

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

**OFGEM BOARDROOM, 9 MILLBANK, LONDON**

**1PM THURSDAY 18 JULY 2013**

**Present:**

**Co-Chairs**

DECC  
Ofgem

Sandy Sheard  
Ian Marlee

**Members**

National Grid  
National Grid  
Scottish Hydro Electric Transmission plc  
Scottish Hydro Electric Transmission plc  
Scottish Power Transmission Limited  
UK Power Networks  
EDF  
Renewable Energy Systems  
Vattenfall  
Renewable-UK  
The Crown Estate  
Energy Networks Association

Mike Calviou  
Andrew Hiorns  
Mike Barlow  
Flavia Paterson  
Colin Taylor  
Robert Kemp (for Barry Hatton)  
Paul Mott (for Mark Cox)  
Graham Pannell (for Patrick Smart)  
Robert Hensgens  
Zoltan Zavody  
Chuan Zhang  
Paul Fidler (for David Smith)

**Also in Attendance**

Ofgem  
Ofgem  
Ofgem  
Ofgem  
Ofgem  
Ofgem

Kersti Berge  
Geoff Randall  
Jon Parker  
Simon Cran McGreehin  
Reuben Aitkin  
Gareth Evans

DECC  
DECC

Paul Hawker  
Ruth Herbert

**Apologies**

Northern Power Grid  
RWE Npower  
Centrica  
Transmission Investment LLP  
Scottish Government  
Welsh Government

Mark Dye  
Alan McAdam  
Merel van der Neut Kolfshoten  
Chris Veal  
Colin Imrie  
Ron Loveland

## **1. Welcome and Introduction. Actions from previous meeting.**

1.1 The Co-Chairs welcomed the participants to the meeting. All actions from the previous meeting had either been completed or would be covered later in the agenda. The minutes of the last meeting had been published on the ENSG part of the Government website.

## **2. SHE Transmission Review of major projects programme and impacts**

### SHE Transmission Update

2.1 SHE Transmission gave a presentation on its Transmission Programme Review by running through the major projects affected.

*Beaully-Mossford* Contracts for the overhead line had been finalised in July. The project was now expected to be delivered by the end of 2015 which was one year earlier than previously planned. This had been welcomed by developers who would be able to take advantage of the earlier delivery date.

*Kintyre-Hunterston* The Ofgem consultation on the needs case had closed. Assuming the needs case was approved, SHE Transmission would be in a position to place contracts with a view to delivering the project in 2015.

*Caithness-Moray* Ofgem was assessing the needs case and SHE Transmission had submitted cost information for the Blackhillock substation element of the project.

*Western Isles* SHE Transmission was collating information requested by Ofgem on the needs case with the aim of resubmitting it to Ofgem in the near future. This would be well before the outcome of considerations of any additional support for Scottish Island renewables (expected in December) which was critical to this project.

*Orkney and Shetland* Needs cases would follow on from the Western Isles. These projects were similarly affected by the decision on any additional support.

*East Coast* SHE Transmission had received planning consent for three substations and submitted consent applications for the overhead line.

### Discussion

2.2 The following points were raised in discussion

2.3 SHE Transmission was asked if the proposed 450MW connection would be sufficient to accommodate renewable generation on the Western Isles. SHE Transmission indicated that known projects amounted to just under 450MW.

2.4 The interaction between decisions on any additional support for Scottish Islands and SHE Transmission's Western Isles project was discussed. Ofgem said that any resubmitted needs case could be considered alongside the process for deciding on any additional support. On timing, SHE Transmission added that it was

not possible to say how soon after a decision on any additional support the Western Isles connection would progress. Although it should be clearer which generation projects would progress following the decision, there were other factors such as planning consents. National Grid said that the aim would be to minimise the time between a decision on any additional support and a decision on the Western Isles connection. Ofgem stated that the onus would be on SHE Transmission to give a view on timing for delivery of the project.

### National Grid Update

2.5 National Grid said that 200MW of generation in the SHE Transmission area had been moved back as a result of the Transmission Entry Capacity amnesty. There was currently 17GW of potential renewable generation in Scotland, but 13-14GW of this had yet to receive planning consent. Many projects had yet to submit planning applications.

2.6 National Grid also provided further information on dynamic line rating (DLR) as requested at the April ENSG meeting. It was working with the Scottish Transmission Owners on active rating management including DLR. National Grid said that DLR could bring 5-10% extra capacity on probabilistic values. This was a useful short term solution but in the longer term, and for larger capacity requirements, new or upgraded assets were required.

### Lessons learned for rest of network

2.7 SHE Transmission gave a presentation on the challenges it faced with its major projects and work underway to address them.

*Programme Management* SHE Transmission had restructured its business team with a greater focus on specific delivery areas and programme management. It had also improved its assessment and quantification of risk

*Skills* SHE Transmission had identified an industry shortage in certain required skills. It was increasing its recruitment (eg 45 staff recruited in past 3 months) and apprenticeship programme.

*Supply Chain* Significant costs were being incurred by the supply chain when bidding in for individual projects. SHE Transmission had therefore introduced strategic framework contracts for substations and was introducing them for overhead lines and cabling works. The HVDC market was a particular concern given supply constraints and unproven technology options. SHE Transmission had adopted a contract strategy to leverage the market as far as possible and was collaborating with industry experts on HVDC technology risks.

*The 2018 Challenge* SHE Transmission had reviewed its delivery requirements against available resources and identified 2018 as a particular concern in a number of areas. While some of these could be managed subsea cable and vessel availability were highlighted as particular challenges. There was also an ongoing risk

created by wider market demand impacting on the supply chain for SHE Transmission projects.

*Regulatory Process* The Strategic Wider Works (SWW) assessments had been going well, however SHE Transmission had learned lessons from its submission of needs cases to Ofgem.

*Stakeholder Engagement* SHE Transmission had enhanced its stakeholder engagement by engaging earlier, more pro-actively and in a more focused way than previously.

2.8 National Grid had identified three areas where improvements could be made.

*Improved communication and coordination* National Grid was working in a more structured way with the other TOs for example through the Joint Planning Committee and Network Access Policy documents.

*Management of Uncertainty* There was significant uncertainty about the need for and timing of major Transmission investment. Through its Network Development Plan process National Grid was seeking to develop least cost solutions in close consultation with stakeholders.

*Management of SWW Projects* Lessons had been learned from the Western HVDC project. National Grid was working to ensure its future SWW business cases were robust and consistent with other information published by National Grid, eg in its Electricity Ten Year Statement.

2.9 Scottish Power reported that it was working closely with the other TOs, including on purchasing 220kV cable for the Hunterston/Kintyre project. It was giving greater visibility to stakeholders on its projects. In particular it had been working with the planning authorities in Scotland on its projects to help them be better prepared for planning applications.

2.10 Renewable-UK gave a presentation on a study it had jointly commissioned with Scottish Renewables and The Crown Estate. The study had surveyed renewable developers to gather views about the impact of delays to transmission works on the development of renewable generation in Northern Scotland. The study had concluded that the impact was greater than National Grid had previously measured. This was primarily due to the treatment of phased projects and, to a lesser degree, the inclusion of Distributed Generation. Developers responding to the survey had expressed concerns about transparency and accountability on the progress of transmission reinforcements, and that there might be further delays or delays to other transmission projects. Renewable-UK proposed a collaborative and pragmatic review of opportunities for facilitating timely delivery.

## Discussion

2.11 The following points were raised in discussion:

2.12 The SO and TOs were now working better with renewable energy developers in Scotland and this should be rolled out more widely across the network. It was suggested that Renewable UK, Scottish Renewables (and their members/partners) and The Crown Estate could work more closely with the TOs in supporting needs cases that are submitted to Ofgem, for example to provide evidence for robust renewable deployment profiles. In the subsequent discussion it was clear that there was common ground and incentives between TOs and developers in this area. It was agreed that Renewable-UK, The Crown Estate and TOs would meet to discuss how they can work together more effectively and report back to the next ENSG. National Grid offered to lead on this work.

**ACTION 1: National Grid to set up a meeting with TOs, Renewable-UK, Scottish Renewables, and The Crown Estate for a collaborative review of opportunities for facilitating timely delivery and to agree ways in which they can work together more effectively and report back to the next ENSG.**

### **3. Transmission Owner Major Projects Updates**

3.1 SHE Transmission reported that the Beaulay-Dounreay project was now completed. The northern section of the Beaulay-Denny upgrade had also been completed and was the first 400kV line to be deployed in Scotland. There would be some media coverage of this event. The Beaulay-Blackhillock reconductoring project had been delayed by a year (now end of 2015) due to the need for outages. There would be little impact on generators.

3.2 Scottish Power Transmission reported its projects were generally on track. Beaulay-Denny upgrade was facing some engineering and environmental challenges but recent good weather had helped progress the project. The East-West 400kV upgrade had been impacted by a fault at an existing substation which meant that some critical outages had been rescheduled. Scottish Power was working with the SO on this. The Western HVDC link was awaiting the outcome of a compulsory land purchase order (CPO) around Hunterston.

3.3 National Grid reported that uncertainty over significant generation projects was causing some of its projects to be pushed back. On the Western HVDC link it too was awaiting the outcome of a CPO application which was due the following week.

### Discussion

3.4 It was suggested that including more information, particularly standardised milestones (such as submission of planning consents and needs cases, awarding of contracts, commencement of construction, etc) and dates on the TO Quarterly Updates would be useful. It was agreed that this suggestion and the effectiveness of the Quarterly Updates be picked up in the discussions to be led by National Grid (see Action 1).

**Action 2: National Grid-led Discussions on TO and developer engagement on needs cases (see Action 1) to include a discussion on the TO Major Project Quarterly Updates**

**4. ENSG Cross Networks Project and Smart Grid Forum (SGF) Workstream 7**

ENSG Cross Networks Project

4.1 National Grid presented the report and outcomes of the ENSG Cross Networks Project. The project had considered the extent and type of challenges facing electricity networks over the coming decades that would require interaction between networks. It then identified any gaps where there was insufficient interaction between the networks to reach the right solution. The report had been circulated to ENSG members for comments in June and an updated report circulated ahead of the meeting. The presentation focused on the following identified gaps:

*Coordination between TOs, DNOs and SO on voltage control across transmission and distribution networks*

4.2 Reactive demand had been dropping from distribution networks causing impacts and costs on the transmission networks. Work was needed to identify the cause and develop solutions.

4.3 It was agreed that this was an issue. The ENA had now set up a Working Group which was considering this issue, so it was no longer a gap not being addressed.

*Coordination between the TOs and Offshore Developers on voltage support across onshore and offshore networks*

4.4 It was suggested that treating offshore generators the same as onshore generators for reactive power was not the appropriate solution. In the future this could have an adverse impact on the onshore transmission network. The suggested action in the report of bringing this to the attention of the STC was agreed.

*Coordination between electricity and gas networks to ensure both networks can manage increased intermittent generation*

4.5 The gas system may have to offer greater flexibility to allow gas generators to respond quickly to the intermittency of the growing penetration of wind generation on the electricity transmission network. The gas system operators may need to take a more active role in managing system risk to ensure gas is available for electricity generators. The proposed action of information exchange between gas and electricity networks was agreed. In the light of any evidence this produced, the gas and electricity SOs would put any proposals for action to Ofgem.

4.6 There were also two identified areas for potential improvement.

*Development and Design of offshore equipment to reduce costs and provide interoperability/changeability of voltages through equipment or at system level*

4.7 It had been suggested in the WG discussions that coordination to provide greater interoperability of some HVDC, offshore or smarter network equipment could improve efficiency and delivery of projects as well as reducing costs. It was stressed that this did not mean standardisation of equipment, particularly given the early stages of development where this could stifle innovation and competition. In discussion it was highlighted that the Renewable-UK offshore grid group had been looking at this issue in the context of cost reduction for offshore wind. It was also questioned whether the proposed action of bringing this to the attention of the Ofgem Offshore Coordination project was appropriate. It was agreed that National Grid and those in the Working Group who had raised this issue would consider this further.

*Interaction between networks to create a clear and consistent market signal to the supply chain to help ensure the timely and cost effective delivery of projects.*

4.8 This had been raised by one member of the Working Group as a possible gap where more work could be undertaken. It was recognised that this was a concern to some, but that work was underway for example in the Department for Business, Innovation and Skills industrial strategy and supply chain work (which was covering offshore too). This should be cross-referenced in the report. It was agreed that National Grid and the relevant member(s) of the Working Group would revisit this to decide if it was a gap that needed addressing.

#### Discussion

4.9 It was noted that list of gaps was not exhaustive, but rather provided a few key issues as the starting point. It was agreed that the gaps identified were valid, subject to any further considerations agreed at the meeting. There was discussion about the time horizons of the gaps that had been identified. One attendee noted that the gaps were existing issues, and said that the Smart Grids Forum had sought to identify issues that would emerge in several years time. It was also noted, though, that the cross networks project had looked further ahead but that timing of impact was a criteria for identifying gaps. It was also agreed that the draft report should be shared with the SGF. The ENSG discussions would be reflected in an updated report.

**ACTION 3: National Grid to share the draft report with the Smart Grid Forum.**

**ACTION 4: National Grid to update and circulate the report in the light of discussions in ENSG (including follow up actions identified in paragraphs 4.4, 4.5, 4.7 and 4.8) and any input from Smart Grid Forum members.**

4.10 The question of how to use the report once completed and when/how to revisit the issue of cross network coordination was raised, including how any future review could further develop the process to capture any further gaps, including identifying issues relating to a longer time horizon. It was suggested that this could be something the SO did as a matter of course every couple of years. It was agreed that how to monitor this issue would be considered as part of the future ENSG work programme (see paragraph 4.1 and Action 7).

## Smart Grid Forum Workstream 7

4.11 Ofgem presented an update on Workstream 7 which was looking at how the whole electricity system might best operate in 2030, with a focus on the impacts for distribution networks. In its first year the SGF had undertaken a cost benefit analysis of smart grids compared to business as usual. It concluded that smart grids would be more efficient. In the second year the ENA and DNOs had developed a model called Transform which conformed that the development of smart grids was the correct path to follow. The outputs had been used by DNOs to help inform their business plans for the RIIO-ED1 distribution price control. The task for this year was to create a distribution network that connected all of the new technologies to see if the system would work as a whole in 2030. For example, problems could be caused as the different technologies interacted on the system. This phase would take up to two years. A report was due to be published in October to present what the study would do. The workstream had a Working Group to support its work and ENSG members were invited to join the Working Group and/or provide comments on the workstream.

### Discussion

4.12 It was asked how consumer engagement featured in this work. Ofgem replied that demand patterns were challenging to incorporate into the work but research was beginning, for example on how consumers interact with smart meters. A question was asked about the cost benefit analysis and whether it reflected deferred or avoided grid reinforcement costs. Ofgem confirmed that it did and offered to circulate a link to the report. It was agreed that the work of the SGF and ENSG in this area needed to be aligned, for example on how far into the future they looked.

## **5. Network Planning and European integration**

### Development of EU network codes

5.1 Due to time constraints it was agreed that this topic would be deferred until the next ENSG. ENSG members were asked to send to National Grid the specific areas they would like to see covered in the presentation.

**ACTION 5: ENSG members to inform National Grid of aspects of EU network codes they would like covered at the next ENSG**

### Electricity Ten Year Statement (ETYS)

5.2 National Grid gave a presentation on the ETYS for 2013. The approach to producing the ETYS was explained:

5.3 Input on future generation and demand requirements was received via a stakeholder engagement process and produced in National Grid's "UK Generation and Demand Scenarios" document which was published on 18 July 2013. From this information future transmission requirements and solutions were developed by National Grid. National Grid then developed a set of options for each potential

reinforcement requirement and selected a preferred option. This information would then be presented in the 2013 ETYS to be published on 30 November 2013. This cycle was then repeated on an annual basis.

5.4 Stakeholder input and feedback was essential to the ETYS. Changes had been made to the 2013 ETYS following feedback from stakeholders such as the dropping of the Accelerated Growth scenario and the addition of four sensitivity scenarios to provide greater depth of analysis. Input was welcomed throughout the process and, if too late for that year's ETYS, would be incorporated in the subsequent publication.

### Discussion

5.5 In discussion it was suggested that the system operation aspects of the ETYS could be strengthened and that interconnection should be more prominent.

### ITPR and Offshore Update

5.6 Ofgem updated the ENSG on the current ITPR consultation that ran until 2 August. The consultation document<sup>1</sup> set out Ofgem's initial analysis of options to facilitate efficient and coordinated planning and delivery, both within and across regimes, including those which may combine multiple purposes such as onshore reinforcement, connection of offshore generation and interconnection with other countries. Ofgem was seeking views on its emerging thinking and on whether any other options should be considered.

5.7 On offshore transmission, Ofgem reported that it had today (18 July) published a policy statement following the December 2012 consultation on a proposed framework to enable coordination<sup>2</sup>. It set out Ofgem's view on the proposed way forward for two of the categories of investment described in the consultation - Generator Focused Anticipatory Investment and Developer-led Wider Network Benefit Investment (WNBI) and identified where further work was needed. Ofgem had also set out in the consultation its view on the third category of investment described - Non Developer-led WNBI, where it considered further policy development was required. Subject to the outcome of this policy development work, Ofgem's current plan was to publish a further consultation later this year.

## **6. Electricity Market Reform (EMR) Update including Scottish Islands**

6.1 DECC gave a presentation on EMR. The ENSG was taken through aspects of the EMR Delivery Plan published on 17 July. This included generation deployment ranges used, Contracts for Difference (CfD), Capacity Market, and timelines. DECC would start the implementation process with industry in August, issue a secondary legislation consultation in October, and finalise the EMR Delivery Plan and CfD

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<sup>1</sup>[http://www.ofgem.gov.uk/NETWORKS/TRANS/ELECTRANSPOLICY/ITPR/Documents1/ITPR\\_emerging\\_thinking\\_consultation.pdf](http://www.ofgem.gov.uk/NETWORKS/TRANS/ELECTRANSPOLICY/ITPR/Documents1/ITPR_emerging_thinking_consultation.pdf)

<sup>2</sup><http://www.ofgem.gov.uk/Networks/offtrans/pdc/cdr/2013/Documents1/Statement%20on%20the%20proposed%20framework%20to%20enable%20coordination%20An%20update%20to%20our%20December%20consultation.pdf>

contracts by the end of 2013. It was planned for the first CfDs to be signed in the second half of 2014 and to hold the first Capacity Market auction by the end of 2014.

## Discussion

6.2 In the subsequent discussion it was confirmed that the scenarios used for EMR were consistent with those for Gone Green/ETYS. It was also clarified that a decision on any additional support for Scottish Island renewable energy projects would be made on the same timescales as the decision on the EMR Delivery Plan, i.e. by end 2013.

## **7. AOB and Next Meeting**

7.1 It was agreed that the ENSG Work Programme should be revisited, particularly in the light of the near completion of the Cross Network project (see paragraph 4.10).

**ACTION 6: ENSG Secretariat to circulate the ENSG Work Programme document agreed in 2012 to ENSG members for comments on its revision/updating.**

7.2 In answering a query, Ofgem indicated that it would be publishing a guidance document on preparing transmission project needs case in the near future.

7.3 Ofgem would be organising and hosting the next ENSG which would take place in November.

**ACTION 7: Ofgem to arrange a date for the next ENSG**