

# EMISSIONGUARD™ TR<sup>2</sup> Rings Significantly Improve Lifetime in This Gas Lift Application

## The Challenge

A DRESSER RAND VIP three-stage lubricated compressor is used onshore by an oil exploration company in Gabon for gas lift operations. This compression unit compresses natural gas to 130 bar, but the original packing cases had a Mean Time Between Failures (MTBF) of only 4–5 months.

Due to the compact footprint of the unit, the original design of the packing cases did not provide an optimal ring composition. As a result, the rings lacked sufficient mechanical strength, leading to creeping and premature degradation.

## The Solution

The packing case improvement study was entrusted to CPI. Given the space constraints, CPI needed to reduce the number of rings compared to its standard design while incorporating rings with reduced axial dimensions to optimize performance.

To address these challenges, CPI implemented:

- EMISSIONGUARD™ TR<sup>2</sup> rings made from CPI 303, ensuring enhanced durability and mechanical integrity.
- A backup ring made from CPI 192, designed to reinforce performance and stability.
- A HEXTRA cooling system applied to the 2nd and 3rd stages, further improving operational efficiency.

A new set of packing cases was supplied and installed in December 2019. Initial testing confirmed the effectiveness of the upgraded design, and a performance check after six months of continuous operation yielded highly conclusive results.

## The Outcome

Following successful testing, the customer validated the new CPI packing cases with EMISSIONGUARD™ TR<sup>2</sup>, adopting them for preventive replacement during scheduled interventions every 10,000 hours.

The EMISSIONGUARD™ TR<sup>2</sup> packing cases have significantly improved the reliability of the compression unit while reducing maintenance costs. Due to the success of this solution, the customer is now considering extending the approach to other compressors in their fleet, including ARIEL and DRESSER RAND units that have not yet been equipped with CPI components.

