Grid Code Development Forum

12 Jan 2022

nationalgridESO

Summary

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- ToR including assumptions
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- Distributed Re-Start
- Timeline
- Urgency
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Background

- In October 2021, BEIS issued a direction in accordance with Special Condition 2.2 of National Grid's Electricity System Operator's Transmission Licence, the Electricity System Restoration Standard (ESRS) is set at–
  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 the ESO
  a) Ensures and maintains an electricity restoration capability; and
  b) Ensures and maintains the restoration timeframe.

- **We aim to have a joint Grid Code and Distribution Code working group.**

Electricity System Restoration Standard Implementation –Terms of Reference

Mandate

ESO to have restoration capability to enable

60% of electricity demand being restored within 24 hours in all regions;
and
100% of electricity demand being restored within 5 days nationally.

Inputs

- Intact Network
- Output from collaboration with industry stakeholders

Timescales

- From Oct 2021 to Dec 2026

Outputs

- Compliant network with Restoration licence obligations
- Restoration decision support tool

Assumptions

- The aim of this work is to have 60% of demand restored within 24 hours and 100% restored within 5 days
- This can only be achieved on the basis that network assets and Customers Plant and Apparatus (e.g. generation, storage, HVDC etc) are in an operational and functional state.
- This will be achievable if there isn't any extensive and prolonged Network or Plant damage
- The measures are aimed at making the System more respondent to restoration measures following a Power Outage condition.

The Issue and Defect

In order to implement the new ESRS, the ESO has identified seven areas that need development and we are seeking views from industry on those areas via consultation and industry working groups.

These are:

- Technologies and locational diversity
- Future networks
- Markets and funding mechanisms
- Regulatory frameworks
- Assurance
- Communication Infrastructure
- Modelling and Restoration Tool

EU Emergency & Restoration Code

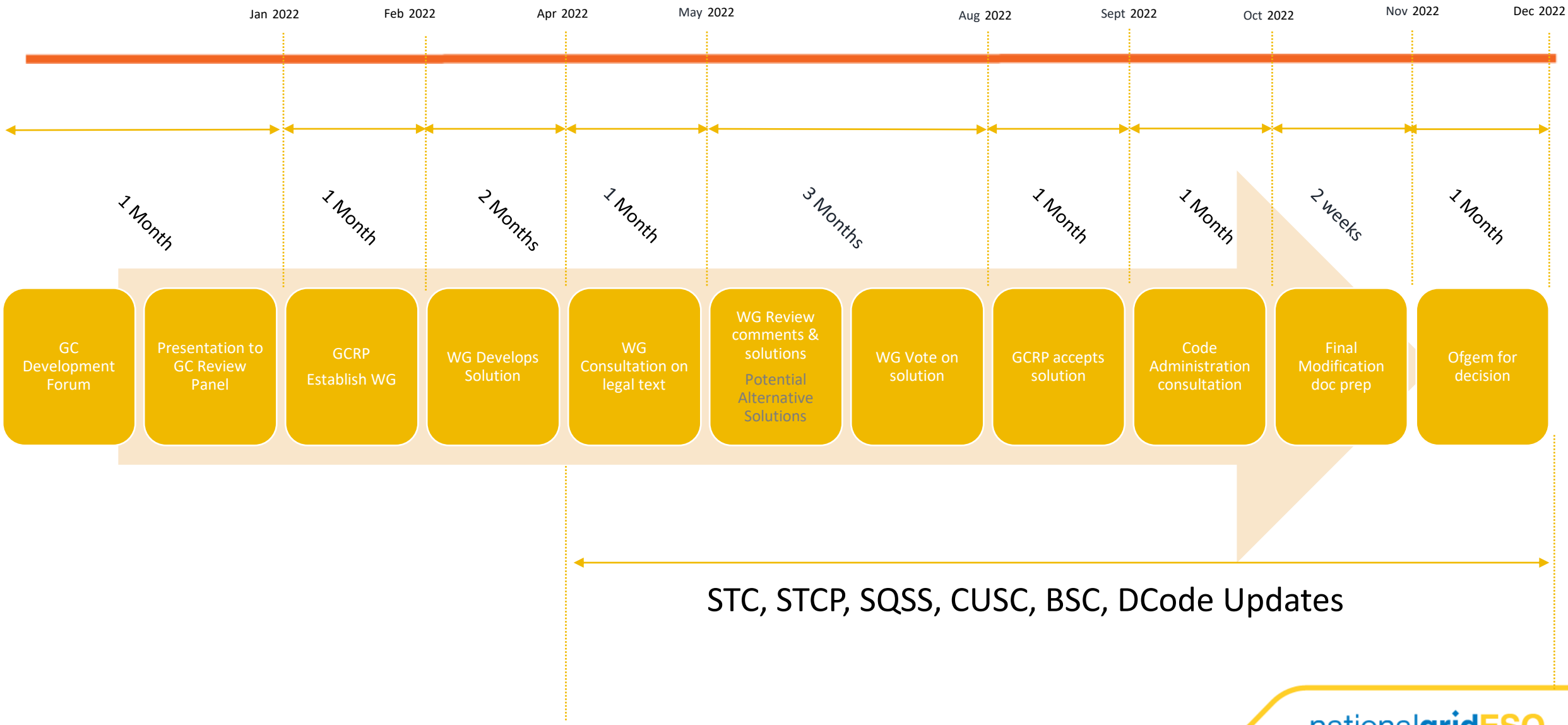
- **In 2019, the ESO submitted its proposed solution to Ofgem for implementation of the European Emergency and Restoration Code**
- **This comprised of several submissions:-**
  - Grid Code Modification GC0125 (EU Code Emergency & Restoration: Black Start testing requirements for Interconnectors) – *Approved – 5th February 2020*
  - Grid Code Modification GC0127 (EU Code Emergency & Restoration: Requirements resulting from System Defence Plan) – *Approved – 5th February 2020*
  - Grid Code Modification GC0128 (GC0128 EU Code Emergency & Restoration: Requirements resulting from System Restoration Plan) *– Approved 5th February 2020*
  - ❖ System Defence Plan – *SGU List and High Priority SGU List (which is part of the SDP) - Approved 13th July 2021*
  - ❖ System Restoration Plan – *SGU List and High Priority SGU List (which is part of the SRP) - Approved 13th July 2021*
  - ❖ Test Plan – *Approved 13th July 2021*
  - Terms and Conditions related to Emergency and Restoration EU Network Code
  - Market Suspension Proposals *– Grid Code Modification GC0144 – Approved 26th May 2021*
  - A link to the above documents are available from the attached link:-
  - https://www.nationalgrideso.com/industry-information/codes/european-network-codes/other-enc-documents
- There are some elements of the EU Emergency and Restoration Code which have implementation dates of 18th December 2022 and these are currently being progressed through Grid Code Modification GC0148

❖ *A work group member has concerns/doubt as to whether these plans and SGU list has been approved by GEMA.*

Distributed ReStart

- The Distributed Re-Start Project is one which recognises that the traditional suppliers of Black Start Services (Transmission Connected Thermal Plant) are becoming increasingly scarce
- The aim of this project is to look at the ability of:-
  - Other providers to provide Black Start Services including Embedded Generators
  - The ability of Distribution Network Operators to restart parts of their network during a Black Start Event using Embedded Generators which offer Restoration services
  - Encourage Smaller participants into the Restoration arena.
  - Where Non-CUSC Parties are providing such services, they would need to be caught under the remit of the EU Emergency and Restoration Code
- In view of the significant synergies and overlap between the Electricity System Restoration Standard and Distributed Re-Start Work, the outcome of the Distributed Re-Start project largely feeds into the project.
- The distributed Re-Start Project is due to run until June 2022

Regulatory Framework Update Timeline



Urgency

- As part of the Electricity System Restoration Standard Regulatory Frameworks Working Group, the issue of Urgency was raised by one Workgroup Member
- The ESO have reviewed the Timeline and significantly reduced it back from the September 2023 to December 2022
- We believe this makes a good compromise between allowing parties to implement the requirements between December 2022 and 2026
- The ESO favours the priority of this Modification to be put at the top of the modification stack.
- The ESO recognises significant overlap between this modification and GC0148 which currently have the same lines.
- The ESO does not favour urgency because
  - There will be limited time saved and huge resource implication
  - Consequential impact with GC0148

Interested Parties

- Generators (Large, Small and Medium Power Stations)
- Non-CUSC Parties
- Distribution Network Operators
- Transmission Licensees
- Restoration Service Providers
- The ESO
- Panel Decision / Next Steps