Small Generator Issues Under BETTA
Ofgem / DTI Consultation
Comments of the Renewable Power Association

Introduction

The Renewable Power Association supports the introduction of GB-wide trading arrangements. Allowing renewable generators access to the widest possible group of customers will help meet Government targets for the growth of renewable generation. This should be particularly important for the rich renewable resources available in Scotland.

However we are disappointed that this consultation does not address the major issues that affect small generators trading under the proposed arrangements, nor do we accept that generators connected at 132kv in Scotland should be treated differently to those connected at 132kv in England and Wales. This will lead to additional cost and trading complexity for larger renewable developments in Scotland and could thus threaten the achievement of Government targets.

Our detailed comments come under the following headings.

- A missed opportunity to deal with fundamental problems
- Classification of 132kv in Scotland as Transmission
- Payment for use of the 132kv network in Scotland
- Embedded Benefits
- The cost to 132kv connected generators in Scotland
- Grid Code Issues
- Trading Issues

A missed opportunity to deal with fundamental problems

The consultation starts from the assumption that the present trading arrangements in England and Wales provide a competitive wholesale market and that they will be used as the starting point for the Great Britain arrangements. We do not accept that the current arrangements in England and Wales provide an efficient method for trading for small generators in particular, and had therefore hoped that the opportunity would have been

taken to review some of the deficiencies in the current England and Wales market.

These deficiencies include the absence of a liquid and transparent wholesale price that small generators can obtain for their output and the non-cost reflective manner in which deviations from contracted output are treated, whether paid for directly by the generator or used as justification for reducing the price paid by a supplier buying its output. All types of generation (whether nominally intermittent or not) have uncertainty associated with their output. For this reason all generation and demand is connected together via transmission and distribution networks so that this uncertainty can be catered for economically by carrying a modest amount of reserve on the system. This reserve can vary its output in order to cope with the combined uncertainty collectively. The same applies with respect to demand.

A fuller description of the problem, along with a suggested approach to overcoming it can be seen in the first part of the attached article from Power UK.

Unbundling the uncertainty of individual players and treating them each as if their own deviations had to be accounted for individually, as the current England and Wales arrangements do, takes no account of the benefits of an interconnected system and as such is fundamentally flawed. It is particularly discriminatory against small generators with intermittent outputs. It is therefore disappointing that the opportunity to address this has not been taken.

Classification of 132kv in Scotland as Transmission

The RPA is not convinced by the arguments put forward for maintaining the classification of 132kv in Scotland as transmission and thereby introducing different treatment for 132kv-connected renewable generators in Scotland to those in England and Wales. There are five strands to this.

- **The function of the network** – The document asserts a functional distinction between transmission and distribution. It acknowledges that some of the 132kv network in England and Wales functions as transmission and some of this network in Scotland functions as distribution. It then states that a voltage-based definition is adequate on the basis of the aggregated functionality in the two regions. If this logic were followed consistently then the aggregated functionality of the 132kv network across the whole of GB should be considered. If this mainly functions as distribution it should be classified as distribution throughout the whole of GB.
- **Moving towards active management of distribution networks**- The document appears to have dismissed the possibility of distribution becoming more "actively managed" over time i.e. functioning more like the transmission network, with no reasoning for so doing. If "active"

distribution becomes widespread then the split between transmission and distribution would have to be done on voltage rather than function. A methodology will have to be developed for system operators of "active" distribution and transmission system operators to manage the total network jointly. It seems a wasted opportunity not to have begun with an active 132kv (and lower voltage) distribution network in Scotland and a Great Britain transmission network. Personnel accustomed to managing the 132kv network in Scotland are currently in place and arguably it would make the transition to BETTA less of a security risk than what is currently proposed.

- **Non-discriminatory access to networks**. The document states that classifying 132kv as distribution in Scotland would take away the advantage of having access to this network under the control of a party that has no generation or supply interests. Whilst, for the avoidance of doubt, we make no comment on whether arrangements for access to the distribution network in Scotland (however defined) are genuinely non-discriminatory, if there were any possibility that they were not then this would need to be addressed urgently, as an issue in its own right. In other words if this is a problem then it needs to be addressed, not used as a justification for not classifying the 132kv network in Scotland as distribution.
- **Choice of connection voltage**. Inadequate account has been taken of the distortion that might appear in choosing whether to connect at 132kv rather than a lower voltage. Although this may occur wherever the transmission/distribution interface is (unless the arrangements were to be the same for both) a chasm at the 132kv/33kv level is likely to be far more significant for the majority of renewable developments than one between 132kv and higher voltages.
- **Inconsistency with factors that determine charges in England and Wales.** It should be noted that treatment generation in England and Wales is based primarily on size. There are several large generators connected at 132kV that are treated as transmission-connected with respect to the terms of Grid Code obligations, CUSC, and charging methodology, *despite being distribution-connected*. These distribution-connected generators are not, for example, entitled to embedded benefits. Therefore, there could be said to be an inconsistency introduced whereby the status of a generator for charging purposes is primarily determined by size in England and Wales but it would seem by connection voltage in Scotland.

Payment for use of the 132kv network in Scotland

Article 7 of Directive 2001/77/EC on the promotion of electricity produced by renewable sources is quoted in the consultation document. It states

> Member States shall ensure that the charging of transmission and distribution fees does not discriminate against electricity from renewable energy sources, including in particular

electricity from renewable energy sources produced in peripheral regions, such as island regions and regions of low population density.

It is hard to see how the fee structure resulting from differing classifications of 132kv within Great Britain is compatible with this.

Having said that, we agree that 132kv-connected generators in Scotland should pay something towards the use of the network. Our preference would be to charge for this network as a part of the distribution system. If not, then we would support any methodology that brought charges for using this network as close as possible to those that would apply if it were treated as distribution. A rationale for charging such generators as if they were connected to a distribution network is described below.

The boundary between transmission and distribution is a necessary factor in determining the regulatory asset bases and in terms of asset maintenance and responsibilities. However, in terms of electricity flows it is substantially arbitrary. The same wires can be used to deliver both transmission and distribution services. This is seen in England and Wales where large generators connected at 132kV use those distribution-owned wires to deliver power into the transmission network and to receive transmission services. This does not preclude the DNO using the same wires to deliver distribution services to local customers.

It therefore seems feasible that 132kV assets in Scotland can be used to deliver distribution services (including local power that avoids use of the bulk of the transmission system) even though they are allocated to the transmission asset base. In this way, treatment of small generators could be equivalent from a charging perspective across the whole of GB; i.e. generators of the same size could be charged as if they were distribution connected.

The consultation noted that small generators connected at lower voltages in Scotland (and eligible for embedded benefits) will have faced deep connection charges whereas those connected at higher voltages will not. This issue has been consulted on by Ofgem (*Structure of electricity distribution charges - Initial decision document*) and it has been proposed that all embedded generation should face Distribution Use of System (DUoS) charges as part of a shallow connection policy (although such charges should not apply before 2010 for existing generators). The reason for this delay is to allow for the legacy of deep connection charges previously paid by such generators. To the extent that 132kV-connected generators in Scotland have faced shallow connection charges, then it is surely feasible to work out a DUoS charging methodology to apply to them which is consistent with methodologies that will be applied by DNOs in England and Wales for new connections at 132kV.

Embedded Benefits

The consultation document states that "small distribution-connected generators will have access to the same 'embedded benefits' as generators in England and Wales." To the extent that in England and Wales these are dependent on selling to a supplier with demand within the same GSP group, could we have confirmation that this will apply equally in Scotland? This is a particular concern as competition in supply is less developed in Scotland and the classification of 132kv as transmission must not reduce the area over which trading can take place whilst enjoying embedded benefits. We do of course maintain that these benefits ought to be available to appropriate 132kv-connected generators in Scotland.

The cost to 132kv connected generators in Scotland

The following example shows the combined effect of paying TNUoS charges and not being eligible for embedded benefits on 132kv-connected generators in Scotland.

Based on the National Grid's *GB Transmission Charging: Initial Thoughts Consultation*, the TNUoS Charge in the North of Scotland could be as high as £20.69/kW[1]. This is a substantial charge for a base load generator. However, for an offshore windfarm with a load factor of 40%, this works out at £5.90/MWh. Not being entitled to embedded benefits (BSUoS, losses, BSCCo charges) would cost the windfarm an additional £2/MWh at least, relative to an equivalent distributed generator in England and Wales. Therefore, under the proposed treatment of 132kV-connected small generators in this consultation, an offshore windfarm can expect to be nearly £8/MWh worse off than an equivalent generator located in England and Wales. The proposed £2/kW relief suggested in paragraph 8.33 - equivalent to £0.60/MWh at 40% load factor - will be negligible set against this.

Grid Code Issues

Our concerns on this relate to size limits and the provision of mandatory ancillary services.

It is not acceptable that the size limits for various Grid Code requirements are different in England and Wales and Scotland. Clearly the integrity of the system needs to be maintained but for smaller distribution-connected generators it is appropriate to set out the necessary technical requirements in the Distribution Code rather than the Grid Code. Noting that some requirements in the Grid Code in Scotland do not have any minimum size

[1] A marginally lower figure is likely using the *E&W UoSCM-M-10 Zonal Tariffs* following acceptance of that Charging Methodology Modification. However NGT cannot give a figure for this at the moment.

threshold, it is not clear how the requirements are enforced for the smallest generators. Having requirements that cannot be enforced serves no purpose. Requirements for non-licensed distribution-connected generators belong in the Distribution Code.

The requirement for all generators in Scotland to provide ancillary services, unless there is an agreement that they need not, is again likely to be unenforceable for distribution-connected unlicensed generators. We have strongly held opinion that the best way to provide a secure system at minimum cost is to encourage the provision of the necessary services through market arrangements. We therefore feel that any changes adopted for all of Great Britain should be in the direction of removing mandatory requirements.

Trading Issues

Leaving aside our general unhappiness with the trading arrangements proposed for Great Britain discussed earlier, the question of how to treat 132kv-connected generators in Scotland arises. If the 132kv network is treated as transmission, then we would support allowing such generators to not be party to the Balancing and Settlement Code. We would also support the allowance of consolidation at the metering level for such generators.