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CC via email: Tom.Corcut@ofgem.gov.uk

Dear Johannes,

Consultation on Proposed Income Adjusting Event submitted by National Grid Electricity Transmission plc in relation to the 2015-17 Electricity System Operator Incentives Scheme dated 8 June 2016

Thank you for the opportunity to respond to this consultation. This letter is sent on behalf of National Grid Electricity Transmission plc (NGET), which owns and operates the electricity transmission system in England and Wales, and provides NGET's formal response to Ofgem's consultation letter dated 8 June 2016.

Ensuring we have an efficient and reliable electricity system is core to NGET's role as the GB System Operator (GBSO). As part of our role in discharging these obligations, we put in place contracts so that, in the unlikely event that the electricity system becomes de-energised, Black Start capable stations are able to assist the GBSO in the restoration of the transmission system. Whilst we are actively pursuing the availability of alternative diverse technologies and different restoration techniques for the provision of Black Start services, there is a necessity in the short term to continue to contract with the existing Black Start plant, where it is economic and efficient to do so. Accordingly, following the indication of the potential closure of a number of power stations in the early part of 2016, we carried out a procurement exercise with the aim of maintaining our current Black Start capability, where it was economic and efficient to do so. The costs of the contracts that were put in place are in excess of the level normally incurred in procuring Black Start services and so in excess of the Black Start cost target within the current Balancing Services Incentive Scheme (BSIS). The change in market conditions within which thermal generators are operating is such that that historical Black Start costs do not offer a meaningful benchmark for assessment. We therefore assessed these contract costs on their own merits, against a set of technical criteria and an assessment of the cost benefit to consumers.

The rationale for our decision to enter into these contracts and the analysis underpinning them is set out in our notice of an Income Adjusting Event, which has been published on your website. Our response to this consultation therefore focuses on the questions raised and our views as to why this event constitutes an Income Adjust Event.

1. Do you believe that the event submitted by NGET as an Income Adjusting Event constitutes an Income Adjust Event?
 - a. Do you consider the proposed IAE to constitute force majeure as defined in the BSC or in the CUSC?
 - b. Do you believe that the event submitted by NGET was unforeseen? Please provide evidence to support your view where possible.
 - c. Do you believe that the proposed IAE costs were beyond the reasonable control of NGET?

1. Our letter submitted to Ofgem, and subsequently published, notifying of an Income Adjusting Event sets out the evidence demonstrating why the event which we submitted as an Income Adjusting Event constitutes an Income Adjusting Event in accordance with the criteria in our Licence.

- a. The proposed IAE does not constitute force majeure as defined either in the BSC or the CUSC. The proposed IAE is not one that is specifically listed in the recently renumbered paragraphs 13 (a), (b) or (c) of Special Condition 4C of the transmission licence (being force majeure under the BSC or CUSC or a Security Period) but rather is an unforeseen event or circumstance which leads to consequences beyond the reasonable control of the licensee which we request the Authority approve as an IAE, as recognised in paragraph 13 (d) of Special Condition 4C.

Whilst NGET does everything reasonably possible to analyse market conditions through its Future Energy Scenarios; decisions taken by the boards of power stations on the future of those power stations, taking into account both projected income and expenditure, are, from an NGET perspective, unforeseen events or circumstances.

NGET, in its role as GBSO, has an obligation under the Grid Code (CC6.3.5)¹ to ensure that the national electricity transmission system can be re-energised in the event of a total or partial system shutdown. Although NGET is working toward alternative approaches and technologies for the provision of Black Start, securing new capability is not a short term remedy due to the time taken to build and contract for Black Start capability. Therefore, the decisions of power stations to close at short notice, combined with the time taken to build alternative capability, means that the requirement to contract with suitable power stations to secure Black Start capability in the interim period could not be avoided and is therefore beyond the reasonable control of NGET.

- b. The extent to which the unfavourable market conditions would lead to plant closure or mothballing decisions for 2016/17 was unforeseen. An increasing need to warm plant for Black Start services was recognised by NGET due to an expectation of reduced market running in 2016/17. This resulted in a Black Start Mid Scheme Review submission to Ofgem. Our analysis supported the stations remaining open but with reduced market operations across the summer 2016 period.

¹ **Grid Code CC6.3.5.** It is an essential requirement that the National Electricity Transmission System must incorporate a Black Start Capability. This will be achieved by agreeing a Black Start Capability at a number of strategically located Power Stations. For each Power Station NGET will state in the Bilateral Agreement whether or not a Black Start Capability is required.

The Black Start target cost for a relevant year is set at the end of the preceding relevant year (in this case, 31st March 2016 for relevant year April 2016 to March 2017). Prior to this NGET is obliged to make a submission to Ofgem by 31st December (in this case 31st December 2015) setting out any proposed changes to the target cost specified in the Licence. Announcements after this submission date in February 2016² regarding the potential closure/mothballing of generators earlier than expected under our Future Energy Scenarios (developed under consultation with industry) were therefore unforeseen at the time that adjustments to the Black Start target cost for relevant year 2016/17 were proposed under the licence mechanism.

- c. NGET has an obligation under the Grid Code (CC6.3.5) to ensure that the NETS can be re-energised in the event of a total or partial system shutdown. Accordingly the obligation to contract with suitable power stations for the provision of Black Start capability cannot be avoided. Whilst associated Black Start contractual costs are incurred subject to and in accordance with a prescribed procurement methodology, the levels of such costs are beyond the reasonable control of the licensee. Although it should be noted that contracts will only be entered into where it is considered within the interests of consumers to do so.

In a market environment of limited competition due to the locational and technical requirements of Black Start capability, NGET ensured it followed a transparent and competitive process, in order to ensure that suitable Black Start capability was secured at a cost-effective level for consumers. Following NGET's letter on the 25 February 2016 highlighting the Black Start requirement, a number of submissions were made. Following technical assessment, further negotiations took place and refinements were made to ensure the associated Black Start contract costs were economic and efficient. Contractual 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, which could distort the energy market.

² SSE announced the potential closure of Fiddlers Ferry on 3rd February 2016, Engie announced the potential closure of Rugeley on 8th February 2016 and Drax Power announced the potential mothball of the Drax coal units on 23rd February 2016.

2. Assuming the event is an IAE, do you consider that any or all of the costs set out in NGET's notice were caused by the relevant IAE?
- a. Are there any additional interactions between costs incurred that need to be taken into account?
 - b. Do you consider that NGET acted economically and efficiently in procuring Black Start in this event?

2. We consider that all of the combined contract costs set out in our IAE notice dated 29 April 2016 were caused by the relevant IAE.

- a. An increasing need for warming was recognised by NGET due to an expectation of reduced running in 2016/17. This resulted in a Black Start Mid Scheme Review submission to Ofgem as described above.

Ofgem approved an increase to NGET's BSIS target for Black Start by a maximum of £12.39million on 31 March 2016, recognising NGET's assessment that increased warming of plant would be required in order to meet Black Start capability for 2016/17. However, this approval was based on a December 2015 cost target submission which predated announcements from relevant power stations with Black Start capability that they intended to close or mothball. These announcements need to be taken into account when considering the proposed cost target and the costs associated with the IAE. The Black Start requirement is met through the procurement of Black Start service capability at a number of strategically located power stations across Great Britain and is procured via bilateral contracts between NGET and the relevant power station. In accordance with its licence conditions, NGET aims to procure an economic and efficient Black Start service on an ongoing basis. Increasing the number of power stations contracted for Black Start enlarges the number of system restoration options available, improves the resilience at any given time due to unavailability or failures of Black Start stations and reduces the restoration timescales. However, not all power stations will be capable of meeting the technical requirements for Black Start and a balance is also required in terms of service level and the cost associated with such service provision. The Black Start service relies on contracted power stations being warm enough to respond within the prescribed time frame. Historically this has not been challenging as the Black Start stations ran regularly in the market therefore keeping them 'warm'. In current market conditions, with coal fired power stations being run less at certain times of the year due to the economic conditions, coal plant is not maintaining the warmth without specific instruction from NGET.

- b. A transparent and competitive procurement process was followed in order to ensure that suitable Black Start capability was secured and associated Black Start contract costs were economic and efficient. Contractual 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. Although contract costs are in excess of those previously incurred in procuring Black Start services, the change in market conditions which is the cause of this IAE means that historical costs offer no meaningful benchmark.

A review of the Black Start process by the Electricity Supply Industry through E3C was carried out in 2006. This review concluded that there was an industry expectation that the skeleton NETS should be energised within defined timescales of a total system shutdown. The skeleton network enables approximately 60% of GB demand to be restored and is defined by each grid supply point and power station having a live connection to the energised network by at least one circuit.

NGET's strategy in the event of a Black Start situation is designed to achieve a restoration of the skeleton network within the industry expected timescales. In order to achieve this, 2 units per zone are required to Black Start simultaneously. This is corroborated by the probabilistic modelling results. National Grid's policy states that 3 units should be contracted in each zone in order to provide resilience in the event that one of the required 2 units is unavailable. This policy was approved by Ofgem, pursuant to Special Condition AA5J of NGET's Licence in 2012.

Following announcements in February 2016³ regarding the potential closure/mothballing of generators, earlier than expected, the availability of contracted Black Start in the North East and North West zones was significantly reduced and NGET would not have been able to achieve a restoration of the skeleton network within the industry expected timescales with the remaining generators with Black Start Capability. The contracts agreed with Fiddlers Ferry and Drax allows National Grid to meet the minimum requirements for restoration.

In our proposed income adjusting event submission we set out in our justification why the total sum of £113m was the least-cost option for procuring the necessary level of Black Start capability. This was because, within the limitations of technical characteristics required, the offers received from Fiddler's Ferry and Drax were the most economic. Further negotiations carried out when refining the technical characteristics of the services being offered assured NGET that the lowest cost for these services from these stations had been achieved. There were no other viable alternatives that could meet the same level of technical requirement.

Although, NGET assesses and procures Black Start services according to its policy (outlined above), which is designed to meet the industry expected restoration timescales, this is not an absolute requirement. It must be considered alongside NGET's obligation to procure services in an economic and efficient manner. NGET therefore carried out a cost benefit analysis to assess whether these contracts would provide value to consumers. Part of this analysis considered the cost-benefit based purely on the local restoration times. NGET recognised that this represented only a relatively small proportion of the benefits but included the calculation as it was quantifiable. The calculation used a publically available study to identify a value of £67,760 for Value of Lost Load (VoLL) per MWh to be used in this analysis. This was based on NGET's interpretation of the London Economics study that found VoLL to be £16,940/MWh for

an hour-long interruption and rising to £67,760/MWh for a four-hour interruption. This showed that Fiddler's Ferry and Drax had benefits to the system of up to £1.4bn and £1bn respectively. This was on the basis of their technical contributions to the Black Start strategy.

In subsequent discussions, members of the industry have highlighted this as a misinterpretation of the London Economics paper, and that the headline number of £16,940/MWh for VoLL should have been used in our cost benefit analysis.

NGET accepts this opinion but also highlights that the specific cost-benefit analysis carried out of the Black Start contracts agreed at Drax and Fiddlers Ferry only analysed a small proportion of the overall benefits that these contracts would bring to the end consumer. This is because although an assessment can be made of the contribution of a particular station to the time taken to establish individual power islands, the physical characteristics of the transmission system make it very difficult to accurately identify and analyse the benefits of any one station to total system restoration times, through establishment of the skeleton network.

When looking beyond the short term financial impact of a localised, short duration, shutdown to the wider consequences anticipated as a result of a sustained and system wide shutdown requiring Black Start restoration, the benefits to consumers of having this insurance policy in place becomes even more apparent. These consequences, not covered by the London Economics paper and therefore not captured in the headline VoLL figure, include:

- A greater demand for healthcare services, with the possibility of increased number of accidents occurring and the impact on vulnerable people (for example with the loss of electric heating).
- Impacts on Industry and economy.
- Transport – from local bus routes through to national rail services and underground. Inactive traffic signals and loss of street lighting could cause a large increase in accidents and congestion;
- School and other educational establishments closed;
- Closure of retail and social premises, including petrol stations;
- Possible public order issues with the loss of CCTV and building alarms;
- Non availability of cash due to ATM machines not functioning and the inability to use electronic payment systems to purchase items.
- Impacts on mains water and sewerage.
- Loss of some communication systems, including mobile phone base stations, house and business phones which need an independent power source as well as the internet and email.
- Availability of food – perishable food will be affected without refrigeration.
- Widespread loss of confidence in the UK with a resulting impact on the economy

The potential for these consequences and their resulting impact depend upon the duration of the network interruption and so reducing the restoration time has significant benefits for consumers. As stated above, the calculation based on local restoration times only is clearly a small part of the overall assessment of benefit to the

consumer in avoiding longer term financial and tangible impacts of a delay in restoring the transmission system in the event of a shutdown.

The Black Start contract costs resulting from the IAE have been incurred by NGET pursuant to a competitive process in accordance with its transmission licence involving power stations with suitable service capability. In procuring such services NGET has acted economically and efficiently and the resulting services deliver significant consumer benefit.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'C McClay', with a long, sweeping vertical stroke extending downwards from the end of the signature.

Cathy McClay