



# Dense Pack™ Steam Path and Section Replacements

A steam turbine's thermal performance is largely dictated by its steam path components. Minimizing aerodynamic losses and leakages within the steam path can significantly impact the efficiency of the entire power plant cycle.

GE's Dense Pack™ steam path redesign technology can improve the efficiency of mature steam turbines, enhancing plant profitability and competitiveness, while extending the life of the turbine.

Designed for optimal steam path configuration, the Dense Pack steam path utilizes the existing outer shell to maximize cost-effectiveness. GE's high pressure (HP) or intermediate pressure (IP) steam path replacement sections operate at a lower heat rate and provide an increased output at the same inlet steam flow.

## Features

- Advanced aerodynamic blades and nozzles
- Advanced sealing technologies
  - Brush seal
  - Elliptical packing
  - Optimized clearances
  - Vernier tip seals
  - Variable clearance packing
  - Abradable seals
- Modern mechanical designs
  - Rugged control stage buckets
  - Generation 2 integral covered buckets
  - Increased number of stages
  - Reduced blade/nozzle counts

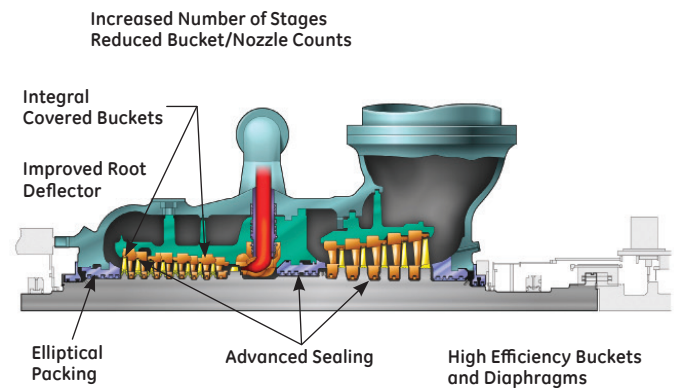
- Improved root and tip deflectors
- Enhanced starting and loading
- Reduced exhaust loss
- Advanced inlet nozzle plate or box
- Steam balance hole upgrade
- Wheel space re-entry flow control

## Benefits

- Improved efficiency
- Sustained performance
- Maintained reliability and availability
- Enhanced asset utilization
- Extended life of key components

## Applicability

This offering is applicable to HP or HP/IP sections of fossil units—typically 300 MW or larger—that are scheduled for an outage within the next three or more years or that have extensive maintenance needs.



Cross section of typical Dense Pack Technology for combined HP/IP Section

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