

**NATIONAL GRID COMPANY plc**

**GRID CODE REVIEW PANEL**

**Checking of Physical Notifications Submitted under the Grid Code**

**1. Introduction**

- 1.1. This paper takes forward discussions at the last Grid Code Review Panel meeting that resulted in action1454. It reviews the rational against which National Grid check Physical Notifications submitted under the Grid Code and in the light of CAP 43 'Transmission Access – Definition' what would be an appropriate check in the future.
- 1.2. This paper only covers the arrangements for generation BMUs. It does not seek to cover the arrangements that National Grid has in place for checking compliance of TEC under the CUSC.

**2. Background**

- 2.1. The arrangements put in place at the start of NETA included a check of Physical Notifications against Generation Capacity. This check is 'coded' into the BM data submission systems and detailed in the 'NETA Data Validation, Consistency and Defaulting Rules'. The Governance of the 'NETA Data Validation, Consistency and Defaulting Rules' fall under the Grid Code.
- 2.2. The philosophy behind this check at the start of NETA was twofold. Firstly, to avoid erroneous data entering the systems that National Grid uses to operate the Balancing Mechanism.
- 2.3. Secondly, to ensure Users are not 'free riding' on the NGC Transmission System. At the start of NETA Generation Capacity was used in the calculation of Transmission Network Use of System (TNUoS) charges. Therefore Physical Notifications were limited to Generation Capacity.

**3. CAP 43 Implications**

- 3.1. The introduction of CAP43 and the associated charging modifications has led to the linkage between Generation Capacity under the BSC and TNUoS charges being broken. Therefore National Grid agreed to review the basis the Physical Notification check and suggest possible alternatives in the light of CAP43.
- 3.2. TNUoS is now generally charged on the Transmission Entry Capacity, TEC, which was introduced as part of CAP43. TEC is recorded in the individual Bilateral Agreements between Generators and NGC under the CUSC. The CUSC gives generators certain rights and obligations for use of the NGC Transmission System based on TEC.
- 3.3. An important factor here is that TEC is defined on a Station basis only (including station demand). This prevents TEC from being directly substituted in place of Generation Capacity in the Physical Notification check, as Physical Notifications are unit based.
- 3.4. CAP43 also introduced Connection Entry Capacity, CEC. This relates to the maximum contracted capability of a connection. CEC is unit and Station based, but is only available for directly connected generators.

#### 4. Rational for checking

- 4.1. Clearly there is no longer a clear justification to check Physical Notifications against Generation Capacity to highlight TNUoS avoidance. TEC monitoring will now be carried out under the CUSC post event. National Grid still believe that there is reasonable justification to continue checking the submission of Physical Notifications to avoid clearly erroneous data entering systems used to manage the Balancing Mechanism.
- 4.2. Once a party has submitted and IS systems have accepted Physical Notification Users are obliged to operate to that value. Therefore, it is in all Users and National Grids best interests that erroneous data be removed.
- 4.3. In carrying out this internal review it has become apparent that Maximum Export Limit, MEL, submissions also cause operational problems. There are currently no checks on MEL submissions. Erroneous MELs lead to inaccurate margin forecasts and the possibility of BOAs being issued that exceed TEC and CEC. As MELs can be reviewed after gate closure, following identification via manual checks, the Control Room can enter into discussions with Generators to revise their submissions, but this can often be a lengthy process.
- 4.4. Changing the term and hence the data that Physical Notifications are checked against can be achieved relatively easily by updating the existing database that contains the Generation Capacity data.
- 4.5. Introduction of a new MEL check would require a significant software change. Should the panel decide appropriate, such a change would require a cost / risk benefit analysis and the work would need to be programmed to fit in with other major changes to software that are currently underway e.g. BETTA.

#### 5. Options for checking

- 5.1. National Grid has reviewed the main capacity terms below and concluded that CEC (or equivalent for embedded users) would be the most appropriate check for Physical Notifications.
- 5.2. Registered Capacity is extensively used in operational timescales so has a familiarity advantage. It is also has the advantage of being on a unit basis, submitted for all unit and should be resubmitted as soon as it changes. On the face of it Registered Capacity seems the ideal term, but a significant drawback is that it is defined as 'the normal full load capacity'. Therefore Registered Capacity is not actually a 'maximum' and could unduly limit submission of Physical Notifications under exceptional circumstances.
- 5.3. Rated MW is the 'rating-plate' MW output of a generating unit. It is mainly a planning data item and not generally used in operational timescales. Use of Rated MW could become confused with Registered Capacity. Rated MW is generally related to the electrical machine and so could be considerably in excess of the capability of the unit as a whole.
- 5.4. Generation Capacity is primarily a BSC term. National Grid could continue to use the Generation Capacity as submitted under the BSC. Participants can revise Generation

Capacity for each BSC season. In general National Grid believes that the cross governance issues and the 'dynamic' nature of the Generation Capacity preclude its continued use.

- 5.5. TEC is a Station based figure, including Station demand, where as Physical Notifications are BMU unit based. Checks involving TEC would be considerably more complex as it would involved aggregating submissions and possibly excessive or arbitrary defaulting. This would considerably slow down the data submission validation process.
- 5.6. CEC is defined on a unit basis, and considering safety implications appears to provide a good figure for the basis of a check. A major disadvantage is that embedded generators do not have a CEC. A further advantage is that if the checking process were to be expanded to MEL, CEC would seem equally appropriate.

## **6. Proposal**

- 6.1. National Grid believe that there is reasonable justification to continue performing a check on Physical Notification and reject data that would cause problems in operating the Balancing Mechanism.
- 6.2. National Grid believes that CEC is the most appropriate term to use in the Physical Notification check. In the case of embedded generators National Grid propose that National Grid and the embedded User (and possibly the Network Operator) could agree a pseudo CEC for the purposed of performing this check. The figure would be agreed on registration with a default being selected from the Generation Capacity (from the BSC) or the TEC plus a percentage (e.g. 105% TEC).
- 6.3. The TEC comparison above can only be used where a Station is registered as a single BMU. As most embedded units that are required to submit Physical Notifications fall into this category this would be generally acceptable. The pseudo CEC, an agreed figure or Generation Capacity could be used for the remainder (estimated to be 3 Stations).

## **7. Recommendation**

- 7.1. The Grid Code Review Panel is invited to:
  - consider and provide any views and comments on the appropriateness of above capacity terms in the Physical Notification check, noting that the reason for the check is to avoid erroneous submission affecting the operation of the Balancing Mechanism,
  - in particular, consider the options for checking embedded units,
  - consider the merits of expanding the data submission checks to including MEL.
- 7.2. Following the September Grid Code Review Panel Meeting, National Grid will consider the views expressed and subsequent comment received and if appropriate will bring forward proposed changes to the next Grid Code Review Panel meeting.

National Grid Company plc

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