

Wire rope inspection and spooling services (WRISS)

ASSET Drilling vessel
LOCATION USA
DATE 2015

Innovative techniques provide an efficient solution when deck space and time is tight and you need a safe and controlled spooling method

BENEFITS

Knowledge about the internal and external condition of their ropes

Safe and accurate re-installation of wire rope with proper back tension as per manufacturer requirements

Confidence in project execution and delivery with complete on-site services



CHALLENGE

Our customer required to increase the overall life of the wire ropes that are crucial to their operations and due to the diameter and length, 3-in x 11,500-ft (76 mm x 3,505 m), proper means for inspection and tension were limited on-site. Our specialists were tasked to inspect the wire rope on all four cranes to:

- Ensure work was completed within an eight day timeframe
- Establish baseline E-mag inspections of each wire rope (internal and visual)
- Reinstall each wire rope under 2%-3% minimum tension as per the wire rope manufacturer recommendations.

SOLUTION

- We developed a system that used our 4-track 36 Te tensioner, a sub-frame with lead sheave assembly, a large reel system and a LMA 300 E-mag machine.
- The large reel used allows collection of up to 13,000-ft (3,962 m) of 3-in (76 mm) wire rope for the inspection and tensioning which suited the customer's requirements.
- We used the E-mag machine to perform a non-destructive inspection of the wire rope which looked for Loss of Metallic Cross-Sectional Areas (LMA) such as external and internal corrosion, wear, changes to wire rope structure and localised flaws such as broken wires and corrosion pitting.
- The comprehensive system applied proper back tension to the wire rope during re-installation, allowing our customer to improve their planned maintenance and their specific wire rope inspection and replacement criteria by allowing for onsite inspection.
- The tensioner allowed us to apply a controlled tension while re-installing the wire rope. The sub-frame and lead sheaves enabled the system to act as support on the vessel decks and provided guidance for the wire rope from a zero degree (horizontal line pull) arrangement to 90 degrees (vertical line pull).

SUMMARY

- LMA 300 E-mag machine and software
- 36 Te tensioner
- Lead sheave assembly and sub-frame for tensioner
- 120 Ton spool reel system
- Knuckle boom crane for level winding
- Generator
- Supply of inspection personnel

1.



2.



1. Re-installation of wire rope using back tension
2. 3-in wire rope being stored on a spool reel

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