Modification proposal:	**Connection and Use of System Code (CUSC) CAP189: Standard Gas Insulated Switchgear (GIS) Ownership Boundaries**		
Decision:	The Authority[1] directs that this proposal be made[2]		
Target audience:	National Grid Electricity Transmission PLC (NGET), Parties to the CUSC and other interested parties		
Date of publication:	16 January 2012	Implementation Date:	30 January 2012

Background to the modification proposal

A generator or a distribution network is generally connected to the transmission network through a substation to provide both protection and control to the transmission network. The substation assets form an electrical boundary. The CUSC (section 2.12) defines the standard boundary and sets out how ownership of the assets at the boundary is split between the connecting user and the National Electricity Transmission System (NETS) for different types of asset. The substation assets at the electrical boundary may consist of either Air Insulated Switchgear[3] or Gas Insulated Switchgear (GIS)[4], depending on the most appropriate design for the connection.

The current CUSC definition of the standard ownership boundary for GIS substations in 2.12 is considered outdated and not reflective of modern GIS substation designs. These modern GIS designs are such that it is difficult to identify the construction and ongoing operational ownership boundaries for user connections at GIS substations using the standard ownership boundary definition. Therefore, a site by site and project specific basis is used to establish boundary asset ownership, effectively treating these boundaries as non-standard ones in respect to the current CUSC definition.

With many different site specific connections, the construction and operational ownership boundaries are also becoming increasingly complex and may lead to unforeseen financial implications for the connecting user. The additional complexity issue and the recognition of new forms of GIS substation design were considered by a joint Grid Code/CUSC GIS Workgroup which reported its findings to the Grid Code Review Panel in May 2010.

As a result of this report, NGET considered that it would be appropriate to update the current CUSC definition for GIS substation ownership boundaries and raised a CUSC modification proposal.

The modification proposal

CAP189 was raised by NGET in July 2010. The proposal seeks to amend the CUSC so that a user requesting a connection to the NETS through a GIS substation can elect to do so using either of two standard ownership boundaries. The two proposed standard boundaries are:

[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] Air Insulated Switchgear (AIS) uses a large gap filled with air to insulate the live conductors from the ground and from other live conductors.
[4] GIS uses a smaller gap to insulate the live conductors from the ground and from other live conductors as the space is filled with sulphur hexafluoride (SF6) gas. GIS is used in urban, coastal and high pollution areas or where space is restricted.

- a generator standard boundary situated at the interface between the cable box and the user's circuit where the generator GIS bay is constructed, owned and controlled by the relevant transmission owner

- a DNO standard boundary where the busbars of the GIS assets are owned by multiple parties. There would be two options for the construction of the GIS assets. The user could contract on a competitive basis with another party to construct the generator GIS bay. Alternatively, the user or the transmission owner could build the GIS assets and transfer ownership at the boundary to the other party.

A more detailed description of both types of standard boundary is set out (with illustrative diagrams) in the Final Modification Report (FMR). Under the proposal any user can select either of the two boundaries, e.g. a user does not need to be a generator to elect the generator standard boundary. In specific circumstances where neither standard boundary applies, there remains the option for National Grid and a user to agree a non-standard ownership boundary.

In the view of the proposer, CAP189 would better facilitate Applicable CUSC Objectives (a) and (b). In the case of Objective (a), the modification would improve the efficient discharge by NGET of its licence obligations by removing the risk of multiple complex site specific non-standard ownership boundaries operating as users could select one of the two new standard ownership boundaries in most cases. In the case of Objective (b), the ability for users to contract on a competitive basis for GIS asset build would facilitate further competition in the GIS maintenance market.

CUSC Panel[5] recommendation

The CUSC Panel initially considered the draft FMR for CAP189 at its meeting on 29 July 2011. The Panel noted that a response to the Code Administrator consultation had highlighted a concern with the proposed legal text and that it was too late in the modifications process for the Panel to correct the legal text. The Panel unanimously voted to reject CAP189 due to the legal text defect and recommended that the Authority send back CAP189 to allow reconsideration of the legal text.

A 'send back' direction[6] from the Authority was made on 18 August 2011 and a second Code Administrator consultation took place to address the defective legal text. The Panel considered the draft FMR with revised legal text on 25 November 2011. The Panel unanimously recommended approval of CAP189 as better facilitating Applicable CUSC Objectives (a) and (b). The full views of Panel members can be found in the FMR.

The Authority's decision

The Authority has considered the issues raised by the modification proposal and the FMR dated 7 December 2011. The Authority has considered and taken into account the responses to both of the Code Administrator consultations on the modification proposal which are attached to the FMR[7]. The Authority has concluded that:

[5] The CUSC Panel is established and constituted from time to time pursuant to and in accordance with the section 8 of the CUSC.
[6] The Authority's send back powers under the CUSC are provided in the Transmission Licence (SLC C10 (7)(aa).
[7] CUSC modification proposals, modification reports and representations can be viewed on NGET's website at http://www.nationalgrid.com/uk/Electricity/Codes/systemcode/amendments/

1. **implementation of the modification proposal will better facilitate the achievement of the applicable objectives of the CUSC[8]; and**
2. **directing that the modification be made is consistent with the Authority's principal objective and statutory duties[9].**

Reasons for the Authority's decision

We note the comments provided by consultation respondents and by Panel members in setting out our views below. We consider that the modification proposal is neutral against Applicable CUSC Objective (c).

Applicable Objective (a) 'the efficient discharge by the licensee of the obligations imposed upon it under the Act and by the licence'

We consider that there are a number of improvements to efficiency if users can select one or other of the two new standard boundaries using the proposed solution:

- The selection of one or other GIS standard boundary limits the need for site specific or project specific boundary ownership arrangements where a GIS boundary is used. The proposed approach would clarify the ownership issues at such boundaries, allowing the selection of the most efficient ownership boundary option by users and would address the administrative difficulties of managing non-standard boundaries.

- The definition of new GIS standard boundaries intends to reflect more recent GIS designs which are not covered by the existing CUSC definition in 2.12 and avoid the use of non-standard boundaries. The inclusion of diagrams to illustrate the ownership boundaries in the CUSC and in the Bilateral Connection Agreement (BCA) between the user and the transmission owner would also assist in further clarifying the boundary points.

- The further proposed change to legal text included as a result of the send back of CAP189, provides greater clarity on ownership issues regarding the scenarios where a circuit disconnector is, or is not, fitted.

We note that retaining the use of non-standard boundaries where one or other standard boundary is still not appropriate allows flexibility and avoids embedding a 'one size fits all' approach in the CUSC. We also note that users with existing connections could, through a modification application, transfer their current boundary arrangements to the new arrangements if they wish. We agree that retrospective application of the CAP189 solution is not appropriate.

For the reasons above, we agree that the modification proposal better facilitates Applicable Objective (a).

[8] As set out in Standard Condition C10(1) of NGET's Transmission Licence, see: http://epr.ofgem.gov.uk/document_fetch.php?documentid=5327

[9] The Authority's statutory duties are wider than matters which the Panel must take into consideration and are detailed mainly in the Electricity Act 1989 as amended.

Applicable Objective (b) 'facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity'

We note that users may, under the new arrangements, choose how substation assets are built and who owns them when selecting one or other of the standard boundary options. In the event that users do not select either of the standard boundaries, the modification proposal also provides them with the flexibility to choose a non-standard boundary. The ability of users to select the most efficient ownership boundary option should assist in the competitive procurement of GIS assets. It should also allow users to agree where the boundary sits by agreement in the BCA. At the margin, we think that this impact reduces barriers to entry for generators and facilitates competition in the generation of electricity.

For these reasons, we agree that the modification proposal better facilitates Applicable Objective (b).

Implementation date

We note that the Workgroup and consultation respondents were supportive of implementing the modification proposal 10 Working Days after an Authority decision to approve. We also note that existing users can use a modification application to transfer ownership of their substation assets to one of the proposed standard boundaries if the BCA currently sets out a different ownership boundary.

We agree that implementation of the modification proposal after 10 Working Days is appropriate and does not create a disadvantage for users who are still in the process of agreeing an ownership boundary or who have already done so. We also note that existing users who wish to clarify existing GIS boundaries through a modification application to the BCA would not be charged for doing so.

Decision notice

In accordance with Standard Condition C10 of NGET's Transmission Licence, the Authority, hereby directs that modification proposal CAP189 *'Standard Gas Insulated Switchgear (GIS) Ownership Boundaries'* be made.

Andrew Burgess
Associate Partner, Smarter Grids and Governance
Signed on behalf of the Authority and authorised for that purpose