

## Headline Report

<b>Meeting name</b>	Joint European Standing Group (JESG)
<b>Meeting number</b>	26
<b>Date of meeting</b>	15 April 2014
<b>Location</b>	Elaxon, 4th Floor, 350 Euston Road, London, NW1 3AW

This note sets out the headlines of the most recent meeting of the Joint European Standing Group (JESG). The note is provided in addition to the presentations from the meeting which are available on the JESG website<sup>1</sup> and material in the presentations is not duplicated in the report.

### 1. Issues Log Review

The current version of the issues log for each of the Network Codes being drafted by ENTSO-E is attached to this Headline Report. Issue logs for cross-code issues for drafting and application are also attached.

The priority lists of Stakeholder Key Issues captured during the DECC-Ofgem Stakeholder Workshops for the individual Network Codes which have completed the ENTSO-E drafting can also be found on the JESG website.

### 2. Grid Connection Network Codes

#### **Requirements for Generators (RfG)**

- Lesley Ferrando (Ofgem) provided an update on the RfG Network Code. At the DECC/Ofgem Stakeholder Workshop held on 1 April 2014 the attendees discussed the paper submitted by the French government to the Commission on proposed amendments to the RfG Network Code. DECC and Ofgem are evaluating which parts of the paper that GB might be happy to support, and those parts that would not benefit GB.
- The text issued in January 2014 is still being discussed by the Cross Border Committee to gather comments from Member States. The next draft is expected to be issued during May 2014. The main changes are expected to improve consistency with the DCC Network Code.
- It was proposed that two dates were held for a one day workshop allowing GB Stakeholders to review the text should it be published during May: 14 May (following JESG) or 28 May 2014 (times and venues TBC).

#### **Demand Connection Code (DCC)**

- The DCC Network Code is in the pre-Comitology phase. A draft version of the text was published by the Commission in March. Mandatory Demand Side Response requirements have been removed from the DCC Network Code, and the Commission have requested that ACER redraft Article 16 (Reactive Power Requirements).

#### **HVDC Network Code**

- Darren Chan of NGET provided an update to JESG on the HVDC drafting process. The Network Code is due to be submitted to ACER on 1 May 2014.
- Detail is included in the slides of some of the key changes since the stakeholder consultation.
- It was noted that there was no public workshop on the HVDC Network Code before it was submitted to ACER. Garth Graham (SSE) has contacted ENTSO-E to raise his concerns that this is the only Network Code, so far, that stakeholders have not been allowed to comment on directly following the consultation period.

<sup>1</sup> <http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/Standing-groups/Joint-European-standing-group/>

### 3. Market Network Codes (CACM and Balancing Framework Guidelines)

#### **CACM Network Code**

- Will Francis (DECC) provided an update on the CACM Cross-Border Committee discussions. A version of the text was provided by the Commission in January and a new version is expected to be released in May with changes likely to focus on enhancing competition. The next Cross-Border Committee will be held on 30 April 2014.
- Will Kirk-Wilson (NGET) provided an update regarding the data provision article (article 16). NGET's position is that for 'go live' current GB market participants will not need to provide any more data than they currently do. This will be articulated at the ECCAF CACM Code Mapping Working Group on 29 April 2014.

#### **Forward Capacity Allocation Network Code**

- Will Kirk-Wilson (NGET) provided an update on FCA drafting. ENTSO-E resubmitted a draft of the FCA Network Code to ACER on 3 April 2014 following ACER's Reasoned Opinion published on 18 December 2013. ENTSO-E and ACER have different views of the appropriate firmness regimes that forward transmission rights should have. ACER's view is that AC and DC lines should have different firmness regimes. Another key difference is over implementation timescales, with ACER looking for a shorter implementation (1.5 years?).
- Another change that ENTSO-E has introduced is to align with ACER's opinion on the process to determine whether transmission rights are needed across national borders. This is purely a Nordic opt out as their capacity is allocated Day ahead with nothing sold in the forward timeframe.

#### **Electricity Balancing Network Code**

- Lesley Ferrando (Ofgem) presented ACER's Reasoned Opinion on the Balancing Network Code draft. ACER recognises ENTSO-E's efforts in drafting a difficult Network Code.
- There are three main areas for improvement recommended by ACER: (i) requirements to create pan-European balancing markets; (ii) market design to help enhance liquidity, economic efficiency, RES and security of supply; and (iii) adequate harmonisation to foster market integration.
- Redrafting is expected to take place during April – June; the ENTSO-E Market committee will decide on whether or not to resubmit the code to ACER in July, with submission of the code likely to take place in September.

### 4. System Operation Network Codes

#### **Operational Security (OS) and Operational Planning and Scheduling (OP&S) Network Codes**

- On 12 November 2013, ACER published its recommendation for the adoption of the OS and OP&S Network Codes, following the resubmission of both Network Codes to ACER on 24 September 2013.
- Both Network Codes will now pass on to the pre-Comitology phase for consideration by the Commission.
- The OS and OP&S Network Codes were not discussed further at this month's JESG.

#### **Load-Frequency Control and Reserves (LFCR) Network Code**

- The Network Code has entered the pre-Comitology phase for consideration by the Commission; a Cross-Border Committee meeting is expected to take place in Q2 2014.
- The LFCR Network Code was not discussed further at this month's JESG.

#### **Emergency and Restoration (ER) Network Code**

- Peter Chandler (NGET) provided an update on the ER Network Code, which ENTSO-E was requested by the Commission to begin drafting on 1 April 2014. TSOs have already held some preparatory meetings since October 2013 to identify common practices and key differences currently in use.
- The ER Network Code will cover how to operate the system in emergency situations, and then how to return the system back to 'normal' operating conditions. Inter-TSO assistance, cost recovery and market restoration processes will form part of the Network Code.
- Consideration will be needed on how the balancing markets should be operated in times of significant demand disconnection, as the percentage of disconnection threshold is different

depending on each TSO. Garth Graham highlighted the recent changes to the GB arrangements to introduce such a threshold (from 1 April 2014) in the BSC and Grid Code.

## 5. Transparency Regulation Update

- Jackeline Crespo-Sandoval (NGET) delivered an update on Regulation 543/2013, which requires all Member States to publish a common set of generation, transmission and supply data on an ENTSO-E platform, due to go live in January 2015.
- BSC Mod P295 will facilitate Elexon to be able to submit GB data to the ENTSO-E platform, as Elexon collects most of this data already, although there are three categories of data that are new: (i) consumption unavailability (100MW+, TN or DN connected), (ii) forecast generation, and (iii) unavailability of generation and consumption units. Interconnectors will submit their data directly to ENTSO-E, other parties via NGET.
- Testing will be open to market participants to 'self-test' later this year, currently scheduled for August. Proposed changes to Grid Code are currently out for consultation, and responses are in the process of being compiled. NGET has held several stakeholder events so far, the next is scheduled for 12 May 2014.

## 6. ECCAF Update

- Garth Graham (acting chair) on behalf of Barbara Vest (chair), presented an update from the last ECCAF meeting, held on 27 March 2014.
- RfG implementation was discussed in two specific ECCAF RfG meetings in March. Most technical requirements of RfG map to Grid Code and D-Code, however some consequential CUSC changes may be needed.
- Garth Graham (SSE) highlighted a presentation he had given to ECCAF on whether the existing GB codes obligations still apply when the EU Network Codes are implemented. Further information can be found in the ECCAF March meeting presentation pack<sup>2</sup> (pages 28-51). Ofgem and DECC are currently considering this.
- Further details will be published in the ECCAF Headline Report<sup>3</sup>.

## 7. AOB

- Steve Wilkin (Elexon) highlighted that there is a certain level of overlap with the REMIT requirements and the Transparency Regulation for reporting fundamental data, and suggested this could be a topic for the next JESG meeting.
- Garth Graham (SSE) noted that if Scotland achieves independence from the rest of the UK, but the single energy market is retained in GB, then there would be two separate regulators overseeing the single GB electricity market, which would be akin to the situation on the island of Ireland with the SEM and two regulators. If the independence vote in September 2014 is successful, the proposed date for independence will be 26 March 2016.

## 8. Forthcoming events/workshops

Please refer to the calendar on the JESG website:

<http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/Standing-groups/Joint-European-standing-group/>

Details of forthcoming JESG events are listed in the calendar and available on individual websites:

- ENTSO-E: <https://www.entsoe.eu./resources/network-codes/>
- ACER: <http://acer.europa.net>
- Ofgem: <http://www.ofgem.gov.uk/Europe/stakeholder-group/Pages/index.aspx>

<sup>2</sup> <http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/Standing-groups/ECCAF/>

<sup>3</sup> <http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/Standing-groups/ECCAF/>

**9. Next meeting**

The next scheduled meeting for the JESG is 14 May 2014 at Elexon, London. Further details will be included in the draft agenda for the meeting.

The actions log and issues logs follow this report.

## Generic Issues Log

Issue No	Issue
1.	How do the Network Codes align with the individual Framework Guidelines?
2.	Concerns over the mechanism for the publication of data under REMIT
3.	The potential for different definitions of significant across Network Codes
4.	The implementation of the RfG could conflict with CACM as they are at different stages in the Network Codes process
5.	What is contribution of each Network Code to resolve issues? Need a strategic view of the Network Codes but not sure which is the best place to do this.
6.	How is consistency and interoperability being ensured across the Network Codes?
7.	Can the final Network Code to be produced be used to correct errors / inconsistencies in earlier Network Codes?
8.	What is the expected frequency for changes to the Network Codes once implemented? The minutes of the Operational Security Network Code Public Workshop (20/4/12) indicate that a 'frequency of 4-5 years' 'might be needed'.
9.	There should be a general clause in each of the Network Codes to require consultation and NRA approval for elements which are to be defined after the Network Code has entered in to force. Such a condition has been included in the CACM Network Code.
10.	The definition of TSOs in the Network Code may lead to ambiguity due to the certification of additional companies in GB as TSOs (e.g. Interconnectors and OFTOs)
11.	There are various data and information flows defined in various Network Codes which are not obviously consistent. This remains a major concern for the Industry due to changes to processes and infrastructure that will be required to provide this data.
12.	What happens when notifications are provided to the TSO / Relevant Network Operator. Does the TSO have a duty to act upon the notifications? What if they do not comply?
13.	The contractual / market impact of demand side response for domestic customers has not been considered. The DCC and LFR&C Network Codes both deal with capability without outlining how the market will work in practice. Who is the most appropriate part in the UK to have a relationship with the customer for demand side response.
14.	Supplier may be moved to an 'out of balance' position by demand actions taken by the Aggregator / DSO / TSO. This impact on the balancing arrangements will need to be considered.
15.	There are different definitions for 'Significant Grid User' in a number of the Network Codes, so the applicability of the Network Codes to individual users is not clear.
16.	If the term 'Transmission Connected' is used within the Network Codes this will led to discrepancies within Europe and within the UK, and there is no single voltage above which Networks are considered Transmission (e.g. within GB, Transmission in Scotland is at or above 132 kV, whilst in England and Wales it is at or above 275 kV)
17.	There are various different terminologies for geographic areas used in the Network Codes. It is not obvious what each definition refers to and this leads to confusion. Examples are bidding zone, control area, responsibility areas, observability area, LFC control area, member state etc.
18.	The Cost Benefit Analysis methodology considers socio-economic often on a pan-European basis. There is a concern this will lead to one member states constantly subsidising another member state, or one market party being unduly affected (such as GB merchant Interconnectors).
19.	<b>Common definitions.</b> A working group has been established by ENTSO-E to look at definitions across the Network Codes. It is understood that while common definitions are desirable the same term could be defined differently in different Network Codes. Consideration is be to be given to the establishment of a separate cross-codes definitions document.
20.	<b>Alignment of requirements and payment.</b> There is a need to ensure that requirements specified in one Network Code, and the payment mechanisms outline in the Balancing Network Code are aligned so that services are delivered recompensed on the same timescales.
21.	Consideration by Ofgem to be made on whether to reconvene the former FUI (France-UK-Ireland) regulatory group, or potentially set up a new GB regulatory balancing group, as a means to engage with stakeholders.

## GB Application / Implementation Issue Log

Issue No	Issue	NGET View
1.	Implementation: Can areas of the GB Network Code be changed to comply with the ENCs be modified through the normal GB governance arrangements, provided it does not affect compliance with the ENCs?	Governance arrangements of GB Codes are not expected to change by implementing the ENCs. However, GB must demonstrate compliance to the ENCs or risks being found in breach and fined.
2.	How do the definitions in the Transparency Regulation, expected to become law as an Annex to Regulation 714/2009 prior to any Network Code, interact with those in the Network Codes? Do the definitions in the Transparency Regulations have primacy over those in the Network Codes?	Once published in the OJEU, the definitions became law. The Transparency Regulation have been published are Regulation 543/2009 amending Annex I of Regulation 714/2009.  The interaction of future definitions is not yet fully understood.
3.	How will the changes to the GB Framework be made as a result of the European Network Codes, for example, will existing structures (panels etc.) be used where possible, or will third package powers be used to make changes via the Secretary of State?	It is expected that existing standard Code Governance will be used where possible, however, Ofgem have powers to make changes to the GB Codes to ensure compliance with European legislation.
4.	Further details of the modification process for GB Codes as a result of the ENCs need to be defined, for example, who will raise modifications, can alternatives be proposed etc.	Noted.

## JESG Action Log

### Standing Actions

Action No	Action	Lead Party
S1	Prepare a commentary / comparison document between the Network Code and the existing GB arrangements at appropriate stages in the Code development for each Network Code.	NGET
S2	Engage with DECC and Ofgem to ensure appropriate and timely input can be provided from GB Stakeholders in to the Comitology process.	JESG Chair
S3	Continue to review the membership of the JESG and engage additional industry parties where appropriate.	JESG Chair
S4	Provide update on future Network Codes and incentives being developed as and when appropriate.	NGET/Ofgem/DECC
S5	If required by the Commission, facilitate an industry-wide read-through of the Network Codes once they are released by the Commission . (formerly Open Action 135)	JESG Chair/Ofgem/DECC
S6	Stakeholders are requested to provide specific example of inconsistent or problematic definitions in the Network Codes to Ofgem ( <a href="mailto:reuben.aitken@ofgem.gov.uk">reuben.aitken@ofgem.gov.uk</a> ) and DECC ( <a href="mailto:will.francis@decc.gsi.gov.uk">will.francis@decc.gsi.gov.uk</a> ). (formerly Open Action 140)	All
S7	Consider the need for how to best capture stakeholders' most recent priority issues before and during the Comitology process, in particular for the RfG, DCC and CACM Network Codes as the codes develop in the pre-comitology phase.	DECC

### New and Open Actions

Action No	Action	Lead Party	Status	Update
149	Circulate to JESG the invitation for nominations to the ENTSO-E Balancing Pilot Stakeholder Group.	NGET	Complete	Circulated 15 April and 17 April.
150	Circulate to JESG the paper written by the French Government on proposed amendments to the RfG Code	NGET	Complete	Circulated 17 April
151	Circulate to JESG the expected timelines for CACM Network Code consideration through comitology.	DECC	Open	
152	Arrange another stakeholder group workshop on RfG Network Code following publication of the next draft.	NGET/DECC/Ofgem	Open	14 and 28 May are being held for this.
153	Circulate to JESG the provisional dates for the ER Network Code stakeholder events.	NGET	Open	17 April, 9 July, 22 October 2014, January 2015
154	Consider the level of engagement undertaken with market participants on their future data submission requirements under the Transparency Regulation; review to try to identify any parties who may need to be contacted directly.	NGET	Open	
155	REMIT: consider presenting an item at the next JESG on REMIT and the interactions with the Transparency Regulation in reporting fundamental data.	NGET	Open	

## Recently Closed Actions

Action No	Action	Lead Party	Status	Update
139	Consider the need for how to best capture stakeholders' most recent priority issues before and during the Comitology process, in particular for the RFG, DCC and CACM Network Codes as the codes develop in the pre-comitology phase.	DECC	Closed	This has now become a standing JESG action (S7).
147	Establish if the provision in the HVDC Network Code on distribution connected HVDC links will have any impact on GB, by ascertaining if there are any existing links or any are planned.	NGET	Closed	Darren Chan confirmed that there is currently no existing embedded distributed HVDC links, and there are currently no plans to build any distribution-connected links that may be affected by this code.
148	Stakeholders would like a further update on any progress on Project TERRE at the March JESG.	NGET	Closed	No March JESG took place, and there was insufficient progress to report to the April JESG.

## HVDC Issues Log

Last updated: 12 February 2014

ID	Issue	NGET View
<b>Issues captured prior to the JESG Technical Workshop</b>		
1.	Why do the requirements for PPMs only extend to those connected Offshore? There is potential for Onshore PPMs to be connected only via HVDC	Drafting is at a very early stage and consideration of this and other issues will be taken by the drafting team. Onshore HVDC connected PPMs are now included
2.	How will a small island be considered, if it is connected to the Synchronous Area only by HVDC? In the extreme case, GB is an island connected via HVDC to the European Synchronous Area, so a form of words need to be found to ensure requirements are placed on the right parties	Drafting is at a very early stage and consideration of this and other issues will be taken by the drafting team. The Code is drafted to place technical requirements on HVDC, irrespective of who the owner is. The issue of TSO owned HVDC and obligations, responsibility for ensuring compliance, etc is tied in with the definition of "TSO"; this is still being addressed by the LRG to get a harmonised approach to all Codes. It may be necessary to define "island" and "synchronous area" appropriately so as to capture this issue.
3.	Consideration needs to be given to the various configurations of PPMS and HVDC networks, to ensure that obligations are fair and transparent.	Drafting is at a very early stage and consideration of this and other issues will be taken by the drafting team. All obligations and responsibilities will be fair and transparent irrespective of ownership (see above comment)
4.	The code needs to deal with situations where the configuration of the HVDC changes, e.g. if a link previously connecting different synchronous areas becomes an embedded link if a parallel AC line is added.	Drafting is not expected to preclude changes or new configurations. The Drafting Team is aware of potential configuration changes; this issue will be addressed.
5.	If the Code is written to the technology non-specific, there is a risk that some of the functionality of certain technologies may not be fully utilised.	Being technology non-specific means the Code does not preclude future technologies. The Code is a minimum requirement so additional items, provided they are compatible with the Code, are permitted. Technology neutrality is on the Agenda; it is recognised that capabilities of particular technology should not be ruled out. While there is EU pressure to harmonise requirements, certain requirements may have to be left to the local TSOs to specify.

ID	Issue	NGET View
6.	The added services required by the Code could make merchant Interconnectors less viable. The GB merchant model is designed for the transfer of Active Power, the draft specification for HVDC NC goes beyond this.	<p>The Code can apply retrospectively depending on the decision by the NRA according to the provisions on retrospective application. For Interconnectors in development, transitional arrangements will be specified in the Code, similar to RFG and DCC.</p> <p>The code is not tasked with the provision of “added services” – just capabilities. Some of these capabilities, e.g Frequency Response, can be met with little or no extra cost. These capabilities can enable HVDC to offer “added services” for which presumably merchant Interconnectors may agree commercially to provide to the relevant TSOs</p>
<b>Key Issues captured at JESG Technical Workshop on 11 / 12 December 2013.</b>		
7.	<b>Significance.</b> Although the HVDC Network Code applies to those deemed significant under the Network Code, the Network Code does not explicitly note the parties that are significant. The drafting needs to be clarified.	
8.	<b>Definitions.</b> Many items in the Network Code are either not defined or the definition is inherited from another Network Code as it does not cover HVDC specific terminologies. There is also the continued issue of not having a consistent single set of definitions across the Network Codes which makes them complex to understand.	
9.	<p><b>Structure of the Network Code.</b> The Network Code is poorly drafted in terms of which requirements apply to which parties. More thought should be given to acknowledging the difference between requirements on Interconnector HVDC and HVDC used to connect offshore Power Park Modules.</p> <p>Acknowledging that Converter Stations connected to the offshore grid and those connected to the onshore Transmission Grid have different requirements. This could be achieved by having requirements in distinct chapters.</p>	
10.	<b>NRA Approval.</b> All items subject to determination by TSOs in the Network Code should be subject to NRA approval. At present, many aspects of the Network Code do not require this.	
11.	<b>Discrimination – HVDC Interconnectors vs generation.</b> The Network Code places more onerous requirements (frequency, voltage etc) on HVDC Interconnectors than on onshore generators. This places merchant Interconnectors at a disadvantage in providing power in the market. The additional requirements required in the HVDC are not justified.	
12.	<b>Discrimination - AC vs DC connected generators–</b> Why are requirements on DC connected PPMs notably more stringent than on the AC connected PPMs. This is an unfair distortion of the market.	
13.	<b>Discrimination - Relevant TSO owned assets.</b> Assets owned the relevant TSO within a synchronous area are not subject to compliance testing (although they are subject to the requirements of the Network Code). This places such schemes at a commercial advantage in an open market, as they do not have to go through the process of testing compliance. However, at present the compliance testing is undertaken by the relevant TSOs, although this testing could be outsourced.	
14.	<b>Existing Plant - Applicability.</b> The Network Code needs clarifying to reflect the impact of the Network Code on existing systems and PPMs. ENTSO-E stated at their 4 December workshop that the Network Code does not apply to existing plant without a CBA: the wording does not necessarily reflect this and needs to be refined.	
15.	<b>Existing Plant - Modernisation.</b> Article 62 about requirements applying to modernisation of equipment is not clear. There needs to be a CBA to ensure that any additional changes required at the time of replacement of some equipment is proportionate and appropriate.	
16.	<b>Existing Plant – Timescales.</b> The two year timescale for plant to be considered if they have let main plant is not long enough in the case of HVDC or offshore wind. The planning timescales in particular means this period needs to be long.	

ID	Issue	NGET View
17.	<b>Existing Plant – Main Plant.</b> The terminology used to categorise existing assets as ‘main plant’ is ambiguous, and does not reflect the complex planning arrangements and development lead times of HVDC and offshore power grids.	
18.	<b>Scope – Offshore Grids.</b> Offshore PPMs and offshore converter stations. The Network Code places requirements on the remote end of HVDC link, requirements on the AC offshore grid and requirements on the offshore Power Park Modules. This is an area of evolving technology and to place specific requirements (frequency, voltage etc) may stifle innovation and the development of a cost effective solution. It is right to place requirements at the connection point to the Transmission Network but on the onshore grid.  It was proposed that Chapter 3 (requirements on remote end converter stations and PPMs should be either i) removed entirely placing no obligations on the remote end elements, ii) the same as the requirements on AC connected PPMs specified in the RFG, or iii) be a modified version of the AC connected PPM RFG requirements tailored to suit offshore DC connected PPMs but with no more onerous requirements than that for AC connected PPM.	
19.	<b>Scope – Remote End Converter Stations.</b> The Network Codes should not place significant requirements on remote end converter stations; these are not part of the integrated grid and therefore should be free of onerous requirements which do not support the requirements on the onshore converter station’s connection to the transmission network.	
20.	<b>Technology neutral.</b> As drafted the Network Code is not always technology neutral. Some of the requirements (e.g. Article 20 Reactive Power Control Mode) would preclude LCC technology as mandatory requirements can not be provided by LCC. Clarity also needed so as not to rule out LCC in Article 17 for example.	
21.	<b>Relevant TSO.</b> The term Relevant TSO is used (this is a defined term in the RFG). In the case of offshore or multi-terminal HVDC it is not clear who this always is, or in the case of offshore developments as in GB OFTOs are certified as TSOs.	
22.	<b>Dispute resolution.</b> No process is given for the situation when multiple TSOs, or TSOs and industry parties fail to agree on the development of parameters / methodologies etc which are defined in this Network Code. Without a dispute resolution the situation could reach an impasse.	
23.	<b>Mandatory vs Non-Mandatory.</b> There should be a consistent and rigorous convention to define Mandatory and Non-Mandatory. If the former is ‘shall’ and the latter is ‘have the rights’, then these should be defined and used consistently.	
<b>Key Issues captured after JESG Workshop on HVDC Network Code</b>		
24.	<b>Power Park Module Provisions.</b> If Power Park Modules requirements are removed from the HVDC code, these need to be accommodated in another code, possibly RfG.	

## List of JESG Attendees on 15 April 2014

First Name	Surname	Organisation
James	Anderson	Scottish Power
Felicity	Bush	ESB
Darren	Chan	National Grid
Peter	Chandler	National Grid
John	Costa	EDF Energy
Jackeline	Crespo-Sandoval	National Grid
Lesley	Ferrando	Ofgem
Will	Francis	DECC
David	Freed	Ofgem
Garth	Graham	SSE
Carole	Hook	National Grid
Olaf	Islei	APX
Will	Kirk-Wilson	National Grid
Liz	McLeod	Ofgem
Lorcan	Murray	BritNed
Stephen	Powell	Irish Commission for Energy Regulation
Tom	Selby	National Grid
Natasha	Smith	Ofgem
Helen	Stack	Centrica
Esther	Sutton	E.ON
Steve	Wilkin	Elexon
Adam	Young	Ofgem