

Safety Alert No. 329
20 February 2018

Contact: Jason Mathews
Phone: (504) 731-1496

Potentially Catastrophic Crane and Lifting Incidents



Crane boom hanging over the side of drilling rig associated with 29 November 2017 incident

Four recent safety incidents have occurred that involve cranes and lifting devices. As the descriptions below demonstrate, the failures could have resulted in catastrophic consequences for personnel and the environment.

- 16 October 2017: Incident occurred while conducting the operation of running a drilling riser in preparation for latching up the Blowout Preventer (BOP). While picking up a slick joint to connect to the BOP stack, the joint became un-lodged from the riser running tool and fell across the derrick, causing structural damage to the main drawworks track support bracing, hydraulic line, electrical cables and cable trays. The dropped joint of marine riser weighed 43,000 lbs. No personnel were in the drop zone at the time of the incident.
- 28 November 2017: Personnel were attempting to lift a diesel tote from a supply vessel and the fast line was lowered to the deck and attached to the pre-slung diesel tote. When the tote was lifted approximately five feet off of the deck, the fast line parted and about 120 feet of cable, crane ball, and tote fell back 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.

- 29 November 2017: Immediately after completing a four-person personnel transfer, workers were preparing to hook up a pallet from a crew boat. The port crane boom fell freely hitting the side of the jack-up rig, puncturing a hole in the port diesel tank. The cause of the failure was missing retaining rings that held the pawl pin in place, causing the pin to dislodge. Inspection of the starboard crane also revealed missing retaining rings. Thirty eight barrels of diesel fuel was released into the Gulf of Mexico as a result of this incident.
- 13 December 2017: A rig crew was in the process of loading tubing from the rig to a work boat. When they started to lift a bundle of tubing from the V-door, one 2-7/8" tubing joint slid out of the center of the bundle of 12 joints and fell about 120 feet to the deck of the work boat 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.

Therefore, BSEE recommends that operators consider the following options:

- Ensure that proper planning is conducted prior to lifts. This planning should include review of drop zones, identification of safe zones while the lift(s) occurs 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 per the Operator's SEMS plan, BSEE regulations and API RP 2D. The frequency of inspections and test must meet the manufacturer's recommendations. 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 installation date, manufacture date and identification information for boom, main, auxiliary and pendant cables;
 - inspection and lubrication of sheaves; and,
 - ensuring that wire rope size and sheave sizes are compatible.
- Verify that loads are centered, balanced and secured prior to initiating lifts.

A Safety Alert is a tool used by BSEE to inform the offshore oil and gas industry of the circumstances surrounding an accident or near miss. It also contains recommendations that should help prevent the recurrence of such an incident on the Outer Continental Shelf.