# Grid Code Gas Insulated Switchgear (GIS) Working Group

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| Meeting Name | Grid Code Gas Insulated Switchgear (GIS) Working Group |
| Meeting No. | 3 |
| Date of Meeting | 4th September 2008 |
| Time | 10:00am – 3:00pm |
| Venue | Room B3.1, National Grid Offices, Warwick |

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

| **Members Present:** | | |
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| Duncan Burt | BU | Chairman |
| Bali Virk | RD | Technical Secretary (Stand in) |
| Emma Carr | EC | National Grid |
| Rod Richardson | RR | National Grid |
| John Norbury | JN | RWE Trading |
| Jeff Norfolk | JNo | RWE Trading |
| Claire Maxim | CM | E.On |
| John Morris | JM | British Energy |
| Alan Creighton | AC | CE Electric UK |
| Dave Sanderson | DS | EdF Energy Networks |
| Daniel Cassidy | DC | Scottish Power |
| Fraser Ainslie | FA | Scottish Power |
| Keith Hodson | KH | Central Networks |
| Bridget Morgan | BM | Ofgem |
| **Apologies:** | | |
| Richard Dunn | RD | National Grid |
| Chris Holdsworth | CH | CE Electric UK |

## 1. Introductions and Apologies

41. Apologies were received from Richard Dunn and Chris Holdsworth. Bali Virk was deputising for Richard Dunn and Alan Creighton was deputising for Chris Holdsworth.

## 2. Draft Notes and Actions of the Meeting held on 10th June 2008

42. Minor amendments were discussed for the Meeting notes of 10 June 2008. BV to amend the meeting notes and publish the notes on the website.

**Action: BV**

43. **Review of Actions from the 10th June 2008 meeting**

- Item 23 – RD to update meeting notes – complete
- Item 23 – RD to schedule ENA paper at the next meeting – complete
- Item 30 – EC to provide an example regarding the issue associated with splitting ownership and operation – EC issued an email – complete
- Item 31 – JNo to research history of the position of gas zones – discussed at this meeting - complete
- Item 48 – EC & RR to update output table and prepare options for discussion – discussed at this meeting – complete
- Item 49 – RD to arrange the next meeting – complete

## 3. Interface Document

44. The Working Group acknowledged the Principles for the Planning, Connection and Operation of Electricity Distribution Networks at the Interface between Distribution Network Operation (IDNos) document. KH informed the Working Group that G81 will become live at the end of October and that some of the scenarios within the report may help when compiling our Working Group report.

45. The Group debated the document and noted that there are parallels with the RWE proposal and this presented an opportunity for the application of best practice.

46. The Group agreed to use the report as an input to the final Working Group Report.

**Action: All – To be reviewed at a later date**

## 4. Review of the Outputs from the Group's Second Meeting

47. AC raised a question regarding the options and the application to DNO substations. AC assumed that the options to be discussed later would apply to the majority owner of the substation. EC confirmed that the options had been prepared from the view point of a generation connection to the transmission system. The Group debated briefly the issues regarding DNO and transmission GIS substations. KH stated that Central Networks would prefer for National Grid to own the 132kV substation. EC raised the principles of self build agreements and AC highlighted a number of issues in his experience. EC agreed to review self build issues internally within National Grid and report back to the group.

**Action: EC**

48. The Group agreed that DNO issue must be progressed further. DB suggested that this should be parked for this meeting and options specific to the DNO should be presented by EC at the next meeting.

**Action: EC & RR**

49. As per the action from the last meeting EC updated the issues table and requested any further comments. Minor amendments were suggested and EC confirmed that the GIS Issues Output table will continued to be developed during the Working Group.

**Action: EC**

50. JNo provided the Group with an update on his research into the history of the position of the gas zone. In summary, he confirmed no major changes have taken place and research shows that a difference has always existed depending on design and manufacture. CM informed the group that additional equipment is being installed because of GIS substations. All agreed that the unique nature of GIS needs to be captured within the Working Group Report. EC confirmed that a Draft Working Group Report is being prepared and is likely to be issued prior to the next meeting.

**Action: EC**

## 5. Working Group Options for GIS Presentation

51. EC presented the 6 options to the Group. EC explained that the first few slides were for the website to add understanding for interested parties who are not party to this group. Following debate EC was requested to clarify elements of the introduction slides.

52. The Group then debated each option. Option 1 (RWE's Proposal). The Working Group suggested some amendments to the diagram slide and that this should be reflected on all of the options. The Group debated the benefits and the impacts. EC suggested that there may not be an impact on the SQSS if the former generation

assets are classified as connection generation circuits. The Group requested EC to clarify the position with technical colleagues and report back at the next meeting.

**Action: EC**

53. The Group then debated charging issues. EC explained how charging could create an inconsistency with AIS connections in the terms of capital contribution, i.e. AIS connections are generation assets which are paid for upon completion of the works. If option 1 was applied and classified as connection assets the generator would have an option to provide a capital contribution or annualise the payments over the life of the assets. DB confirmed that charging would need to be explored and an expert from National Grid would aid the debate at the appropriate time.

54. In addition the group noted that the overall costs are unlikely to change but the allocation of CAPEX and OPEX costs would transfer to different parties and that this would be the case for a number of options being presented today.

55. The Group then started to debate issues regarding liabilities. EC stated that this would be a single circuit connection and based on the current CUSC baseline assuming no variations in the contract, the generator would be entitled to Interruption Payments (CAP048). The group debated the issues and a number of members believed that Interruption compensation would be an enhancement to the existing rights under unlicensed contact / commercial contracts and compared to AIS. CM questioned whether there are parallels to be drawn with Offshore and the unlicensed contracts. The Group discussed alternative options to compensation and a link was identified with maintenance. It was suggested that if generators were not entitled to compensation then should there be greater transparency regarding maintenance? EC suggested that maintenance contracts would have support agreements for maintenance and BM questioned if such experience existed with current contracts? EC took an action to investigate further and report back at the next meeting.

**Action: EC**

56. The Group discussed outages and the associated issues. EC stated that OC2 would apply and no change is envisaged but what would happen if an outage could not be agreed as it is a single circuit connection? JN believed that there would be no change to liabilities. The Group agreed that this issue links with maintenance and should form part of the research to be undertaken by EC in the action above.

57. EC provided summary overview of the potential impact on the National Grid SF6 incentive and it was agreed that this it not an issue but should be noted in the Working Group Report.

58. The group then discussed the impacts on secondary systems for electrical and mechanical protection etc. FA informed the group that these controls are deep within the power station; therefore we will have to consider ownership. All agreed that operational control should remain as is and should only be changed if there is justifiable reason.

59. The group debated Option 2 (as currently defined), briefly and could not identify any benefits. The group moved on to Option 3 (before the circuit breaker) and agreed this failed too address concerns regarding construction. In addition, JM identified that this solution would not be robust if manufacturers changed their designs in the future and that this boundary would introduce operational issues, as there would be no point of isolation.

60. Option 4 (at the gas separator) was debated and noted that this would be a double circuit for type A therefore no liability or potential SQSS issues. In addition this option was also not robust to changes in future designs. The group briefly debated Option 5 (as AIS and jointly own the gas zone).

61. EC explained that under Option 6 (enduring as per AIS but one party builds all GIS assets) the majority owner would build all the assets and then transfer assets to a

boundary as per AIS and parallels can be drawn with self build. EC identified a number of potential issues with the transfer and the requirement for Ofgem consent. KH informed the group that he had experience of such options and EC agreed to discuss further outside the meeting. JR was concerned regarding this option but that this may reduce volatility of prices. FA and DC explained that in their experience this was not the case. They explained the difficulties of the global GIS market and how they are exposed to the same market conditions, therefore they could not necessarily see how regulation could remove the market volatility.

62. The group noted addition benefits regarding no impact on liabilities or outages. The group compared Option 1 and ^ and noted that option 1 was more simplistic but changed enduring ownership from current state and created liability difficulties. Option 6 was more complex in design but enduring ownership would remain as is.

63. JR questioned the lack of competition in maintenance. FA stated that once a manufacturers design had been chosen then choice is limited for all as often only the manufacturer has the skill set to undertake such works. DC suggested that this is a fact of modern equipment, as the skill set and guarantees reduce competition to undertake maintenance. DC also noted that this is no different to AIS equipment.

64. It was agreed that EC would amend the slides to take into account comments made during the meeting and re-issue to the Working Group for comment.

**Action: EC**

## 6. Next Steps

65. The Working Group agreed that Option 1 and Option 6 should be developed further and would form the basis of the Working Group Report. The same options will be applied to DNO / TO connections.

66. It was agreed that KH, EC JN, and DC would take the action to look at the issued highlighted with Option 1 and 6.

**Action: EC/KH/EC/JN**

## 7. Date of Next Meeting

67. It was agreed that the next meeting of the Group should be scheduled for November a week before the next Grid Code Meeting.

**Action: National Grid (RD)**