Current Hazmon Field Situations

Concerning Existing Realities
Illinois Elevator Explosion Could Have Been Worse

Debris field from the blast extended up to 500 feet
Hazard Monitoring Understanding

Warnings

Alarms

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Hazard Monitoring Understanding

Warnings
Alarms
ROR?

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Warnings %

Alarms %

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Hazard Monitoring Understanding
My system works properly!

.......right??

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Single-Wire, Digital Intrinsically Safe Network

Clean, Consistent Installations With HazMon-In-A-Box™

Bus Converter Network

WS2-HM Communicates With Any PLC/PC, or Hand-Held Device - No MS Windows Or Annual License Fees!

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Clean, Consistent Installations With HazMon-In-A-Box™

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Real-World Examples
Real-World Examples

ISSUE 54
Assigned To Crossover Belt
The conduit on the shaft speed sensor is broken.
# Real-World Examples

## ISSUE 1
**Assigned To Truck Leg**
The knee pulley north bearing sensor was not properly tightened allowing it to leave the bearing.

## ISSUE 2
**Assigned To Truck Leg**
The knee pulley south bearing sensor was not properly tightened allowing it to leave the bearing.

## ISSUE 3
**Assigned To Truck Leg**
The tail north bearing sensor was not properly tightened allowing it to leave the bearing.
Real-World Examples

ISSUE 25
Assigned To Leg 3
The knee pulley south bearing sensor does not change temperature when exposed to heat.

ISSUE 26
Assigned To Leg 3
The knee pulley north bearing sensor does not change temperature when exposed to heat.
# Real-World Examples

<table>
<thead>
<tr>
<th>ISSUE 8</th>
<th>Assigned To Leg 2</th>
<th>The tail north alignment sensor does not sound the alarm horn or shutdown on High Alarm.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISSU 9</td>
<td>Assigned To Leg 2</td>
<td>The tail north bearing sensor does not sound the alarm horn on High Warning.</td>
</tr>
<tr>
<td>ISSUE 10</td>
<td>Assigned To Leg 2</td>
<td>The tail north bearing sensor does not sound the alarm horn or shutdown on High Alarm.</td>
</tr>
<tr>
<td><strong>ISSUE 11</strong></td>
<td>Assigned To Leg 1</td>
<td>The tail north bearing sensor conduit was not fully put together.</td>
</tr>
</tbody>
</table>

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Real-World Examples

**ISSUE 6**
Assigned To South Leg
The tail Field Interconnect Box (FIB) is not grounded on the outgoing A and B branches.
# Real-World Examples

<table>
<thead>
<tr>
<th>ISSUE 19</th>
<th>Assigned To East House Leg 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The tail west alignment sensor does not Alarm or shutdown.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ISSUE 20</th>
<th>Assigned To East House Leg 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The tail east bearing sensor does not shutdown.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ISSUE 21</th>
<th>Assigned To East House Leg 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The tail west bearing sensor does not shutdown.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ISSUE 22</th>
<th>Assigned To East House Leg 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The tail east alignment sensor does not shutdown.</td>
</tr>
</tbody>
</table>
Real-World Examples

**ISSUE 6**
Assigned To Truck Leg
The tail north bearing sensor is not long enough to properly monitor the bearing.

**ISSUE 7**
Assigned To Truck Leg
The tail north alignment sensor is flush with the casing. (Spacer was removed by CMC)
# Real-World Examples

## ISSUE 14
Assigned To West Leg
The shaft speed sensor shuts down at 10% of actual running RPM’s (Low Warning).

## ISSUE 15
Assigned To East Leg
The tail west alignment sensor conduit is broken.

## ISSUE 16
Assigned To West Leg
The shaft speed sensor does not sound the audible alarm horn on Low Warning.
Real-World Examples

ISSUE 23
Assigned To Leg 2
The tail west alignment sensor does not Alarm unless the sensor is firmly compressed in the center.
Real-World Examples

ISSUE 3
Assigned To Leg 4
The head north alignment sensor will not make contact with the belt.
Real-World Examples

ISSUE 4
Assigned To Truck Leg
The tail south alignment sensor is flush with the casing. (Spacer was removed by CMC)
Real-World Examples

ISSUE 11
Assigned To Truck Leg
The plug sensor plunger does not move not allowing it to alarm.
Real-World Examples

ISSUE 5
Assigned To Leg 3
The knee pulley north Touch Switch is packed with material and not able to compress to give alarms. (Sensor needs replaced)
Real-World Examples

ISSUE 8
Assigned To Leg 5
The tail north bearing sensor is labeled as the tail south bearing sensor.

ISSUE 9
Assigned To Leg 5
The shaft speed sensor does not give a low warning alarm until 14% of actual running RPM’s.
(Fixed by ___ Electric and revalidated)
Real-World Examples

ISSUE 12
Assigned To Leg 4
The shaft speed sensor does not change in percentage value on the PLC until the sensor is emulated by the 4B tester to 1% of actual running RPMs and then a 20% Alarm is given in the PLC to shutdown. (Fixed by Electric and revalidated)

ISSUE 13
Assigned To Leg 5
The shaft speed sensor does not give a low alarm for shutdown until 4% of the actual running RPM’s. (Fixed by Electric and revalidated)
Real-World Examples

**ISSUE 12**
Assigned To East House Leg 3
The shaft speed sensor on the tail west bearing does nothing in the system.
Real-World Examples

ISSUE 45
Assigned To East House Leg 2
The shaft speed sensor on the tail west bearing does nothing in the system.
Real-World Examples

Single Site Report – Many Issues

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Q & A

Contact us...

jgrahek@cmciel.com

(763) 710-0848

www.cmciel.com