Critical Friends Panel 4

SPN

9 May 2013
Safety and Housekeeping

• No planned fire alarms

• Emergency exits

• Fire assembly points

• Toilets

• Mobile phones

• Disclosure - we intend to record our findings and publish a report and our actions - Data Protection Consent
TODAY’S AGENDA

09.00 – 09.30  REGISTRATION
09.30 – 09.45  INTRODUCTION AND OVERVIEW OF PROCESS
09.45 – 10.45  KEY THEMES AND IMPACT ON OUR OUTPUTS
10.45 – 10.55  COFFEE BREAK
10.55 – 11.50  OUR REVISED BUSINESS PLAN
11.50 – 12.30  SMART METERS AND DNOs
12.30          LUNCH
Matt Rudling –
Director of Customer Services

Introduction and Overview of Process
Our Business Plan 2015-2023: State of Play

We have engaged extensively on our Business Plan and continue to welcome your comments

November 2012: First to publish a detailed business plan

April 2013: First to publish an updated plan post consultation

1 July 2013: Final business plan to be submitted to Ofgem
Our Approach

We are undertaking the most extensive stakeholder engagement process in our history

We have

• sent over 2,200 invites between September 2012 and April 2013.
• held over 50 hours of sessions with stakeholders during this period
• engaged over 100 different stakeholder groups

We hope that this thorough approach has given most, if not all, of our numerous stakeholders an opportunity to contribute to the future direction of UK Power Networks.
### Who are our stakeholders?

<table>
<thead>
<tr>
<th>CONSUMERS</th>
<th>DEVELOPERS AND ENGINEERS</th>
<th>INNOVATIVE INDUSTRY PARTIES</th>
<th>UTILITIES</th>
<th>INVESTORS</th>
<th>ENVIRONMENTAL GROUPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic</td>
<td>Engineering institutions &amp; boards</td>
<td>Energy service companies (ESCos)</td>
<td>Gas</td>
<td>Debt and equity investors</td>
<td>Renewable energy advocates</td>
</tr>
<tr>
<td>Industrial and commercial</td>
<td>Construction</td>
<td>Electric vehicle (EV) developers</td>
<td>Telecoms</td>
<td>Credit rating agencies</td>
<td></td>
</tr>
<tr>
<td>Small and medium enterprises</td>
<td>Low carbon / Smart grid developers</td>
<td></td>
<td>Water / sewerage</td>
<td></td>
<td>Members of Parliament</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INDUSTRY PARTIES</th>
<th>LOCAL INTEREST GROUPS</th>
<th>GOVERNMENT INTERESTS</th>
<th>INVESTORS</th>
<th>ENVIRONMENTAL GROUPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distributed generators</td>
<td>Local community groups</td>
<td>Ofgem</td>
<td>Debt and equity investors</td>
<td>Renewable energy advocates</td>
</tr>
<tr>
<td>Suppliers</td>
<td>Regional development agency</td>
<td>Central government</td>
<td>Credit rating agencies</td>
<td></td>
</tr>
<tr>
<td>Generator developers</td>
<td>Parish councils</td>
<td>Local authorities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other DNOs / IDNOs</td>
<td>Charities / NGOs</td>
<td>Health and safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICPs</td>
<td>Media</td>
<td>Education and skills</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

|                      |                      | Members of Parliament |             |                     |
|                      |                      |                      |             |                     |
Our Engagement Timeline

Ways to get involved:

- Write to us with feedback;
- Take part in our online survey;
- Follow us on Twitter;
- Propose a workshop or help us organise one;
- Ask for a face-to-face meeting

All reports and presentations as well as information on forthcoming events can be found on our website
http://www.ukpowernetworks.co.uk/internet/en/have-your-say/events-consultations/
We have collected stakeholder feedback through...

<table>
<thead>
<tr>
<th>Method of Engagement</th>
<th>Engagement Topics</th>
<th>Target Audience</th>
<th>Timing</th>
<th>Number of Engagements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer interviews</td>
<td>• Willingness-to-Pay interviews</td>
<td>Domestic customers; Business customers</td>
<td>June - October 2012</td>
<td>1200 (domestic) 300 (business)</td>
</tr>
<tr>
<td></td>
<td>• Qualitative and quantitative sessions</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>Additional Interviews for London</td>
<td>• Willingness-to-Pay interviews for</td>
<td>Central London Business Customers</td>
<td>November – December 2012</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>Central London Business Customers</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Critical Friends Panels 1, 2, 3</td>
<td>• Ofgem primary output categories</td>
<td>Diverse – core panellists and subject-matter specialists</td>
<td>October 2012-February 2013</td>
<td>9 (3 per DNO area, 3 hours each)</td>
</tr>
<tr>
<td></td>
<td>• Topics of special Stakeholder interest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Priority Issue Focus Groups</td>
<td>• Storms</td>
<td>Domestic customers and subject matter specialists (as appropriate)</td>
<td>November 2010-ongoing</td>
<td>19 sessions</td>
</tr>
<tr>
<td></td>
<td>• Vulnerable Customers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Metal Theft</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Street Works</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Connections</td>
<td></td>
<td></td>
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<td></td>
<td>• DG</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Bilateral Engagement</td>
<td>• Price volatility and risk</td>
<td>Suppliers</td>
<td>October 2012 - ongoing</td>
<td>Multiple meetings</td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Our Phased Approach to Stakeholder Engagement
Prominent Issues by Licence Area - SPN

- Transparency
- Low carbon technology assumptions
- Choice in services and connections
- Bringing services in-house
- Customer service
- Vulnerable customers
- Greater customer interaction
Key Themes and Impact on Our Outputs
Safety is at the heart of our culture

The changes we have made

- Networks Occupational Health and Wellbeing Strategy;
- Launch of the Fitness to Work assessments for all of our operational staff; and
- Monitoring incidents with the public

Outputs for RIIO-ED1

- We target zero public and employee harm
- No formal notices from HSE
- 10% reduction in total recordable injury rate
- 1.8 million children educated on public safety
Safety

<table>
<thead>
<tr>
<th>You said</th>
<th>We did</th>
<th>We will do</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Safety is essential and non-negotiable</strong></td>
<td>Our Public Safety Team is implementing a broad and pro-active public safety strategy. A recent targeted communication campaign included the development of new safety leaflets and short safety films to help raise awareness. There has been a significant reduction in lost time injuries and total recordable injuries.</td>
<td>We target zero public and employee harm. We will partner with third parties, such as National Energy Action, to work with local communities, councils, businesses and schools to improve safety awareness. We will continue to improve our safety performance by actively managing the network and delivering rapid resolution of issues, managing substation and providing additional security and education programmes.</td>
</tr>
</tbody>
</table>
Customer Service

We are committed to improving our customer service

The changes we have made

• Improved and updated customer literature
• Improved the internal customer related processes
• Introduced a Customer Charter
• Introduced a web based self-service system for less complex connections
• Committed to ongoing stakeholder engagement to understand the priority areas for improvement

Outputs for RIIO-ED1

• Implement ‘Business transformation’ to replace processes and systems
• Target upper quartile performance in time to connect metric
• Introduce online instant quotes
• Focus on fuel poverty and vulnerable customers
## Customer Services – Service Delivery

<table>
<thead>
<tr>
<th>You said</th>
<th>We did</th>
<th>We will do</th>
</tr>
</thead>
</table>
| **Improve the quality of information provided to customers** | We have amended our practice and now hold daily meetings between the Dispatch Centre and Service Delivery managers.  
98% of the jobs raised now have an estimated time of restoration that our staff could provide to customers. This compares to 3% of the jobs in 2011.  
We are modifying our IT systems to provide you with text updates in power outages 24/7. | We will focus on the quality of information we provide to our customers and the speed at which this information is shared.  
We will improve our capacity for making pro-active phone calls to customers off supply.  
We will make use of social media to keep customers informed. |

| **Provide cheaper numbers to call from mobiles**  
**Advise on a single national DNO contact number** | We have introduced these numbers for you to call instead of 0800 numbers:  
• London 01243 50 0247  
• East of England 01243 50 8838  
• South East 01243 50 8866 | We will examine the benefits of replacing our existing multiple contact numbers with a single number for all customer enquiries. |
# Customer Services – Service Delivery

<table>
<thead>
<tr>
<th>You said</th>
<th>We did</th>
<th>We will do</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can reliability and availability standards be made tougher?</td>
<td>We are paying higher standards than required by the EGS – paying £100 instead of £54 as required under EGS2 for 18-hour failures</td>
<td>We are assessing reducing the EGS to 12 hours from 2014.</td>
</tr>
<tr>
<td></td>
<td>While the EGS requires customers to apply for payment, we proactively contact all customers experiencing a fault for over 18 hours.</td>
<td>We are also examining automating EGS payments.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>We will pay special attention to ensuring improvements for vulnerable customers.</td>
</tr>
<tr>
<td>Develop a customer database</td>
<td>We have introduced a temporary solution for faults and uploaded ~ 2 million customer contacts into this database.</td>
<td>We will develop a customer database as part of the overall business transformation programme.</td>
</tr>
<tr>
<td>Develop a Customer Portal</td>
<td>We have specified customer portal as an ‘outcome’ in the Business Transformation project.</td>
<td>We anticipate that we will test, if not launch, the Customer Portal by mid-2014.</td>
</tr>
<tr>
<td>UK Power Networks should offer an account manager service for larger customers</td>
<td>Our connections team currently operates an account approach in dealing with specific infrastructure projects and companies.</td>
<td>We will complete the assessment and report back to stakeholders with our findings and recommendations.</td>
</tr>
</tbody>
</table>
Customer Services – Vulnerable customers

<table>
<thead>
<tr>
<th>You said</th>
<th>We did</th>
<th>We will do</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sharing vulnerable customer data and supporting vulnerable customers more proactively</strong></td>
<td>We sought legal advice on how we can share data. The Civil Contingencies Act 2004 allows us to share customer data with other category 1&amp;2 responders. This has enabled us to improve cooperation with suppliers as we upload the data. We have also automated the process of uploading the data so that it is uploaded accurately and on time.</td>
<td>We have set up a pilot with six boroughs to proactively notify their Emergency Planning Teams about power cuts. We will develop triggers and response mechanisms, working closely with local authorities. We will continue to work with the British Red Cross to support vulnerable customers during power cuts.</td>
</tr>
<tr>
<td><strong>Better publicise the Priority Service Register</strong></td>
<td>We advertise the Priority Service Register via our website. We also actively engage with local authorities, medical centres, and providers of essential medical equipment which help us raise public awareness of PSR.</td>
<td>We will also work with the National Energy Association to develop an action plan, which will support our vulnerable customers in a targeted way.</td>
</tr>
<tr>
<td><strong>Better inform and equip vulnerable customers</strong></td>
<td>We have developed luminous stickers with our Priority Service contact number, which has been sent out to 2,000 customers on our PSR.</td>
<td>Encouraged by positive response, we will send a luminous sticker to each customer upon registration with the PSR. We will send out a Power Cut pack with practical items to all new members on our PSR.</td>
</tr>
</tbody>
</table>
## Connections

<table>
<thead>
<tr>
<th>You said</th>
<th>We did</th>
<th>We will do</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide more information on the process for new connections</td>
<td>We have launched a service called ‘Ask the Expert’ which provides information on the connection process and assistance with new connections applications.</td>
<td>Next steps will likely include a phone service and live chat.</td>
</tr>
<tr>
<td>UK Power Networks should improve resourcing in connections to reduce long-lead times</td>
<td>We have allocated additional resources to assess and develop improvements in this process.</td>
<td>We will assess whether bringing selected services and teams in-house delivers a more efficient process (as we have in for the delivery of small service works in the South East).</td>
</tr>
<tr>
<td>Improve transparency around how we calculate connection charges</td>
<td>We have changed our business process to include a post-quote call to customers in which we offer to explain our charges.</td>
<td>We are committed to improving visibility of how connection charges are calculated. The process for major quotations and ways to improve customer information continues to be examined.</td>
</tr>
</tbody>
</table>
Environment

We have the responsibility to reduce the environmental impact of our electricity networks.

As a DNO, we are committed to the low carbon transition. In addition to playing our role in facilitating a low carbon economy, we are also reducing our own CO\textsubscript{2} emissions. We have reduced our business footprint significantly we are committed to reducing it further.

The changes we have made

- Improved management of oil leakage
- Improved noise reduction
- Improved spoilage and waste recycling
- Completed undergrounding in areas of outstanding natural beauty
- Reduced landfill

![Graph showing reduction in CO\textsubscript{2} emissions from 2009 to 2012]
<table>
<thead>
<tr>
<th>You said</th>
<th>We did</th>
<th>We will do</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benchmark BCF against companies outside the electricity distribution sector</td>
<td>We have reduced our business carbon footprint by 24%.</td>
<td>We will report back at regular intervals with the results</td>
</tr>
<tr>
<td></td>
<td>We have commenced broadening the benchmarking approach to include other utilities</td>
<td>We are signing up to the global reporting initiative and we will target upper third performance of comparable industries.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Our RIIO-ED1 Carbon footprint target declines to 76,273 tonnes of CO2 equivalent (from the DPCR5 average of 77,812 tonnes).</td>
</tr>
<tr>
<td>What is UKPN doing to minimise losses?</td>
<td>We are working with Ofgem on its new annual reporting requirements which will include identifying the actions that we have taken to reduce losses.</td>
<td>We will submit our first report to Ofgem in mid-2014 and will report back to the Critical Friends Panel.</td>
</tr>
</tbody>
</table>
Keith Hutton—
Head of Regulation

Key Themes and Impact on Our Outputs
(Continued)
Customer willingness to pay (WTP) - targeted improvements to our services

<table>
<thead>
<tr>
<th>WTP by output category (£m)</th>
<th>Domestic customer</th>
<th>Business customers</th>
<th>All customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental – facilitation of the low carbon economy</td>
<td>215.7</td>
<td>113.1</td>
<td>328.8</td>
</tr>
<tr>
<td>Connections</td>
<td>199.5</td>
<td>89.6</td>
<td>289.1</td>
</tr>
<tr>
<td>Network availability and reliability</td>
<td>141.8</td>
<td>70.5</td>
<td>212.3</td>
</tr>
<tr>
<td>Customer Services</td>
<td>54.8</td>
<td>27.0</td>
<td>81.8</td>
</tr>
</tbody>
</table>

**Self funded** (by our shareholders) improvements to a wide range areas within the end-to-end connections process.

**Self funded** (by our shareholders) improvements to our customer service operations as part of the business transformation project

- £106.5 million for process and system changes required to accommodate smart meter data
- £50.7 million for targeted quality of service improvements
- £15 million for network reinforcement to provide the additional network capacity required for the connection of renewable generation.
Our innovation leadership will benefit customers

**Our innovation investment**

**Smart solutions we use today**

<table>
<thead>
<tr>
<th>Smart solution</th>
<th>Projects</th>
<th>BAU</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSR contracts</td>
<td>LCL</td>
<td>LPN</td>
</tr>
<tr>
<td>Storage</td>
<td>Hemsby, SNS</td>
<td>-</td>
</tr>
<tr>
<td>Real time thermal ratings</td>
<td>FPP</td>
<td>-</td>
</tr>
<tr>
<td>Domestic ToU tariffs</td>
<td>LCL</td>
<td>-</td>
</tr>
<tr>
<td>Meshed networks</td>
<td>2013 bid</td>
<td>LPN</td>
</tr>
<tr>
<td>Intelligent EV charging</td>
<td>LCL</td>
<td>-</td>
</tr>
<tr>
<td>Fault current limiters</td>
<td>LCNF T1</td>
<td>-</td>
</tr>
<tr>
<td>Extensive network automation</td>
<td>2013 bid</td>
<td>EPN, LPN, SPN</td>
</tr>
</tbody>
</table>

**The changes we have made**
- Biggest supporter of LCNF
- Major investment in smart asset management tools
- Extensive use of smart interventions today
- Future Network Development Plan produced

**Outputs for RIIO-ED1**
- ~ £135 million of savings from smart interventions – in line with Smart Grid Forum
- Detailed plan for smart grid transition over ED1 and ED2
- Business transformation will build smart meters into our customer service
- 0.5% NIA request for ED1
Low Carbon Technology: Forecast Assumptions

We have revised forecast domestic uptake rate of heat pumps and electric vehicles to reflect stakeholder feedback and expert advice from Element Energy

<table>
<thead>
<tr>
<th>LPN</th>
<th>Assumptions July 2012</th>
<th>Assumptions July 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat pumps – Domestic (#)</td>
<td>61k</td>
<td>44k</td>
</tr>
<tr>
<td>Heat pumps – Non domestic (MW)</td>
<td>Not included</td>
<td>70MW</td>
</tr>
<tr>
<td>Electric vehicles (#)</td>
<td>130k</td>
<td>50k</td>
</tr>
<tr>
<td>FIT eligible generation (#)</td>
<td>93k</td>
<td>72k</td>
</tr>
<tr>
<td>Onshore wind (MW)</td>
<td>10MW</td>
<td>10MW</td>
</tr>
<tr>
<td>Offshore wind (MW)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPN</th>
<th>Assumptions July 2012</th>
<th>Assumptions July 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat pumps – Domestic (#)</td>
<td>121k</td>
<td>100k</td>
</tr>
<tr>
<td>Heat pumps – Non domestic (MW)</td>
<td>Not included</td>
<td>94MW</td>
</tr>
<tr>
<td>Electric vehicles (#)</td>
<td>156k</td>
<td>134k</td>
</tr>
<tr>
<td>FIT eligible generation (#)</td>
<td>167k</td>
<td>121k</td>
</tr>
<tr>
<td>Onshore wind (MW)</td>
<td>214MW</td>
<td>152MW</td>
</tr>
<tr>
<td>Offshore wind (MW)</td>
<td>Connect to offshore grid post-2015</td>
<td>Connect to offshore grid post-2015</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EPN</th>
<th>Assumptions - July 2012</th>
<th>Assumptions - July 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat pumps – Domestic(#)</td>
<td>233k</td>
<td>262k</td>
</tr>
<tr>
<td>Heat pumps – Non domestic (MW)</td>
<td>Not included</td>
<td>176MW</td>
</tr>
<tr>
<td>Electric vehicles (#)</td>
<td>243k</td>
<td>156k</td>
</tr>
<tr>
<td>FIT eligible generation (#)</td>
<td>290k</td>
<td>207k</td>
</tr>
<tr>
<td>Onshore wind (MW)</td>
<td>724MW</td>
<td>655MW</td>
</tr>
<tr>
<td>Offshore wind (MW)</td>
<td>Connect to offshore grid post-2015</td>
<td>Connect to offshore grid post-2015</td>
</tr>
</tbody>
</table>
## Encouraging Innovation

<table>
<thead>
<tr>
<th>You said</th>
<th>We did</th>
<th>We will do</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Provide a rationale for a strategy to move from a DNO to a DSO</strong></td>
<td>Our final business plan sets out how we intend to transition to a DSO role in the next planning period</td>
<td>Any transition is intended to be incremental, influenced by the rate of uptake of low carbon technology.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>We will continuously engage with our stakeholders on this issue.</td>
</tr>
<tr>
<td><strong>Is UKPN able to use Energy Storage on its network?</strong></td>
<td>We are working energy storage solutions (e.g. on Leighton Buzzard and Hemsby).</td>
<td>Owning and running this ‘proof of concept’ facility will facilitate embedding similar technology across other constrained parts of the network.</td>
</tr>
<tr>
<td><strong>How would this operate in practice?</strong></td>
<td>Learning is continuously disseminated through specialised workshops.</td>
<td></td>
</tr>
</tbody>
</table>


Network Output delivery in DPCR5 is second to no other DNO

**Network Reliability**

### Average customer interruptions for UKPN

- **UKPN average**
- **Sector average**

<table>
<thead>
<tr>
<th>Year</th>
<th>UKPN average</th>
<th>Sector average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009/10</td>
<td>70</td>
<td>60</td>
</tr>
<tr>
<td>2010/11</td>
<td>60</td>
<td>50</td>
</tr>
<tr>
<td>2011/12</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>2012/13</td>
<td>40</td>
<td>30</td>
</tr>
</tbody>
</table>

### Average CMLs for UKPN

- **UKPN total**
- **Sector average**

<table>
<thead>
<tr>
<th>Year</th>
<th>UKPN total</th>
<th>Sector average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009/10</td>
<td>80</td>
<td>70</td>
</tr>
<tr>
<td>2010/11</td>
<td>70</td>
<td>60</td>
</tr>
<tr>
<td>2011/12</td>
<td>60</td>
<td>50</td>
</tr>
<tr>
<td>2012/13</td>
<td>50</td>
<td>40</td>
</tr>
</tbody>
</table>

**Network health and utilisation**

### Health index delivery

<table>
<thead>
<tr>
<th>12/13 actual</th>
<th>12/13 target</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPN</td>
<td>93%</td>
</tr>
<tr>
<td>LPN</td>
<td>60%</td>
</tr>
<tr>
<td>SPN</td>
<td>82%</td>
</tr>
</tbody>
</table>

### Load index delivery

<table>
<thead>
<tr>
<th>14/15 target</th>
<th>14/15 forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPN</td>
<td>56</td>
</tr>
<tr>
<td>LPN</td>
<td>21</td>
</tr>
<tr>
<td>SPN</td>
<td>40</td>
</tr>
</tbody>
</table>
## Network Reliability and Availability

<table>
<thead>
<tr>
<th>You said</th>
<th>We did</th>
<th>We will do</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can we publish maps of load pinch points?</td>
<td>We have assessed feedback and concluded that presently it is not possible to publish maps of load pinch points due to the high manual nature of the task.</td>
<td>We are currently developing a Geographic Information System (GIS) which will assist in identifying the geographic location of load and capacity requirements.</td>
</tr>
<tr>
<td>Explain why UK Power Networks is seeking a higher expenditure allowance in RIIO-ED1 when it has under-spent its DPCR5 allowance</td>
<td>We are on track to deliver all our outputs for the current planning period and have sought to achieve this as efficiently as possible.</td>
<td>Our final business plans will set out:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Why our proposed RIIO-ED1 expenditure is prudent and efficient</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Key drivers for any under expenditure in DPCR5.</td>
</tr>
</tbody>
</table>
Business Plan Update
In response to your feedback, we have made material changes to the business plan

**Refined**
- certain inputs to **our planning scenario**
- the **scope of investment** required to respond to the **decarbonisation of the UK economy**
- the **scope of the DG Infrastructure** required for timely and efficient connection of medium to large-scale generation
- the **scope of investment in the London Infrastructure Plan** to ensure the network has capacity and resilience comparable to other world cities

**Included**
- **additional secondary deliverables** to underpin the primary outputs
- **greater investment** to improve the end-to-end customer connections process
- **greater investment** in automated technology to improve quality of electricity supplied
- **greater investment** for changes to inspection and fault process to improve quality of electricity supplied

**Further developed**
- **our innovation strategy** using peer panel reviews
- **our initiatives supporting community engagement** and the services we will provide to vulnerable and fuel poor customers
- the way that we will set **our distribution use of system prices** to reduce volatility
The ED1 plan delivers improved outputs

Customer Satisfaction

- Improve performance to top third in all components of the Broad Measure of Customer Satisfaction including;
  - Customer satisfaction survey
  - Complaints metric
  - Stakeholder engagement
- Further enhance stakeholder engagement to ensure the service provided to customers meets their expectations during RIIO-ED1
- Continue to expand contact channels customers can use to talk to UK Power Networks

Safety

- Targeted zero public and staff harm
- No formal notices or prosecutions by the HSE under applicable legislation
- Reduction in total recordable injury rate by more than 10%
- Engage with 1.8 million children on public safety issues over the planning period
The ED1 plan delivers improved outputs

**Connections**

- Ensure UK Power Networks facilitates a competitive connections environment in its three networks
- Upper quartile performance in average time to quote
- Upper quartile performance in average time to connect
- Provide on-line instant quotations
- Meeting all our improvement commitments to major connections customers
- Deliver 100% Guaranteed Standards of Performance compliance

**Environmental performance**

- Top third Business Carbon Footprint performance
- Continue to recycle 70% of office and depot waste and 98% of street works spoil
- Maintain SF₆ leakage as a proportion of installed mass
- Reduce oil leakage by 2% year-on-year
- Use allowance for undergrounding in Areas of Outstanding Natural Beauty and National Parks
- Investigate all noise issues and address all non-compliant sites
# The ED1 plan delivers improved outputs

## Network reliability and availability

- Maintain LPN having the lowest level of customer interruptions and customer minutes lost in the UK
- Reduce EPN and SPN customer interruptions by more than 8%
- Reduce EPN and SPN customer minutes lost by more than 10%
- Maintain the health of the network during RIIO-ED1
- Continue to improve the load index of the networks by reducing the number of LI4/5 sites
- Protect 98 substations from the risk of flooding
- Reduce the number of 12 hours failures per year on average by more than 30 per cent

## Social obligations

- Continue to improve the service provided to vulnerable customers
- To maintain UK Power Networks’ community engagement during RIIO-ED1
- Work proactively with third parties to reduce the level of fuel poor in UK Power Networks’ three networks
Our efficiency improvements will benefit customers

Cost performance for DPCR5 years 1-3

<table>
<thead>
<tr>
<th></th>
<th>Allowance (£m)</th>
<th>Spend (£m)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct capex</td>
<td>1,161</td>
<td>891</td>
<td>HIs and LIs over-delivered</td>
</tr>
<tr>
<td>NOCs</td>
<td>440</td>
<td>472</td>
<td>Reliability improved</td>
</tr>
<tr>
<td>Indirects</td>
<td>691</td>
<td>589</td>
<td>Cost base reduced</td>
</tr>
<tr>
<td>Non op capex</td>
<td>91</td>
<td>126</td>
<td>Separation and transformation</td>
</tr>
</tbody>
</table>

Notes: Nominal prices. 2012/13 data is based on internal management reporting and is unaudited. Excludes pensions, TMA and atypicals.

The changes we have made

- Reduced indirect staff **headcount by 25%**
- Introduced culture of recording and **managing against unit costs**
- Optimised investment so we only **do the work that is necessary**
- Invested significantly in to **improve systems**
- Improved **Opex underperformance** from -14% in 10/11 to -2% in 12/13 (forecast)

Outputs for RIIO-ED1

- Deliver **55% of DPCR5 RAV-related cost** savings to customers under IQI
- Deliver **upper quartile performance** in unit costs
- Ensure we have well **justified regional differences**
- Ensure **work volumes are justified** by detailed health and load modelling
- Maintain **frontier performance in Indirect costs**
Our ED1 plan delivers increased investment at lower cost

<table>
<thead>
<tr>
<th>£ billion</th>
<th>DPCR5 expenditure</th>
<th>Initial 2015-23 expenditure forecast</th>
<th>Revised 2015-23 expenditure forecast</th>
<th>5 difference: DPCR5 expenditure and revised 2015-23 expenditure forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load related capex</td>
<td>1.30</td>
<td>1.70</td>
<td>1.47</td>
<td>+13%</td>
</tr>
<tr>
<td>Non-load related capex</td>
<td>1.80</td>
<td>2.10</td>
<td>2.21</td>
<td>+23%</td>
</tr>
<tr>
<td>Network operating costs</td>
<td>1.30</td>
<td>1.30</td>
<td>1.20</td>
<td>-8%</td>
</tr>
<tr>
<td>Indirect costs</td>
<td>2.00</td>
<td>1.80</td>
<td>1.90</td>
<td>-5%</td>
</tr>
<tr>
<td>Non-operational capex</td>
<td>0.20</td>
<td>0.40</td>
<td>0.32</td>
<td>+60%</td>
</tr>
<tr>
<td>RPEs</td>
<td>-</td>
<td>0.20</td>
<td>0.21</td>
<td>-</td>
</tr>
<tr>
<td>Totals</td>
<td>6.60</td>
<td>7.50</td>
<td>7.31</td>
<td>+11%</td>
</tr>
</tbody>
</table>
We propose a price cut for customers

- The changes we have made
  - Po cuts at the start of ED1
    - 4% in EPN
    - 10% in LPN
    - 12% in SPN
  - c 1-2% p.a. real growth thereafter to match RAV growth and maintain financeability
  - Financeability assumptions unchanged from November plan
  - We accept Ofgem’s proposed uncertainty mechanisms

Maintaining UK Power Networks as the lowest priced DNO
We welcome your comments

Here are some examples of the areas we are looking for feedback:

- Is this Business Plan Update useful?
- How could UK Power Networks improve its Business Plan Update?
- Do you have any comments about the proposed outputs, costs or price impacts?
- Are there any areas that you would like to see more information on in our Final Business Plan?
- Do you have any general comments on this Business Plan Update?
- How do you rate UK Power Networks’ stakeholder engagement on its business plan?
- How does this plan compare with other electricity distribution networks?
Brian Stratton –
Head of Smart Metering Programme

Smart Metering and DNOs
Background

• Mandatory rollout by the end of 2019.
• Involves installation of more than 100 million devices
• Facilitating transition to a low-carbon economy
• Real-time information on energy usage and accurate billing
• Enable the introduction of more sophisticated energy management
• Supplier-led with significant dependencies on, and opportunities for, Distribution Network Operators
Typical Electricity Network Topology

- 132,000 volts
- 33,000 volts
- 25,000 volts
- 11,000 volts
- 400/230 volts

High Voltage & Low Voltage distribution largely unmonitored

Extent of current network monitoring capability

- National Grid 400,000 and 275,000 volts
- Railway supplies
- Primary substation
- Local substation
- Generation
- Domestic customers
Key Smart Metering Elements

Data Communications Company (DCC)
- Data Communications
- Message Gateway
- Request Management

WAN
- North
- Central
- South

Communications Service Provider (CSP)

HAN
- IHD
- Elec
- Gas
- Other devices

DCC User Gateway Interface

Network Operators

Energy Suppliers

Authorised Third Parties
DECC Smart Meter Programme Summary

- **Commercial**
  - DCC Licence Competition
  - DCC Licence Award

- **End to End Solution**
  - Smart Meters Technical Specification (SMETS2) - Specification and Certification
  - Service Providers Design, Build, Test and End to End Testing
  - SMETS2 EU Notification Complete

- **Foundation**
  - Transition Planning and Implementation
  - Foundation Period

- **Mass Roll Out & Monitoring**
  - Central Delivery Body Go Live
  - Central Delivery Body Active

- **Timeline**
  - Q1 2013 to Q4 2019
  - 2015 to 2019
The role of DNO’s in the Smart Meter roll out - Interventions

- Emergency e.g. signs of overheating, damaged or broken cut out with exposed conductors
- Remedial Work e.g. damaged or broken cut out, inadequate cut outs or distribution boards
- Resourcing & delivery support to match roll out profiles
- Process improvements
How are we coordinating with suppliers?

• During roll out principle engagement will be through Smart Meter Interventions

• Through DCUSA (Distribution Connection Use of System Agreement) we are developing joint SLA’s for Smart Metering roll out
  ➢ Process alignment and minimising impact upon Customers
  ➢ Timescales for interventions
  ➢ Coordination of Supplier roll out programmes
  ➢ Visibility of Suppliers ‘look ahead’ programmes

• Joint working with Suppliers and Meter Installers on how best to complete interventions

• Preparation of Supplier Interventions guidance material
What additional services does this allow us to offer?

Ability to check Customer energisation status

1. Customer reports loss of supply
2. Agent is able to check meter status within 30 Seconds
3. Customer can investigate immediately and false dispatch is avoided
What additional services does this allow us to offer?

Ability to identify network faults more quickly: e.g. Fault on the Low Voltage Network

1. Fault occurs
2. Comms Hub sends ‘Last Gasp’
3. Calls managed for single customers and aggregated into incidents
4. Meter sends ‘First Breath’
5. Customer records updated with detailed impact
What additional services does this allow us to offer?

Enhanced fault and storm response information e.g. Fault on the High Voltage Network

1. Fault occurs
2. Fault reported via SCADA
3. Large volume of alerts received and associated with known fault
4. Meters sends ‘First Breath’ upon restoration
5. Smart metering system highlights any underlying faults that persist post HV restoration
6. Customer records updated with detailed impact

LV Power Network
UKPN SCADA Networks

Comms Hub
CSP Networks

DCC

Core PowerOn Systems

Smart Meter Head End

Customer Systems

Contact System

Public Communications Networks

Customer Premise

IHD

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Network Condition and Planning - Improved asset and performance data

- Opportunity to improve network planning
- Better informed responses to infill development/ additional load enquiries
- Support expansion of low carbon technologies
- Better targeting of Low Voltage (LV) refurbishment
- Pave the way for a full smart grid in ED2
Open Forum

- Do you understand the role of DNOs, suppliers and other entities in the smart meter process?

- Do you think the application of smart metering information by UK Power Networks is sensible and will be beneficial to our customers?

- Is there anything else you would like UK Power Networks to be doing in relation to the smart metering roll out programme?

- Do you believe smart meters will assist with reducing your energy consumption?
Next steps

Critical Friends Panels will continue beyond the Business Plan submission

We are planning to organise the next set of panels in September to get your feedback on the Business Transformation project

Before we finish

Please complete your feedback form

Please consider sending us an email with:
• Additional thoughts after the event
• Encourage a colleague to do so

stakeholder.engagement@ukpowernetworks.co.uk
Tel: 07875 113061
Thank you