Joint European Stakeholder Group

Tuesday 29 September 2015: Meeting 6

Wifi network: ELEXON GUEST Network Key: elex0ngue5t
Name: Tuesday29
Password: Welcome
1. Introductions and Apologies

Barbara Vest
JESG Independent Chair
2. Review of Action Log

Franklin Rodrick
JESG Technical Secretary
## JESG Standing Actions

<table>
<thead>
<tr>
<th>ID</th>
<th>Topic</th>
<th>Lead Party</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>Continue to review the membership of the JESG and engage additional industry parties where appropriate.</td>
<td>JESG Chair</td>
<td>JESG S3</td>
</tr>
<tr>
<td>S2</td>
<td>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.</td>
<td>NGET/Ofgem/DECC</td>
<td>JESG S1</td>
</tr>
<tr>
<td>S3</td>
<td>Share any intelligence about how other member states are approaching demonstrating compliance through information gained from other government departments, regulators or parent companies</td>
<td>DECC / Ofgem / Industry parties with European parent companies</td>
<td>ECCAF 3/2</td>
</tr>
<tr>
<td>S4</td>
<td>Stakeholders are requested to provide specific examples of inconsistent or problematic definitions in the Network Codes to Ofgem  (<a href="mailto:natasha.z.smith@ofgem.gov.uk">natasha.z.smith@ofgem.gov.uk</a>) and DECC  (<a href="mailto:elena.mylona@decc.gsi.gov.uk">elena.mylona@decc.gsi.gov.uk</a>).</td>
<td>All Stakeholders</td>
<td>JESG S6</td>
</tr>
</tbody>
</table>
## JESG Open Actions

<table>
<thead>
<tr>
<th>ID</th>
<th>Topic</th>
<th>Lead Party</th>
<th>Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>What is the process if there is a translation error in the published version of a regulation? How can an error be corrected, and what is the legal result if there is a discrepancy between different language versions.</td>
<td>Ofgem / DECC</td>
<td>New</td>
</tr>
<tr>
<td>14</td>
<td>Circulate the proposed Term of Reference, and likely agenda items for the JESG Subgroup on CACM and FCA</td>
<td>NGET</td>
<td>New</td>
</tr>
<tr>
<td>15</td>
<td>Consider nominations for the chair of the JESG Subgroup on CACM and FCA from the industry</td>
<td>All</td>
<td>New</td>
</tr>
</tbody>
</table>
3. Summary Status of European Network Codes

Franklin Rodrick
JESG Technical Secretary
Joint European Stakeholder Group

European Electricity Codes
Development Status: 08 September 2015

6 months
ACER develops FWGL

12 months
EC invites ENTSO-E to develop NC

3 months
ENTSO-E develops Network Code

ACER reviews Network Code

Revisions to Code after Opinion

ACER revises opinion

See note †

18 months – 3+ years depending on Code

Implemented

Reg 543/2013 Transparency

Potential Future ENCs:
indicated as future ENCs, no timescales advised to date

Connection Procedures

Staff Training & Certification

Tariff Harmonisation

Preparation for Cross-Border Committee

Cross-Border-Committee Discussion and Voting

Council & Parliament Approval

FCA

DCC

HVDC

RFG

† Timescales for the stages of Comitology are not specified and under the Commission’s control

†† Current indications from the Commission is that OS, OPS and LFCR will be merged into one single guideline.

All queries to: europeancodes.electricity@nationalgrid.com
4. Stakeholder Engagement – a 6 month forward view

Bec Thornton
National Grid
### Stakeholder Engagement

#### Code

<table>
<thead>
<tr>
<th>Code</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aug</td>
<td>Sept</td>
</tr>
<tr>
<td>Capacity Allocation and Congestion Management</td>
<td>ENTSOE consultation - CCR</td>
<td>TSO submission of CCRs to NRAs</td>
</tr>
<tr>
<td>Requirements for Generators</td>
<td>RIG Workgroup</td>
<td>RIG Workgroup</td>
</tr>
<tr>
<td>Demand Connection Code</td>
<td>DCC Workgroup</td>
<td>DCC Workgroup</td>
</tr>
<tr>
<td>HVDC</td>
<td>HVDC Workgroup</td>
<td>HVDC Workgroup</td>
</tr>
<tr>
<td>Forward Capacity Allocation</td>
<td>ENTSOE consultation - HAB</td>
<td>DECC GB Prioritisation Workshop</td>
</tr>
<tr>
<td>Guideline on Transmission System Operation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency &amp; Restoration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balancing</td>
<td>BSG</td>
<td>BSFG</td>
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<td>JESG Meetings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cross Code</td>
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</tr>
</tbody>
</table>

#### Other useful websites:
- Ofgem: [https://www.ofgem.gov.uk](https://www.ofgem.gov.uk)
- ACER: [http://www.acer.europa.eu/Pages/ACER.aspx](http://www.acer.europa.eu/Pages/ACER.aspx)
- ENTSOE: [https://www.entsoe.eu/Pages/default.aspx](https://www.entsoe.eu/Pages/default.aspx)

#### Key:
- **GB Meeting**
- **European Meeting**
- **Potential European Meeting**
- **Potential GB Meeting**

### Relevance Information

Information regarding GB meetings can be found here: [JESG Website](http://example.com).

### Other useful websites:
- [DECC](https://www.gov.uk/government/organisations/department-of-energy-climate-change)
- [Ofgem](https://www.ofgem.gov.uk)
- [ACER](http://www.acer.europa.eu/Pages/ACER.aspx)
- [EC](http://ec.europa.eu/unitedkingdom/)
- [ENTSOE](https://www.entsoe.eu/Pages/default.aspx)
5. European Stakeholders Committee Issue

Marta Karjewska
Energy UK
6. Cross Border Committee Meeting Update

DECC
7. CACM Voting and NRA Submission for Capacity Calculation Regions

Rob Selbie
NGET
8. Connection Codes and System Operation Codes Update

David Freed
Ofgem
Allocation of responsibilities:

- DECC has asked Ofgem to carry this out, as with CACM
- Will be done as a joint GCC exercise, although discussed in all three industry workgroups
- Outputs between the 3 codes will be aligned
  - Is there added value to coordinating timings with FCA GL?

Proposed approach (in line with Ofgem guiding principles):

- Identify articles in all 3 codes
- SO does the first-cut allocation
- Discussions in WGs and JESG update/discussion
- Resolve differences
- Minded-to

<table>
<thead>
<tr>
<th>End-October</th>
<th>November</th>
<th>Q1 2016</th>
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<tbody>
<tr>
<td>• Just a starting point</td>
<td>• To TSOs and JESG</td>
<td></td>
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</tbody>
</table>
9. Connection Codes Update

Franklin Rodrick
National Grid
GC0048 RfG Implementation Workgroup

- Industry engagement – particularly from smaller parties
- Setting banding thresholds:
  - Generator costs vs operational costs
  - but increased generator capabilities facilitate connection of increased volumes of smaller embedded
- Establishing methodologies and process to agree:
  - Retrospectivity
  - Cost benefit analysis
  - Derogations
RfG GC0048 Plan – Developed through Code mapping

<table>
<thead>
<tr>
<th>Implementation Mods</th>
<th>Dependencies</th>
<th>On-going related GC Mods</th>
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<tbody>
<tr>
<td>1</td>
<td>Banding</td>
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<td>2A</td>
<td>Compliance</td>
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<td>2B</td>
<td>Compliance</td>
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<td>4</td>
<td>Fault Ride Through</td>
<td>1;4-7</td>
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<td>5</td>
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<td>6</td>
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<td>1;6</td>
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<table>
<thead>
<tr>
<th>Enabling/Related workstreams</th>
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<tbody>
<tr>
<td>X Ofgem/DECC Member States Decisions</td>
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<tr>
<td></td>
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<td>GC0086 - Open Governance</td>
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<td>HVDC</td>
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<td>DCC</td>
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<td>Workgroup Output</td>
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<th>2019</th>
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<tbody>
<tr>
<td>Q3</td>
<td>Q4</td>
<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
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HVDC: GB Set-up for Implementation

GC0090 GCRP Workgroup
• The first Grid Code HVDC implementation workgroup (GC0090) meeting took place on Friday 18th September. It was well attended, though there were no OFTO attendees. The workgroup agreed that OFTOs needed to be represented and took responsibility to chase contacts they knew from this stakeholder group.
• The agenda included introductions to the ENCs, as well as a progress update from GC0048 RfG (which has set the template for Connections Codes implementation workgroups). There was a thorough overview and discussion of the scope and application of the code.
• The next meeting will be set for two days, and will be a full code-mapping of the HVDC text to equivalent sections/clauses in the GB codes. [Date TBC]

For more information or to register your interest, please contact: grid.code@nationalgrid.com
DCC: GB Set-up for Implementation

GC0091 Joint DCRP/GCRP Workgroup

• The Workgroup will be established under the Distribution and Grid Code Governance structure to look at the implementation of DDC within GB
• The workgroup is of open membership and will meet each month.
• The first meeting is proposed for 12 October.
• Code likely to be discussed at the Cross Border Committee meeting in October
• DECC/Ofgem likely to hold a stakeholder Workshop on 12 October depending on the further information from the Commission.

For more information or to register your interest, please contact: grid.code@nationalgrid.com
ENTSO-E’s Stakeholder Workshop
Connection Network Codes national implementation

- Over 100 attendees with a cross-section of member states, TSOs, regulators, manufacturers and federations
- Legal framework for the Connection Network Codes
- Connection Codes national implementation processes – case studies
  - France
  - GB
  - Germany
  - Norway
- Panel discussion
Key points to take away

• Similarities in approach for all four case studies
• Some differences dictated by different industry structures
• GB progress well-received
• Common key concerns for all parties being:
  – Resources
  – Importance of correctly setting RfG banding thresholds

Next Steps
• ENTSO-E to produce implementation guidance
• Set-up of stakeholder committees

More information from the Workshop can be accessed here.
10. Discussion on Energy Union ahead of deadline

Ofgem

Joe Craig
Utility Regulator Northern Ireland
Policy definition and expected outcomes
I-SEM Forward Liquidity

• Types of forward hedging instruments in the I-SEM:
  – Temporal (contracts or contracts for difference (CfDs)).
  – Spatial (Financial Transmission Rights) – between bidding zones

• Forwards and Liquidity WS focuses on:
  – Liquidity promoting measures on issues on the CfD market
  – Design of FTRs
Drivers for FTRs Decision on I-SEM HLD

• Emphasis was given to centralised and transparent trading arrangements for spot physical markets.
• Liquidity in the DAM is key to promote an equitable route to market for market participants.
  • DAM and IDM are the exclusive routes to physical contracting.
  • No scheduling priority for holders of transmission rights
• Financial Transmission Rights will maximise the availability of physical interconnection capacity for the DAM and provide cost certainty for trading across bidding zones.
Implementation of FTRs requires cross border agreement

- The CACM requires that the final approval on the type of the long-term transmission right offered between bidding zones be given jointly by the NRAs in the two zones.
- Therefore, for the Moyle or East West interconnectors, the SEM Committee’s preference for FTRs is conditional on Ofgem agreement.
- *I-SEM HLD Decision: “Subject to further discussions and agreement with neighbouring markets, Cross Zonal trading will be supported only by Financial Transmission Rights (FTRs).”*
FTR Product – Policy Issues

• Which best meets our overall objectives for ISEM: FTR options or FTR obligations?

• Should interconnector transmission losses, ramping constraints and curtailment risks be reflected in the FTR product design?

• Should separate products be offered at each interconnector or should a single product cover the whole border?

• What allocation platform should be used? (Local? Regional? JAO?)
FTRs (Options vs. Obligations)
Congestion Revenue (Revenue Adequacy ICs)

- Market participants will no longer be buying rights to flow energy across Moye and EWIC.
- EUPHEMIA will determine flows on both interconnectors.
- Interconnector owner will no longer collect revenue by selling rights to flow.
- Instead they will collect the price spread between I-SEM and GB (Congestion Revenue)
Determination of volumes and direction of Xborder flows in the I-SEM

SEM – Explicit Sale of Capacity

- Sub-optimal utilization of interconnector capacity
- Typical on Moyle and EWIC

I-SEM – Implicit Allocation

- Optimal utilisation (same price unless congested)
Flows on Moyle 2013

Interconnector flow (MWh, positive: imports to SEM; negative: exports to GB)

SEM - GB price differential (€/MWh - nominal, positive: SEM price > GB price; negative: GB price > SEM price)
FTRs Properties

- Defined direction and volume

- Sold at auction by interconnector provider for a defined period of time (year, quarter, month, etc)

- Valuation based on forecasted price spread between two relevant zones
Economic Value: Options vs. Obligations:

\[ FTR_{Option} = \max\left(Q_{ij} \cdot (P_j - P_i), 0\right) \]

\[ FTR_{Obligation} = Q_{ij} \cdot (P_j - P_i) \]
Valuation: Option vs. Obligation

$Pos = 8 \times 50 \times (20 - 10) = 4,000$

$Neg = 16 \times 100 \times (50 - 60) = -16,000$

$Net = -12,000 EUR$

$FTR_{Option} = 16 \times 10 = 160 EUR/Unit$

$FTR_{Obligation} = 16 \times 10 - 8 \times 10 = 80 EUR/$

<table>
<thead>
<tr>
<th></th>
<th>Option</th>
<th>Obligation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>160</td>
<td>80</td>
</tr>
<tr>
<td>50</td>
<td>8,000</td>
<td>4,000</td>
</tr>
<tr>
<td>75</td>
<td>12,000</td>
<td>6,000</td>
</tr>
<tr>
<td>100</td>
<td>16,000</td>
<td>8,000</td>
</tr>
<tr>
<td>150</td>
<td>24,000</td>
<td>12,000</td>
</tr>
</tbody>
</table>

$2000 MWh$
## Options vs. Obligations

<table>
<thead>
<tr>
<th>Attribute</th>
<th>FTR Option</th>
<th>FTR Obligation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coverage of price spread risk</td>
<td>• Cover any adverse price spread exposure</td>
<td>• Perfect hedge</td>
</tr>
<tr>
<td></td>
<td>• No downside risk</td>
<td>• Uncapped risk of unpredicted adverse price spreads, if there is no underlining contract that offsets this position.</td>
</tr>
<tr>
<td>Hedging efficiency</td>
<td>• Possible to hedge a financial position with fewer FTRs than the actual MW of energy contracted.</td>
<td>• More than 1 MW of FTR per average MW of contract may be needed to completely cover the financial position.</td>
</tr>
<tr>
<td>Liquidity of product</td>
<td>• Usable as a speculative instrument, increasing potential demand.</td>
<td>• More appropriate to physical traders than to asset-less speculators</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <strong>Possibility of Netting</strong></td>
</tr>
</tbody>
</table>
# Options vs. Obligations

<table>
<thead>
<tr>
<th>Attribute</th>
<th>FTR Option</th>
<th>FTR Obligation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost at auction</td>
<td>• Options would always have positive value therefore higher prices should be achieved at auction.</td>
<td>• Lower net price due to likely lower net payout than FTR Options</td>
</tr>
<tr>
<td>Credit cover</td>
<td>• Lower requirement (all payouts are by creditworthy providers).</td>
<td>• Buyers will need to pay providers when spreads are negative so must provide credit cover against this possibility</td>
</tr>
</tbody>
</table>
Balanced set of advantages and disadvantages

Market Participants views should be an important driver for decision.

We are not recommending a minded to decision.
A Single FTR or FTR per Interconnector

FTR Product definition:

Losses
Ramping
Curtailment
Questions

• What arrangement would be preferred: one FTR per border or per interconnector?

• Should the FTR product pay-outs be discounted for:
  • IC transmission losses?
  • IC Ramping constraints?
  • Curtailment Risks
## Benefits of a Single FTR Product per Border or Interconnector

<table>
<thead>
<tr>
<th>FTR BY BORDER</th>
<th>FTR BY INTERCONNECTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Greater Liquidity</td>
<td>• Complexity of a Revenue/liability sharing agreement between IC owners is not required</td>
</tr>
<tr>
<td>• Simpler for market participants</td>
<td>• Market participants can assess risk of curtailment by IC</td>
</tr>
<tr>
<td></td>
<td>• Allows for inclusion of losses in FTR</td>
</tr>
<tr>
<td></td>
<td>• Future proofed against changes to bidding zones or new IC</td>
</tr>
</tbody>
</table>
How inclusion of losses in FTR would work

- If we assume an I-SEM price of €60 and a GB price of €50 the market spread and pay out of undiscounted FTR = €10

- If we assume discounting for losses the market spread on Moyle and EWIC would take account of losses of 1.8% & 5% respectively

- The FTR payouts (in direction of I-SEM) would therefore be:
  - Moyle €8.92  \[€10 - (€60 \times 0.018 \text{ loss factor})\]
  - EWIC €7  \[€10 - (€60 \times 0.05 \text{ loss factor})\]
# FTR pay-outs on market spread (no discount for losses)

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• A more effective hedge for holders of the FTR</td>
<td>• IC owners may face increased revenue adequacy risks</td>
</tr>
<tr>
<td>• May encourage purchases by asset-less traders and increase secondary liquidity</td>
<td>• IC owners will be required to pay-out when there are no flows due to losses (no congestion rents)</td>
</tr>
<tr>
<td>• FTR holders are not responsible for losses</td>
<td>• IC owners maybe required to hedge losses in the energy market</td>
</tr>
<tr>
<td>• Increased auction revenues for IC owners</td>
<td>• FTR purchasers may pay higher auction price/MW</td>
</tr>
</tbody>
</table>
Ramping Constraints 1

I-SEM Market

Moyle and EWIC
(max: 1000 MW)
(max ramp: 600 MW/h)

GB Market

Px_{I-SEM} 1000 MW  Px_{GB}

40 €/MWh  50 €/MWh

CR = +€10000

400 MW

50 €/MWh  40 €/MWh

CR = -€4000

1000 MW

40 €/MWh  50 €/MWh

CR = +€10000

Graphical representation of the I-SEM Market and GB Market, illustrating the energy transition and the cost implications over three time periods.
# FTR pay-outs on market spread (no discount for ramping)

<table>
<thead>
<tr>
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</tr>
<tr>
<td>• May encourage purchases by asset-less traders and increase secondary liquidity</td>
<td>• IC owners will be required to pay-out when there are negative or reduced congestion rents</td>
</tr>
<tr>
<td>• FTR holders are not responsible for ramping</td>
<td>• IC owners are not responsible for ramping</td>
</tr>
<tr>
<td>• Increased auction revenues for IC owners</td>
<td>• FTR purchasers may pay higher auction price/MW</td>
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</tbody>
</table>
SEM Committee minded to decisions

- Minded to support the sale of FTRs by interconnector
- Minded to include a discount for losses in the FTR payout
- Minded not to include a discount for ramping in the FTR payout
- The impact of curtailment on FTR payout is defined by the Forward Capacity Allocation Guideline and the SEM Committee does not seek to move from the EC Guideline
Closing Remarks
Next Steps 1

• Consultation ends 19 October

• Responses should be sent to:

  James Curtin
  Joe Craig

  jcurtin@cer.ie
  joe.craig@uregni.gov.uk

• Decision Paper published end November
Thank You
12. Future Meeting Dates

Franklin Rodrick
JESG Technical Secretary
<table>
<thead>
<tr>
<th>Date</th>
<th>Date</th>
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<tbody>
<tr>
<td>26&lt;sup&gt;th&lt;/sup&gt; January</td>
<td>20&lt;sup&gt;th&lt;/sup&gt; July</td>
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<td>23&lt;sup&gt;rd&lt;/sup&gt; February</td>
<td>24&lt;sup&gt;th&lt;/sup&gt; August</td>
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<td>30&lt;sup&gt;th&lt;/sup&gt; March</td>
<td>28&lt;sup&gt;th&lt;/sup&gt; September</td>
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<td>26&lt;sup&gt;th&lt;/sup&gt; October</td>
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<td>25&lt;sup&gt;th&lt;/sup&gt; May</td>
<td>23&lt;sup&gt;rd&lt;/sup&gt; November</td>
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<td>21&lt;sup&gt;st&lt;/sup&gt; June</td>
<td>13&lt;sup&gt;th&lt;/sup&gt; December</td>
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13. Future JESG Agenda Items

Franklin Rodrick
JESG Technical Secretary
14. Review of Stakeholder Representation

Barbara Vest
JESG Independent Chair
15. Any Other Business

All
A.O.B: Grid Code Development Forum

Franklin Rodrick
JESG Technical Secretary
Lunch: 12:30