

**Grid Code Review Panel**  
**NEW & REVISED BALANCING CODE PARAMETERS & INSTRUCTIONS**

**Date Raised: 16 JAN 2013**

**GCRP Ref: pp13/04**

A Panel Paper by

Robert Paterson

National Grid Electricity Transmission

**Summary**

This issue paper proposes to change some existing Grid Code Balancing Code parameters and instructions and to introduce some new ones. These new or changed parameters and instructions would be made available to individual market participants from approximately 6 months after the go-live of National Grid's new Electricity Balancing System. This is subject to National Grid's, the BSCCo's and individual market participants' systems being able to support these parameters and instructions as applicable.

**Users Impacted**

**High**

Generators, National Grid

**Medium**

**Low**

**Description & Background**

National Grid's Balancing Mechanism System, that receives data from market participants, issues Bid-Offer Acceptances and publishes the results to the BMRA and SAA, is being replaced with the Electricity Balancing System (EBS). National Grid will support the existing market participant interfaces of EDL and EDT at EBS go-live and for the following five years. Approximately 6 months after EBS go-live, National Grid will offer market participants the opportunity to move to the new industry interfaces EDT\* and EDL\* which will allow a greater range of data and instructions to be exchanged by electronic means. This approach has been discussed with the industry at the Grid Code EBS Working Group and IT Sub-group, and was also the subject of an industry consultation<sup>1</sup> in 2010.

This issue paper proposes making changes to some existing Grid Code Balancing Code parameters and electronic instructions and to introduce some new parameters and electronic instructions. These new and changed parameters and electronic instructions will only be available for use when National Grid's EBS and individual market participant systems are ready to send and receive this data and the BSCCo's systems are ready to publish these parameters. A key area that will require resolution is how to draft the Grid

<sup>1</sup> <http://www.nationalgrid.com/NR/rdonlyres/73CC8BC8-B070-4BF2-A24E-B1A15A43A9F8/44635/Reportonbmrepconsultation2v11.pdf>

Code parameter and instruction definitions such that one set apply to those market participants using the existing interfaces and another to those using the new industry interfaces.

This paper also proposes removing the requirement on Generators under BC1.4.2(e) to submit Day Ahead Dynamic Data to National Grid as this data is no longer used.

It also proposes to detail the arrangements for the re-commencement of generation from BM Units that have been shutdown as a result of National Grid issuing them with Bid-Offer Acceptance(s). The re-commencement of generation from BM Units following shutdown by National Grid accounts for a significant portion of all re-scheduling activity, but the Grid Code does not detail the arrangements that shall apply in these circumstances e.g. the definition of Notice to Deviate from Zero only applies when the Physical Notification is zero.

## **Proposed Solution**

### New or Changed Parameters

Introduce a new definition of Stable Export Limit and Stable Import Limit in Grid Code BC1.A.1.5 for those market participants using the new industry interfaces. The existing parameters are single, time-invariant, MW values, whereas the new definition will be similar to that for Maximum Export Limit and Maximum Import Limit (ref. BC1.A.1.3) in that it will have a start time and start MWs and an end time and end MWs.

Introduce a new definition of Run-Up and Run-Down Rate(s) and associated Elbow(s) in BC1.A.1.5 for those market participants using the new industry interfaces. The new definition would allow for the submission of up to ten rates (currently three) and associated Elbow(s), and would reduce the minimum rate to 0.02MW/min from the present 0.2MW/min.

Remove the requirement on Generators to submit Day Ahead Dynamic Data by deleting BC1.4.2(e), but leaving the Dynamic Data definitions in BC1.A.1.5 as these are referred to by BC2.5.3.1 for the purposes of defining Current Day Dynamic Data. Some minor changes to BC2.5.3.1 are likely to be required, such as removing the reference to BC1.4.2(e).

Any new or changed parameters are also likely to require changes to the Data Validation, Consistency & Defaulting (DVC&D) Rules which comes under Grid Code change control by virtue of its issue number and date being recorded in the Grid Code Glossary & Definitions. Therefore, the intention would be to progress the changes to the Grid Code and DVC&D Rules as part of the same amendment.

At this stage, no specific solution is proposed for the arrangements for re-commencement of generation from BM Units that have been shutdown by National Grid. Instead, it is proposed that the Electricity Balancing System Working Group work up a solution detailing the rules that should apply and the communications that should take place.

### New or changed instructions

To change Appendix 2 of Grid Code BC2 as required to support the electronic issuing of

the following permutations of Reactive Power instructions to the new version (EDL\*) of the automatic logging devices:

- For immediate action or at some future specified time
- Sent to one unit, or more than one unit i.e. simultaneous
- Type of instruction:
  - Target MVAR
  - Target voltage in either kV or per-unit
  - Tap instruction – no. of taps, raise or lower volts

To amend Grid Code BC3.4 as required to allow for the electronic issuing of variations in Target Frequency to the new versions (EDL\*) of the automatic logging devices.

### Assessment against Grid Code Objectives

**(i) to permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity;**

The impact on this objective is neutral.

**(ii) to facilitate competition in the generation and supply of electricity (and without limiting the foregoing, to facilitate the national electricity transmission system being made available to persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity);**

The increase in the number of Run-Up and Run-Down Rates has a positive impact on this objective as it allows certain types of Generator, principally CCGT Modules, to better model their complex run-up and run-down profiles thus reducing their exposure to imbalance charges and facilitating competition in the generation of electricity.

Detailing the arrangements that shall apply, when a BM Unit re-commences generation following shutdown by National Grid, will provide a shared understanding of the process, rather than relying on knowledge of custom and practice. This shared understanding should facilitate competition in the generation of electricity as relying on custom and practice could put those who are unaware of it at a competitive disadvantage.

**(iii) subject to sub-paragraphs (i) and (ii), to promote the security and efficiency of the electricity generation, transmission and distribution systems in the national electricity transmission system operator area taken as a whole; and**

The proposed changes better facilitate this objective by allowing Generators to more accurately model their run-up profiles, without having to change their parameters at short notice. It also allows them to submit, in advance, the variation of their Stable Export Limit with time, rather than the current situation of having to change the static value with immediate effect. It also promotes efficiency by allowing the issuing of all the permutations of voltage control instructions by electronic means and replaces the telephone instruction of changes to target frequency with an electronic instruction sent to the Generators' automatic logging devices.

The current requirement for Generators to submit Day Ahead Dynamic Data represents an overhead for them and its removal promotes efficiency as National Grid no longer uses this data.

**(iv) to efficiently discharge the obligations imposed upon the licensee by this license and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency.**

The impact on this objective is neutral.

### **Impact & Assessment**

#### ***Impact on the National Electricity Transmission System (NETS)***

None.

#### ***Impact on Greenhouse Gas Emissions***

Marginally reduce Greenhouse Gas Emissions, as the more timely and accurate provision of Balancing Code data should reduce the amount of reserve that needs to be held.

#### ***Impact on core industry documents***

These proposed changes will be unlikely to impact any other core industry documents. BSC Section Q2.1.2 does list the Grid Code Dynamic Parameters, but provides no definitions and as the changes in this area are re-defining existing parameters, rather than creating new ones, then it is anticipated that no changes will be required to this section. It is envisaged that a BSC Change Proposal would need to be raised to allow the publication of the revised dynamic parameters on the BMRS.

#### ***Impact on other industry documents***

Revisions will be required to the Data Validation, Consistency & Defaulting Rules and the BMRA & SAA Interface Specification.

### **Supporting Documentation**

Have you attached any supporting documentation No

If Yes, please provide the title of the attachment:

### **Recommendation**

The Grid Code Review Panel is invited to:

Recommend that the Electricity Balancing System Working Group progress this issue to Industry Consultation