GREAT YARMOUTH POWER STATION

RWE NPOWER PLC

Summary

When Great Yarmouth Power Station was experiencing problems with a major process valve and actuator, it could have turned to a local repair agency. Instead, thanks to the impressive diagnostic and repair service offered by Moog UK, it opted to go with genuine parts supplied, tested and fitted by the original manufacturer.

Background

Great Yarmouth Power Station is a Combined Cycle Gas Turbine (CCGT) owned and operated by RWE Npower Plc. Late last year it started experiencing problems with a major low-pressure steam control valve, controlled by a servo actuator originally made by Moog in USA. The valve was making a lot of noise, with the bearings being the prime suspects.

The engineers at the power station were originally going to turn to a local third-party repair house and subsequently made an enquiry to Moog about replacement bearings. Moog, knowing that the symptoms potentially pointed to something more than just the bearing – and wishing to maintain the integrity of the Moog-built servo actuator – offered a Moog Actuator Service from its custom-built, EU Centre of Excellence facility at Tewkesbury.

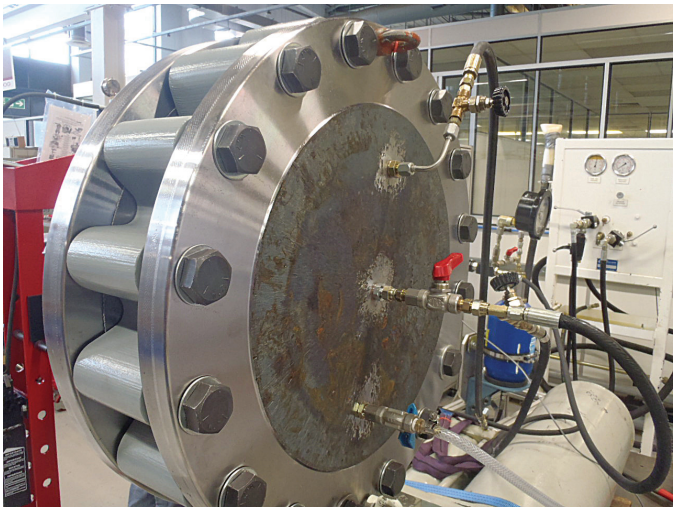
Project Success Factors

The service offering would include a full on-receipt test, a full strip-down investigation, a review of all parts, replacement of the faulty parts, a rebuild to its original specification and test to the original Moog specification.

The Technological Challenge

The customer sent in details about the actuator and Moog replied with an extract of a report from a previous service, so they could see the full extent of a Moog service. The depth of information supplied in the report, including the potential for significant value-added audio visual content was impressive enough for the engineers at the power station to opt for Moog's service offering.

It turns out that the on-receipt test confirmed Moog's worst fears – it was more than just the bearings at fault; in fact the list was longer than initially thought. Parts that needed replacing included the piston and bearing assembly, the crankarm, bushes/bearings, connecting pins and all of the soft seals.



Moog confirmed that it was substantial wear to all of these components that was causing the noise and that there was also substantial leakage of Hydraulic fluid. The Actuator "on receipt" performance testing was subsequently videoed by Moog and this was submitted back to the customer along with a revised cost and repair schedule.

The Moog Solution

Once the repair had been authorised Moog still had a lot of work to do. Not only did it have to get original parts shipped in from the USA, but it also had to match the service window with planned downtime at the power station. As it turns out, Moog's global network meant that it could get spares shipped overnight from USA. Moog then reassembled the actuator with new parts and tested it to its original specification – confirming that all faults had been rectified.

From order confirmation on the 8th of November, the repair took just ten days, with the unit leaving Tewkesbury on the 18th of November. During the outage, Matt Keen, Systems and Projects Manager, visited the power station to review the Moog installed equipment, and was able to highlight other service issues. So impressed were the engineers at the power station that they have since asked Moog to undertake additional proactive maintenance on another actuator and the associated process valve.

Benefits of the Moog System

"What Great Yarmouth Power Station got from us," explains Brian Sims Services Manager at Moog, "was a level of reporting far superior to that from any other service supplier. The inclusion of photos, in-depth product information and a repair-process video, which confirmed the damage, was enough to give the engineers at Great Yarmouth Power Station faith in our abilities to provide a first-class service."

"The original contact from them was for us to supply spare parts," he continues. "However, due to our policy of only supplying third parties with what we class as field-replaceable components, we had to turn them down. Instead, we offered a complete overhaul and service using Moog genuine parts tested to original specifications.

"Moog's stance regarding the service of its products and the supply of non-field-replaceable spare parts centres on its strict quality and product-liability procedures," he explains. "Only by ensuring that Moog products and Moog parts are only serviced and installed by qualified Moog personnel, can the company maintain its outstanding product quality reputation. It also aids customers by ensuring the terms of the product warranties that it offers.

"Moog also helps to put its customers at ease," Sims concludes. "As well as the supply of parts, service and our extensive engineering know-how, we also make sure that our customers have faith in our schedules and delivery timetables. It is only by understanding their precise needs and scheduling of all facets of our service into the often limited windows of opportunity that we can help ensure that our service has an absolutely minimal impact on their day-to-day operations."

Commenting on the service, Sam Mellor, at Great Yarmouth Power Station was full of praise: "I would like to thank Brian for his and his colleagues' co-operation regarding the overhaul of the actuator; especially in light of the notice that they were given. A fair number of people here at Great Yarmouth Power Station have been impressed with the service we have received from Moog."