

Cooling Water Structure Decommissioning

Client :
BNFL

Location :
Gloucestershire

Date :
2002 - 2003



Part of the decommissioning programme at Berkeley Power Station on the Severn estuary included the rationalisation of the cooling water system in preparation for a period of long term care and maintenance. BAM Nuttall was awarded the contract to include both onshore and offshore works.

The original cooling water system used water from the River Severn to cool the reactor and turbine hall plant. The contract required the removal of all plant, equipment and superstructures and the infilling of underground tunnels, culverts and structures. The area was then landscaped to match the surrounding site.

The conditions were challenging as the 9m tidal range of the River Severn produces some of the strongest estuarine currents in the world. Average low tide drying out periods adjacent to the structure were only two hours.

The offshore demolition method adopted was to work each low tide period with land based plant. An access track was constructed across the foreshore using local limestone. Hydraulic excavators complete with a variety of boom configurations and hydraulic

attachments were used to break out and process the reinforced concrete structure. The baffle wall was cut down to bed level during low tide periods, using gas cutting equipment.

An environmentally sensitive area

The River Severn and riverbank adjacent to Berkeley is a Site of Special Scientific Interest, a proposed Special Area of Conservation, a RAMSAR site and a Special Protection Area. BAM Nuttall supported BNFL in satisfying the requirements of all stakeholders and developed approved working methods to secure appropriate licences and protect the environmentally sensitive sites.

All arisings were recycled, with concrete crushed and used as graded backfill to the larger onshore chambers. An alternative proposal was adopted to leave the majority of steelwork in situ, with low viscosity PFA grout used to fill all voids.

Confined space entries were minimised wherever possible but the nature of the underground works required the provision of personnel suitably trained and equipped for confined space entry procedures.