

# Magnetic Rope Testing Superior Guy Rope Inspection

- Fast and easy method to inspect guy ropes
- For flare stacks in & out of operation
- High inspection speed and performance
- Robust equipment and smart software
- Services include MRT and technical report



Flare stacks can be decades old, and guy ropes, operating in a sedentary environment are prone to continuous deterioration that includes corrosion and degradation in wires and strands. Continuing their safe operation requires accurate and objective inspection.

Visual inspection, for all its simplicity, is not sufficient for examination of guy ropes. Not only it is impossible to see the internal wires, even external examination is seldom possible as cleaning the rope from layers of dirt and lubricant can be very time consuming, difficult and expensive.

Magnetic rope testing is thus the only practical way to effectively inspect wire ropes. Both inner and outer structures are inspected and surface grease and pollutants do not affect its performance.

The INTROS<sup>®</sup> magnetic rope tester simultaneously measures the loss of metallic cross-sectional area, and reveals outer and inner broken wires. It consists of the magnetic head, that is mounted on the rope and the basic unit data-logger interconnected via a cable. Magnetic heads are designed to accommodate ropes of different subranges in diameter, starting from 6 mm. The pocket size basic unit is battery powered and can be fixed to the magnetic head for travelling along the rope, collecting the measurement data. The Wintros<sup>®</sup> PC software is used for subsequent analysis and report compilation.

If the flare stack is out of operation, a crown block needs to be mounted on the top of the stack and a winch will then move the instrument (fig. 1 & 2). If the flare stack is in operation, this procedure is not possible due to safety issues. In this case, the self-propelled climber provides motion of the system, pushing the instrument up and pulling it down the guy rope (fig. 3 & 4).

Defects revealed in the guy rope are summarized in a field test report. Assessment of residual safety factor can be done using the Rope Strength<sup>®</sup> in-house software.

