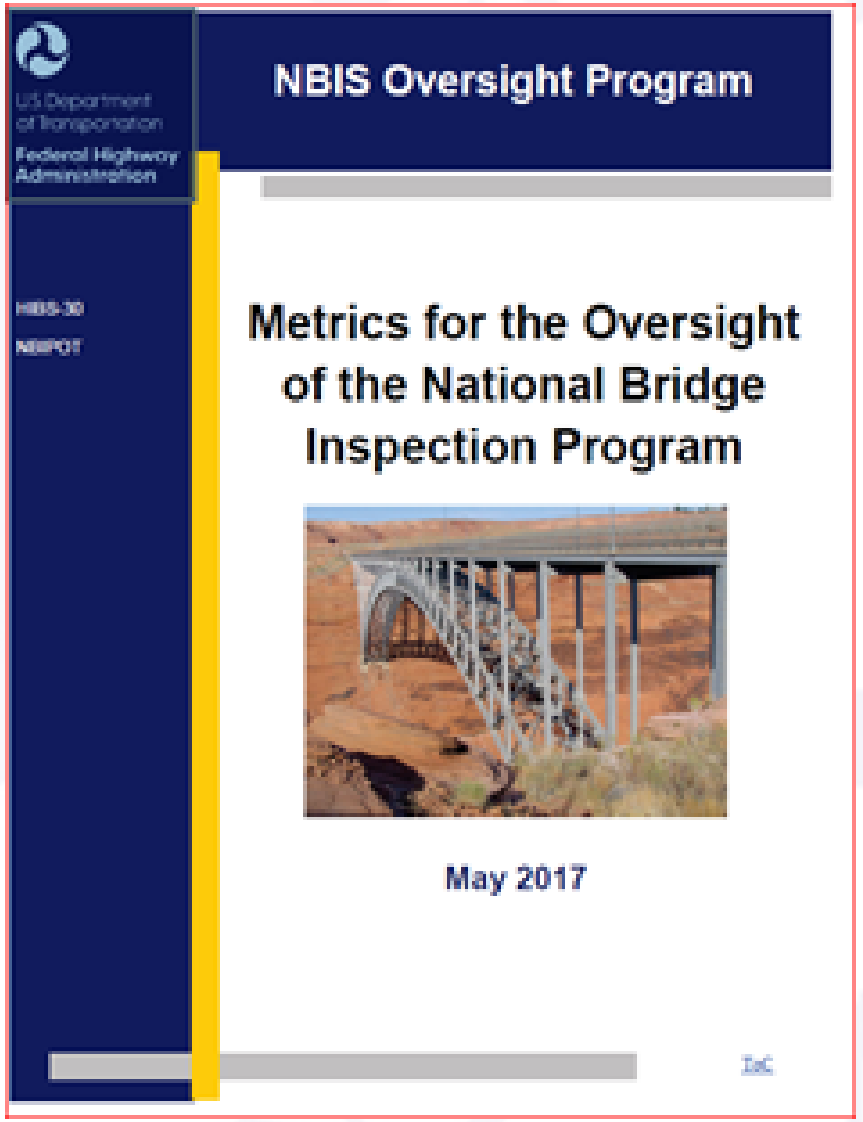
Metric #20: Inspection procedures – QC/QA .....

Metric #21: Inspection procedures – Critical Findings.....

Metric #22: Inventory – Prepare and Maintain .....

Metric #23: Inventory – Timely Updating of Data .....

# Part 4 (QA/QC)- Randy




NextLevel INDIANA

# Part 4 (QA/QC)- Randy

## QUALITY ASSURANCE

### 4-3.02 Control Bridge or Training Workshop

- A control bridge or training workshop will be held annually.

### 4-3.03 Independent Oversight

- As a minimum, 24 bridge files will be selected annually for independent oversight. These structures in part will be selected from the list of team leaders that did not participate in the control bridge testing or workshop training. The remaining portion of the selected files will be selected at random.

# Part 4 (QA/QC)- Randy

- **4-3.04 Bridge File and Load Rating Review**

- **4-3.04(02) Bridge File Review**
- The INDOT Data Base Manager will select a minimum of 10 bridge files per quarter for quality control review.

- **4-3.04(03) Load Rating Verification Review**
- The INDOT Bridge Load Rating Engineer will select a minimum of 10 bridge files per quarter for quality control review.

**End of part 4**

# INDOT BIM PART 7 Randy

# INDOT BRIDGE INSPECTION MANUAL

## PART 7

## WEARING SURFACES

# INDOT BIM PART 7 WEARING SURFACES

**Condition Rating Guide for rigid Portland Cement Concrete Overlays:**

| Code | Description |
|---|---|
| N | **NOT APPLICABLE** - Code N when Item 58 is also coded N. |
| 9 | **EXCELLENT CONDITION** – no significant defects. |
| 8 | **VERY GOOD CONDITION** – hairline cracking less than 0.012" nominal width and widely spaced. |
| 7 | **GOOD CONDITION** - cracking less than 0.016" nominal width, widely spaced, and less than 5% delamination. |
| 6 | **SATISFACTORY CONDITION** - cracking less than 0.020" nominal width and nominal on center spacing greater than 10 feet. Delamination less than 10%. |
| 5 | **FAIR CONDITION** - cracking greater than 0.020" and less than 0.040" nominal width and nominal on center spacing not greater than 10 feet. Delamination less than 20%. |
| 4 | **POOR CONDITION** – cracking greater than 0.040" nominal width and nominal on center crack spacing less than 10 feet. Delamination greater than 20%. Unpatched or unsound patching, or spalled areas, visible intermittently. |
| 3 | **SERIOUS CONDITION** - delamination greater than 20% with severe cracking and numerous unsound patches and spalled areas visible. The wearing surface is no longer effective. |

**Condition ratings less than 3 shall not be coded.**

NextLevel INDIANA

# INDOT BIM PART 7 WEARING SURFACES

**Condition Rating Guide for Semi-Rigid Epoxy Overlays**

| Code | Description |
|---|---|
| N | **NOT APPLICABLE** – Code N when Item 58 is also coded N. |
| 9 | **EXCELLENT CONDITION** – no visible defects or visible wearing of the friction surface aggregate. |
| 8 | **VERY GOOD CONDITION** – minor intermittent wearing of the friction surface aggregate across less than 5% total surface area within the travel lanes. |
| 7 | **GOOD CONDITION** – minor wearing, glazing, or polishing of the friction surface aggregate across less than 40% total surface area within the travel lanes. |
| 6 | **SATISFACTORY CONDITION** – deep wearing, glazing, or polishing of the friction surface aggregate across more that 40% total surface area, but all areas remain intact with no visible surface voids or peeling. |
| 5 | **FAIR CONDITION** – Less than 5% total surface area exhibiting areas of full thickness wearing down to bare deck, surface voids, or peeling. |
| 4 | **POOR CONDITION** – Greater than 5% and less than 10% total surface area exhibiting areas of full thickness wearing down to bare deck, surface voids, or peeling. |
| 3 | **SERIOUS CONDITION** – Greater than 10% of the total surface area exhibiting areas of full thickness wearing down to bare deck, surface voids, or peeling. The wearing surface is no longer effective. |

**Condition ratings less than 3 shall not be coded.**

NextLevel INDIANA

# INDOT BIM PART 7 WEARING SURFACES

**Bituminous Overlay Condition Ratings**

| Code | Description |
|---|---|
| N | **NOT APPLICABLE** – Code N when Item 58 is also coded N. |
| 9 | **EXCELLENT CONDITION** – no significant defects, cracks, spalls, or voids visible. |
| 7 | **GOOD CONDITION** – shallow wearing or rutting of the bituminous surface visible in the travel lanes. No wide cracks, spalls, or voids visible. All cracks present are sealed, and all spalls and voids are soundly patched. |
| 5 | **FAIR CONDITION** – moderate wearing or rutting of the bituminous surface visible across more than 30% of the travel lanes. No wide cracks, spalls, or voids visible. All cracks present are sealed, and all spalls and voids are soundly patched. |
| 4 | **POOR CONDITION** – moderate wearing or rutting of the bituminous surface visible across more than 30% of the travel lanes. Unsealed cracks and unpatched spalls or void visible across less than 10% of the total surface area. |
| 3 | **SERIOUS CONDITION** – widespread wearing or rutting of the bituminous surface visible across the travel lanes. Unsealed cracks and unpatched spalls or void visible across more than 10% of the total surface area. The wearing surface is no longer effective. |

**Only the condition ratings listed in this section shall be coded.**

END PART 7

NextLevel INDIANA

# INDOT BRIDGE INSPECTION MANUAL

## PART 8

## ASBESTOS

# INDOT BRIDGE INSPECTION MANUAL PART 8

- 8-1.0 ASBESTOS

- 8-1.01 Asbestos Inspections

- In accordance with Rule 10. Emission Standards for Asbestos; Demolition and Renovation Operations. 326-IAC **14-10-1** Applicability (a)...prior to the commencement of the demolition or renovation, the owner shall use an Indiana licensed asbestos inspector to inspect thoroughly the affected facility or part of the facility where the demolition or renovation operation will occur for the presence of asbestos, including Category I and Category II nonfriable asbestos-containing material (ACM).

- Indiana Administrative Code (IAC-IDEM-NESHAP)
- National Emission Standard for a Hazardous Air Pollutant (NESHAP-EPA)
- Asbestos Hazard Emergency Response Act 1986 (AHERA-EPA)
- Construction and PPE (OSHA)

# INDOT BRIDGE INSPECTION MANUAL PART 8

- **8-1.01(01) Asbestos Report**

- Report to be created and uploaded in BIAS
- Requirements of report
- Select definitions as outlined in Rule 10

## Cigarette Filters

Asbestos cigarette filters were produced by Hollinsworth & Vose Company, also called H&V Specialties, for Lorillard Tobacco Company's "Kent Micronite" brand cigarettes. The crocidolite used in the filters is one of the most toxic types of asbestos.

# INDOT BRIDGE INSPECTION MANUAL PART 8

April 2019 Final Rule

The final rule is effective on June 24, 2019.

Examples of products prohibited from entering the market under this rule include the following.

- Adhesives, sealants, roof and non-roof coatings
- Arc chutes
- Beater-add gaskets
- Cement products
- Extruded sealant tape and other tape
- Filler for acetylene cylinders
- Friction materials
- High grade electrical paper
- Millboard
- Missile liner
- Packings
- Pipeline wrap
- Reinforced plastics
- Roofing felt
- Separators in fuel cells and batteries
- Vinyl-asbestos floor tile
- Woven products
- Other building products

End Part 8

NextLevel INDIANA