

# **A PERFECT MATCH**

#### BACKGROUND

Long, round-the-clock shifts and exposure to the wind, weather and tides – working on an oil rig demands top performance from both man and machine. The coastal city of Aberdeen, Scotland, is known as the "Oil Capital of Europe." The first British oil field was opened here off Scotland's east coast in the late 1960s and, by early 2000, more than 120 oil and gas fields were in production.

A major oil company's offshore platform in the Britannia field located 210 km northeast of Aberdeen had been plagued by production-stopping failures. The cause was a design flaw in the LP Flare Drain Drum Pumps. SEEPEX came to the rescue.

#### **TASK AND TARGET**

The old progressive cavity pumps had been installed and put into operation on the offshore platform back in the late 1990s. The manufacturer had since gone out of business, leaving huge problems behind, as the pumps had been unreliable from the start and failed frequently.

SEEPEX experts quickly identified the cause. The pumps used a flexible shaft, which transferred the movement of the drive shaft to the eccentrically rotating rotor. The pumps also operated at high speed, thereby leading to a particularly adverse effect when the fluid level in the tank was low, with a correspondingly low system NPSH value (net positive suction head), resulting in cavitation.



Built for the highest expectations: Progressive cavity pumps used in the oil and gas industry are pressure resistant and of particularly high-quality.

#### **APPLICATION DETAILS**

• Conveying hydrocarbons on an offshore oil rig

#### **KEY SPECIFICATIONS**

- Super duplex stainless steel for superior corrosion resistance
- Custom-made pump solution ensures 100 % installation fit
- Highly robust design of the pump for extreme operating conditions

### COST SAVINGS LESS DOWNTIMES DUE TO UNFORSEEN MAINTENANCE WORKS

## DECREASED SPARE PARTS COSTS

# HIGHER PRODUCTIVITY

#### SEEPEX PRODUCTS

Semi-submersible pump, range BE

- Conveying capacity: 22 m³/h (97 US GPM)
- Pressure: 16 bar (240 psi)

# LOW NPSH – CUSTOMIZED SOLUTION

#### SOLUTION

It became necessary to find quickly a new pump solution which would fit precisely into the installation space of the old pumps. SEEPEX manufactured customized BE range pumps that run at a much lower shaft speed and meet the low NPSH requirements, tailored for the available space and nozzle positions. The pumps are very robust because the shaft diameter is three times that of the old pumps.

The conveying medium was analyzed in the SEEPEX laboratory to determine the correct pump materials to use. The decision was made to utilize super duplex stainless steel rather than the previously used Avesta 254SMO.

"Thanks to our expertise in the oil and gas industry, we understand the situation on-site and can provide a solution that is perfectly tailored to the customer's needs. Our products deliver the performance expected from superior technology.", explains Matthias Liesenhoff, Global Market Manager, Oil & Gas, Chemical, SEEPEX GmbH.

#### RESULTS

The outstanding corrosion-resistant components of the pump result in significant cost savings over the lifetime of the equipment. Since installing and commissioning the SEEPEX pumps, they have been running reliably and require minimal maintenance.

#### **BENEFITS**

- Use of high-quality materials for long service life
- Reliable operation of the pumps minimizes production downtime
- Robust components for significantly reduced maintenance cost



Semi-Submersible pump, range BE: a robust drum drain pump.