

STC Modification Proposal Form

CM089: Implementation of the Electricity System Restoration Standard

Overview: This Modification is proposing a number of changes to the STC to facilitate Special Condition 2.2 of NGESO 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.

Modification process & timetable



Status summary: The Proposer has raised a modification and is seeking a decision from the Panel on the governance route to be taken.

This modification is expected to have a: High impact

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

| | | |
|--|---|---|
| Proposer's recommendation of governance route | Standard Governance modification with assessment by a Workgroup | |
| Who can I talk to about the change? | <p>Proposer: Sade Adenola Sade.adenola@nationalgrideso.com 07748180789</p> | <p>Code Administrator Contact: Ruth Roberts Ruth.Roberts@nationalgrideso.com 07972172169</p> |

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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 total or partial shutdown of the National Electricity Transmission System (NETS) .

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 on 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 NGENSO Transmission Licence requiring the introduction of an 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 seeking to clarify the requirements on STC parties taking part in restoration activities, so that National Grid ESO can satisfy the new ESO Licence obligation. The Grid Code is currently being updated through Grid Code Modification GC0156 and the changes proposed to the STC are to align with the Grid Code so that the Electricity System Restoration Standard can be implemented.

This Modification is proposing a number of changes to the STC to facilitate Special Condition 2.2 of NGENSO 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

What is the proposer's solution?

As part of the solution, the ESO is proposing the establishment of a Working Group whose responsibility will be to do the following:

- Identify aspects of the STC code that must change as a consequence of GC0156.
- Identify new requirements to the STC as a consequence of ESRS.

The ESO's aim for implementation of the ESRS is to put in place measures, tools and procedures 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 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 \(Implementation of EU Emergency and Restoration Code Phase II\)](#) and [GC0156 \(Facilitating the Implementation of the Electricity System Restoration Standard\)](#).

This modification will also include additional tools which have been developed through Grid Code modification GC0156 for the ESRS to be met. At a high level these include the following features.

- Introduction of Distributed Re-Start and Distributed Restoration Zones.
- Changes to permit Restoration from Offshore Transmission Systems.
- Introduction of enhanced Critical Tools and Facilities – i.e. the ability to operate critical systems and assets during a System Shutdown or Partial Shutdown including data and communications systems.
- Introduction of an Assurance process including regular testing, desk top exercises and reporting including confirmation of successful plant running when site supplies are restored.
- Greater consistency between Local Joint Restoration Zone Plans and Distribution Restoration Zone Plans.
- Cyber Security requirements to Security of Network and Information System (NIS) Regulations.
- Changes to protection and control settings to permit Restoration.
- Changes to Grid Code Operating Code 9 and the role of Transmission Licensees in Local Joint Restoration Plans and Distribution Restoration Zone Plans.
- Definition of Black Start changed to System Restoration

Whilst these arrangements are being introduced to the Grid Code, we need to ensure that these arrangements are also applied to Transmission Licensees and reflected in the STC.

Draft legal text

The proposer foresees the following areas of the STC code will be affected following the work of the Working Group.

- Section C (Transmission Services and Operations) –Part Three, Item 5, Item 6
- Section J (Interpretation and Definitions) – Changes to definitions in particular changing Black Start to System Restoration
- Schedule 2 (List of Code Procedures) – Change name of STCP 06-1 to “System Restoration”
- Schedule 3 (Information and Data Exchange Specification) - Introduction of Distribution Restoration Zone Plans

What is the impact of this change?

| Proposer's assessment against STC Objectives | |
|--|---|
| Relevant Objective | Identified impact |
| (a) efficient discharge of the obligations imposed upon transmission licensees by transmission licences and the Act | Positive The new obligation is not within Transmission Licence |
| (b) development, maintenance and operation of an efficient, economical and coordinated system of electricity transmission | Positive Provides a level playing field for STC Parties and to put measures in place to restore the NETS as soon as possible following a total or partial national power outage. |
| (c) facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the distribution 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. Transmission Licensees will be a fundamental part of delivering this process |
| (d) protection of the security and quality of supply and safe operation of the national electricity transmission system insofar as it relates to interactions between transmission licensees | Positive Provide assurance of restoring the System following a total or partial national power outage as quickly as possible |
| (e) promotion of good industry practice and efficiency in the implementation and administration of the arrangements described in the STC | Positive Provide assurance that the new licence obligation issued in Oct 2021 can be efficiently discharged. |
| (f) facilitation of access to the national electricity transmission system for generation not yet connected to the | Positive |

| | |
|--|--|
| national electricity transmission system or distribution system; | Provide assurance that the NETS is adequately assessed, designed and maintained to support restoring the System following a total or partial national power outage |
| (g) compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency. | Positive Provide assurance of restoring the System following a total or partial national power outage. |

| Proposer’s assessment of the impact of the modification on the stakeholder / consumer benefit categories | |
|---|--|
| Stakeholder / consumer benefit categories | Identified impact |
| Improved safety and reliability of the system | Positive The assurance will be given to consumers that the National Electricity System can be restored as soon as possible there is a total or partial system shut down. This modification is introducing a range of tools to ensure the System can be restored as soon as possible should a Shutdown occur. |
| Lower bills than would otherwise be the case | Positive ESRS is developed to achieve value for money. The acquiring of assured restoration capability to meet ESRS targets using competitive tendering process. |
| Benefits for society as a whole | Positive Improve the reliability and resilience of the National Electricity Transmission System. |
| Reduced environmental damage | Positive The implementation is the recommendation of the Distributed Restart project. This seeks to utilise Distributed Energy resources from sources such as embedded wind, solar and Photovoltaic (PV) as restoration service providers |
| Improved quality of service | Positive To achieve ESRS, the ESO will be implementing a new holistic System Restoration plan which includes the |

procurement of many restoration service providers from both traditional energy and non-traditional energy sources. This means that many companies (more than usual) can participate in the tendering process

When will this change take place?

Implementation date

10 Working Days after Authority Decision

Date decision required by

According to the current timeline for the GC0156 modification, the FMR is planned to be submitted to GEMA on 05 June 2023. To ensure that GEMA has access to the complete package of code changes arising from ESRS it is necessary that this STC Modification FMR is also provided to GEMA at the start of June 2023.]

Implementation approach

Implementation of ESRS will be facilitated by a New Restoration Decision Support 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

[There are other industry code modifications for ESRS running in parallel. The Standard governance route will provide the platform for Workgroup members to review the proposed changes and identify those essential for implementation via the STC to support ESRS]

Interactions

Grid Code BSC CUSC SQSS
 European Other Other
 Network Codes modifications

This is a consequential change as a result of [GC0156](#)

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 |
| PV | Photovoltaic |
| STC | System Operator Transmission Owner Code |

Reference material

- [GC0156 Modification](#)