

A dramatic landscape featuring snow-capped mountains under a cloudy sky. A glowing orange path, resembling light trails, winds through the valley. The text is overlaid on the left side of the image.

# WELCOME

**GC0156**

## Implementation of the Electricity System Restoration Standard

**Meeting 11**

**21 February 2023**

**Online Meeting via Teams**

# Agenda

Topics to be discussed	Lead
Welcome	Chair
Review of Actions Log	Chair
ESO response to Workgroup Consultation	TJ/SA
Update on legal text	TJ
Terms of Reference check	All
AOB / Next Steps	Chair
<ul style="list-style-type: none"><li>• Review and Finalise Workgroup Report</li></ul>	



# Members / Alternates & Observers

Role	Name	Representing
Chair	Banke John-Okwesa	Code Administrator (ESO)
Technical Secretary	Milly Lewis	Code Administrator (ESO)
Proposer	Antony Johnson	NGESO
Proposer	Sade Adenola	NGESO
Workgroup Member	Abdi Osman	NGV Interconnectors
Workgroup Member	Alan Creighton	Northern Powergrid
Workgroup Member	Alastair Frew	Drax Power Station
Workgroup Member	*Andrew McLeod	Northern Powergrid
Observer	Andrew Larkins	Sygensys
Workgroup Member	Andrew Vaudin	EDF Energy
Observer	Audrey Ramsey	NGESO
Observer	Ben Kuchta	NGET
Workgroup Member	Bill D'Albertanson	UK Power Networks
Workgroup Member (Alternate)	Brad Kent	NGET
Workgroup Member	Brian Morrissey	SSEN Distribution
Workgroup Member	Cefin Parry	Northern Powergrid
Workgroup Member (Alternate)	Chanditha Udalagama	NGV Interconnectors
Workgroup Member	*Daniel Randles	Electricity North West Ltd
Workgroup Member	David Adam	SP Energy Networks
Workgroup Member	Dozie Nnabuife	NGESO
Workgroup Member	Eric Leavy	SP Energy Networks
Observer	Eva Shamu	NGESO
Workgroup Member	Garth Graham	SSE Generation
Workgroup Member (Alternate)	Gavin Anderson	Electricity North West Ltd
Workgroup Member	*Graeme Vincent	SP Energy Networks
Workgroup Member	Grace March	Sembcorp
Workgroup Member	Graz Macdonald	Waters Wye
Workgroup Member	Gwyn Jones	Western Power Distribution

Role	Name	Representing
Workgroup Member	Howard Downey	SP Energy Networks
Workgroup Member (Alternate)	John Costa	EDF Energy
Workgroup Member (Alternate)	Lisa Waters	Waters Wye
Observer	Mark Bingham	NGET
Observer	Mark Holland	Scottish & Southern Electricity Networks Transmissions
Workgroup Member	*Michelle Macdonald	Scottish & Southern Electricity Networks Transmissions
Observer	Mike Kay	Distribution Code Administrator
Observer	Neha Gupta	NGESO
Observer	Neil Sandison	Scottish & Southern Electricity Networks Transmissions
Workgroup Member	Nikhil Singh	NGET
Observer	Paul Murray	Scottish & Southern Electricity Networks
Workgroup Member (Alternate)	Paul Youngman	Drax Power Station
Workgroup Member	Peter Couch	Joint Radio Company Limited
Workgroup Member	Priyanka Mohapatra	Scottish Power
Workgroup Member	*Richard Poole	NGV Interconnectors
Workgroup Member (Alternate)	Richard Wilson	UK Power Networks
Workgroup Member	Robert Longden	Eneco Energy Trade BV
Workgroup Member (Alternate)	Ross Strachan	Scottish Power
Workgroup Member	Tolu Esan	Electricity North West Ltd
Authority Representative	Christopher Statham	Ofgem

\*Lead / voting member

## Expectations of a Workgroup Member

Contribute to the discussion

Be respectful of each other's opinions

Language and Conduct to be consistent with the values of equality and diversity

Do not share commercially sensitive information

Be prepared - Review Papers and Reports ahead of meetings

Complete actions in a timely manner

Keep to agreed scope

## Your Roles

Help refine/develop the solution(s)

Bring forward alternatives as early as possible

Vote on whether or not to proceed with requests for Alternatives

Vote on whether the solution(s) better facilitate the Code Objectives



# Review of Actions Log

Banke John-Okwesa – ESO Code Administrator

Action number	Workgroup Raised	Owner	Action	Comment	Due by	Status
28	WG5	TJ	Feedback further meetings with Tendering Team; inclusive of Penta contracts		WG10	Ongoing
55	WG9	TJ/SA	Confirm whether each respondent will receive a response from the ESO		WG10	Open
56	WG9	TJ	Confirm whether LJRP's are considered to be a legal document as part of the Grid Code		WG10	Open
58	WG10	BJO	Reach out to Ofgem around the high-level assumptions in their CBA		WG11	Complete
59	WG10	TJ	Validate whether moving the Technical Requirements out of the Grid Code and into the RES is inline with the GC0156 ToR		WG11	Open
60	WG10	SA	Re-share the Chapter 2 and 3 specification for DRZC		WG11	Open
61	WG10	TJ	Update Legal text to be clear where termination is within LRJP/DZRP's		WG11	Open
62	WG10	TJ	Tender Team queries difference between top up and CUSC parties (inclusive of start up times)		WG11	Open
63	WG10	BJO	Schedule additional meetings, inclusive of showstopper meeting		WG11	Complete



# **ESO Response to Workgroup Consultation**



# **Update on Electricity System Restoration Standard legal text**

**Antony Johnson – ESO**



# Overview

- In early February a week long session was spend reviewing the GC0156 legal text. This included both the legal text from the Grid Code as well as the supporting documents such the System Defence Plan, System Restoration Plan, Electrical Standards (excluding the Distribution Restoration Control System Standard).
- This presentation is a high level overview of the issues identified as apart of the above sessions.

# Grid Code Documents Reviewed

- Glossary and Definitions
- Planning Code
- Connection Conditions
- European Connection Conditions
- Operating Code 1
- Operating Code 2
- Operating Code 5
- Operating Code 9
- Balancing Code 2
- Balancing Code 4
- Data Registration Code

# Related Documents Reviewed

- System Defence Plan
- System Restoration Plan
- Test Plan
- Control Telephony Standard
- Communications Standard

# GC0156 – Glossary and Definitions

- Treatment of Anchor and Top Up as collective terms to avoid multiple definitions
- Treatment of Critical Tools and Facilities for Virtual Lead Parties / implementation – This stems from GC0148
- Terms and consistency used for Distribution Restoration Zone Control System or a Distribution Restoration Zone Controller
- Clarification and Consistency in the definitions of Local Joint Restoration Plans and Distribution Restoration Zone Plans.
- Clarification to Offshore Local Joint Restoration Plans
- Restoration Service Provider changed to Restoration Contractor
- Consideration to be given to deleting the term “Restoration Service”

# GC0156 – Planning Code

- Clarity provided around data submission from when a Generator was last run (ie 12, 24, 36, 48 and 72 hours) rather than the terms “hot” and “cold”.
- PC.A.5.7.2 – Text deleted referencing OC2
- Introduction of Annual Data Reporting requirements through PC.A.5.7.3  
Corresponding table is to be added to DRC Schedule 16 (Black Start Information) on the annual Assurance Reporting Process.
- Introduction of Governor setting information under a Restoration Process to be provided under PC.A.5.7.4



# GC0156 – Connection Conditions / European Connection Conditions

- CC.3.1(f) new clause updated to specifically define the Grid Code obligations that apply for Restoration Contractors who are Non-CUSC Parties and part of a Distribution Restoration Zone
- Updates to Protection and Control wording for both Generators and Network Operators – minor word changes rather than fundamental updates
- CC.6.3.5 – Points of clarification added to Offshore Local Joint Restoration Plans and changes to Governor Settings moved to CC.6.3.7
- CC.6.3.7 – New text on Governor settings during a Restoration introduced to CC.6.3.7
- CC.6.4.5 – Title Changed to System Restoration and clarifications added to CC.6.4.5.2(b) in relation to visibility of Network Operators System's as part of an LJRP or DRZP
- Minor amendments added to CC.7.10 (Critical Tools and Facilities)
- Clarifications added to CC.7.11 (Assurance) relating to data submission and the derogation process where a requirement cannot be met. References updated for CC.7.11.5 in relation to Assurance activities to be undertaken.
- Issues between the Connection Conditions and European Connection Conditions are broadly the same

# GC0156 – Operating Code 1 / Operating Code 2

- OC1
- OC1.7 text updated to reflect comments received and reworded as part of Workgroup discussions. Internal ESO discussions still to be held. The term peak “National Demand” is used.
- OC2
- Agreed in principle with the process although there were issues around the envelope of opportunity and what was published. It was also agreed to change OC2 so there is a specific section within OC2 which related solely to Restoration rather than specifically integrating Restoration with the normal outage planning process.

# GC0156 – Operating Code 5

- OC5.4.2 - Fault Ride Through requirements of GC0151 (and GC0155 when approved) to be switched off as part of a System Restoration
- OC5.7.2.1 / OC5.7.2.2. – Deadline Charge Tests and Remote Synch Tests moved from OC5.7.2.2 to OC5.7.2.1
- OC5.7.2.4 – Discussions around the difference between Top Up Restoration Contractors and CUSC Parties in respect of their obligations – Agreed to define in revised legal text in terms of the “consequential” and “consecutive” requirements placed on Top Up Restoration Contractors as opposed to CUSC Parties – Also see OC9
- OC5.5.7.2.6 – Distribution Restoration Zone Controller tests to be moved into Electrical Standard

# GC0156 – Operating Code 9

- OC9 - Legal text to be revised to clearly articulate the difference between Top Up Restoration Contractors as opposed to CUSC Parties – The terms “consequential” and “consecutive” will be used to define that as soon as an instruction is issued to an Anchor Restoration Contractor an instruction will be issued to a Top Up Restoration Contractor at the same time so they are ready to provide the service they have agreed to supply when external site supplies are restored.
- Safe Rejection of Emergency Instructions to be included to reflect BC2.9.2.1
- OC9.4.7.4(b) – To be updated in line with suggested comments to improve wording
- OC9.5 – Removal of the term De-Synchronised Island – Need to check use of the term “De-Synchronised Island Procedure”
- Diagram in Appendix 2 to be updated

# GC0156 – Balancing Code 2 / 4 and Data Registration Code

- BC2 - No material substantive changes
- BC4 – No changes
- DRC
  - Implementation to reflect changes in PC.A.5.7.3
  - Schedule 16 to incorporate Distributed Restoration Zone Information
  - New schedule to be added to Schedule 16 to incorporate the System Restoration Assurance Framework for Distributed Restoration Zones



# GC0156 – Other Related Documents

Document	High Level Comments
System Defence Plan	Minor points of clarification
System Restoration Plan	Minor points of clarification / VLPs (GC0148) Definition of Restoration Service Provider and Restoration Contractor / Include Assurance, Compliance Testing Section to be included and updates to ensure consistency with Grid Code drafting
Test Plan	Minor points of clarification, remove duplication from System Test Plan,
Control Telephony Standard	Minor comments – Largely around Mains independence and the new Table introduced through Appendix 1 – Overseas Control Points
Communications Standard	Minor comments – Mains independence
Distribution Restoration Zone Control System – Functional Specification	Major overhaul and rewrite required before Workgroup Review

# GC0156 – Next Steps

- Update legal text to reflect discussions
- Incorporate high level comments from Consultation Document where they have not already been provided
- Implementation to be included in solution
- Restoration Zone Control System High Level Functional Specification requires further internal consideration before further Workgroup review



# Terms of Reference

Banke John-Okwesa – ESO Code Administrator



# Timeline

Banke John-Okwesa – ESO Code Administrator

# Revised Timeline for GC0156

Milestone	Date	Milestone	Date
Proposal Presented to Panel	24 February 2022	Workgroup 11 – Review and finalise updated legal text, assess and vote alternatives, Terms of Reference check	21 February 2023
Workgroup 1 – Understand / discuss proposal and solution, review and agree on Terms of Reference and Timeline, agree next steps	26 April 2022	Workgroup 12 - Review and finalise Workgroup Report, check and finalise all objectives on Terms of Reference	27 February 2023
Workgroup 2 – Review high level options and legal text, consider outputs from related modifications (such as GC0148)	19 May 2022	Workgroup 12 - Agree that Terms of Reference have been met, sign off Workgroup Report, Workgroup Vote	08 March 2023
Workgroup 3 – Recap of GC0148 and Distributed Re Start, Subgroup Terms of Reference, Review of high level solutions / options	16 June 2022	Workgroup Report issued to Panel	23 March 2023
Workgroup 4 – Review draft legal text, finalise scope and function of subgroups, develop solution(s)/options, identify/asses any possible alternative solutions	14 July 2022	Panel sign off that Workgroup Report has met its Terms of Reference	30 March 2023
Workgroup 5 – Develop solution(s)/options, subgroup outputs, conclude on preferred options / consider and agree on alternatives	18 August 2022	Code Administrator Consultation	03 April 2023 – 03 May 2023
Workgroup 6 - Develop WG consultation questions, progress of draft legal texts, subgroup updates, assess alternatives (if applicable)	20 September 2022	Draft Final Modification Report (DFMR) issued to Panel	17 May 2023
Workgroup 7 – Refine WG consultation report, review subgroup reports, review legal texts, agree alternatives	20 October 2022	Panel undertake DFMR recommendation vote	25 May 2023
Workgroup 8 – Finalise Workgroup Consultation documents, finalise draft legal text	10 November 2022	Final Modification Report issued to Panel to check votes recorded correctly (5 working days)	29 May 2023 – 02 June 2023
Workgroup Consultation (15 Working Days)	21 November 2022 – 09 December 2022	Final Modification Report issued to Ofgem	05 June 2023
Workgroup 9 – Review/assess consultation responses	17 January 2023	Ofgem decision	TBC
Workgroup 10 – Finalise review of consultation responses, review updated WG report and legal text following consultation responses	31 January 2023	Implementation Date	10 working days after Ofgem decision





# AOB

Banke John-Okwesa – ESO Code Administrator



# Next Steps

Banke John-Okwesa – ESO Code Administrator