**MOVABLE BRIDGE MECHANICAL INSPECTION REPORT – VERTICAL LIFT BRIDGES**

Wisconsin Department of Transportation

DT2029 6/2017 s.84.17 Wis. Stats.

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| --- | --- |
| Bridge Number      | Overall Rating of Mechanical System      |
| Bridge Name      | Date Inspected      |
| Lead Mechanical Inspector      | Weather      |
| Inspection Team Leader      |  |

Notes:

* This form provides specific inspection detail in conjunction with the items provided in the HSI Movable Inspection Tab. While there may be some overlap with the routine inspection, updates to the Elements and Assessments Inspections Tabs are not necessarily required.
* Place comments in each box next to the component inspected.
* For each component rating, enter “(1)” for Good, “(2)” for Fair, “(3)” for Poor, or “(4)” for Severe.
* If the component does not apply to this bridge enter “NA”.
* Include a comment and photo reference documenting any components rated (3) or (4).

**Counterweight Sheaves and Cables** Component Rating:

|  |  |
| --- | --- |
| **Component** | **Finding/Comment** |
| Excessive noise? | Yes [ ]  | No [ ]  |       |
| Broken grooves? | Yes [ ]  | No [ ]  |       |
| Issues with clamps? | Yes [ ]  | No [ ]  |       |
| Issues with bushings? | Yes [ ]  | No [ ]  |       |
| Rotates improperly? | Yes [ ]  | No [ ]  |       |
| Fayed or broken wires? | Yes [ ]  | No [ ]  |       |
| Issues with connection brackets? | Yes [ ]  | No [ ]  |       |
| Issues with counterweight pins? | Yes [ ]  | No [ ]  |       |
| Insufficient lubrication? | Yes [ ]  | No [ ]  |       |
| Corrosion on Surfaces? | Yes [ ]  | No [ ]  |       |
| Other issues with Sheaves and Cables |       |

**Counterweight Sheaves & Bearings** Component Rating:

|  |  |
| --- | --- |
| **Component** | **Finding/Comment** |
| Issues with shaft condition? | Yes [ ]  | No [ ]  |       |
| Inadequate lubrication of bearings? | Yes [ ]  | No [ ]  |       |
| Corrosion on exterior surface? | Yes [ ]  | No [ ]  |       |
| Bearing bolts not tight? | Yes [ ]  | No [ ]  |       |
| Other issues with bearing bolts? | Yes [ ]  | No [ ]  |       |
| Excessive noise during operation? | Yes [ ]  | No [ ]  |       |
| Bearing housing becomes warm during operation? | Yes [ ]  | No [ ]  |       |
| Abnormal movement during operation? | Yes [ ]  | No [ ]  |       |
| **Bearing Lubrication** – While pumping lubricant into bearing, check that lubricant is exiting bearing properly. Check expelled lubricant for signs of contamination. |       |
| **Shafts and Bearings** – Measure and record clearance between shaft and bushing using sleeve bearing inspection form and attach to this report. (Every five years, unless issue like noise, heat, excessive movement, etc. was indicated in notes from previous inspection). |       |

**Guide Rollers and Span Guide Rails** Component Rating:

|  |  |
| --- | --- |
| **Component** | **Finding/Comment** |
| Guide rails bent or misaligned? | Yes [ ]  | No [ ]  |       |
| Guide rollers rotating improperly? | Yes [ ]  | No [ ]  |       |
| Other issues with guide rollers and rails |       |

**Traffic Barrier (Bumper Beam)** Component Rating:

|  |  |
| --- | --- |
| **Component** | **Finding/Comment** |
| Bumper beam does not immediately extend upward upon initiation of bridge raise? | Yes [ ]  | No [ ]  |       |
| Bumper beam in poor condition? | Yes [ ]  | No [ ]  |       |
| Bumper beam guide rails / wheels in poor condition? | Yes [ ]  | No [ ]  |       |
| Issues with bumper beam counterweights? | Yes [ ]  | No [ ]  |       |
| Issue with bumper beam cables or connections to counterweight or beam? | Yes [ ]  | No [ ]  |       |
| Abnormal noise when bumper beam is extending or retracting? | Yes [ ]  | No [ ]  |       |
| Other issues with bumper beam system |       |

**Skew Control by Cable Equalizer System** Component Rating:

|  |  |
| --- | --- |
| **Component** | **Finding/Comment** |
| Confirm condition of cables |       |
| Confirm condition of cable end connections |       |
| Confirm condition of drums |       |
| Confirm condition of cable sheaves |       |
| Functionality as a complete system when operating bridge |       |
| **Drum & Sheave Bearing Lubrication** – While pumping lubricant into bearing, check that lubricant is exiting bearing properly. Check expelled lubricant for signs of contamination |       |

**Skew Control by Electro-Hydraulic System** Component Rating:

|  |  |
| --- | --- |
| **Component** | **Finding/Comment** |
| Confirm condition of each span position sensor including condition of wires and their “hook attachments” to the span. |       |
| Confirm condition of electrical connections of each span position sensor. |       |
| Functionality as a complete system when operating bridge |       |

**Hydraulic Fluids** Component Rating:

|  |  |
| --- | --- |
| **Component** | **Finding/Comment** |
| **Engine Oil** – Check condition and level. |       |
| **Radiator Coolant** – Check level. Check for visible signs of any contamination or deterioration. |       |
| **Exhaust System** – Verify exhaust evacuates room quickly. Verify no exhaust leakage into room for system directly piped to outside. |       |
| **Overall condition** – Inspect housing, batteries and other components for damage, leakage or corrosion. |       |

**Recommended Short Term Actions & Repairs for Mechanical System:**

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| --- |
|       |

**Recommended Long Term Rehabilitation Needs for Mechanical System:**

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|       |

**General Remarks – Mechanical System** Overall Rating *(Also enter on page 1)*:

(Overall Rating is lowest of all of the component ratings above.)

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|       |

**SLEEVE BEARINGS**

|  |  |
| --- | --- |
| Bridge Number      | Inspected By      |
| Bridge Name      | Date      |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Bearing I.D. | Journal Diameter | Diametral Clearance | Lube Condition | Remarks |
| Recom’d Range | Measured Max | Evaluation |
|       |       |       |       |       |       |       |
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