



## **FINDINGS OF CONCERN**

### **Marine Safety Unit Lake Charles**

March 18, 2019  
Lake Charles, LA

Findings of Concern 009-19

## **Corrosion Caused Casualties**

**Purpose.** The U.S. Coast Guard issues findings of concern to disseminate information related to unsafe conditions that were identified as causal factors in a marine casualty and could contribute to future incidents. Findings of concern are intended to educate the public, state, or local agencies about the conditions discovered so they may address the findings with an appropriate voluntary action or highlight existing applicable company policies or state/local regulations.

**The Incident.** On September 25, 2018, an Inspected Towing Vessel (ITV), pushing a loaded tank barge, experienced a loss of steering and subsequently ran aground. The marine casualty investigation determined the initiating event to be the port shaft propeller nut wedged into the rudder, which prevented the free and full movement of the steering gear. (Figure 1)

**Contributing Factors and Analysis.** The investigation identified the initiating event causal factors to be a material failure of the port shaft propeller nuts locking strap (missing), the lack of a secondary securing mechanism (second nut/cotter pin) on the port propeller nut, and an inadequate corrosion mitigation preventative maintenance program. Visual analysis of the starboard shaft locking mechanism noted significant deterioration of the locking mechanism (Figure 2), requiring immediate replacement. Based on the analysis of this casualty, Marine Inspectors inspected the locking nuts straps of several other ITV's during scheduled dry-dock exams which showed similar corrosion issues.

**Findings of Concern.** The Coast Guard recommends the following preventative measures:

- Review company corrosion prevention systems/programs. If necessary, engage with a corrosion specialist from the American Boat and Yacht Council (ABYC) and/or National Association of Corrosion Engineers (NACE).
- Ensure adequate primary and secondary propeller shaft securing devices (cotter pins, double nut, locking strap, etc.) are in place at all times, with consideration given to vessel operations and environmental conditions.
- Ensure propeller fasteners are inspected routinely/during every dry-docking and recommend replacing IAW manufacture's instructions.

**Closing.** These findings of concern are provided for informational purpose only and do not relieve any domestic or international safety, operational, or material requirements. For any questions or comments please contact Marine Safety Unit Lake Charles Investigations Division by phone at (337) 491-7811 or by email at [msulcinv@uscg.mil](mailto:msulcinv@uscg.mil).

