Ancillary Services: Tender Procurement and Development

Adam Sims
Agenda

- Tender Procurement
  - Constraint Management
  - STOR
  - Fast Reserve
  - Firm Frequency Response
- Service Development
  - Frequency Response
  - Optional Fast Reserve Services
  - Negative Reserve
Tender Procurement
Constraint Management

Voltage Management Contracts

- **South Coast**: Marchwood overnight during April, May, June & July
- **South Wales**: Pembroke overnight during June
- **South East**: Contracts awarded to Grain and Coryton for May requirement. Tender published for July, currently reviewing submissions
- **East Midlands**: Tender published for July, currently reviewing submissions
- **Indexing**: Given the uncertainty around plant running, we are not looking to procure contracts on a fixed price basis. Our current tenders are inviting prices based on an index only approach for voltage at minimum output
Constraint Management

- **Stability Contracts**
  - **North Wales:** Capped pumping contracts with Dinorwig overnight for stability issues in April, May & June

- **Standard Terms Review**
  - Views invited on current contractual arrangements
  - Comments to Account Manager or commercial.operation@nationalgrid.com
Carbon Intensity Report Published

- Over 200,000 MWh STOR utilised in 2014/15
- STOR saves ½ million tonnes of CO₂ compared to meeting reserve requirement through synchronised plant

Standard Contract Terms Review - September

- Currently working through potential proposals

STOR reports

- These are your reports – please tell us how we can improve them
Fast Reserve

Fig. 1 - Contracted Firm Fast Reserve

[Diagram showing contracted firm fast reserve with months from April 2015 to April 2016 and corresponding MW values]
Firm Frequency Response - Primary

Fig. 2a - 12 Month Primary Requirement

Month

- Overnight Primary Dynamic Response - Contracted
- Overnight Primary Static Response - Contracted
- Daytime Primary Dynamic Response - Contracted
- Daytime Primary Static Response - Contracted
- Primary Requirement - Daytime
- Primary Requirement - Overnight
Firm Frequency Response - Secondary

Fig. 2b - 12 Month Secondary Requirement

Month

- Overnight Secondary Dynamic Response - Contracted
- Overnight Secondary Static Response - Contracted
- Daytime Secondary Dynamic Response - Contracted
- Daytime Secondary Static Response - Contracted
- Secondary Requirement - Daytime
- Secondary Requirement - Overnight
Firm Frequency Response - High

Fig. 2c - 12 Month High Requirement

- Overnight High Dynamic Response - Contracted
- Daytime High Dynamic Response - Contracted
- High Requirement - Daytime
- Overnight High Static Response - Contracted
- Daytime High Static Response - Contracted
- High Requirement - Overnight
## Frequency Response Utilisation from Wind

### Holding Volumes

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<tr>
<th></th>
<th>2015</th>
<th>Primary (MWh)</th>
<th>Secondary (MWh)</th>
<th>High (MWh)</th>
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<tbody>
<tr>
<td>January</td>
<td>105</td>
<td>56</td>
<td>174</td>
<td></td>
</tr>
<tr>
<td>February</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>March</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>April</td>
<td>352</td>
<td>143</td>
<td>333</td>
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Frequency Response Utilisation from Wind

- We have started to issue more instructions to Wind Farms

However:

- Not all wind farms have fully understood the instructions
- Some control points may be overseas
- Delay in responding to instructions
- Large range of prices within FRPS for wind

**Response is of a high standard during utilisation**
Service Developments
FFR Developments

- FFR Bridging contract for static response now live
  - Aimed at aggregators of <10MW sites to enter FFR market
  - Guidance document and testing procedure on website

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<tbody>
<tr>
<td>Primary</td>
<td>200</td>
<td>800</td>
<td>-450</td>
<td>0 - 350</td>
</tr>
<tr>
<td>Secondary</td>
<td>900</td>
<td>1200</td>
<td>-450</td>
<td>450 - 750</td>
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<tr>
<td>High</td>
<td>0</td>
<td>100</td>
<td>-450</td>
<td>0</td>
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http://www2.nationalgrid.com/UK/Services/Balancing-services/Frequency-response/Firm-Frequency-Response/FFR-Bridging/
Fast Reserve – Current Market

- Absolute Firm requirement ~300MW between 06:00-23:00
- Actual requirement between 300-600MW
  - Up to 300MW met by units providing Optional Services

- Optional Services (Non-Tendered)
  - Enhanced Run Up / Run Down Rates, Spin Gen / Spin Pump, etc.
  - Enhanced Rate Fees and Optional Energy Price paid on utilisation

- No transparency over utilisation or payments
Fast Reserve – Current Market

<table>
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<tr>
<th>Year</th>
<th>Non-Tendered</th>
<th>Tendered</th>
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<tr>
<td>2011/12</td>
<td>30</td>
<td>10</td>
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<tr>
<td>2012/13</td>
<td>50</td>
<td>15</td>
</tr>
<tr>
<td>2013/14</td>
<td>60</td>
<td>5</td>
</tr>
<tr>
<td>2014/15</td>
<td>60</td>
<td>15</td>
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Development of Optional Reserve Services

- Specify service requirements
- Identify provider opportunities
- Industry engagement:
  - Commercial Balancing Services Group (CBSG) 4\textsuperscript{th} June
  - Open Letter
  - Development workgroup
- Further communication at the next CBSG meeting in September
Negative Reserve

- The ability to reduce generation/increase demand as a result of a system need
  - Capacity required in the opposite direction to other reserve products such as STOR
- Historically not procured directly, sufficient capacity from generation operating above SEL
  - Occasional requirement to BOA a low cost unit above SEL
- In future, lower demand minima and less cheap generation will reduce the amount available
Negative Reserve

- NCC instruct generators to zero through BM for a short period (two-shifting)
- NCC use capacity on wind generators to secure negative reserve volume
- Impact on cost as a result of BOAs

Contracting for negative reserve may become economic

- More internal work required, further communication expected at CBSG in September