SGT-400 Power Upgrade

Increase Power, Efficiency & Availability

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Background

- Siemens Energy is continuously improving its Industrial Gas Turbine portfolio, and invests heavily into R&D to bring you top-of-the-line innovations.
- Since its introduction at 12.9 MWe, Siemens Energy has been working with our customers and R&D experts to keep the SGT-400 at an industry-leading level of expertise.
- As part of our continuous improvement strategy, Siemens Energy is now able to offer a retrofit upgrade which can increase your SGT-400 Gas Turbine power output up to the 14.4 MWe ISO rating, while maintaining the bulk of the balance of plant.
- The 14.4 MWe rating of the SGT-400 has been available to new customers since 2011, and this upgrade package is now available for existing customers

Fleet Applicability

This retrofit is available for all SGT-400 12.9 MWe rating, and worthwhile for:

- Any installations where the SGT-400 operates for long periods at high ambient temperatures and where electrical demand increases during the summer (the need to import extra power being minimized).
- Generator sets, where power is shared, such as N+1 or N+2. It may increase spare capacity or reduce the need for a 2nd or 3rd unit running and make this standby.

  Operating few engines at higher power results in efficiency gains and reduction in fuel cost and in carbon footprint.
- Any sites looking to retain the bulk of their balance of plant, including the original package, and receive an increase to Power Output.

Product Overview

The key principles behind this newly launched retrofit are as follows:

- This retrofit is built on accumulated operating experience of the SGT-400 12.9 MWe since 2001 and the 14.4 MWe since 2011.
- The power increase is generated by changes in the compressor section to accommodate higher mass flow through the core.
- This retrofit yielded a power upgrade of between 0.6 and 1.5MWe. In general, the capacity of the customers AC Generator governs the specific upgrade power achievable. The exact increase in performance and work scope to be required on a case by case basis.

The 14.4 MWe core engine can be retrofitted into existing 12.9 MWe package as it retains common interfaces.

Benefits

- Increased Power Output (MWe) between 0.6 MWe and 1.5 MWe based on ISO conditions* (limited by the capability of the driven unit).
- Potential reduction in bought in electricity during periods of higher power demand.
- Potential improvement in efficiency by reducing number of operating engines in an N+1 and N+2 arrangement, where a 2nd or 3rd unit may go from lower efficiency, part load, part hours, to a standby unit.
- This scenario benefits in reduced fuel cost and reduced carbon footprint.
- Easy to be implemented within a major outage and reduced impact to downtime when a "C" class inspection was already planned.

**for illustration purposes only, exact scope and performance requirements determined at point of quotation.*

Increased power output, maintaining a large portion of the original balance of plant.

Support Services & Implementation

- Implementation of the SGT-400 Power Upgrade is highly recommended at a major inspection, such as a "B" type on the Gas Generator or ideally a "C" type by Service Exchange, where downtime is anticipated and planned.
- It is recommended to plan for this upgrade at least 1 year prior to your next "B" or "C" type Inspection.

Please contact your Siemens Energy Sales Representative for further information or via Siemens Energy myAdvisor page at siemens-energy.com/myAdvisor.

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