Change proposal:	**Grid Code E/11: Reactive Despatch Network Restrictions**		
Decision:	The Authority[1] directs that the proposed change to the Grid Code[2] be made		
Target audience:	National Grid Electricity Transmission PLC (NGET), Grid Code users and other interested parties		
Date of publication:	10 October 2011	Implementation Date:	To be confirmed by NGET

Background to the change proposal

A generator connected to a Distribution Network Operator's (DNO) network (an embedded generator), may be restricted by the DNO in the reactive power services it can despatch. This restriction is known in the Grid Code as a Reactive Despatch Network Restriction. Where a restriction applies, both the generator and the relevant DNO must notify NGET of the existence of the restriction[3]. As a result, NGET cannot instruct a restricted embedded generator to despatch reactive power services which it could use to assist it with balancing of the National Electricity Transmission System (NETS).

In December 2009, the Authority approved an amendment to the CUSC (CAP169 Working Group Alternative Amendment (WGAA) 3) and a consequential Grid Code change E/09[4] to take effect in March 2010. Amongst other things, one of the impacts of these changes means that the current Grid Code definition of Reactive Despatch Network Restriction provides that generators that cannot despatch across the full MVAr range[5] are classed as under restriction and cannot be instructed by NGET to despatch.

Some embedded generators operating under a restriction imposed by the relevant DNO may be able to despatch to 0 MVAr outside of the restriction but not across the full MVAr range and therefore have the capability to provide a limited reactive power service. In NGET's view, the current broad definition of Reactive Despatch Network Restriction in the Grid Code limits its ability to instruct all the restricted embedded generation that could assist it with balancing the NETS in an efficient and economic way. Separately, NGET is also unable to make payments to these generators under the CUSC, proportionate to the metered output of the reactive service they can provide.

A wider review of all reactive power service provision and the associated payments for providing the service by NGET is currently underway.

[1] The terms 'the Authority', 'Ofgem' and 'we' are used interchangeably in this document. Ofgem is the Office of the Gas and Electricity Markets Authority.
[2] This document is notice of the reasons for this decision as required by section 49A of the Electricity Act 1989.
[3] Grid Code PC.A.3.2.2 (c) (ii) sets out the obligation on the DNO, to be communicated through Data Registration Code (DRC) Schedule 11 (Embedded Generation Data). The obligation on the generator is set out in Grid Code Operating Code (OC) 2 Appendix 1.
[4] More information about CAP169 is available on NGET's website: http://www.nationalgrid.com/uk/Electricity/Codes/systemcode/amendments/amendment_archive/. More information about E/09 is available on NGET's website: http://www.nationalgrid.com/uk/Electricity/Codes/gridcode/consultationpapers/2009/.
[5] The steady state tolerance on reactive power transfers to and from the NETS is measured in MVAr (Mega Volt-ampere reactive).

The change proposal

Grid Code change E/11 was initially raised by NGET at the Grid Code Review Panel (GCRP) in November 2010. The GCRP agreed that the proposal should be developed by the Balancing Services Standing Group (BSSG) before it was formally raised. The BSSG agreed that a change was required to the Grid Code to address the technical issues of the proposal and a separate CUSC modification[6] to address commercial aspects. The GCRP agreed with NGET that a formal proposal should be raised.

E/11 would amend the definition of Reactive Despatch Network Restriction in the Grid Code to those instances of a DNO network restriction where NGET cannot despatch generators to 0 MVAr and introduce a new definition of Reactive Despatch to Zero MVAr Network Restriction to allow those generators able to despatch to 0 MVAr to be instructed by NGET. Otherwise, and as discussed in the Authority's decision on CAP169, there would be a risk that NGET would instruct the despatch of generators which could contribute to ineffective balancing actions and incur unnecessary additional system costs to other users.

NGET's recommendation

In NGET's view, the ability to instruct more generators would assist in its balancing of the transmission system, thereby better facilitating Grid Code objectives (i), (ii) and (iii). The proposal would allow NGET to source reactive power services from appropriate generation which would contribute to efficient and economic operation of the transmission system, increased security and stability of the transmission system and benefit competition in the provision of reactive power services.

The Authority's decision

The Authority has considered the issues raised by the change proposal and in the final Report dated 5 September 2011. The Authority has considered and taken into account the responses to NGET's consultation on the change proposal which are included in the final Report[7]. The Authority has concluded that:

1. implementation of the change proposal will better facilitate the achievement of the objectives of the Grid Code[8]; and
2. approving the change is consistent with the Authority's principal objective and statutory duties[9].

Reasons for the Authority's decision

We agree with NGET and the respondents to the E/11 consultation that the proposal would better facilitate the Grid Code objectives. We state our views against each objective below.

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[6] CUSC modification CMP199 was raised by NGET on 18 August 2011.
[7] Grid Code proposals, final reports and representations can be viewed on NGET's website at: http://www.nationalgrid.com/uk/Electricity/Codes/gridcode/consultationpapers/
[8] As set out in Standard Condition C14(1)(b) of NGET's Transmission Licence, see: http://epr.ofgem.gov.uk/document_fetch.php?documentid=14343
[9] The Authority's statutory duties are wider than matters which NGET must take into consideration and are detailed mainly in the Electricity Act 1989 as amended.

Grid Code objective (i) 'to permit the development, maintenance and operation of an efficient, co-ordinated and economical system for the transmission of electricity'

We note NGET's view that the current Grid Code definition of Reactive Despatch Network Restriction restricts it from accessing reactive power from a wider group of generators. The proposal seeks to address this issue by creating a new definition for generation which can despatch reactive power to 0 MVAr, differentiating it from other restricted generation.

The ability for NGET to access more embedded generation operating under a DNO network restriction, so long as it is able to despatch reactive power services to 0 MVAr, would broaden the provision of those services. This should enable NGET to access the necessary services in a more efficient manner than currently.

For this reason, we agree that the proposal better facilitates this objective.

Grid Code objective (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)'

We note that a wider pool of generation providers from which NGET can instruct despatch of reactive power services should, subject to appropriate commercial arrangements being in place, improve the competitive provision of these services and assist NGET to potentially source these services at lower cost. The providers who are capable of meeting the new Grid Code definition would be able to compete with existing providers to provide these services to NGET which should better facilitate this objective.

We note that a consequential CUSC modification (CMP199) is currently being assessed and would allow NGET to pay those generators who provide reactive power services in line with this proposal. We will make a decision on CMP199 at the appropriate time.

Grid Code objective (iii) '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'

We note that a consequence of increased provision of reactive services is that NGET has greater choice in its balancing actions and this should assist in improving the overall security and stability of the NETS. We therefore agree that the proposal would better facilitate this objective.

Decision notice

In accordance with Standard Condition C14 of NGET's Transmission Licence, the Authority, hereby directs that change proposal Grid Code E/11 *'Reactive Despatch Network Restrictions'* be made.

Hannah Nixon
Acting Senior Partner, Smarter Grids and Governance - Transmission
Signed on behalf of the Authority and authorised for that purpose