

## Description of incident:

Incidents may occur when reeving wire rope.

There have been incidents in the past involving cable grip or “snake” equipment release during drill line reeving activities on North Sea Installations.

The operation is generally carried out infrequently, e.g. at initial construction and major inspections, or after failures when the Travelling Block is removed from the derrick

This summary aims to share key lessons from previous incidents.



**Figure 1 – Damaged Snake Grip**

## Learnings:

1. **Have you modelled and understood the required tension to reeve the system?**

In previous incidents, the Safe Working Load (SWL) of the assembly for the job offered insufficient safety margin to account for snags or dynamic loads. **Note: a cable grip breaking load to SWL ratio of 5:1 is recommended in a lifting application**

2. **Have you confirmed whether the tracer line (if used) and chosen connector or splice have adequate strength to perform the reeving operation?**

Check the Breaking and SWL for the tracer wire or splice, and all connector components (snake, swing link or other), and confirm the equipment has the right SWL to perform the operation

3. **Are you using the lowest risk approach?**

Splicing or alternative cable grip equipment (e.g. Gulf Copper End Line Connector), may afford higher safety factors than ‘snake’ type cable grip equipment.

4. **Do you understand how the job can go wrong and what to monitor for while performing the reeving operations?**

If there is a snag or hold up in the system, or inadequate slack at the drill line, tension in the tracer wire and at the connector or splice can increase very rapidly.

5. **Have you identified the potential snag points for the complete path from deadline to drawworks, and that minimum pass-through dimensions accommodate the connector size?**

In a recent incident, a Lewis ‘snake’ assembly size had been increased to achieve a higher SWL based on previous incident learnings. The increased connector dimension exceeded the clearance between a deflector sheave and retaining bar and did not sit completely within the sheave channel. See *Figure 1 – Damaged snake Grip*

6. **Are the latest OEM procedures available and being used?**

Incidents regularly occur where the root cause is found to be that manufacturers’ instructions have not been followed correctly. Ensure equipment-specific procedures are available and personnel are familiar with these procedures.

7. **If there is a failure, are your people safe?**

In a recent incident, the leading edge of the connector snagged on a sheave wire retaining bar. This caused compression of the connector that released the grip without any increase in line tension. The release was immediate and gave no time for the spotter to exit the red zone. The job procedure did not have hold points to allow spotter to exit the area before the connector entered the sheave. It was not appreciated how fast the release could happen.

**Dropped drill line fell outside of the standard Red Zone (without impact to people’s safety). For any non-standard operations, designation of a total exclusion zone should consider the drop cone associated with the full path of the associated equipment**