

Manriding Incident – Carabiner Failure

What happened?

On a semi-submersible drilling rig, the drill crew had completed rigging up for a cement job. After pressure testing the cement line, a crew member was required to open the low-torque valve. The valve was located at a height of seven metres above the rig floor and could only be accessed by using a tigger and man-riding harness.

With the assistance of a roustabout, the person in the man-riding harness connected to the wire rope from the man-riding tigger using a carabiner. Another crew member then operated the tigger to raise the man-rider up to the height of the low-torque valve.

Operation of the valve involved some physical movement of the man in the riding harness. The man-rider then pushed away from the valve, grasped a cement hose with his right arm and signalled to the tigger operator to commence lowering. As lowering began, the carabiner locking gate broke free from the carabiner body. The man-rider became disengaged from the tigger wire rope and fell to the rig floor. Because he was holding the cement hose, this action slowed his descent. He landed feet first and rolled to absorb the fall.

Examination of the carabiner was carried out by a Materials and Corrosion Engineer. A considerable amount of dirt was found lodged around the latch pin and between the latch yokes. This contamination may have prevented full gate closure of the carabiner by stopping the gate sleeve from rotating to lock the latch. This would have left the tensioner spring as the only mechanism holding the gate closed.



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What went wrong?

1. The carabiner was thought to have failed because it was used with the gate in the unlocked position.
2. The most likely cause of the carabiner being unlocked was dirt inside the gate mechanism preventing it from closing fully.
3. The carabiner was not rigorously checked for security when it was operated.
4. The planned maintenance system did not identify the carabiner on the man-riding harness as an inspection item.

Key Lessons

Potential hazards associated with the use of the carabiner had not been identified. The routine planned maintenance instructions did not therefore identify the carabiner on the man-riding harness as an item for inspection. This lack of detail allowed the carabiner to be overlooked when inspections were carried out.

The height and position of the side entry sub on the cement stand that included the low torque valve was not designed or planned to minimise or eliminate the need for man-riding.

The man-riding procedures were not detailed enough to include rigorous inspection and checking of the carabiner for security when it was being operated by the user. This may have allowed the carabiner to be put into use with an unlocked gate. The operator has now replaced the carabiner on the man-riding harness with a 4-part shackle. This shackle is included in the lifting register as required in the man-riding procedure and is included in the loose lifting equipment inspection colour coding system.

Who is responsible?

- (i) The operator of an offshore facility has a general duty of care under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* to ensure that all work and other activities are safe, and that the risk to the health of people is as low as reasonably practicable. Specifically, the operator must implement and maintain a safe system of work for any plant and equipment.
- (ii) Any person who is in control of any part of a facility or particular work carried out at a facility has similar duties to the operator for that part of the facility or that particular activity.
- (iii) Every person at a facility must at all times, take all reasonably practicable steps to ensure that by any act or omission, they do not create or increase a risk to the health or safety of either themselves or anyone else.

Contact

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