

Onshore and Offshore Grid

by **Richard Ford, Head of Grid and Technical Affairs**

BWEA's work on both onshore and offshore grid is continuing with various projects and consultations in the pipeline.

Offshore Grid

In July the DTI and Ofgem published their long awaited consultation on the regulation of offshore networks. In addition DTI/Ofgem organised a discussion workshop on the issues raised in the consultation. BWEA presented at this workshop on the issues facing Round 2 developers. Of the two regulatory options consulted upon, BWEA favours the extension of the existing onshore transmission arrangements. BWEA has produced a draft response to the consultation and will be sending in a final response by the deadline of 19 October.

BWEA continues to work with DTI and Ofgem to identify and address offshore issues and attends the Making Offshore Wind Work subgroup of the Renewables Advisory Board. The most recent meeting was on 29 September.

Development of Offshore transmission networks is an issue being addressed by a number of countries. The International Energy Agency has established a work stream to tackle this. At the invitation of the DTI, BWEA participated in an IEA workshop in Manchester in September to debate the grid integration of offshore wind.

Onshore Grid

Alongside the offshore regulation consultation DTI is consulting on a proposal to cap transmission charges for renewable generators in the Scottish Islands. If approved, this cap could extend to October 2014. Despite the limited time available for the capping of charges, BWEA is supportive of this proposal and will be

providing a response by the deadline of 19 October.

National Grid continues to consult on amendments to its transmission charging regime in response to prompting from Ofgem at the time the existing charges were approved. BWEA has provided responses to two NGC consultations (on negative demand charges and the treatment of intermittent generation) and attends meetings of NGC's Transmission Charging Methodology Forum and its Charging Issues Sub Group to reinforce the points made in the Association's responses.

DUKES and Load factors for wind generation

The DTI published the 2005 edition of the Digest of UK Energy Statistics (DUKES) in July. This contains information up to December 2004. Amongst the myriad of statistics the DTI report on the load factors for wind generation. These were reported as 26.6% for onshore wind and 24.2% for offshore wind. As in previous years, BWEA feels that these numbers are not truly representative due to the calculation methodology employed. BWEA met with DTI in August to discuss this and the DTI now proposes to amend their reporting of load factors with effect from next year's edition of DUKES. This is expected to increase the onshore figures by around 2 percentage points and the offshore figures by around 10 percentage points. In the meantime, BWEA considers that the generic figure of 30% load factor used in its indicative calculations continues to remain appropriate for general use.

PRASEG briefing

The PRASEG Wind Forum is holding a briefing on intermittency on 25th October, where BWEA will be presenting. For programme and more details, go to www.praseg.org.uk

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Beauly – Denny Upgrade – Creating the Backbone for New Generation in Scotland

by **Keith Maclean, Head of Sustainable Development, Scottish and Southern Energy; BWEA Board Member**



Following the publication of the final draft route in July, the section 37 application for the upgraded Beauly to Denny transmission line has now been submitted to the Scottish Executive.

This application follows a period of 18 months extensive pre-application consultation involving not only the statutory consultees but also many other organisations as well as the public with interests along the proposed corridor.

The adoption of such an approach has had many advantages. Starting at an early stage - before significant expenditure on design and environmental survey work had been committed - allowed maximum flexibility to accommodate routing suggestions arising from the consultation process. Some significant re-routing of the corridor has therefore taken place and extensive detailed modifications have also been possible.

The route that has resulted is a careful balancing act, weighing up the many, often conflicting, interests. It is unlikely that many will see this as a "best" solution but we believe that the majority will certainly acknowledge that best endeavours have been used to find the "least worst" option.

A consequence of this approach has been the considerable effort that was required, not only to validate the proposed route through surveys, analysis and environmental impact assessment, but also to ensure

that valid reasons and supporting evidence were considered for any instances where it was not possible to adopt third party suggestions for alternatives or where a selection had to be made between a number of suggested options.

A further sign of the extent of the project is evidenced by the number of consultation meetings held: I personally was involved in well over one hundred across the country. Adding in those held by colleagues increases this number by several factors.

The majority of the 220 km line lies in the licence area of Scottish Hydro-Electric Transmission Ltd although about 20 km at the southern end lies in the Scottish Power Transmission area. The two companies believe that the application represents the best balance that can be achieved but, ultimately, the proposal will be judged by Scottish Ministers, taking advice from statutory consultees and after undertaking further public consultation. To ensure everyone has a chance to respond we have doubled the consultation period from the minimum of 28 days to two months. This is in addition to the two months since the final route was published.

The application is supported by an extensive Environmental Statement running to nearly 1.2 million words and over 2,000 pages. The proposal is probably one of the largest civil engineering projects in Scotland since the hydro-electric stations were built in the middle of last century.

As well as routing issues, the proposals have led to a number of other points being raised.

Firstly, the initial reaction of many was simply: "Why do we need this?" Many remained very sceptical when the answer only related to the need for renewable energy – perhaps reflecting a general lack of information and understanding of the climate change debate. However, once the contribution of renewables and supporting infrastructure are

explained in terms of "keeping the lights on", acceptance levels, albeit sometimes grudgingly, increased.

Once the need for the line is accepted, it is easy to predict the next point that will be raised – "Put it under the ground or, even better, under the sea!"

It is perhaps not surprising that most people see this as an easy option – the perception most have of underground cables is of those under their pavements or roadways. The fact that a 400 kV line requires a trench excavation of a size similar to a motorway development comes as a big surprise. There is also a belief that other countries bury all their cables. This is true, as it is for the UK, at lower voltages, but at 400 kV, of the 100,000 km in Europe, only 0.5% are underground and >90% of these are in urban and suburban areas. Those advocating the undersea solution tend to be under the impression that a transmission line only collects the power – the need to deliver the power to the main areas of usage is overlooked. Hence, at least part of any development is going to have to go near to where there are people.

Some of the most difficult areas to deal with are where there is a conflict between the interests of nature, particularly when international designation is involved, and those of people. There are very clear statutory protection measures for designated areas and species and often very little covering people – most are surprised, for instance, that other than for electrical safety, there is no minimum separation required between inhabited properties and transmission lines. One of the main areas of public comment during the consultation related to reports of statistical links between Electric and Magnetic Fields (EMF's) and health worries. Although there



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is absolutely no clear evidence of such a link, often the perception that there may be one is enough to cause concern.

We recognise that for reasons of general amenity, it is preferable to keep the line at a distance from properties, wherever possible. Indeed, through careful design it has been possible to reduce the overall number of pylons from 800 to 600 and the number within a 100 m corridor of properties down from nearly 100 to 10. Interestingly, the higher number close to the old line was a reflection of the number of houses that had been built close to the line rather than a less sensitive approach when the line was originally built.

We are now looking forward to moving from the design stage of this project to the build phase. It will take three years to complete and a further year to dismantle the old line. However, before we can move on to this, as many of you reading this article will already know from personal experience, we must await a decision from Scottish Ministers. This is the unknown in the equation that will ultimately determine the completion date for the project.

We are certainly acutely aware of the significance of this project for the roll out of renewables in Scotland. We hope that this imperative will also help to expedite the progress of the application through the consent process. □