# BSEE: potentially catastrophic crane and lifting incidents

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**The United States' Bureau of Safety and Environmental Enforcement (BSEE) has published Safety Alert no. 329 relating to four recent safety incidents involving cranes and lifting devices.**

**IOGP Life Saving Rules:**

Safe mechanical lifting

## What happened?

- While picking up a 'slick joint' to connect to a blowout preventer (BOP) stack, the joint, weighing over 19 tonnes, became dislodged and fell across the derrick, causing structural damage. No personnel were in the drop zone at the time of the incident.
- During the lifting of a diesel tote tank from a supply vessel, when the tank was around 1.5m off the deck, the fast line parted and about 40m of cable, crane headache ball, and tote tank fell to the deck. Failure of the crane was caused by a frozen boom tip sheave, which caused the running line to jump the sheave. No personnel were in the drop zone at the time of the incident.
- A crane boom fell freely, hitting the side of a jack-up rig and puncturing a hole in a diesel tank. The cause of the failure was missing retaining rings that held the pawl pin in place, causing the pin to dislodge. 38 barrels of diesel fuel escaped into the environment as a result of this incident.
- During lifting of tubing from a rig to a workboat, one tubing joint slid out of a bundle of 12 joints and fell around 40m to the deck of the workboat below. The joint landed on an empty cutting box, puncturing the lid and then fell to the deck of the boat. No personnel on the boat were near the area of the cutting box and there were no injuries.

## What actions were taken? What lessons were learned?

The BSEE recommends the following:

- Ensure that proper planning is conducted prior to lifts. This planning should include a review of drop zones, identification of safe zones while the lift(s) occur(s) and verification that all participants are trained in the work practices to conduct lifts and/or perform inspections.
- Review the mechanical integrity program to verify that crane maintenance and inspections are being performed according to company, crane manufacturer and regulatory requirements. Special consideration should be given to:
  - accessibility and inspection of a crane's boom hoist lock pawl cylinder assembly
  - outer diameter measurements of boom, main, auxiliary and pendant

cables
    - documentation on the installation date, manufacture date and identification information for boom, main, auxiliary and pendant cables
    - inspection and lubrication of sheaves
    - ensuring that wire rope size and sheave sizes are compatible
- Verify that loads are centred, balanced and secured prior to initiating lifts.

The BSEE Safety Alert No. 329 can be found on the BSEE website.

You can also search through our published safety alerts by typing key words, such as lifting operations and dropped objects, into the 'search safety flashes' bar on the IMCA safety flash web page:

Members may wish to refer to the following guidance:

- Guidelines for lifting operations (IMCA HSS019)
- Lifting operations (video)
- Lifting equipment (video)
- Risk assessment (video)
- Safe lifting (video)

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