



# 9E Advanced Gas Path



**Output - Increased Revenue Generation**  
Up to 6.3% combined cycle



**Efficiency - Lower Fuel Costs**  
Up to 1.8% combined cycle



**Availability - Longer Inspection Interval**  
Up to 8000 FFH extension

In response to growing demand for improved output and increased efficiency, GE has developed a hot gas path performance upgrade using existing advanced technology in both turbine materials and architecture. The Advanced Gas Path (AGP) upgrade increases output and reduces heat rate in both simple cycle and combined cycle applications and increases exhaust energy for cogeneration or combined cycle applications, when compared to prior 9E gas turbine technology. The AGP benefits of this upgrade translate into lower fuel costs and improved revenues for 9E gas turbine customers.

## Features

The AGP upgrade includes improvements to the first, second, and third stages of the turbine section.

- **Nozzles.** Added cloth seals between segments, reconfigured film cooling hole and upgraded materials to GTD\*-262 alloy. These changes provide improved creep resistance, less low cycle fatigue and reduced oxidation. In addition, the stage 3 nozzle has GE's 3D advanced aero architecture, providing increased efficiency with improved airflow.
- **Buckets.** Reconfigured cooling process for improved creep resistance and enhanced dovetail sealing. The stage 3 bucket has GE's 3D advanced aero architecture, providing increased efficiency and durability.
- **Shrouds.** Improved sealing and cooling in the segments, incorporated the latest generation of patterned abrasion resistant coating for higher durability, and replaced "pumpkin teeth" with cloth and solid seals reducing performance degradation.

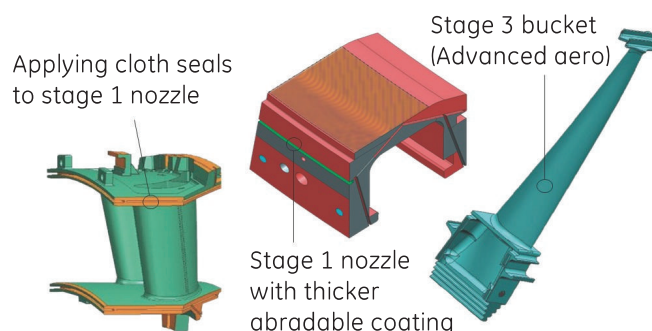
## Benefits

Each component has been engineered for increased durability, thus delivering longer intervals between maintenance inspections. Maintenance inspection intervals can now be synchronized between the combustion and HGP to 32,000 FFH repair. In addition, with AGP, HGP replacement intervals extend to 96,000 FFH, thus saving O&M costs. Alternative options can allow you to optimize your plant for the performance and maintenance goals that you wish to achieve. The AGP product is also available for use with a wide range of fuels, including Heavy Fuel Oils and Syngases.

GE's advanced technology gas turbine upgrade enhances unit performance and yields benefits with an attractive economic payback.

## Applicability

This new service package offers minimal system changes. The only change to the unit is the incorporation of this proven new hot gas path; all other systems typically remain identical to earlier models and operation. This upgrade can be installed during a hot gas path or major inspection. The AGP is offered on new 9E.03 gas turbine orders.



## Contact Information

To learn more about this offering, contact your GE sales representative or visit [www.ge.com](http://www.ge.com)