

# Repairs

## Concrete Repairs & Cathodic Protection

South Hook Jetty, Milford Haven



SUSTAINABLE TECHNOLOGY



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**Client**  
South Hook LNG Company

**Principal Contractor**  
CB&I John Brown

**Main Jetty Contractor**  
Besix-Kier Joint Venture

**Specialist Contractor**  
Freyssinet

**Contract Value**  
£8.6 million

**Work Commenced**  
August 2005

An LNG receiving terminal has been constructed at South Hook, Milford Haven, South Wales. Part of the construction involved the repair and protection of an existing 30 year old jetty facility to provide a further 30 year life. The project included concrete repair and cathodic protection (CP) of reinforced concrete pile caps, prestressed concrete piles and new and old steel piles.



The existing jetty is 1km long, comprising 125 separate support structures. The jetty head is a further 1km in length and comprises 5 existing berths that will be converted into 2 LNG super tanker berths.

Freyssinet undertook sprayed concrete repairs and installed CP to provide the necessary life.

The existing structures suffered from chloride contamination which meant that corrosion of reinforcement and damage to the concrete had taken place and without CP would continue.



Prior to CP installation concrete repairs were undertaken. First a detailed survey was completed and damaged concrete removed by hydro-demolition. Repairs were made using dry mixed sprayed concrete.

CP to concrete was achieved using a titanium mesh anode, in an overlay of sprayed concrete.

Additionally impressed current CP was provided to protect the underwater sections of the concrete and steel piles.



The Freyssinet team comprises the skills of Freyssinet Ltd (UK), Freyssinet France and CCSL. Sprayed concrete personnel and expertise were provided by Freyssinet France, CP design and expertise by CCSL, and project management and installation works by Freyssinet Limited. This unique team offered the client assurance of the skills of Freyssinet and the ability to undertake key aspects of the project in house.



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