nationalgrid

Stage 03: Workgroup Report

Connection and Use of System Code (CUSC)

CAP189 Standard Gas Insulated Switchgear (GIS) Ownership Boundaries

What stage is this document at?

01	Initial Written Assessment
02	Workgroup Consultation
03	**Workgroup Report**
04	Code Administrator Consultation
05	Draft CUSC Modification Report
06	Final CUSC Modification Report

This proposal seeks to modify the CUSC such that a User requesting a connection to the National Electricity Transmission System (NETS), via a GIS substation, will be able to elect from a choice of two standard ownership boundaries.

This document contains the discussion of the Workgroup which formed in July 2010 and the resultant Workgroup Consultation.

The Workgroup recommends:
The implementation of CAP189 as it better facilitates Applicable CUSC objectives (a) and (b)

High Impact:
New build generation connections, DNO connections; new and asset replacement of existing sites. Transmission Owners

Medium Impact:
National Electricity Transmission System Operator (NETSO)

Low Impact:
Existing generation

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About this document

This is the final Workgroup Report, which was developed from the Workgroup Consultation with the inclusion of any responses received and the final recommendations of the Workgroup.

Any Questions?

Contact:
Thomas Derry

Thomas.derry@uk.ngrid.com

01926 654208

Proposer:
Tom Ireland
National Grid

1 Executive Summary

1.1 CAP 189 'Standard Gas Insulated Switchgear Ownership Boundaries' was raised by National Grid Electricity Transmission plc on 30th July 2010, following a recommendation of the joint Grid Code/CUSC Gas Insulated Switchgear Working Group Report, which was presented at the May 2010 Grid Code Review Panel.

1.2 CAP189 specifically seeks to modify the CUSC such that a User requesting a connection to the National Electricity Transmission System (NETS), that would be required to connect via a GIS substation, will be able to elect from a choice of two standard ownership boundaries. Under the current arrangements the GIS ownership boundary is deemed non-standard and is the only boundary available. Under the CAP189 proposal, the user will still be able to elect a boundary that is deemed non-standard.

1.3 The CAP189 Workgroup was established in July 2010 and has had two meetings; 28th September 2010 and 2nd March 2011. The Workgroup has examined the work carried out by the joint Grid Code/CUSC Working Group and supports the general principles behind the new ownership boundaries.

1.4 The key discussions of the CAP189 Workgroup centred on the issues of applying these new ownership boundaries retrospectively and clarifying areas of the legal drafting. There are a few aspects, highlighted in this document, on which the Workgroup would like views.

1.5 The Workgroup Consultation closed on 8th April 2011 and four responses were received. A final Workgroup meeting was held on 14th April.

2 Description of Proposed Modification

2.1 The existing standard ownership boundary currently being applied via the CUSC for Gas Insulated Switchgear (GIS) assets cannot be practically applied to the currently procurable GIS assets. The current drafting within the CUSC section (2.12.1 (e) (ii)) refers to boundaries that are no longer appropriate to use as modern GIS designs have changed.

2.2 Unlike Air Insulated Switchgear (AIS), GIS is integrated, sealed and modular which leads to difficultly in identifying construction and ongoing operational ownership boundaries for all User connections at GIS substations.

2.3 As a result of this disparity between the currently defined standard ownership boundary and its applicability to modern GIS equipment, ownership boundaries are determined on a site by site, project specific basis which has led to a number of site specific arrangements. With numerous site specific arrangements there is an increase in construction and operational procedural complexity.

2.4 CAP189 proposes defining two new ownership boundaries; the Generator Standard Boundary and the DNO Standard Boundary (see Annex 3 for a diagram representing the two ownership boundaries). It should be noted that 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 addition there is still an option for National Grid and a User to agree a non-standard ownership boundary.

GIS Substations

A substation is generally used to connect transmission circuits, either to generators, distribution networks or to other transmission circuits. They also provide protection and control to the network.

A 'standard' substation, with Air Insulated Switchgear (AIS) uses a large air gap, ~4m, to insulate the live conductors from the ground and other live conductors whereas Gas Insulated Switchgear (GIS) uses a much smaller distance, ~0.4m, as the space is filled with SF6 gas.

GIS is often used in urban, coastal and high pollution areas or where space is restricted although it has a higher capital cost (~£2m a GIS bay vs. ~£1m AIS)

3 Summary of Workgroup Discussions

3.1 The first Workgroup meeting was held on 28th September 2010. The National Grid representative, as Proposer, presented the CAP189 Modification Proposal, explaining the current issues with GIS and the outcomes of the joint Grid Code/CUSC GIS Working Group. The CAP189 Workgroup noted the issues identified in its Terms of Reference and the three recommendations which came out of that group which are:

(a) A modification to the CUSC to create two standard Gas Insulated Switchgear (GIS) ownership boundaries

(b) The development of a standard CUSC Exhibit for DNO Self Build Agreements

(c) That the TCMF consider two changes to the Connection Charging Methodology as identified below and that a representative of the Working Group should take the issues to the TCMF.

- Introduce a specific Site Specific Maintenance Charge for GIS based assets, to take into account the expected lower lifetime operating cost for such technology
- A new methodology for the calculation of the initial Gross Asset Value of GIS assets, including generic or site specific approaches.

  It was considered that a generic approach may be more efficient given the difficulties in obtaining realistic costs from manufacturers for a single element of their integrated substation works (i.e. bay assets).

3.2 The focus of the CAP189 Workgroup is to address the first of these three recommendations. The other two recommendations will be progressed separately following the conclusion of CAP189. A separate CUSC Modification Proposal will be raised to deal with the standard CUSC Exhibit for DNO Self Build and the TCMF will consider the two changes to the Connection Charging Methodology.

3.3 At the second Workgroup meeting, held on 2nd March 2011, an updated version of the legal text which took into account comments from the first meeting was reviewed. The discussions within both Workgroup meetings centred on the three main areas of boundaries, retrospective application and illustrative legal text.

Boundaries

3.4 The outcome of the Grid Code/CUSC joint Working Group was to develop two standard boundaries; Generator Standard Boundary and DNO Standard Boundary. The principle will be maintained that the electrical boundary is at the same point as the ownership boundary that a User elects.

3.5 The Workgroup was shown the diagram in the Modification Proposal Form (Annex 3) to illustrate the two boundaries and through discussion it was noted that there is nothing currently preventing an existing, or prospective, User from requesting these ownership boundaries. The main concern raised by Workgroup members is that this would currently be seen as non-standard and could result in unforeseen financial impacts for the User. CAP189 codifies these new boundaries and takes away the non-standard uncertainty by giving a User the choice of two standard ownership boundaries.

3.6 The Workgroup commented that, if CAP189 were implemented, the boundaries for AIS and GIS would be different and that it seems beneficial to create the same ownership boundaries for both types of switchgear. The Workgroup Chair noted their concern but clarified that those arrangements for AIS substations fall outside the scope of CAP189.

3.7 The CAP189 Workgroup noted that the two proposed boundary names could be misleading as any new User (or existing User via the Modification Application process) could elect either of these two boundaries, regardless of their classification as either a Generator or DNO. These two names were selected as the Workgroup believed that they represent the boundary option that those Users were most likely to choose.

3.8 Through later legal text drafting it was possible to eliminate the reference to 'Generator Standard Boundary' and 'DNO Standard Boundary' as it could create confusion.

Generator Standard Boundary

3.9 The Generator Standard Boundary is situated at the interface between the cable box and the User's circuit (as shown on the diagram in Annex 3).

3.10 The principle would be maintained that the electrical boundary is at the same point as the ownership boundary. This results in construction, ownership and control of the generator bay being carried out by the Transmission Owner (TO). If a User elects the Generator Standard Boundary, the User will be able to operate the bay circuit breaker on the basis of switching agreements as recorded in the Site Responsibility Schedule.

3.11 The Workgroup noted, under a Generator Standard Boundary, that Interruption Payments will not be made for loss of access resulting from faults, maintenance or any other outage on the 'generator' GIS bay. This is consistent with connections currently made within the Scottish Power Transmission Region.

DNO Standard Boundary

3.12 The DNO Standard Boundary is the boundary as currently defined in CUSC 2.12.1(e) (ii), which will result in the busbars of the GIS assets being owned by multiple parties. At GIS switchboards, where a single DNO interfaces with a TO, the boundary would be that at which the TO connects to the DNO assets at a point internal to the switchboard.

3.13 The joint Grid Code/CUSC GIS Working Group concluded that there are two effective options for the construction of GIS assets under the DNO Standard Boundary arrangement. The CAP189 Workgroup agreed with these options.

3.14 The first option leaves responsibility for the construction of the bay with the User. In this option the User has the choice to contract either with National Grid's unlicensed business or any other party (in reality limited to the GIS manufacturer) to install the User bay, thus maintaining an element of competition in construction.

3.15 The second option is a self build arrangement under which the majority GIS asset owner would construct all the GIS assets on site and, on completion, the relevant assets would be transferred to the other party such that the enduring ownership boundary is at the DNO Standard Boundary. The majority GIS asset owner could be either the TO or the User. The Workgroup noted that if the majority asset owner was the TO and the User

chose to construct the GIS bay itself, the User would need to contract with the same GIS manufacturer directly.

Review of illustrative legal text

3.16 The National Grid representative presented the Workgroup with indicative legal text. By this point in the first meeting, a number of issues had been raised and discussed which impacted the legal text. It was therefore decided that National Grid would update the legal text to take into account points made by Workgroup members.

3.17 It was noted that the implementation elements of the legal text which refer to pre/post CUSC Modification Proposal within the legal text was quite cumbersome and that a date that the changes would be taking effect would be appreciated for clarity. National Grid noted that prescribing a date within the legal text is difficult, given that the standard approach for implementation is 10 Working Days following an Authority decision.

3.18 One point raised regarding the legal text within the existing CUSC, paragraph 2.12.1 (e) (ii), is the use of the term 'SF6 switchgear'. One Workgroup member thought it would be clearer to use the term "Gas Insulated Switchgear" as this is the term that is widely used within the industry and by National Grid in its offer documentation. Furthermore, the Workgroup member felt that the term "Gas Insulated Switchgear" should be defined within the Grid Code, with the CUSC definition in Section 11 pointing to the Grid Code as the base reference. National Grid responded that as CAP189 does not have a Grid Code remit, any definition for Gas Insulated Switchgear would have to be included within the CUSC as part of implementation of CAP189 and that it did not make sense to define a term in one code and then remove the definition to place the base definition in a different code at a later date. However, National Grid agreed to review this issue as part of its revision to the illustrative legal text.

3.19 In the second Workgroup meeting, the members presented their views on the updated drafting. The Workgroup noted the use of Pre and Post CAP189 sites and commented that it did not appear necessary to have these references. Once a User is connected under the terms of the CUSC that were applicable at that time, it is unlikely that they are going to modify their agreement to utilise new arrangements.

3.20 It was also noted that referring to principles in 2.12 seemed unnecessarily complicated and it would be simpler to define the standard ownership boundaries for AIS, GIS [and potentially other metal enclosed switchgear]. To support the understanding of the various ownership boundaries, the Workgroup considered whether or not it would be useful to have supporting diagrams. One generic diagram, such as the one is Annex 3, could be included within the CUSC to show the different ownership boundaries. There could also be a second diagram included in the Bilateral Connection Agreement (BCA) which would, on a site specific basis, show diagrammatically the assets and on which side of the ownership boundary they belong. This diagram would be produced once the GIS design had been determined.

Retrospectivity

3.21 The Workgroup discussed whether or not these new boundaries would be applied retrospectively. Through discussion it was determined that if a User wanted to change their existing ownership boundary to one defined under CAP189, they would be able to submit a Modification Application post CAP189 implementation. It was expected that National Grid would not unreasonably withhold its agreement to such a change, particularly if the bay works had not yet commenced and/or National Grid or its alliance partner were already contracted to carry out the bay works as unlicensed works.

3.22 The Workgroup agreed that it would not be appropriate to force new ownership boundaries on existing Users retrospectively, or prohibit existing Users from changing boundaries post CAP189. It was felt that Users should be able to determine for themselves whether or not they wished to move to a new ownership boundary and identify any risks that may come along with that change.

3.23 Following on from the above point the group discussed the advantages and disadvantages for a User to apply the new ownership boundaries to existing assets.

Advantages

- Simplified arrangements for maintenance and operation
- Fewer safety management issues
- Transfer of bay construction works from monopoly unlicensed works (i.e. the party responsible for the construction of the GIS substation) to licensed works

Disadvantages

- As there would be a transfer of assets, new Site Responsibility Schedules and Delegations of Authority would need to be created;
- There would likely be some commercial agreement and charging impacts;
- Warranties and contracts that a User has with their supplier could be impacted;
- Any existing User that wished to opt for the Generator Standard Boundary would require a new Clause 10 (Restrictions in Availability) in their Bilateral Connection Agreement (BCA) (CUSC Schedule 2 - Exhibit 1). This is to ensure that obligations and liabilities are maintained between the TO and the User.

3.24 National Grid was asked to determine the impacts of a Modification Application being raised to alter the ownership boundaries and how the transfer of assets would be executed. It was noted by the proposer that CAP189 was envisaged for new build but also explained that any request to alter ownership boundaries, and any resulting transfer of assets, for existing sites would examined on a case by case basis.

Workgroup Alternatives

3.25 The Workgroup has not identified any Workgroup Alternatives to CAP189.

3.26 The Workgroup discussed whether applying CAP189 retrospectively constituted an Alternative Modification and determined that as Users are able to modify aspects of their connection agreement through the current Modification Application process, their choice to apply for an alternative ownership boundary is not an Alternative Modification.

4 Impact and Assessment

Impact on the CUSC

4.1 National Grid has provided illustrative legal text to the Workgroup for its review at both Workgroup meetings held.

4.2 CAP189 requires amendments to the following parts of the CUSC:

- Section 2 [Connections]
- Section 11 [Interpretation and Definitions]
- Schedule 2 - Exhibit 1 [Bilateral Connections Agreement]
- Exhibit B [Connection Application]

4.3 The text required to give effect to the Original Proposal is contained in Annex 1 of this document.

Impact on Core Industry Documents

4.4 Neither the proposer nor the Workgroup identified any impacts on Core Industry Documents.

Impact on other Industry Documents

4.5 Neither the proposer nor the Workgroup identified any impacts on Core Industry Documents.

Assessment against Applicable CUSC Objectives

4.6 At the second Workgroup meeting on 2nd March 2011, the Workgroup gave an initial view against the Applicable CUSC Objectives below. The majority of the Working Group believed that CAP189 would better facilitate both of the CUSC Objectives.

4.7 For reference the CUSC Objectives are:

(a) the efficient discharge by the licensee of the obligations imposed upon it under the Act and by this licence; and

(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.

5 Proposed Implementation

5.1 The Workgroup discussed the implementation of CAP189 and it was noted that, as the ownership boundaries could be changing, depending on the option selected by the User, it might be useful to give Users more time to consider what the impact would be, on their project or completed unit, if they were to elect to change their ownership boundaries to one of those identified in CAP189.

5.2 The Workgroup identified a number of scenarios for implementation of CAP189, with respect to the stage at which a User may be within the connection application process:

- User has not yet applied for a connection offer with National Grid
- User has applied for a connection with National Grid, who is now developing the offer within the statutory 90 day period
- User has received an offer from National Grid and is within their 90 day review period
- User has returned a signed offer to National Grid
- User has returned a signed offer to National Grid and has not signed any supplier contracts
- User has returned a signed offer to National Grid and has also signed supplier contracts
- User has begun construction
- User has been through commissioning
- User is operational

5.3 The Workgroup noted that risks are likely to increase the closer a project is to completion by applying to change their ownership boundaries. These risks were likely to include aspects such as:

- Increased financial risk
- Construction programme delays
- Warranties and service contracts possibly voided

5.4 For the avoidance of doubt, the ownership boundaries are set once a BCA has been signed. If CAP189 is implemented, Users will be able to select from the new ownership boundaries from the implementation date. Any User that has a signed BCA prior to implementation, and wishes to change their ownership boundary, would be required to submit a Modification Application.

5.5 Following this discussion the Workgroup considered a number of possible implementation timescales for CAP189:

- 10 working days following a decision from the Authority (standard CUSC implementation timescale);
- 40 working days following a decision from the Authority (standard implementation timescale plus 30 working days to allow Users to determine impact); or
- 1st April 2013 when the new Electricity Transmission Price Control comes into effect.

Workgroup Final Conclusion on Implementation timescales

5.6 The Workgroup discussed the implementation timescale. the Workgroup members support the 10 working day approach, as once the text is implemented within the CUSC, it would allow new and existing connectees to have the standard ownership boundaries applied from the date of implementation onwards. One respondent had stated a view that 10 days is not appropriate as it gives insufficient time for Users to determine the impact and therefore 40 days would be preferable. Following the meeting the Workgroup Chair contacted the respondent and reiterated the rationale of the Group and the respondent agreed that 10 days would be acceptable.

6 Recommendations

Workgroup View

6.1 The Working Group believes the terms of reference have been fulfilled and CAP189 has been fully assessed. The final Working Group vote, undertaken on 14th April 2011 was as follows:

View against Applicable CUSC Objectives	Better than baseline
CAP189 Original	5

6.2 There were five Working Group members eligible to vote.

National Grid Initial View

6.3 As proposer, National Grid supports the implementation of CAP189 on the basis that it better facilitates the Applicable CUSC Objectives by removing the need for numerous site specific construction and maintenance procedures in relation to GIS, as well as facilitating further competition in the GIS maintenance market.

7 Responses

Responses to the Working Group Consultation

7.1 The following table provides an overview of the representations received. Copies of the representations are contained in Annex 5 of this Working Group Report.

Reference	Company	Supportive	Comments
CAP189-WGC-01	CE Electric	Yes	• Identifies that existing GIS User connections require retrospective clarification of ownership boundaries
CAP189-WGC-02	EdF Energy	Yes	• Supports the introduction of two standard boundaries whilst still allowing non standard boundaries
CAP189-WGC-03	RWE	Yes	• Believes transfer to the new ownership boundary should be considered for existing schemes employing GIS technology
CAP189-WGC-04	SSE	Yes	• Removes uncertainty around GIS connections • Site by site operating procedures need to be put in place for new GIS connections

Post Consultation Workgroup Final Meeting

7.2 The Workgroup held one final meeting after the closure of the Consultation on 14th April. The Workgroup responses were discussed and clarity was sought on a number of aspects, before the Workgroup vote was undertaken.

7.3 The proposed implementation of illustrative single line diagrams showing ownership boundaries in the Bilateral Connection Agreement was discussed. In response to a specific question in the Workgroup Consultation, all respondents supported the use of such diagrams. Detail such as the position of gas zones was also felt to be useful and relevant. National Grid commented that at the initial Connection Offer stage the diagram would have to be quite generic as the detailed design would not be available at that time. The Workgroup also discussed and agreed that the diagrams should be illustrative only and should not take precedent over the CUSC or BCA text.

7.4 A Consultation respondent had proposed that retrospective clarification of ownership boundaries within BCAs for existing GIS connections should not be charged for, which several Workgroup members supported. The User should be able to request a change to ensure that the existing arrangements are clear. National Grid confirmed that whilst each specific bilateral contract will be considered individually, it appears appropriate that where it has been previously stated that ownership boundaries in a BCA will be clarified when the relevant certainty has achieved, that these proposals form that certainty and that resultant clarification will not be chargeable.

7.5 The response from SSE, identified that in Scotland 132kV assets are classified as Transmission rather than Distribution as in England and Wales and that TSOs should be involved in the same was as DNOs for such

assets. The Workgroup noted this point and concluded that this does not require any different arrangements or changes to the legal drafting.

7.6 Within a Consultation Response, a confirmation was sought to why the drafting for Schedule 2 – Exhibit 1 Clause 14.7 refers to CUSC Clause 2.4, which the Workgroup discussed. National Grid confirmed that Clause 14.7 describes how the System Operator has the ultimate ability to deenergise a User if the process for gaining access to such GIS Assets is not being adhered to be the User. Clause 2.4 relates to a demand Users right for the supply of power at a connection site and it is referred to in order to make clear that National Grid's right to deenergise under 14.7 superseded the demand User's right under 2.4. The Workgroup including the respondent agreed with this explanation.

7.7 The Workgroup agreed with the typographical error that had been identified within a responses, for Schedule 2 Exhibit 1 Clause 14.7 and agreed the drafting should be amended.

7.8 The workgroup agreed that there are no Workgroup Alternative CUSC Modifications to the CAP189 solution.

7.9 The following table summarises the results of the Working Group's voting, with details of each member's assessment against the Applicable CUSC Objectives. There were all five Working Group members present at the meeting. For clarity, the Working Group chairman does not have a vote.

Vote 1 Does CAP189 original Amendment Proposal better facilitate the Applicable CUSC Objectives than the CUSC baseline?

Objective	**(a)**	**(b)**
John Norbury	Yes, admin efficiency will be improved by having a single party completing the tender	Yes, the process is moving assets to a more regulated arena and prevents potential monopoly treatment from occurring
Alan Creighton	Yes, allows the licensees to remove site specific maintenance requirements which will be more efficient	Yes, agree with TI. Appreciate the comment from JM re the neutral nature of the proposal, but it is an improvement on the present arrangements
Leonida Bandura	Yes, allows the licensees to remove site specific maintenance requirements which will be more efficient	Yes, better than what is already in place
Tom Ireland	Yes, allows the licensees to remove site specific maintenance requirements which will be more efficient	Yes, gives a User the choice to build the assets themselves or allow another to build them.
John Morris	Yes, it should end up being a more efficient	Neutral, Improved flexibility but competition is already stifled

	solution	

Section 2 [Connections]

2.12 PRINCIPLES OF OWNERSHIP

2.12.1 Subject to the **Transfer Scheme** or any contrary agreement in any **Bilateral Agreement** or any other agreement the division of ownership of **Plant** and **Apparatus** shall be at the electrical boundary, such boundary to be determined in accordance with the following principles:

In the case of air insulated switchgear:

(a) in relation to **Plant** and **Apparatus** located between the **National Electricity Transmission System** and a **Power Station**, the electrical boundary is at the busbar clamp on the busbar side of the busbar isolators on **Generators** and **Power Station** transformer circuits;

(b) save as specified in Paragraph 2.12.1(c) below, in relation to **Plant** and **Apparatus** located between the **National Electricity Transmission System** and a **Distribution System**, the electrical boundary is at the busbar clamp on the busbar side of the **Distribution System** voltage busbar selector isolator(s) of the **National Electricity Transmission System** circuit or if a conventional busbar does not exist, an equivalent isolator. If no isolator exists an agreed bolted connection at or adjacent to the tee point shall be deemed to be an isolator for these purposes;

(c) in relation to **Transmission Plant** and **Transmission Apparatus** located between the **National Electricity Transmission System** and a **Distribution System** but designed for a voltage of 132KV or below in England and Wales and below 132kV in Scotland, the electrical boundary is at the busbar clamp on the busbar side of the busbar selector isolator on the **Distribution System** circuit or, if a conventional busbar does not exist, an equivalent isolator. If no isolator exists, an agreed bolted connection at or adjacent to the tee point shall be deemed to be an isolator for these purposes;

(d) in relation to **Plant** and **Apparatus** located between the **National Electricity Transmission System** and the system of a **Non-Embedded Customer**, the electrical boundary is at the clamp on the circuit breaker side of the cable disconnections at the **Non-Embedded Customer's** sub-station; and

In the case of metal enclosed switchgear, that is not **Gas Insulated Switchgear**:

(e) the electrical boundary will be the equivalent of those specified in this Paragraph 2.12.1 save that for rack out switchgear, the electrical boundary will be at the busbar shutters.

In the case of **Gas Insulated Switchgear**:

(f) the electrical boundary will be the equivalent of those specified in this Paragraph 2.12.1 save that the electrical boundary will be at:

(i) the first component on the outside of the **Gas Insulated Switchgear** circuit breaker gas zone on the **User's** side of that gas zone; or

(ii) the first gas zone separator on the busbar side of the busbar selection devices, and in such case the busbar selection devices' gas zone may contain a single section of the busbar

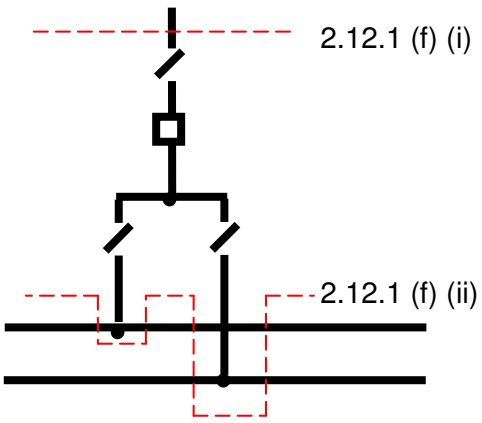
as agreed between **The Company** and the **User** and a diagram showing these electrical boundaries is attached at Schedule 1 to this Section 2.

2.12.2 If a **User** wants to use transformers of specialised design for unusual load characteristics at the electrical boundary, these shall not be owned by the **User** and shall form part of the **National Electricity Transmission System** but the **User** shall pay **The Company** for the proper and reasonable additional cost thereof as identified by **The Company** in the **Offer** covering such transformers. In this Paragraph 2.12.2 "unusual load characteristics" means loads which have characteristics which are significantly different from those of the normal range of domestic, commercial and industrial loads (including loads which vary considerably in duration or magnitude).

2.12.3 For the avoidance of doubt nothing in this Paragraph 2.12 shall effect any transfer of ownership in any **Plant** or **Apparatus**.

SCHEDULE 1

DIAGRAM SHOWING ELECTRICAL BOUNDARIES FOR GAS INSULATED SWITCHGEAR



Section 11 [Interpretation and Definitions]

Add New Definition as follows

"Gas Insulated Switchgear" or "GIS"	SF6 switchgear where the substation busbars (and the interfacing switchgear between those busbars and any connecting circuits) are of an integrated metal enclosed, gas insulated construction;
"GIS Asset Outage"	as defined in the relevant **Bilateral Connection Agreement**;

Schedule 2 - Exhibit 1 [Bilateral Connections Agreement]

1. Add new definitions

"GIS Assets"	the assets between the electrical boundary and the point within the **Gas Insulated Switchgear** where the busbar connects to the **Transmission** circuit which connects the **User** to the **National Electricity Transmission System**; *[where the boundary is in accordance with **CUSC** Paragraph 2.12.1(f) (i) only]*
"GIS Asset Outage"	the unavailability of the **GIS Assets** as a result of: (a) a planned or unplanned incident occurring directly on the **GIS Assets** or (b) the **GIS Assets** requiring to be **Deenergised** for health and safety reasons to allow for the planned or unplanned availability of a circuit in the immediate vicinity of the **GIS Assets**; *[where the boundary is in accordance with **CUSC** Paragraph 2.12.1(f) (i) only]*
"**GIS Asset Outage Period**"	the period of time during which the **GIS Asset Outage** applies; *[where the boundary is in accordance with **CUSC** Paragraph 2.12.1(f) (i) only]*
"**Notification of GIS Asset Outage**"	means the notification issued by **The Company** to the **User** in accordance with Clause [14.2] of this **Bilateral Connection Agreement**; *[where the boundary is in accordance with **CUSC** Paragraph 2.12.1(f) (i) only]*

2 Add new Clause and Amend Contents Page

14. [OUTAGE OF GIS ASSETS *(power station/Non-Embedded Customer/DNO with boundary in accordance with **CUSC** Paragraph 2.12.1(f) (i) only)*

14.1 The division of ownership of **Plant** and **Apparatus** in Clause [9] above is in accordance with the principles of ownership set out in **CUSC** Paragraph 2.12.1 (f)(i) and as such the following provisions shall apply.

14.2 **The Company** shall issue to the **User** a notice that advises the **User** of the occurrence of the **GIS Asset Outage** and where practicable the expected **GIS Asset Outage Period**. Such notice shall be issued:

14.2.1 In the event that the **Notification of GIS Asset Outage** relates to a **Planned Outage** on the **National Electricity Transmission System**, where practicable, be in accordance with **Grid Code** OC2 requirements; or

14.2.2 In the event that the **Notification of GIS Asset Outage** relates to something other than a **Planned Outage** on the **National Electricity Transmission System** or relates to a **Planned Outage** on the **National Electricity Transmission System** but it is not practicable for such notice to be in accordance with **Grid Code** OC2 requirements, as soon as reasonably practicable and **The Company** and the **User** shall agree as soon as practicable after the date hereof the method of such notification.

14.3 **The Company** shall promptly notify the **User** when the **GIS Asset Outage Period** will or has ceased.

14.4 **The Company** shall be entitled to revise the **Notification of GIS Asset Outage** given under Clause 14.2 above at any time.

14.5 The **User** will acknowledge receipt of such **Notification of GIS Asset Outage** and in the case of a **User** in the category of a **Power Station** shall, where practicable, revise its **Output Useable** forecast for the affected **BM Unit** accordingly.

14.6 Following such **Notification of GIS Asset Outage** in accordance with Clause 14.2 a **User** in the category of a **Power Station** shall:

14.6.1 (i) ensure that the **Maximum Export Limit** and **Maximum Import Limit** for the **BM Units** relating to the **Power Station** reflects the outage of the **GIS Assets** and (ii) operate its **Power Station** to reflect the **GIS Asset Outage** for all **Settlement Periods** or parts thereof falling within the **GIS Asset Outage Period**.

14.6.2 In the event that the **User** does not comply with Clause 14.5 and Clause 14.6.1 above, **The Company** shall issue **Bid-Offer Acceptances** to the **User** to reduce the export from and/or import to the affected **BM Unit** to zero so that the effect is as if the **User** had complied with the Clauses and the provisions of the **Transmission Related Agreement** shall apply.

14.7 For the avoidance of doubt any **Deenergisation** resulting from the **GIS Asset Outage** as set out in the relevant **Notification of GIS Asset Outage** constitutes an **Allowed Interruption** in the case of a **User** in the category of a **Power Station** and shall relieve **The Company** from its obligations under **CUSC** Section 2 Paragraphs

2.2.1 and 2.4 in the case of a **User** in the category of a **Non-Embedded Customer** or a **Distribution System** directly connected to the **National Electricity Transmission System**.

Exhibit B [Connection Application]

Notes

Amend Paragraph 12 as follows

12 In particular, **The Company** prepares **Offers** upon the basis that each party will design, construct, install, control, operate and maintain, in the case of the **User**, the **Plant** and **Apparatus** which he will own and, in the case of **The Company**, **Transmission Plant** and **Transmission Apparatus** usually but not necessarily applying the ownership rules set out in Paragraph 2.12 of the **CUSC** (Principles of Ownership). If the **Applicant** wishes **The Company** to carry out any of these matters on the **Applicant's** behalf (including where, should the **Transmission** substation at which the **Applicant** is to be connected be of a **Gas Insulated Switchgear** design, the **Applicant** would wish that **The Company** undertake the works but subsequently transfer the **Gas Insulated Switchgear** to the **Applicant**) please contact **The Company**[1] for further details.

Section C

Add a new Paragraph 9 as follows and renumber subsequent paragraphs and any references to these accordingly

9. Please confirm which ownership boundary at **CUSC** Paragraph 2.12.1 (f) you would want in the event that the **Transmission** substation at which the **Applicant** is to be connected is to be of a **Gas Insulated Switchgear** design:

   (a) **CUSC** Paragraph 2.12.1 (f) (i) [ ]

   (b) **CUSC** Paragraph 2.12.1 (f) (ii) [ ]

   Please note that in the case where the ownership boundary is in accordance with **CUSC** Paragraph 2.12.1 (f) (i) restrictions on availability as described within **CUSC** Schedule 2 Exhibit 1 will apply in the event of a **GIS Asset Outage**.

[1] Customer Services, National Grid Electricity Transmission plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA (Telephone No. 01926 654634)

Workgroup Terms of Reference and Membership

TERMS OF REFERENCE FOR CAP189 WORKGROUP

RESPONSIBILITIES

1. The Workgroup is responsible for assisting the CUSC Modifications Panel in the evaluation of CUSC Modification Proposal 189, Standard Gas Insulated Switchgear Ownership Boundaries, tabled by National Grid Electricity Transmission plc at the CUSC Modifications Panel meeting on 30th July 2010.

2. The proposal must be evaluated to consider whether it better facilitates achievement of the Applicable CUSC Objectives. These can be summarised as follows:

   (a) the efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission Licence; and

   (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.

3. It should be noted that additional provisions apply where it is proposed to modify the CUSC amendment provisions, and generally reference should be made to the Transmission Licence for the full definition of the term.

SCOPE OF WORK

4. The Workgroup must consider the issues raised by the CUSC Modification Proposal and consider if the proposal identified better facilitates achievement of the Applicable CUSC Objectives.

5. In addition to the overriding requirement of paragraph 4, the Workgroup shall consider and report on the following specific issues:

   a) Review the Illustrative Legal text
   b) Consider any Alternative CUSC Modification Proposals
   c) Consider whether proposals for GIS should apply to existing GIS assets (in addition to future connection assets)

6. The Workgroup is responsible for the formulation and evaluation of any Workgroup Alternative CUSC Modification Proposals (WACMs) arising from Group discussions which would, as compared with the CUSC Modification Proposal or the current version of the CUSC, better facilitate achieving the Applicable CUSC Objectives in relation to the issue or defect identified.

7. The Workgroup should become conversant with the definition of Workgroup Alternative CUSC Modification which appears in Section 11 (Interpretation and Definitions) of the CUSC. The definition entitles the Group and/or an individual member of the Workgroup to put forward a WACM if the member(s) genuinely believes the WACM would better facilitate the achievement of the Applicable CUSC Objectives, as compared with the Modification Proposal or the current

version of the CUSC. The extent of the support for the Modification Proposal or any WACM arising from the Workgroup's discussions should be clearly described in the final Workgroup Report to the CUSC Modifications Panel.

8. Workgroup members should be mindful of efficiency and propose the fewest number of WACMs possible.

9. All proposed WACMs should include the Proposer(s)'s details within the final Workgroup report, for the avoidance of doubt this includes WACMs which are proposed by the entire Workgroup or subset of members.

10. There is an obligation on the Workgroup to undertake a period of Consultation in accordance with CUSC 8.20. The Workgroup Consultation period shall be for a period of 3 weeks as determined by the Modifications Panel.

11. Following the Consultation period the Workgroup is required to consider all responses including any WG Consultation Alternative Requests. In undertaking an assessment of any WG Consultation Alternative Request, the Workgroup should consider whether it better facilitates the Applicable CUSC Objectives than the current version of the CUSC.

As appropriate, the Workgroup will be required to undertake any further analysis and update the original Modification Proposal and/or WACMs. All responses including any WG Consultation Alternative Requests shall be included within the final report including a summary of the Workgroup's deliberations and conclusions. The report should make it clear where and why the Workgroup chairman has exercised his right under the CUSC to progress a WG Consultation Alternative Request or a WACM against the majority views of Workgroup members. It should also be explicitly stated where, under these circumstances, the Workgroup chairman is employed by the same organisation who submitted the WG Consultation Alternative Request.

12. The Workgroup is to submit its final report to the Modifications Panel Secretary on 18th May 2011 for circulation to Panel Members. The final report conclusions will be presented to the CUSC Modifications Panel meeting on 27th May 2011.

MEMBERSHIP

13. The Workgroup has the following members:

Role	Name	Representing
Chair	Alex Thomason	
National Grid Representative	Tom Ireland	National Grid
Industry Representatives	Leonida Bandura	E.On
	Paul Mott/John Morris	EDF Energy
	Alan Creighton	CE Electric
	John Norbury	RWE
Authority Representative		
Technical Secretary	Thomas Derry	National Grid
Observers		

NB: A Workgroup must comprise at least 5 members (who may be Panel Members). The roles identified with an asterisk in the table above contribute toward the required quorum, determined in accordance with paragraph 14 below.

14. The chairman of the Workgroup and the Modifications Panel Chairman must agree a number that will be quorum for each Workgroup meeting. The agreed figure for CAP189 is that at least 5 Workgroup members must participate in a meeting for quorum to be met.

15. A vote is to take place by all eligible Workgroup members on the Modification Proposal and each WACM. The vote shall be decided by simple majority of those present at the meeting at which the vote takes place (whether in person or by teleconference). The Workgroup chairman shall not have a vote, casting or otherwise. There may be up to three rounds of voting, as follows:

- Vote 1: whether each proposal better facilitates the Applicable CUSC Objectives;
- Vote 2: where one or more WACMs exist, whether each WACM better facilitates the Applicable CUSC Objectives than the original Modification Proposal;
- Vote 3: which option is considered to BEST facilitate achievement of the Applicable CUSC Objectives. For the avoidance of doubt, this vote should include the existing CUSC baseline as an option.

The results from the vote and the reasons for such voting shall be recorded in the Workgroup report in as much detail as practicable.

16. It is expected that Workgroup members would only abstain from voting under limited circumstances, for example where a member feels that a proposal has been insufficiently developed. Where a member has such concerns, they should raise these with the Workgroup chairman at the earliest possible opportunity and certainly before the Workgroup vote takes place. Where abstention occurs, the reason should be recorded in the Workgroup report.

17. Workgroup members or their appointed alternate are required to attend a minimum of 50% of the Workgroup meetings to be eligible to participate in the Workgroup vote.

18. The Technical Secretary shall keep an Attendance Record for the Workgroup meetings and circulate the Attendance Record with the Action Notes after each meeting. This will be attached to the final Workgroup report.

19. The Workgroup membership can be amended from time to time by the CUSC Modifications Panel.

RELATIONSHIP WITH MODIFICATIONS PANEL

20. The Workgroup shall seek the views of the Modification Panel before taking on any significant amount of work. In this event the Workgroup chairman should contact the Modifications Panel Secretary.

21. The Workgroup shall seek the Modifications Panel's advice if a significant issue is raised during the Consultation process which would require a second period of Consultation in accordance with 8.20.17 of the CUSC.

22. Where the Workgroup requires instruction, clarification or guidance from the Modifications Panel, particularly in relation to their Scope of Work, the Workgroup chairman should contact the Modifications Panel Secretary.

MEETINGS

23. The Workgroup shall, unless determined otherwise by the Modifications Panel, develop and adopt its own internal working procedures and provide a copy to the Panel Secretary for each of its Modification Proposals.

REPORTING

24. The Workgroup chairman shall prepare a final report to the May 2011 CUSC Modifications Panel meeting responding to the matters set out in the Terms of Reference, including all Workgroup Consultation Reponses and Alternative CUSC Modification Requests.

25. A draft Workgroup Report must be circulated to Workgroup members with not less than five Business Days given for comments, unless all Workgroup members agree to three Business Days.

26. Any unresolved comments within the Workgroup must be reflected in the final Workgroup Report.

27. The chairman (or another member nominated by him) will present the Workgroup report to the Modifications Panel as required.

Appendix 1: Indicative Workgroup Timeline

30th July 2010	First CUSC Panel Meeting (agree Workgroup Terms of Reference)
28th September 2010	First Workgroup meeting
2nd March 2011	Second Workgroup Meeting
10th March	Draft Workgroup Consultation for comment
18th March 2011	Publish Workgroup Consultation
8th April 2011	Deadline for responses on Workgroup Consultation
w/c 11th April 2011	Post-Consultation Workgroup meeting
21st April 2011	Circulate draft Workgroup Report for comment
6th May 2011	Deadline for comment on Workgroup report
18th May 2011	Publish final Workgroup report for Panel Papers
27th May 2011	CUSC Modifications Panel Meeting (present Workgroup report)
31st May 2011	*Issue industry consultations*
14th June 2011	*Deadline for industry responses*
21st June 2011	*Draft Modification Report published for industry comment*
28th June 2011	*Deadline for industry comment*
21st July 2011	*Circulate draft Modification Report with Panel Papers*
29th July 2011	*Final CUSC Panel Meeting (Panel Recommendation Vote)*
1st August 2011	*Re-circulate report for Panel Member comments*
8th August 2011	*Send final Modification Report to Authority*
12th September 2011	*Indicative Authority decision (25 Working Day KPI)*
26th September 2011	*Indicative implementation date (10 Working Days following decision)*

Note 1: The items in italics refer to the part of the modifications process after the Workgroup concludes.

Note 2: At the July 2010 CUSC Modifications Panel meeting, the Panel agreed that the CAP189 Workgroup should report back to the October 2010 Panel meeting. However, due to the first Workgroup meeting being delayed until 28th September, the October deadline could not be met. The Panel agreed to an extension to the timetable for the Workgroup report to be delivered to the December 2010 Panel meeting.

Note 3: The timetable was further revised due to delays in drafting the CUSC legal text to support the CUSC Modification Proposal which meant that a second Workgroup meeting was not held until 2nd March 2011. The Workgroup report will be presented to the May 2011 CUSC Modifications Panel meeting.

Annex 3 - CAP189 Proposal Form

Amendment Proposal CAP: 189

CUSC Amendment Proposal Form	CAP: 189

Title of Amendment Proposal:

Standard Gas Insulated Switchgear Ownership Boundaries

Description of the Proposed Amendment *(mandatory by proposer)*:

CAP189 is raised following a recommendation of the joint Grid Code/ CUSC Gas Insulated Switchgear Working Group, whose report was presented to the May 2010 CUSC Amendments Panel meeting. The Working Group sought to clarify a number of issues identified relating to Gas Insulated Switchgear (GIS) assets. CAP189 specifically seeks to modify the CUSC such that a User requesting a connection to the National Electricity Transmission System, via a GIS substation, will be able to elect one of the following standard ownership boundaries and construction options:

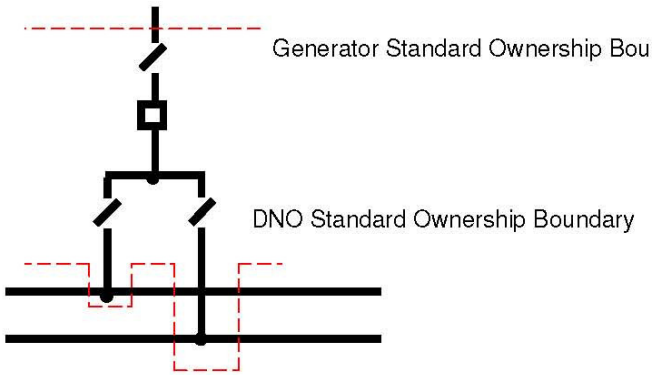
1. Generator Standard Boundary
2. DNO Standard Boundary – User builds all the GIS assets
3. DNO Standard Boundary – User builds their own assets only

The boundary description is intended to reflect the boundary that Generator and DNO Users would typically choose, but the recommendation will allow any User to choose either boundary.

The Generator Standard Boundary is the boundary at which Generators will typically elect to connect and the Working Group concluded this should be at the interface between the cable box socket and plug on the Users' circuit, as shown in the diagram below. The commercial terms in relation to Interruption Payments of a connection at such a boundary will be consistent with those currently made within the Scottish Power Transmission Region, namely that Interruption Payments are not made for loss of access resulting from faults or maintenance on the generator GIS bay.

The DNO Standard Boundary is the boundary which DNOs will typically select, based on the current definition in CUSC 2.12.1(e)(ii) which will result in the busbars of the GIS assets being owned by multiple parties. At GIS switchboards, where a single DNO interfaces with a Transmission Owner (TO) the boundary would be that at which the TO connects to the DNO assets.

For the avoidance of doubt, Generators will be free to select the DNO Standard Boundary and vice versa.



The proposed Generator Standard Boundary is currently available as a non-standard ownership boundary; the proposal effectively codifies this arrangement as a standard form.

The principle would be maintained that the electrical boundary is at the same point as the ownership boundary. Consequently, overall ownership and control of the generator bay will move to the Transmission Owner under the Generator Standard Boundary, although the Generator (or DNO) will be able to operate the bay circuit breaker on the basis of switching agreements as recorded in the Site Responsibility Schedule.

Options for Construction

Under the Generator Standard Boundary, the TO would construct all the GIS assets.

The GIS Working Group concluded that there are two effective options for the construction of GIS assets under the DNO Standard Boundary arrangement. The first is where the responsibility for the construction of the bay remains with the User. In this option the User has the choice to contract either with National Grid's unlicensed business or any other party (in reality limited to the GIS manufacturer) to install the User bay, thus, maintaining the ability for competition in construction. The second option is a self build arrangement under which the majority GIS asset owner would construct all the GIS assets on site and on completion the relevant assets would be transferred to the other party such that the enduring ownership boundary is at the DNO Standard Boundary. The majority GIS asset owner could be either the TO or the User.

The Connection Application Form within the CUSC would be amended to allow a User to nominate which standard ownership boundary and construction approach would be preferred if the use of GIS technology were required.

Description of Issue or Defect that Proposed Amendment seeks to Address *(mandatory by proposer)*:

Within the CUSC, the existing standard ownership boundary for GIS assets cannot be applied to the currently available GIS assets. Ownership boundaries are therefore determined and specified on a site by site project specific basis. Due to the nature of GIS equipment (i.e. integrated, sealed and modular) it is difficult to identify a construction and on going operational ownership boundary for all User connections at GIS substations. Site specific arrangements lead to construction and operational procedural complexity.

There is no recognised international standard for compatibility between GIS equipment manufactured by different GIS manufacturers which has a direct impact upon competition for the procurement and maintenance of the User's GIS bay equipment. It is not feasible to interface together GIS equipment from different manufacturers.

The GIS Working Group concluded that there is currently a limited amount of competition for construction of GIS bays since Users only have the choice of constructing the GIS bays themselves or, in the case of a generation connection, asking National Grid to do this via the Alliance Partners as unlicensed work. The Working Group noted that if the user chose to construct the GIS bay itself, they would need to contract with the same manufacturer directly. As indicated above, the use of another manufacturer's GIS equipment is not feasible.

The Working Group concluded that competition in the maintenance of User GIS bays is limited with inherent complexities to gain market entry including access to transmission substations, safety management and the specialised nature and equipment required and therefore a significant proportion of such maintenance is performed by National Grid's unlicenced business. That withstanding, the Working Group concluded that alternative service providers have been developing such capability and resources levels in order to partake in the maintenance of GIS transmission assets, and therefore the effectiveness of competition will increase.

Impact on the CUSC *(this should be given where possible)*:

Changes are proposed to the following sections of the CUSC:

- Section 2: Connection
- Section 11: Definitions
- Standard Exhibit F for the Connection Application Form

Impact on Core Industry Documentation *(this should be given where possible)*:

There are no impacts identified from CAP189 on Core Industry Documentation.

Impact on Computer Systems and Processes used by CUSC Parties *(this should be given where possible)*:

None identified.

Details of any Related Modifications to Other Industry Codes *(where known)*:

None identified

Justification for Proposed Amendment with Reference to Applicable CUSC Objectives** *(mandatory by proposer)*:

The Proposed Amendment would better meet both Applicable CUSC Objectives:

(a) the efficient discharge by the licensee of the obligations imposed upon it under the Act and by this license;

National Grid has a range of statutory duties and licence obligations which include ensuring the efficient, economic and co-ordinated operation of the National Electricity Transmission System. The proposed amendment better facilitates objective (a) the efficient discharge by transmission licensees of this obligation as site specific construction and operational procedures and contractual arrangements would no longer be inherently required for connections at GIS substations.

(b) facilitating effective competition in the generation and supply of electricity, and (so far as consistent wherewith) facilitating such competition in the sale, distribution and purchase of electricity.

With regard to objective (b), implementation of CAP189 would further facilitate competition in the construction, operation and maintenance of User owned GIS assets and therefore facilitates Transmission Owners, Generators, DNOs and directly connected users connecting at a GIS substation, in the future.

Details of Proposer: Organisation's Name:	National Grid Electricity Transmission plc
Capacity in which the Amendment is being proposed: (i.e. CUSC Party, BSC Party or "National Consumer Council")	CUSC Party
Details of Proposer's Representative: Name: Organisation: Telephone Number: Email Address:	Tom Ireland National Grid Electricity Transmission 01926 65 6152 Thomas.ireland@uk.ngrid.com
Details of Representative's Alternate: Name: Organisation: Telephone Number: Email Address:	David Smith National Grid Electricity Transmission 01926 65 5534 David.m.smith@uk.ngrid.com
Attachments (Yes/No): Yes **If Yes, Title and No. of pages of each Attachment:** The latest version of the Gas Insulated Switchgear Working Group Report is available on National Grid's website at: http://www.nationalgrid.com/NR/rdonlyres/FED4D50E-4469-4D7F-B08F-F08DE47C0800/41152/GasInsulatedSwitchgearWorkingGroupReport.pdf	

Notes:

1. Those wishing to propose an Amendment to the CUSC should do so by filling in this "Amendment Proposal Form" that is based on the provisions contained in Section 8.15 of the CUSC. The form seeks to ascertain details about the Amendment Proposal so that the Amendments Panel can determine more clearly whether the proposal should be considered by a Working Group or go straight to wider National Grid Consultation.

2. The Panel Secretary will check that the form has been completed, in accordance with the requirements of the CUSC, prior to submitting it to the Panel. If the Panel Secretary accepts the Amendment Proposal form as complete, then he will write back to the Proposer informing him of the reference number for the Amendment Proposal and the date on which the Proposal will be considered by the Panel. If, in the opinion of the Panel Secretary, the form fails to provide the information required in the CUSC, then he may reject the Proposal. The Panel Secretary will inform the Proposer of the rejection and report the matter to the Panel at their next meeting. The Panel can reverse the Panel Secretary's decision and if this happens the Panel Secretary will inform the Proposer.

   The completed form should be returned to:

   Bali Virk
   Commercial
   National Grid
   National Grid House
   Warwick Technology Park
   Gallows Hill
   Warwick
   CV34 6DA

   Or via e-mail to: Bali.Virk@uk.ngrid.com

(Participants submitting this form by email will need to send a statement to the effect that the proposer acknowledges that on acceptance of the proposal for consideration by the Amendments Panel, a proposer which is not a CUSC Party shall grant a licence in accordance with Paragraph 8.15.7 of the CUSC. A Proposer that is a CUSC Party shall be deemed to have granted this Licence).

3. Applicable CUSC Objectives** - These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1. Reference should be made to this section when considering a proposed amendment.

Name	Organisation	Role	28/09/10	02/03/11	14/04/11
Alex Thomason	National Grid	Chairman	Yes	Yes	Yes
Thomas Derry	National Grid	Technical Secretary	Yes	Yes	Yes
Tom Ireland	National Grid	National Grid representative	Yes	Yes	Yes
John Norbury	RWE	Workgroup Member	Yes	Yes	Yes
Paul Mott	EDF Energy	Workgroup Member	No	No	No
Leonida Bandura	E.ON	Workgroup Member	Yes	Yes	Yes
John Morris	EDF Energy	Alternate Workgroup Member	No	Yes	Yes
Alan Creighton	CE Electric UK	Workgroup Member	Yes	Yes	Yes

Annex 5 – Workgroup Consultation Responses

Your ref CUSC CAP 189

Our ref

Tom Ireland
Electricity Codes
Regulatory Frameworks
National Grid Electricity Transmission plc
National Grid House
Warwick Technology Park
Gallows Hill
Warwick
CV34 6DA

5th April 2011

Asset Management
98 Aketon Road
Castleford
WF10 5DS
http://www.ce-electricuk.com/
tel: 0191 229 4422
fax: 01977 605594
e-mail: mark.nicholson@ce-electricuk.com

Dear Tom

CAP189 Gas Insulated Switchgear

Please find attached a Response Proforma completed on behalf of Northern Electric Distribution Limited (NEDL) and Yorkshire Electricity Distribution plc (YEDL), the licensed electricity distributors of CE Electric UK.

If there are any issues arising from this response please contact Alan Creighton on 01977 605920 or alan.creighton@ce-electricuk.com.

Yours sincerely

Sent by email

Mark Nicholson
Head of System Strategy

CUSC Workgroup Consultation Response Proforma

CAP189 Gas Insulated Switchgear

Industry parties are invited to respond to this consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by Error! Reference source not found. to cusc.team@uk.ngrid.com Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the Workgroup.

Any queries on the content of the consultation should be addressed to Tom Ireland at thomas.ireland@uk.ngrid.com.

These responses will be considered by the Workgroup at their next meeting at which members will also consider any WG Consultation Alternative Requests. Where appropriate, the Workgroup will record your response and its consideration of it within the final Workgroup report which is submitted to the CUSC Modifications Panel.

Respondent:	Alan Creighton Senior Asset Management Engineer Asset Management CE Electric UK External Tel: 01977 605920 Fax: 01977 605944 Mobile: 07850 015515 Email: alan.creighton@ce-electricuk.com
Company Name:	CE Electric UK
Please express your views regarding the Workgroup Consultation, including rationale. **(Please include any issues, suggestions or queries)**	CE Electric UK has been involved in the drafting of the consultation document and is comfortable with the Workgroup consultation.
Do you believe that the proposed original or any of the alternatives better facilitate the Applicable CUSC Objectives? Please include your reasoning.	*For reference, the Applicable CUSC Objectives are:* *(a) the efficient discharge by the licensee of the obligations imposed upon it under the Act and by this licence; and* *(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 believe that the proposed amendments to CUSC better meet the Applicable CUSC objectives for the reasons stated in section 7.2 of the Workgroup consultation.

Do you support the proposed implementation approach? If not, please state why and provide an alternative suggestion where possible.	Section 6.4 of the consultation document indicates that the ownership boundaries are set once the BCA has been signed. In CE Electric UK GIS is installed at four GSPs: Keadby (pre CUSC): the BCA is silent about the ownership boundary and there is no reference to CUSC 2.12. Norton (2004): the BCA indicates that the ownership boundary shall be determined as soon as possible after the date the BCA is signed. If the boundary is different to that set out in 2.12, there is a requirement for the BCA to be updated. Creyke Beck (2007): the BCA is silent about the ownership boundary and there is no reference to CUSC 2.12. Tynemouth (2008): the BCA indicates that the ownership boundary shall be determined once the design of the substation has been finalised. If the boundary is different to that set out in 2.12, then NGET has a right to update the BCA. It is clear from these four examples that the ownership boundary is not always set once the BCA has been signed. We are concerned that given the proposed drafting of CUSC 2.12 has two options for the GIS ownership boundary, unless the BCA clearly spells out the ownership boundary, the ownership boundary for existing switchgear could be uncertain. We suggest that where a User believes such uncertainty exists or could exist at an existing connection site, they should have the opportunity to change the BCA to clarify the existing arrangement without incurring any fees.
Do you have any other comments?	Schedule 2 – Exhibit 1 Clause 14.7 There appears to be some words missing after the word 'shall'….category of a Power Station shall and relieves The Company…. Schedule 2 – Exhibit 1 Clause 14.7 Given that CUSC Clause 2.4 refers to the import of power to a connection site, its not immediately clear that this sits comfortably with the ownership boundary defined in 2.12.1(f)(i).
Do you wish to raise a WG Consultation Alternative Request for the Workgroup to consider?	No

Specific questions for CAP189

Q	Question	Response
1	**What are your views on including diagrams within the CUSC and BCA to help aid understanding of the ownership boundaries?**	The inclusion of diagrams in the CUSC and BCA does seem to be a good way of adding clarity to what can be difficult to understand boundary definitions. However, given that the definition refers to gas zones, it would be helpful if the diagrams included illustrative gas zones as it would then be clearer where the gas zone boundaries are.
2	**What are your views regarding the implementation timetable for CAP189?**	On the basis that the ownership boundaries are set when the BCA has been signed then it would seem reasonable for a User to have the option to select an alternative boundary as soon as possible after a positive Authority Decision i.e. after 10 working days. However we have some concerns that there might not be the level of clarity regarding the ownership boundary in the BCAs as indicated in section 6.4 of the consultation document.

To : cusc.team@uk.ngrid.com. 8th April 2011

Dear CUSC Team,

CUSC Amendment Proposal CAP189:
Standard Gas Insulated Switchgear (GIS) Ownership

EDF Energy was pleased to be part of the joint Grid Code/CUSC GIS working group that helped shape this proposal.

- EDF Energy supports the identification of two standard GIS ownership boundaries whilst allowing flexibility to have non-standard boundaries.

- EDF Energy recommends that the associated changes to the charging methodology and development of a standard exhibit for DNO self-build agreements are progressed without undue delay following conclusion of CAP189.

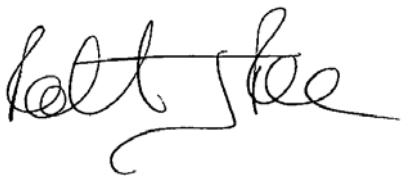
In summary, we agree that CAP189 will better facilitate the applicable CUSC objectives once the charging issues are established as it will allow developers to consider the most efficient options for ownership. This would of course be against the constraint that NG had already selected a preferred supplier of GIS switchgear through their own internal assessment processes.

We would support the inclusion of a simple diagram to show the two standard GIS ownership boundaries described in the CUSC clauses.

We suggest that implementation in accordance with the standard CUSC timescales will better facilitate the option to change to a standard ownership boundary via a modification application for Users with existing Construction Agreements.

If you have any queries on this response, please do not hesitate to contact me directly, or my colleague John Morris on 01452 653492.

Yours sincerely



Rob Rome
Head of Transmission and Trading Arrangements

EDF Energy
40 Grosvenor Place, Victoria
London SW1X 7EN
Tel +44 (0) 020 7752 2200

edfenergy.com

CUSC Workgroup Consultation Response Proforma

CAP189 Gas Insulated Switchgear

Industry parties are invited to respond to this consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **08 April 2011** to cusc.team@uk.ngrid.com Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the Workgroup.

Any queries on the content of the consultation should be addressed to Tom Ireland at thomas.ireland@uk.ngrid.com.

These responses will be considered by the Workgroup at their next meeting at which members will also consider any WG Consultation Alternative Requests. Where appropriate, the Workgroup will record your response and its consideration of it within the final Workgroup report which is submitted to the CUSC Modifications Panel.

Respondent:	**John Norbury** **Network Connections Manager** RWE Supply & Trading GmbH Windmill Hill Business Park Whitehill Way Swindon SN5 6PB T +44 (0)1793 89 2667 M +44 (0)7795 354 382 mailto:john.norbury@rwe.com
Company Name:	RWE group of companies, including RWE Npower plc, RWE Npower Renewables Limited and RWE Supply & Trading GmbH
Please express your views regarding the Workgroup Consultation, including rationale. **(Please include any issues, suggestions or queries)**	RWE raised this GIS related issue under the provisions of the Grid Code. It has been involved in the drafting of the CUSC consultation document and is satisfied with the Workgroup consultation.
Do you believe that the proposed original or any of the alternatives better facilitate the Applicable CUSC Objectives? Please include your reasoning.	*For reference, the Applicable CUSC Objectives are:* *(a) the efficient discharge by the licensee of the obligations imposed upon it under the Act and by this licence; and* *(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.* The proposal effectively provides Users with an option to transfer certain GIS assets, currently considered as User Assets but where the User has little or no choice in their procurement, to become regulated assets. RWE believes that this transfer will create clarity and improve consistency in the treatment of these

	GIS assets thereby facilitating competition.

Do you support the proposed implementation approach? If not, please state why and provide an alternative suggestion where possible.	We agree with the proposed approach whereby new build schemes may elect to be covered under the proposed arrangements and existing users may submit a modification application to be similarly covered by these arrangements. We trust that NG would exercise reasonable discretion in permitting schemes that wished to transfer to the new arrangements under a modification application. In the event that the ownership boundary has not yet been defined in the BCA, a modification application may not be required.
Do you have any other comments?	Minor drafting comment to Definitions: Insert"(GIS)" after "Gas Insulated Switchgear"
Do you wish to raise a WG Consultation Alternative Request for the Workgroup to consider?	No

Specific questions for CAP189

Q	Question	Response
1	What are your views on including diagrams within the CUSC and BCA to help aid understanding of the ownership boundaries?	We would support the inclusion of diagrams within the CUSC and BCA where this would help aid understanding. In general terms, we would not expect the presence of such diagrams to lead to more complex obligations on Users.
2	What are your views regarding the implementation timetable for CAP189?	In order to maximise the benefits of this proposed change and given the flexibility of implementation offered to the User, it would seem sensible to implement it as soon as possible following a decision by the Authority, i.e. 10 working days.

CUSC Workgroup Consultation Response Proforma

CAP189 Gas Insulated Switchgear

Industry parties are invited to respond to this consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **08 April 2011** to cusc.team@uk.ngrid.com Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the Workgroup.

Any queries on the content of the consultation should be addressed to Tom Ireland at thomas.ireland@uk.ngrid.com.

These responses will be considered by the Workgroup at their next meeting at which members will also consider any WG Consultation Alternative Requests. Where appropriate, the Workgroup will record your response and its consideration of it within the final Workgroup report which is submitted to the CUSC Modifications Panel.

Respondent:	*Garth Graham (01738 456000)*
Company Name:	Scottish and Southern Energy, Southern Electric, Airtricity Developments (Scotland) Limited, Airtricity Developments (UK) Limited, Clyde Wind Farm (Scotland) Limited, Dalswinton Wind Farm (Scotland) Limited, Greenock Wind Farm (Scotland) Limited, Griffin Wind Farm Limited, Keadby Developments Limited, Keadby Generation Limited, Medway Power Limited, Minsca Wind Farm (Scotland) Limited, Slough Energy Supplies Limited, SSE (Ireland) Limited, SSE Energy Limited and SSE Generation Limited.
Please express your views regarding the Workgroup Consultation, including rationale. **(Please include any issues, suggestions or queries)**	We welcome the CAP189 consultation. The issues surrounding the boundary definition associated with GIS merit detailed consideration; which CAP189 provides.
Do you believe that the proposed original or any of the alternatives better facilitate the Applicable CUSC Objectives? Please include your reasoning.	We note the comments in (i) the original CAP189 proposal and (ii) Section 5 of the consultation report that in the view of (i) the Proposer and (ii) the Workgroup CAP189 better meets the applicable CUSC objectives. We concur with this. In our view CAP189 will remove the uncertainty surounding where, exactly, the ownership boundary resides in a piece of equipment (e.g. gas insulated switchgear) which 'bridges' the 'traditional' boundaries between generator and network assets.

	Where the ownership boundary resides with other 'traditional' switchgear is clearly understood by the parties concerned. CAP189, in providing similar clarity, will benefit the Transmission Licensee and Users which will, respectively, allow the Transmission Licensee to more efficiently discharge their licence obligations (objective a) whilst facilitating effective competition in the generation (and thus supply) of electricity (objective b).

Do you support the proposed implementation approach? If not, please state why and provide an alternative suggestion where possible.	See our answer to Question 2 below.
Do you have any other comments?	We welcome the deliberations of the CAP189 Workgroup in addressing an issue of importance to the CUSC community. It is clear that if CAP189 is implemented that tight operating procedures will need to be put in place, on a site-by-site basis, dealing with the multitude of operational issues between the 'owner' (be that generator or DNO/ TO) and the other, non owning, party (be that generator or DNO/ TO); such as access to the equipment, delegation of authority, local switching procedures, safety risk assessment / safety rules etc. We note the reference to 'DNO' in the document and observe that 132kV equipment in Scotland is a transmission asset; thus the TSOs will need to be involved in the same way as DNOs are in England & Wales.
Do you wish to raise a WG Consultation Alternative Request for the Workgroup to consider?	No. We do not wish to raise a WG Consultation Alternative Request.

Specific questions for CAP189

Q	Question	Response
1	What are your views on including diagrams within the CUSC and BCA to help aid understanding of the ownership boundaries?	We note the discussion in paragraph 4.20 concerning including diagrams within the CUSC and BCA. In our view the inclusion of a generic diagram (in the CUSC) and a specific diagram (in the BCA) would be a helpful addition to the two respective documents. The GB industry codes already contain illustrative diagrams (such as those in the Grid Code) which aid the User's understanding. Inclusion of diagrams in the case of GIS boundaries would be a welcome development which we would support. We cannot foresee any downside from their inclusion.
2	What are your views regarding the implementation timetable for CAP189?	We note the discussion in Section 6 of the report. In reference to the three options outlined 6.5 we believe that:- Option 1 (10 working days) is not appropriate as this gives insufficient time for Users to determine the impact. Option 2 (40 working days) is, in our view, the most appropriate as it allows sufficient time for Users to determine the impact. Option 3 (1st April 2013) is 'uncertain' given the unknown duration of the Ofgem deliberations. Given this uncertainty we believe that the most appropriate approach is Option 2.