

An aerial photograph of rolling green agricultural fields. Several bright, glowing yellow lines, representing power lines, run diagonally across the landscape from the bottom left towards the top right. The fields are divided into various sections by dark lines, likely roads or field boundaries. The overall scene is vibrant and modern, suggesting a focus on sustainable or advanced energy infrastructure.

# Electricity System Restoration Standard

GC0156

September 2022

# Summary

- GC0148 Update
- Terms and Conditions
- Grid Code Drafting Progress Update
- Code Drafting Next Steps
- Related Work

# GC0148 Update

- The Code Administrator Consultation opened on 3 August 2022 and closed on 5<sup>th</sup> September 2022
- Verbal update to be provided

# EU Terms and Conditions

- Short and long term approach discussed with the GC0156 Workgroup on 18<sup>th</sup> August
- Discussions also held with BEIS and Ofgem on 18<sup>th</sup> August
- Further meeting held with Ofgem on 25<sup>th</sup> August
- The issues have been raised with the Tender Team and ways forward have been forwarded to the ESO legal team for a view
- Verbal Update of current status to be provided

# GC0156 – Grid Code Drafting – Progress Update

- The current sections of the Grid Code are well developed
  - Glossary and Definitions
  - Planning Code
  - Connection Conditions
  - European Connection Conditions
  - Operating Code 5
  - Operating Code 9
- The legal drafting has been forwarded to Mike Kay for consideration to be given to the Distribution Code drafting
- CATOs have currently been excluded from the drafting as this is expected to be picked up as part of the CATO work which is due to be raised at the GCRP in September

# GC0156 – Glossary and Definitions

- The updates to the Glossary and Definitions includes the following key features
  - Removal of the term Black Start and related terms
  - Introduce the concept of Anchor Plant and related terms
  - Introduce the concept of Top Up Restoration Plant and related terms
  - Introduce the necessary and applicable definitions for Distributed Re-Start developed as part of the GC0148 work
  - Ensure equal treatment of Anchor Plant and Top Up Restoration Plant irrespective of being Transmission or Distribution Connected or part of a Local Joint Restoration Plan or Distribution Restoration Zone Plan
  - Provide clarity on the definition of Restoration Service Provider

# GC0156 – Planning Code

- The updates to the Planning Code includes the following key features
  - The main changes relate to PC.A.5.7 (currently drafted as Black Start Related Information)
  - Removal of the term Black Start and related terms
  - Build on the comments introduced through GC0148 including those developed for Distributed Re-Start
  - Include information relating to the supply of data from Network Operators relating to the establishment of Distribution Restoration Zones

# GC0156 – Connection Conditions

- The updates to the Connection Conditions includes the following key features
  - Removal of the term Black Start and related terms
  - Builds on the comments introduced through GC0148 including Critical Tools and Facilities
  - Builds on the additions developed for Distributed Re-Start including the comments received as part of the GC0148 Workgroup Consultation
  - Introduce requirements for Restoration Offshore
  - Amend the provisions relating to System Restoration – CC.6.3.5
  - Make provisions for Assurance requirements – CC.7.11 (new Section)
  - Make provision for a new standard for a Distribution Restoration Control System (DRZC)
  - Make provisions for the technical requirements in a new Appendix (Appendix 8) covering those common elements that would currently form part of the Black Start Contract or Anchor Restoration Contract or Top Up Restoration Contract



# GC0156 – European Connection Conditions

- The updates to the European Connection Conditions includes the following key features
  - Mirror the requirements and features of the Connection Conditions
  - Build on the changes introduced through GC0148 in particular those relating to storage
  - Note the treatment of Black Start / System Restoration in the ECC's is quite different to those in the CC's and the drafting reflects this.

# GC0156 – Operating Code 5

- The updates to the Operating Code 5 includes the following key features
  - Removal of the term Black Start and related terms
  - Builds on the additions developed for Distributed Re-Start including the comments received as part of the GC0148 Workgroup Consultation
  - Seeks to provide some rationalisation and avoid duplication as Anchor Plant and Top Up Plant are broadly the same irrespective of being Transmission or Distribution Connected
  - Drafting still needs to address the house keeping change to OC5.7.1(b)(i) which is a correction that needs to be addressed following the implementation of GC0108 (EU Code: Emergency & Restoration: Black start testing requirement) noting that OC5.7 is now significantly different

# GC0156 – Operating Code 9

- The updates to the Operating Code 9 includes the following key features
  - Removal of the term Black Start and related terms
  - Builds on the additions developed for Distributed Re-Start including the comments received as part of the GC0148 Workgroup Consultation
  - Recognises a significant change in structure of OC9 to reflect Distribution Restoration Zones
  - Seeks to provide some rationalisation and avoid duplication as Anchor Plant and Top Up Plant are broadly the same irrespective of being Transmission or Distribution Connected
  - Some further work is required to see if any specific requirements need to be explicitly defined in respect of Offshore Transmission Licensees

# GC0156 – Code Drafting – Next Steps

- Continue to develop the Grid Code drafting in line with the Workgroup discussions and those raised as part of the GC0156 Workstreams
  - Further areas of development include but are not limited to
    - Operating Code 2
    - Balancing Code 2
    - Other consequential sections including the Data Registration Code
    - Remove all references to Black Start
- Further consideration needs to be given to Offshore and the interaction with the tender process

# GC0156 – Related Work

- Once the Grid Code drafting is more clearly established the following work is also required
  - Updates or creation of any related Relevant Electrical Standards (eg Distribution Restoration Control Systems)
  - Consideration of other Code Mods – eg STC, SQSS, CUSC and BSC
  - System Defence Plan, System Restoration Plan and Test Plan
  - It is assumed Embedded Offshore Transmission Systems (ie Offshore Transmission Systems connected to DNO's) will form part of an LRP not a DRZP
  - Further consideration needs to be given to System Synchronisers.