Transmission Charging Methodologies Forum

Wednesday 13th November 2013
Introduction & Welcome

Adam Sims
Agenda

10:00  Safety moment – Amy Boast
10:15  Statement of Works / Modification application fees update – Martin Moran
10:30  Code modifications update – Amy Boast
11:00  2014 Quarterly update including CMP 213 update – Damian Clough
11:45  Load Factor update – Stuart Boyle
12:00  Lunch
12:30  Embedded update – Andrew Wainwright
13:00  Future Modification topics – Adam Sims
Safety moment

Amy Boast
Safety Moment
Customer survey

- Conducted twice yearly – current round Nov 13
- Customers will be randomly selected and contacted by telephone for a 10 minute discussion
- If you are contacted active participation is appreciated to help us improve our service
- Thank you to those who have already participated
Embedded connections

Martin Moran, Customer Service Manager – England & Wales
Embedded generation update

- Ofgem lead DG Forums;
- Embedded Developers have difficulty understanding their impact on the Transmission network
- That the Statement of Works process; *(Small Embedded)*
  - Took too long & expensive
  - There was a lack of transparency in the process
- The connection process; *(Large Embedded)*
  - Requires two applications & associated fees
  - No single point of contact
Industry actions & proposals

- Working collaboratively SO, TO’s, DNO’s
- Number of working group meetings
- Brainstorm issues & identify potential solutions
- Proposals for implementation;

**Small embedded generator:**

- Remove Stage 1 – Statement of Works process
  - Reduce timescales by around 3 months
  - Save Developer ~£2,000 per application
  - Provide earlier notice of Transmission reinforcements
Industry actions & proposals

Large embedded generator

- Allow the generator to make one application via National Grid – BELLA / BEGA
  - One application / application fee
  - NGET as the single point of contact
  - No payment of a Modification Application to the DNO
  - Potential up front saving of ~£30k per application
Implementation

- In discussion with Ofgem – very supportive
- SoW process - comfort with non compliance of CUSC
- Large embedded – seeking charging on a indicative basis to establish actual cost of application
- Seeking to implement on a trial basis – 1 year
- Commence 1 November 2013 (subject to approvals)

Next Stage – post implementation

- Review with wider industry the SoW process
Ongoing modification proposals

Amy Boast
**CMP213: Project Transmit TNUoS Developments**

- Ofgem’s impact assessment consultation has now closed.
- Minded to position: Diversity 1, 100% HVDC / Islands (WACM2).
  - To be implemented 2014/15.
- Determination expected later this calendar year
- Indicative tariffs for 2014/15 published
  - Contains specific load factors
User Commitment Modification Proposals

- **CMP219: Clarifications to User Commitment Methodology**
  - Received 3 responses supporting the implementation
  - To be presented at November CUSC Panel

- **CMP222: User Commitment for non-generation users**
  - Workgroup meetings have begun

- **CMP223: Arrangements for Relevant Distributed Generators Under the Enduring Generation User Commitment**
  - Workgroup meetings have commenced
Ongoing Modification Proposals

- **CMP201**: Removal of BSUoS charges from Generation
  - Ofgem minded to position: reject

- **CMP224**: Cap on the total TNUoS target revenue to be recovered from generation users
  - 1 work group meeting held so far
  - Main discussion surrounded inclusion/exclusion of local charges on the proposed cap
Indicative TNUoS Charges for 2014/15

Damian Clough
Content

- Key updates made to the charging model, including changes to
  - generation background
  - demand background
  - allowed revenues
  - the network and cost of building this network

- November Update
  - impact of changes in power flows
  - impact of parameter updates

- WACM2

- Next Steps

- Feedback
  - how can we improve next years quarterly updates
  - What do you want to see in the condition 5 forecasts
## Key changes

### Generation Background

<table>
<thead>
<tr>
<th>Zone</th>
<th>Zone Name</th>
<th>Modelled Generation 13/14</th>
<th>Modelled Generation 14/15</th>
<th>Modelled Generation 14/15 Updated</th>
<th>Difference between 13/14 and Updated 14/15</th>
<th>Difference between 14/15 Initial View and Updated 14/15</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>North Scotland</td>
<td>747.76</td>
<td>956.76</td>
<td>843.46</td>
<td>95.7</td>
<td>-113.3</td>
</tr>
<tr>
<td>2</td>
<td>East Aberdeenshire</td>
<td>1180</td>
<td>1180</td>
<td>400</td>
<td>-780</td>
<td>-780</td>
</tr>
<tr>
<td>3</td>
<td>Western Highlands</td>
<td>286</td>
<td>286</td>
<td>285.9</td>
<td>-0.1</td>
<td>-0.1</td>
</tr>
<tr>
<td>4</td>
<td>Skye and Lochalsh</td>
<td>41.4</td>
<td>41.4</td>
<td>41.4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>Eastern Grampian and Tayside</td>
<td>324.8</td>
<td>334</td>
<td>324.8</td>
<td>0</td>
<td>-9.2</td>
</tr>
<tr>
<td>6</td>
<td>Central Grampian</td>
<td>63.5</td>
<td>63.5</td>
<td>63.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>Argyll</td>
<td>81.7</td>
<td>131.6</td>
<td>131.6</td>
<td>49.9</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>The Trossachs</td>
<td>562.5</td>
<td>562.5</td>
<td>520</td>
<td>-42.5</td>
<td>-42.5</td>
</tr>
<tr>
<td>9</td>
<td>Stirlingshire and Fife</td>
<td>2380</td>
<td>2380</td>
<td>2380</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>South West Scotland</td>
<td>2457.8</td>
<td>2532.8</td>
<td>2027</td>
<td>-430.8</td>
<td>-505.8</td>
</tr>
<tr>
<td>11</td>
<td>Lothian and Borders</td>
<td>2138.95</td>
<td>2825.95</td>
<td>2021.95</td>
<td>-117</td>
<td>-804</td>
</tr>
<tr>
<td>12</td>
<td>Solway and Cheviot</td>
<td>404</td>
<td>473.3</td>
<td>310</td>
<td>-94</td>
<td>-163.3</td>
</tr>
<tr>
<td>13</td>
<td>North East England</td>
<td>1351</td>
<td>1393</td>
<td>1348</td>
<td>-3</td>
<td>-45</td>
</tr>
<tr>
<td>14</td>
<td>North Lancashire and The Lakes</td>
<td>3521</td>
<td>3691</td>
<td>3547</td>
<td>26</td>
<td>-144</td>
</tr>
<tr>
<td>15</td>
<td>South Lancashire, Yorkshire and Humber</td>
<td>15497</td>
<td>16202</td>
<td>14940</td>
<td>-557</td>
<td>-1262</td>
</tr>
<tr>
<td>16</td>
<td>North Midlands and North Wales</td>
<td>12407</td>
<td>13459</td>
<td>13345</td>
<td>938</td>
<td>-114</td>
</tr>
<tr>
<td>17</td>
<td>South Lincolnshire and North Norfolk</td>
<td>2179</td>
<td>3019</td>
<td>2194</td>
<td>15</td>
<td>-825</td>
</tr>
<tr>
<td>18</td>
<td>Mid Wales and The Midlands</td>
<td>7754.9</td>
<td>9074.9</td>
<td>7739.9</td>
<td>-15</td>
<td>-1335</td>
</tr>
<tr>
<td>19</td>
<td>Anglesey and Snowdon</td>
<td>2134</td>
<td>2134</td>
<td>2084</td>
<td>-50</td>
<td>-50</td>
</tr>
<tr>
<td>20</td>
<td>Pembrokeshire</td>
<td>2199</td>
<td>2199</td>
<td>2199</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>21</td>
<td>South Wales &amp; Gloucester</td>
<td>3509</td>
<td>3509</td>
<td>3164</td>
<td>-345</td>
<td>-345</td>
</tr>
<tr>
<td>22</td>
<td>Cotswold</td>
<td>1234</td>
<td>1399</td>
<td>1399</td>
<td>165</td>
<td>0</td>
</tr>
<tr>
<td>23</td>
<td>Central London</td>
<td>144</td>
<td>144</td>
<td>144</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>24</td>
<td>Essex and Kent</td>
<td>13832</td>
<td>14672</td>
<td>12723</td>
<td>-1109</td>
<td>-1949</td>
</tr>
<tr>
<td>25</td>
<td>Oxfordshire, Surrey and Sussex</td>
<td>2070</td>
<td>2070</td>
<td>1970</td>
<td>-100</td>
<td>-100</td>
</tr>
<tr>
<td>26</td>
<td>Somerset and Wessex</td>
<td>2539</td>
<td>2539</td>
<td>2539</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>27</td>
<td>West Devon and Cornwall</td>
<td>1045</td>
<td>1045</td>
<td>1045</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Totals and Differences: 82084.31 88317.71 79730.51 -2353.8 -8587.2
Key changes

Generation Background

- A significant update to the charging model from 2013/14 is the change in the generation landscape
- 82GW in total was contracted for 13/14
- There is a total reduction of ~2.3GW in the contracted generation for 2014/15 compared to 2013/14
  - 1.8GWh net reductions in TEC North of the Pennines
  - 0.5GWh net reductions below Pennines
Key changes
Generation Background (cont)

- The changes are up to **OCTOBER 1ST**

- Any changes in contracted generation since the date above have not been included in this forecast but may well affect Draft/Final tariffs;

- Any reduction in contracted generation in the South may push up Generation prices in the North and Scotland and vice versa

Map shows largest/significant changes only

Arrows indicate magnitude and direction of change in TEC
## Key changes

### Demand Background

<table>
<thead>
<tr>
<th>Zone</th>
<th>Zone Name</th>
<th>13/14</th>
<th>14/15 C5</th>
<th>14/15 Update</th>
<th>Diff to 13/14</th>
<th>% Diff to 13/14</th>
<th>% Diff to 14/15 C5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Northern Scotland</td>
<td>1,247</td>
<td>1,259</td>
<td>876</td>
<td>-371</td>
<td>-30%</td>
<td>-30%</td>
</tr>
<tr>
<td>2</td>
<td>Southern Scotland</td>
<td>3,921</td>
<td>3,907</td>
<td>3,756</td>
<td>-165</td>
<td>-4%</td>
<td>-4%</td>
</tr>
<tr>
<td>3</td>
<td>Northern</td>
<td>2,676</td>
<td>2,863</td>
<td>2,939</td>
<td>263</td>
<td>10%</td>
<td>3%</td>
</tr>
<tr>
<td>4</td>
<td>North West</td>
<td>4,242</td>
<td>4,177</td>
<td>4,011</td>
<td>-231</td>
<td>-5%</td>
<td>-9%</td>
</tr>
<tr>
<td>5</td>
<td>Yorkshire</td>
<td>5,213</td>
<td>5,248</td>
<td>4,787</td>
<td>-426</td>
<td>-8%</td>
<td>-9%</td>
</tr>
<tr>
<td>6</td>
<td>N Wales &amp; Mersey</td>
<td>3,553</td>
<td>3,503</td>
<td>2,546</td>
<td>-1,007</td>
<td>-28%</td>
<td>-27%</td>
</tr>
<tr>
<td>7</td>
<td>East Midlands</td>
<td>5,699</td>
<td>5,755</td>
<td>5,188</td>
<td>-511</td>
<td>-9%</td>
<td>-10%</td>
</tr>
<tr>
<td>8</td>
<td>Midlands</td>
<td>5,144</td>
<td>5,194</td>
<td>4,808</td>
<td>-336</td>
<td>-7%</td>
<td>-7%</td>
</tr>
<tr>
<td>9</td>
<td>Eastern</td>
<td>6,925</td>
<td>7,137</td>
<td>6,680</td>
<td>-245</td>
<td>-4%</td>
<td>-6%</td>
</tr>
<tr>
<td>10</td>
<td>South Wales</td>
<td>2,169</td>
<td>2,188</td>
<td>2,110</td>
<td>-59</td>
<td>-3%</td>
<td>-4%</td>
</tr>
<tr>
<td>11</td>
<td>South East</td>
<td>4,188</td>
<td>4,293</td>
<td>3,883</td>
<td>-305</td>
<td>-7%</td>
<td>-10%</td>
</tr>
<tr>
<td>12</td>
<td>London</td>
<td>6,053</td>
<td>6,259</td>
<td>5,944</td>
<td>-109</td>
<td>-2%</td>
<td>-5%</td>
</tr>
<tr>
<td>13</td>
<td>Southern</td>
<td>6,387</td>
<td>6,447</td>
<td>6,236</td>
<td>-151</td>
<td>-2%</td>
<td>-3%</td>
</tr>
<tr>
<td>14</td>
<td>South Western</td>
<td>2,801</td>
<td>2,829</td>
<td>2,810</td>
<td>9</td>
<td>0%</td>
<td>1%</td>
</tr>
</tbody>
</table>

|       |                   |       |          |              | 60,218        | 61,299         | 56,574            |
Key changes

Demand Background

- Peak demand forecasts come from DNO submissions
- Peak forecasts now more closely matched to actual peaks
- Overall Peak demand has reduced from ~61GW’s to 56.5GW’s
- Decreases less pronounced in the North & Scotland

Map shows largest /significant changes only

Increased Embedded Generation in North of Scotland and West Coast

Reduces North to South Flows

North Wales & Mersey (~910MW)

Teeside (~200MW)
Key changes

Total Allowed Revenue

- Total Transmission Allowed Revenue based on
  - information provided by SHETL, SPTL, and existing OFTOs
  - a forecast of new OFTO revenues (informed by Ofgem & Developers)
  - RIIO proposals

Total Allowed Revenue

£2,542m
(an increase of £345m from 13/14)

13/14 Allowed Revenues are those, which were used to set tariffs
Key changes
Total Allowed Revenue

- Total Transmission Allowed Revenue based on
  - The rise in revenue reflects the first year of RIIO and the move to a low carbon economy
  - % of different TO’s revenue requirements compared to allowed revenue remains roughly the same
  - % increase in other TO’s revenues higher, reflects the move to a low carbon economy
Circuit Changes

- Data comes from TO’s
  - Received in latter part of summer
  - Reflects updated Generation background and network requirements
  - Key changes
    - Beauly Denny
      - Power flows in parts of Scotland more efficient
      - Completed in 15/16 so future tariff changes expected
      - Benefit partially offset by cabling work and TEC reductions altering flows
    - Cabling work in London
      - Coupled with Generation changes alters flows in Zones 23 & 24
- Limited changes now expected in this data
Change in Generation Tariffs

Impact due to locational changes

Change in Tariff from 13/14 to 14/15 (£/kW)

Generation Zone
Change in Generation Tariffs

Impact due to locational changes

Generation & Demand

Generation Zone

Change in Tariff from 13/14 to 14/15 (£/kW)
Change in Generation Tariffs

Impact due to locational changes

Change in Tariff from 13/14 to 14/15 (£/kW)

Generation Zone

Circuit

Expansion Constant

Generation & Demand

Circuit
Change in Generation Tariffs

Impact due to locational changes
Change in Generation Tariffs

Impact due to locational changes
Change in Generation Tariffs

Changes in 13/14 Tariffs

Difference Upd 14/15 to 13/14

Change in tariff (£k/W)

Generation Zone

- DECREASE IN NORTH / SOUTH FLOWS
- INCREASE IN RESIDUAL
- EXPANSION CONSTANT
- SH mood in BALANCE BETWEEN GENERATION & DEMAND
- INCREASE IN DEMAND
- PETERHEAD - 780MW
Change in Demand Tariffs

Impact due to locational changes

Change in Tariff from 13/14 to 14/15 (£/kW)

Demand Zone

Circuit
Change in Demand Tariffs

Impact due to locational changes

![Graph showing change in demand tariffs](image-url)
Change in Demand Tariffs

Impact due to locational changes
Change in Demand Tariffs

Impact due to locational changes
Change in Demand Tariffs

Impact due to locational changes
Change in Demand Tariffs

Impact due to locational changes
Change in Demand Tariffs

Changes in 13/14 Tariffs

Shift in balance between generation & demand

Decrease in North/South flows

Circuit reconfiguration

Increase in residual

Change in Tariffs 14/15 to 13/14

INCREASE IN RESIDUAL

SHIFT IN BALANCE BETWEEN GENERATION & DEMAND

DECREASE IN NORTH / SOUTH FLOWS

CIRCUIT RECONFIGURATION
Movements throughout year

- Updates have taken into account
  - 8GW changes in generation
  - 4.5GW changes in demand
  - £70m revenue
  - Circuit changes e.g. Beauly & London

- Tariffs have been updated to take these into account
Data Inputs

- Limited change expected in
  - Circuit
  - Demand

- Two asset transfers expected next year
  - Gwynt Y Mor
  - Thanet
  - Therefore limited variance in revenues if we choose to alter expected asset transfer date (+/- £10m)

- Revenues from 12/13 currently being assessed for efficiency by Ofgem
  - No K factor from 13/14 feeding into 14/15 so adverse weather will not affect revenues

- Generation Background;
  - Data based on October 1st
  - Final Data based on October 31st.

- Recommend looking at Appendix A of Quarterly Update Generation Background
WACM2

- Ofgem’s minded to position on CUSC Modification Proposal CMP213
- Uses same input data as Status Quo

Additional Changes
- Scaling factors produce differing generation backgrounds to Status Quo
- Annual Load Factors specific to each generator
  - Quarterly Update used indicative ALF’s
  - These can be found in Appendix G of November Quarterly Update
  - Still subject to change
  - Limited change in residual element expected if indicative ALF’s do alter
- No comparison has been made for WACM2 tariffs
# WACM2 Generation Tariffs

<table>
<thead>
<tr>
<th>Zone</th>
<th>Zone Name</th>
<th>Tariff (£/kW)</th>
<th>Peak Security Tariff (£/kW)</th>
<th>Shared Year Round Tariff (£/kW)</th>
<th>Not Shared Year Round Tariff (£/kW)</th>
<th>Residual Tariff (£/kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>North Scotland</td>
<td>2.95</td>
<td>2.95</td>
<td>16.01</td>
<td>5.50</td>
<td>3.50</td>
</tr>
<tr>
<td>2</td>
<td>East Aberdeenshire</td>
<td>3.98</td>
<td>9.81</td>
<td>5.50</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Western Highlands</td>
<td>2.56</td>
<td>16.39</td>
<td>5.50</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Skye and Lochalsh</td>
<td>-1.36</td>
<td>16.39</td>
<td>7.19</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Eastern Grampian and Tayside</td>
<td>2.22</td>
<td>12.81</td>
<td>5.07</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Central Grampian</td>
<td>3.74</td>
<td>11.51</td>
<td>4.61</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Argyll</td>
<td>2.83</td>
<td>8.92</td>
<td>6.20</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>The Trossachs</td>
<td>2.88</td>
<td>8.92</td>
<td>3.58</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Stirlingshire and Fife</td>
<td>3.33</td>
<td>7.98</td>
<td>3.45</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>South West Scotland</td>
<td>2.14</td>
<td>9.36</td>
<td>3.45</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Lothian and Borders</td>
<td>2.56</td>
<td>9.36</td>
<td>-0.24</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Solway and Cheviot</td>
<td>1.65</td>
<td>5.71</td>
<td>2.51</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>North East England</td>
<td>2.90</td>
<td>3.19</td>
<td>1.08</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>North Lancashire and The Lakes</td>
<td>1.46</td>
<td>3.19</td>
<td>1.76</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>South Lancashire, Yorkshire and Humber</td>
<td>3.66</td>
<td>1.24</td>
<td>1.24</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>North Midlands and North Wales</td>
<td>3.22</td>
<td>0.25</td>
<td>0.25</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>South Lincolnshire and North Norfolk</td>
<td>1.43</td>
<td>-0.20</td>
<td>1.43</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Mid Wales and The Midlands</td>
<td>1.16</td>
<td>-0.23</td>
<td>1.16</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Anglesey and Snowdon</td>
<td>4.71</td>
<td>1.31</td>
<td>4.71</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Pembrokeshire</td>
<td>8.18</td>
<td>-3.58</td>
<td>8.18</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>South Wales &amp; Gloucester</td>
<td>5.54</td>
<td>-3.60</td>
<td>5.54</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Cotswold</td>
<td>2.62</td>
<td>1.60</td>
<td>-5.21</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Central London</td>
<td>-3.26</td>
<td>1.60</td>
<td>-4.24</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Essex and Kent</td>
<td>-4.00</td>
<td>1.60</td>
<td>-4.00</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Oxfordshire, Surrey and Sussex</td>
<td>-1.35</td>
<td>-2.51</td>
<td>-1.35</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Somerset and Wessex</td>
<td>-1.52</td>
<td>-3.53</td>
<td>-1.52</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>West Devon and Cornwall</td>
<td>-0.93</td>
<td>-5.62</td>
<td>-0.93</td>
<td>3.50</td>
<td></td>
</tr>
</tbody>
</table>

Payable by Conventional Generation only

Tariff x’s Annual Load Factor
Next Steps

- Draft Tariffs published before Christmas 2013
- Final Tariffs published 31st January 2014
- 15/16 forecast published 31st January 2014
- 16/17, 17/18, 18/19 forecasts published 31st March 2014

- Expect updates for
  - ALFs
  - Project TransmiT communication
First year of quarterly updates
  - Earlier view of generation and demand changes

What should we compare to?
  - Condition 5 / Previous forecast
    - Bear in mind gets very complicated and potentially confusing comparing to numerous updates tariffs

Generation changes throughout year constantly change forecast
  - Is there anything we can do about that?
Indicative Annual Load Factors Under CMP213 WACM2

Stuart Boyle, Revenue Manager
13 November 2013
Introduction

- The authority is minded to implement CMP213 Working-group Alternative Code Modification 2 with effect from 1 April 2014. To facilitate this National Grid published two sets of indicative TNUoS tariffs for 2014/15 in the November 2013 update using both existing and new methodologies.

- Appendix G contains indicative Annual Load Factors under the new methodology for generic and specific generators.

- TNUoS Forecast page (Condition 5)

  http://www2.nationalgrid.com/UK/Industry-information/System-charges/Electricity-transmission/Approval-conditions/Condition-5/

- November update

  http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=24906
<table>
<thead>
<tr>
<th>Zone</th>
<th>Zone Name</th>
<th>Generation Tariffs</th>
<th>Peak Security</th>
<th>Shared Year Round</th>
<th>Not Shared Year Round</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tariff (£/kW)</td>
<td>Tariff (£/kW)</td>
<td>Tariff (£/kW)</td>
<td>Tariff (£/kW)</td>
</tr>
<tr>
<td>1</td>
<td>North Scotland</td>
<td></td>
<td>2.95</td>
<td>16.01</td>
<td>5.50</td>
<td>3.50</td>
</tr>
<tr>
<td>2</td>
<td>East Aberdeenshire</td>
<td></td>
<td>3.98</td>
<td>9.81</td>
<td>5.50</td>
<td>3.50</td>
</tr>
<tr>
<td>3</td>
<td>Western Highlands</td>
<td></td>
<td>2.56</td>
<td>16.39</td>
<td>5.50</td>
<td>3.50</td>
</tr>
<tr>
<td>4</td>
<td>Skye and Lochalsh</td>
<td></td>
<td>-1.36</td>
<td>16.39</td>
<td>7.19</td>
<td>3.50</td>
</tr>
<tr>
<td>5</td>
<td>Eastern Grampian and Tayside</td>
<td></td>
<td>2.22</td>
<td>12.81</td>
<td>5.07</td>
<td>3.50</td>
</tr>
<tr>
<td>6</td>
<td>Central Grampian</td>
<td></td>
<td>3.74</td>
<td>11.51</td>
<td>4.61</td>
<td>3.50</td>
</tr>
<tr>
<td>7</td>
<td>Argyll</td>
<td></td>
<td>2.83</td>
<td>8.92</td>
<td>6.20</td>
<td>3.50</td>
</tr>
<tr>
<td>8</td>
<td>The Trossachs</td>
<td></td>
<td>2.88</td>
<td>8.92</td>
<td>3.58</td>
<td>3.50</td>
</tr>
<tr>
<td>9</td>
<td>Stirlingshire and Fife</td>
<td></td>
<td>3.33</td>
<td>7.98</td>
<td>3.45</td>
<td>3.50</td>
</tr>
<tr>
<td>10</td>
<td>South West Scotland</td>
<td></td>
<td>2.14</td>
<td>9.36</td>
<td>3.45</td>
<td>3.50</td>
</tr>
<tr>
<td>11</td>
<td>Lothian and Borders</td>
<td></td>
<td>2.56</td>
<td>9.36</td>
<td>-0.24</td>
<td>3.50</td>
</tr>
<tr>
<td>12</td>
<td>Solway and Cheviot</td>
<td></td>
<td>1.65</td>
<td>5.71</td>
<td>2.51</td>
<td>3.50</td>
</tr>
<tr>
<td>13</td>
<td>North East England</td>
<td></td>
<td>2.90</td>
<td>3.19</td>
<td>1.08</td>
<td>3.50</td>
</tr>
<tr>
<td>14</td>
<td>North Lancashire and The Lakes</td>
<td></td>
<td>1.46</td>
<td>3.19</td>
<td>1.76</td>
<td>3.50</td>
</tr>
<tr>
<td>15</td>
<td>South Lancashire, Yorkshire and Humber</td>
<td></td>
<td>3.66</td>
<td>1.24</td>
<td></td>
<td>3.50</td>
</tr>
<tr>
<td>16</td>
<td>North Midlands and North Wales</td>
<td></td>
<td>3.22</td>
<td>0.25</td>
<td></td>
<td>3.50</td>
</tr>
<tr>
<td>17</td>
<td>South Lincolnshire and North Norfolk</td>
<td></td>
<td>1.43</td>
<td>-0.20</td>
<td></td>
<td>3.50</td>
</tr>
<tr>
<td>18</td>
<td>Mid Wales and The Midlands</td>
<td></td>
<td>1.16</td>
<td>-0.23</td>
<td></td>
<td>3.50</td>
</tr>
<tr>
<td>19</td>
<td>Anglesey and Snowdon</td>
<td></td>
<td>4.71</td>
<td>1.31</td>
<td></td>
<td>3.50</td>
</tr>
<tr>
<td>20</td>
<td>Pembrokeshire</td>
<td></td>
<td>8.18</td>
<td>-3.58</td>
<td></td>
<td>3.50</td>
</tr>
<tr>
<td>21</td>
<td>South Wales &amp; Gloucester</td>
<td></td>
<td>5.54</td>
<td>-3.60</td>
<td></td>
<td>3.50</td>
</tr>
<tr>
<td>22</td>
<td>Cotswold</td>
<td></td>
<td>2.62</td>
<td>1.60</td>
<td>-5.21</td>
<td>3.50</td>
</tr>
<tr>
<td>23</td>
<td>Central London</td>
<td></td>
<td>-3.26</td>
<td>1.60</td>
<td>-4.24</td>
<td>3.50</td>
</tr>
<tr>
<td>24</td>
<td>Essex and Kent</td>
<td></td>
<td>-4.00</td>
<td>1.60</td>
<td></td>
<td>3.50</td>
</tr>
<tr>
<td>25</td>
<td>Oxfordshire, Surrey and Sussex</td>
<td></td>
<td>-1.35</td>
<td>-2.51</td>
<td></td>
<td>3.50</td>
</tr>
<tr>
<td>26</td>
<td>Somerset and Wessex</td>
<td></td>
<td>-1.52</td>
<td>-3.53</td>
<td></td>
<td>3.50</td>
</tr>
<tr>
<td>27</td>
<td>West Devon and Cornwall</td>
<td></td>
<td>-0.93</td>
<td>-5.62</td>
<td></td>
<td>3.50</td>
</tr>
</tbody>
</table>
Calculation Methodology

Charging Years used to set ALF

<table>
<thead>
<tr>
<th>Year</th>
<th>ALF Calc.</th>
<th>ALF Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008/09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009/10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010/11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011/12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012/13</td>
<td>2013/14</td>
<td>2014/15</td>
</tr>
</tbody>
</table>

Max (Metered, FPN, 0) summed over 17520HH

\[ \frac{\text{Max (Metered, FPN, 0) summed over 17520HH}}{\text{Sum TEC/2 over 17520HH}} = \text{ALF} \]

\(\text{ALF}_{2008/09} = \frac{\text{Max (Metered, FPN, 0) summed over 17520HH}}{\text{Sum TEC/2 over 17520HH}}\)

\(\text{ALF}_{2009/10} = \frac{\text{Max (Metered, FPN, 0) summed over 17520HH}}{\text{Sum TEC/2 over 17520HH}}\)

\(\text{ALF}_{2010/11} = \frac{\text{Max (Metered, FPN, 0) summed over 17520HH}}{\text{Sum TEC/2 over 17520HH}}\)

\(\text{ALF}_{2011/12} = \frac{\text{Max (Metered, FPN, 0) summed over 17568HH}}{\text{Sum TEC/2 over 17520HH}}\)

\(\text{ALF}_{2012/13} = \frac{\text{Max (Metered, FPN, 0) summed over 17520HH}}{\text{Sum TEC/2 over 17520HH}}\)
## 5 years data

### Charging Years used to set ALF

<table>
<thead>
<tr>
<th>Year</th>
<th>Year</th>
<th>Year</th>
<th>Year</th>
<th>Year</th>
<th>Year</th>
<th>ALF Calc. (Now)</th>
<th>ALF Applicable</th>
</tr>
</thead>
</table>

Max (Metered, FPN, 0) summed over 17520HH

\[
\frac{\text{Max (Metered, FPN, 0) summed over 17520HH}}{\text{Sum TEC/2 over 17520HH}} = \text{2008/09 ALF}
\]

\[
\frac{\text{Max (Metered, FPN, 0) summed over 17520HH}}{\text{Sum TEC/2 over 17520HH}} = \text{2009/10 ALF}
\]

\[
\frac{\text{Max (Metered, FPN, 0) summed over 17520HH}}{\text{Sum TEC/2 over 17520HH}} = \text{2010/11 ALF}
\]

\[
\frac{\text{Max (Metered, FPN, 0) summed over 17520HH}}{\text{Sum TEC/2 over 17520HH}} = \text{2011/12 ALF}
\]

\[
\frac{\text{Max (Metered, FPN, 0) summed over 17520HH}}{\text{Sum TEC/2 over 17520HH}} = \text{2012/13 ALF}
\]

\[
\text{ALF} = \text{Average of remaining three }
\]

Highest

Lowest
4 years data

<table>
<thead>
<tr>
<th>Charging Years used to set ALF</th>
<th>ALF Calc. (Now)</th>
<th>ALF Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008/09</td>
<td>2009/10</td>
<td>2013/14</td>
</tr>
<tr>
<td>2009/10</td>
<td>2010/11</td>
<td>2014/15</td>
</tr>
<tr>
<td>2010/11</td>
<td>2011/12</td>
<td></td>
</tr>
<tr>
<td>2011/12</td>
<td>2012/13</td>
<td></td>
</tr>
<tr>
<td>2012/13</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[
\frac{\text{Max (Metered, FPN, 0) summed over 17520HH}}{2} = 2009/10 \text{ ALF} \\
\frac{\text{Max (Metered, FPN, 0) summed over 17520HH}}{2} = 2010/11 \text{ ALF} \\
\frac{\text{Max (Metered, FPN, 0) summed over 17568HH}}{2} = 2011/12 \text{ ALF} \\
\frac{\text{Max (Metered, FPN, 0) summed over 17520HH}}{2} = 2012/13 \text{ ALF} \\
\]

\[
\text{ALF} = \text{Average of remaining three}
\]

Lowest
# 3 years data

## Charging Years used to set ALF

|--------|---------|---------|---------|---------|---------|---------|---------|

### ALF Calculation

\[
\text{Max (Metered, FPN, 0) summed over 17520HH} \div \text{Sum TEC/2 over 17520HH} = 2010/11 \text{ ALF}
\]

\[
\text{Max (Metered, FPN, 0) summed over 17568HH} \div \text{Sum TEC/2 over 17568HH} = 2011/12 \text{ ALF}
\]

\[
\text{Max (Metered, FPN, 0) summed over 17520HH} \div \text{Sum TEC/2 over 17520HH} = 2012/13 \text{ ALF}
\]

\[
\{ \begin{align*}
2010/11 \text{ ALF} &= \text{ALF} \\
2011/12 \text{ ALF} &= \text{ALF} \\
2012/13 \text{ ALF} &= \text{ALF}
\end{align*} \}
\]

\[
\text{ALF} = \text{Average of three Charging Years used to set ALF}
\]
Less than three full years data

<table>
<thead>
<tr>
<th>No data</th>
<th>Partial Year</th>
<th>Full Year</th>
<th>ALF Calc. (Now)</th>
<th>ALF Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010/11</td>
<td>2011/12</td>
<td>2012/13</td>
<td>2013/14</td>
<td>2014/15</td>
</tr>
</tbody>
</table>

Max (Metered, FPN, 0) summed over avail. HH

\[ \frac{\text{Sum TEC/2 over avail. HH}}{\text{Sum TEC/2 over 17520HH}} \]

\[ \frac{\text{Max (Metered, FPN, 0) summed over 17520HH}}{\text{Sum TEC/2 over 17520HH}} \]

\( \{ \text{Generic ALF} \} \text{ Weighted by number of HH} \) \[ = \]

\( \{ \text{Generic ALF} \} \text{ 2011/12 Partial ALF} \) \[ = \]

\( \{ \text{2011/12 ALF} \} \text{ 2012/13 ALF} \) \[ = \]

\[ \text{ALF} = \text{Average of three} \]
Generic ALFs

- The generic ALF is derived from the average annual output of the ten most recently commissioned GB generation of a particular generation plant type that have at least five charging years’ data.

- Where less than ten GB generators of a particular generation plant type exist, then data from all existing generators of that particular generation plant type will be used.
2014/15 Indicative Generic ALFs

Oil_and_OCGT
Pumped_Storage
Biomass
Offshore_Wind
Hydro
Onshore_Wind
Coal
CCGT_and_CHP
Nuclear
# 2014/15 Tariff and ALF Timelines

## Tariff

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tariff Update</td>
<td>1 Nov 14</td>
</tr>
<tr>
<td>Draft Tariffs published</td>
<td>20 Dec 14</td>
</tr>
<tr>
<td>Deadline for notifying errors</td>
<td>17 Jan 14</td>
</tr>
<tr>
<td>Final Tariffs published</td>
<td>1 Feb 14</td>
</tr>
<tr>
<td>Tariffs come into effect</td>
<td>1 Apr 14</td>
</tr>
</tbody>
</table>

## ALF

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicative ALFs published</td>
<td>1 Nov 14</td>
</tr>
<tr>
<td>Draft ALFs published</td>
<td>2 Dec 14</td>
</tr>
<tr>
<td>Deadline for notifying errors</td>
<td>17 Jan 14</td>
</tr>
<tr>
<td>Final ALFs published</td>
<td>1 Feb 14</td>
</tr>
<tr>
<td>ALFs come into effect</td>
<td>1 Apr 14</td>
</tr>
</tbody>
</table>
Lunch
Review of embedded charging arrangements - update

Andy Wainwright
13th November
Background

- Standard Licence Condition C13 (Small Gens Discount)
  - Introduced at BETTA
  - Time limited – expires April 2016

  - Concluded C13 should be resolved as part of broader review of embedded benefits
  - 2013/14 value of embedded benefit is £31.25/kW

- National Grid established informal focus group earlier in year
  - Purpose; to inform any potential CUSC modification proposal
Focus Group review

- Primarily focus on embedded benefits associated with TNUoS

Remits for consideration

- Cost reflectivity of transmission charges on distribution connected generation
- Impact of transmission charges on competition between transmission and distribution connected generation.
Focus Group discussions

Does embedded generation use the transmission system?

- Physical power Flows?
- Access to market?
- Security & quality of supply?
Focus Group discussions

Embedded benefit arising from TNUoS charges

Does the embedded benefit exist?

Are TNUoS residual elements cost reflective?
Focus Group discussions

Should demand be charged on gross?

General agreement that locational signals should be based on net flows

Difference of views whether demand should be charged on gross
Focus Group discussions

Comparison of transmission and distribution charges paid by generators

Transmission connected generator

- Pay
- G TNUoS
  - Wider G locational
  - Wider G residual
  - Local

Connection

Equivalent?

Distribution connected generator

- Pay
- DUoS
- Connection

Equivalent?

What proportion locational?
Focus Group discussions

Exporting GSPs

Potential area for improvement in TNUoS charging methodology?

Is there any embedded benefit through an exporting GSP?

How would an exporting GSP be defined?
Scope of CUSC modification proposal

**Contained CUSC Mod**
- **C13 licence requirement**
  - Low to medium impact; does not resolve broader issue

**Wholesale Reviews**
- **TNUoS embedded benefit**
  - £31.25/kW (2013 prices)
- **BSUoS embedded benefit**
  - £2.93/MWh (2012 prices)
- **Losses embedded benefit**
  - £2.00/MWh (2012 prices)

Significant industry impact
Next steps

- National Grid report to be published later this month
  - Includes Focus group discussions
  - Three week open letter
  - National Grid view (or range) to be presented

- CUSC modification proposal early 2014
  - Required to meet April 2016 implementation date
Potential future modification topics

Adam Sims
## Prioritised potential topic list

<table>
<thead>
<tr>
<th>Topic</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>G/D split</td>
<td>1</td>
</tr>
<tr>
<td>BSUoS stability</td>
<td>2</td>
</tr>
<tr>
<td>8 year Price control</td>
<td>3</td>
</tr>
<tr>
<td>Integrated offshore</td>
<td>4</td>
</tr>
<tr>
<td>User Commitment (Section 15) Flexibility Developments</td>
<td>5</td>
</tr>
<tr>
<td>Flexible TNUoS products</td>
<td>5</td>
</tr>
<tr>
<td>TNUoS fixed tariffs</td>
<td>5</td>
</tr>
<tr>
<td>Triad</td>
<td>6</td>
</tr>
<tr>
<td>Embedded</td>
<td>6</td>
</tr>
<tr>
<td>Methodology Housekeeping</td>
<td>8</td>
</tr>
</tbody>
</table>
Any Other Business
Next TCMF

January 22
Wednesday
2014 TCMF dates

- **March**: Wednesday, 19
- **May**: Tuesday, 13
- **July**: Thursday, 17
- **September**: Wednesday, 17
- **November**: Wednesday, 12
We value your feedback and comments

If you have any *questions* or would like to give us *feedback* or share *ideas*, please email us at:

**Cusc.team@nationalgrid.com**

Also, from time to time, we may ask you to participate in surveys to help us to improve our forum – *please look out for these requests*
Safe Journey

We just can’t wait to come back.

Goodbye!