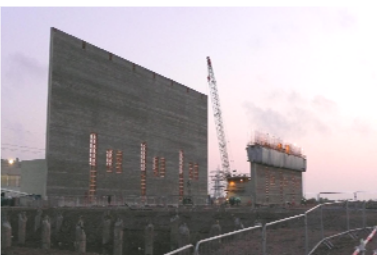


## BritNed Interconnector

**Client :**  
BritNed Development

**Location :**  
Kent

**Date :**  
2007 - 2010



The Isle of Grain in Kent was chosen as the location for a converter station linking a new 1,000MW capacity undersea extension cable running between Maasvlakte in Holland and the UK. BAM Nuttall was awarded the civils contract for the UK facility whilst Dutch sister company, BAM Civiel, carried out similar work on the Maasvlakte station.

The transfer stations themselves will each house six huge 240 tonne transformers that will convert the direct current electricity passing along the 260km link between the Dutch and UK stations back into alternating current, before it passes into the transmission networks on both sides of the North Sea.

BAM Nuttall is constructing the twin transformer houses which feature two 25m-high, 45m-long reinforced concrete walls, built in three 15m bays and connected by a two-storey, steel-framed and precast concrete-walled office and control block. The two walls and the smaller dwarf blast walls that jut out from them at each bay were slipformed over a period of 4 weeks.

The earth, a mixture of alluvial clay and gravels, was not ideal for building large structures. 1,200, 500mm-diameter driven cast in situ piles were installed, reaching as much as 35m through the pile mat and into the clay. Prefabricated reinforcement cages supplemented the concrete mix pumped into the piles producing a very good quality piling mat, 1.3m thick and using 80,000 tonnes of crushed granite.

The haul road, also constructed by BAM Nuttall, had to be rigidly designed to withstand loading from trucks weighing more than 240 tonnes as they deliver the transformers. It is more than 600mm thick and is strengthened by three layers of tensor geotextiles.

In the hall where the transformers will sit, extensive measures were taken to protect the transformers from external electrical fields. The filter bed slabs had to be fully isolated to prevent any electricity discharge through the reinforcement steel which could heat up the concrete, causing it to crack and fail. To minimise this possibility every connection in the rebar cage was isolated using a rubber dowel bar sleeve and then tied using plastic cable ties.

BAM Nuttall Ltd  
St James House, Knoll Road,  
Camberley, Surrey. GU15 3XW

Tel: 01276 63484  
E-mail: [headoffice@bamnuttall.co.uk](mailto:headoffice@bamnuttall.co.uk)  
[www.bamnuttall.co.uk](http://www.bamnuttall.co.uk)