FRAME 7FA.03+
Introducing a 7FA.03 Turbine Upgrade
A Flexible Alternative

PW Power Systems (PWPS) enhances its 7FA.03 solution by maximizing the turbine capacity and reducing operational costs. The 7FA.03+ parts:

- Increase output by 8 MW with longer 32,000 hour/1,200 start intervals
- Extend service intervals or increase power (customizable option based on customer need)

To achieve the improvement, PWPS combines newly designed 1st stage components with previously upgraded 2nd and 3rd stage hardware.

Design Advantages of the 7FA.03+ 1st Stage

1st Stage Bucket
- Improved cooling distribution at the tip, trailing edge, and platform reduces peak metal temperature
- Cast-in tip cap eliminates possibility of cap failures and further improves oxidation life at tip
- Redistributed cooling airflow actively cools the platform and eliminates cracking

1st Stage Nozzle
- Singlet design incorporates a full gas path TBC for improved oxidation life and airfoil temperature reduction
- Improved airflow holds NOx steady with increased firing temperature

1st Stage Shroud
- Improved airflow configuration combats leakage and dedicates targeted airflow to improve oxidation life
- Proven upgraded heat transfer patterns on shroud tile inner wall

Firing Temperature Increase Relies on Existing PWPS Upgraded Designs

2nd Stage Bucket
- Improved PWPS proprietary equiaxed alloy versus OEM DS alloy provides interlocking grain strength at tip shroud while keeping creep strength in airfoil
- Optimized tip geometry and fillet shape for improved creep life
- Enhanced MCrAlY coating and fully TBC-coated airfoil for oxidation resistance

2nd Stage Nozzle
- Improved alloy with full metallic and TBC coating on all surfaces to reduce metal temperatures and fatigue
- Advanced fillet to platform geometry to improve creep life
- Diaphragms changed to SS310 alloy to reduce oxidation and minimize associated repair costs

3rd Stage Nozzle; 2nd and 3rd Stage Shrouds
- Demonstrated reliability and repairability
- 3rd stage nozzle diaphragms changed to 310SS alloy to reduce oxidation and minimize repair costs

Contact us

For more information, please contact your regional PWPS Sales Representative or email us at info@pwps.com.