Modification proposal:	**Grid Code GC0065: Consequential Changes from STC Modification CA049**		
Decision:	The Authority[1] directs that the proposed modification 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:	29 November 2013	Implementation Date:	10 working days after Authority decision

Background to the modification proposal

The National Electricity Transmission System Security and Quality of Supply Standard (NETS SQSS) sets limits within which system voltages must be kept. In order to maintain the required voltages, National Grid Electricity Transmission (NGET), the National Electricity Transmission System Operator (NETSO), issues instructions to Users to vary the reactive power[3] at the Grid Entry Point. Under the provisions of the Grid Code, generators are required to respond to these instructions within two minutes of their receipt.

The requirements in relation to reactive power that apply to Offshore Transmission Owners (OFTOs) are set out in the System Operator-Transmission Owner Code (STC). OFTOs are required to provide reactive assets with similar capability to generators. On 25 June 2013 we approved a modification to the STC, CA049[4], which requires OFTOs to respond to the NETSO's Reactive Power Instructions within two minutes (i.e. consistent with the Grid Code requirement on generators).

To ensure that offshore developers build offshore networks that adhere with the STC obligation put in place by CA049, a consequential change to the Grid Code is required to oblige offshore developers to build networks that have adequate control to respond to reactive instructions within two minutes of receipt.

The modification proposal

NGET raised Grid Code modification GC0065 (the 'modification') in July 2013. The modification seeks to oblige Offshore Transmission System Development User Works (OTSDUW) developers to build offshore networks with the capability to respond to Reactive Power Instructions from the NETSO within two minutes. Changes would be made to the Grid Code Connection Conditions to align the Grid Code legal text with the changes made in the STC by CA049.

[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] Reactive power is a concept to describe the background energy movement in an Alternating Current (AC) system arising from the production of electric and magnetic fields. Most equipment connected to the electricity network will generate or absorb reactive power. Source: http://www.nationalgrid.com/uk/Electricity/Balancing/services/balanceserv/reactive/
[4] STC Modification CA049 *'Amendment to Section K to provide OFTOs with the capability to respond to Reactive Power Instructions within 2 minutes'*. http://www.nationalgrid.com/uk/Electricity/Codes/sotocode/Modifications/

The Grid Code Review Panel (GCRP) agreed to send the modification directly to consultation with industry. The consultation closed on 11 October 2013 and two responses, both supportive of the modification, were received.

NGET's recommendation

NGET's final Report[5], published on 28 October 2013, recommends that the modification should be made. NGET considers that the modification better facilitates Grid Code objectives (i) and (iii) and is neutral with regard to objectives (ii) and (iv).[6]

The Authority's decision

The Authority has considered the issues raised by the modification proposal and in the final Report dated 28 October 2013. The Authority has considered and taken into account the responses to NGET's consultation on the modification proposal which are included in the final Report.[7] The Authority has concluded that:

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

Reasons for the Authority's decision

We agree that GC0065 would better facilitate Grid Code objectives (i) and (iii) for the reasons set out below. We consider that there is no impact on objective (ii) or (iv).

Objective (i) 'To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity'

NGET considers that the modification will help to better facilitate this objective by ensuring that it can use the reactive capability at the interface point in a timely manner. In NGET's view, this will reduce system operation costs both by reducing the need to run generation to control voltage and by reducing the need to install additional onshore compensation equipment where response times are less certain. Both respondents to the industry consultation agreed with NGET's analysis.[10]

We agree with NGET and the two consultation respondents that the modification will help to achieve this objective. Requiring that offshore transmission assets are built to a common performance standard will ensure the system is developed in a coordinated manner. Further, this will promote economy in system operation by avoiding the NETSO incurring additional system operation costs. We also note the additional benefit that aligning the Grid Code and STC provisions ensures that both OFTOs and OTSDUW developers build assets that have the same response time requirements for reactive power instructions.

[5] NGET's Final Report to the Authority: http://www.nationalgrid.com/NR/rdonlyres/A79A6AC8-3EFE-46E1-A72B-D5959C054DEC/63102/GC0065ReporttotheAuthorityv10.pdf
[6] As set out in Standard Condition C14 (1)(b) of NGET's Transmission Licence
[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.
[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.
[10] Annex 2, page 14-17 of NGET's Final Report to the Authority.

Objective (iii) 'Subject to the objectives above, to promote security and efficiency of the electricity generation, transmission and distribution systems in the national electricity transmission system operator area taken as a whole'

Both NGET and the consultation respondents considered that the modification has a positive impact on this objective. We note that as the capacity of offshore generation increases, its contribution as a proportion of the overall generation mix should also increase. In turn, this will make the NETSO more reliant on the capability of offshore networks to meet reactive power requirements. This modification will ensure that offshore assets can provide this reactive compensation and will promote efficiency across the network as a whole. For this reason, we consider that the modification better facilitates this objective.

Decision notice

In accordance with Standard Condition C14 of NGET's Transmission Licence, the Authority hereby directs that modification proposal Grid Code GC0065 *'Consequential Changes from STC Modification CA049'* be made.

Paul O'Donovan
Head of Regulatory and Support Services, Offshore Transmission
Signed on behalf of the Authority and authorised for that purpose