Tarong Power Station Cooling Tower

Australia, Queensland

Work / Activity 1

Structural protection and material treatment / Against corrosion

Work / Activity 2

Structural protection and material treatment / Repair of Concrete

Companie(s) :	Vertigo Specialist High Access Services
Owner :	Tarong Energy
Engineering consultant :	Ian Godson & Associates
Subsidiary(ies) :	Freyssinet Australia
Beginning of works :	04/2008
End of works :	06/2008

Description of the work :

Owned and operated by Tarong Energy, the Tarong Power Station is one of Queensland's largest power generation facilities with a total capacity of 1400 megawatts. Since the commissioning of the four units between 1984 and 1986, the power station has run almost continually with only limited periods of downtime for plant maintenance. As a result of the age of the structures and the environment in which they operate, the two 120m high, 65m diameter (top) reinforced concrete cooling towers were starting to show signs of deterioration. A major investigation program was completed during a short shutdown in mid-2007 with a visual inspection and half-cell potential mapping of the two structures completed to determine the extent of the deterioration. Based on these results, the remedial works were forecast for completion during a major shutdown in last months of the 2007/08 financial year.

Freyssinet mission :

Freyssinet Australia was engaged in a “Construct” contract to undertake remedial concrete works and the application of protective coatings to the two cooling towers. The works were to be completed within the planned, staged shutdown of the power station between April and June 2008, under strict conditions that the plant had to be fully operational by 1 July 2008 to satisfy a major government supply contract. Freyssinet engaged Vertigo Specialist High Access Services as a major subcontractor to supply, install and operate the access systems required to complete the works. This consisted of four sets of custom designed and built adjustable steel frames, complete with powered long travel wheels, which were to sit atop the 600mm wide rim of the cooling towers. Each of the frames were installed/removed via helicopter and were fitted with two swing stages; one internal - to provide safe access to the top of the cooling tower, independent of the weather and one external - to provide access to the external work areas. The completed works consisted of 582m of crack repair, 12.25m2 of concrete repair and the application of protective coatings to the upper 10m (external), top rim (600mm) and upper 500mm (internal) of each of the towers, which amounted to a total area of 4500m2.