SONOMATIC

CASE STUDY

SUBSEA EXPORT RISER INSPECTION USING DRS

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1. INTRODUCTION

External inspection of a subsea riser was required to verify indications identified by in-line inspection.

2. MAIN CHALLENGE

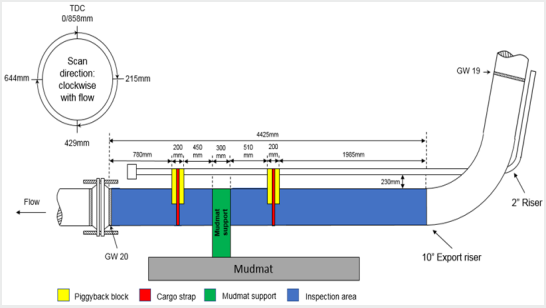
A 12 mm thick neoprene coating was present on the subsea riser, which prevented external inspection using conventional ultrasonic techniques.

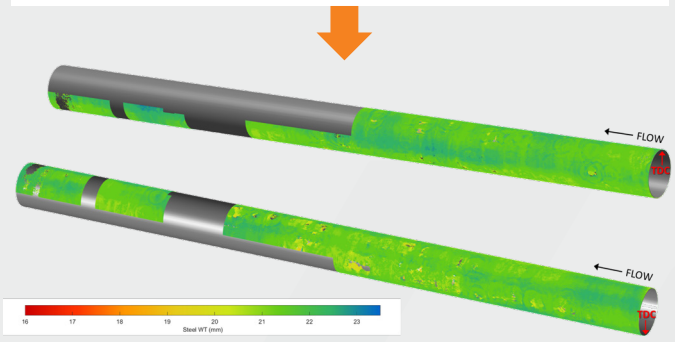
3. PROCESS

To complete an external inspection of the subsea riser through the neoprene coating, Sonomatic used their dynamic response spectroscopy (DRS) technique. DRS uses low frequency ultrasound to penetrate coatings which are attenuative to conventional ultrasonic inspection techniques. The low frequency excitation causes a natural frequency response from the steel. Using advanced signal processing methods, the steel thickness can be derived from the natural frequency response.

4. OUTCOME

Using the DRS technique, Sonomatic were able to build a thickness map of the area of interest on the subsea riser. The results identified regions of degradation which were below the nominal wall thickness.





5. CLIENT FEEDBACK

The inspection was a success. The results obtained by Sonomatic contributed to demonstrate the integrity of the riser at the maximum operating pressure.