

Performance Improvement and Uprate

Benefits

- ■ ■ Increased production
- ■ □ Higher efficiency
- □ □ Compliance with environmental regulations
- ■ □ Availability and Reliability
- ■ □ Life extension

Possible performance improvements by turboexpander uprate include:

- Increased production up to 50%
- Maximized refrigeration capability to increase overall plant performance
- Automation of controls including Remote Monitoring and Diagnostics
- Elimination of oil system with improved reliability and availability

What it is

GE Oil & Gas and its legacy Rotoflow business is a pioneer in turboexpander technology and solving industry challenges. As GE Oil & Gas we are focused on removing barriers to allow our customers to maximize their plant production and return on investment. Although we can provide standard solutions, our expertise and flexibility allow us to develop custom solutions for every customer and application. We are able to deliver, whether the goal is to modify your process with minimal investment, or to use state-of-the-art upgrade to minimize production downtime. Either approach typically have no impact on the turboexpander installation or

pipng, and GE's worldwide field and service shop network can support the entire process.



How it works

Every upgrade project begins with a deep analysis of customer's needs and plant characteristics. After this critical step, desired process conditions are reviewed to develop the optimal solution. Depending on the application, upgrades provide high return on investment through optimized efficiency, even with minor changes in the gas dynamics. We will evaluate the existing turboexpander performance on the current and/or proposed process conditions. If operation is possible, this will be compared to an upgraded

design with estimated costs. If project economics are feasible, our sales and engineering teams will perform a complete study of the system and develop a complete upgrade solution. In addition to the performance upgrade, optional value packages can be implemented to improve performance, availability and reliability:

- Upgrade to active magnetic bearing system
- Upgrade controls and auxiliary systems to current standards

including remote control, monitoring and diagnostics

- Upgrade turboexpander controls including inlet guide vanes, thrust balance system and condition monitoring
- Upgrade process seal to dry gas seal
- Upgrade driven equipment (compressor, generator, dynamometer) to match upgraded expander
- Operation and maintenance training for customer's personnel
- Contractual Service Agreements



GE imagination at work