



**PSM**  
a Hanwha company

**Thomassen Energy**  
a Hanwha company

# Gas Turbine Optimization Package (GTOP)

**Enhancing operational flexibility and reducing overall costs with Gas Turbine Optimization Package (GTOP) Upgrades.**

In today's challenging markets, gas turbine operators need to lower expenses and provide greater flexibility with the ability to operate and maintain their gas turbines at peak performance.

## Gas Turbine Optimization Package (GTOP)

Since 2001, PSM and Thomassen Energy have provided performance upgrades for gas turbine operators for B/E-class engines. Upgrade GTOP packages are tailored specifically for the required application, from extending intervals, allowing peak firing, or lowering emissions. The GTOP components are compatible with GE AGP with installation done during regular outages..

- + Extended component life cycles: Increasing hot gas path inspection interval (HGPI) from 24,000FH to 32,000FH while operating in Maintenance Mode
- + FlexSuite Flex Counters switch between maintenance and performance modes to fully optimize the GT
- + Peak firing capability with upgraded HGP hardware available to handle increased firing temperatures

## Benefits

The state-of-the-art GTOP advanced design delivers B/E-class fleet customers numerous benefits by combining design innovations, advanced materials, and proven upgrade combinations.



### Extended Maintenance Intervals

Factored Maintenance Counters  
Eliminate Combustion Inspections\*



### Improved Output & Efficiency

Increased Power Output  
Lower Heat Rate



### Operational Flexibility

Performance and Maintenance Modes  
Maximum Premix Operating Range\*



### Low Emissions

Minimal NOx and CO\*

\* with Combustor Upgrade



Nozzle Ring Assembly



Combustors



Combustion Options with LEC-III™, Next-Gen, or T-DLN

## Additional Services and Product Offerings: Servicing GE, SW, MHI: B, E & F Class Fleets for 50Hz & 60Hz

**Field Services & Outage Management** includes on-staff bladders and labor supply for gas turbines, steam turbines, and generators worldwide for GE B, E & F-class, SW & MHI F-class.

**Reconditioning & Repair** all turbine airfoils and combustion system components to include fuel nozzle overhaul using advanced techniques for improved life cycle cost and incorporating new design improvements during repairs.

**Combustion System Engine Tuning includes Monitoring & Diagnostics**  
Support for all rotating equipment (e.g. remote monitoring) of gas turbines worldwide.

**Rotor Rebuild & Inspection** includes seed rotors, new replacement compressor and turbine disks, disk repairs, full volumetric NDE inspection, and rotor lifetime extension.

**R&D, Engineering Assessments, Root Cause Analysis,** and system technical support for gas turbines.

**Flexible Long-Term Parts and Service Agreements (LTSA)** combine PSM's and Thomassen Energy's products and services for a custom solution that meets your needs.

**Conversion/Upgrades** provide integrated services for all critical power plant components and systems. PSM and Thomassen Energy offer a single point of contact for maximizing your plant's performance potential, increasing operational flexibility, and outage management.

**FlexSuite** provides plant optimization tailored to your precise needs and offers multiple OEM control systems, from FastStart & FastRamp to Part Load Performance.

**Clean Energy** and net-zero energy mandate requirements met through improved efficiency and reduced emissions.

**PSM**  
a Hanuwa company

**Thomassen Energy**  
a Hanuwa company

**PSM**  
a Hanuwa company

**Thomassen Gulf**  
a Hanuwa company

Contact a Sales Representative for more information.

Americas

+1 561 354-1161  
sales@psm.com

[www.psm.com](http://www.psm.com)

Europe, Asia & S. Africa

+31 (0)26 497 5800  
info@thomassen.psm.com

<https://thomassen.energy>

MENA

+971 2 411 6700  
sales@ptg.psm.com

[www.psm.com/ptg](http://www.psm.com/ptg)