

Black Start contracting 2016

1. Black Start is a key part of National Grid's contingency planning and is the procedure to recover from the unlikely situation of a total or partial shutdown of the National Electricity Transmission System (NETS) which has caused extensive loss of supplies. Black Start is not defined in the same way as capacity for the daily operation of the system.
2. It is important to stress that Black Start is a very specific part of the System Operator's (SO) toolkit that provides an insurance policy for consumers in the unlikely event of a total or partial network failure occurring.
3. As Black Start is specifically used to restart the NETS in the event of a total or partial shutdown the technical nature of the service needed to quickly restart the system is vitally important.
4. We are obliged under the Grid Code, set by the Regulator, to maintain Black Start capability and, as a prudent SO, it's important that we have technically robust arrangements in place to enable the safe and timely restoration of supplies, should an event occur.
5. Historically, it is a service procured from generators that have the capability to self-start and therefore do not have to rely on external supplies. Not all forms of generation or alternative providers currently have this capability.
6. The country is split into Black Start zones, with two stations required to start simultaneously in each zone to achieve the expected restoration times for the transmission network.
7. National Grid's policy is to actually contract with three capable stations for each of the identified Black Start zones, which provides one back-up unit that is both economic and efficient for consumers compared to the counterfactual of the capability not being available.
8. Black Start is not a tendered service. National Grid procure Black Start services on a bi-lateral basis with providers, due to the technical and locational nature of the service required.
9. In our open letter of February 25th 2017, we made clear that whilst we would prefer units that could offer Black Start capability, we would consider those who are able to clearly demonstrate the ability to rapidly recommence generation, filling a block to support the restoration of the transmission system. The technical criteria of the service was also clearly and transparently specified for the reasons set out above.
10. Contrary to suggestions made at the oral evidence session that the manner by which we procured these services is contrary to our licence obligations – we can assure the Committee that bilateral contracts for Black Start are allowed within our licence – with the process reviewed and approved by the Regulator.
11. Following the announcement by a number of generators of their potential closure or mothball in the North and North East, meant that there was a specific requirement for Black Start service in this location.
12. Therefore, these Black Start services were not procured under an open tender. However, there was a transparent expression of interest process with clear assessment criteria specified and there was also a competitive pricing and contracting process as it is essential to ensure consumer value is realised. This was also reviewed by Regulator and they made their own final determination of cost recovery. This is publicly available and transparent.
13. In regards to contracting with Fiddler's Ferry, the Regulator concluded this was justified and our decision to contract Black Start services was reasonable. The decision to not allow the recovery of money associated with Drax was made on the basis of the foreseeability of the potential closure of the station, not the contracting process followed.

14. We published a statement in relation to how economically and efficiently we procured the level of Black Start required.
15. The combined total value of the contracts will result in a maximum of £1.43 on the average domestic consumer bill. These are contracts to provide Black Start services, not capacity payments. Mechanisms have been put in place to return money to consumers where the contracted unit generates in excess of the level required to keep warm under the Black Start contract. This will also reduce any potential for out-of-merit running of the two Black Start units.
16. Contrary to claims made at the oral evidence session, we are not biased against non-conventional generation providing Black Start services and are proactively exploring what services in the future can provide Black Start services given the changing nature of the energy mix. National Grid is already investigating alternative approaches to future system restoration.
17. The expressions of interest process followed was in response to short notice indications of closure by power stations which left a locational need with only a few weeks' notice. It would not have been possible to test alternative service providers to prove capability within this timeframe.

Our commitment to Demand Side Response (DSR)

1. We would like make clear that we are committed to helping DSR providers to market and see DSR as a valued part of the energy mix. We also consistently raise the value and potential of DSR with Government ministers, advisers and officials at the highest levels and support a greater level of DSR as part of the energy mix.
2. At present we actively balance the last 2-3 per cent of demand and supply, that is to say that 97-98 per cent of all demand supply matching is carried out by the wholesale market, not by National Grid. In the long-term these are where the biggest gains can be made for the DSR market. In the 2-3 per cent of the market we do balance, we are working hard to try and demonstrate our practical commitment to playing what role we can to help grow DSR. For example,
 - In Summer 2016: 300MW of 'Demand Turn Up' was procured.
 - In August 2016: 201MW of Enhanced Frequency Response was procured (all from battery storage technology).
 - We are currently consulting with a wide range of providers, including DSR companies, on how we can improve 2 key areas of our services with providers of flexibility – “improving market information” and “simplifying services”.
 - It is our ambition to have 30-50% of our balancing capacity supplied by demand side measures by 2020. Consumers are expected to benefit by £500 million if just 5% of peak demand is met by DSR solutions.

Proactively promoting DSR as part of 'Power Responsive'

1. It was claimed at the oral evidence session that we are not doing enough to develop thinking in this area. However, we would disagree that we are not contributing to this debate, for example, our Power Responsive campaign is one example that demonstrates this clearly.

2. The Campaign has been running since June 2015 and is playing a significant role in raising the awareness of this valuable tool and helping businesses understand how to develop routes to market. Through our Power Responsive programme we are working directly with businesses and energy aggregators, who act on behalf of groups of smaller and medium sized businesses, to communicate the money saving benefits of demand side flexibility, to improve their understanding of electricity markets, and to make it easier for smaller businesses to access these services on the same terms as big generators. In addition, our commitment is being demonstrated by the fact there are:
 - Over 900 individuals now signed up to Power Responsive as interested parties, over 400 different businesses included in this.
 - Our interactive LinkedIn group now has 600 members.
 - Our website continues to be a resource for case studies of businesses participating in demand side response. Average 2/3 new case studies a month.
 - Also, as part of our Power Responsive campaign which is focused on practically securing greater of flexible tools to help balance the system, we are setting up a dedicated Storage Working Group, which will run in parallel to the already existing DSR Provider Group, to help companies to develop routes to market.
 - The Campaign's first annual report will publish by end November 2016, an output of the Power Responsive steering group, which contains representatives from all external stakeholder groups. The annual report will give an update on programme achievements as well as evidence of levels of participation of demand side technologies in markets.

3. We are continuing our commitment in a second year given the success of the campaign and the exciting challenge ahead to develop more flexible tools into the energy mix. The focus for the next 12 months includes:
 - Continued Engagement – including more targeted sector specific approach (using DSR and storage provider groups)
 - Improving confidence – simplifying information to help those investing and building a business case and more digestible information on our products and services
 - Evolving Markets – in particular; simplification of our suite of Balancing Services to actively encourage participation from all market models. We are also trying to establish how we can share services between market participants (e.g. SO and DNO).

Companies who have joined the campaign have also commented positively on our efforts, and we hope the Committee will bear this in mind, for example:

*"I couldn't praise National Grid and its Power Responsive campaign highly enough for driving participation in DSR and flexible technologies. The business is a great example of how a system operator can engage with customers, end users, suppliers and aggregators to get the whole industry pulling in the same direction. With a little more flexibility in the way products are designed and a reduction in product entry levels, I think they can achieve their ambitious target to deliver DSR at scale by 2020." **Delivery Manager at large energy generator***

“We are supportive of the Power Responsive programme, and feel this is an important initiative that will transition the UK energy system towards a more efficient and competitive market that will deliver better value for the end consumer.” **Independent developer of flexible generation**

4. We would be happy to provide further examples of the value that our campaign is providing to the DSR community. There is more to do of course but we are working positively and proactively to play a practical role where we can.
5. Finally, as a further example of our efforts in this area, National Grid sponsored a project by Cambridge University Energy Policy Research Group to examine the factors which are important in encouraging DSR in the market. The project looked at different forms of capacity markets in the UK and internationally. One of their findings was the importance of capacity markets in encouraging DSR. While DSR has developed in some energy only markets (including GB prior to EMR), they found that capacity markets can provide particularly supportive environments for DSR due to the scope for recognising the specific characteristics and needs of DSR providers and aggregators. They also identified how the balancing arrangements in one capacity market (PJM) have been coordinated so that DSR can expand readily from participation in just the capacity market into a wider range of compatible balancing services. In GB, by contrast, the development and evolution of balancing services arrangements in advance of the introduction of the capacity mechanism means the picture is currently more complex. This is an area which National Grid is seeking to address in our Power Responsive initiative.

Cancellation of DSBR contract 2016

1. As we raised at the oral evidence session, the procurement of DSBR is a commercial decision for National Grid to make based on an assessment of the most economic and efficient ways to balance the electricity network. Our licence obliges us to procure economically and efficiently. Demand Side Balancing Reserve (and the Supplemental Balancing Reserve) was always intended as a transitional product to provide additional reserves in the unlikely event that there is insufficient capacity to meet demand ahead of the introduction of the Capacity Market in 2018.
2. DSBR is a very specific service. The cancellation of DSBR does not logically mean we are not committed to growing DSR. We are actively encouraging participation of DSR in our other balancing services.
3. Our decision not to procure DSBR was made following detailed analysis of volume over peak, giving appropriate consideration to the cost and expected benefit of DSBR and our licence requirement to procure services in an economic and efficient basis.
4. Following validation of the tendered data we received from suppliers it was determined that a minimal amount of DSBR would be available across the peak period, where scarcity is most likely, and thus the cost of procuring the volume of DSBR outweighed the expected benefit to consumers that it would provide. The cost would have run into the millions of pounds for consumers for a very small amount of MWs being available in the peak hour *when it would have been needed* (and also less than what was available in 2015 from DSR in the peak hour). Specifically 32MW was offered and the cost £2.6m with an assumed level of utilisation (£1.6m without utilisation). Added to this, as we have a dynamic and not static energy market, the level

of demand forecast fell after contracts for the SBR tool were awarded in November 2015. This meant that the volume of capacity that was required also reduced. Concurrent tenders were not run with the DSBR at the same time as the SBR tender and this decision was also based on feedback received from the DSR community.

5. DSBR availability was reduced over the peak period due to a preference for triad participation which offers a stronger market incentive to provide a service over DSBR.