

**MINUTES OF THE  
ELECTRICITY NETWORKS STRATEGY GROUP (ENSG)**

**THE WESTMINSTER CONFERENCE CENTRE, LONDON**

**1100 Monday 7<sup>th</sup> December 2015**

**Present:**

**Co-Chairs (Rotating)**

DECC  
Ofgem

David Capper (Chair)  
Kersti Berge

**Members**

Centrica  
EDF  
National Grid  
National Grid  
Renewable Energy Systems  
Renewable-UK  
Renewable-UK  
RWE  
Scottish Government  
Scottish Hydro Electric Transmission plc  
Scottish Power Transmission Limited  
Transmission Capital  
UK Power Networks  
Welsh Government

Sarah Owen  
Mark Cox  
Julian Leslie  
Lloyd Griffiths  
Patrick Smart  
Gordon Edge  
Eamonn Bell  
Fruzsina Kemenes  
Damon Hewlett  
Andy Huthwaite  
Eric Leavy  
Mike Lee  
Barry Hatton  
Ron Loveland

**Dialling in**

Scottish Renewables

Michael Rieley

**Also in Attendance**

DECC  
DECC  
Ofgem  
Ofgem  
Ofgem

Rob Kinnaird  
Giles Holford  
Saad Mustafa  
Geoff Randall  
Karen Mayor

## Apologies

Centrica  
Energy Networks Association  
Northern Power Grid  
RWE  
The Crown Estate  
Transmission Investment

Fiona Navesey  
Paul Fidler  
Mark Drye  
Lewis Elder  
Richard Clay  
Chris Veal

## Welcome and Introduction including minutes and actions from last meeting

1. The Chair welcomed participants to the meeting. The meeting notes from the 16 July ENSG meeting had been agreed, circulated and published on the ENSG webpages. The Chair noted that all the actions from the July meeting had been completed or were on track. One member queried whether the action agreed at the previous meeting, that National Grid would include consideration of the interface between transmission and distribution networks as part of the Future Energy Scenarios, had been completed. The Chair suggested that this could be covered under the item on Electricity Ten Year Statement/System Operability Framework (ETYS/SOF).

## National Grid Update on the ETYS/SOF including embedded generation

2. National Grid (NG) provided an overview of its 2015 Electricity Ten Year Statement (ETYS)<sup>1</sup>, which had been published at the end of November. The purpose of the ETYS was to show the likely future transmission requirements of bulk power transfer capability across the National Electricity Transmission System, drawing on the 2015 Future Energy Scenarios. In doing so, the ETYS, helped identify where there was a need for future boundary solutions and provided a base-case for economic analysis of investment options.
3. National Grid noted that the major external factors driving development of the networks were:
  - new nuclear and high volume of renewables connecting towards the periphery of the network, so power had to travel longer distances to reach demand;
  - more interconnectors connecting around the country which could import and export with Europe, which vary power flows significantly;
  - closure of traditional generation which is usually synchronous and located close to the demand which leads to decreasing system support; and
  - unprecedented growth in embedded generation connecting to the distribution network which reduced demand and introduced high voltage issues.

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<sup>1</sup> National Grid's 2015 ETYS <http://www2.nationalgrid.com/UK/Industry-information/Future-of-Energy/Electricity-Ten-Year-Statement/>

4. There were also a number of regional challenges including the large growth in renewable generation capacity in remote locations, rapidly growing north to south power flows, and offshore wind and interconnection requiring long double circuits.
5. National Grid gave an overview of its new Customer Connection Interactive Tool (CCIT), which was designed to provide customers with more information on the network capacity, including: substation capacity; graphical representations of expected connections to the regional network; a colour-coded heat map illustrating expected connection capacity and time frames; and data related to incremental wider works in various parts of the network. The tool was only available in Great Britain, but National Grid was working with the Scottish TOs, to enable the CCIT to be rolled out across the whole of Great Britain.
6. National Grid also outlined the key points from its 2015 System Operability Framework (SOF), which looked at the potential impacts of changes to the whole electricity system on the transmission network and what might be done to manage these impacts. Key drivers included the: changing generation mix; different technology capabilities, increased embedded generation, and changing demand profile. The combination of these factors has led to challenges associated with managing system inertia, system strength and resilience and accommodating growth of embedded generation.
7. National Grid outlined three strategic themes that emerged:
  - i. *services and capabilities* - it was essential that new system services were developed to access existing and new capabilities from both synchronous and asynchronous generation;
  - ii. *whole system solutions* – transmission and distribution companies must consider the whole system impact of technologies and enable access to demand side resources; and
  - iii. *increased flexibility* – the value of new system services, in particular flexibility, must be considered at the design stage by manufacturers and developers for future revenue streams.

### Discussion

8. During discussion, National Grid noted that the potential increase of distributed generation had been taken into account when developing the demand profile in the Future Energy Scenarios, and this then informed the ETYS analysis. National Grid stated that it was the responsibility of TOs to consider this when developing their options for reinforcing the network.
9. One member noted the current issues regarding connecting to the network in the South West distribution area, where developers were facing significant delays and asked how the SOF would help resolve the issues. National Grid recognised that there were regional constraint issues and that there was wider work underway to improve the position. Ofgem noted that the purpose of the SOF was about providing visibility on the length of time it would take to get a connection.
10. A question was raised as to why the short circuit level was decreasing and why it was this appeared to be so much higher in the North of Scotland. National Grid stated that this was due to the reduction in synchronous generation and there had been less of a change in the generation mix in Scotland, compared to the

South West and North West, which had seen the closure of synchronous generation and increases in embedded generation.

### **3. Embedded Generation**

11. National Grid set out the challenges associated with the growth of embedded generation, which they forecast could reach over 16GW by March 2016, with potentially 7.7GW connecting in 2015/16. NG set out the actions taken so far and future work required. More data on deployment was becoming available and NG was working with the Met Office to improve solar generation forecasting.
12. National Grid was working with the transmission operators and DNOs, bilaterally and through the Electricity Network Association's Transmission and Distribution Steering Group (which DECC and Ofgem were part of), to consider the most efficient whole-system solutions. Ofgem stated that it was important that the SO, TOs and DNOs worked together on this issue and noted that it had recently written to all parties, requesting they work on managing whole system issues arising from embedded generation.

#### Discussion

13. During discussion, it was noted that the boundary between transmission and distribution networks was becoming increasingly blurred and 'total system' solutions were required. Storage and interconnection were put forward as potential solutions, although the cost and uncertainty around network charging arrangements could act as a barrier. There was a question as to whether pumped storage could provide a solution in Scotland. National Grid stated that the choice of specific technology solutions was something for commercial developers rather than the SO to determine.

### **4. Transmission Owner updates and Future Grid Investments**

14. A draft December TO major projects update had been circulated to attendees ahead of the meeting and was due to be published around 15 December. The three TOs provided an update on the progress of their major projects. Significant developments reported by the TOs were<sup>2</sup>:
  - A number of projects in the North of Scotland were nearing completion with lines being energised including Beaully-Denny 400kV line, the Beaully-Backhillock-Kintore 275kV reconductoring, Beaully-Mossford 132kV line and substation, and the Hunterston-Kintyre 240MVA AC subsea link;
  - There were some delays to the later stages of the SW Scotland Collector Network to 2017 and the proposed East Coast 400kV upgrade delivery date to end 2020, as well as potential for some slippage on the Series Compensation and East-West 400kV Upgrade Incremental Reinforcement;
  - Work on solutions for the proposed Scottish Island links (Western Isles and Shetland) was continuing while awaiting the outcome of the latest CfD allocation rounds;

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<sup>2</sup> Transmission Owner Major Projects Update available on the ENSG website:  
<https://www.gov.uk/government/groups/electricity-networks-strategy-group>

- For the Hinkley Point C connection National Grid was awaiting the outcome of its SWW Needs Case from Ofgem, and the EDF programme review;
- For the proposed Richborough connection, National Grid planned to submit its development consent application early 2016;
- For the proposed North West Cost Connection, National Grid planned to submit its needs case to Ofgem in early 2016 and undertake its next public consultation in 2016;
- National Grid's Visual Impact Provision work, which was looking at the mitigations for overhead transmission lines in National Parks and AONBs was also progressing. In September four schemes had been recommended to be taken forward for potential engineering work.

### Discussion

15. It was noted that not all of the projects mentioned in the TOs' update appeared to be on the major project summary spreadsheet. The Chair asked the ENSG secretariat to consider this. A member asked for an update on the Mid-Wales connection. National Grid stated that this was still under review in the light of recent windfarm consenting decisions.

### **5. RIIO Mid-Period Review (MPR)**

16. Ofgem gave an overview of its consultation on a potential mid-period review (MPR) of its RIIO-T1 and GD1 price controls. Ofgem stated that when it launched RIIO it recognised that there would be uncertainties about what might happen during the course of a price control period and given the shift from five years to eight years, potential uncertainties could be greater. Three types of arrangements would help deal with uncertainty, including: uncertainty mechanisms (e.g. specific reopeners); disapplication of the price control (in extreme circumstances); and a mid-period review of output requirements.

17. Ofgem had published a consultation on a potential MPR in November, with an initial view that there could be some issues in RIIO-T1 that could be addressed through an MPR (but there were, at this stage, no material issues identified for RIIO-GD1). Ofgem was now seeking views on the scope of an MPR for RIIO-T1 and GD-1, whether to proceed with an MPR for T1 for both electricity and gas, and whether not to proceed with an MPR for GD1. It had also identified a number of other issues that could benefit from being clarified and was using the opportunity to consult on these also.

18. The consultation was due to run until 12 January with a decision being made in the Spring of 2016. Further work would be undertaken if it was decided an MPR should go ahead. Ofgem added that it was keen to encourage interested parties to engage with this consultation.

### **6. Onshore Competition**

19. Ofgem gave a short update on its proposed onshore competition arrangements, summarising the consultation that was currently underway. This covered:

- what types of projects would be tendered and how Ofgem would select them - these would be new, separable and high value to ensure the full benefits of competition were realised;
- how the tender process would work at a high level - there would be two proposed tender models: early CATO build and late CATO build;
- the basic revenue and incentives package for competitively appointed transmission owners; and
- principles for who would be able to compete.

20. The consultation would close on 11 January 2016 and Ofgem wanted to encourage interested parties to respond to this.

### Discussion

21. During discussion, Ofgem noted that there would be further stakeholder engagement on proposals, likely in Spring/Summer 2016 and that it was aiming to be able to run tenders from 2017. DECC noted that it was working closely with Ofgem to develop the necessary primary legislation to allow competitive tendering.

22. A concern was raised as to whether Ofgem planned to allow the incumbent TOs to request revisions to their allowances/costs of SWW projects, as this might mean that it would be easier for them to win tenders, with the possibility of revising costs at a later date. Ofgem noted that it planned to fix the revenue at the point the tender was won and that the same rules would apply to whoever won the tender.

23. The Scottish Government (SG) noted that onshore competition was of significant interest and they were currently undertaking a high level review of the policy, drawing on stakeholder views. SG planned to respond to the Ofgem consultation.

### **Action 1: Members to consider responding to Ofgem's onshore competition consultation.**

## **7. AOB and next meeting**

24. Ofgem gave a short update on its Strategic Wider Works (SWW) guidance. This was under review, and had also been included in the current RIIO MPR consultation. Ofgem explained that it wanted to be able to take an earlier initial view on needs cases for future SWW projects (TOs' larger projects where funding had not been agreed as part of the price control settlement) such as the North West Coast Connections and Dumfries and Galloway Strategic Reinforcement, at an earlier stage of the process. Ofgem considered that this should be beneficial to both Ofgem and the TOs, and better align the Ofgem approval process with that for development consent.

25. National Grid gave a short presentation on its Network Options Assessment (NOA). Following Ofgem's Integrated Transmission Planning and Regulation (ITPR), as System Operator, NG as system operator was now responsible for identifying and assessing options for GB transmission network investment. As part of this, it would be required to publish an annual Network Options Assessment (NOA) report. This would replace the information that had previously been published in the ETYS Networks Development and Opportunities Chapter

and would describe the transmission development options and the optimum selection of those options to meet the network development needs detailed in the ETYS.

26. National Grid considered that this process meant that the right level of network reinforcement could be selected and stranded assets would be avoided. National Grid offered to discuss this further with members if they had any questions and one member requested the opportunity to do this.

27. The Chair asked for members to consider dates and potential venues for the next meeting, noting that the meeting earlier this year in July following National Grid's FES publication seemed to have worked well. He asked for suggestions to the Secretariat who would consider and then confirm the date and location.

**Action 2: National Grid to arrange bilateral discussions on the NOA process with the Scottish Government and any other interested members, following the meeting.**

**Action 3: ENSG members to inform the Secretariat of suitable dates for the next meeting and views on venues, who would arrange the next meeting.**