SPIRALWELD
mission critical remanufacture

REMANUFACTURING CRITICAL COMPONENTS FOR NUCLEAR POWER STATIONS

SpiralWeld has recovered, repaired and remanufactured critical components for the UK's nuclear power stations for over 30 years.

Our high-quality engineering solutions have been applied to a wide range of key components, which include:

- Main Cooling Water Pump Shafts
- Gas circulator rotors
- Spray nozzles and seats
- Seats for HP bypass atemperating control valves
- Condensate extraction pump impellers and shafts
- Rotor, extended shaft for clean drains pump motor
- 11kV switchgear arcing arms
- Stub shafts
- Backwash arms and assembly
- SS21 spindle stem Mk2 fluted
- Cone seals



The benefits

- Cost savings of up to 80% compared to buying new from the OEM
- Much shorter turnarounds, avoiding long lead times for replacement parts
- Effective obsolescence management by extending the service life for parts considered obsolete
- Supporting the environment and circular economy by avoiding waste

Our services

Remanufacture
We take the OEM solution and remake it. The part is returned to full working condition with a service life at least equal to a new part.

Remanufacture+
We take the OEM solution and remake it better than new! We remanufacture the part using a superior material with properties to suit the service conditions.

A detailed quality plan, certification and warranty can be made available for each project.

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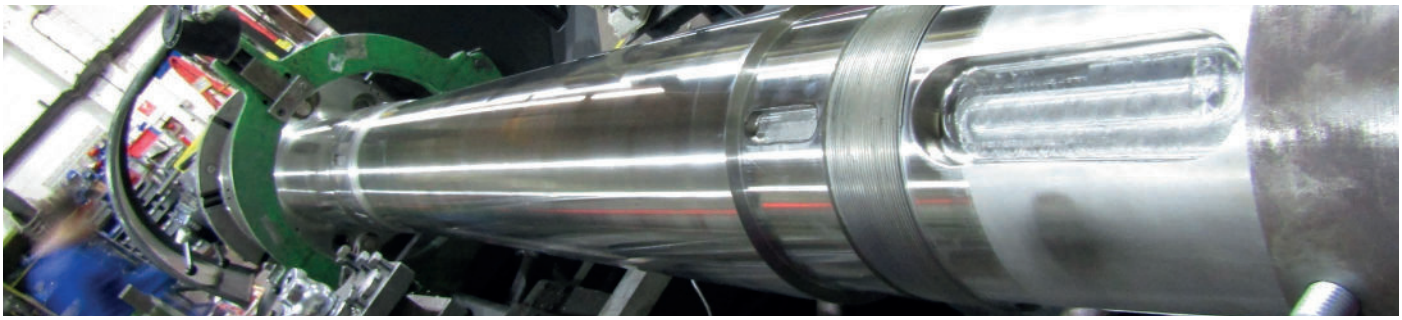
Nuclear Power Case Study - Main Cooling Water Pump

During a station shutdown, SpiralWeld was approached by a major UK pump manufacturer to remanufacture a Main Cooling Water Pump Shaft for a UK AGR nuclear power station. Despite significant wear and corrosion, the pump was recovered to OEM standards and within the timescales required.



The Challenge

As the impeller end of the MCW pump shaft is permanently submerged in seawater, the bearing journals, mechanical seals, impeller attachment palms, and coupling tapers were significantly worn.

A further challenge was the extent of Microbial Infestation Corrosion (a common phenomenon in seawater applications) in the mechanical seal landings.

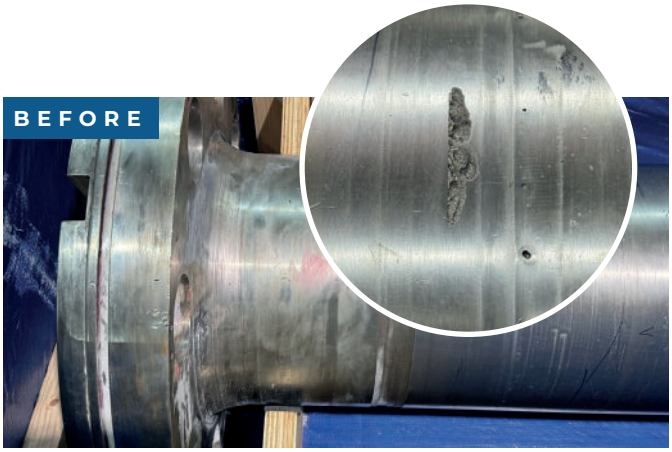
The timescales for meeting the power station shutdown dates and returning for service were extremely tight as the station had no spare shaft.

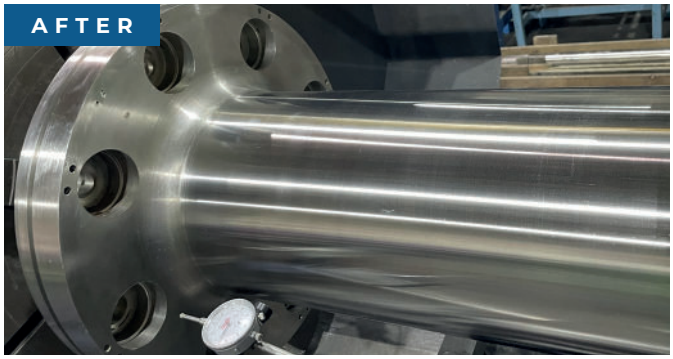
The Solution

Following a detailed inspection and mapping of the Microbial Infestation Corrosion (MIC), SpiralWeld produced a remanufacturing plan to recover the key components.

The repair scope was agreed with the customer. All recovery procedures were qualified to an international standard and approved by the end customer's structural integrity engineers.

The MIC was carefully excavated, and all recovery areas were pre-machined and subjected to non-destructive testing (NDT) before being welded. Final machining and NDT inspection were then carried out to confirm weld integrity.





A Successful Outcome

Required timescales were met. Remanufacturing saved the client time and money while reducing waste, as more than 95% of the original parent material was saved and reused.
SpiralWeld remanufactured a further four of these components, benefiting the customer and end-user and continuing to support the circular economy through our resource-efficient Remanufacture and Remanufacture+ process.

Contact us to see how we can help you

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