Modification proposal:	**System Operator ("SO") – Transmission Owner ("TO") Code ("STC") CM089 & CM091 – Implementation of the Electricity System Restoration Standard & Implementation of Emergency and Restoration Code Phase II (CM089/91)**		
Decision:	The Authority[1] directs this modification be made[2]		
Target audience:	National Grid ESO, Parties to the STC, bidders and prospective bidders to the offshore tender process and other interested parties		
Date of publication:	5 February 2024	Implementation date:	Twenty working days after Authority decision

Background

On 1 April 2021, the Department for Business, Energy and Industrial Strategy, now the Department of Energy Security and Net Zero, released a policy statement introducing the Electricity System Restoration Standard (ESRS). The ESRS requires the System Operator to be capable of regional restoration, restoring 60% of Demand on the Transmission System in all regions within 24 hours, and 100% within 5 days. It also sets out that the ESRS requirements must be met by 31 December 2026. In August 2021, we issued our decision on licence modifications to facilitate the ESRS.[3]

DESNZ introduced the ESRS as Great Britian's (GB) dependence on electricity is vast, therefore if electricity supply is lost it will severely impact national infrastructure networks, public services and economic activities. The DESNZ policy statement[4] noted that a nationwide electricity failure has never occurred in GB, however similar scale events have occurred internationally, thus highlighting that whilst unlikely there is a credible risk for our energy network. As a result, DESNZ noted that we must adequately prepare for the worst-case scenario and as such introduced the ESRS.

[1] References to the "Authority", "Ofgem", "we" and "our" are used interchangeably in this document. The Authority refers to GEMA, the Gas and Electricity Markets Authority. The Office of Gas and Electricity Markets (Ofgem) supports GEMA in its day to day work. This decision is made by or on behalf of GEMA.
[2] This document is notice of the reasons for this decision as required by section 49A of the Electricity Act 1989.
[3] https://www.ofgem.gov.uk/publications/decision-licence-modifications-facilitate-introduction-electricity-system-restoration-standard
[4] https://www.gov.uk/government/publications/introducing-a-new-electricity-system-restoration-standard/introducing-a-new-electricity-system-restoration-standard-policy-statement

The modification proposal

CM089 is proposed by National Grid Electricity System Operator (NGESO), and aims to ensure consistency with the Grid Code in anticipation of GC0156 being approved. GC0156 proposes changes to the Grid Code to specify the resilience requirements and processes, including testing, on parties involved in System Restoration in order to facilitate meeting the ESRS. CM089 seeks to ensure these proposed requirements and arrangements or processes are applied to Transmission Owners (TOs) as required.

CM091 is also proposed by NGESO, and aims to ensure consistency with the Grid Code following our approval of GC0148.[5] GC0148 made changes to the Grid Code to ensure compliance with Commission Regulation (EU) 2017/2196 establishing a network code on electricity emergency and restoration.[6]

At the STC Panel (the Panel) on 31 May 2023, NGESO advised the Panel that due to similarities between the two modifications, the changes proposed under CM091 would be a subset of the changes proposed under CM089. The Panel agreed to amalgamate the two modifications (and corresponding STC Procedural modifications; PM0128 & PM0132, which are discussed in Annex 1 of this decision document).

CM089/091 (the Proposal) proposes changes to;

- STC Section C to replace the term 'Black Start' with 'System Restoration', require TOs to consider the impact of Outage Proposals on ESRS, and require TOs to provide System Restoration training as per the relevant Grid Code provisions.
- STC Section D to require TOs to plan and develop their Transmission System in compliance with the requirements set out or referenced in Grid Code Connection Conditions (CC) 7.10 and 7.11, and Grid Code European Connection Conditions (ECC) 7.10 and 7.11. These Grid Code clauses are proposed under GC0148 and GC0156.
- STC Section J to update definitions as necessary. Notably, adding a definition of 'Critical Tools and Facilities' applicable to TO's.

[5] We published our decision to approve GC0148 on 18 August 2023. Our decision can be found on our website, here; https://www.ofgem.gov.uk/publications/authority-decision-modification-gc0148-implementation-eu-emergency-and-restoration-code-phase-ii

[6] Commission Regulation (EU) 2017/2196 can be viewed here; https://www.legislation.gov.uk/eur/2017/2196/contents

The Office of Gas and Electricity Markets
10 South Colonnade, Canary Wharf, London, E14 4PZ **Tel** 020 7901 7000
www.ofgem.gov.uk *Email:* industrycodes@ofgem.gov.uk

- STC Section K, adding System Restoration requirements applicable to Offshore Transmission Owners, reflecting requirements proposed under GC0156.
- STC Schedule 3 to reflect updated definitions.
- STC Schedule 2 to reflect updated STC Procedural documents as per STC Procedural (STCP) modification proposal PM0128/0132 (this is discussed in Annex 1 of this document).

A CM089 Workgroup Consultation ran 25 April 2023 to 18 May 2023, receiving two responses from TO representatives. Both responses were in support of the Proposal, however, expressed concerns that further work was needed to clarify the design requirements for restoration, and that the proposed requirements were insufficiently flexible to allow for economically targeted interventions. Our views on this are discussed below.

A CM089/91 Code Administrator consultation ran 26 July 2023 to 17 August 2023, receiving one response in support of the Proposal from the proposer. We note that this consultation included draft changes proposed by corresponding STC Procedural modification: PM0128/0132.

STC Modification Panel[7] recommendation

The STC Panel (the Panel) considered the draft Final Modification Report (FMR) at its meeting on 30 August 2023. The Panel unanimously considered that CM089/091 would better facilitate the STC objectives, and the Panel therefore recommended its approval.

We note that the majority of Panel members (3 out of 5) agreed with the Proposer and considered that CM089/91 would better facilitate all of the STC objectives. However, one Panel member considered it would not better facilitate STC objective (b). They commented that "the application of requirements to onshore Transmission Licensees has not been undertaken in the most economic and efficient manner", however still voted in favour of the proposal overall.

[7] The STC Modification Panel is established and constituted from time to time pursuant to and in accordance with section B6 of the STC.

The Office of Gas and Electricity Markets
10 South Colonnade, Canary Wharf, London, E14 4PZ **Tel** 020 7901 7000
www.ofgem.gov.uk *Email:* industrycodes@ofgem.gov.uk

Our decision

We have considered the issues raised by the proposal and the FMR. We have considered and taken into account the responses of the STC Parties included in the FMR. We have concluded that:

- implementation of the modification proposal will better facilitate the achievement of the applicable STC objectives;[8] and

- directing that the modification be made is consistent with our principal objective and statutory duties.[9]

Reasons for our decision

We consider this modification proposal will better facilitate STC objectives (a), (b), (c), (d) and (g), and has a neutral impact on the other applicable objectives.

(a) efficient discharge of the obligations imposed upon transmission licensees by transmission licences and the Act;

The requirement to comply with the ESRS is set out in NGESOs Transmission Licence section 2.2, as added by our decision on licence modifications to facilitate the ESRS, published 24 August 2021. As this Proposal implements changes to facilitate the ESRS, we consider it better facilitates this objective.

(b) development, maintenance and operation of an efficient, economical and co-ordinated system of electricity transmission;

We consider that planning for system restoration contributes to the development of a co-ordinated Transmission System, and therefore the Proposal has a positive impact on this objective.

[8] The Applicable STC Objectives are set out in Standard Licence Condition B12 (3) (a) to (f) of the Transmission Licence.
[9] The Authority's statutory duties are wider than matters that the Panel must take into consideration and are detailed mainly in the Electricity Act 1989 as amended.

The Office of Gas and Electricity Markets
10 South Colonnade, Canary Wharf, London, E14 4PZ **Tel** 020 7901 7000
www.ofgem.gov.uk *Email:* industrycodes@ofgem.gov.uk

We note that a TO Panel representative considered the Proposal not to better facilitate this objective, commenting that "the application of requirements to onshore Transmission Licensees has not been undertaken in the most economic and efficient manner".

We note that due to the nature of restoration contracting and system restoration, providers of restoration services and subsequent services to expand power islands may vary over time or restoration event. Therefore, in theory, all sections of the Transmission System may need to be designed to participate in all phases of restoration to best ensure that the requirements of the ESRS can be met on an enduring basis. Whilst this may be a beneficial long term strategy, we do not consider this to be practical nor economical to achieve by 31 December 2026, the date that ESRS must be complied with, nor do we consider the Proposal requires this.

This Proposal should be considered with respect to a wider restoration strategy, which is the responsibility of the ESO. We expect the ESO to engage with TOs on a wider restoration strategy and therefore the parameters against which various sections or regions of the NETS will need to be designed.[10] In doing so, we note that supporting guidance, criteria or methodology, on which to design networks may be developed. We do not consider that this Proposal prohibits this, and consider the ESO to have overall responsibility for ensuring coordinated investment.

We also note that NETS investment related to ESRS will need to be integrated into, or completed alongside, business as usual investment. We therefore consider that the ESO must be cognisant of TO's ability to economically undertake necessary investments, which may therefore influence its wider restoration strategy, and vice versa.

Overall, We consider that this Proposal (and STCP modification PM0128/0132) puts in place the obligations and high level procedures to ensure that compliance with the ESRS is considered within investment planning and other relevant procedures. We consider these high level requirements are sufficiently flexible to allow for an efficient design

[10] We note that we sought clarification from each TO with regards to views stated in their consultation responses or Panel voting statements with respect to this Proposal, and related National Electricity Transmission System Security and Quality of Supply Standards modification proposal GSR032. During these clarifications, it was confirmed by each TO that NGESO had begun discussions with respect to a wider system restoration strategy. We expect these discussions to continue as needed.

The Office of Gas and Electricity Markets
10 South Colonnade, Canary Wharf, London, E14 4PZ **Tel** 020 7901 7000
www.ofgem.gov.uk *Email:* industrycodes@ofgem.gov.uk

process with respect to local Network attributed and wider restoration strategy, thereby facilitating efficient implementation. Acknowledging that further work may be required, in particular to ensure coordinated investment across regions with respect to a wider restoration strategy we consider that, on balance, this Proposal has a positive impact on this objective.

(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;

The Proposal requires future Offshore Transmission System's to be capable of participating in system restoration[11]. It also sets out the requirements to assess, create and implement a novel bottom-up system restoration approach using Distributed Energy Resources[12]. We therefore consider that this Proposal will have a positive impact on competition for restoration services via the restoration tender process, and therefore consider it to have a positive impact on this objective.

(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;

We consider this Proposal has a positive impact on this objective as we consider restoration planning is critical in protecting security of supply.

(g) compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency.

We consider this Proposal to have a positive impact on this objective, noting that CM091 relates to compliance with Commission Regulation (EU) 2017/2196.

[11] Via the proposed changes to STC Section K.
[12] We refer to Distribution Zone Restoration Plans (DZRPs). For more information on DZRPs please refer to our decision on related modification proposal DCRP/MP/22/02, published alongside this decision.

The Office of Gas and Electricity Markets
10 South Colonnade, Canary Wharf, London, E14 4PZ **Tel** 020 7901 7000
www.ofgem.gov.uk *Email:* industrycodes@ofgem.gov.uk

Decision notice

In accordance with Standard Condition B12 of the Electricity Transmission Licence, the Authority hereby directs that modification proposal CM089/091 '*Implementation of the Electricity System Restoration Standard & Implementation of Emergency and Restoration Code Phase II'*, be made.

Gurpal Singh
Principal Engineer and Professions Lead
Signed for and on behalf of the Authority and authorised for that purpose.

The Office of Gas and Electricity Markets
10 South Colonnade, Canary Wharf, London, E14 4PZ **Tel** 020 7901 7000
www.ofgem.gov.uk *Email: industrycodes@ofgem.gov.uk*

Annex 1 - STCP modification proposal PM0128/0132

We note that STC Procedural (STCP) modification PM0128/0132 relates to this Proposal. We consider PM0128/0132 should be considered alongside this Proposal.

STC modification CM084, which we approved on 31 January 2023[13], provided for the STC Panel to consider whether or not STCP modifications proposed are material, seeking Authority steer in deciding whether or not to approve the proposed modification. On 25 September 2023, the STC Panel wrote to us informing that the Panel considered that the changes proposed by PM0128 & PM0132 are material, and therefore sought our steer on PM0128/0132 approval.

PM0128/0132 overview

PM0128/0132 proposes changes to a number of STCPs to broadly ensure that System Restoration (as per the ESRS) requirements applicable to TOs (as provided for via CM089/091, and by extension Grid Code modifications GC0148 or GC0156) are considered within them. This includes referencing relevant Grid Code requirements as needed. Changes are proposed to:

- STCP 01-1 (Operational Switching)
- STCP 04-2 (Real Time Datalink Management)
- STCP 04-4 (Provision of Asset Operational Information)
- STCP 04-5 (Operational Telephony)
- STCP 04-6 (Offshore Datalink Functional Specification for Telecontrol Communications Interface)
- STCP 06-1 (Black Start – now System Restoration)
- STCP 06-2 (De-Synchronised Island Management)
- STCP 06-3 (System Incident Management)
- STCP 06-4 (Contingency Arrangements)
- STCP08-3 (Operational Tests and System Tests)
- STCP 11-1 (Outage Planning)
- STCP 11-2 (Outage Data Exchange)
- STCP16-1 (Investment Planning)

[13] https://www.ofgem.gov.uk/publications/decision-cm084-clarify-stc-procedural-modification-approach-cross-code-changes

The Office of Gas and Electricity Markets
10 South Colonnade, Canary Wharf, London, E14 4PZ **Tel** 020 7901 7000
www.ofgem.gov.uk *Email:* industrycodes@ofgem.gov.uk

- STCP 18-1 (Connection and Modification Application)
- STCP 19-3 (Operational Notification and Compliance Testing)

Our views

As mentioned above, we consider that PM0128/0132 amends relevant STCPs to ensure that ESRS related requirements applicable to TOs are considered within them. We therefore consider that PM0128/0132 better ensures that the ESRS can be successfully implemented. We note that the STCP Objectives are aligned to the STC Objectives. Our views with respect to STC modification CM089/091, as expressed above, extend to PM0128/0132.

We acknowledge that there may be further work required, in particular to ensure coordinated investment across regions, with respect to a wider restoration strategy. We note that PM0128/0132 does not prohibit such further work, and we therefore have no objections to the Panel approving and implementing PM0128/0132.

The Office of Gas and Electricity Markets
10 South Colonnade, Canary Wharf, London, E14 4PZ **Tel** 020 7901 7000
www.ofgem.gov.uk *Email:* industrycodes@ofgem.gov.uk