

# Black Start Allowed Revenue Report 2018/19

**Executive owner(s):** Paul Lowbridge

**Name of forum:** Publication of annual report in accordance with Special Condition 4G Part E

**Date:** 30/04/2019

## Executive summary

ESO incurred £48,951,292.85 for Black Start costs in respect of Relevant Year April 1<sup>st</sup> 2018 to March 31<sup>st</sup> 2019.

## Background

National Grid Electricity System Operator Limited (NGESO) has produced this report in accordance with Special Condition 4G, Part E of its electricity transmission licence. Special Condition 4G.13 states that the licensee NGESO shall prepare a report in respect of total costs incurred in respect of Black Start in this Relevant Year 1<sup>st</sup> April 2018 to 31<sup>st</sup> March 2019.

This Black Start Allowed Revenue Report will set out how NGESO has;

1. Calculated the total costs incurred.
2. Validated the data used to determine the total costs.
3. Complied with the Black Strategy and Procurement Methodology when incurring the total costs.

This report was accompanied by a statement from an independent auditor confirming that the report is accurate and detailing the auditor's independent assessment of the extent to which NGESO complied with the Black Start Strategy and Procurement Methodology.

## 1) Calculation of Total Costs<sup>1</sup>

The total costs incurred for the provision of Black Start for the Relevant Year 2018/19 is £48,951,292m. There are a number of areas of costs associated to Black Start as identified in the Procurement Methodology, which can be categorised into the following elements. This section will explain how these costs are calculated.

Breakdown of Costs (£)	
Availability Payments	38,503,951.95
Capital Investment	2,906,146.96
Feasibility Studies	1,171,913.18
Testing	658,905.78
Warming	5,710,374.98
<b>Total</b>	<b>£48,951,292.85</b>

- 1. Availability Payments:** These are paid to the service provider to maintain capability throughout the year. During contract negotiations, NGENSO and the provider agree a fixed price to be paid annually, this is then worked out into a £/settlement period and paid monthly to the provider. Providers are only paid for settlement periods when they have declared they are available. There is a defined business procedure that NGENSO follows to determine the monthly payment based on availability declarations received from the provider. The contract data including availability payment per settlement period and if necessary any indexation data is taken from the signed Commercial Services Agreements between NGENSO and the service provider and the monthly payment determined.
- 2. Capital Investment:** New Black Start services are likely to require significant capital investment as outlined in the Procurement Methodology. This is typically agreed at the start of the contract and is either paid upfront before the service commences, smeared over the duration of the contract or at pre-agreed intervals. Each contract will include a breakdown of costs including where necessary a milestone payment schedule. In either case payment is dependent upon the receipt of valid invoices, though sometimes invoices can be received a number of years after a service commences, in the case where the capital is for ongoing work
- 3. Feasibility Studies:** NGENSO will ensure any costs incurred by service providers have been procured in an economic manner. NGENSO will expect the service provider to demonstrate why they have awarded the study work to a contractor. The feasibility study costs are agreed in the commercial side letter between NGENSO and the provider and we will only pay up to the agreed amount subject to valid invoices.
- 4. Testing:** In accordance with the Procurement Methodology, NGENSO will work together with the provider to develop a strategy to test the unit at the most economic and efficient time, mitigating any distortion to the market. Similar to the feasibility study costs, we agree the basis of payment in a commercial side letter and will only pay the agreed amount subject to valid invoices.
- 5. Warming Requirements:** Black Start providers must be able to respond in a specified time, (normally within two hours), to be deemed available for Black Start. If service providers of certain technology types have not generated for a period of time the units may not be warm enough to meet that response time. In such circumstances, NGENSO will assess the overall availability in the zone, and may instruct a capable unit for warming in order to maintain the minimum service level. This is typically during summer months when demand is lower and contracted stations are on outage or out of merit. Spend on warming may be instructed through the Balancing Mechanism (BM), trades, or by forward contracting. Similar to availability payments, the cost is calculated as a £/settlement period and paid on a monthly basis or in the case of a short-term contract to the end of the contract.

The following table 1 demonstrates the total costs in respect of availability and warming since 2012/13.

Table 1

	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Availability	£15,450,690	£16,542,675	£23,275,720	£18,886,830	£114,347,564	£35,392,352	38,503,951
Warming	0	0	0	0	£3,987,200	£19,903,961	5,710,374

<sup>1</sup> All Ancillary Services costs are reported exclusive of VAT

## 2) Validation of Total Costs

NGESO will ensure through a robust validation process that all reported costs are accurate for each cost element.

**Availability Payments:** Following the defined business procedure outlined in the calculation of costs, the settlements team will send a preliminary statement to the provider informing them how much they are expected to receive. The provider has a number of days to review before NGESO will send a final statement which forms the payment the provider will receive.

**Capital Investment:** This is paid upon the submission of valid invoices to NGESO and in accordance with the signed sanction papers and commercial service agreements. The provider may incur these costs before recovering them from NGESO and they may be collated and submitted by the provider in tranches throughout the service term. Therefore, NGESO could receive invoices dated for the previous Relevant Year, which it may not have received until following Relevant Year. Once received, invoices are reviewed and validated against the agreed spend in the contract. This validation includes a review of the invoice against the contract or milestone schedule and the type of works to ensure it meets with our expectations. Only then will a Purchase Order be raised for payment.

**Feasibility Studies:** Similarly, to capital investment, the feasibility study costs are paid upon the receipt by NGESO of valid invoices in accordance with the signed sanction papers and feasibility study contracts with the service providers. NGESO will receive invoices from third parties if appropriate and a specific invoice from the provider listing all activities required for the study.

**Testing:** This is paid either through a negotiated fixed price or through a market mechanism and agreed with the service provider. NGESO and the provider will look at the most cost effective solution for the test. The invoices received will again be validated against the commercial side letter as agreed between NGESO and the provider.

**Warming Requirements:** This is paid through the following methods.

- Payments made in the BM or through Trading on actions taken to warm Black Start capable plant to ensure we have enough service providers in a state of readiness. These payments are actuals and are carried out in real time and paid per settlement period.
- Short term warming contracts with a provider of Black Start to reduce the cost of trading in advance of taking actions in the BM. This will typically be in the form of a fixed price to run the station at agreed intervals to maintain warmth over the duration of the contract.
- Payments made to a provider of a Black Start capable plant as part of a contract to ensure that the plant will be available and running during the Relevant Year. Some providers have a warming contract within the Commercial Services Agreement to mitigate the risk of not running in the market and therefore not being in a state of readiness. In this case the payment will be paid as part of the availability payment and validated against the defined business procedure.

### 3) Compliance with the Black Start Strategy and Procurement Methodology

As the licensee, NGENSO must also demonstrate how any new contracts including, renewals, warming contracts, testing and feasibility studies comply with the Black Start Strategy and Black Start Procurement Methodology approved by the Authority on the 26<sup>th</sup> June 2018. Many of the existing Black Start contracts were awarded prior to the publication of the methodologies and are therefore out of the scope of this report, though the principles of the Black Start Strategy and Procurement Methodology were applied. Decisions made to contract in 2018/19 are outlined below.

**Availability Payments:** When determining the need for specific contracts in 2018/19, we assessed the Black Start Strategy and the impact on the restoration times before committing to negotiating a new contract. Once it was established that there was a need, we assessed the alternative costs in accordance with the Procurement Assessment approach in the Procurement Methodology.

Three new contracts were agreed with providers for service delivery in 2018/19 in accordance with the Black Start Strategy and Procurement Methodology.

- Interconnector Fast Start service. This offers a valuable restoration service for the region as it provides additional resilience to those contracted.
- Trip to House Load service from an existing service provider was extended for a further two years. This again offers a valuable restoration service and will provide additional resilience and liquidity in a region to drive future diversification and competition.
- Enhanced Restoration Service, a new service agreed to provide a valuable service in a region that is predominantly covered by one fuel type. This contract will offer additional resilience and provide competition with other providers.

These services do not provide a full Black Start service in accordance with the Black Start Strategy<sup>2</sup>, however they do provide a positive impact to the restoration process and the value is assessed in accordance with the Procurement Methodology.

In 2018/19 NGENSO also agreed to three new contracts that will start delivering Black Start services in the forthcoming years.

- In the Midlands, we contracted bilaterally with one provider for a service delivery commencing in July 2019, using a robust negotiation approach and cost comparisons in accordance with the Procurement Methodology. Due to the technology type, the service will have a high availability, which has the wider commercial benefit of reducing the need to warm other stations in the zone.
- In the North East, we have agreed a contract bilaterally for a service delivery of May 2020 again using a robust negotiation approach in accordance with the Procurement Methodology.
- In the South East, we ran a mini-tender between two potential providers, by aligning the feasibility process timelines, and using objective evaluation criteria to compare the overall value (technical and commercial) of the two services on offer we selected the best value service offering and using this approach delivered savings to the end consumer.

In Dec 2018 NGENSO published a proposal for a competitive procurement event for Black Start and requested feedback from industry. In Feb 2019, having responded to the feedback received, we launched an Expression of Interest (EOI) for Black Start services in the South West and Midlands for service delivery in April 2022. This is the first time NGENSO have used a fully open tender and it is expected that using this approach will establish a market value for services in the future. The EOI was successful and we had 31 potential providers, of which, 20 met the technical requirements and will be invited to participate in the next stage.

NGESO considers alternative options in the area and the time horizons before committing to any contract and will continually review and position ourselves to ensure we can meet Black Start requirements on an enduring basis. We therefore actively look to find potential new providers to promote competition and mitigate the exposure of future operating costs and will consider the most appropriate mechanism to negotiate a new contract in accordance with the Procurement Methodology.

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<https://www.nationalgrideso.com/sites/eso/files/documents/Black%20Start%20Strategy%20Version%202%20April%202018.pdf>

**Capital Investment:** In 2018/19 we incurred costs for Capital from three providers: -

- One contract was agreed in 2017 for a maximum of £2.5m. Given the nature of the works NGENSO received these invoices in 2018/19 as stages of the works were completed.
- Another contract agreed in 2017/18 also included a maximum of £500k and in 2018/19 we received invoices totalling £112,789.
- A service agreed in May 2018 incurred costs for the hiring of diesel generators.

**Feasibility Studies:** NGENSO has produced a standard outline for feasibility studies to make it easier to compare the content, and therefore to assess the proposed costs. We adhere to the principles outlined in the Procurement Methodology by ensuring that as far as possible any costs of these studies have been procured in an economic and efficient manner and, where feasible, the provider is able to tender for the study.

The costs for feasibility studies can vary, for instance the size and type of the generator will influence the cost as well as if the Original Engineering Manufacturer (OEM) can use learning from previous studies. On occasions, it can be cheaper for a study to be carried out on a new unmodified generator compared to a retro-fit on a generator that has been modified. In some cases, the providers will tender for the OEM costs where possible which can reduce cost to NGENSO and some providers will waive their own internal costs for facilitating the study.

During each assessment, we look at the OEM and size/type of generator and compare the cost against previous or existing studies to ensure there is consistency. We ask for a breakdown of costs against the tasks in the study to identify any variations and challenge where necessary. We also make it very clear in early discussions the expected cost range for such a study and if we deem that the study cost is inappropriate, the provider is informed.

In 2018/9 we incurred costs for feasibility studies from seven providers all of which will enable the potential providers to offer Black Start services through a market mechanism or bilaterally where appropriate. The costs for each study are comparable, however there are some subtle differences in the amount of work and therefore cost as mentioned above.

One provider submitted their invoice on March 30<sup>th</sup> 2018 for £90,895.47 we reviewed and validated the invoice as outlined in the Procurement Methodology and paid the provider in May 2018. At this, time ESO was delivering the annual report using payment dates, and so the invoice was not included in the 17/18 Black Start Allowed Revenue Report.

NGESO and Ofgem later discussed in more detail the methodology for including costs within the Relevant Year, and agreed in Oct 2018 that from that point onwards, NGENSO would include costs for recovery in the Relevant Year, based on the date on the invoice.

This invoice had been received, paid, and not included in the Black Start Allowed Revenue report prior to this decision and therefore the cost will be recovered for 2018/19, otherwise, due to the agreed change in methodology, there would be no opportunity to recover this.

As the process, has already changed, there should be no further instances.

**Testing:** As per OC5 of the Grid Code, NGENSO must test existing Black Start providers to prove their capability to Black Start in accordance with their contractual terms and the Grid Code requirements where appropriate. NGENSO will work together with the provider to develop a strategy to test the unit at the most economic and efficient time, informing the market and mitigating any distortion in accordance with the Procurement Methodology.

In 2018/19 we tested six providers. Given the nature of the technology types and size of the stations, some assurance tests cost considerably more than others. We would expect to cover the cost of any lost generation opportunity and the actual cost of running the units to meet with the agreed test programme.

**Warming:** In 2018/19 NGENSO revisited its warming strategy to drive costs down, resulting in a significant reduction in costs from the previous year. However, NGENSO still required to take a number of actions over the summer to warm two Black Start capable stations in order to maintain Black Start readiness.

These actions were taken by the NGENSO trading team in collaboration with the Black Start technical team and in accordance with the warming strategy to maintain the Restoration Time and the Minimum Service Level.

When actions are taken to warm plant for Black Start readiness, the voltage or any other secondary benefit is taken out and recovered through the Balancing Services Incentive Scheme mechanism. Accordingly, in respect of Black Start total costs, NGENSO is recovering the warming cost only. The Procurement Methodology explains the concept of secondary benefit.

### General Provisions

Generally, NGENSO publish information on the Balancing Services we intend to procure and subsequently do procure. In doing so, we seek to provide market participants and other interested parties with sufficient information without compromising the commercial position of any contracting party.

### Disclaimer

All information published or otherwise made available to market participants and other interested parties pursuant to this Black Start allowed revenue is done so in good faith. However, no warranty or representation is given by National Grid Electricity System Operator Limited., its officers, employees or agents as to the accuracy or completeness of any such information, nor is any warranty or representation given that there are no matters material to any such information not contained or referred to therein. Accordingly, no liability can be accepted for any error, misstatement or omission in respect thereof, save in respect of a misrepresentation made fraudulently