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Date: 23rd September 2004

Our Ref: DT/EC/B/2
Your Ref:

Attn: Mr Jonas Törnquist

Head of Electricity Transmission Policy
Networks Division
Ofgem
9 Millbank
London
SW1P 3GE

Dear Sir,

Viking Energy Ltd Response to Transmission Investment for Renewable Generation Initial Proposals - August 2004

Thank you for the opportunity to comment on the initial proposals above.

Viking Energy Ltd (VEL) has intentions to develop over three hundred megawatt of renewable energy from a large-scale windfarm in Shetland. Any such large-scale development in Shetland will require a connection to the main UK electrical network. VEL is therefore highly concerned about the arrangements to provide investment for transmission systems.

VEL has concerns regarding:

- The assessment and classification of projects summarised in Tables 1 and 2 in Chapter 4.
- Whether it is appropriate to separately identify baseline, incremental and supplementary incremental capacity.
- The initial categorisation of projects set out in Chapter 5.
- The factors beyond cable economics, which can make up part of the justification for a project but which are ignored in this consultation.

While VEL is uneasy about some of the assumptions and proposed measures, we would record that all transmission investment proposals are welcome if they can eventually bring about an electrical network in the UK suitable for modern generation and supply. In particular VEL welcomes the categorisation of the proposed Beauly-Denny reinforcement as justifiable. This will be a lynchpin in developing more of Scotland's impressive renewable energy resource.

An immediate concern of ours is that despite VEL having a current connection application with SHETL for 300MW, no contact was made by SKM to VEL regarding our project. This would not be an issue if the methodology used on the other projects was applied to the islands but it is concerning to read that the calculations for categorisation were "not applicable" to the islands; dependent on "the economics of wind generation on the Scottish islands" and requiring further interest and/or analysis to reduce costs or uncertainties. We could have provided more detail and economics if requested.

The Beauly-Denny reinforcement is classified as Baseline. The Beauly-Islands connections are classified as Additional Investment. To illustrate our unease with the proposed classifications and methodologies we have made the following example calculations. These calculations are based on the figures provided within SKM's report.

Capital Cost per installed kW per year:

Beauly – Denny	Capital Cost	£332,000,000
	Anticipated RE capacity	1,200,000kw
	Expected lifespan	40 years
Cost/kw/year =	332,000,000 / (1,200,000 * 40) =	**£6.92** per kW per year
Beauly – Islands	Capital Cost	£625,000,000
	Anticipated RE capacity	1,921,000kw
	Expected lifespan	40 years
Cost/kw/year =	625,000,000 / (1,921,000 * 40) =	**£8.13** per kW per year

On a simplistic capital cost per kW basis over 40 years the isles connection is 17.5% more expensive than the Beauly-Denny upgrade.

Capital Cost per MW hour per year:

Beauly – Denny	Capital Cost	£332,000,000
	Anticipated RE capacity	1,200MW
	Expected lifespan	40 years
	Anticipated RE load factor	0.33
Anticipated output =	1,200 * 0.33 * 8760 = 3,469,000 MWh per year	
Cost/MWh/year =	332,000,000 / (3,469,000 * 40) =	**£2.39** per MWh per year
Beauly – Islands	Capital Cost	£625,000,000
	Anticipated RE capacity	1,921,000kw
	Expected lifespan	40 years
	Anticipated RE load factor	0.43
Anticipated output =	1,921 * 0.43 * 8760 = 7,236,000 MWh per year	
Cost/MWh/year =	625,000,000 / (7,236,000 * 40) =	**£2.16** per MWh per year

On a more reflective comparison the Isles link works out at around 10% more economic for returned power output than the Beauly-Denny upgrade.

The anticipated RE load factors above are considered bankable for project finance matters and can be checked using information held by Ofgem on Scottish Renewables Obligation projects. Even being conservative and giving the isles only a 40% factor, the isles link is more economic.

If the Beauly-Islands connections cannot be compared to the other projects using the initial methodology then they must be compared using other methodology. The above methodology is limited but shows that the islands links may be as justifiable as the justified Beauly-Denny link.

VEL is of the overall opinion that it is appropriate to separately identify and categorise projects but that the basis for comparison must cover all projects.
The classification of the Beauly-Island connections as Additional, requiring further connection interest and/or analysis to reduce costs or uncertainties does not encourage development and in fact creates further uncertainty.

VEL believes that the justification for transmission investment must involve more than the limited factors considered in SKM's report.
SKM described the island connections as spurs for the output of windfarms. This ignores several other factors that make the case for sizable electrical connections to the islands and Shetland in particular.
VEL believes that transmission investment in the UK is of such importance, if only for security of supply, that it is impractical to discuss single aspects for proposed alteration without consideration of wider impacts.

The recent National Grid Company consultation on Transmission Use of System Charges noted that "Connection charges are designed to recover the costs incurred in providing assets which afford connection to a single user to the transmission system, with a reasonable rate of return."

There has been comment that the scale of transmission charges to the outer islands could be as high as £70 per kW per annum. More than three times the charges considered outrageous by most of Scotland. The scale of the charge is understood to be mainly to justify the cable but it is difficult to understand that position when economic comparisons show that the Beauly-Islands connections are potentially more justifiable than the justified Beauly-Denny reinforcement. If generators in the north of Scotland are likely to have charges of £21.70 per kW per annum then generators in the islands should be charged no more than 17.5% above this and arguably 10% less.
By being categorised by Ofgem as Additional Investment for Transmission investment, which has recommendations for the underwriting of design and feasibility costs and potentially for enforced long term access arrangements, developers in the islands are being asked to:

- guarantee work that developers elsewhere do not have to guarantee.
- pay for the asset over 20 years in potentially excessive transmission charges which other developers elsewhere do not have to do.
- Commit upfront to long term access arrangements, which VEL is not against in principal but which other developers elsewhere do not have to.

Hardly a level playing field and arguably discriminatory. Why are developers in the islands being told to expect charges calculated on a capital cost basis while developers elsewhere are not?

Regardless of whether the transmission investment case is made on a 40 year calculation, if the access charges for the islands (which so far we are told will reflect the full cost of the cables) are calculated over a 20 year asset lifespan but the developments may last for 40, then is the developer expected to pay again for an asset he has already paid for in its entirety? This inconsistency penalises island developers.

The above points only consider a connection to a windfarm. There would be other benefits if there was to be an electrical inter-connector from Shetland to the UK mainland:

1. At this moment consumers in Shetland are supplied by an aging diesel power station. This station has a running cost and will require replacing at some point. An electrical inter-connector to Shetland would allow Scottish & Southern Energy to supply existing customers from the national grid (saving a fortune in diesel fuel costs), consider alternative means of back-up rather than an automatic complete power station rebuild

(saving another fortune in capital investment) and give Shetland consumers the reliability and stability of the national grid (something currently absent).

2. Shetland has historically benefited from a "hydro benefit" so that consumers are spared from the uneconomic costs of generation and distribution of electricity in Shetland. The previous benefit is being discontinued to suit legislation but we understand a means is being introduced so that the significant additional cost of generation and distribution in Shetland is spread over the entire UK customer base. If Shetland has an electrical inter-connector, the generation element of this charge should disappear.

3. The wind resource in Shetland is physically in a separate climate zone from the rest of the UK. It is common that the wind will be blowing in Shetland when it is not anywhere else in the UK. This balancing effect on the output from overall renewable energy generation can only be good for the UK network.

VEL also has some questions regarding wider matters that perhaps should be considered when the case for approval of transmission investment is considered:

1. The DTi has approved grant awards to developers to encourage offshore windfarms. Has a cost benefit analysis ever been undertaken to determine the amount of subsidy per MW hour of returned electrical output against theoretical similar assistance to connections to the islands? Given that a windfarm in Shetland would produce 60% more electricity in MW hours than an identical windfarm off the coast of England perhaps this should be examined to determine what would actually be the most economic investment for the UK consumer. It is worth reiterating that if Shetland had 600MW of wind energy connected to the national grid (as is proposed), Shetland would produce as much power as a 1000MW offshore windfarm currently receiving Government finance.

2. We have not been able to access exact details of the returns that offshore windfarms must make to the Crown Estate however we understand that offshore windfarms do not pay non-domestic rates. On top of all rents, onshore windfarms do pay rates and there are proposals to significantly increase these charges, taking more money back to the UK exchequer. Can anyone undertake a cost benefit analysis to establish whether it would be better for the UK government to invest in cables to offshore windfarms or Scottish islands? The commercial rates payable by onshore windfarms are a tangible indirect benefit to UK plc not resultant from offshore development.

To summarise:

VEL would argue that the methodology to classify projects should be consistent over all projects and subject to the RE load factors known to Ofgem.

VEL disagrees with the third category of Additional Investment although is glad to see the island connections identified as projects for consideration. The third category of Additional Investment blames uncertainties for not approving investment but creates much of that uncertainty itself by using non-applicable comparisons. When the island links are compared to the other proposed reinforcements using alternative methodologies the economic models take on a very different perspective.

VEL is of the opinion that the recommendations for projects regarded as Additional Investment have inconsistencies with and potentially duplication of other proposals coming forward that will discriminate against developers in the islands. VEL would argue that developers in Scotland's

islands should not have to fund (or guarantee) feasibility costs not paid by developers elsewhere. This point in particular needs immediate consideration and early response because VEL is currently being asked to meet such costs.

VEL is of the opinion that an electrical connection between Shetland and the UK mainland will have benefits to more than windfarm developers and these benefits should be considered when deciding upon the case for transmission investment and further should not be paid for solely by the windfarm developers.
VEL thinks further consideration should be given to compare ongoing investment in connecting offshore windfarms against the benefit of investing in connecting onshore windfarms in the islands.

I hope this response is of use to you. If you have any questions, in particular to advance the limited information considered within the SKM report, or otherwise regarding any of the above please contact myself or David Thomson of this company and we will be happy to discuss.

I look forward to the next steps of this process.

Yours faithfully,

Angus Ward
Director