

Gas turbine services
RWE Power International's Technical Support Group (TSG) based at Ferrybridge offers manufacturing and engineering services to the gas turbine industry.

As well as having a wide range of experience in plant refurbishment and overhaul, in works and on-site, we have the ability to provide planned support and rapidly respond to emergent work.

We offer a comprehensive range of services across all plant areas including technical innovation, development and specific repair techniques.

We work with our customers to provide engineering solutions with the support of the wider RWE group.

Gas turbine engineering
Complete support from our Engineering groups in Swindon enables us to provide innovative engineering solutions not only to GT but to other plant areas also:

- plant life and integrity
- boilers and combustion
- turbine generators
- electrical systems
- environment
- construction and operation
- process control
- information engineering
- re-engineering
- Finite Element Analysis (FEA).

GT management integrated service provision

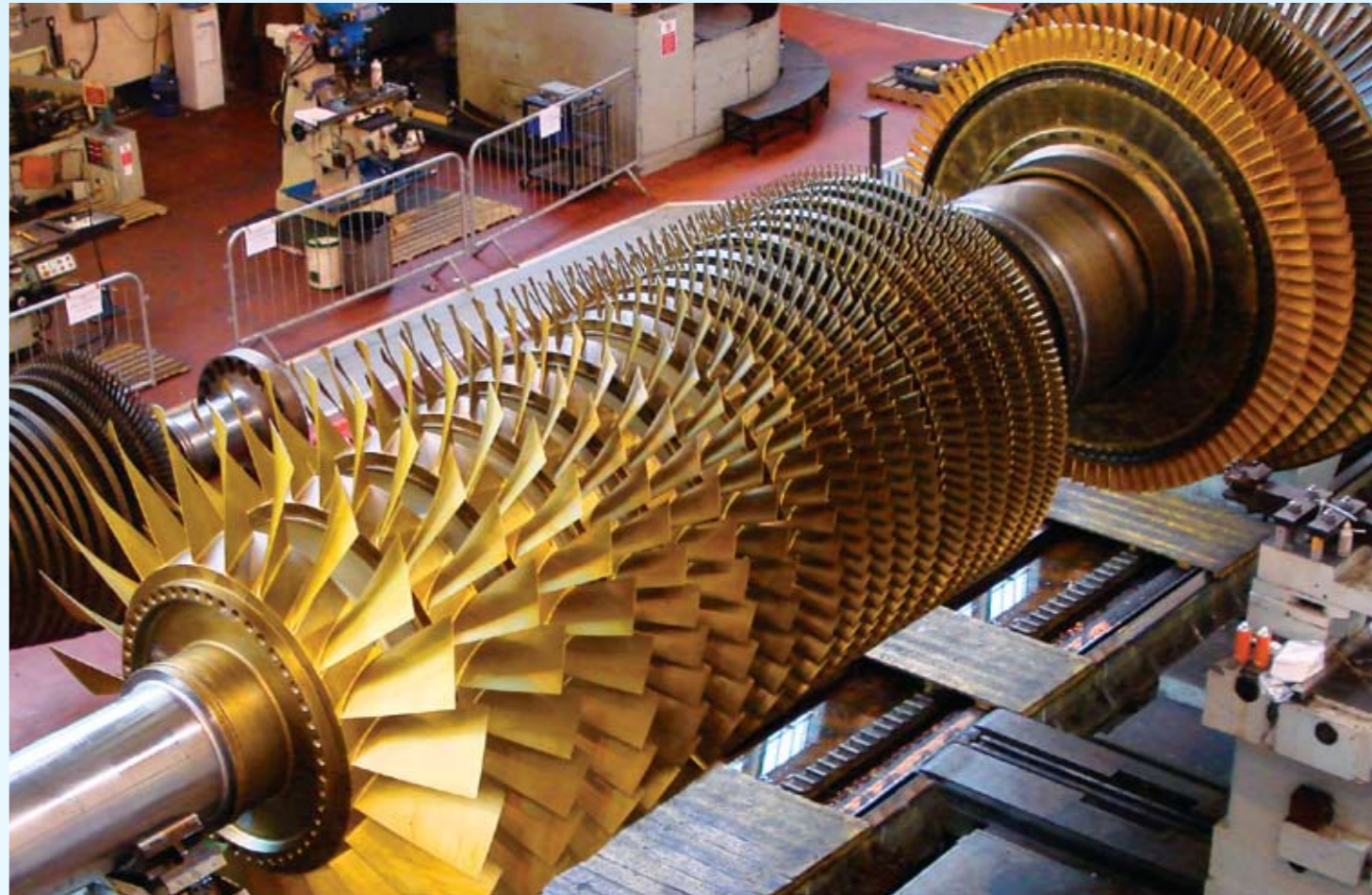
The elements of this cost effective whole plant service include:

- Advantages to our clients**
- Comprehensive service
 - Operational expertise
 - Lower costs
 - Value for money
 - Access to developments
 - Engineering priority
 - Confidence in supplier
 - Confidence in GT performance
 - Reduced turnaround and increased plant availability

- Outage management
- Refurbishment
- Re-engineered components
- Full warranty cover
- Impartial repair/replacement advice
- Gas turbine engineering
- Inspection and diagnostics
- Project management
- Online information and remote monitoring
- GT spares management
- GT HGP life management
- Rotor de-stack
- Site maintenance teams
- Site machining
- GT combustion
- Performance optimisation

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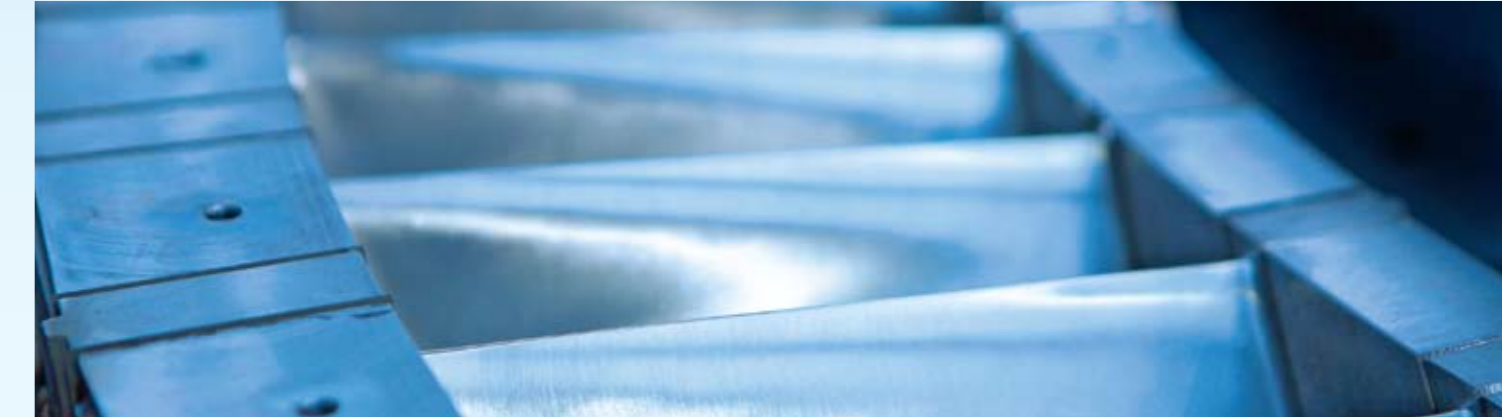


Gas turbine services

Providing a quality and cost effective alternative



RWE Power International's gas turbine (GT) services provide gas turbine owners and operators with a comprehensive range of services, enabling them to call on specialist support relating to performance, life extensions, maintenance, inspections and cost reductions



As an operator of gas turbine plant, we recognise the importance of issues that are unique to the management of gas turbines.

Our team of specialists are dedicated to providing a range of gas turbine services covering the whole plant.

Our approach to the effective support of plant is comprehensive and includes the provision of project management and workshop facilities for complete outages and overhauls, technical skills and craft labour. This is the way we deal with our own plant and we adopt the same approach for the support of your units.

We own and operate a diverse portfolio of machines from several manufacturers and we are widely experienced in the support of those machines.

We would welcome the opportunity to make informed decisions about business risk relative to refurbishments in support of your business needs.

Workshops

Our workshop facility consists of three large shops with an extensive range of machine tools capable of handling components up to 120 tonnes and offering the following services:

- low speed balancing
- CMM capability
- multi axis CNC machining
- re-engineering
- large boring capability
- emergency response
- rotor de-stacking
- sponge/grit blasting
- compressor refurbishment
- blade tip grinding
- blade moment mass weighing.

Refurbishment

Quality repair and refurbishment of equipment is of paramount importance. Our workshops are superbly equipped to deal with a wide range of components and provide:

- the repair and refurbishment of gas turbines
- management of refurbishment programmes
- supply of engine ready components
- quality assurance.



Rotor overhaul building

Inspection

TSG Ferrybridge has 24 hour access to RWE's specialist engineering services (below), which provide inspection, assessment and remedial action recommendation to get the best out of your plant:

- on site gas turbine inspection
- cold/hot commissioning
- gas turbine HGP database management
- off site engineering specialists
 - metallurgists
 - rotor dynamics
 - weld specialists
 - design.

Outage site works

Our outage management and site projects teams provide comprehensive services to power plant operators and major industrial clients. Our main priority is to deliver projects safely, to time, quality and cost. We can provide:

- outage management
- emergency response
- experienced engineers
- commissioning.



Gersteinwerk destack
Top: GT compressor rotor blading

Spares management

Spare parts can be manufactured and supplied to customers drawings or, where detailed manufacturing information is not available, we can re-engineer components, capturing the required information from samples using the latest fixed and portable CMM tools. Our services include the following:

- stock drawings and manufacture
- blade, vane and component manufacture
- insurance, underwritten and technical acceptance
- re-engineering programmes for blades and vanes
- cold sections spares manufacture
- compressor blade manufacture
- compressor vane/ diaphragm manufacture.



Compressor diaphragm manufacture utilising multi axis CNC machining

Case Study

Compressor diaphragm manufacture

Following an inherent operational issue with an OEM's compressor diaphragm design and fretting of the inner gland 'T' slot, RWE Power International was asked to consider the design of a completely new diaphragm that could be fitted to the gas turbine and operate at nearer the design life of 12 years or more without the need for re-work or replacement.

The new design has been constructed so that the 'T' slot arrangement is replaced with a more substantial inner ring removing the potential for components to fret and wear.



V93.0 Destack
Top: Compressor diaphragm redesign



Lowering of a rotor after re-stack