

Hayward Tyler Improves Deepwater Floating Platform Reliability

Hayward Tyler Retrofitted Seawater Lift Pump Submersible Motors for Improved Reliability

During 2019 Hayward Tyler was called upon to help support one of the largest and most complex deep water semi-submersible platforms in the Gulf of Mexico. The platform was experiencing issues with their existing submersible motors due to an overheating issue.

Hayward Tyler engineers reviewed the existing installations and proposed a retrofit submersible motor that would fit in the existing footprint whilst offering improved cooling performance throughout the motor. Additional instrumentation was supplied including RTD's and PT100's to allow the motor internal temperature and winding temperature to be closely monitored. Additionally, the use of a header tank instead of a diaphragm allowed the motor to be monitored for excessive leakage that would be detrimental to the motor performance.



An environmentally friendly water/glycol mix was used inside the motor to minimize the impact of any potential leak to the environment.

Hayward Tyler supplied a highly experienced field service supervisor, during the COVID-19 global lock down, to oversee installation and commissioning of the motors to allow a seamless transition away from the existing failed motors. This included post commissioning follow-up on evaluating the performance of the motors to ensure the root cause of the original motor failures was fully eliminated.

Project Summary

SITE / LOCATION:

Gulf of Mexico
Deep Water Semi-Submersible Platform

SOLUTION:

- Design, manufacture and install 2 submersible motors into the existing footprint
- Improve cooling across the motor to provide longer operational life
- Supply additional instrumentation to improve asset condition assessment
- Use environmentally friendly motor liquid to minimize environmental impact
- Supply on-site supervision to ensure seamless installation

MOTOR DESIGN DETAILS:

- Qty 2-Water/Glycol filled Submersible motors
- Rated Power: 1475 hp (1.1MW)
- Power Supply: 4160 V/ 60 Hz /3 ph
- Starting Method: DOL
- Max ambient water temperature: 86°F (30°C)
- Speed: 880 rpm
- Materials: Super Duplex
- Max Pump Thrust: 45,500lbs

