

Safety Alert

MMS

U.S. Department of the Interior
Minerals Management Service
Gulf of Mexico OCS Region

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Three Crane Accidents Caused by Improper Rigging

In three recent but separate offshore incidents, personnel were placed at risk, injured, and/or equipment was lost overboard while conducting crane operations.

Incident No. 1 – A bundle of fifteen pieces of flat iron were prepared for lifting from a vessel by riggers using nylon slings. The riggers failed to double wrap the slings around the load and align the center of gravity of the lift. When lifted, the stacked flat iron shifted and began sliding as the slings adjusted unevenly. *The sliding flat iron cut the slings and the entire load was dropped.*

Incident No. 2 – A work crew was positioning a drive pipe hammer using an uneven sling to prevent the piston from sliding. The crane tip was not positioned over the center of gravity, which caused the hammer to swing horizontally immediately upon being lifted. A rigger manning the single tag line lost balance and his foot lodged in a pinch point next to some piping. *The swinging hammer struck the piping crushing the rigger's foot.*

Incident No. 3 – A contract crew was lowering a flowline riser segment using a nylon sling. While positioning the riser, the load was halted near the exhaust of a turbine generator. *The heat from the exhaust melted the nylon sling, causing the sling to fail and the load to fall, injuring a workman.*

MMS investigations found several deficiencies that contributed to the three incidents:

- *Lack or failure of supervision contributed to all incidents.*
- *Crane operators failed to check the use of the appropriate slings or rigging methodology;*
- *The loads were not centered prior to lift and the crane operators could not see the lift;*
- *No pre-lift procedure was agreed upon by crane operator and riggers;*
- *Employees were improperly positioned during operations, resulting in unnecessary risk and injury.*

(continued)

The MMS recommends the following:

- Operators ensure that planning is conducted prior to a lift to accomplish the following:
 - Verify all personnel are fully trained;
 - Ensure loads are secured by proper slings and methods (*consider whether nylon is appropriate*);
 - See that loads are centered and balanced; and
 - Ensure all personnel are safely positioned.
- Operators ensure that crane operators and riggers maintain adequate communications to prepare and orient loads prior to and during a lift.■

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