

Proposal for a Capacity Market Rules Change



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Reference number (to be completed by
Ofgem): CP289

Name of Organisation(s) / individual(s):
ENGIE

Date Submitted:
17/10/2017

Type of Change:

- Amendment
- Addition
- Revoke
- Substitution

If applicable, whether you are aware of an alternative proposal already submitted which this proposal relates to:

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Proposal summary (short summary, suitable for published description on our website)

Tidying up the Rules relating to a Capacity Obligation where a CMU includes more than one BMU/generating unit.

What the proposal relates to and if applicable, what current provision of Rules the proposal relates to (please state provision number):

Rule 8.5.2 – adjustments to LFCO.
Rule 14.4.2 – provision of data by the System Operator to the Settlement Body in relation to Relevant Balancing Services.
Schedule 4 – Relevant Balancing Services

There are some issues here relating to when a CMU includes more than one BMU/component. These problems are exacerbated when some, but not all, of the BMUs comprising a CMU are providing Relevant Balancing Services.

Description of the issue that the change proposal seeks to address:

The rule states:

8.5.2 Adjusted Load Following Capacity Obligation (ALFCO)

The Adjusted Load Following Capacity Obligation of a Capacity Committed CMU “i” in Settlement Period “j” is a Volume in MWh calculated as follows:

(a) for a Generating CMU comprised of BM Units:

$$ALFCO_{ij} = LFCO_{ij} + (1 - \beta)QBOA_{ij} + (1 - \beta)\min(QAS_{ij}, 0) - \beta(QBSCCC_{ij})$$

where:

LFCO_{ij} has the meaning given in Rule 8.5.3 below;
QBOA_{ij} has the meaning given in Rule 8.5.4(a) below;
QAS_{ij} has the meaning given in Rule 8.5.4(b) below;
 $\beta = 1$ where a Relevant Balancing Service is provided in Settlement Period j by any Generating Unit i comprised in the CMU and 0 otherwise; and

$$QBSCCC_{ij} = \max(0, MEL_{ij} - QME_{ij})$$

where:

MEL_{ij} is the aggregate of the Maximum Export Limit for each BM Unit “i” comprised in the CMU which is providing a Relevant Balancing Service in Settlement Period “j” (expressed in MWh); and

QME_{ij} is the aggregate of the “Period Expected Metered Volume” (as defined in in the BSC) for each BM Unit “i” comprised in the CMU which is providing a Relevant Balancing Service in Settlement Period “j”;

There is a similar Clause 8.5.2(b) relating to CMUs not comprised of BMUs.

There is confusion over whether the subscript i refers to a CMU or a BMU. It is clear that ALFCO must be defined in relation to a CMU so here i must refer to the CMU. However in order to calculate ALFCO we need to look at the BMUs comprised in it.

Referring to 8.5.4 for the definition of QBOA and QAS these are clearly defined in relation to a BMU (as they need to be in order to inherit the values from the BSC). The formula for ALFCO above needs to have all the terms defined for the CMU – however it does not mention any summation across the BMUs in the CMU.

If we now consider the scenario where a CMU comprises multiple BMUs, some but not all, of which are providing a Relevant Balancing Service (RBS). At the moment β is clearly defined in relation to the CMU and will be set to 1 if any of the BMUs is providing a RBS. This immediately means that, for those BMUs not providing a RBS, there cannot be any allowance for bids and negative QAS. However they may still be captured by the QBSCCC term.

Looking at the definition of QBSCCC in more detail:

- This is defined for the CMU, as the definitions of MEL and QME do include an aggregation over the BMUs in the CMU (although note that the subscript i simultaneously refers to both the CMU and the BMU which can only lead to confusion/ambiguity).
- The aggregation in the definitions of MEL and QME is defined ambiguously – the qualification “which is providing a Relevant Balancing Service” could be read as either relating to “each BM Unit” or to the “the CMU”. Both of these are problematic:
 - If the aggregation is taken as applying only to the BMUs providing a RBS, then this will create the correct adjustment for those BMUs, but those that are not providing a RBS will have no adjustment in this formula
 - If the aggregation is taken as applying to all the BMUs in the CMU, whether or not that BMU is providing a RBS, then the non-RBS BMUs will have their obligation reduced such that they may be deemed to be providing more capacity than they really are.

In addition, Rule 14.4.2 requires the SO to provide information to the Settlement Body in relation to units providing Relevant Balancing Services. There are some issues with this:

- There is not an obligation on the SO to notify the SB which BM Units are providing Relevant Balancing Services – but the SB does need to know this to apply Rule 8.5.2.
- Rule 14.4.2 suggests that for a CMU comprised of non-BMUs, the values for “Declared_Availability” and “Contracted_Output” are defined in relation to a CMU, whereas 8.5.2 mentions aggregating them across components. Schedule 4 only makes sense if these terms are defined in relation to each component.

If applicable, please state the proposed revised drafting (please highlight the change):

In order to address these issues, this 8.5.2 needs to be amended to:

- Be clear in its notation when terms relate to a BMU (or component of a non-BMU CMU) and when to a CMU – the subscript i should not be used for both

- Define β in relation to each BMU/component, rather than in relation to the CMU as a whole
- The adjustments to determine ALFCO from LFCO need to be defined on a BMU/component basis (using each BMU's value of β) and then summed to create the correct value for the CMU.

The suggestion below looks at each generating unit separately and then amalgamates into the CMU, clearly distinguishing between CMUs and their constituent BMUs.

8.5.2 Adjusted Load Following Capacity Obligation (ALFCO)

The Adjusted Load Following Capacity Obligation of a Capacity Committed CMU "i" in Settlement Period "j" is a Volume in MWh calculated as follows:

(a) for a Generating CMU comprised of BM Units:

$$ALFCO_{ij} = LFCO_{ij} + \sum_{k \in i} \{(1 - \beta_{kj})QBOA_{kj} + (1 - \beta_{kj})\min(QAS_{kj}, 0) - \beta_{kj}QBSCCC_{kj}\}$$

where:

LFCO_{ij} has the meaning given in Rule 8.5.3 below;

QBOA_{kj} has the meaning given in Rule 8.5.4(a) below;

QAS_{kj} has the meaning given in Rule 8.5.4(b) below;

$\beta_{kj} = 1$ where Generating Unit "k" provided a Relevant Balancing Service in Settlement Period "j" and 0 otherwise;

the summation is over all BM Units "k" comprised in CMU "i"; and

$$QBSCCC_{kj} = \max(0, MEL_{kj} - QME_{kj})$$

where:

MEL_{kj} is the Maximum Export Limit for BM Unit "k" in Settlement Period "j" (expressed in MWh); and

QME_{kj} is the "Period Expected Metered Volume" (as defined in in the BSC) for BM Unit "k" in Settlement Period "j";

8.5.2(b) requires the equivalent adjustments (although the points on QBOA and QAS do not apply).

In addition Rule 14.4.2 and Schedule 4 need to make it clear for non-BMU CMUs that "Declared_Availability" and "Contracted_Output" relate to a CMU component whilst 8.5.2 aggregates across components. Rule 14.4.2 should also impose an obligation on the SO to provide the value of β_{kj} to the Settlement Body for BMUs as well as each non-BM CMU component.

Analysis and evidence on the impact on industry and/or consumers including any risks to note when making the revision - including, any potential implications for industry codes:

These corrections do not change the intent of rules 8.5.2 and 14.4.2 but are needed to ensure that:

- it is clear which terms relate to a BMU/component and which to a CMU,
- it is clear how BMU/component values should be summed to give a CMU value,
- values are correctly determined for a CMU comprised of multiple BMUs/components, some of which are providing Relevant Balancing Services.
- the Settlement Body is provided with all the information it needs to calculate capacity obligations in a stress event.

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