

GCRP Working Group

Grid Code Connection Conditions for Embedded Small Power Stations

[Draft] Terms of Reference

Governance

1. The “**Grid Code Connection Conditions for Small Embedded Power Stations**” working group (herein referred to as “The Working Group” is established by Grid Code Review Panel (GCRP).
2. The group shall formally report to the GCRP.

Membership

3. The Working Group shall comprise a suitable and appropriate cross-section of experience and expertise from across the industry, which shall include:
 - [National Grid]
 - [ELEXON]
 - [Grid Code Users]
 - [BSC Parties (by open invitation through ELEXON)]
 - [Ofgem]

Meeting Administration

4. The frequency of The Working Group meetings shall be defined as necessary by The Working Group chair to meet the scope and objectives of the work being undertaken at that time.
5. National Grid will provide technical secretary resource to The Working Group and handle administrative arrangements such as venue, agenda and minutes.
6. The Working Group will have a dedicated section under the Grid Code part of National Grid’s website. This will enable information such as minutes and presentations to be available to a wider audience.

Scope

7. The group will consider:

- i) The original issues highlighted in pp11/35 (attached) in terms of:
 - a) the lack of clarity associated with the application of the Connection Conditions in respect of Small Embedded Power Stations
 - b) the potential for a difference of approach in the application of CC6.5 in general, and the requirement for Operational Metering in particular, between CVA and SVA registered Embedded Small Power Stations
 - c) any unjustified disparity in the connection conditions of Embedded Small Power Stations and Embedded Medium Power Stations.
- ii) The extent to which any of the Connection Conditions should apply in respect of Embedded Small Power Stations, noting the description currently included in the Introduction to the Connection Conditions in CC1.1
- iii) The extent to which the Scope of the Connection Conditions in CC3.1, in particular CC3.1a) (in respect of some Generators) and CC3.1e) (in respect of BM Participants, of which some may be generators) are consistent with CC1.1, and the group's view of ii) above.
- iv) The purpose and appropriateness for the requirements of CC6.5 (Communications Plant) to be applicable in respect of BM Participants and Externally Interconnected System Operators (as provided for in CC3.1 e)) in addition to the other categories of User outlined in CC3.1 a) – d)
- v) The extent to which the term 'BM Participant' accurately captures the additional category of User for which the provisions of CC6.5 should specifically apply, or whether a new term such as 'a user who intends to actively participate' in the Balancing Mechanism' should be introduced for this purpose, with appropriate definitions as necessary.
- vi) The extent to which Embedded Small Power Stations should be required to comply with CC6.5 in general, and the requirement for Operational Metering in particular even where these are not actively participating in the BM.

- vii) A review of the need for duplicate references in the Grid Code to Operational Metering in CC6.4.4 and CC6.5.6 respectively.
- viii) The necessary Grid Code changes required to ensure that:
 - a) The scope of the connection conditions is clear and fit for purpose, particularly in respect of small Embedded Power Stations
 - b) That connection conditions for Small Embedded Power Stations are in no way more onerous than for Embedded Medium Power Stations
 - c) There is no unjustified disincentive to CVA, rather than SVA, registration

Deliverables

- 8. The Group will provide updates and a Working Group report to the Grid Code Review Panel which will:
 - Detail the findings of the Group;
 - Draft, prioritise and recommend any changes to the Grid Code in order to implement the findings of the Group; and
 - Highlight any consequential changes which are or may be required,

Timescales

- 9. It is anticipated that this Group will report to the GCRP by June 2012.

Grid Code Review Panel – Issue Assessment Proforma
Operational Metering for Embedded Small Power Stations
PP 11/35¹

A Panel Paper by John Lucas (ELEXON) & Steve Curtis (NGET)

Summary

Currently it is unclear whether the Connection Conditions apply to Embedded Small Power Stations; but to the extent that they do apply they are deficient in the following respects:

- They do not apply to SVA-registered Embedded Small Power Stations (creating an artificial and unjustified disincentive to CVA registration); and
- They do not include any test of appropriateness (so they would apply even if the Power Station had no impact on National Grid's ability to manage the system, and requiring compliance therefore brought no benefits).

In contrast, the rules for Embedded Medium Power Stations do not suffer from either of these defects:

- They include checks and balances to ensure that compliance is only required for appropriate Power Stations; and
- Where compliance is required, it is unaffected by the choice of CVA or SVA registration.

These issues have led to uncertainty and disagreement about whether Embedded Small Power Stations are required to comply with the requirements of CC.6.5 (e.g. whether they are required to install Operational Metering). We believe that changes are required to the Connection Conditions to solve this problem.

In the meantime, until the Grid Code can be changed to fix the defect, NGET and affected Generators will have to cope with uncertainty about the requirements. We suggest that a sensible approach (until an enduring solution can be developed) may be to require operational metering (and other CC.6.5 requirements) only from those Embedded Small Power Stations that wish to participate actively in the Balancing Mechanism.

Users Impacted

High

Generators with Embedded Small Power Stations. If this issue is not resolved they may incur the expense of complying with CC.6.5 (e.g. installation of operational metering) where this is not justified. Alternatively they may be driven to contract with a Supplier for SVA registration (rather than registering in CVA) as a way of escaping inappropriate CC.6.5 requirements.

Medium

NGET. Lack of clarity over the rules (and resultant inability to require compliance with CC.6.5 even when this is necessary) could lead to increased volumes of embedded generation with no operational metering, eroding NGET's ability to forecast Transmission System Demand.

Low

Other Users may be affected indirectly e.g. increased BSUoS costs if increased volumes of embedded generation with no operational metering makes it more expensive for NGET to balance the system.

¹ The Code Administrator will provide the paper reference following submission to National Grid.

Description & Background

The current Grid Code provisions relating to Operational Metering requirements for Embedded Small Power Stations appear to be open to different interpretations:

- One view (the 'In Scope Interpretation') is that CC.6.5 does apply to CVA-registered Embedded Small Power Stations. Such Embedded Small Power Stations are therefore obliged to have Operational Metering if NGET requires it in the Bilateral Agreement;
- Another view (the 'Out of Scope Interpretation') is that Embedded Small Power Stations fall outside the scope of the Connection Conditions, and are therefore not obliged to have Operational Metering.

The CC.6.5 obligations that would apply (under the 'In Scope Interpretation') potentially include System Telephony, Operational Metering, EDT and Facsimile Machines.

Annex A to this note outlines the arguments in favour of each interpretation. However, even if this question of interpretation could be resolved (by getting a definitive legal view on which is correct), we do not believe it would solve the issue, as the current Grid Code provisions are unsatisfactory under either interpretation.

Problems with the 'In Scope Interpretation'

The key issues with the current provisions (under the 'In Scope Interpretation') are as follows:

- Applying these Connection Conditions to CVA-registered Embedded Small Power Stations but not SVA-registered Embedded Small Power Stations is arbitrary and discriminatory. It creates an artificial barrier to CVA registration, and hence may distort the market for the output of such Power stations (given that SVA registration is only open to Licensed Suppliers, and any artificial incentive to use SVA registration is therefore an artificial barrier to trading with parties who don't hold a Supply Licence).
- They don't contain necessary checks and balances, in that they allow NGET to require Operational Metering even for extremely small embedded Power Stations where it would bring no benefit.

Note that the current requirements for Embedded Medium Power Stations do successfully address both of these issues:

- CC.6.4.4 states that operational metering is only required if "NGET can reasonably demonstrate that an Embedded Medium Power Station ... has a significant effect on the National Electricity Transmission System". This reduces the risk of the requirement being imposed unnecessarily.
- CC.3.3 ensures that where a requirement for operational metering has been demonstrated, it applies irrespective of whether registration is through CVA or SVA. This ensures that the technical requirements are the same irrespective of being CVA or SVA registered, and hence reduces the risk of market distortion.

Problems with the 'Out of Scope Interpretation'

The issue with the current provisions (under the 'Out of Scope Interpretation') is that they don't address NGET's concern that increased levels of embedded intermittent generation (without operational metering or PNs) could erode their ability to forecast demand at the Transmission System Boundary. Accurate demand forecasts are essential for balancing the system, and any erosion of their accuracy is likely to increase balancing costs to the detriment of all Parties.

Description & Background (Cont.)**Proposed Solution/Next Steps**

The GCRP should establish a Working Group to come up with clear proposals on which Embedded Small Power Stations should be required to comply with CC.6.5. Options the Working Group may wish to consider include:

- Option 1 - Require compliance with CC.6.5 only for those Embedded Small Power Stations that wish to participate actively in the Balancing Mechanism; or
- Option 2 - A solution modelled on the existing provisions for Embedded Medium Power Stations (which allow NGET to require compliance with CC.6.5 where justified, even if the Power Station is not participating in the Balancing Mechanism, and irrespective of whether the registration is in CVA or SVA).

Note that Option 1 may require the Working Group to consider what it means to participate actively in the Balancing Mechanism. For example, should a participant who doesn't wish to participate in the Balancing Mechanism and submits a so-called 'sleeper Bid' to indicate this be regarded as actively participating in the Balancing Mechanism? (A sleeper Bid or Offer is defined in the Ofgem [decision letter](#) on BSC Modification P217 as one which "once posted, is not repriced and remains available at a high price, usually as a signal that the party does not want the bid or offer to be accepted".)

Interim Solution

We recognise that it may take some time to develop an enduring solution, and that some way forward is needed in the meantime (given the lack of certainty over how to interpret the current rules). We suggest that option 1 could be adopted by NGET and Generators as an interim solution i.e. compliance with CC.6.5 required only for those Embedded Small Power Stations that wish to participate actively in the Balancing Mechanism (notwithstanding the current lack of a precise definition for active participation).

In the event that option 1 does not prove acceptable (to NGET and/or Generators) as an interim solution, the development of an enduring solution will become more urgent.

Impact & Assessment

If changes to the Grid Code are being proposed, please provide the below information.

Impact on the National Electricity Transmission System (NETS)

No – the Working Group should ensure that the solution they develop provides NGET with sufficient data on the output of Embedded Small Power Stations to avoid any adverse impact on the NETS.

Impact on Greenhouse Gas Emissions²

Unlikely to be material (although clarification of the rules will reduce cost and uncertainty for embedded intermittent generators, which could remove a barrier to market entry).

Conversely, the the Working Group should ensure that the solution they develop provides National Grid with sufficient data on the output of Embedded Small Power Stations to avoid any unfavourable impact on Greenhouse Gas Emissions (caused, for example, by

² The most recent guidance on the treatment of carbon costs under the current industry code objectives can be found on the Ofgem website at: <http://www.ofgem.gov.uk/Licensing/IndCodes/Governance/Pages/Governance.aspx>

NGET having to increase the amount of reserve it procures to compensate for increased uncertainty in forecasts of embedded intermittent generation).

Impact on core industry documents

Possible impact on BSC e.g. clarifying the concept of 'active participation' in the Balancing Mechanism could require changes to the treatment of 'sleeper Bids' under the BSC.

Impact on other industry documents

None identified.

Assessment against Grid Code Objectives

Changing the Connection Conditions to address these issue will:

- Facilitate competition in generation (objective ii) by removing unnecessary costs from certain Embedded Small Power Stations; and removing unequal treatment between SVA-registered and CVA-registered Embedded Small Power Stations
- Facilitate the efficient and economic operation of the transmission system (objective i) by putting in place a framework that allows NGET to obtain metered data from Embedded Small Power Stations where appropriate.

Supporting Documentation

Have you attached any supporting documentation

YES

If Yes, please provide the title of the attachment:
(document)

Annex A (included in this document)

Recommendation

The Grid Code Review Panel is invited to:

Approve this issue for progression to a Working Group

GCRP Decision (to be completed by the Committee Secretary following the GCRP)

The Grid Code Review Panel determined that this issue should:

INSERT GCRP DECISION

ANNEX A – ARGUMENTS FOR EACH INTERPRETATION

The different interpretations of the scope of the Connection Conditions arise primarily from CC.1.1 and CC.3.1:

CC.1 INTRODUCTION

CC.1.1 The Connection Conditions ("CC") specify both the minimum technical, design and operational criteria which must be complied with by any User connected to or seeking connection with the National Electricity Transmission System or Generators (other than in respect of Small Power Stations) or DC Converter Station owners connected to or seeking connection to a User's System which is located in Great Britain or Offshore, and the minimum technical, design and operational criteria with which NGET will comply in relation to the part of the National Electricity Transmission System at the Connection Site with Users. In the case of any OTSDUW Plant and Apparatus, the CC also specify the minimum technical, design and operational criteria which must be complied with by the User when undertaking OTSDUW.

CC.3 SCOPE

CC.3.1 The CC applies to NGET and to Users, which in the CC means:

- (a) Generators (other than those which only have Embedded Small Power Stations), including those undertaking OTSDUW;
- (b) Network Operators;
- (c) Non-Embedded Customers;
- (d) DC Converter Station owners; and
- (e) BM Participants and Externally Interconnected System Operators in respect of CC.6.5 only.

Arguments in Support of the 'In Scope Interpretation'

The argument for the 'In Scope Interpretation' is that CC.3.1(e) refers to BM Participants. The Lead Party of the BM Unit associated with a CVA-registered Embedded Small Power Station is a BM Participant, and therefore CC.6.5 applies to CVA-registered Embedded Small Power Stations.

Arguments in Support of the 'Out of Scope Interpretation'

The arguments for the 'Out of Scope Interpretation' are as follows:

- CC.1.1 sets out what is covered by the Connection Conditions, and states clearly that Small Power Stations connecting to User Systems are excluded. CC.3.1 is intended to provide further detail on who the obligations apply to, not override the clear statement in CC.1.1 of what is covered.
- Suppliers are just as much BM Participants as the Lead Parties of Embedded Small Power Stations. To claim that CC.3.1(e) extends the scope of the Connection Condition to one particular type of BM Participants (but not to BM Participants more generally) is arbitrary and unjustified. If CC.3.1(e) had been intended to extend the scope of the Connection Conditions to Embedded Small Power Stations it would say so.
- Some of the provisions relating to Embedded Medium Power Stations (such as CC.3.3 and CC.6.4.4) should also apply to Embedded Small Power Stations, to the extent that they fall within the scope of the Connection Conditions. The reason CC.3.3 and CC.6.4.4 don't apply to Embedded Small Power Stations is that Embedded Small Power Stations aren't currently within the scope of the Connection Conditions.