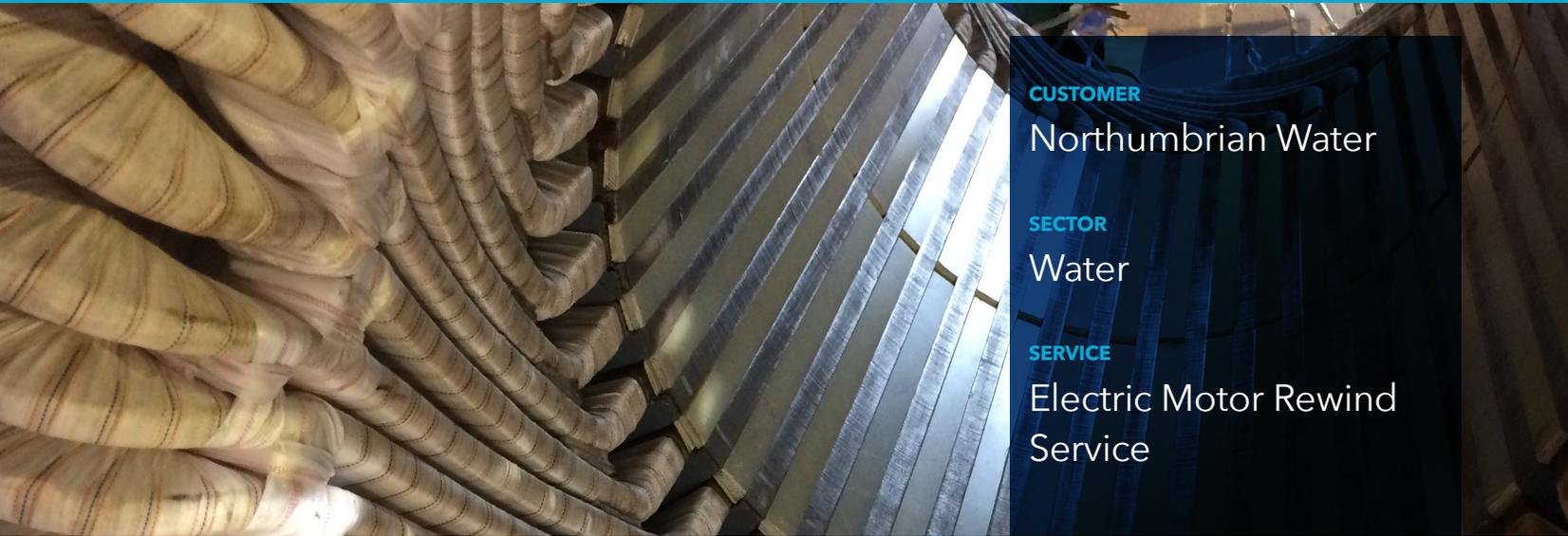


CASE STUDY



CUSTOMER

Northumbrian Water

SECTOR

Water

SERVICE

Electric Motor Rewind Service

Aeration Blower Motor Repair

The failure of the 11kV motor powering one of the aeration blowers at Northumbrian Water's pumping station in Howdon meant the facility was reliant on a spare motor to continue operations. Failure of the spare motor would have impacted the facility's ability to operate, which could potentially result in penalties for Northumbrian Water, so a full rewind with a quick turnaround time was required to ensure the motor was back in operation as soon as possible.

WHY HOUGHTON INTERNATIONAL?

- Houghton International possesses the resources and expertise to offer the quick turnaround time required by Northumbrian Water
- Our in-house coil shop enables us to manufacture and supply coils for repair work, reducing lead time and giving us control over quality
- Prior experience and proven capabilities, having worked on this kind of motor for Northumbrian Water previously

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Houghton International
Electro mechanical innovation

THE SOLUTION

The motor was non-standard, meaning no direct replacement was available. With CAD design software, the Houghton International team could redesign and reverse engineer high voltage coils for the rewind.

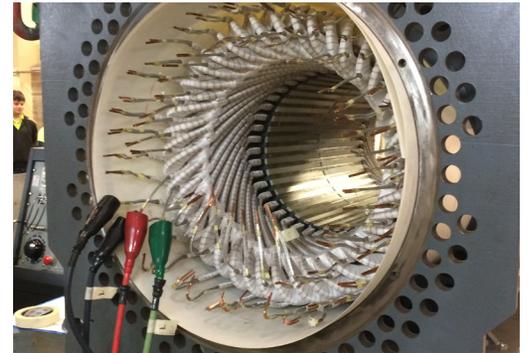
42 + 2 HiFLEX coils were designed and manufactured in our in-house coil shop. These were individually quality checked and subject to testing, including tan delta and interturn testing to check the insulation and dielectric integrity of the coils. The coils were also retested after winding to ensure they were operating correctly once installed in the stator. A general overhaul of the motor was also carried out, which included new bearings and mechanical work on the bearing housings.

The motor was critical to Northumbrian Water's operations and needed to be guaranteed to function correctly once returned to site, so full load and heat run tests were conducted to replicate the conditions it would be under once back in operation. Staff from Northumbrian Water were present to observe the load testing and a test certificate and report were also provided.

THE RESULT

The job was turned around within 12 working weeks, including coil manufacture and load testing. All coils are manufactured in our in-house coil shop, giving total control over the manufacturing process, quality assurance and testing procedures. This was a significant time saving over sourcing a brand new replacement motor, which would also have required additional work to adapt Northumbrian Water's facilities to enable a new motor to be fitted.

Providing a full load testing service meant the motor could be tested in a way that simulated its normal operating conditions, ensuring any further changes needing to be made could be identified prior to the motor being reinstalled.



The service provided from Houghton International from start to finish was very professional with excellent customer service with a brilliant repair and testing of the motor."

David Young, Tyneside Electrical Maintenance Team Leader, Northumbrian Water

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