

Grid Code Review Panel

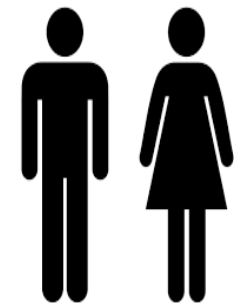


Grid Code Review Panel – 18 July 2018

Welcome

Housekeeping

- Fire alarms
- Facilities
- Red Lanyards



Approval of Panel Minutes

Actions Log

**Resubmission - GC0115 Legal Separation Housekeeping
Modification: 'NGET' to 'The Company'**

GC0115 – Context for Resubmission

6014... “AC acknowledged the 26 documents that were circulated and highlighted the many mainly editorial issues that ran throughout the documents. Panel members were not satisfied with the readability of the documents. The Panel agreed that the Fast Track Criteria had been satisfied provided that adequate quality assurance is in place and the amended documents with the changes highlighted are circulated to Panel members”.

GC0115 – Context of Resubmission

Panel are asked to:

- **Consider the resubmission in light of amendments made by the proposer**

Resubmission - GC0116 Correction to the compliance dates included in modifications GC0100-102 for the Requirements for Generators (RfG) and HVDC European Network Codes and other minor housekeeping changes

GC0116 – Context of Resubmission

ACTION 123: Proposer (NGET) to split the modification into two or three modifications with the date changes (Fast Track) being tabled at the next Panel meeting

GC0116 – Context of Resubmission

Panel are asked to:

- **Consider the resubmission in light of amendments made by the proposer**
- **Agree that the modification meets required criteria for Fast track**

New Modification – GC0118 - Modification to the Grid Code to accommodate the recent Distribution Code modification to Engineering Recommendation P28 – *Voltage fluctuations and the connection of disturbing equipment to transmission systems and distribution networks in the United Kingdom.*

Presenter – David Spillett – On Behalf of Distribution Network Licensees

The Voice of the Networks



Energy Networks Association

**ENA EREC P28 Issue 2 2018
Modifications to Grid Code**

GCRP 18 July 2018

- Background to revision of ER P28 Issue 1
- Key technical modifications in EREC P28 Issue 2
- Resultant changes to the Distribution Code (DCODE)
- Ofgem decision – DCRP RTA
- Grid Code Modification Proposal GC0119

- ENA Engineering Recommendation (ER) P28 Issue 1 1989 sets *planning limits for voltage fluctuations caused by customer connected disturbing equipment*
- Qualifying Standard in the DCODE and a licence standard in the Grid Code
- Has been under review/revision by a joint DCRP & GCRP Working Group
- P28 Issue 2 2018 constitutes a full technical revision
 - **New document structure, format and reworded requirements**
 - **Fully updated to reflect the UK implementation of IEC 61000 series of Standards (so far as they relate to voltage fluctuation)**
 - **Addresses connection of distributed/embedded generation equipment**
 - **Includes limits and requirements for rapid voltage changes (RVCs).**
 - **Changes are not retrospective**

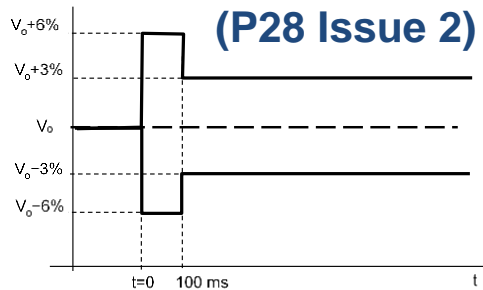
Summary of Key Technical Modifications

- Introduction of requirements and planning levels for RVCs
- An intermediate planning level and associated flicker severity limits *for supply systems with nominal voltages of 3.3 kV, 6.6 kV, 11 kV, 20 kV and 33 kV*
- Improved definition and clarity of worst case operating conditions to be used in the assessment of voltage fluctuations
- Improved definition of voltage step change
- Other modifications

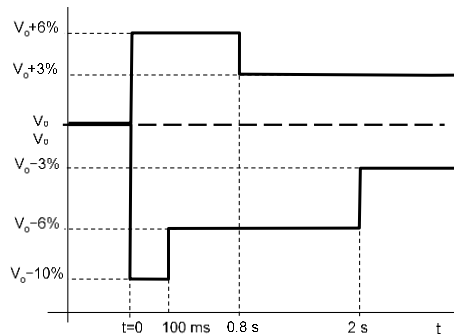
Other requirements for assessment of flicker related voltage fluctuations have not changed including: the three-stage assessment for flicker, allocation of remaining headroom (flicker severity) on a 'first come first served' basis.

Planning Levels for Rapid Voltage Changes (RVCs)

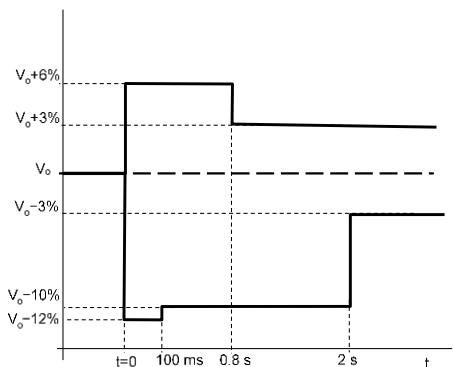
Proposed RVC Limits (P28 Issue 2)



Frequent



Infrequent



Very Infrequent

P28 Issue 1 permits design for:

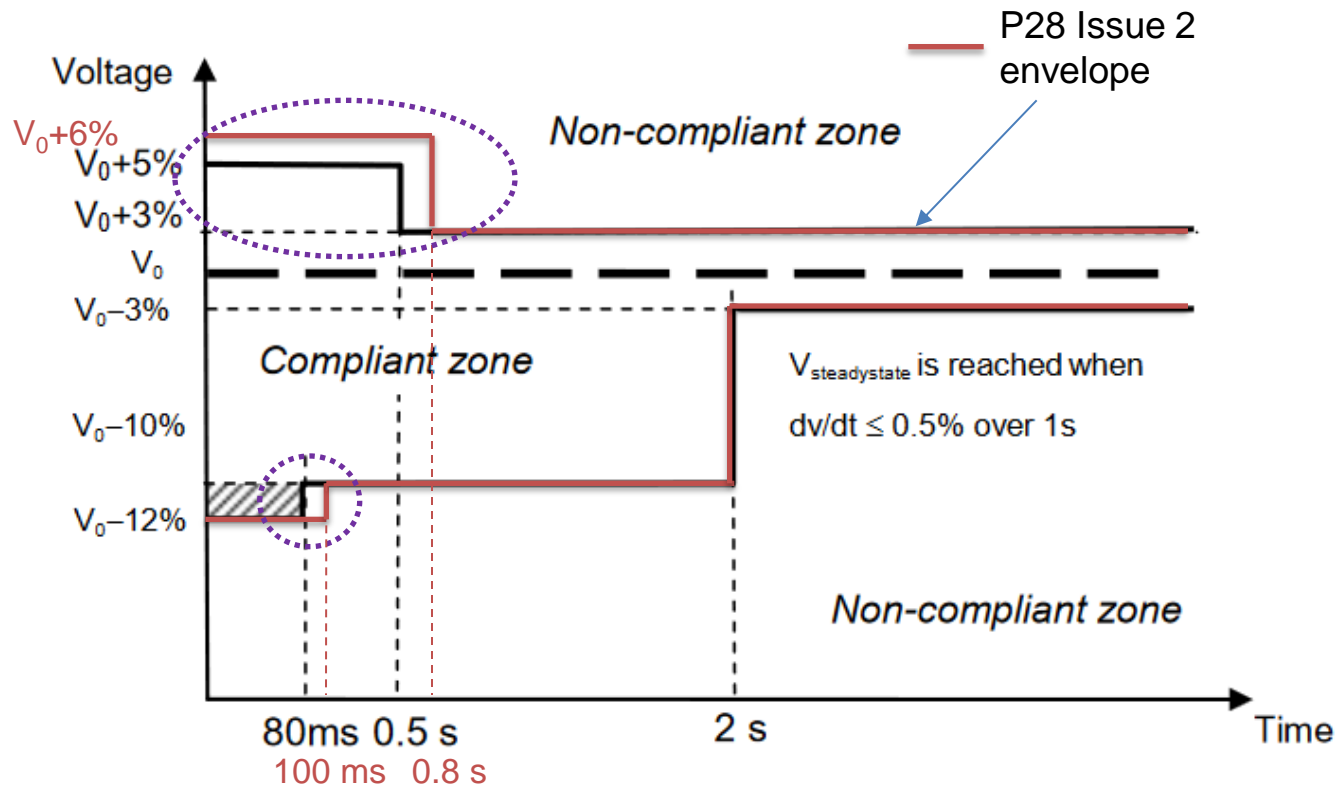
- step voltage changes of $\pm 3\%$ for infrequent planned events
- voltage depression $>3\%$ but $\leq 6\%$ permitted for very infrequent motor starting

DCODE DPC4.2.3.3 permits voltage depression of around 10% for transformer energisation (once per year)

Modifications in P28 Issue 2 (Section 5.3 Table 4)

- Basis was Grid Code Modification GC0076
- No change to general step voltage change ($\Delta V_{\text{steadystate}}$) limit of $\pm 3\%$
- 3 categories of RVC events (number of occurrences)
 - Frequent (single or repetitive RVC)
 - Infrequent (Max of 4 events per calendar month)
 - Very Infrequent (Max of 1 event in 3 calendar months)
- No more than 1 event per day, with up to 4 RVCs, separated by at least 10 minutes, with all switching completed within a 2 h window.

Planning Levels for Rapid Voltage Changes (RVCs)



Key differences with Grid Code CC 6.1.7

- $\Delta V_{\max} \leq 5\%$ for a maximum duration of 0.5 s for increases in voltage
- Maximum permitted voltage change of -12% for 80 ms for decreases in voltage
Maximum of 4 RVCs in one day typically not planned for more than once per year on average
- No 'Infrequent' events category
- % voltage change based on V_0 not V_n .

Planning Levels for Rapid Voltage Changes (RVCs)

JUSTIFICATION

- General alignment with the approach in Grid Code CC.6.1.7
- Limits are absolute and fall within:
 - EREC G59 and grid connected protection & TGN 288 for overvoltage
 - Immunity levels of customer equipment
- RVCs should not result in unacceptable disturbance provided
 - events are sufficiently spaced apart
 - Multiple RVCs are completed within a small time window
 - There is no damage to or tripping of customer equipment

IMPACTS

- Potentially greater no. of RVCs permitted at any given PCC over a calendar year
- Permits greater no. of transformers to be energised at same time
- In practice will simplify restoring distributed generation following G59 event
- No material impact on ΔV_{\max} for decreases in voltage.

Table 1 of ER P28 Issue 1

Supply system Nominal voltage	Planning level	
	P_{st}	P_{lt}
132 kV and below	1.0	0.8
Above 132 kV	0.8	0.6

New intermediate planning level proposed
Re-assignment of supply system voltages
No other changes to planning levels

Table 2 of EREC P28 Issue 2

Supply system Nominal voltage	Planning level	
	P_{st}	P_{lt}
LV	1.0	0.8
3.3 kV, 6.6 kV, 11 kV, 20 kV, 33 kV	0.9	0.7
66 kV, 110 kV, 132 kV, 150 kV, 200 kV, 220 kV, 275 kV, 400 kV	0.8	0.6

JUSTIFICATION

- To improve co-ordination of flicker transfer
- To allow margin for transfer of flicker severity from higher voltage to lower voltage systems

IMPACTS

- Will reduce the possibility of compatibility levels being exceeded at LV
- Possible impact on proposed Stage 3 HV customer connections with high background levels of flicker severity.

Applicability to Operating Conditions and Fault Outages

Table 6 — System/network conditions - Normal operating conditions

- EREC P28 Issue 2 now requires assessment under worst case normal operating conditions
- Normal operating conditions include:
 - Credible outage conditions that the system has been designed to operate within acceptable limits
 - Planned and fault outages consistent with securing demand under relevant security of supply standards
- Does not apply to:
 - transient voltage fluctuations between fault initiation and fault clearance
 - during any reconfiguration of the public electricity supply system immediately following a fault

System/network operating condition	Description
Normal network configuration	Normal running arrangement with normal open point(s). No network assets out-of-service for construction, maintenance or faults
Alternative network configuration(s)	Alternative running arrangement(s) with substitute open point(s). No network assets out-of-service for construction, maintenance or repair
Planned outages (see NOTE)	Planned outages of specific network assets for construction, maintenance or repair activities
Fault outages (see NOTE)	Running arrangement taking into account credible fault outage scenario(s) for normal/alternative network configuration(s). Compliant with network design limits before fault outage and within a short time after fault outage, where reconfiguration of network is required
Switching operations (including reactive compensation)	Energisation and de-energisation of network assets. Reactive compensation. Reconfiguration of network
Protection operation (including G59 [4] protection operation)	Operation of protection and disconnection of load/generation for which the network is designed to cater for
Demand / generation variations	Variations in demand/generation within rating of network under normal and alternative network configurations
Local embedded/distributed generation	Generally, can be ignored unless there is a long-term guarantee that this generation would be operating at the same time as the disturbing equipment and/or fluctuating installation (see 6.1.5)
NOTE: For various credible planned/fault outage scenarios the scenario that results in the maximum supply system impedance should be generally chosen.	

Applicability to Operating Conditions and Fault Outages

JUSTIFICATION

- ER P28 Issue 1 is not particularly clear in respect of operating conditions under which assessment is required and is open to interpretation
- Operating conditions are subjective for certain flicker related voltage fluctuations
- In practice, network operators stipulate assessment under 'N-1' conditions
- Alignment with approach in PD IEC TR 61000-3-7
- Proposed amendment is intended to provide a more consistent understanding and application of network operating conditions for P28 assessments

IMPACTS

- More prescriptive requirements will apply for assessing voltage fluctuations
- Will permit a standardised approach to assessment across system/network operators
- Worst case normal operating conditions will apply to assessment of all voltage fluctuations
- Expectation that the risk of voltage complaints under credible outage conditions would reduce.

No change to general $\pm 3\%$ limit on the magnitude of voltage step changes

- However, the definition of 'voltage step change' has been clarified:
 - Relates to the voltage change between two steady state conditions ($V_{\text{steadystate}}$)
 - Expressed as a percentage change of nominal system voltage (V_n)
 - Voltage must now be within $\pm 3\%$ limit
 - 100 ms after event initiation for 'Frequent' events
 - 2s after event initiation for 'Infrequent' and 'Very Infrequent' events

JUSTIFICATION

- To distinguish step voltage change from different voltage change events
- To align with % voltage change philosophy in BS EN 61000 series standards (i.e. % change = $\Delta V/V_n$)

IMPACTS

- Will require a steady state voltage condition to be reached before and after voltage change event for assessment of step voltage change

Information Requirements and Responsibilities

Section 6.1.4 (Table 5) captures:

- information requirements for assessment
- responsibilities of customers and system / network operators in the assessment process

JUSTIFICATION

ER P28 Issue 1:

- Information requirements and provision of data is unclear
- Responsibilities of customer and system / network operator in assessment process is unclear

IMPACTS

- Will provide a common standard for provision of information and assignment of responsibilities at each assessment stage.

Table 5 — Information requirements and responsibilities

Information	Requirement	Assessment Stage	Responsibility
Supply system impedance - LV only	For single-phase: Measurement of supply phase to neutral loop impedance at the customer supply terminals (see NOTE 1) or Calculation of supply phase to neutral loop impedance at the customer supply terminals for normal supply arrangement (see NOTE 2) For three-phase: Measurement of supply phase to phase supply impedance at the customer supply terminals (see NOTE 1) or Calculation of supply phase to phase impedance at the customer supply terminals for normal supply arrangement (see NOTE 2)	Stage 1	Customer Network Operator (on request) Customer Network Operator (on request)
Service current capacity	Check against Connection Agreement Check service records and/or inspection of cut-out (see NOTE 3)	Stage 1	Customer Network Operator (on request)
Disturbing equipment details:	Type of equipment Rated voltage, current, power Single-phase or three-phase connection Single-phase or three-phase impedance Starting/stopping current characteristics Operating cycle (periods of operation) Statement of EMC compliance with relevant product standards, e.g. BS EN 61000-3-3 (see NOTE 4)	Stage 1, 2 & 3	Customer
P28 compliance assessment	Assess flicker/RVC emission against compatibility/planning levels in P28 Issue 2. Provide compliance report for Network Operator Assess compliance report from customer for acceptability	Stage 2 & 3	Customer (see NOTE 5) System/Network Operator
Emission measurements and validation	Measurement of customer's emission levels and validation against predicted levels in P28 compliance report	Stage 2 & 3	Customer & System/Network Operator (see NOTE 6)
Supply system impedance - except LV (see 6.1.5)	Declaration of maximum supply system impedance at the PCC	Stage 1, 2 & 3	System/Network Operator
Known future connections/alterations (see 6.1.6)	Provide system/network information in Long Term Development Statements, where available, and similar documents Consider known future alterations to the supply system in supply system impedance information (see NOTE 7) Consider known future connection/alterations (supply system and disturbing equipment/fluctuating installation) in emissions assessment	Stage 1, 2 & 3	System/Network Operator System/Network Operator Customer
Flicker background level (see 7)	Measurement of existing flicker background level (pre-connection)	Stage 3	System/Network Operator

- Improved clarity concerning information requirements for assessment and responsibilities for provision of information
- Concept of transfer coefficients for determining voltage fluctuation contributions from different nodes
- Additional clarification of requirements for measurement and assessment of voltage fluctuations (section 7)
- Additional recommendations for assessing voltage fluctuations caused by renewable energy and low carbon technologies (section 8).

Draft Proposed Changes to the Distribution Code (DCODE)

Annex 1 Qualifying Standards

- Propose change to reflect amended document title

DPC4.2.3.2 Voltage Disturbances

- Propose addition of requirement for voltage fluctuations to “...comply with the **applicable requirements for assessment and measurement** set out in DGD Annex 1, item **8 9 Engineering Recommendation P28**”.

DPC4.2.3.3 Voltage Step Changes

- Propose significant deletion of text concerning voltage step changes as now covered in EREC P28 Issue 2
- Propose retention of text relating to general acceptability of design for an expected voltage depression of around -10% for very infrequent energisation of complete sites with a significant presence of transformers (i.e. post fault switching, post maintenance switching, or carrying out commissioning tests).

See [Draft Proposed Changes to DCODE EREC P28 Issue 2](#) for draft proposed changes to legal text

Public Consultation:

- See <http://www.dcode.org.uk/consultations.html>
- Commenced on 8th January 2018
- Responses by 17:00 hrs on 31st January 2018
- Views of Grid Code stakeholders sought

4.6 Recognising that any consequential changes to the Grid Code will need to be progressed via the Grid Code governance process, the Working Group would welcome any concerns you have at this stage if the EREC P28 Issue 2 proposal was to be considered for adoption in the Grid Code?

- WG considered responses
- Considered likely changes to the Grid Code and other standards
- DCRP DCRP/MP/18/01/RTA submitted 17 May 2018
- Ofgem decision - RTA sent back 22 June 2018

- We expect distribution licensees and the Grid Code Review Panel ('GCRP') to work together and submit any proposed Distribution and Grid Code changes to us as a package, which should include co-ordinated implementation timetables. We expect the GCRP to discuss the issues set out in this letter and DCRP/MP/18/01 at the next GCRP meeting, on 28 June 2018.
- We therefore direct that the FMR be sent back to the electricity distribution licensees to be reviewed once work to assess the impact of DCRP/MP/18/01 on the Grid Code is complete. To achieve this, we expect the relevant Code Administrators (CA) to follow Principle 13 of the CA Code of Practice.

Proposed Grid Code Modification

- **GLOSSARY AND DEFINITIONS**
- **PLANNING CODE**
- **CONNECTION CONDITIONS (CC)**
- **EUROPEAN CONNECTION CONDITIONS (ECC)**
- **OPERATING CODES (OC)**
- **SCHEDULE 7 – LOAD CHARACTERISTICS AT GRID SUPPLY POINTS**

- **GLOSSARY AND DEFINITIONS**

- ***Flicker Severity***

- A value derived from 12 successive measurements of ***Flicker Severity (Short Term)*** (over a two hour period) and a calculation of the cube root of the mean sum of the cubes of 12 individual measurements, as further set out in ***Engineering Recommendation P28 Issue 2 (P28/2)*** as current at the Transfer Date

-

- **PLANNING CODE**

- ***PC.A.4.7 General Demand Data - PC.A.4.7.1 (f)***

- details of all loads which may cause ***Demand*** fluctuations greater than those permitted under ***Engineering Recommendation P28 Issue 2 (P28/2)***, Stage 1 at a ***Point of Common Coupling*** including the ***Flicker Severity (Short Term)*** and the ***Flicker Severity (Long Term)***.

-

- ***Appendix C Technical Design Criteria - Part 1 SHETLs***

- Technical Design Criteria (Item4)
 - New Title for ER P28 Issue 2 - ***Voltage fluctuations and the connection of disturbing equipment to transmission systems and distribution networks in the United Kingdom***
 - In the table column entitled "Reference No" ER P28 should be modified to state ***P28 Issue 2 (P28/2)***

- **Appendix C Technical Design Criteria Part 2 - SPT's Technical and Design Criteria**
 - New Title for ER P28 Issue 2 - *Voltage fluctuations and the connection of disturbing equipment to transmission systems and distribution networks in the United Kingdom*
 - In the table column entitled "Reference No" Engineering Recommendation ER P28 should be modified to state Engineering Recommendation *P28 Issue 2 (P28/2)*
- **Appendix E – Offshore Transmission System and OTSDUW Plant and Apparatus Technical Design Criteria – PC.E.2 (Table)**
 - New Title for ER P28 Issue 2- *Voltage fluctuations and the connection of disturbing equipment to transmission systems and distribution networks in the United Kingdom*
 - In the table column entitled "Reference No" Engineering Recommendation P28 should be modified to state Engineering Recommendation *P28 Issue 2 (P28/2)*
- **CONNECTION CONDITIONS (CC)**
 - CC.6 Technical, Design and Operational Criteria
 - Voltage Fluctuations CC6.1.7
 - ***Please refer to Appendix B***
- **EUROPEAN CONNECTION CONDITIONS (ECC)**
 - ECC.6 Technical, Design and Operational Criteria
 - Voltage Fluctuations ECC.6.1.7
 - ***Please refer to Appendix B***

- **OPERATING CODES (OC)**
 - OC5.5.4 Test And Monitoring Assessment (Test Criteria)
 - In the parameter column the rows entitled *Voltage Fluctuation* and *Flicker* Engineering Recommendation P28 should be modified to state Engineering Recommendation **P28 Issue 2 (P28/2)**
- **SCHEDULE 7 – LOAD CHARACTERISTICS AT GRID SUPPLY POINTS**
 - At the foot of the column entitled Data Description Engineering Recommendation P28 should be modified to state **Engineering Recommendation P28 Issue 2 (P28/2)**

Appendix B - Proposed Legal Text to modify the following sections of The Grid Code Connection Conditions

- **CC.6 Technical, Design and Operational Criteria Voltage Fluctuations CC6.1.7**
- **ECC.6 Technical, Design and Operational Criteria Voltage Fluctuations ECC.6.1.7**

Voltage Fluctuations

Voltage changes at a **Point of Common Coupling** on the **Onshore Transmission System** shall not exceed:

- (a) The limits specified in **Engineering Recommendation P28 Issue 2** as current at the **Transfer Date**, where:
- (i) Voltage changes in category 3 are typically notified to **NGET**, such as for example commissioning in accordance with a commissioning programme, implementation of a planned outage notified in accordance with **OC2** or an **Operation** or **Event** notified in accordance with **OC7**; and
 - (ii) For connections with a **Completion Date** after X September 201X and where voltage changes would constitute a risk to the **National Electricity Transmission System** or, in **NGET's** view, the **System** of any **User**, **Bilateral Agreements** may include provision for **NGET** to reasonably limit the number of voltage changes in Category 2 or 3 to a lower number than specified in Table 4 of Engineering Recommendation P28 Issue 2 as current at the Transfer Date to ensure that the total number of voltage changes at the **Point of Common Coupling** across multiple **Users** remains within the limits of Table 4 .
- (b) The limits for **Flicker Severity (Short Term)** and a **Flicker Severity (Long Term)** as set out in **Engineering Recommendation P28** as current at the **Transfer Date**.

GC0118 – Governance Route

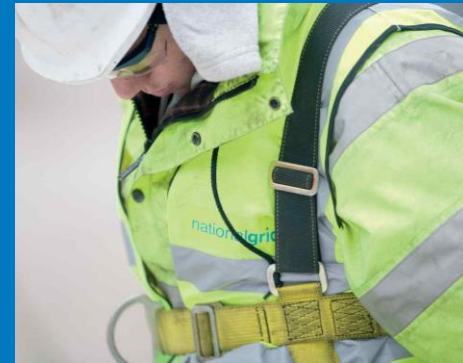
The Panel are asked:

- To agree that GC0118 should be subject to normal governance procedures
- To ascertain where the modification should sit in the prioritisation stack

New Modification – GC0119 - Post Open Governance Implementation Housekeeping and Electoral Changes

Presenter – Joseph Henry – NGESO

GC0119 - Post Open Governance Implementation Housekeeping and Electoral Changes



Joseph Henry, NGENSO

Background & General Context

■ *What?*

Upon approval and implementation of GC0086 – Open Governance, Ofgem have given instruction for a housekeeping Modification to be raised in order to address minor typographical errors and to ensure clarity.

The typographical errors currently impact several Grid Code Processes, and need to be amended due to their impact on the way the code is applied. There are currently six such typographical changes which this modification looks to implement.

Ofgem have advised the Code Administrator to make these changes

Background & General Context

- *Why?*
- This change is required to ensure the Grid Code Governance Rules are correct and consistent.
- *How?*
- The Grid Code Governance Rules should be updated to ensure it is consistent and factually correct throughout.

Solution

- The Grid Code Governance Rules should be updated to ensure it is consistent and factually correct throughout by making the following changes:
 1. To clarify that the Panel cannot reject a Modification raised by the Authority.
 2. To clarify the legal text of the withdrawal process for Ofgem raised SCR Modifications.
 3. Clarification that Ofgem can attend Workgroups.
 4. Remove a superfluous reference to the election of Alternates

Legal Text – Proposed Changes

GR.15.6 Without prejudice to the development of a **Workgroup Alternative Grid Code Modification(s)** pursuant to GR.20.10 and GR.20.15, the **Grid Code Review Panel** shall direct in the case of (a), and may direct in the case of (b), the **Panel Secretary** to reject a proposal pursuant to GR.15, other than a proposal submitted by **NGET** pursuant to a direction issued by the **Authority** following a **Significant Code Review**, -in accordance with GR.16.4~~(b)~~, or an Authority Led modification, if and to the extent that such proposal has, in the opinion of the **Grid Code Review Panel**, substantially the same effect as:

GR.15.6 Prevents the Panel refusing the raising of a mod by NGET at the Authority's direction, but should also include Authority-raised mods.

GR.16.4 c) it is raised by the **Authority** pursuant to GR.15.1(c)(iii) ~~GR15.1(e)(i)~~ who reasonably considers the **Grid Code Modification Proposal** to be necessary to comply with or implement the **Electricity Regulation** and/or any relevant legally binding decisions of the European Commission and/or the **Agency**; or

GR.16.4(c) refers to GR.15.1(c)(i) in relation to code mods required by EU law but GR.15.1(c)(i) concerns SCR-derived code mods. It is GR.15.1(c)(iii) that concerns code mods required by EU law so this cross-reference should be amended.

Legal Text – Proposed Changes Cont.

GR.19.1

- (a) The **Code Administrator** and the **Grid Code Review Panel** shall together establish a timetable to apply for the **Grid Code Modification Proposal** process. That timetable must comply with any direction(s) issued by the **Authority** setting and/or amending a timetable in relation to a **Grid Code Modification Proposal** that is in respect of a **Significant Code Review**.

Ofgem suggested compliance with an Authority directed timetable should be explicit in the code because it is a requirement contained in the licence (see SLC C14 2A(f)).

Legal Text – Proposed Changes Cont.

GR.20.9 Subject to the provisions of this GR.20.9 and unless otherwise determined by the **Grid Code Review Panel**, the **Workgroup** shall develop and adopt its own internal working procedures for the conduct of its business and shall provide a copy of such procedures to the **Panel Secretary** in respect of each **Grid Code Modification Proposal** for which it is responsible. ~~Unless the Grid Code Review Panel otherwise determines, M~~meetings of each **Workgroup** shall be open to attendance by a representative of any **User**, (including any **Authorised Electricity Operator**; **NGET** or a **Materially Affected Party**), the **Citizens Advice**, the **Citizens Advice Scotland**, ~~the~~ **Authority** and any person invited by the chairman, and the chairman of a **Workgroup** may invite any such person to speak at such meetings, ~~other than the authority who may speak at any time as per GR20.3.~~

GR.20.9 does not explicitly allow for Ofgem to attend Workgroups and so the Authority should be added.

GR.7.2 Alternate(s): other Panel Members.

- (a) At the same time that the parties entitled to vote in the relevant election appoint **Elected Panel Members** under GR.4.2(a), they shall appoint the following **Alternate Members** ~~in accordance with Annex Gr.A~~

The election process at GR.A doesn't refer to the election of Alternates as indicated at GR.7.2.

Governance Route

- It is proposed that the GC0119 Grid Code Modification Fast Track Proposal is implemented on the day after publication of the approved Grid Code Modification Fast Track Report providing no objections have been raised as per the objection process described in GR26.

Date	Activity
18 July 2018	Draft Grid Code Modification Fast Track Proposal Report presented to the Grid Code Panel
19 July 2018	Publish approved Grid Code Modification Fast Track Report
09 August 2018	Appeal window closes
10 August 2018	Code Administrator implement GC0119

Proposed Timetable: GC0119



GC RP– 18 July 2018
Code Administrator

Code Administrator Proposed Progression

- The Panel is asked to consider:
 - If they agree that the legal text matched the modification intent
 - If they agree that this modification should progress as fast track
 - If they agree with the proposed timeline

Workgroup Reports

Authority Reports – Gurpal Singh, Ofgem

Modifications Progress Update



Grid Code Review Panel – 18 July 2018

GC0106

GC0106: Data exchange requirements in accordance with Regulation (EU) 2017/1485 (SOGL)

- Workgroup 9 convened on 4 July 2018 – Next Workgroup 01 August 2018 to discuss WACM2.
- All KORRR and supporting reference papers for the meeting are available on the National Grid website:
 - <https://www.nationalgrid.com/uk/electricity/codes/grid-code/modifications/data-exchange-requirements-accordance-regulation-eu-0>
- Aim to send back to back Panel in August/September

GC0110

- **GC0110 Limited Frequency Sensitive Mode Over frequency Compliance Requirements for Type A and Type B PGMs**
- Panel will hold recommendation vote at August's Grid Code Review Panel

GC0111

GC0111 – Fast Fault Current Injection Specification Text

- First Workgroup held on Workgroup day on 4 July 2018
- Workgroup Report to be submitted to Panel in September ahead of Code Administrator Consultation

GC0112

GC0112 - National Grid Legal Separation Grid Code Changes to incorporate NGESO

- Initial Workgroup meeting held on 28 June 2018 following GCRP
- Workgroup Report due back at August Panel
- W/G Planned W/C 30th July 2018 TBC

GC0114 SOGL Prequalification Processes

GC0114 - System Operation Guideline

- Second Workgroup held on 10 July 2018
- Poll with industry to decide next two working group dates (August and September), with dates to be confirmed 19 July 2018

GC0109

- **GC0109 The open, transparent, nondiscriminatory and timely publication of the various GB electricity Warnings or Notices or Alerts or Declarations or Instructions or Directions etc., issued by or to the Network Operator(s).**
- Request for this modification to be treated as Urgent sent to the Authority
- Decision date expected by end of July. This is TBC by the Authority
- <https://www.nationalgrid.com/uk/electricity/codes/grid-code/modifications/open-transparent-non-discriminatory-and-timely-0>
- 1st WG Meeting to be held 01 August 2018
- Pre-call to be held 19 July 2018

GC0096

GC0096 – Energy Storage

- Revised legal text to be presented at next workgroup meeting on 26 July 2018 to run through legal text
- Aim to consult by Sept 2018
- Need to resolve some minor points regarding different types of storage project – controllable, non-controllable, synchronous, non-synchronous

GC0103

GC0103: Introduction of Harmonised Applicable Electrical Standards

- No further update since June GCRP
- Workgroup 3 convened on 27 March to review actions and potential alternatives
- Scale of documentation to review is large and prioritisation discussion occurring in the Workgroup
- CA requested view on Technical Chair question and one view expressed that this was required
- Workgroup Documentation available online - <https://www.nationalgrid.com/uk/electricity/codes/grid-code/modifications/gc0103-introduction-harmonised-applicable-electrical>

GC0107 (+GC0113)

GC0107: The open, transparent, non discriminatory and timely publication of the generic and/ or PGM specific values required to be specified by the relevant TSO(s) and / or relevant system operator et al., in accordance with the RfG.

- Panel agreed that this modification is to be amalgamated with GC0113
- Modifications not required for compliance as agreed by Workgroup consensus.
- Date for Workgroup to be held in September 2018
- Website updated with proposal and can be accessed online via:
<https://www.nationalgrid.com/sites/default/files/documents/PP3.%20GC0107%20Modification%20Proposal.pdf> (GC0107)
- <https://www.nationalgrid.com/uk/electricity/codes/grid-code/modifications/open-transparent-non-discriminatory-and-timely-1> (GC0113)

GC0117

- Code Administrator to develop timeline - TBC
- Timeline to be agreed at panel meeting in August
- Modification currently open to workgroup nominations – open until 23 July 2018

GC0105

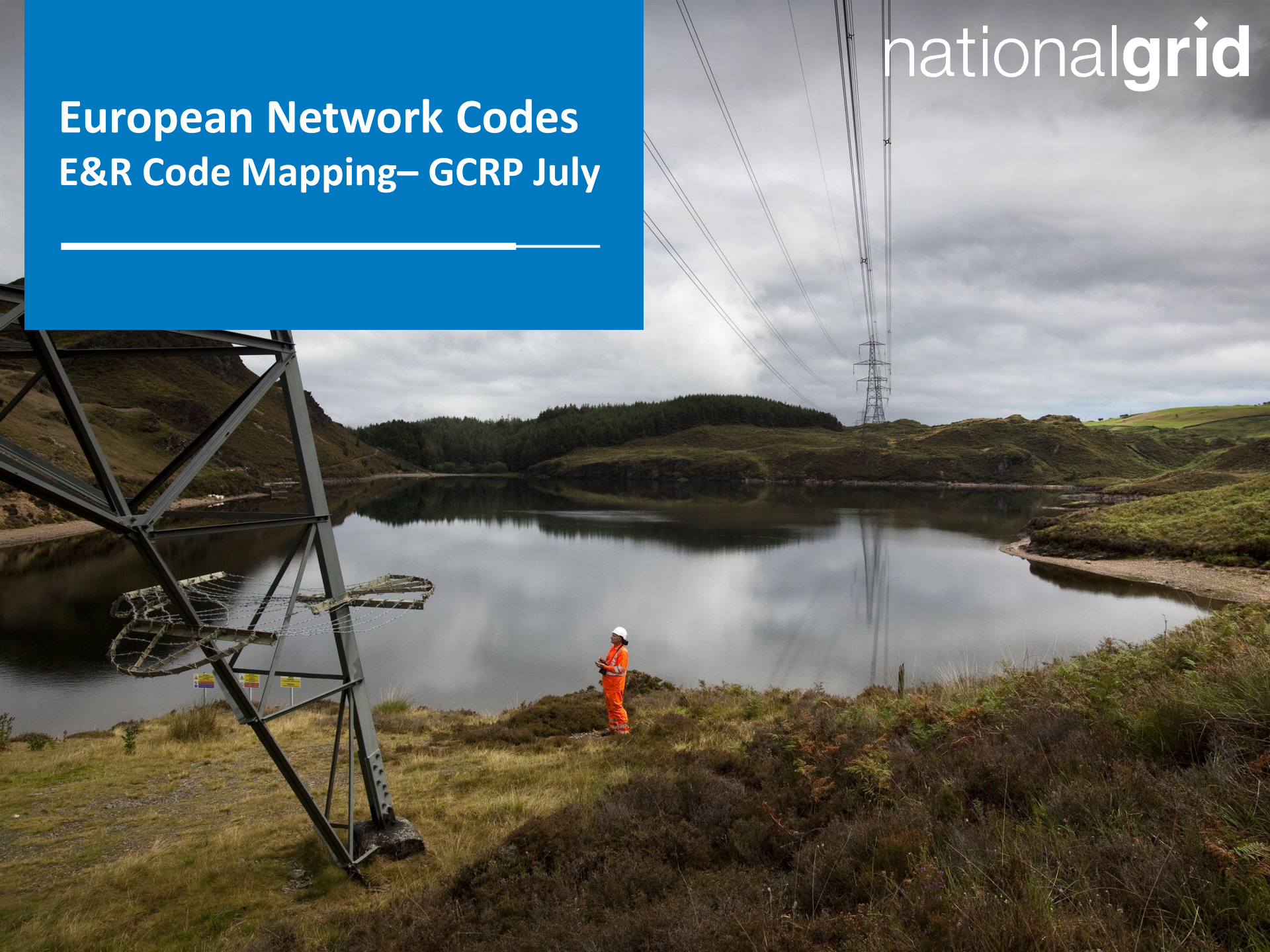
GC0105: System Incidents Reporting

- Two Workgroup meetings held on 22 Feb and 16 March
- Proposer currently developing solution for Workgroup Consultation based on Workgroup discussions
- CA received request to place modification on hold until later in the year recently, CA to speak to Proposer on the best way forward/whether its best to withdraw the modification or request for modification to be placed on hold
- Feedback to Panel via email

Draft Final Modification Report – GC0108

European Network Codes E&R Code Mapping– GCRP July

nationalgrid



Context

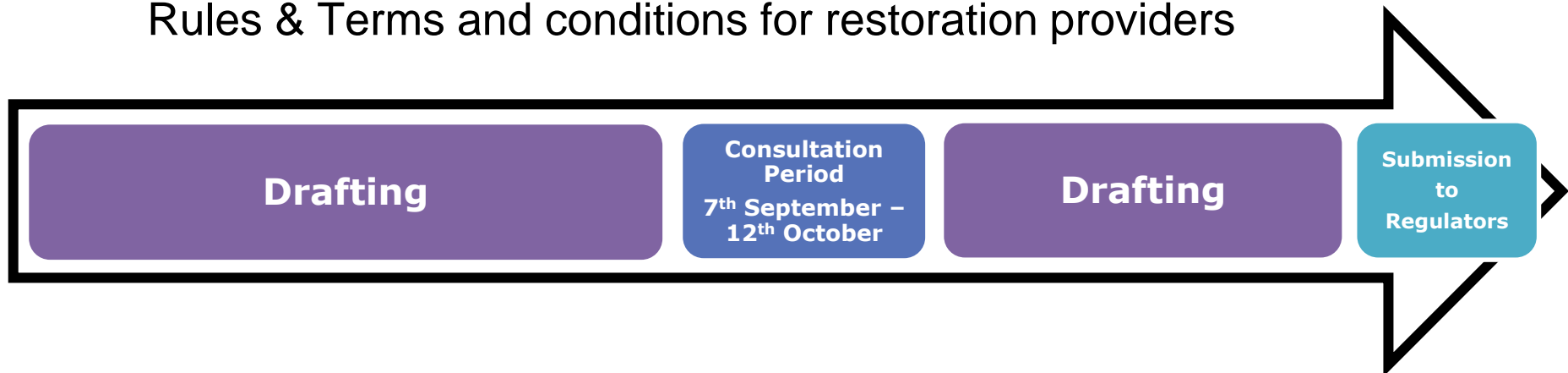
- The E&R required that a system operator produce a system defence plan, to be enacted in the event of significant issues affecting the system. It also required a restoration plan detailing the actions to be taken to restore supply in event that the system enters a Blackout state as defined by SOGL. Finally, it also details how the defence and restoration capabilities should be tested for compliance
- E&R entered into force in 18th December 2017 which most deliverables

Grid Code Modifications Currently Identified

- GC0108 will be discussed at panel later today.
- E&R states that each restoration service provider shall execute a black start capability test at least once every three years. Currently the Grid Code states this should be tested no more than once every two years. Our position is that this change is necessary
- National Grid have raised a modification proposing a change to the wording OC5 of the Grid Code allowing the frequency of testing black start units to every three years.
- <https://www.nationalgrid.com/sites/default/files/documents/GC0108%20EU%20Code%20Emergency%20and%20Restoration%20Black%20Start%20Consultation.pdf>
- <https://www.elexon.co.uk/bsc-and-codes/code-administration-code-practice-cacop/>

Emergency and Restoration – Proposal Updates

- In line with the European Network Code for Emergency and Restoration National Grid have been developing a number of proposals due for regulatory submission December 2018
- The following proposals will be consulted upon: System Defence Plan, Restoration Plan, and a Proposal for the Market Suspension Rules & Terms and conditions for restoration providers



- To coincide with the public consultation NG will be hosting a set of informative webinars which can be found on our communications plan [here](#).

Approach Taken

- NGET hosted a code mapping review in May 2018 where the requirements under E&R were reviewed
- The group reviewed the areas of potential impact and changes to the GB market
- Aim to identify any areas which contradict existing GB framework
- We reviewed the following areas:
 - System Defence Plan [Art. 11- 22]
 - System Restoration Plan [Art. 22 – 27]
 - Market Suspension [Art. 35 – 39]
 - Information exchange and comms [Art. 40 - 42]
 - Compliance and review [Art. 43 - 51]

Actions Taken following Code Mapping Review

- Detailed spreadsheet will be emailed to Grid Code panel members following this meeting
- Common themes identified:
 - Each proposal will include a list of compliance against the requirements under the code
 - All potential changes will be signposted through the JESG, ETG (Electricity Task Group), BSF (Black Start Forum)
 - NGET will develop a more coherent and demonstrative approach to coordination when notifying parties of the activation of the system defence and restoration plan.

Electrical Standards

Governance

Reports to Authority

Reports to Authority

- ☐ **GC0108**
- ☐ **GC0112**
- ☐ **GC0106**

Standing Items

AOB

Next Meeting

15 August 2018 at NG House

Papers Day – 7 August 2018