

Industry: Offshore Gas

End User: Petroleum Oil and Gas Corporation of South Africa (Petro SA), South Africa

Application: Fire Pumps

Thordon Grade: SXL

Date of Original Installation: 2014

About:

Petroleum Oil and Gas Corporation of South Africa (Petro SA), is the national oil and gas company of South Africa. Its main activities are the extraction of natural gas from offshore fields, the production of synthetic fuels from this gas through a gas to liquids process, and the extraction of crude oil from oil fields off the south coast of South Africa.

Challenge:

Fire pumps used on offshore gas rigs are a crucial component of the safety infrastructure. Their primary function is to provide pressurized water or firefighting foam in the event of a fire emergency. These pumps are designed to quickly deliver large volumes of water or foam to extinguish fires or control them until additional firefighting measures can be deployed.

Significant damage to the Sulzer fire pump housing was detected by the end user, attributed to the rubber bearings spinning inside. This damage rendered the housing unusable with the existing bearings. Consequently, instead of purchasing new spiders, they decided to seek an alternative bearing solution.

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Thordon SXL installed in the spider housings for Sulzer fire pumps.

Solution:

Petro SA contacted AW Laser, Thordon's authorized distributor in South Africa, with whom they had an established partnership, to explore a bearing solution capable of refurbishing these pumps without requiring additional replacement parts. Relying on the distributor's experience, Petro SA chose to switch to Thordon SXL bearings. With Thordon SXL's extended lifespan, adopting this solution promised evident cost savings for the end user. Additionally, SXL's ease of machining facilitated the transition process. AW Laser's expertise with Thordon's products allowed them to precision-machine the bearings to fit the new housing sizes of the existing spiders, ensuring the pump's continued operation.

Result:

In 2014, AW Laser completed the initial refurbishment of the Sulzer fire pump replacing the rubber bearings with Thordon SXL. The pump then ran flawlessly for nine years without incident. Switching to Thordon is estimated to have saved Petro SA around US\$40,000 as the cost to replace the bearings was lower and there was no need to replace the spider housings.

In 2023, as part of a proactive preventative maintenance strategy, the end user decided to replace the SXL bearings like-for-like. Upon inspection the original SXL bearings all showed minimal wear. However, since the spiders were already out of the pump, it was deemed prudent to replace all 14 of the line shaft bearings.

AW Laser's team removed the old SXL bearings from their housings and conducted precise measurements of the housing sizes. In addition, slight wear on the shaft liners was identified, prompting the team to calculate the dimensions for each bearing to accommodate these differences. This meticulous approach was undertaken to ensure the pump could run at its peak efficiency. The refurbished spiders were successfully delivered back to the customer and the Sulzer fire pump is now operating at optimal performance levels, thanks to the expertise and commitment of AW Laser and the reliability of Thordon Bearings.

Building upon this success, Petro SA has elected to convert several sealift pumps to Thordon's bearings.

