



ENVIRONMENTAL TECHNOLOGY

STS™ seal and LabTecta®ST ends steam leak hazard

Steam leakage and spare part availability were causing problems for an oil and gas company in Belgium.

The company was using segmented carbon bushes/rings as a sealing device on its steam turbines, but their tendency to wear out over time meant that the steam was leaking into the turbine bearing housing, reducing the life of the bearing seal and bearing oil, and causing health and safety concerns because of the danger from the high-pressure steam.

Process steam turbines present a major challenge for bearing protection. As the carbon rings containing the steam wear out, high temperature / high velocity steam travels down the shaft directly at the bearing seal. Standard OEM labyrinth seals have proven to be ineffective at preventing steam ingress. However, the AESSEAL® LabTecta®ST has been specifically designed for steam turbine applications, and provides excellent protection and the ability to accommodate large axial shaft movement. Its features include a high temperature static shaft seal, a steam deflector, Aflas® 'O' rings as standard, an internal shutoff valve, and extra clearances to allow for thermal expansion.

The STS™ seal and LabTecta®ST were fitted in September 2023, and have a projected MTBF of eight years. After more than one year, it has successfully prevented any further leakage of high pressure steam and at the same time eliminating a serious health and safety problem. AESSEAL® guided the company through all stages of the conversion process, working closely on dimensions and required tolerances. The custom AESSEAL® design of STS™ seal and LabTecta®ST merged together after some modifications had been made to the turbine and bearing housings.



before

after

'Shaft wear and steam leakage eliminated'

Industry:	Oil & Gas
Product:	STS™ and LabTecta®STS
Application:	Steam Turbine
Savings:	>€7,000 per year
Reference N.O:	TD3109293

