BSC Modification Proposal Form	At what stage is this document in the process?
# P451 ## Mod Title: Updating BSC Black Start provisions and compensation arrangements to align with NGESO's new approach to System Restoration	01 Modification 02 Workgroup Report 03 Draft Modification Report 04 Final Modification Report

Purpose of Modification:

A package of modifications is going before the Authority before the end of 2023 to update references to system restoration (Black Start) in the Connection and Use of System Code (CUSC) and Grid Code. The references reflect a new approach to system restoration as a result of a new licence obligation on National Grid Electricity System Operator (NGESO). The new approach is also a result of the closure of old 'black start' power stations. The GC0156 Markets and Funding Mechanism sub-group report noted an intention that new restoration service providers which are non-BSC parties and which have a system restoration contract should be eligible to claim for Avoidable Costs. Hence, BSC Section G needs amending to enable contracted Restoration Service Providers who are non-BSC parties to claim BSC Black Start compensation. All references in the BSC to Black Start will need to be updated to reflect new system restoration terms to be used in the Grid Code.

Is this Modification likely to impact any of the European Electricity Balancing Guideline (EBGL) Article 18 Terms and Conditions held within the BSC?

☒ Yes ☐ No

	The Proposer recommends that this Modification should: • not be a Self-Governance Modification Proposal • be assessed by a Workgroup and submitted into the Assessment Procedure This Modification will be presented by the Proposer to the BSC Panel on **09 March 2023.** The Panel will consider the Proposer's recommendation and determine how best to progress the Modification.
	High Impact: Non-BSC Parties providing System Restoration services
	Medium Impact Trading Parties

Contents

Timetable

The Proposer recommends the following timetable:

Initial consideration by Workgroup	10 April 2023
Assessment Procedure Consultation	10 – 31 July 2023
Workgroup Report presented to Panel	14 September 2023
Report Phase Consultation	20 September 2023 - 20 October 2023
Draft Modification Report presented to Panel	09 November 2023
Final Modification Report submitted to Authority *[not Self-Governance]*	15 November 2023

Any questions?

Contact:
Kayleigh Neal

Kayleigh.neal@elexon.co.uk

020 7380 4175

Proposer:
NGESO

Proposer's representative:
Paul Mott

Paul.Mott1@nationalgrideso.com

07752987992

Other:
James Stone

James.Stone@nationalgrideso.com

07971002704

1 Why Change?

What is the issue?

Special Condition 2.2 of National Grid's Electricity System Operator's Transmission Licence[1], the Electricity System Restoration Standard (ESRS) was introduced in October 2021 and requires that from 31st December 2026:

a) 60% of electricity demand being restored within 24 hours in all regions; and

b) 100% of electricity demand being restored within 5 days nationally.

The purpose of this direction is to require that NGESO:

a) Ensures and maintains an electricity restoration capability; and

b) Ensures and maintains the restoration timeframe.

c) Replace the definition of "Black Start" with "System Restoration"

The aim is to restore the system and supplies as quickly as possible in the most economic manner.

The response of NGESO to the new licence condition, and the decline in provision of black start services from some traditional large thermal plant, is very broad: including contracting with a much wider range and number of generators to participate in restoration, including many distributed generators; this is known as the Distributed Restart approach. The concept is supported by the introduction of a set of Grid Code changes known as GC0156 'Facilitating the implementation of the Electricity System Restoration Standard'[2], introducing new concepts of Anchor Plant and Top Up Restoration Plant, with an accompanying introduction of Distribution Restoration Zones, new obligations on Network Operators, reinforcements of critical tools and facilities, and the introduction of various Assurance activities. The term black start is being abolished entirely.

The Distributed Energy Resources (DERs) which will be providing Distribution Restoration services (e.g. solar, wind and hydro) will be connected to a Distribution System, registered within Suppliers' or Virtual Lead Parties' BM Units, and operated by non-BSC Parties. The GC0156 Markets and Funding Mechanism sub-group report[3] documented the intention that new restoration service providers which are non-BSC parties and which have a system restoration contract with NGESO and Local Distribution Network Operator (LDSO) should be eligible to claim for Avoidable Costs if they qualify under BSC Section G3[4] provisions. A desired outcome of this Modification is to amend BSC Section G to allow Lead Parties to claim compensation even if the asset owner is a non-BSC party.

If this BSC Modification did not proceed, there would be failings: the changeover to the new approach to system restoration would be incomplete and dysfunctional. All provisions in the BSC that currently refer to "Black Start" would not work as intended as they refer to black start related terms in the Grid Code that are due to be abolished. Also new restoration service providers which are non-BSC parties and which have a system restoration contract with NGESO and LDSO would not be eligible to claim for Avoidable Costs if they qualify under BSC Section G3 provisions. Their treatment would be discriminatory as compared to the treatment of BSC parties that do qualify to make a claim under section G under the rare

[1] https://epr.ofgem.gov.uk//Content/Documents/NGESO%20-%20Special%20Conditions%20Consolidated%20-%20Current%20Version.pdf
[2] https://www.nationalgrideso.com/industry-information/codes/grid-code-old/modifications/gc0156-facilitating-implementation
[3] See Annex 4
[4] https://bscdocs.elexon.co.uk/bsc/bsc-section-g-contingencies#section-g-3

circumstances of a market suspension period occurring (and the receipt of a black start instruction by that asset).

Desired outcomes

The aim is that the BSC should be left robust to the changes in the national approach to "black start" (in future, "system restoration").

This BSC Modification will be one of a number of code modifications that are being progressed to facilitate the implementation of the new approach to System Restoration. If they are all approved, then the result will be a set of changes to the codes that alter all references to "black start" at the same time. It may be beneficial for there to be a discussion with Ofgem about the synchronisation of the date when all the code changes come into effect across all the codes. In respect of existing BSC Section G text, and supporting BSC Procedure (BSCP) 201 'Black Start and Fuel Security Contingency Provisions and Claims Processes'[5], this will serve a useful purpose in that these rely on a "black start instruction" being issued as a trigger that allows the submission of a section G claim; the term "black start instruction" will be abolished if Grid Code change GC0156 is passed, and the change to existing BSC Section G text will reflect that and avoid ambiguity of meaning.

It is also the aim of this Modification that the BSC Section G claims process should slightly broaden the range of parties able to claim for avoidable costs under the Section G rules when they receive what we now call a black start instruction during a market suspension period.

The GC0156 Markets and Funding Mechanisms sub-group report documented the intention that new restoration service providers which are non-BSC parties and which have a system restoration contract (in NGESO's opinion, with whom NGESO and LDSO have a contract) should be eligible to claim for avoidable costs if they qualify under BSC section G3 provisions. A desired outcome of this mod is to amend BSC Section G to allow the relevant lead party to claim compensation even if the asset owner is a non-BSC party.

2 Solution

Proposed Solution

The package of Grid Code changes to be made under GC0156 to reflect the new approach to system restoration as a result of the new licence condition include:

- Grid Code Glossary and Definitions: Introduction of new definitions and changes to some existing definitions
- Grid Code Planning Code: changes to Data reporting for Restoration Service Providers and Parties forming part of a Distribution Zone
- Grid Code Connection Conditions/European Connection Conditions: Changes to Protection, Control and Governor Settings, amendments to Offshore to enable Offshore Generation to participate in Restoration, broad normalisation of Anchor Plant and Top Up Restoration Plant, introduction of Distribution Restoration Zones/obligations on Network Operators, reinforcement of Critical Tools & Facilities, introduction of Assurance activities
- Grid Code OC1 : New process for notification of Demand Data for System Restoration Purposes

[5] https://bscdocs.elexon.co.uk/bsc-procedures/bscp201-black-start-and-fuel-security-contingency-provisions-and-claims-processes

- Grid Code OC2: New process for notification of Outage data in respect of Restoration Service Providers and Network Operators
- Grid Code OC5: Enhanced Testing and Assurance requirement including deadline charge and remote Synch tests
- Grid Code OC9: Fundamental restructure to include Local Joint Restoration Plans and Distribution Restoration Zone Plans
- Grid Code BC2, BC4 & General Conditions: Various consequential changes
- Data Registration Code: Various consequential changes

The references to Black Start in the BSC occur throughout multiple BSC Sections and the solution will update all relevant legal text to reflect that Black Start will no longer be a term in use, relevant definitions in the Grid Code being abolished as a result of the GC0156 package of changes summarised above; replacement text will reflect new Grid Code content.

There are fewer changes to the CUSC that are vital to the new restoration approach, due to the smaller number of references there to black start, and these do not interact with or have consequences for the BSC. Nonetheless, a pair of CUSC modifications (one charging/section 14, and one for non-charging parts of CUSC) will be raised to the March CUSC panel with a recommendation suggested by NGESO as Proposer that it be processed as a housekeeping Self-Governance Modification.

This BSC Modification makes changes to the BSC, including updating section G allows claims to for Avoidable Costs upon receipt of what is presently a black start instruction. It seeks to allow new restoration service providers which are non-BSC parties and which have a system restoration contract with NGESO and LDSO. This is in line with the recommendations of the markets and funding mechanisms sub-group of GC0156.

These changes are necessary to reflect a new approach to system restoration, known as the distributed restart approach, which is a consequence of the closure over time of the old black start power stations due to changes in market approach and due to the net zero ambitions, and a consequence of a new licence condition on the electricity system operator.

The section G process as it stands today

BSC Section G 'Contingencies'[6], and its supporting procedure BSCP201 'Black Start and Fuel Security Contingency Provisions and Claims Processes', describes the steps to be taken during and following a Black Start Period or a Fuel Security Code event. It includes the steps required to restore normal BSC market operations, if these have been suspended during a Black Start. It also includes the steps that allow BSC Parties to raise claims for excess costs in certain rare circumstances (receipt of a black start instruction during a market suspension period; the claimable costs are "Avoidable Costs", generally interpreted as likely to be limited to fuel costs directly related to following said instruction). No Section G cost claim has been received since the BSC, including Section G, went live on 27th March 2001; there have been no relevant events.

BSCP201 seeks to succinctly highlight the actual actions required by industry participants relating to section G.

Certain Power Stations are registered under their bilateral agreements with the National Electricity Transmission System Operator (NETSO) as having a Black Start Capability, meaning that at least one of the Power Station's Gensets does not require an external source of electricity in order to generate. The NETSO can therefore call on these Black Start Stations under the Grid Code to initiate or assist a Black

[6] https://bscdocs.elexon.co.uk/bsc/bsc-section-g-contingencies

Start restoration if the Total System shuts down. It can do this by invoking Local Joint Restoration Plans with Black Start Stations, Network Operators and other Grid Code Users to energise part of the Total System, meet complementary local Demand and thereby form a Power Island. Each of the separate De-Synchronised Islands are gradually expanded and connected to each other (Re-Synchronised), and Demand is selectively reconnected, until the Total System is fully energised and operating normally.

As well as instructing those Grid Code Users with Local Joint Restoration Plans, the NETSO may also issue instructions under the Grid Code to other Grid Code Users as the system begins to re-energise.

There are two types of Black Start event that could occur:

1. A Total Shutdown of the Total System; or
2. A Partial Shutdown of one or more parts of the Total System.

The processes by which the NETSO determines the existence of a Total Shutdown or a Partial Shutdown, and by which it restores the Total System, are set out in Operating Code (OC) 9 of the Grid Code and not in the BSC. Definitions of the above bold terms can be found in the Grid Code.

The trigger for invoking the BSC's Black Start provisions is the NETSO's determination and notification under Grid Code OC9 that a Total Shutdown or a Partial Shutdown exists, and that it intends to implement a Black Start.

The provisions of BSC Section G3 'Black Start' are concerned only with determining:

1. If and when normal BSC market operations shall be suspended;
2. How and when normal BSC market operations, if suspended, shall resume; and
3. Claims for black start compensation amounts, as submitted by the Lead Parties of BM Units which have received black start instructions from the NETSO (as defined in BSC Section G3).

To do this, BSC Section G3 uses two key concepts:

1. A Black Start Period (during which the BSC's Black Start contingency provisions apply, but normal BSC market operations are not necessarily suspended); and
2. A Market Suspension Period (during which normal BSC market operations are suspended).

For the purposes of the BSC:

1. If there is a Total Shutdown, then both a Black Start Period and a Market Suspension Period will exist. The Market Suspension Period will last for the entire duration of the Black Start Period.
2. If there is a Partial Shutdown, then a Black Start Period (but not necessarily a Market Suspension Period) will exist. A Market Suspension Period will only exist if, at any time during the Partial Shutdown, the Market Suspension Threshold specified in BSC Section G3 is met. In practice, there may therefore be a Market Suspension Period for some, all or none of the Black Start Period. If the Market Suspension Threshold is met, then the Market Suspension Period will last for the remaining duration of the Black Start Period.

As to cost recovery of BSC claims for black start compensation under BSC Section G3.3 each BSC Lead Party claimant is entitled to be paid its black start compensation amount by Elexon – plus compound interest for the period between complying with the black start instruction and receiving the compensation payment. Elexon is not-for-profit, and has to balance to zero. So the amounts of compensation paid out are funded by all BSC Trading Parties (including the Lead Party claimant), according to their Black Start Reallocation Proportions.

The calculation of a Trading Party's Black Start Reallocation Proportion in BSC Section G3.3 is its market share of offtaking BM Units (i.e. its share is its offtaking Credited Energy Volumes, divided by the market's offtaking Credited Energy Volumes), calculated as the sum across all Settlement Periods in the 7

Settlement Days immediately preceding the Settlement Day on which the Black Start Period commenced. Delivering BM Units are excluded entirely from this calculated recovery proportion, meaning that any section G black start compensation payments are recovered only from offtaking BM Units.

(Note: an offtaking BM Unit is a BM Unit that, in the relevant Settlement Period, is part of an offtaking Trading Unit. An offtaking Trading Unit is a Trading Unit for which, in the relevant Settlement Period, the sum of all its BM Unit Metered Volumes is less than or equal to zero)

Both the black start compensation amount payments and the Black Start Reallocation Proportions are considered to be "Ad-Hoc Trading Charges" (a type of Reconciliation Charge) that are paid/recouped by the Funds Administration Agent (FAA) under BSC Section N 'Clearing, Invoicing and Payment' Paragraph 6.9[7] (which defines the recovery route for said "Ad-hoc Trading Charges").

The solution in this BSC Modification is to update BSC Section G to allow claims as noted in this proposal.

Non-Parties, since they aren't BSC signatories, don't pay BSC Trading Charges (or indeed contribute to any BSC/ Elexon costs). A BSC Modification Proposal such as this one, is effectively expanding the BSC's black start compensation to some non-BSC Party providers of contracted Black Start services; the Workgroup will need to consider whether claims payments to non-Parties are paid out and recouped via:

1. The FAA as BSC Ad-Hoc Trading Charges (as currently happens with Party claims) – this would require FAA system changes and may be complex since non-Parties don't pay/receive Trading Charges; or
2. Elexon as a different type of payment/BSCCo Charge – which would require Elexon finance system changes.

Under either option, the amounts paid out to non-Parties would by default have to be recovered from BSC Parties. The Workgroup is likely to consider if the recovery is from:

1. Offtake only (as for current Party claims);
2. All BSC Trading Parties;
3. Some other subset of BSC Parties

It may be argued that it adds complexity if there are multiple recovery routes for BSC Section G black start avoidable cost claims depending on the nature of the claimant, and this might suggest (1) on each of the two lists as a good choice. It is worth noting that the large number of new service providers, many of which are envisaged to be renewable generators, will simply replace a small number of very large mainly fossil black start power stations under the old approach. The "Avoidable Costs" of very large mainly fossil black start power stations will amount to their fuel costs, and are likely in entirety for a given scale of system restoration, whether national or partial, to exceed the avoidable costs of the new ESRS contracted providers. The avoidable costs claimed for under a Section G event, if any such event ever occurs, should at the most be no more under the new ESRS distributed restart approach, than under the old approach relying on very large mainly fossil black start power stations.

The Issue 100 Workgroup also recorded that the Modification Workgroup for a relevant BSC Modification, could consider whether non-Party claimants could/should be charged a submission fee to cover Elexon's administration costs in processing their claims. The advantage of such a fee is that some providers, for example a small hydro station, may use no fuel in complying with a restoration instruction during a market suspension period; their "Avoidable Costs" claim might therefore be exceedingly small. Setting a

[7] https://bscdocs.elexon.co.uk/bsc/bsc-section-n-clearing-invoicing-payment#section-n-6-6.9

minimum permitted claim level, or charging a submission fee, are two ways of avoiding having to process numerous claims for under a threshold level; the workgroup could briefly consider this matter.

References to Black Start

There are multiple BSC/BSCP references to Black Start as defined in the Grid Code. BSCP201 also gives guidance on the Grid Code's Black Start definition and Black Start restoration process, including references to other Grid Code defined terms (e.g. Black Start Station, Black Start Capability, Gensets, Local Joint Restoration Plan, Power Island, Power Station, De(Re)-Synchronised Island).

The Grid Code changes that this BSC Modification will take account of, that will be made by modification proposal GC0156, if that is approved by The Authority, are :

Article I. 'Black Start' changed to 'System Restoration'.

Article II. 'Black Start Service Provider' changed to 'Restoration Service Provider' (or 'Anchor Restoration Service Provider' or 'Top Up Restoration Service Provider').

Article III. New term 'Distribution Restoration Zone Plan'.

Article IV. No material change to 'Local Joint Restoration Plan'?

Article V. 'Black Start Station' changed to 'Anchor Plant' or 'Anchor Power Station'.

Article VI. 'Black Start Capability' changed to 'Anchor Plant Capability'.

Article VII. Other new terms e.g. 'Top Up Restoration Plant'.

Article VIII. No material changes to 'Power Island', 'Power Station' or De(Re)-Synchronised Island'

Article IX. 'Generating Plant', 'Generating Unit', 'Plant' or 'Power Station' now used instead of Genset

Note that it's the existence of a Total or Partial Shutdown that triggers the BSC Section G processes, and those Grid Code definitions aren't changing.

Various references throughout BSC Section G, BSC Section T 'Settlement and Trading Charges'[8], BSCP201 and other BSC Sections/ BSC procedures use these BSC-defined (internal to BSC) terms that include the words 'black start':

- "Black Start Period"
- "Black start instruction"
- "Black start compensation volume"
- "Black start compensation amount"
- "Black Start Reallocation Proportion"

These terms are internal to the BSC and do not cross-reference into the Grid Code but need to be reviewed and updated in BSC text, in many cases the change being the replacement of the words "black start" with "system restoration".

BSC Section G parts G3.1.2, G3.1.3 and G3.1.4 refer to Grid Code OC9.4 and BSCP 201 refers to Grid Code OC9. The contents of OC9.4 will not change under GC0156, if that is passed, other than that the words "black start" would become "system restoration".

NETSO makes a notification under the Grid Code to Grid Code Users that there's a Total or Partial Shutdown and that it intends to implement a Black Start. This triggers the BSC process for determining the start of the Black Start Period and whether there's a Market Suspension Period.

BSC Section G parts G3.1.8 and G3.1.9, and BSCP201, make references to the current Grid Code OC9.4.7.9, which has content allowing NGESO to make a determination under the Grid Code of when the

[8] https://bscdocs.elexon.co.uk/bsc/bsc-section-t-settlement-and-trading-charges

Total System has returned to normal operation. This triggers the BSC process for determining the end of the Black Start Period (and of any "Market Suspension Period"). This clause OC9.4.7.9 is to due be renumbered in the Grid Code if GC0156 is passed, as can be seen in the GC0156 legal text. Other than these numbering/terminology changes, there are no impacts of GC0156 on this G3.1.8/9 and BSCP201 elements of the BSC process.

Note that the informal term "brownout" [9] was explored by the Issue 100 Workgroup. This term is not used in any code and not in general use in Britain, and might be used describe a situation where voltage supplied to some premises drops below its usual level. This voltage reduction may be deliberately used by a LDSO, via a transformer tap change, on receipt of an instruction from NGESO under the provisions of Grid Code OC6.5.3. Such a voltage reduction would not be regarded as a power cut to the customers under Supply. The term brownout could also mean an unintentional voltage drop to below the permitted lower operational limit. This is not an envisaged event on the GB power system. Grid Code OC9.4.2 taken in the context of Grid Code OC9.4.1 defines a partial shutdown, where "all generation has ceased" in a part of the Total System. Therefore, as noted in the Issue 100 action update, a 'brown out' of this nature would not meet the Grid Code's definition of a Black Start, and so would not trigger the Black Start processes under the Grid Code or the BSC, in the view of both NETSO and Elexon.

Benefits

This Modification assists in making sure that a coherent change to the new system restoration regime is documented in a way that works in each code, so that BSC processes make correct references to the new regime both by name and in the necessary references made to other codes.

Removing our dependence on the slowly dwindling number of large fossil fuel generators for electricity system restoration services will help achieve a net zero carbon grid by 2025. It will also enable the government's net zero carbon target for the UK as a whole for 2050.

DERs (distributed energy resources) and flexible demand companies will as part of the new approach that stems from the ESRS licence condition, benefit from revenue for the provision of electricity system restoration services. Increased competition will also reduce electricity system restoration costs, with savings passed on to consumers through reduced levies.

Cost-benefit calculations have been carried out for the new approach to system restoration under the main Future Energy Scenarios[10] (FES). Without distributed restoration, there simply may not be enough restoration capability in the system, and power cuts can result in some cases with severe economic disbenefits. The net present value out to 2050 to consumers expressed in 2022 money of the benefits of NGESO's ESRS programme as a whole falls, depending on the scenario, in the range £30m to £130m[11].

As the major package of Grid Code changes, GC0156, to allow distribution restoration and the new ESRS approach to work, will lead to a large number of terminology changes, it will leave the BSC in relation to black start, un-functional if this Modification is not made.

The benefit for relevant non-BSC Parties that are contracted to provide the service is that they are not discriminated against in comparison with BSC Parties that are contracted to provide the service, in their ability to claim any avoidable costs in the rare circumstances allowed by Section G. The old thermal large black start providers are gradually closing; their place will be taken by the new providers.

[9] https://en.wikipedia.org/wiki/Brownout_(electricity)
[10] https://www.nationalgrideso.com/document/263951/download
[11] PowerPoint Presentation (nationalgrideso.com)

The benefit to NGESO is that the package of ESRS measures led by GC0156 and the new distributed restart package with new contracting approaches, will mean that it can comply with its new licence obligation.

3 Relevant Objectives

Impact of the Modification on the Relevant Objectives:

Relevant Objective	Identified impact
a) The efficient discharge by the Transmission Company of the obligations imposed upon it by the Transmission Licence	Positive
(b) The efficient, economic and co-ordinated operation of the National Electricity Transmission System	Neutral
(c) Promoting effective competition in the generation and supply of electricity and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity	Positive
(d) Promoting efficiency in the implementation of the balancing and settlement arrangements	Positive
(e) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency [for the Co-operation of Energy Regulators]	Neutral
(f) Implementing and administrating the arrangements for the operation of contracts for difference and arrangements that facilitate the operation of a capacity market pursuant to EMR legislation	Neutral
(g) Compliance with the Transmission Losses Principle	Neutral

It is because of the new Electricity System Restoration Standard (ESRS) licence condition that comes into full effect from 31/12/2026, that the new distributed restart approach is being adopted to ensure that NGESO can meet its new system restoration licence condition. It is the new distributed restart approach that drives the set of changes being proposed to the codes, including this proposed BSC change raised by NGESO, so this change proposal is positive against (a).

As to (c), promoting effective competition, the new distributed restart approach that is supported by this modification, does open up the market to provide system restoration services to a vastly larger number of restoration providers, so the assignment is positive. Moreover, in the absence of this Modification, discrimination is likely. New restoration service providers which are non-BSC parties and which have a system restoration contract would not, under the BSC as it stands, be eligible to claim for avoidable costs if they qualify under BSC section G3 provisions; their treatment would be discriminatory as compared to the treatment of BSC parties that do qualify, under baseline BSC as it stands today, to make a claim under section G under the rare circumstances of a market suspension period occurring (and the receipt of a black start instruction by that asset).

As to (d), promoting efficiency in the implementation of the balancing and settlement arrangements, the modification is positive since the BSC arrangements without this Modification will be left making inaccurate references to the Grid Code, so that the arrangements as a whole no longer function as intended. The baseline BSC does not allow Section G claims by some of the new restoration service providers expected to be under contract from a date within 2025 which are not BSC Parties.

BSC objectives (b), (e), (f) and (g) have no relevance, so this Modification proposal is assessed as neutral against them.

4 Potential Impacts

Impacts on Core Industry Documents

Impacted Core Industry Documents			
☐Ancillary Services Document	☐Connection and Use of System Code	☐Data Transfer Services Agreement	☐Use of Interconnector Agreement
☐Retail Energy Code	☐ Transmission License	☐System Operator Transmission Owner Code	☐Supplemental Agreements
☐Distribution Code	☒Grid Code	☐ Other (please specify)	

In a way the Grid Code changes in GC0156, “lead” the changes to the BSC that are in this Modification proposal, as a consequence of the legal text for GC0156 having been developed across a four month span since August 2022 and having been consulted on recently. So it is less a matter of this Modification having consequences for the Grid Code, in that nothing in this BSC Modification will have consequential effects on the same; rather, this BSC Modification will in its legal text reflect the changes to the Grid Code, both being driven by the new approach to system restoration which in turn is a consequence of the new licence condition (and a consequence of the closure of the old black start power stations, meaning that the former approach needed an update)

A Workgroup formed for this Modification, if that be so, will wish to ensure that the end-to-end Black Start process remains clear and effective across the Codes, and that the intended Parties and non-Parties are able to claim BSC compensation if a Black Start occurs.

There are fewer changes to the CUSC that are vital to the new restoration approach, due to the smaller number of references there to black start, and these do not interact with or have consequences for the BSC. Nonetheless, a pair of CUSC modifications (one charging/section 14, and one for non-charging parts of CUSC) will be raised to the March CUSC panel with a recommendation suggested by NGESO as proposer that it be processed as a housekeeping self-governance modification.

Impacts on BSC Systems

Impacted Systems				
☐CRA	☐CDCA	☐PARMS	☐SAA	☐BMRS
☐EAC/AA	☒FAA	☐TAAMT	☐NHHDA	☐SVAA
☐ECVAA	☐ECVAA Web Service	☐Elexon Portal	☐Other (Please specify)	

There is a possibility that the solution may impact Elexon’s finance systems that are used to make payments to BSC Parties (depending on how the Workgroup decides payments should be made to non-BSC Parties). It is possible that implementation may need to align to a BSC systems release date.

Impacts on BSC Parties

Impacted Parties			
☒Supplier	☐Interconnector User	☐Non Physical Trader	☒Generator
☐Licensed Distribution System Operator	☒National Electricity Transmission System Operator	☒Virtual Lead Party	☐Other (Please specify)

All Parties that pay BSC costs could be affected in the rare case of a black start event where non-BSC parties will be able to make Section G claims, if this modification proposal is passed, for Avoidable Costs. Different options for how the costs could be recovered mean that impacts will be defined more clearly as the solution is developed.

These costs would then be recovered from BSC parties. Generators and other system restoration providers that are not BSC parties, in being able to make section G claims when they receive a relevant instruction if this modification proposal is passed, will also be affected in the rare case of a system restoration event.

Impacts on consumers and the environment

Impact of the Modification on consumer benefit areas:	
Consumer benefit area	Identified impact
Improved safety and reliability The Modification ensures that the new system restoration approach works coherently across the various codes, in this case BSC, and is able to work as intended, to the benefit of security of supply for consumers in this rare case.	Positive
Lower bills than would otherwise be the case The world-leading new distributed restart approach, supported by this modification, allows a far wider range of potential service providers to tender for system restoration services, which through competition will reduce consumer costs, should reduce consumer costs via the BSUoS element that is inherent in their retail electricity tariffs	Positive
Reduced environmental damage The new distributed restart approach may allow some low carbon technologies or storage providers to take part in system restoration, and will widen the base of technologies generally providing this service.	Positive

Improved quality of service The new approach will ensure that system restoration can be better accomplished, meeting the new ESRS standard in the new licence condition, better enabling more reliable and faster system restoration if this is ever necessary – a clear improvement in quality of service	Positive
Benefits for society as a whole A quicker, more reliable System Restoration in the event of a NETS failure would reduce the economic damage that would arise from a more prolonged system shut down.	Positive

The new approach will ensure that system restoration can be better accomplished, meeting the new ESRS standard in the new NGESO licence condition, better enabling more reliable and faster system restoration if this is ever necessary, which would avoid the economic damage that would arise from a more prolonged shutdown. The earlier part of this proposal form cites NGESO's cost-benefit assessment of the new ESRS approach across a range of FES scenarios.

Legal Text Changes

All BSC Sections and Code Subsidiary Documents (CSDs) referencing "Black Start" will need to be updated to remove said references and replace with appropriate alternative references. Not all of the Legal Text changes are known at this point; the legal text will be developed by the Workgroup. At this stage, the aspects below have been identified:

Various references throughout BSC Section G, BSC Section T, BSCP201 and other BSC Sections/ BSC procedures use these BSC-defined (internal to BSC) terms that include the words 'black start':

- "Black Start Period"
- "Black start instruction"
- "Black start compensation volume"
- "Black start compensation amount"
- "Black Start Reallocation Proportion"

These terms are internal to the BSC and do not cross-reference into the Grid Code, but need to be reviewed and updated in BSC text, replacing the words "black start" with "system restoration".

BSC section G parts G3.1.2, G3.1.3 and G3.1.4 refer to Grid Code OC9.4 and BSCP (BSC Procedure) 201 refers to Grid Code OC9. The contents of OC9.4 will not change under GC0156, if that is passed, other than that the words "black start" would become "system restoration".

NETSO makes a notification under the Grid Code to Grid Code Users that there's a Total or Partial Shutdown and that it intends to implement a Black Start. This triggers the BSC process for determining the start of the Black Start Period and whether there's a Market Suspension Period.

BSC Section G parts G3.1.8 and G3.1.9, and BSCP201, make references to the current Grid Code OC9.4.7.9, which has content allowing NG-ESO to make a determination under the Grid Code of when the Total System has returned to normal operation. This triggers the BSC process for determining the end of the Black Start Period (and of any "Market Suspension Period"). This clause OC9.4.7.9 is to due be renumbered in the Grid Code if GC0156 is passed, as can be seen in the GC0156 legal text. Other than

these numbering/terminology changes, there are no impacts of GC0156 on this G3.1.8/9 and BSCP201 elements of the BSC process.

The following BSC Documents will be impacted:

BSC Section G: Contingencies
BSC Section T: Settlement and Trading Charges
BSC Section X-1: General Glossary
BSCP 18: Corrections to Bid-Offer Acceptance Related Data
BSCP201: Black Start and Fuel Security Contingency Provisions and Claims Processes
Energy Contract Volume Aggregation Agent (ECVAA) Service Description
Central Registration Agent (CRA) User Requirements Specification

Note that some BSC guidance documents will also be impacted and will need to be updated.

5 Governance

Self-Governance

☒ **Not Self-Governance –** A Modification that, if implemented:	
☐ materially impacts the Code's governance or modification procedures	☐ materially impacts sustainable development, safety or security of supply, or management of market or network emergencies
☒ materially impacts competition	☐ materially impacts existing or future electricity consumers
☐ materially impacts the operation of national electricity Transmission System	☐ is likely to discriminate between different classes of Parties
☒ involves any amendments to the EBGL Article 18 Terms and Conditions related to Balancing; except to the extent required to correct an error or as a result of a factual change	
☐ **Self-Governance –** A Modification that, if implemented:	
Does not materially impact on any of the Self-Governance criteria provided above	

The Modification materially impacts competition by preventing a form of discrimination, as noted elsewhere in this proposal, and does not seem to the proposer to fit self-governance.

Progression route

☒ **Submit to assessment by a Workgroup** –:A Modification Proposal which:	
does not meet any criteria to progress via any other route.	
☐ **Direct to Report Phase** – A Modification Proposal whose solution is typically:	
☐ of a minor or inconsequential nature	☐ deemed self-evident

☐ **Fast Track Self-Governance** – A Modification Proposal which meets the Self-Governance Criteria and:	
is required to correct an error in the Code as a result of a factual change including but not limited to:	
☐ updating names or addresses listed in the Code	☐ correcting minor typographical errors
☐ correcting formatting and consistency errors, such as paragraph numbering	☐ updating out of date references to other documents or paragraphs
☐ **Urgent –** A Modification Proposal which is linked to an imminent issue or current issue that if not urgently addressed may cause:	
☐ a significant commercial impact on Parties, Consumers or stakeholder(s)	☐ a Party to be in breach of any relevant legal requirements.
☐ a significant impact on the safety and security of the electricity and/or gas systems	

The changes need to be in force by July 2025, the earliest date from which provision of service under the new distributed restart providers may commence.

Does this modification impact a Significant Code Review (SCR) or other significant industry change projects, if so, how?

None identified. Elexon will request that Ofgem treat this Modification as a SCR exempt Modification on 02 March 2023.

Does this Modification impact any of the EBGL Article 18 Terms and Conditions held within the BSC?

Yes, the changes proposed to BSC Section G3 and T1.7 do amend BSC provisions identified as constituting European Balancing Guideline (EBGL) Article 18 Terms and Conditions, as listed in BSC Section F, Annex F-2. This means that the report phase consultation is required to be of one calendar month's duration.

Implementation approach

There will be a cost to Elexon to make the necessary document changes to the BSC and CSDs. There will also be potential system changes depending on the solution agreed by the Workgroup.

It would be efficient and desirable, if it were approved, for it to approved with the same Implementation Date, whatever that may be, as is selected for Grid Code Changes GC0156, if that too is approved, as the relevant parts of the BSC refer to various terms in the Grid Code which GC0156 will update. A Workgroup formed for this Modification will therefore wish to ensure that the end-to-end Black Start process remains clear and effective across the Codes, and that the intended Parties and non-Parties are able to claim BSC compensation if a Black Start occurs. It is possible that the question of synchronisation of code terminology changes across codes may be discussed with Ofgem.