

# 3rd Generation DLE Retrofit

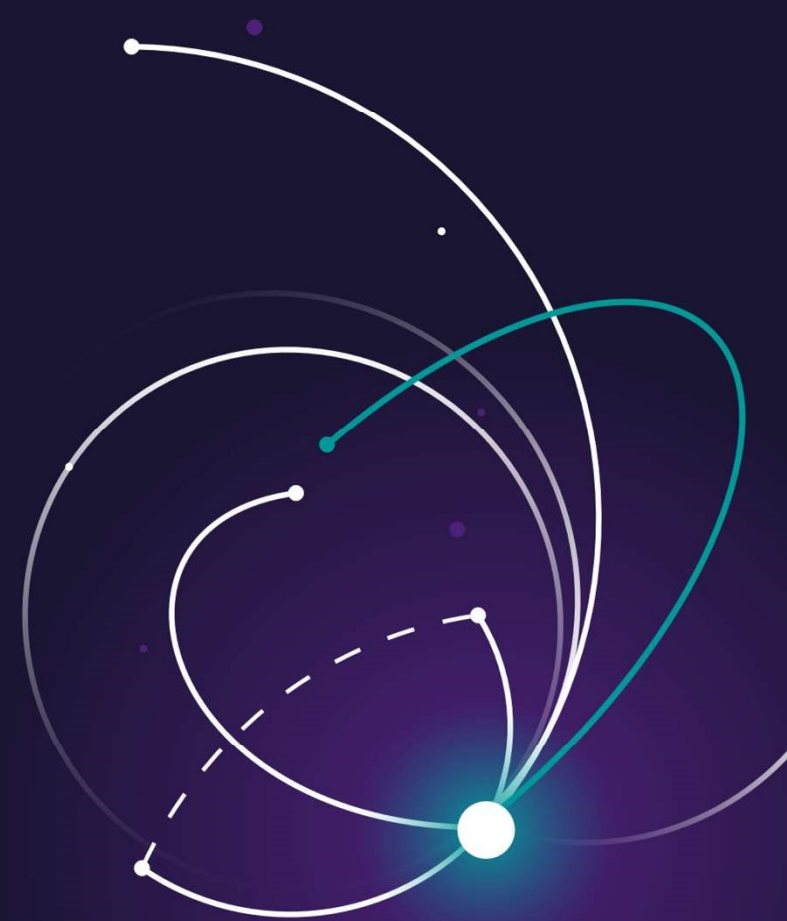
SB09/2014/SGT-600

Power Generation Services, Distributed Generation and Oil & Gas



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## Background

The SGT-600 engine has been upgraded to the same quality-assured 3<sup>rd</sup> generation combustion system as the proven SGT-700 and SGT-800 models.

SGT-600 product owners can now take advantage of the upgraded version that allows continued operation with lower NO<sub>x</sub> emissions and, in some cases, higher availability.

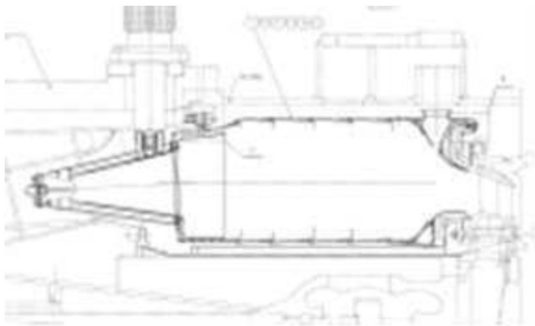


Figure 1: 2<sup>nd</sup> Generation DLE Combustion System



Figure 2: 3<sup>rd</sup> Generation DLE Combustion System

## Description

The upgraded SGT-600 core engine is equipped with a 3<sup>rd</sup> generation combustion system and an improved turbine stage 1. The upgrade can be performed by gas generator replacement or upgrading the existing gas generator with 3<sup>rd</sup> generation DLE components.

### Benefits with the upgrade are:

- Improved emission values
- Higher output in hot ambient conditions
- Possible improved maintenance intervals along with engine lifecycle (depending on upgrade level), see figure 3.

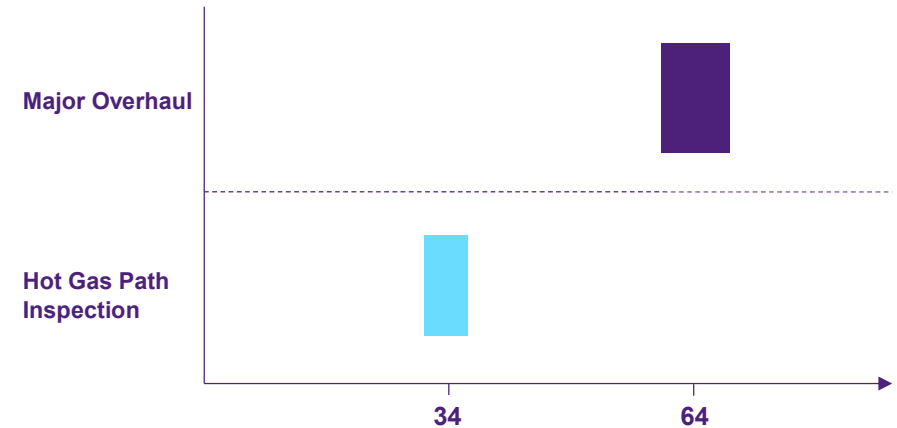


Figure 3: Example of maintenance interval and lifecycle

# Upgrade Concepts

## Emission Upgrade

This upgrade focuses on the combustion system and the compressor turbine stage 1:

- The combustion system will be replaced with a 3<sup>rd</sup> generation DLE combustion system to lower NOx emissions
- Upgrade of compressor turbine stage 1 is necessary to make operation with the 3<sup>rd</sup> generation DLE combustion system possible through the entire output range

Depending on installed equipment, additional upgrade could be required, for example CT discs - see bulletin SB04/2012/SGT-600.

Lower CO emissions can be achieved through optional modification to this upgrade concept.



# Upgrade Concepts

## Power Output Upgrade

The 3<sup>rd</sup> generation DLE combustion system enables an increased power output in hot ambient conditions. To achieve this, the following measures must be performed:

- Evaluation of installed equipment
- Upgrade of combustion system and compressor stage 1 system
- Modification of the current T7 exhaust limit in the control system

Depending on installed equipment or material, additional upgrades may be necessary.

The Power Output Upgrade also provides all the advantages achieved in the Emission Upgrade.



## Upgrade Concepts

### Availability Upgrade

This retrofit is where the user can enjoy the most benefit from upgrading to the SGT-600 3<sup>rd</sup> generation DLE standard. Combine a gas generator retrofit with a power turbine evaluation and this upgrade ensures highest reliability and availability of the SGT-600 power plant.

The Availability Upgrade requires the latest rotor design, please contact your Siemens Energy representative for further information.



## Disclaimer

Subject to change and error. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract.

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