

OPERATING THE ELECTRICITY TRANSMISSION NETWORKS IN 2020

Initial Consultation Responses

Reserve and Operating Margin

Q14 Is our anticipated Improvement in wind forecasting performance at 4 hours ahead achievable?

GDF SUEZ believes that the target of 6% is achievable.

It would be interesting to see how an improved forecast of say 4% would effect the required levels of STOR over the forecast period.

Q15 Do you have any views on our projected Short Term Operating Reserve requirements under 'Gone Green'?

The forecast (in Table 1) shows an overall increase of connected generation of 22GW which is driven by the increase in wind generation. Interestingly, the reduced amount of coal plant of 8.6GW is almost balanced by a projection of 7.1GW of new gas capacity.

However if the projected increase in new gas plant is destined to provide its output to STOR alone, then the current cost per MW to build and connect new gas plant will not return at current market prices. Does the paper make this assumption? What could be used to replace the 7.1MW of expected new gas plant if there is insufficient market stimulus to incentivise investment as gas generation becomes the key source of flexible generation in 2020?

There will remain also a significant amount of coal fired generation in the scenario in 2020. Is this assumption in line with the known levels of investment in flue gas desulphurisation technology or is National Grid expecting a relaxation in the LCPD regulations to meet the projected level of coal fired generation in 2020?

Q16 Do you have any views on our projected volumes, prices and costs for STORR under 'Gone Green'?

Volumes

- Are the expected increased STOR volumes in gas coming from new providers or increased utilisation of current plant?
- Table 1 shows a decrease in transmission contracted generation capacity for coal falling from 28.4TW in 2009/10 to 19.8TW in 2020/21, however the expected STOR volume from coal rises from 1.07 to 1.77 in respective years. Is this assumption of a 65% increase in volume delivered reasonable in light of the expected 30% reduction in connected coal over the same period?
- What is National Grid's view on the expected number of utilisation events per

annum? Will this apply across all STOR customers both BM and non-BM?

Prices

- The offer prices appear to be on the low side given the prevailing offer prices indicated in the STOR market reports. Should a high and low case scenario be developed for consideration based on a range of offer prices and wind forecasting errors?

Costs

- National Grid's forecast of BSUoS charges should be included in the consultation as Table 5 shows an increase in costs in 2010/11 of £200.6m to £519.3m in 2025/26.
- With gas fired generation becoming the projected main provider of STOR, National Grid will need to give this fuel particular attention in order to better forecast the impact of gas market price fluctuations.
- If National Grid is hoping for new build OCGT to participate in STOR, they will need to build in the impact of the recent changes to the gas transportation capacity/ commodity split. With the bias placed firmly on capacity, OCGT asset owners will need to recover a much higher level of availability payment to recover the costs of the large capacity required when they run (occasionally) for STOR.

Q17 Is National Grid's current views that 'low wind' events across Great Britain need to be considered when evaluating electricity operating margins reasonable?

- Yes, National Grid do need to consider 'low wind' days,
- The considerations over 'low wind' events appear to be made outside of the 4 hour planning phase. How is the information used from the 13 weather stations across the country for shorter term planning to better forecast wind generation output over the next planning phase?
- Was the percentage level of wind output over the weekend of 10th/11th January 2009 typical of normal weekend performance? If so would the low wind conditions over a weekend when their overall contribution to the generation mix is greater need more consideration?

Q18 Are our generator availability assumptions reasonable for application to analysis of future operating margins?

- The assumption of demand reduction for Triad avoidance (price driven demand reduction) seems to be reasonable.
- Further consideration should be given to availability of demandside STOR participants as they are likely to be **unavailable** over the winter peak to maximise the benefits of Triad avoidance. The current STOR product allows for final declaration at week ahead which forces non-BM flexible players to declare out every afternoon window, Monday to Thursday, November to February. A simple process change would lead to a greater volume being

available over the winter peak with 4 hours notice to align with National Grid planning. This would increase the demand side STOR volumes being made available by approximately 70% over the winter peak.

Q19 We would welcome comments from market participants on how they expect to manage periods of low wind generation output and whether this is an important consideration for them?

No response.

Q20 Are we correct to highlight the importance of wider European issues in electricity operating margin analysis?

- Yes

Q21 Are there further technical solutions for maintaining operating margins which we have not mentioned here?

- Yes, greater participation from commercial and small industrial loads as aggregated reserve providers. The main constraints of this are contractual, in particular handling of;
 - Triads
 - Window times
 - Declaration of a range of MW (not only 0 and the contractual amounts)
 - Approach to 'non-firm' customers

Q22 Do you think National Grid's view of future operating margins is useful and do you have views on how it should be presented?

- Yes National Grid's view is useful, however I believe that the development of this view, particularly in light of their forecast of increasing requirements should be carried out with close consultation with the wider industry.

Balancing Services

Q34 Are we correct in assuming that new interconnectors will be able to meet some of our Balancing Services requirements?

As they do now, interconnectors should be able to provide some level of participation in Balancing Services.

Q35 What is your view on the potential of electric vehicles to provide balancing and other energy services?

- Potential to provide balancing and energy services undoubtedly exists, however this should be designed in from the outset.
- Contractual issues will also complicate.

Q36 How much of the electricity demand in Great Britain do you think could be regarded as discretionary or deferrable and hence available for use as a

Balancing Service or other energy service?

- We have no data on the level at present, however it would be a useful area to research.

Q37 What specific actions should National Grid take to facilitate Balancing Services from demand-side providers while maintaining the required quality and volume of service?

- Review STOR terms and offer;
 - split availability windows.
 - Consider how to handle 'non-firm' customers.
 - Bring granularity of the contract to at least 100kW from 1MW – this will greatly assist in the aggregation of smaller loads.
 - Customers to elect for committed contracts at window rather than seasonal level.
 - Handling of triads.

Q38 Are there further aspects of storage or other storage technologies we should consider when looking forward to 2020?

No response

Q39 What are the prospects for the provision of Balancing Services from new OCGT's or other 'Back Up' generation?

- None at current STOR price levels. STOR alone does not provide favourable payback for OCGTs (in excess of 10 years)
- STOR and Black Start (with NG investment) leads to break even around year 9, however this would require 50% financial investment by NG.
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Q40 Is our mapping of technology of Balancing Services reasonable?

- The mapping is reasonable with the exception that Large I&C users can provide Energy Balancing, at least at supplier level.

Q41 Is a statement of National Grid's view of its long term Balancing Services requirement useful to industry stakeholders?

- Yes

Q42 What period should a long term Balancing Services Requirement statement cover?

- 10 years

Q43 What changes to the current reserve products would better encourage the provision of reserve services?

See response to Q37