

GIS Working Group - Draft Legal Text Discussion Document

OPTION A – Majority owner owns all the GIS assets (RWE Model)

Generation connections only – National Grid owns GIS switchgear

DNO connections to be developed once legal text for generators is developed due to different ownership i.e. DNO rather than TO.

GRID CODE

Q: Are Grid Code changes necessary? Would new definitions have any benefit?

For debate at the meeting

Why?

Its not clear than a generic change to define GIS is required in the GC (there are various refs to “gas insulated”) as the need for it stems from need to define electrical\operational boundary in CUSC and having done that the consequences in the CUSC\BCA.

The Grid Code refers to switchgear by reference to certain obligations – see CC7.4.2\4\9. If GIS is defined it would require a further review of the whole Grid Code to check all other references. In addition, it may require other types of switchgear to be defined, which is outside the scope of the group.

However there may be some value in referring to it in specific circumstances in the GC ie if want to add obligation to have\refer to any GIS operating arrangements in the site responsibility schedules?

CUSC

Section 2

Amend 2.12(e) as follows by adding

2.12(e) (iii) for substations where both the substation busbars and the interfacing switchgear between those busbars and any connecting circuits are of gas insulated construction, the electrical boundary will be demarked by the last of such assets.

NB: This sets the default electrical (and so ownership boundary) in such circumstances and 2.12.1 (as today) would allow for something else to be agreed. Could be varied in the bilateral agreement if it was not suitable for a specific users site.

Also refer to document marked addition considerations

Section 11 Add definitions of:

Gas Insulated Switchgear	means, in circumstances where the substation at which a User is connected to the GB Transmission System is a GIS Substation , the switchgear at the substation as identified on the GIS Diagram .
GIS Diagram	means the diagram (if any) attached to a User's Bilateral Connection Agreement identifying the gas insulated switchgear at the GIS Substation at which the User is connected.
GIS Substation	a substation where both the substation busbars and the interfacing switchgear between those busbars and any connecting circuits are of gas insulated construction

For debate at the meeting

1. Management of Planned Outages
2. Management of Unplanned Outages (faults) – transfer and management of risk from commercial to regulated. Impacts and consequences for both generators and National Grid
3. Compensation for Planned and Unplanned Outages

The legal drafting reflects how compensation was payable for Interruptions but excluded for those when the tolerance level within the BCA has been reached and a outage has not been agreed under OC2.

[Planned GIS Outage	a Planned Outage of the Gas Insulated Switchgear
Unplanned GIS Outage	an Unplanned Outage of the Gas Insulated Switchgear]

[Amend definition of Allowed Interruption by adding

h) an **Unplanned GIS Outage]**

Bilateral Connection Agreement

GIS Diagram

the diagram attached at Appendix [X] specifying the **Gas Insulated Switchgear**.

An operational agreement for switching

For debate at the next meeting

[GIS Operating Arrangements

[E&W the arrangements pursuant to Clause X.9.6 between the **User** and **The Company** for the operation by [the **User**] [**The Company**] of the **[Gas Insulated Switchgear Isolator Disconnecter]**

Or

the arrangements pursuant to Clause X.9.6 between [the **User** and **The Company**] [the **User** and the **Relevant Transmission Licensee**] being those required to enable the operation by [the **User**] [the **Relevant Transmission Licensee**] of the **Gas Insulated Switchgear Isolator Disconnecter]**

Gas Insulated Switchgear Isolator Disconnecter

To be debated

GIS Maintenance Year

each period of 12 months starting on [1 April?] in each calendar year

GIS Operating Arrangements

[E&W the arrangements pursuant to Clause X.9.6 between the **User** and **The Company** for the operation by [the **User**] [**The Company**] of the **[Gas Insulated Switchgear – or is it only a component of this?]**.

Or

the arrangements pursuant to Clause X.9.6 between [the **User** and **The Company**] [the **User** and the **Relevant Transmission Licensee**] being those required to enable the operation by [the **User**] [the **Relevant Transmission Licensee**] of the **Gas**

GIS Planned Maintenance	Insulated Switchgear – <i>or is it only a component of this?].</i>
GIS Planned Maintenance Schedule	The Company's maintenance activities, as set out in the GIS Planned Maintenance Schedule by reference to each component of the Gas Insulated Switchgear , which require a Planned GIS Outage .
GIS Planned Maintenance Year	the Schedule set out in Appendix XX. the expected GIS Maintenance Year (by reference to each component of the GIS Switchgear) in which GIS Planned Maintenance will be undertaken on that component and which is set out in the GIS Planned Maintenance Schedule .
GIS Planned Outage Period.	the period of the Planned GIS Outage .
Notification of GIS Planned Outage	notification by The Company under Grid Code OC2 of a GIS Planned Outage .
Tolerance	the GIS Maintenance Years as specified in the GIS Planned Maintenance Schedule by reference to the GIS Planned Maintenance Year .

Add New Clause

- X **Gas Insulated Switchgear Substation** (*where the substation at which the Users is connected is of gas insulated switchgear construction only*)

- X.1 The **User** is connected to the **GB Transmission System** at the **Transmission** [name\voltage] kV substation which is a **GIS Substation** and as a result the following provisions shall apply.

- X.2 **GIS Planned Outages**
 - X.2.1 Following a **Notification of Planned GIS Outage** **The Company** and the **User** shall act in accordance with **Good Industry Practice** to coordinate the **GIS Planned Outage Conditions** on the **GB Transmission System** and **Planned Outages** on the **User's Plant** and **Apparatus** to the extent practicable.

X.2.2 Where following a **Notification of Planned GIS Outage**, the **GIS Planned Outage Conditions** cannot be coordinated with **Outages** on the **User's Plant and Apparatus** and the **GIS Planned Outage Period** is within the **GIS Planned Maintenance Year or Tolerance** for that component of the **GIS Switchgear**, the **User** shall revise its **Output Useable** forecast for the **BM Unit(s)** for the relevant **Settlement Periods** within the **GIS Planned Outage Period** accordingly and:

X.2.2.1 the **User** shall (i) ensure that the **Maximum Export Limit** and **Maximum Import Limit** for the **BM Unit(s)** for the **Power Station** reflect the outage of the **Gas Insulated Switchgear** and (ii) operate its **Power Station** to reflect the outage of the **Gas Insulated Switchgear** for all **Settlement Periods** or parts thereof falling within the **GIS Planned Outage Period** during that **GIS Planned Outage Period**; *[is it the case that during this outage the MELMIL should in all cases be zero?]*

X.2.2.2 In the event that the **User** does not comply with Clause X.2.2.1 above, **The Company** shall issue **Bid-Offer Acceptances** to the **User** to reduce the export from and/or import to the **BM Unit(s)** so that the effect is as if the **User** had complied with the relevant Clause, and the provisions of the **Transmission Related Agreement** shall apply.

[assume X.2.2/3/4 only applies to generators

there are various remedies for non compliance in the context of design variation. Are similar provisions required here?

Also, as per X.2.2.1 is there a concept of reduction or just deenergisation only?]

X.2.3 Where the **User** becomes aware of or is notified by **The Company** of any breach of Clause X.2.2 above the **User** shall forthwith take all reasonable steps to comply with the provisions of that Clause.

X.2.4 Any **Deenergisation** resulting from the **GIS Planned Outage** constitutes an **Allowed Interruption** where it occurs within the **GIS Planned Maintenance Year or Tolerance** for the component of the **GIS Switchgear** to which the **GIS Planned Outage** relates. *[assume outside of this the outage is effectively agreed so no need to cover it?]*

X.2.5 [The Company shall be entitled to revise the **GIS Planned Maintenance Schedule** at any time [to reflect any change in The Company's maintenance policies]]. [As at the date of this **Bilateral Connection Agreement** the **GIS Planned Maintenance Year** and **Tolerance** for each component of the **GIS Switchgear** in the **GIS Planned Maintenance Schedule** have not been completed and will remain uncompleted unless **The Company** and the **User** fail to agree to coordinate a **GIS Planned Outage** and an **Outage** on the **User's Plant** and **Apparatus**. In the event that such coordination is not agreed by [*what stage in OC2?*], or in **The Company's** reasonable view, is unlikely to be agreed by [*what stage in OC2?*], **The Company** shall be entitled to substitute the **GIS Planned Maintenance Schedule** attached to this **Bilateral Connection Agreement** with one showing the **GIS Planned Maintenance Year** and **Tolerance** for each component of the **GIS Switchgear** and the provisions of this Clause X.2 shall apply.]

Not clear what is required where DNO owns GIS?

X.2.9 **GIS Operating Arrangements**

[England and Wales – when have clearer idea of requirements it may be that this sits better in separate document but having looked at some examples they really concentrate on the instructing process (as usually time limited release) and add in the CUSC boilerplate.]

X.2.9 [Effective from the **Commissioning** of the **Gas Insulated Switchgear** until the earlier of termination of this **Bilateral Connection Agreement** or the decommissioning of the **Gas Insulated Switchgear**

X.2.9.1 **The Company** releases operational control of the **Gas Insulated Switchgear** to the **User** and subject to the following the **User** shall be entitled to operate the **Gas Insulated Switchgear** as if the **User** owned the **Gas Insulated Switchgear**.

X.2.9.2 The **User** shall operate the **Gas Insulated Switchgear** in accordance with **Good Industry Practice**.

X.2.9.3 In addition the **User** shall operate the **Gas Insulated Switchgear** in accordance with the following conditions and requirements
[any other requirements/conditions?]

X.2.9.4 any access requirements/other rights to be specified?

X.2.9.5 this release of operational control of the **Gas Insulated Switchgear** shall be recorded in the **Site Responsibility Schedule**.

X.2.9.6 For the avoidance of doubt, notwithstanding this release of operational control [assume NGET still has whatever rights to instruct under GC that would have if user owned this switchgear?]

[other than in England and Wales –waiting for confirmation but this issue may currently be dealt with through the site responsibility schedules rather than additional agreement and need to better understand what is required

X.2.9 The **User** shall enter into the **GIS Operating Arrangements** with the **Relevant Transmission Owner**, and **The Company** shall procure that the **Relevant Transmission Owner** enter into the **GIS Operating Arrangements** with the Use.

{this will require a change to STC}

X.2.9 **GIS Operating Arrangements**

England and Wales

X.2.9 [Effective from the **Commissioning** of the **Gas Insulated Switchgear Isolator Disconnecter** until the earlier of termination of this Bilateral Connection Agreement or the decommissioning of the [**Gas Insulated Switchgear**]

X.2.9.1 **The Company** releases operational control of the **Gas Insulated Switchgear Isolator Disconnecter** to the **User** and subject to the following the **User** shall be entitled to operate the **Gas Insulated Switchgear Isolator Disconnecter** as if the **User** owned the **Gas Insulated Switchgear Isolator Disconnecter**.

- X.2.9.2 The **User** shall operate the **Gas Insulated Switchgear Isolator Disconnecter** in accordance with **Good Industry Practice**.
- X.2.9.3 In addition the **User** shall operate the **Gas Insulated Switchgear Isolator Disconnecter** in accordance with the following conditions and requirements
[to be specified for specific user connections
- X.2.9.4 *any access requirements/other rights to be specified?*
- X.2.9.5 this release of operational control of the **Gas Insulated Switchgear Isolator Disconnecter** shall be recorded in the **Site Responsibility Schedule**.
- X.2.9.6 For the avoidance of doubt, notwithstanding this release of operational control

Scotland

NB: *In Scotland this issue may currently be dealt with through the site responsibility schedules rather than additional agreement. Awaiting confirmation.*

Q: *Is any agreement required? If so is any additional drafting required?*

X.2.9 The **User** shall enter into the **GIS Operating Arrangements** with the **Relevant Transmission Owner**, and **The Company** shall procure that the **Relevant Transmission Owner** enter into the **GIS Operating Arrangements** with the Use.]

NB: *This will require a change to STC*

APPENDIX XX

GIS PLANNED MAINTENANCE SCHEDULE

User

Site

The anticipated maintenance activities in respect of each component of the **GIS Switchgear** and the **GIS Maintenance Year** in which they are expected to occur and the **Tolerances** for this are set out in the table below.

Plant	Routine Description	Planned	Tolerance
Circuit Breaker [X]	Basic Maintenance	every [third] GIS Maintenance Year [from\including] the GIS Maintenance Year in which [this asset\the Power Station/GIS Switchgear] is Commissioned]	[the Planned GIS Maintenance Year + or – one GIS Maintenance Year .] <i>Is it always one yr either side? If so can define it?]</i>
Isolator	Basic Maintenance	every [ninth] GIS Maintenance Year [from\including] the GIS Maintenance Year in which [this asset\the Power Station/GIS Switchgear] is Commissioned]	
Gas Zones	Basic Maintenance	every [ninth] GIS Maintenance Year [from\including] the GIS Maintenance Year in which [this asset\the Power Station/GIS Switchgear] is Commissioned]	

Construction Agreement

"an agreement between The Company and the User under which the User operates those components of The Company's gas insulated switchgear on the transmission circuit connecting the User at the The Company's [] [275\400kV] substation"

"2.X The User shall enter into the GIS Operating Agreement as soon as practicable after the date hereof and in any event by the Commissioning programme Commencement date or such later date as The Company shall agree."

Clause 7.1 (operational notification) would then be subject to this GIS Operating Agreement being in place.

OTHER

Relevant Electrical Standard

National Grid can confirm that there is unlikely to be any significant impact on the Relevant Electrical Standard due to a change of ownership boundary. Section 17 refers to GIS and would continue to apply (see link below). However it may be worth while adding an addition note in the introduction paragraph 2 noting the different ownership boundary for GIS for the avoidance of doubt.

<http://www.nationalgrid.com/uk/Electricity/Codes/gridcode/ges/ewelecstandards/>

Charging methodologies

No changes required for generation connection if users continue to choose an annualised payment or capital. Changes required if users are requested to make capital contributions.

No change required to the charging methodology for DNO's however may require some clarifications on the definition of connection assets.

OPTION B