

Stage 01: Modification Proposal

Grid Code – **[DCRP_18_03_04]**

GCXXX: *(Code Administrator to issue reference)*

Mod Title: LFSM-O compliance requirements for Type B PGMs

DRAFT

Purpose of Modification: To update the Grid Code and G99 with revised text for limited frequency sensitive mode- overfrequency compliance so that manufacturers have clear pass/fail criteria for limited frequency sensitive mode-overfrequency compliance.

The Proposer recommends that this modification should be:

- assessed by a Workgroup

This modification was raised *dd month year* and will be presented by the Proposer to the Panel on *dd month year* (**Code Administrator to provide date**). The Panel will consider the Proposer's recommendation and determine the appropriate route.



High Impact: *Manufacturers, installers and owners of Type B power generating modules connected to both distribution and transmission systems*



Medium Impact: *DNOs*



Low Impact: *None*

What stage is this document at?

01	Modification Proposal
02	Workgroup Report
03	Code Admin Consultation
04	Draft Final Modification Report
05	Report to the Authority

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Any Questions?

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Proposer:

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Timetable

The Code Administrator will update the timetable.

The Code Administrator recommends the following timetable: *(amend as appropriate)*

Workgroup Meeting 1	dd month year
Workgroup Meeting 2	dd month year
Workgroup Meeting 3	dd month year
Workgroup Report presented to Panel	dd month year
Code Administration Consultation Report issued to the Industry	dd month year
Draft Final Modification Report presented to Panel	dd month year
Modification Panel decision	dd month year
Final Modification Report issued the Authority	dd month year
Decision implemented in Grid Code	dd month year

Defect

The Grid Code being implemented in GC0102 introduces new specific limited frequency sensitive mode- overfrequency requirements for all Type B generators. This is a new requirement for all distribution connected generation, and also a new limitation of frequency sensitive mode requirements for transmission connected smaller (ie Type B) generation.

What

The specification and testing requirements for type B limited frequency sensitive mode- overfrequency need to be clarified – and this clarification fed into G99 and G98 which also need to be updated to reflect this.

Why

Manufacturers of smaller Type B generation need clarity on the limited frequency sensitive mode- overfrequency requirements so that then can ensure compliance at the point of manufacture. Although not a mass market product, these are nevertheless turned out in significant numbers and it is not appropriate or efficient to have a dialogue in every instance when a Type B module is commissioned.

How

The Grid Code and ERECs G99 and G98 will need to be modified post clarification of the compliance requirements.

Joint work with the DCRP

As many of the generation units affected by these requirements will be connected to the Distribution Network it is appropriate that this is a joint WG, carrying on the approach taken in drafting ERECs G99 and G98, whereby it is National Grid's responsibility under the RfG to specify these parameters, but their implementation needs to be jointly between transmission and distribution.

Justification for Normal Procedures

Although this is unlikely to be a contentious modification as the intent is only to clarify the exact requirements, it is expected that there will be high degree of interest in ensuring that the proposed revised text is both clear and does not inadvertently impose new requirements on Users.

Requested Next Steps

This modification should:

- be assessed by a Workgroup

3 Why Change?

In the development of GC0102 and the associated EREC G99 and G98 documentation, the existing Grid Code requirements were identified as being RfG compliant and appropriate to retain in GB. However the application of limited frequency sensitive mode- overfrequency to distribution connected generation as small as Type B is completely new. Also, as well as being new, it has not been the practice that limited frequency sensitive mode- overfrequency is provided in isolation from frequency sensitive mode. Hence the historic approach to assessing limited frequency sensitive mode- overfrequency has been as part of a wider assessment of frequency sensitive mode.

The current Grid Code drafting includes phrases such as “as much as possible” and only indicative performance requirements. The proposer accepts that such drafting prompts appropriate discussions regarding performance with Generators on a case by case basis for Large Power Stations. However it is not appropriate for manufacturers making many-off common products such as Type B power generating modules, where a prescriptive pass/fail criterion for compliance is required.

4 Code Specific Matters

- Familiarity with current Grid Code requirement.
- Understanding of the practical issues associated with frequency following performance of generating modules, particularly synchronous, in the Type B size range.

Reference Documents

Current GC0102 Grid Code

EREC G99

EREC G98

5 Solution

The requirements for Types A & B generators (as specified in ECC 6.3.7.1, in EREC G99 A.7.1.3, A7.2.4, B.5.6, B.6.6 and G98 Appendix 3 Form C) will need to be updated following agreement in the working group as to the precise requirements that need to be complied with.

It is likely that there will need to be consequential amendments to ECP Appendix 5 (and possibly Appendix 6)

6 Impacts and Other Considerations

The key documents affected by this modification proposal are the Grid Code and EREC G99. There are no other effects on other industry documents.

Does this modification impact a Significant Code Review (SCR) or other significant industry change projects, if so, how?

No

Consumer Impacts

There are no consumer impacts.

Impact of the modification on the Relevant Objectives:	
Grid Code Relevant Objectives	Identified impact
To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity	Positive
To facilitate competition in the generation and supply of electricity (and without limiting the foregoing, to facilitate the national electricity transmission system being made available to persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity)	Positive
Subject to sub-paragraphs (i) and (ii), to promote the security and efficiency of the electricity generation, transmission and distribution systems in the national electricity transmission system operator area taken as a whole	Neutral
To efficiently discharge the obligations imposed upon the licensee by this license and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency; and	Positive
	Neutral
Distribution Code Relevant Objectives	
Permit the development, maintenance, and operation of an efficient, coordinated and economical System for the distribution of electricity.	Neutral
Facilitate competition in the generation and supply of electricity.	Neutral
Efficiently discharge the obligations imposed upon DNOs by the Distribution Licence and comply with the Regulation (where Regulation has the meaning defined in the Distribution Licence) and any relevant legally binding decision of the European Commission and/or Agency for the Co-operation of Energy Regulators.	Positive
Promote efficiency in the implementation and administration of the Distribution Code	Neutral

This change will dispel any confusion over what compliance with limited frequency sensitive mode- overfrequency means for Type B power generating modules and

how it is to be demonstrated. This will help GB stakeholders comply efficiently with the RfG requirements.

8 Implementation

This modification needs to be progress without delay so that manufacturers gearing up for producing compliant equipment by the May 2019 deadline have sufficient time to design and implement solutions.

9 Legal Text

Legal text to be developed by the WG

10 Recommendations

The Panel is asked to:

Agree that Normal governance procedures should apply

- Refer this proposal to a Joint GCRP/DCRP Workgroup for immediate assessment.