

Accessing Renewable Energy

September 2009

Overview from National Electricity Transmission System Operator

In order to ensure the efficient and effective management of the national transmission system, National Grid, in its role as System Operator (SO), requires the ability to instruct generators to vary their output. This may be required, for example, to manage energy balance or transmission constraint issues.

In order to achieve this, we use a number of commercial tools including Bids and Offers within the Balancing Mechanism (BM) and Balancing Services Contracts.

With wind generation capacity both on and offshore increasing rapidly, so too is the range of challenges for us as the System Operator in managing their output in real time. To date wind has not been used by the SO to balance the system as conventional generation has provided a more economic alternative. This may be expected as wind farms may factor in the loss of Renewable Obligation Certificate (ROC) payments, thus moving wind from its maximum output at any time has a high cost relative to conventional generation.

Whilst we have been able to use more economic alternatives to wind generation to balance the system to date, we are increasingly likely to need to curtail wind as the amount of wind generation connecting increases, particularly in Scotland during periods of low demand with high wind output that leads to high flows on key constrained boundaries. Of recent concern was the number of wind generation BM units that were not actively participating in the BM. However, following discussions with

operators of wind farms and the raising of this issue at various forums, the bid pricing from wind generation has reduced to a range of minimum -£300/MWh to a maximum -£800/MWh (for information, this compares to presently around £23/MWh for conventional generation). Whilst this is clearly a positive step, the price ranges are still high and a large number of wind generation BM units are posting long notice times to vary their output which mean that they cannot be accessed in operational timescales.

The potential implications of the present wind generation BM parameters are as follows:

- In the future we may need to take one of these bids in order to balance the system, which in turn would feed into increased BSUoS charges.
- There is a risk that due to the long-lead times being posted to vary output these bids are operationally unviable and therefore unavailable to us which in turn could lead to an emergency instruction to generators to reduce their output.

Clearly, we would prefer to have a commercial solution to these issues and to not have to rely upon emergency instructions.

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We recently presented on this issue at our Transmission Operational Forum on 05th August 2009. This presentation can be found by following the link below:

<http://www.nationalgrid.com/NR/ronlyres/31A3A602-C420-4542-A983-DCCB9E096291/36190/03AccessingWind.pdf>

We request operators of wind generation BM units to continue to review their parameters in the BM.

Accessing Generation that does not participate in the BM

Whilst further active participation in the BM is important, there will remain a significant amount of wind plant (and other renewable inflexible generation such as hydro) connecting on the system that will remain outside the BM.

Being proactive to the changing generation mix, we are developing a new balancing service known as the 'Generation Curtailment Service'. This service is designed for the provision of the reduction in output specifically from sites that do not or can not participate in the BM. This service will provide us the ability to curtail a variable/specified volume of generation with varying response (and utilisation) times. The contracting party may be the party providing the service or its representative and can provide the service via a single or aggregated site(s).

We have already approached a number of providers who manage/own sites to discuss and develop services from sites that can offer a valuable service in the short term. Additional information is scheduled to be published in the next few months on a separate Balancing Service section on our Balancing Services website (link below) to promote awareness of the ongoing development of this type of Balancing Service.

<http://www.nationalgrid.com/uk/Electricity/Balancing/services/>

We are interested to hear views from industry members and renewable operators as to potential services they could offer. If you think that you may be able to offer such services or have any comments please contact Sam.Wither@uk.ngrid.com.

