

Workplace Health and Safety Bulletin



Bypass of Crown Saver Ends in Fatality

Incident description

In recent years, a number of triple stand drilling rigs have been severely damaged due to travelling block contact with the crown assembly on the rig.

On September 15, 2000, a drilling crew was removing pipe from the well bore when the travelling block contacted the crown assembly of the drilling rig. The drilling line was cut and the travelling block, weighing in excess of 5000 kg, fell to the drilling floor. A steel pipe fan brace weighing 12kg broke away from the crown structure. The brace fell, striking the driller and a floor hand. The driller was struck in the head and died of his injuries.

Contributing factors

Follow-up investigations by Alberta Human Resources and Employment, Workplace Health and Safety determined that the following contributed to the incident:

- the drilling rig was equipped with a crown saver switch at the driller's console
- it appears that the driller had shut off the crown saver to accommodate longer strands of drill collar, preventing the crown saver from activating.

Discussion

Investigation of this incident revealed that many triple stand drilling rigs operating in Alberta are equipped with similar crown saver bypass switches, Section 769 of the Occupational Health and Safety Code requires triple-stand derrick drilling rigs to be equipped with an upward travel limiting device to prevent the travelling block from contacting the crown structure. Section 769 also requires the device limiting upward movement of the travelling block to disengage power to the hoisting drum and apply the brakes, preventing the travelling block from contacting the crown structure.

Bypassing or disabling this safety device is considered unacceptable. Owners and operators of drilling rigs equipped with crown saver bypass switches are in contravention of the Occupational Health and Safety Code and the *Occupational Health and Safety Act*.

Readers should be aware that the new Occupational Health and Safety Code which came into effect on April 30, 2004, proposes that all drilling rigs be equipped with a crown saver system. The Code further proposes that the crown saver system be tested at least once during each shift. A copy of the Occupational Health and Safety Code can be found at:

 www.hre.gov.ab.ca/documents/WHS/WHS-PUB_OHSC-1.pdf


Recommendations

Drilling rig owners and operators should examine their rig fleets and make the modifications necessary to ensure that their equipment complies with the requirements of the Occupational Health and Safety Code.

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Workplace Health and Safety



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