

Burckhardt Compression boosts European energy security with FSRU compressor overhauls

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Floating storage and regasification units (FSRUs) are a cost-effective method to safeguard natural gas supply, and recently, they have proved an effective temporary measure for many European nations. Helping to support regional energy security, Burckhardt Compression conducted time sensitive compressor overhauls for two FSRUs on behalf of a leading maritime energy firm, ensuring that the revitalized vessels were ready to deliver this essential resource.

While reducing reliance on pipelines is essential for European energy security, many countries do not have adequate capacity at liquified natural gas (LNG) terminals for import, export and storage. Until these facilities are built, offshore FSRUs are functioning as a stopgap, delivering LNG that will power homes and businesses.

Crucial maintenance before deployment

When a maritime firm was asked to station multiple FSRUs for European countries, its attention quickly turned to the Burckhardt Compression Laby® 5LP250 compressors aboard two of its ships. Featuring a rated power of 2'000 kW (2'680 hp) and a maximum speed of 509 rpm, the unlubricated units suck methane gas in at a pressure of 12 bar (174 psi) and discharge it at 101 bar (1'465 psi).

Due to limited operation of these compressors in the past and vibration issues, the firm wanted the units to be inspected and overhauled as necessary ahead of their deployment. Trusting the superior engineering capabilities and compressor knowledge of the original equipment manufacturer (OEM), the customer contacted Burckhardt Compression to complete the works.

Services that are up to the challenge

The project presented multiple challenges. First, one of the vessels was due to be operational within three months, putting pressure on the team to deliver on time. Due to limited compressor use, the scope of works was essentially unknown until initial inspections. Having studied the units in detail, Burckhardt Compression engineers discovered issues with the auxiliaries such as the electric motors and safety valves. Furthermore, the anti-vibration pads were rusted, which was placing additional stress on the compressors. Some compressor components also required replacement.

A key reason Burckhardt Compression was selected for the project was its ability to take a holistic approach to the entire compressor skid. This meant that the customer could benefit from a full-service solution designed to promote the performance and reliability of the complete system.

With the scope finalized, Burckhardt Compression got to work. Utilizing its OEM capabilities and capacity, the team organized express manufacturing and delivery of replacement compressor components for the overhauls. Working with a partner, engineers quickly sourced new anti-vibration pads, while the overhaul of other auxiliaries was conducted with trusted subcontractors. Total oversight by Burckhardt Compression field service representatives ensured the highest safety and quality standards were adhered to during challenging work aboard.

On time delivery, superior quality

Burckhardt Compression completed the works on time, resulting in successful FSRU deployment with no delays. This was possible due to the company's 'one-stop-shop' service philosophy, which simplified and expedited all aspects of the project for the customer. New OEM quality components fitted to the compressors ensured the best possible service life.

A customer representative said: “Your team understood the assignment and they executed the task within a tight timeframe. The compressor start-up was a great achievement and stands as a testament to your expertise and dedication. Furthermore, the thorough overhaul the team conducted eliminated the persistent vibration issues, ensuring optimal functionality.”

Reliable compressors for energy supply

Uptime and reliability were further supported by Burckhardt Compression’s global service network, which proposed a 10-year future maintenance outlook tailored to the customer’s operations. This methodical plan provided higher transparency regarding long-term operating expenditure (OPEX) so the operator could budget accordingly.

With energy security a cornerstone of European governmental policy, FSRUs will continue to support countries reacting to a previous over-reliance on pipelines. However, the effectiveness of these vessels, and therefore dependable gas supply, is subject to the reliability of onboard equipment. With the full-service capabilities of Burckhardt Compression, FSRU operators in downstream applications have the holistic support they need to succeed.

Image captions:



Image 1: The FPSO received a new lease of life.



Image 2: Compressor internals inspection.



Image 3: Inspection findings: no maintenance hatch in compressor room.

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About Burckhardt Compression

Burckhardt Compression is the worldwide market leader for reciprocating compressor systems and the only manufacturer and service provider that covers a full range of reciprocating compressor technologies and services. Its customized compressor systems are used in the gas gathering and processing, gas transport and storage, refinery, chemical, petrochemical as well as in the industrial gas and hydrogen mobility and energy sectors. Burckhardt Compression's leading technology, broad portfolio of compressor components and the full range of services help customers around the world to find the optimized solution for their reciprocating compressor systems. Since 1844, its highly skilled workforce has crafted superior solutions and set the benchmark in the gas compression industry.

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