Meeting name	BSC Panel
Date of meeting	14 May 2009
Paper title	Boundary Point Metering and BM Unit Issues in Section K
Purpose of paper	For Decision
Synopsis	The Code sets out the requirements for generation metering. These requirements may be excessive for certain configurations of Combined Cycle Gas Turbine (CCGT) Modules and Power Park Modules. The Panel is therefore asked to raise an Issue in order that the requirements can be considered and, if necessary, a Modification to the Code framed.

1 Background

1.1 ELEXON presented 3 papers to the Imbalance Settlement Group (ISG) on 28 April 2009 (ISG99/03, ISG99/08 and ISG99/09) highlighting issues concerning the number of Metering Systems that the Code requires be installed for certain types of generating plant and potential issues with the rules relating to BM Unit (BMU) configurations which will arise from the operation of offshore wind farms.

1.2 Whilst the ISG recognised the need to safeguard the integrity of settlement, the Committee agreed that the current drafting of the BSC may be resulting in unnecessarily high numbers of meters and could present operational difficulties. Given the growth in the impacted types of generation, the ISG agreed with ELEXON that these matters needed prompt debate and resolution.

1.3 Progressing these matters as an Issue will facilitate fuller consideration by the industry and debate on the implications of any proposed course of action. These matters fall within the remit of an Issue that can be raised by the BSC Panel and hence this request. Given the similar nature of these matters it was concluded that this would be most efficiently progressed as a single Issue.

2 CCGT Modules

2.1 The first matter concerns how Section K3.1.4 (a) of the BSC considers Combined Cycle Gas Turbine (CCGT) Modules. This section allows a CCGT Module to be registered as a single BMU. However, if the Generating Units that comprise the CCGT Module are large enough to require a generating licence in their own right then Section K1.1.4(e)(i) requires metering at each Generating Unit, even though the module still constitutes a single BMU.

2.2 In the case where the CCGT Module has a single connection to the Total System the additional metering serves no Settlement purpose and may represent an unnecessary commercial and administrative burden. It is generally not custom and practice to comply with the BSC in such circumstances, metering is instead installed at the point of connection to the transmission system, rather than on each individual Generating Unit.

2.3 The Issues Group should discuss whether, in the case of CCGT Modules connected by a single circuit, the BSC requirements should be revised.

3 Power Park Modules

3.1 A similar issue to that affecting CCGT Modules (i.e. the BSC requiring metering of electricity flows at multiple points for a single BMU) will arise for offshore wind farms under the new regulatory regime for Offshore Transmission. This new regime affects all offshore generators connected to shore by networks at 132kV or above. These offshore circuits will now comprise part of the Offshore Transmission System and accordingly the Boundary Points (and hence metering) will move from the point of connection to the onshore Transmission System / Distribution System to the offshore substation.

3.2 The new regime includes changes to the Grid Code that will allow a number of strings of Wind Turbine Generators, each connected to the Offshore Transmission System at a single Boundary Point, to form a single Power Park Module (PPM), and hence a single BMU. However, Section K1.2 of the BSC would still require separate measurement of the electricity flowing at each Boundary Point (i.e. separate metering of the electricity generated by each string of wind turbine generators).

3.3 It is not clear that requiring separate metering of each string of Wind Turbine Generators within a Power Park Module brings much benefit, as they will be treated as a single BMU. For this reason, the Issues Group should discuss whether the BSC requirements in K1.2 should be relaxed to permit the metering of the Power Park Module as a whole; rather than requiring individual strings to be separately metered.

4 Equipment Associated with a BMU

4.1 Under Section K3 Parties are required to establish and register BMUs which comprise particular Plant and Apparatus whose flows to and from which they are responsible for.

4.2 As explained in paper ISG99/08 ('Potential Issues with BMU Configurations for Offshore Wind Farms', many of the larger offshore wind farms now being built have multiple cables to shore. This arrangement provides both operational flexibility and redundancy. Dependent on how the circuits are switched, the wind turbines can be connected via different routes to the Total System.

4.3 In such circumstance the output of a Wind Turbine Generators registered within a particular BMU could be routed via the circuits normally associated with another BMU. In order to remain consistent with the BSC, Registrants would be required to re-register the revised BMU configuration. The rules and procedures for BMU registration were designed around recording "static" configurations. They have appreciable lead times and will not accommodate more frequent and dynamic changes.

4.4 Additionally, some re-routing of wind turbine output could require revised Aggregation Rules to be submitted so that volumes of energy could be correctly calculated for the relevant BMU. Again the existing processes are not designed for this use.

4.5 This type of issue has previously arisen (albeit on a smaller scale) at some onshore wind farms. It has generally been resolved either by registering BMUs that reflect the normal operational configuration, and ignoring the possibility that this configuration may need to be changed; or by approving a non-standard BMU configuration in which the entire wind farm is treated as a single BMU. Neither solution is likely to be appropriate for large offshore wind farms.

4.6 ELEXON believes that this issue will create difficulties not only for Parties developing wind farms, but also for ELEXON and ISG, who are required to administer the BMU registration process. In some cases it may be difficult or impossible to identify a BMU configuration that meets all of the current requirements of Section K. For this reason, the issues group should discuss whether a change to the Section K3 rules governing BMU configurations would be appropriate.

5 Conclusion and Way Forward

5.1 Resolving these issues would potentially:

- eliminate an inconsistency between the BSC requirements and the common practice for metering CCGT Modules connected by a single circuit;
- support greater efficiency under the BSC in relation to metering required for both CCGT and Power Park Modules; and
- facilitate compliant registration of BMUs for those offshore wind farms with the capability to switch Plant and Apparatus between BMUs.

5.2 ELEXON therefore recommends that the Panel raise a Section F Issue, on efficiency grounds, to investigate possible solutions and, if appropriate, frame appropriate Modifications to the BSC.

6 Recommendations

6.1 The Panel is invited to:

a) **NOTE** that the issues that have been identified with Section K of the BSC;

b) **NOTE** that the ISG considered these issues and agreed that they warranted further discussion to establish whether a Modification to the BSC would be appropriate; and

c) **AGREE** that these three matters be referred to the Standing Modification Group, as a single Issue under Section F of the BSC.

Keith Campion

ELEXON Metering Consultant

