

KISH P & I LOSS PREVENTION CIRCULAR KPI-LP-138-2013
(Accident due to Corroded Wire-rope)

► **Description of the incident:**

A general cargo ship fitted with twin cranes was discharging a project cargo weighing 27 tonnes when the steel hoisting wire failed. The project cargo fell into the hold and damaged other items of cargo as well as causing damage to the ship's tween deck. The lift was within the safe working load (SWL) of the cranes and the wire.

The wire rope had been installed a few years earlier and was inspected annually by a classification society surveyor, with the most recent inspection taking place two months before the incident. Despite this recent inspection, experts concluded that the wire failed as a result of serious local degradation of the wire in excess of the limits set by the classification society in their 'Rules for the Certification of Lifting Appliances On-board Ships'.

The degradation of the crane wire was attributed to the long-term lack of a suitable protective lubricant. It appeared that normal engineering grease was being used by ship's crew to lubricate the wire but that this had not penetrated to the core of the wire. Not only had this thick layer of grease failed to penetrate the core of the wire,

but the use of such grease meant that moisture had been trapped within the wire which accelerated the corrosion. In addition, the thick layer of grease made it hard to make a proper inspection of the wire.

Classification society surveyors can only spend a limited time on board looking at the whole ship and crew and shore staff must be aware that inspection of the crane wires may be visual only and will not usually involve a close-up examination of the core of the wire. In any case, crews should make their own ongoing and thorough assessment of the condition of ship's crane and derrick wires at regular intervals. In order to avoid corrosion of the core of the wire rope, a suitable penetrative lubricant should be applied.

Even if the correct type of lubricant is used, it is important to make sure that the wire ropes are always cleaned prior to lubrication to avoid the effects of marine salt and trapped moisture within the wire.

