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| <b>Modification Proposal – BSCP40/03</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | MP No: P240<br><i>(mandatory by BSCCo)</i> |
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| <b>Title of Modification Proposal</b><br><br>Switching Plant and Apparatus between BM Units                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |
| <b>Submission Date</b><br><br>21st July 2009                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                            |
| <b>Description of Proposed Modification</b><br><br><p>It is proposed to allow plant and apparatus that comprise Offshore Power Park Strings to be moved between BM Units in operational timescales. The arrangements would apply in the case where Exports from and/or Imports to Plant and Apparatus may be electrically switched between transmission connections. The modification group may wish to consider whether the plant and apparatus associated with power stations other than offshore wind farms could be able to be in more than one BM unit.</p> <p>The chief options to be considered with regard to the proposal are</p> <ul style="list-style-type: none"> <li>- The extent of registration detail required (currently there is little detail regarding Plant and Apparatus, beyond metering)</li> <li>- The notification process (if optional for individual sites if no aggregation rule change, or is mandatory)</li> <li>- The possibility of changes to aggregation rules, based on switching configuration</li> </ul> <p>If, due to appropriate location of meters, the BM Unit's details and the aggregation rules do not need to change, it would be possible to avoid any need for BSC related administration upon switching.</p> <p>The last option clearly requires a notification process, and will also, if it is not to be an extended process (i.e. not a revision to aggregation rules under BSCP75, taking up to 20 days), require more detail in registration than is currently provided.</p> |                                            |
| <b>Description of Issue or Defect that Modification Proposal Seeks to Address</b><br><br><p>The Grid Code, in PC A.3.2.2(k), allows for Power Park Units (i.e. generators) to be switched from Power Park Module (PPM) to PPM, where this is an operational change, with a simple operational notification to GBSO of the number of PPU of each different type on each PPM that is changed, immediately the change is made.</p> <p>However the BSC, in Appendix K3.1.3, prohibits Plant and Apparatus from being comprised in more than one BM Unit. The change of a PPU from PPM to another PPM may be seen as changing Plant and Apparatus from one BM Unit to another.</p> <p>Currently the BSC does not allow Generating Plant to be moved from one BM Unit to another, except by re-registering the BM Units in accordance with section K3.6, which takes 30 days.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |

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The time scale and the need for a re-registration process may pose a significant issue for certain of the offshore wind farms included in the new Offshore Transmission Regime where output can be electrically switched between transmission connections.

The rules regarding BM Units in section K of the BSC do not appear to allow a wind farm with two or more connections to shore to switch the output of plant or apparatus that comprises an Offshore Power Park String from one BM Unit to another in response to outages (e.g. faults or maintenance) in operational timescales because

- To enable GBSO to predict the results of BM Unit despatch, a BM Unit may not span multiple Connections
- K3.1.3 prevents the Generator from placing a given wind turbine generator (WTG) in more than one BM Unit (thus tying it to a particular Connection)
- K3.6 does allow Plant to move to a different BM Unit, but only through re-registration, which takes at least 30 days.

However, it should be noted that the BM Unit registration process does not appear to identify WTGs, so it is difficult to see how the current registration / re-registration process could capture such a reconfiguration.

**Impact on Code**

The proposed modification could be implemented by for instance

- a revision of Clause K3.1.3 to enable plant and apparatus to be included in more than one BM Unit (the “Clause K3.1.3 Revision”) or,
- a revision to the concept of Plant and Apparatus comprising a BM Unit, such that plant which is switchable between BM Units is only regarded as being ‘comprised in’ the BM Unit to which it is electrically switched (the “BM Unit Concept Revision”) or,
- through a revision to the BM Unit registration process (as the Issue 37 group proposed) that would enable plant and apparatus to “switch” between BM Units in operational timescales (the “Switching Arrangements Revision”)

although these are not necessarily exclusive.

The first two revisions are administratively identical, and which is preferred may depend on any impact arising in other parts of the BSC from the definition of Plant and Apparatus as being ‘in more than one BM Unit’ or ‘in one BM Unit (or possibly not in any)’.

For the “Clause K3.1.3 Revision” the following Code changes may be required:

“K3.1.3 *Subject to Clause K3.1.3 (a)* the same Plant and Apparatus may be comprised in more than one BM Unit only to the extent that different persons are responsible for the Exports from and the Imports to such Plant and Apparatus.

*K3.1.3 (a) in the case of Plant and Apparatus that comprise a[n Offshore] Power Park String the*

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| <b>Modification Proposal – BSCP40/03</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | MP No: P240<br><i>(mandatory by BSCCo)</i> |
| <p><i>same Plant and Apparatus may be comprised in more than one BM Unit subject to the appropriate planning information under Grid Code PC A.3.2.2(k) having been provided, and where the same persons are responsible for the Exports from and Imports to such Plant and Apparatus and provided always that the combined flows from or to such Plant and Apparatus are associated with only one BM Unit at any one time, and provided that such flows are measured by the meters associated with that BM Unit at that time.</i></p> <p>For the “BM Unit Concept Revision”, the use of a term in which generating Plant and Apparatus is ‘comprised in’ a BM Unit would require definition, probably located with other similar definitions in Section X 2.2.1.</p> <p>To the extent that the registration process for a BM Unit does not explicitly require identification of the plant and apparatus forming the BM Unit (BSC 3.2.3), and BSCP15 and BSCP20 appear to concentrate references to plant and apparatus on metering plant and apparatus; provided that the meter aggregation rules do not change, there does not seem to be any need for a BSC notification process.</p> <p>For the “Switching Arrangement Revision”, the intention is to allow the BSC to explicitly recognise the PPMs between which switching may take place (as defined under the Grid Code), to allow a Lead Party to define a number of BM Units as forming a group (a ‘Switching Group’), and to move Generating Plant from one BM Unit to another (within the Switching Group) as required for operational reasons. Parties would be able to register the operational configuration and define what the effect of switching operations would be on the aggregation rules. A simple notification of the current switching arrangement should then enable a revised set of aggregation rules to be employed. It is suggested that the BSCP75 procedure not be used, so that operational staff can issue a notification at any time, based on physical plant arrangement details.</p> <p>For the “Switching Arrangements Revision” the following changes may be required:</p> <ul style="list-style-type: none"> <li>• Amend K3.1.3</li> <li>• Amend K3.2 (Registration of BM Units) to allow registration of a ‘Switching Group’ of BM Units</li> <li>• Draft provisions to cover notification of change of configuration for a Switching Group – either in K3.6 (Changes in BM Unit Registration) or in a new section</li> <li>• Amend R3.2 to allow for preparation of (and switching between) multiple sets of Aggregation Rules, or rules for preparing revised aggregation rules.</li> </ul> |                                            |
| <b>Impact on Core Industry Documents or System Operator-Transmission Owner Code</b> <i>(optional by originator)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                            |

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| <b>Modification Proposal – BSCP40/03</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | MP No: P240<br><i>(mandatory by BSCCo)</i> |
| <b>Impact on BSC Systems and Other Relevant Systems and Processes Used by Parties</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                            |
| <p>There may be the following BSC Agent impacts:</p> <p>For the Clause K3.1.3 Revision and the BM Unit Concept Revision,</p> <ul style="list-style-type: none"> <li>On CRA when the BM Units are registered, to allow the registration of Plant and Apparatus in more than one BM Unit, and to verify it is in accordance with K3.1.3(a) (or other revised or new clauses)</li> <li>On CRA when the BM Units are registered, to verify that no change of aggregation rules is required when Plant and Apparatus is switched between BM Units</li> </ul> <p>although it should be noted that BM Unit registration concentrates on meters, not on Generating Plant and Apparatus.</p> <p>For the Switching Group modification,</p> <ul style="list-style-type: none"> <li>On CRA and CDCA when Switching Groups are first notified,</li> <li>On CDCA when change of configuration requires change of Aggregation rules</li> </ul> |                                            |
| <b>Impact on other Configurable Items</b> <i>(optional by originator)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                            |
| <b>Justification for Proposed Modification with Reference to Applicable BSC Objectives</b> <p>Wind farm projects are being designed and built which are assuming that some form of redundant connection can be achieved (either by switching, or with interconnection cables). Currently, although the Grid Code allows this, the BSC arrangements appear to exclude such configurations. Therefore the proposed modification will better meet Objective B (“the efficient, economic and co-ordinated operation of the national electricity transmission system”). In facilitating the development of new power stations the proposal will also better meet Objective C (“promoting effective competition in the generation and supply of electricity”).</p>                                                                                                                                                                    |                                            |
| <b>Urgency Recommended:</b> No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                            |

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| <b>Modification Proposal – BSCP40/03</b>                                                                                                                                                                                             | MP No: P240<br>(mandatory by BSCCo) |
| <b>Justification for Urgency Recommendation</b>                                                                                                                                                                                      |                                     |
| <b>Details of Proposer:</b><br><br><i>Name</i> Lorna Short<br><br><i>Organisation</i> RWE npower<br><br><i>Telephone Number</i> 01793 89 3214 / 07989 493598<br><br><i>Email Address</i> lorna.short@rwenpower.com                   |                                     |
| <b>Details of Proposer's Representative:</b><br><br><i>Name</i> Ed Marr<br><br><i>Organisation</i> RWE npower<br><br><i>Telephone Number</i> 01793 89 6307 / 07989 493515<br><br><i>Email Address</i> ed.marr@rwenpower.com          |                                     |
| <b>Details of Representative's Alternate:</b><br><br><i>Name</i> Lorna Short<br><br><i>Organisation</i> RWE npower<br><br><i>Telephone Number</i> 01793 89 3214 / 07989 493598<br><br><i>Email Address</i> lorna.short@rwenpower.com |                                     |
| <b>Attachments:</b> No                                                                                                                                                                                                               |                                     |