

ROSEN cleaning analytic service: run data that builds confidence

ROSEN's new Cleaning Analytic Service provides pipeline operators with the opportunity to gain information on their assets from standard cleaning runs. To this end, ROSEN captures information from multiple sources at the end of the run. The condition of the cups, the condition of the disks on the tool, and the amount and type of debris that is received tell much about a pipeline's current status. Additionally, ROSEN's Intelligent Gauge Plates and Pipeline Data Loggers (PDLs) can be integrated into the tool setup. While Intelligent Gauge Plates provide detailed information about the asset's geometry, PDLs measure and record temperature and pressure profiles, differential pressure, and rotation. The collective assessment of these parameters and monitoring of tool behaviour can be utilised effectively to detect and locate restrictions or deposits in the line, and provides cleaning progress effectiveness information while verifying operational pipeline conditions.

After all available information is gathered, it is entered into predefined templates on a tablet, directly in the field. The tablet then connects to a hosted system and the information is stored in a database. On that basis, ROSEN is able to provide valuable analytical services and generate reports, which are fed back to the customer. In this way, if applied in consecutive runs, the ROSEN Cleaning Analytic Service enables the building up of thorough knowledge about a pipeline's development over time. Additionally, status alerts can be provided, giving operators real-time feedback.

Included in the ROSEN Cleaning Analytic Service is access to a dashboard that visualizes all key metrics. Its clear design allows the evaluation of a specific run's efficiency, as well as the comparison of different runs. In addition to detailed results for each run, operators can also look at average values, such as average tool velocity or average volume of debris. This enhanced level of information increases confidence and supports operators in making informed decisions about cleaning and inspection frequency, tool configuration, and preparedness for inline inspection.

The ROSEN Cleaning Analytic Service consists of three main elements:

- The Smart Monitoring Package includes the collection of various kinds of data during cleaning runs.
- The Data Management Package includes the comparison of this data against existing pipeline system data.
- The Assessment Package includes the analysis of existing data and detailed reporting.

In this way, pipeline operators receive exactly the degree of information on their valuable assets that their individual situation requires.

ROSEN confirms feasibility of high-level reverse lay procedure for Asia Pacific operator

An Asia Pacific operator proposed a repair solution to complete repairs to a PLEM (pipeline end manifold) attached to their decades old subsea pipeline, which was to recover it and associated attached pipeline, replace a flange connection and badly corroded sections of the PLEM/pipeline, and then return it to service. The proposed method for pipeline recovery was a reverse lay approach. To confirm the feasibility of this plan, ROSEN was approached to support with integrity services. The structural integrity of the pipeline needed to be established to confirm that the additional loads arising from the reverse lay procedure would not cause any damage to the pipeline.

In the first stage of the study, a series of DNV-OS-F101 code assessments was conducted to assess collapse due to external pressure, local buckling and propagation buckling under a maximum allowable set of loads specified by the operator for the reverse pipelay procedure. Levels of general wall loss were also assessed. Some of these scenarios were found to be unacceptable according to code, therefore further analysis had to be conducted.

In the second stage of the study, a series of finite



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