

Lifting gear – is your ship prepared to avoid accidents occurring?

Introduction

Lifting gear onboard vessels, such as cargo cranes, provision cranes and other service cranes, is an important part of the operational equipment for cargo handling and the supply of goods, spare parts and food. Faulty performance of the gear can easily lead to off-hire and loss of income for the vessel. The consequence of accidents which may result in injuries or fatalities is much more serious and tragic for those involved.

The current international legislation covering the operation and safety of vessel's lifting gear does not provide sufficient details to ensure consistent enforcement by the various flag states. This contrasts with other areas of the shipping industry where conventions such as SOLAS or MARPOL compulsorily apply a consistent practice where adopted.



This current situation requires that the shipowners play an active part in establishing routines and systems for the inspection and maintenance of lifting gear onboard their vessels.

Experiences from casualties

One recent incident involved an entire crane cab, including the jib, separating from its pedestal and falling down into the cargo hold during operation. One person was seriously injured and disabled as a result of the accident. Investigations revealed excessive wear on and improper maintenance (greasing) of the slewing bearing. The manufacturer's revised maintenance instructions were not readily available onboard and the maintenance was not carried out as recommended. An analysis of the quality of the grease in the slewing bearing or a proper wear-down measurement would have detected abnormal wear and could have prevented the accident.

Another recent accident with fatal consequences was caused by the stevedores manually overriding the safety monitoring system. During the lifting operation, the auto stop monitor of the boom/jib in lower position was disabled in an attempt to increase the reach of the boom for a specific lifting operation. The increased load on the equipment caused by this position of the boom caused a span rope to break and the derrick boom fell down onto jetty and fatally injured personnel standing ashore.

Regulations

The most commonly adopted legislation covering lifting gear is ILO convention no.152; Occupational Safety and Health in Dock Work of the International Labour Organisation. Certification according to the ILO 152 is adopted and required by many national authorities, but it does not contain a detailed description of how the convention shall be enforced.

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The convention only requires a periodical thorough examination of the lifting gear with the service to be carried out by a competent person. A general definition of competent person is provided, but many flag state authorities leave it to the vessel's technical managers to identify and appoint such personnel. Many companies use external inspection companies, but it is not unusual for chief engineers to be given this responsibility, even where no specific training is available. In Gard's experience this solution is often insufficient. Considering the variety design, make, age and functionality of the lifting gear, it requires in-depth training to achieve the competence required to perform this duty.

Based on the current status of the international legislation it is not sufficient to rely solely on the individual flag states' enforcement of the regulations to ensure safe operation of lifting gear. Gard encourages all shipowner to consider the recommendations below.

Recommendations

- **Maintenance agreements.**
Consider establishing a maintenance agreement with the manufacturers to execute an annual thorough examination and 5-yearly re-certification. The involvement of the manufacturers will ensure that service instructions and operational experiences are transferred to the crew and reflected in the procedures onboard.
- **Additional class notation**
Many classification societies are offering an additional notation covering cranes and lifting gear. Such a notation will, in addition to the above maintenance agreement, serve as a third party control and provide a survey regime in accordance with a recognised set of industry rules and requirements.
- **Training and documentation**
The maintenance agreement with the manufacturers should include a training package and onboard training for execution and documentation of the regular maintenance to be carried out by the crew. A key issue is for the crew to gain knowledge and competence of the lifting equipment onboard. Knowing the limitations of the equipment and being familiar with the necessary safety checks of the lifting gear to be conducted prior to use will reduce the risk of failure. Since the operation of cargo handling cranes are very often left to stevedores it is vital that the crew is capable of ensuring that safety systems are functioning and that the operation instructions as prescribed by the manufacturers are available/posted prior to the stevedores operating the equipment.

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