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Subject: Yellow Alert- Welded Link Chain Hoist Issues

Sandia National Laboratories has obtained the following information from the Naval Sea Systems Command, 2531 Jefferson Davis Highway, Arlington, VA 22242-5160 through GIDEP (Government-Industry Data Exchange Program)

**Title: Yellow Alert-Potential Failure of Chain Hoists**

Identifier 1999-KO-SNL-0007 Date 11/22/99

**Lessons Learned-** Chain hoist inspections reveal potential system failures.

**Discussion-** During a routine inspection of a Yale chain hoist at a private shipyard, it was found that the lower block bolts had less than complete thread engagement. At a minimum, Yale requires the end of the bolt be flush with the top of the nut. During the inspection it was also found that the load chain was incorrectly installed with the chain link welds facing into the driving load sheave. The load chain link welds should be facing away from the driving load sheave in order to prevent a point load on the weld. Subsequent inspections of other makes of chain hoists revealed the same problem.

**Resolution**

- For all Yale link chain or roller chain hoists with two or more parts reeving, regardless of capacity or model, inspect the lower load block bolts for adequate thread engagement. Ensure the end of the bolt is at least flush with the top of the nut. If thread engagement is less than flush with the top of the nut, contact Yale Hoist at 1(800) 999-6318 for longer replacement bolts.
- Inspect all manual and powered welded link chain hoists ( All manufacturers) for correct load chain position. The load chain link welds should be facing away from the driving load sheave. If the chain is found to be installed incorrectly, remove the chain and inspect it per the original equipment manufacturer's procedure. If the chain is defective, replace the chain in accordance with the original equipment manufacturer's recommendations. If the chain hoist was disassembled, load test and recertify the hoist.

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ADC Naval Sea Systems Command, Arlington, VA 22242

Descriptor Yellow / Caution

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DOE Functional Category IS

Hazard OT