nationalgrid

1100 Century Way
Thorpe Park
Leeds
LS15 8TU

Dr Liam Fox MP
House of Commons
London
SW1A 0AA

David Mercer
Construction Manager, Major Works

david.mercer@uk.ngrid.com
Direct tel +44 (0)113 2908336
Direct fax +44 (0)113 2908065

www.nationalgrid.com

16 December 2009

Dear Dr Fox,

Hinkley Point 'C' Connection

Thank you for your letter dated 3 December 2009. I hope the local community found the public meeting on 27 November a useful addition to our consultation programme. We fully understand the strength of feeling of the community and I hope the answers we provided were helpful.

I attach a copy of our detailed optioneering report which was made available on our website on 7 December. This report sets out details of all the connections options considered, and the methodology by which we arrived at the proposed system reinforcements necessary to connect Hinkley Point C, including any potential for subsea cables as an alternative to new on-shore power lines.

The report concluded that the option which provided on balance the most appropriate solution would be to construct a new 400kV overhead power line between Bridgwater and Seabank substation in Avonmouth, and our current public consultation exercise is seeking feedback from local communities on two possible route corridors for this line. This consultation will close on 08 January 2010, after which we will consider all feedback and comments received. We will then determine a preferred route corridor and carry out a further public consultation on a proposed route alignment within that corridor to ensure local people have every opportunity to give us their views. Of course, we will be happy to answer questions about the optioneering process and the project as a whole throughout this period.

In your letter you refer specifically to the Long Island Neptune Project and I hope the following comments are helpful.

The transmission network in the UK, in common with most other nations, uses high voltage alternating current (AC) power lines as the means of transporting electricity. Overhead lines are used where possible, with underground cables being used more frequently in built-up areas. Underground cables cost around 12 to 17 times as much as overhead lines, and therefore we reserve consideration for their use to built-up areas where it is not possible to achieve an overhead route, and areas designated for their very high amenity value such as National Parks.

National Grid is a trading name for:
National Grid Electricity Transmission plc
Registered Office: 1-3 Strand, London WC2N 5EH
Registered in England and Wales, No 2366977

National Grid is a trading name for:
National Grid Gas Plc
Registered Office: 1-3 Strand, London WC2N 5EH
Registered in England and Wales, No 2006000

High Voltage Direct Current (HVDC) technology is also used around the world in special circumstances; typically where very long connections are required (hundreds of kilometres) and to provide interconnections between different AC transmission systems, such as our own interconnector with France.

HVDC systems use direct current, either through overhead lines or underground and subsea cables, to transfer power. Convertor stations are required at either end to interface with existing AC networks. Convertor stations are extremely expensive and as a consequence HVDC, using overhead lines as the transmission medium, only becomes economic over very long distances. Where the transmission medium is underground or subsea, HVDC systems can be economic at much shorter distances but only when compared against an equivalent AC underground or subsea connection, not compared with an AC overhead line.

The Neptune Project connects Long Island with the mainland, has a capacity of around 660MW and cost in the region of $650m. The urban nature of the New York/Long Island area would have prevented an on-shore overhead connection and justified the high cost of a subsea HVDC connection. The Neptune cable allows Long Island Power Authority to purchase electricity from outside the area.

An HVDC connection in the Severn Estuary would need to be rated at around 4000MW and we estimate would cost in excess of £1bn more than an AC overhead line connection. Any HVDC connection in the Severn Estuary would in addition have its own environmental, technical and engineering difficulties and would require multiple cable connections.

As I explained at the meeting, the cost of either a subsea or underground cable on this connection would result in only a very small increase in charges to consumers. This connection is however just one part of the very major capital programme of works National Grid has across its networks, and this in turn is part of an even larger investment across the UK's energy networks as a whole. This investment is vital to the UK achieving its targets to move towards achieving a low carbon economy, and includes the connection of new renewable and new nuclear electricity generating capacity.

National Grid's approach of using overhead lines to provide transmission connections has been accepted by the Secretary of State in granting consent for a number of overhead lines over the last 15 years, including the Seabank Power Station connection to the north of Bristol. More recently on 2 December 2009 the Secretary of State granted consent for a new 21km 400kV overhead line in County Durham.

National Grid works closely with manufacturers and other utilities on the development and application of new technology. Superconducting cable technology may in time develop to present a practical and economic solution but currently, to our knowledge, there is no practical installation of any significant scale commercially operational.

I hope this reply is helpful. I would emphasise that we are committed to effective consultation with communities who may be affected by our proposals, and it is important that they have the opportunity to understand the issues which influence and constrain the decisions that we are required to reach. We continue to welcome local people's comments and views and will consider them carefully at each stage in the planning and development of this project.

Yours sincerely
David Mercer

David Mercer
Construction Manager, Major Works