

# CASE

# STUDY

APACHE NORTH SEA LTD

FORTIES Oil Field. North Sea (UNITED KINGDOM)



**INDAR ISM ML**

A few years back Apache North Sea were suffering from premature failures of Seawater Lift Pumps on the Forties Oil and Gas Offshore

Installations. There were numerous failures and nearly all were attributed to the premature failure of the associated Submersible Motor.



**Indar**  
Ingeteam Group

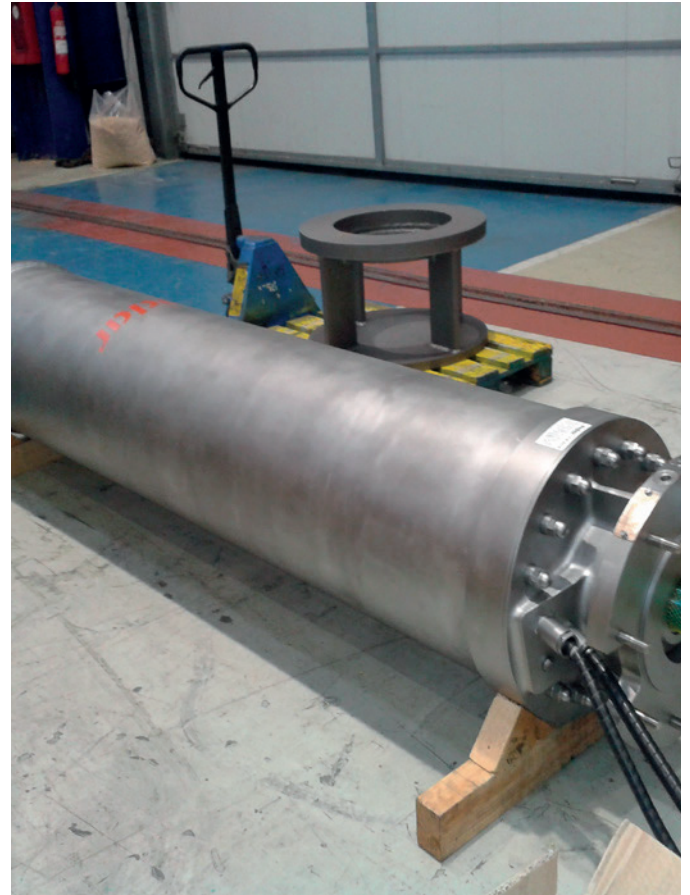
An investigation team was set up looking at the root cause analysis and the ultimate failure mechanism in order to establish the way forward. Indar representatives were alarmed at the failure rate and also surprised at the failure mechanism and immediately put ourselves forward as a potential submersible motor supplier based on our good historical performance.

Apache North Sea have since had a site visit to Indar in Spain and have subsequently purchased motors and built up a good working relationship with Indar and are now operating with numerous Indar Submersible Motors in the North Sea.



Indar have also done a number of retro-fits to existing Apache owned Submersible Motors. This involved the fitting of a bi-directional Thrust Bearing Assembly to the Submersible motor.

The benefits of this were immediate because Apache then had the functionality of connecting up the electrical supply without the fear of immediate failure.



Even if the motor was connected up wrongly the bi-directional bearing gave enough confidence that no damage would occur while running in the wrong direction.

Therefore since commissioning and start up, the operation and reliability of the Indar motors have been fully satisfactory.