

Manriding Incident Atwood Eagle – 25 January 2005

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Drilling Superintendent

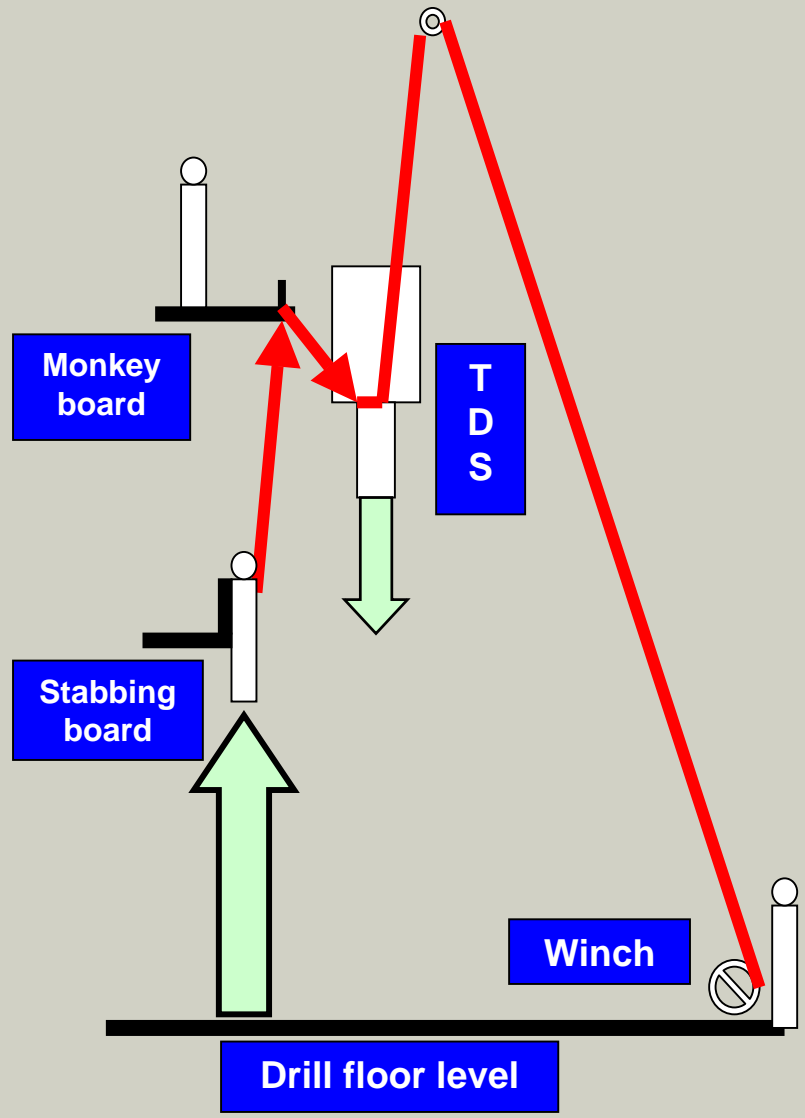


Incident Details

- Date: 25 January 2005
- Time: ~2245
- Location: Drill Floor
- Injuries: Nil
- Classification: Near Miss
 - Actual: Level 1
(no measurable physical effects)
 - Potential: Level 4
(Fatality)
- BHPB and NOPSA mobilised to conduct an investigation. Both investigations were independent of each other.



Man-Riding Incident SCHEMATIC



Man-Riding Incident

BACKGROUND INFORMATION

- The well was about to be cored
- The string had been run until it tagged bottom
- A long coring stand was picked up using the link tilt for latching
- Because the string had touched bottom, an RBS connection about 3 meters above the drill floor was required.
- This, combined with the height of the coring stand activated the Kinetic Energy Management System (KEMS) and prevented the connection being carried out.
- It was decided to remove a single joint from the string and replace it with a 6m pup joint
- Given the height of the elevators was beyond the reach of the derrickman (due to the length of the coring stand), it was decided to have a manrider insitu to unlatch the elevators once the core stand had been racked back



Man-Riding Incident

INCIDENT DESCRIPTION

- The man rider had completed activities and was lowered to the drill floor.
- The Driller observed via camera that a cable appeared to be in close proximity to the Top Drive.
- Unknown to the driller or floor personnel the line was also caught over a corner of the monkey board.
- Using the speaker system, the driller issued an instruction to clear the line.
- The man-rider did not hear the message and was coincidentally moving the line to give himself room to move towards the winch securing point, while starting to disconnect the shackle to the winch cable.
- At this point the driller, seeing via the derrick camera that the line that had concerned him was now clear and assuming that the man-rider had unshackled the belt, commenced lowering the traveling block.

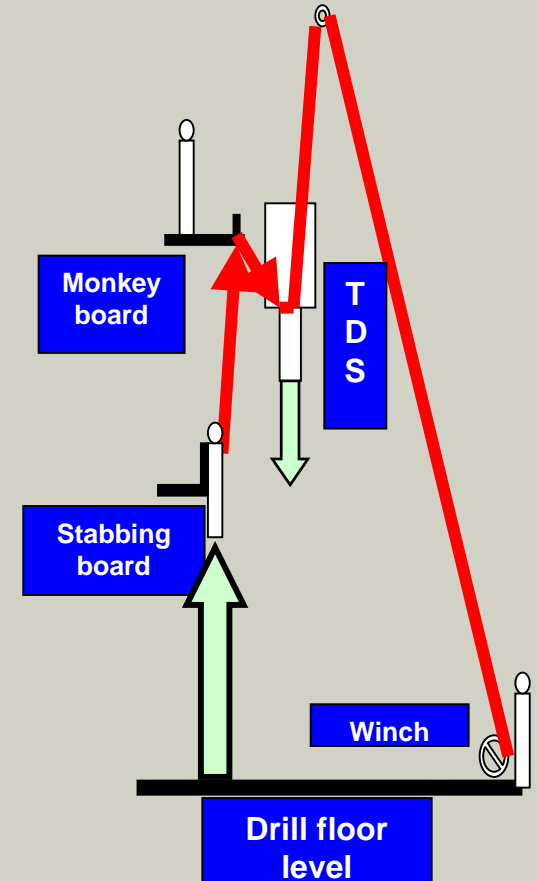
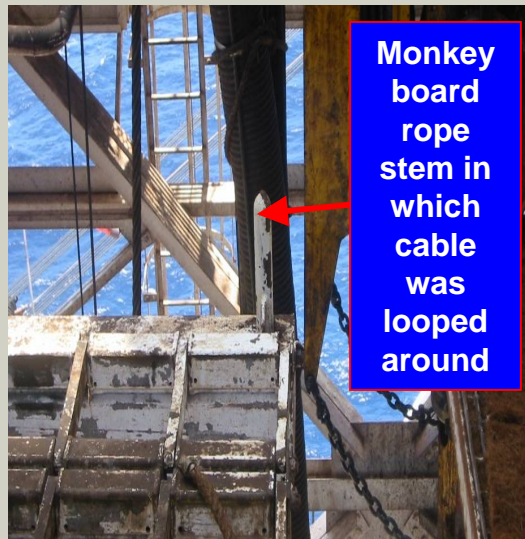
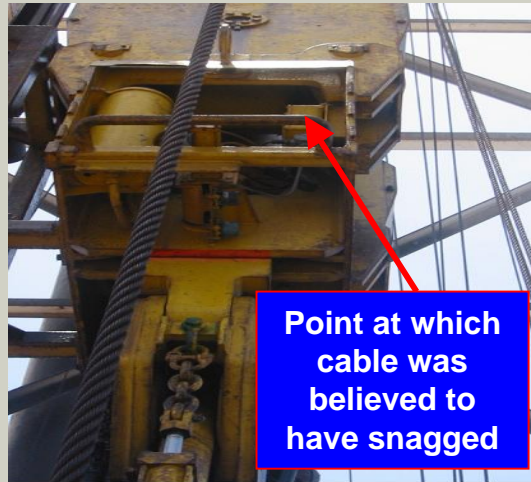


Man-Riding Incident INCIDENT DESCRIPTION

- With the manrider still attached, the snagged line lifted the manrider approximately 8m off the drill floor.
- The man, who was unhurt, was lowered to the floor using another manriding tugger.
- All work was stopped and a safety meeting was held.



Man-Riding Incident



Man-Riding Incident

KEY FINDINGS

- Isolation of blocks using tag-out only considered ineffective
- Risk Assessment of coring joint makeup could have eliminated need for manriding to release elevators
- Elimination or reduction of manrider activities not specifically considered during campaign and well planning
- Preferred tugger not operational. Position of tugger used increased chance of cable tangling
- Requirement to check and confirm cables are clear & manrider is free of harness prior to moving blocks not proceduralised.
 - Failure to confirm cable was not snagged prior to moving TDS
 - Failure to confirm manrider was disconnected prior to moving TDS
- Delayed incident reporting to NOPSA not as per “as soon as practicable” requirement



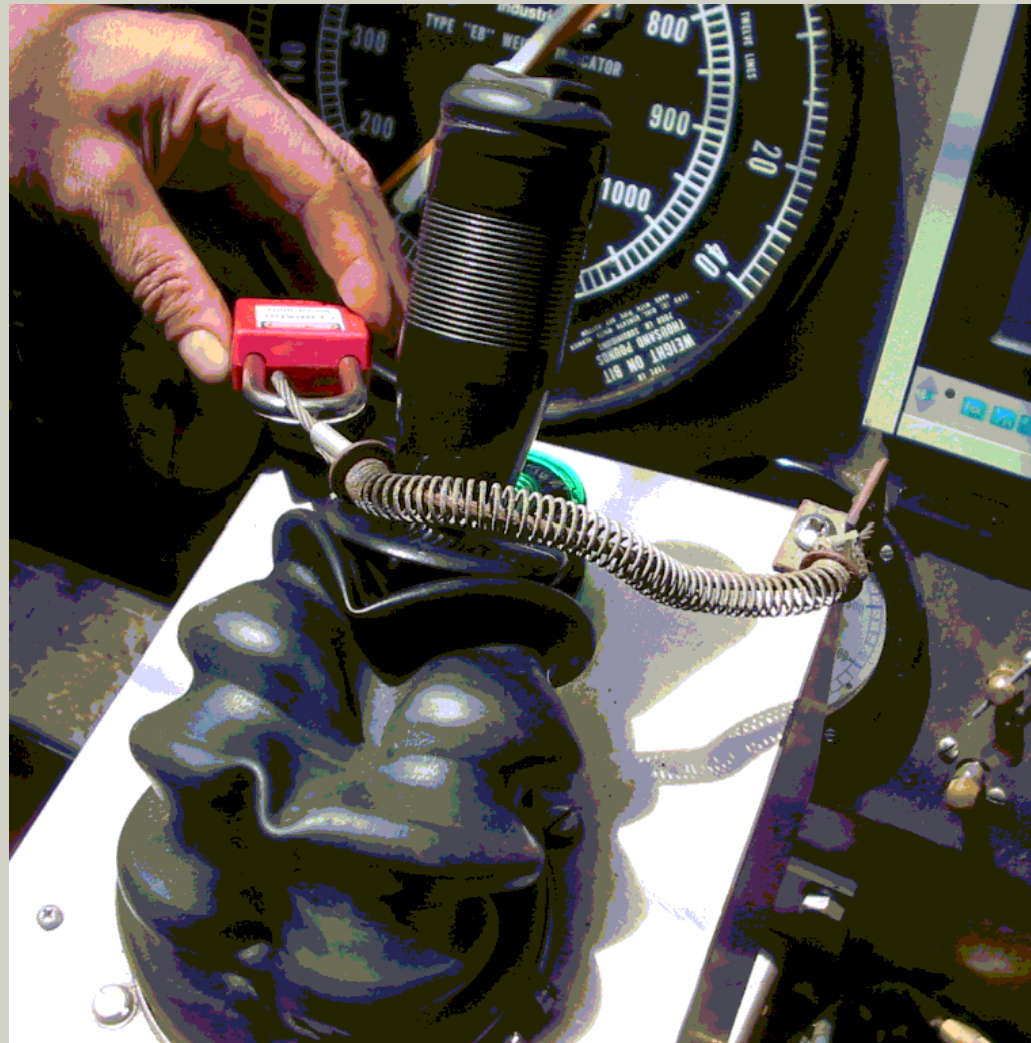
Man-Riding Incident

CORRECTIVE ACTIONS

- Implement lock out system on travelling block during manriding activities
- Update manriding procedure / JSA / PTW / pre hoist checklist
- Communicate event and updated procedures to personnel
- Review drillfloor communication arrangements
- Update processes / documents to ensure NOPSA reporting requirements are understood
- Review manriding activities (for month of January) and determine opportunities to eliminate / reduce

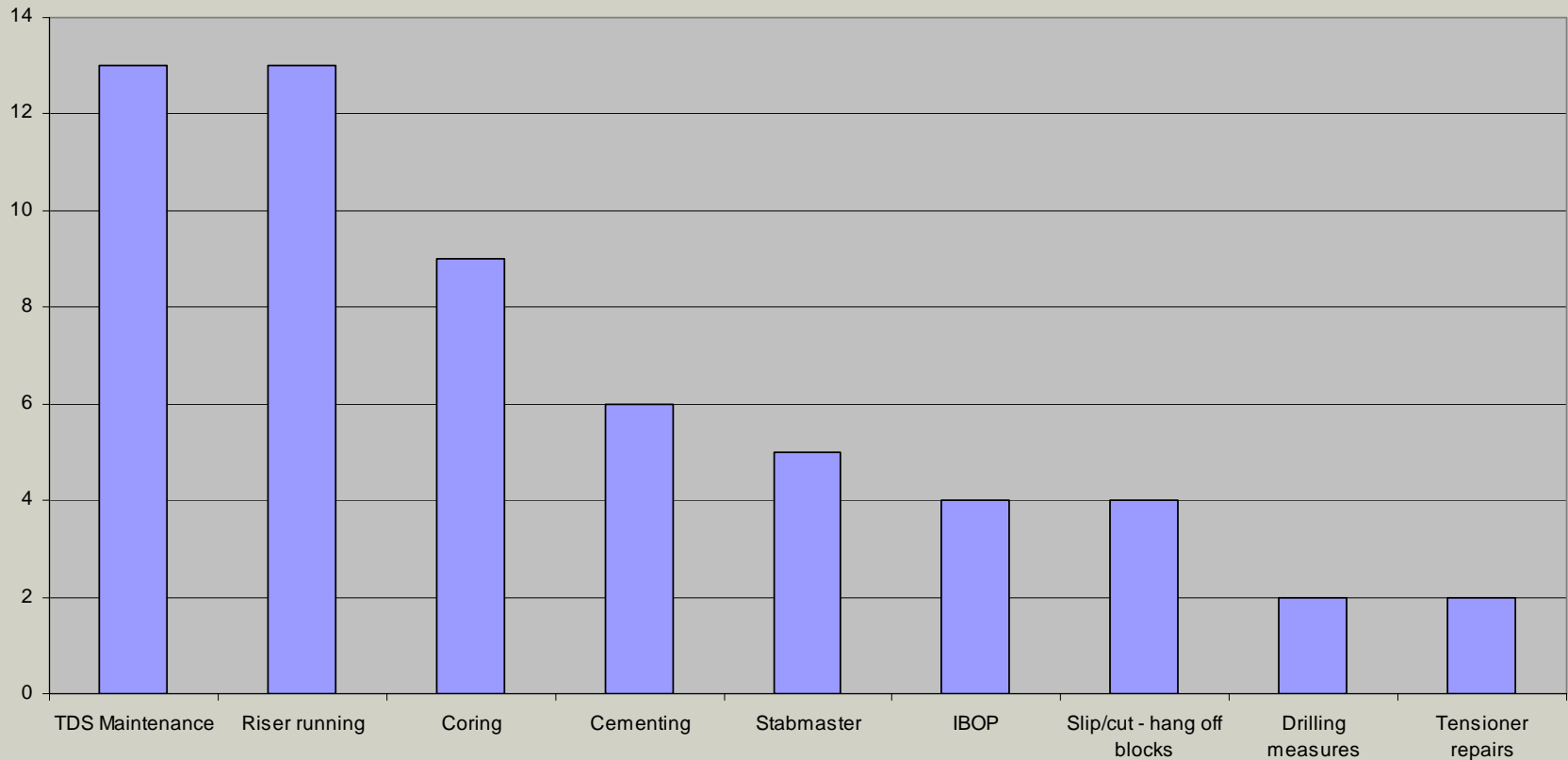


Man-Riding Incident



Man-Riding Incident

Man rider activities - January



58 MANRIDING ACTIVITIES CONDUCTED FOR MONTH OF JANURAY 2005 –
can that number be reduced?



Noble initiative reduces manriding operations

NOBLE DRILLING HAS focused on an initiative that reduces or eliminates manriding operations when possible. The company says it will hoist personnel only when necessary and has implemented several creative techniques to avoid manriding operations on its fleet of offshore rigs around the world.

Factors contributing to the need to eliminate manriding include the risk of incidents, climate conditions, ergonomics, cost and operational constraints.

Consequently, Noble issued a company-wide policy that manriding operations are to be avoided whenever possible, and should only take place when there is absolutely no practical and safe alternative to accomplishing a task without the aid of mechanical hoists.

Much of the proactive effort was led by Noble's Europe Division. However, the company plans to avoid manriding as much as possible in its entire fleet.

"It's been quite some time since we had anyone injured during a manriding operation," said Mike Cadigan, HSEQ Manager for Noble Drilling. "A lot of this is due to the commitment of our management to avoid manriding, especially in our Europe Division.

"We are sharing their best practices with the rest of our fleet."

Not all of the best practices can be implemented on Noble's entire fleet due to space constraints. "Where some of the best practices make sense and can be incorporated into existing derricks, we will do so," Mr. Cadigan said. "However, all of the best practices are being incorporated into any new derrick that we design."

SAFETY OBJECTIVES

Noble took a two-pronged approach to proactively managing manriding operations: implementing strict manriding safety policies and equipment controls aimed at producing immediate results; and performing a longer-term evaluation of manriding to reduce and eliminate these operations.

To accomplish the first objective, in 2001, Noble standardized worldwide on the Ingersoll-Rand FA150 manriding winch, purchasing more than 140 for all rigs in the Noble fleet. The company also redefined its manriding policies and put

strict, controlled procedures in place to ensure that manriding operations are performed in the safest manner possible. Some of these policies include:

- **Permit to Work:** For a permit to be granted, operations personnel must have implemented certain planning and control measures. This policy provides a degree of risk mitigation and ensures that proper supervision is present during the operation.



The Noble Byron Welliver was the pilot rig in the company's initiative to reduce or eliminate manriding operations in its Europe Division. Changes and modifications will be made to all of the company's rigs when possible.

- **Personnel control measures and rig supervision:** A minimum of four rig personnel must be present to participate in the lift, one of which must be the rig manager.

- **Fall protection:** An independent means of fall protection must be in place during the operation should the primary hoisting line fail.

- **Toolbox talks and job safety analysis:** These task-specific activities must take place prior to the operation.

- **Simultaneous operations:** Certain rig operations are suspended during the manriding lifts to help safeguard personnel and the environment and ensure that an adequate level of supervision is dedicated to the task at hand. Additionally, the drill string must not be in motion and the top drive must remain stationary to enhance the safety of these operations.

- **No more than one manriding operation can occur at a time:** Manriding operations can only take place above or below the rig floor, but never in both places at the same time.

- **Competency assessment:** All personnel receive a manriding competency assessment. Only personnel who have been assessed and are deemed competent in manriding are registered to participate in a manriding operation.

- **Line of sight hand signal communication:** All personnel are aware of the appropriate hand signals and all communication is performed using hand signals. Radio communication is not allowed due to the risk of failure and the tendency of personnel to rely on it too heavily.

To accomplish the second, longer-term objective, the company began an assessment of all tasks utilizing manriding operations to identify solutions for eliminating the need to hoist personnel. This aggressive program included implementing and monitoring design changes on a pilot rig, as well as collecting best practices.

As a result, best practices and engineering designs achieved significant results on the pilot rig and are now being implemented on additional drilling rigs throughout Noble's fleet.

INCREASED SAFETY

Many of the best practices were implemented on the Noble Byron Welliver as the pilot rig in the company's Europe Division. Results achieved through this program are dramatic and have eliminated personnel exposure to this risk.

In Noble's European fleet, the average annual number of manriding operations performed is 119 per rig. Since instituting best practices for manriding on the Noble Byron Welliver, only nine manriding operations were performed on the rig from January 2004 to July 2004, and no manriding operations have been performed since July 2004. This accomplishment set a new standard within Noble's fleet.

Benefits of reducing and eliminating manriding operations include improved safety, easier access to equipment, improved housekeeping and reduced impact of maintenance on drilling operations.

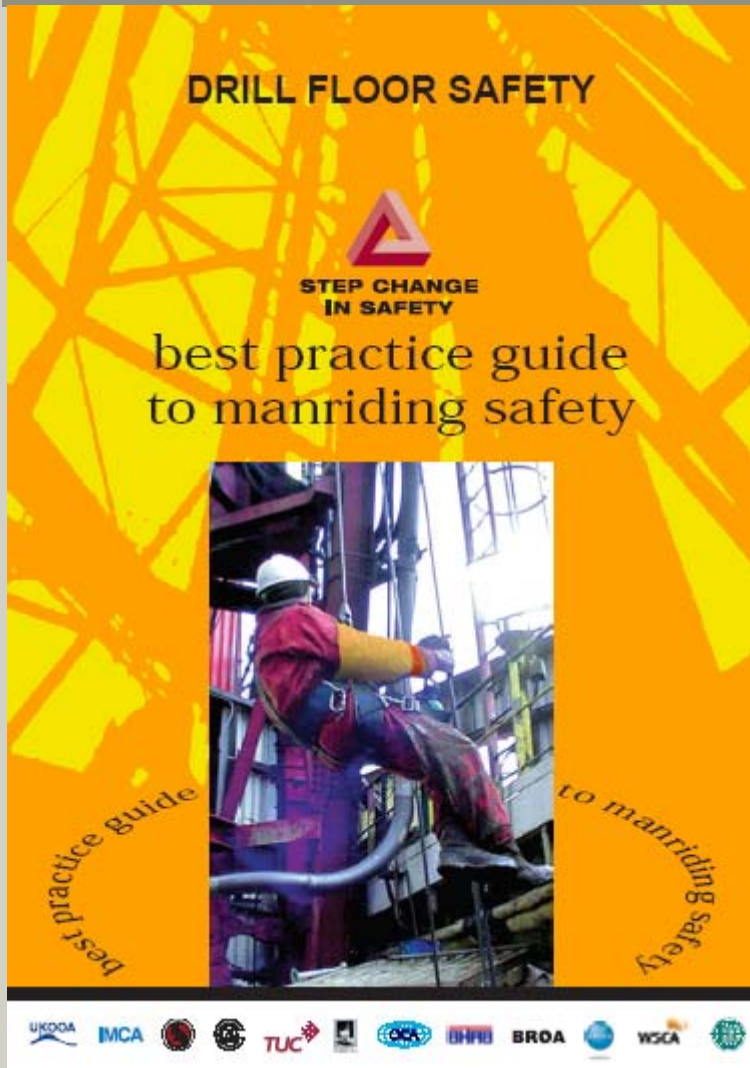
NOBLE DRILLING RECEIVED SPECIAL AWARD IN 2002 FOR THE EFFECTIVE REDUCTION OF MANRIDING ACTIVITIES BY FOCUSING ON STRICT CONTROLS / PROCEDURES AND HARDWARE IMPROVEMENTS (will be posted on Drillsafe website as well as STEPCHANGE document).

In Nobles European fleet average annual no. of manriding operations performed is 119 per rig.

Since introducing best practices - on 1 particular rig only 9 manriding operations were performed on the rig from Jan to July 2004 & none since July 2004.



Man-Riding Incident Industry Publications / Articles



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