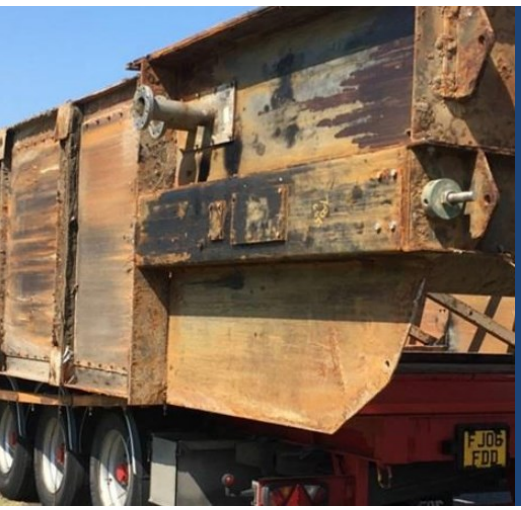
RWE

Organic Coating and Cathodic Protection

Corrosion Protection in CCGT Power Plant



Location United Kingdom

Client RWE, Great Yarmouth Power Station

Expertise Corrosion Protection, Coatings and Inspection, Cathodic Protection, CCGT

Our Services

- Corrosion Protection System design (Coatings and Cathodic Protection)
- Specification Review and Development
- Inspection Services (Coatings)

RWE

Project description

Great Yarmouth is a combined cycle gas turbine (CCGT) 420MW power station that was commissioned in 2001. The station uses estuarine cooling water from the River Yare in a once through configuration. Band screens which are used to screen out debris and foreign material from the cooling water intake at the station were corroding and had reached the end of their useful life.

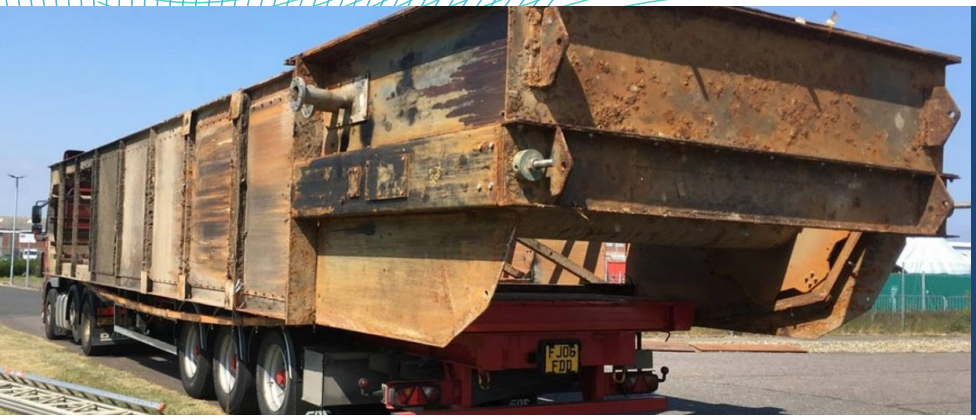
A decision was made to fabricate a like for like replacement based on carbon steel as the primary material of construction with organic coating and cathodic protection as the means of corrosion control. A duplex alloy stainless steel alternative would have come at a significant cost premium.

At the outset, the primary corrosion protection method based on coatings was reviewed and revised to incorporate key quality measurements for corrosion protection of the screens. Specifically the design of the structure was modified to optimise the surface for coating adhesion and limits for quality parameters (cleanliness, profile, coating layer thickness) were agreed with the Supplier and incorporated in the specification and inspection and test plan (ITP) for the work.

The design for the secondary corrosion protection method based on sacrificial anode cathodic protection was reviewed and checked against applicable international standards.

Ad hoc inspections and surveillance visits were carried out both at the steel fabricator and coating applicator works to ensure that the specification was being followed and all key quality parameters relating to surface preparation and coating application were being achieved.

Once the band screens were installed at site, the structures were assessed for transport and installation damage and repair work was supervised to ensure that the quality of the corrosion protection systems was maintained.



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