

Joint Grid Code / Distribution Code Modification Proposal Form

GC0156: Implementation of the Electricity System Restoration Standard

Overview: In October 2021, BEIS issued a direction in accordance with Special Condition 2.2 of National Grid's Electricity System Operator's Transmission Licence implementing an Electricity System Restoration Standard (ESRS) which requires 60% of electricity demand to be restored within 24 hours in all regions and 100% of electricity demand to be restored within 5 days nationally. The ESO is proposing a number of changes to the Grid Code to facilitate this.

Modification process & timetable



Status summary: The Proposer has raised a modification and is recommending the standard governance route to be taken.

This modification is expected to have a: High impact

On Restoration Service Providers, Generators, Non CUSC Parties, Transmission Licensees, Interconnectors, Transmission Owners, Distributed Network Owners, Non-Embedded Customers and the Electricity System Operator

Modification drivers: GB Compliance with the Special Condition 2.2 of National Grid's Electricity System Operator's Transmission Licence

Proposer's recommendation of governance route

Standard Governance modification with assessment by a Workgroup

Who can I talk to about the change?

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What is the issue?

In April 2021, the Department for Business, Energy and Industrial Strategy (BEIS) released a [policy statement](#) setting out the need to introduce a legally binding target for the restoration of electricity supplies in the event of a National Electricity Transmission System (NETS) failure. This new policy is called the Electricity System Restoration Standard (ESRS). As a consequence of BEIS's policy statement, Ofgem performed an [initial consultation](#) in April 2021 followed by a [statutory consultation](#) in July 2021 on licence amendments to facilitate the introduction of an ESRS, and to align the regulatory framework for procurement of restoration services with that of other balancing services. On 24th August 2021, Ofgem published a [decision letter](#) stating that they made the decision to make the licence modifications. The modification decisions are publicly available and were implemented from 19th October 2021.

These licence modifications include but are not limited to:

- introducing the definition of “restoration services” in Standard Condition C1 and amending the definition of balancing services to include “restoration services”
- replacing all references to “black start” with “Electricity System Restoration” in the Electricity Transmission Licence, including in the ESO's Special Licence Conditions, to align the licence terminology with BEIS's policy
- introduction of updated Special Condition 2.2 of National Grid's Electricity System Operator's Transmission Licence requiring the introduction of an Electricity System Restoration Standard (ESRS) which requires 60% of electricity demand to be restored within 24 hours in all regions and 100% of electricity demand to be restored within 5 days nationally.

This modification is therefore necessary following a direction issued by BEIS. The date by which BEIS require the ESO to be compliant with the ESRS is 31 December 2026.

Why change?

This modification is required to clarify the requirements on CUSC parties, Restoration Service Providers (RSPs) and Distribution Network Operators taking part in restoration activities of their obligations so that National Grid ESO can satisfy the new ESO Licence obligation.

What is the proposer's solution?

It is proposed to establish a combined Grid Code and Distribution Code Working Group to determine how implementation of the Electricity System Restoration Standard can be facilitated by code modifications.

The ESO's aim for implementation of the ESRS is to put in place measures, tools and procedures such that in the event of a total or partial shutdown, 60% of demand can be restored within all regions in 24 hours and 100% of demand can be restored in 5 days nationally. This is against the background that the Electricity System is in an intact and operable state and that there is not significant damage to electrical Plant and Apparatus.

This modification will build on the work completed through the implementation of the EU Emergency and Restoration Code (EU 2017/2196) which was in part introduced to the Grid Code through Grid Code modifications [GC0125](#), [GC0127](#) and [GC0128](#) and further being implemented through Grid Code modification [GC0148](#) (Implementation of EU Emergency and Restoration Code Phase II). In addition, the work will build on the Distributed Restart Project for which code changes are currently included in the GC0148 modification. In

particular, many of the requirements being introduced through Grid Code modification GC0148 (including Distributed Restart) provide essential tools in achieving the objectives of the ESRS.

The Proposer's solution is to replace all references to 'Black Start' with 'Electricity System Restoration' in line with the Licence changes described above. This would also be consistent with the proposals being put forward to change the CUSC and BSC.

The solution will also need to include changes to the System Restoration Plan and potentially the Test Plan.

As part of this modification, the proposer will also take the opportunity to undertake a house keeping change to OC5.7.1(b)(i) which is a correction that needs to be addressed following an inadvertent error arising from the implementation of Grid Code modification [GC0108](#) (EU Code: Emergency & Restoration: Black start testing requirements).

Compliance with the ESRS is required by 31 December 2026. Any code changes are required by BEIS to be in place by September 2023, however the Proposer recommends that achieving this by December 2022 should be sought to give Stakeholders as much lead time as possible to meet the September 2026 deadline whilst recognising the important and parallel work of the GC0148 Workgroup.

The Proposer does not believe it is appropriate for this to be considered as an urgent modification on the basis of the significant overlap with Grid Code modification GC0148 which provides many of the important tools required to achieve the objectives of the Electricity Restoration Standard. Progressing with urgency would also cause significant resourcing issues while saving probably only 3-4 months and potentially not delivering as assured a solution.

Draft legal text

The Legal text for this solution will be developed with the workgroup. At this stage it is expected that the main areas of change will be in the Glossary and Definitions, Operating Code 5 (Testing and Monitoring - in particular OC5.7 which includes Black Start Testing), Operating Code 9 (Contingency Planning) and Balancing Code 2 (in particular BC2.9 which relates to Emergency Circumstances) areas. A number of other sections will also need to be updated to maintain alignment, including the Planning Code and Connection and European Connection Conditions which are largely considered as consequential. The solution will also correct the house keeping change identified in OC5.7.1(b)(i).

What is the impact of this change?

Proposer's assessment against Grid Code Objectives	
Relevant Objective	Identified impact
(a) To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity	Positive Provides a level playing field for Restoration Service Providers and CUSC Parties and to put measures in place to restore the NETS as soon as possible

	following a total or partial national power outage.
(b) Facilitating effective competition in the generation and supply of electricity (and without limiting the foregoing, to facilitate the national electricity transmission system being made available to persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity);	Positive Competition for Restoration Services is encouraged via the tender process to ensure a good availability of services at strategically located points which provides value for money.
(c) Subject to sub-paragraphs (i) and (ii), to promote the security and efficiency of the electricity generation, transmission and distribution systems in the national electricity transmission system operator area taken as a whole;	Positive Provide assurance of restoring the System following a total or partial national power outage as quickly as possible
(d) To efficiently discharge the obligations imposed upon the licensee by this licence and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency; and	Positive Provide assurance that the new licence obligation issued in Oct 2021 can be satisfied and discharged.
(e) To promote efficiency in the implementation and administration of the Grid Code arrangements	Neutral

Proposer's assessment of the impact of the modification on the stakeholder / consumer benefit categories	
Stakeholder / consumer benefit categories	Identified impact
Improved availability of the system	Positive It is in the widest possible interest of the country and consumers as a whole to restore power supplies as soon as possible following a total or partial shutdown. This modification seeks to do that and therefore seen as positive.
Lower bills than would otherwise be the case	Positive The financial implications of a national power outage can run into many tens of millions of pounds very quickly. Restoring power supplies as soon as possible and in the shortest possible time frame is essential to the country as a whole. Whilst not having a direct effect on consumer bills the loss of production for business and the wider community would be substantial and therefore insurance to minimise against the risk of a power outage is imperative.

Benefits for society as a whole	Positive This proposal puts measures in place that would reduce the time taken to restore electricity system demand following partial or total national power outage. This is a significant benefit to society as a whole.
Reduced environmental damage	Positive This proposal will support the use of a diverse range of technologies, many of which are low carbon sources. The proposal also recognises the important role of all technologies following a Total or Partial shutdown and therefore this modification is seen as a net positive in minimising environmental damage.
Improved quality of service	Positive This modification provides the potential for Restoration from renewable sources in addition to encouraging the use of embedded generation which is currently being trialled through the distributed restart project.

When will this change take place?

Implementation date

January 2023

Date decision required by

December 2022

Implementation approach

New Restoration Decision Support Tool, Restoration Tool, Local Joint Restoration Plans, Distributed Restoration Zone Plans & Annual Restoration Strategy.

Proposer's justification for governance route

Governance route: Standard Governance modification with assessment by a Workgroup

The new Licence obligation is due for implementation by 2026, the Proposer believes that updating the frameworks by the 31 December 2022 allows enough time for TOs, DNOs, ESO and RSPs to meet the obligation.

Guidance on governance routes		
Timescales	Route	Who makes the decision (Governance type)
Normal	Proceed to Code Administrator Consultation*	Authority (Standard Governance) or Panel (Self-Governance)
	Assessment by a Workgroup**	
Urgent	Proceed to Code Administrator Consultation	Authority (Standard Governance)
	Assessment by a Workgroup	
Fast-track	Straight to appeals window, then implementation	Panel (Self-Governance)
* This route is for modifications which have a fully developed solution and therefore don't need to be considered by a Workgroup.		
** For modifications which need further input from industry to develop the solution.		

Self-Governance Criteria

It depends on the material effect of the modification as to whether it should be subject to Standard or Self-Governance. If you are proposing that your modification should be subject to Self-Governance, you must explain how it meets the below criteria.

The modification is unlikely to discriminate between different Grid Code Parties and is unlikely to have a material effect on:

- Existing or future electricity customers;
- Competition in the generation, distribution, or supply of electricity or any commercial activities connected with the generation, distribution or supply of electricity,
- The operation of the National Electricity Transmission System
- Matters relating to sustainable development, safety or security of supply, or the management of market or network emergencies
- The Grid Code Panel's governance procedures or the Grid Code Panel's modification procedures

Urgency Criteria

If you are proposing that your modification is Urgent, you must explain how it meets Ofgem's Urgent criteria (below). When modifications are granted Urgency, this enables the us to shorten the standard timescales for industry consultations. Note that the we (Code Admin) must seek Authority approval for this option.

Ofgem's current guidance states that an urgent modification should be linked to an imminent issue or a current issue that if not urgently addressed may cause:

- A significant commercial impact on parties, consumers or other stakeholder(s); or
- A significant impact on the safety and security of the electricity and/or gas systems; or
- A party to be in breach of any relevant legal requirements.

Fast-Track Self-Governance Criteria

This route is for modifications which are minimal changes to the code. E.g. Typos within the codes. If you are proposing that your modification should be subject to Fast-Track Self-Governance, you must explain how it meets the below criteria.

The modification is a housekeeping modification required as a result of an error or factual change, such as:

- Updating names or addresses listed in the Grid Code;
- Correcting minor typographical errors;
- Correcting formatting and consistency errors, such as paragraph numbering, or;
- Updating out of date references to other documents or paragraphs.

Interactions

<input checked="" type="checkbox"/> CUSC	<input checked="" type="checkbox"/> BSC	<input checked="" type="checkbox"/> STC	<input checked="" type="checkbox"/> SQSS
<input checked="" type="checkbox"/> European Network Codes	<input type="checkbox"/> EBR Article 18 T&Cs ¹	<input checked="" type="checkbox"/> Other modifications	<input type="checkbox"/> Other

There are consequential changes for the CUSC, STC, BSC and the Distribution Code/G99.

¹ If your modification amends any of the clauses mapped out in Annex GR.B of the Governance Rules section of the Grid Code, it will change the Terms & Conditions relating to Balancing Service Providers. The modification will need to follow the process set out in Article 18 of the Electricity Balancing Regulation (EBR – EU Regulation 2017/2195). All Grid Code modifications must be consulted on for 1 month in the Code Administrator Consultation phase, unless they are Urgent modifications which have no impact on EBR Article 18 T&Cs. N.B. This will also satisfy the requirements of the NCER process.

Acronyms, key terms and reference material

Acronym / key term	Meaning
BEIS	Department for Business, Energy and Industrial Strategy
BSC	Balancing and Settlement Code
CUSC	Connection and Use of System Code
DNO	Distribution Network Operator
EBR	Electricity Balancing Regulation
ESO	Electricity System Operator
ESRS	Electricity System Restoration Standard
EU	European Union
GC	Grid Code
NETS	National Electricity Transmission System
RSP	Restoration Service Providers
STC	System Operator Transmission Owner Code
SQSS	Security and Quality of Supply Standards
T&Cs	Terms and Conditions
TO	Transmissions Owner

Reference material

- None