

# Grid Code Gas Insulated Switchgear (GIS) Working Group

Meeting Name	Grid Code Gas Insulated Switchgear (GIS) Working Group
Meeting No.	5
Date of Meeting	13 <sup>th</sup> May 2009
Time	10:00am – 3:00pm
Venue	Room A3.1, National Grid Offices, Warwick

This note outlines the key points from the fifth meeting of the Grid Code (GIS) Working Group.

## Members Present:

David Smith	DS	Chairman
Richard Dunn	RD	Technical Secretary
Tom Ireland	TI	National Grid
John Norbury	JN	RWE Trading
Claire Maxim	CM	E.On UK Ltd
John Morris	JM	British Energy
Paul Dyer	PD	EdF Energy Networks
Keith Hodson	KH	Central Networks West

## Apologies:

Emma Carr	EC	National Grid
Chris Holdsworth	CH	CE Electric UK
Alan Creighton	AC	CE Electric UK
Jeff Norfolk	JNo	RWE Trading
Fraser Ainslie	FA	Scottish Power
Daniel Cassidy	DC	Scottish Power
Bridget Morgan	BM	Ofgem

## 1. Introductions and Apologies

89. Apologies for absence were received from Chris Holdsworth, Emma Carr, Jeff Norfolk, Fraser Ainslie, Daniel Cassidy and Bridget Morgan. DS apologised that the previous meeting of the Group scheduled for 31<sup>st</sup> March had been postponed due to the pressure of work on other urgent Codes modifications. He also introduced Tom Ireland who would be taking over the lead on GIS for National Grid in future from Emma Carr.

## 2. Draft Notes and Actions of the Meeting held on 27<sup>th</sup> January 2009

90. The draft notes of the fourth meeting held on 27<sup>th</sup> January 2009 were agreed. RD would publish the final version on the website.

**Action: RD**

### 91. Review of Actions from the 27<sup>th</sup> January 2009 meeting

In reviewing the actions Members also referred to the summary of update on actions previously circulated by National Grid and comments received on all the various documents the day before the meeting from AC on behalf of CH.

- Item 69 – the minutes of the Working Group meeting held on 4<sup>th</sup> September 2008 were now on the National Grid website – action complete
- Item 72 – AC had commented that there might be issues for the DNOs here in the context of the review of back-up protection arrangements that the Panel had set in train recently. There could also be a need to review P2/6 for example to extend the circuits currently classified as a First Circuit Outage (FCO) to include the SGT circuit owned by a DNO. KH was not aware of any significant issues arising from the ownership of DNOs circuits by National Grid from Central Network's point of view – action ongoing.
- Item 73 – EC had reported in the summary update on actions that it would only be possible to

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provide worked examples if the generator was willing to share costs with National Grid for a historic project which could then be anonymised and shared with the Group. - action ongoing.

- Item 76 – AC had commented that retrospection seemed inappropriate as it would involve transfer of existing assets between DNOs/Generators/National Grid, unless there were significant operational benefits that would be gained from such transfers. Other Members were generally not in favour of retrospection but CM pointed out that this should not exclude situations where a BCA had been signed for a project involving GIS beyond say 2016 and no construction had commenced. There should still be opportunity to change such BCAs to accommodate any revised arrangements for GIS arising from the work of this Group. Options for implementation would be considered under item 4 – action complete.
- Item 77 – JN had circulated some suggested changes to the legal text and other changes to the Group on 10<sup>th</sup> February 2009 and EC had circulated draft legal text to the Group before the meeting. Both would be discussed under item 5. It was noted that there could be a significant read-across to the busbar switching contracts that were currently being developed further by National Grid. RD noted that a progress report on development of the contacts would be provided by Richard Wood of National Grid for the Panel meeting on 21<sup>st</sup> May - action ongoing.
- Item 81 – the generic transfer document was not yet available – action ongoing.
- Item 83 – the draft working Group report would be discussed under item 5.
- Item 85 – JN indicated that he had continued to hold discussions with EC about potential changes to the charging methodology to accommodate GIS. JN commented that at present there is low confidence on the capital cost apportionment on the generator's GIS bays by the contractor as the generator must use the same GIS supplier as the remainder of the substation. Such supplier is chosen by National Grid. JN continued that he still believed it should be possible to develop a baseline price for a GIS bay excluding peripheral equipment such as supporting steelwork, protection and cable runs. His preference was for the generic cost of GIS bays to be included as a table in the charging methodology. DS pointed out that any change to the charging methodology would need to be approved by Ofgem and generally should be considered in the charging discussion forums and not under a CUSC Working Group. PD commented that identifying a transparent price for a GIS bay was made more difficult by the manufacturer's pricing practices e.g. the extent of unbundling the costs of the GIS bay and the costs of civil construction. These practices varied significantly between manufacturers. This was not an issue for AIS where transparency was much more straightforward. JN acknowledged the difficulties of achieving pricing transparency with GIS but believed a table on the lines he described would provide significant improvements for Users.
- Item 86 - the CUSC Panel had been informed of the progress made by the Working Group and had expressed a preference for a CUSC amendment to be raised after receipt of the final Report from the Working Group.

### 3. Charging Up-date

92. TI noted that some of the issues on charging had been covered during the discussion on the actions arising from minute 85 above. DS noted that National Grid had a concern that a user may prefer have GIS rather than AIS as they would be exposed to less capital expenditure. This was further explained as under one of the proposals ownership of additional GIS substation assets would transfer from the generator to National Grid (and may be annuitised), whereas for AIS substations the generator would need to raise capital to fund these assets. A situation could arise whereby a user could force the use of GIS by, for example, offering limited land to National Grid therefore avoiding the need to fund additional assets via AIS. This may not be the economic and efficient solution overall. DS suggested a potential solution to such a concern might be to raise a charging methodology to require upfront payment for such GIS assets to ensure a level of consistency with AIS which are owned by the generator and therefore funded during construction. DS confirmed that it was National Grid's present view that such a change would better meet its licence objectives in respect to the proposed changes to ownership of GIS assets. JN indicated that developers were generally opposed to large up-front capital payments. CM suggested a further solution

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might be to require developers to provide sufficient land to allow National Grid to have the choice between AIS or GIS technology. Working Group members stated that it was not their choice to install GIS assets but National Grid's and therefore it is not discrimination to charge GIS assets in a different manner to AIS generator owned assets.

93. In response to queries on the governance for such a change, TI explained that a charging methodology for GIS would entail a change to the connection charging methodology. This would involve a 28 day consultation with the industry and this would probably be preceded by a pre-consultation phase with the industry. It may be the case that Ofgem would decide that a RIA was required for the change which would also have its period of consultation with the industry. The proposed change would be raised initially at the TCMF or the CISC. Both met bi-monthly.
94. It was agreed that National Grid would prepare a paper for the next meeting of the Group analysing the charging issues associated with GIS and taking into account the comments made at the meeting.

**Action: National Grid (TI)**

### 4. Implementation Issues

95. TI described the 5 implementation timescales options that National Grid had identified. The five options were:
- option 1 – a date following an Ofgem decision i.e. 3 months for all the future GIS substations not yet connected but may be in construction
  - option 2 – a date following an Ofgem decision i.e. 3 months for all future GIS substations not yet connected or in construction (but may have a contract in place)
  - option 3 – a date following an Ofgem decision i.e. 3 months for all future GIS substations not yet contracted
  - option 4 - at the next Price Control Period for National Grid for all future GIS post 2012
  - option 5 – Retrospective application to all GIS substations connected to the Transmission system
96. Members agreed that option 4 was the most attractive and practical option since it had no Capex or Opex implications for National Grid under the current Price Control, involved no retrospection and would not impact current construction projects. The existing issues over GIS would however remain until 2012 and also the operational issues at existing GIS substations.
97. Members queried what was meant by 'contracted' in respect of options 2 and 3. DS stated it was his understanding that this meant no BCA was in place. Members stated they felt contracted could also mean that a contract was not in place for the switchgear. DS noted that this would mean some method would be necessary to amend BCAs in such a circumstance if all parties were to be treated the same. TI agreed to consider whether additional sub-options could be included for both interpretations. Members noted that their initial support for option 4 was on the basis of a contract was not in place for the switchgear at the time.

**Action TI**

### 5. Draft Legal Text

98. JN and CM both indicated that their clear preference was for a definition of GIS in the Grid Code rather than the CUSC. Because the Grid Code was drafted originally with AIS in mind there might also need to be a definition of AIS. JN had suggested that the new definition that he had worked up should go in to CC.7.4.2.
99. DS indicated that one of National Grid's greatest areas of concern was the consequences of planned and unplanned outages on the generator circuit assets should National Grid own

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them in future as part of revised GIS arrangements. Currently generator circuits are at single circuit risk but as they were currently owned by the generator the risk is not borne by National Grid. DS explained that by moving these assets to National Grid would see them treated with the same risk profile as transmission assets and questioned whether generators would see this as appropriate. There was also the question over whether CAP048 compensation payments should apply to these circuits in the event of a fault. Alternatively, National Grid could install the generator circuit assets as part of a GIS installation to its current SQSS standards. That would however require agreement with Ofgem for appropriate remuneration for that higher level of security via the PCR, it was noted that this may not be forthcoming due to perceived inefficiencies of such a solution.

100. Further clarification was requested from National Grid relating to the perceived additional risk profile from the amendment and DS explained that since National Grid would need to maintain, and respond to faults on, generator circuit assets the generators would expect immediate response to be provided reflecting the generators exposure to loss of revenue. However, National Grid would need to weigh up additional considerations such as moving key personal away from outages that, for example, have high constraint costs. JN questioned whether National Grid could request a charging methodology amendment to allow for additional OPEX, to provide a service provision over and above that of transmission infrastructure, reflecting the single circuit nature of GIS generator circuit assets. DS explained that such charges would need to be reflective of costs and the Opex implications of such a maintenance regime would need to be agreed with Ofgem via the PCR. In addition, National Grid could only be exposed to an appropriate risk for what would be transmission assets.
101. JN and CM acknowledged there were still a number of issues outstanding for National Grid associated with taking on ownership of the generator circuit assets as part of revised GIS arrangements in the content of its licence obligations and the SQSS. JN and CM confirmed that they would be happy to waive the application of the CAP048 compensation payment arrangements for any generator circuit assets that National Grid may construct and own in the future as part of revised GIS arrangements. In terms of the maintenance regime for those assets JN and CM suggested that generators would be content if an industry best practice regime was adopted by National Grid and National Grid provided assurances to that effect. There should also be no difference to the standard of maintenance adopted by National Grid if the assets were maintained by National Grid's licensed business rather than its current unlicensed business. DS questioned whether this assumption can be made without first understanding the different risk, remuneration and costs between the licensed business and the unlicensed business.
102. JM suggested that the specific work to be carried out in the event of an unplanned outage due to a fault on the generator circuit assets could be specified in a SLA (Service Level Agreement) between National Grid and the generator. JN agreed and suggested that Ofgem should find an SLA acceptable as it would specify measurable deliverables and the risk premium for National Grid would be rolled up in the charges set out in the SLA. DS questioned what risk premium National Grid would be exposed to, he went on to explain this is the concern over whether we can appropriately respond to generator expectations. Further DS explained our licence requires that charges are reflective of our costs not the other way round. Currently the principle of prioritising work on different transmission assets over each other, because of the payment of higher transmission charges is not applied by any of the GB Transmission Owners.
103. It was noted that "Planned Outage" was a defined term in the Grid Code whereas "Unplanned Outage" was not a defined term (and it was not defined in the CUSC either). Consideration would need to be given to such a definition as part of the legal text for revised GIS arrangements. It was noted that input from the busbar switching contract rationalisation exercise currently being carried out by National Grid could be helpful for the Working Group in future.
104. CM and JM noted that there was probably little need for a separate definition of GIS Maintenance Year as proposed by National Grid in the draft legal text and suggested that reference could simply be made to the existing provisions in OC2 and the requirements on

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Parties to agree a maintenance regime. The generators did not see why there was a need to treat GIS especially differently from AIS. JN suggested that all that was required was an obligation on relevant Parties to agree and coordinate maintenance outages in accordance with OC2 and that this could be reflected in a TRA. DS responded by stating National Grid had a concern over the use of OC2 data in that generators do change this data and this would leave National Grid in the position of needing to be reactive to such changes and the potential costs that may arise. DS further explained that if a generator amended their data at short notice then National Grid would either have to redeploy staff at short notice (which may not be possible) and at a later date find resources again or pay to constrain the generator off. The implication of an outage of a GIS generator circuit would be loss of generation access which is far more significant than the current transmission network which is generally built to N-2 standards. At present, these issues and risks are fully under the control of the generator and by moving the ownership/ maintenance to National Grid would also move the risk to National Grid who can not influence generator outages. DS explained his concern over the costs that may arise from such a risk and that noted that such costs would ultimately be borne by consumers. JN questioned whether in such a case, National Grid could simply keep pushing back the maintenance and that by highlighting to the generator that by not allowing the outage to be taken, maintenance could not be completed and ultimately this was increasing the overall risk to the generator. DS responded by stating that these would be National Grid assets and National Grid would not allow a situation whereby safety was put at risk as a result of its assets not being correctly maintained, and therefore as a last resort would require the right to take access to its assets and pay to reduce the generation output..

105. TI agreed that there was scope to reduce the legal drafting considerably and refer more generically to existing maintenance arrangements. It was also agreed that National Grid would set out its concerns with taking over construction and ownership of generator circuits as part of revised GIS arrangements in the future in a paper for discussion at the next meeting of the Working Group.

**Action: National Grid (TI)**

### 6. Working Group Report to the Grid Code Panel

106. During discussion the Group agreed that the Report was insufficiently developed at this stage to be able to submit a final report to the 21<sup>st</sup> May Grid Code Review Panel meeting. It was agreed that the Secretary would arrange to issue a revised agenda for the Panel meeting scheduled for 21<sup>st</sup> May deleting the Working Group report. A note in the covering e-mail would indicate that the Chairman would explain to the Panel at the meeting why the Group had not been able to finalise the report for the May Panel in accordance with its Terms of Reference and also request that the Panel amend the Terms of Reference to require the Working Group to report to the September 2009 Panel meeting.

**Action : National Grid (RD)**

107. AC had commented that the report needed to be clear on what voltages the recommended GIS arrangements would apply to. For example National Grid owned some substations operating as low as 66kV. National Grid agreed to clarify this in the next draft of the report. National Grid agreed to revise the draft report in the light of the discussion and circulate a further draft to Working Group Members for further comments over the next few weeks.

**Action: National Grid (TI)**

### 7. Next Steps

108. The Group agreed to hold the next meeting on 29<sup>th</sup> or 30<sup>th</sup> June at National Grid House (subsequently confirmed for Monday 29<sup>th</sup> June 2009). There would also probably be a need for a further Working Group meeting after this in order to finalise the report to the Panel. This would probably be arranged for late July although it was acknowledged that some Working Group Members would not be available for that later meeting due to the start of the holiday season.

**Action: National Grid (RD)**

### 8. Date of Next Meeting/Any Other Business

109. 29<sup>th</sup> June 2009. There was no other business.