

Requirements for all Generators Distribution Code Amendments, EREC G98/NI, G99/NI and the PPM Setting Schedule

Distribution Code Consultation

Target Audience: All current and prospective manufacturers, developers, owners and operators of generation (and storage) of any size connecting to the distribution network.

Date published: 10 January 2019

Deadline for responses: 15 February 2019

1. SUMMARY

This Distribution Code public consultation is seeking the views from stakeholders on the proposed modifications to the Distribution Code and the publication of EREC G98/NI, EREC G99/NI and the PPM Setting Schedule which together implement the European Union (EU) Network Code Requirements for Generators (RfG). EREC G98/NI, G99/NI and the PPM Setting Schedule are completely new documents; they will become Annex 1 documents in the Distribution Code and therefore subject to Authority (UR) approval before final publication.

2. INTRODUCTION

The Northern Ireland (NI) Grid and Distribution Code Review Panels have been running areas of joint work implementing the EU Network Codes, with the current focus on the RfG. The work has been carried out as part of an all Ireland joint TSO/DSO workgroup (WG), however all the relevant implications for distribution network stakeholders in Northern Ireland (NI) have been developed.

Guidance from the Department for Economy (DFE) and UR has been to apply the new EU requirements within the existing NI regulatory frameworks. This will provide accessibility and familiarity to NI parties, as well as putting in place a robust governance route to apply the new requirements in a transparent and proportionate way.

The Panels have consulted jointly on developments in the WG progressively throughout 2018. This current consultation is being run with only consultation material for the Distribution Code and its associated documents (EREC G98/NI, EREC G99/NI and the PPM Setting Schedule). Formally NIE Networks will have to recommend the final Distribution Code etc. changes to UR separately from SONI recommending the Grid Code changes. It should be noted that work to implement the required Grid Code changes is currently on-going, which when complete may require changes to the PPM Setting Schedule, any changes will be submitted to the Grid and Distribution Code review panels and may be subject to a public consultation.

This current consultation paper does not revisit the development of the RfG parameters etc. that are to be adopted in NI and that were the subject of previous joint consultation. The report to UR entitled "*SONI and NIE Networks' proposal for the general application of technical requirements in accordance with Articles 13 – 28 of the Commission Regulation (EU) 2016/631 establishing a network code on requirements for grid connection of generators*" is included in the consultation pack for reference. The proposals included in this report were approved by UR on 16 November 2018.

3. ANALYSIS AND PROPOSAL

3.1 Arrangements for Existing and New Generators

New generating plant that is required to be RfG compliant will be directed by the Distribution Code to either G98/NI (for Type-Tested Type A power generating modules) and G99/NI (for all other power generating modules) for their connection and compliance requirements. Existing power generating modules will continue to be bound by G83 and G59/1/NI for their connection compliance requirements. All power generating modules, existing and new, will need to comply with the Operating Codes in the Distribution Code in terms of ongoing system management requirements.

3.2 Development of Proposals

Development of the proposals for the Distribution Code and for ERECs G98/NI and G99/NI was undertaken in parallel with similar work being undertaken by the Energy Networks Association on behalf of the GB Distribution Network Operators (DNOs). Feedback from stakeholder workshops and the formal consultation carried out in GB has been used to develop the drafts of the Distribution Code and ERECs G98/NI, G99/NI and the PPM Setting Schedule for this consultation. It should be noted that the current draft of G99/NI in this consultation pack includes changes proposed in the GB G99 version 4 document which is due to be consulted on in February 2019.

3.2.1 The Distribution Code

The principle changes to the Distribution Code are to harmonize certain key definitions with the RfG and with G99/NI – particularly the use of Power Generating Module, Generating Unit and Power Generating Facility.

Modification to CC7 to allow for compliance with the European Network Code Requirements for Generators and achieved by the introduction of Engineering Recommendations G98/NI, G99/NI and the PPM Setting Schedule. Text in CC7 that overlaps with text in G59/1/NI has been deleted. New text in CC7 applies the technical requirements of either G59/NI and CC7 for existing generation commissioned before 27 April 2019 or G99/NI requirements only (i.e. not CC7) for generation commissioned on or after 27 April 2019. A similar arrangement has been made for G83 and G98/NI.

New Annex 1 documents, G98/NI, G99/NI and the PPM Setting Schedule will form part of the Distribution Code.

3.2.2 EREC G98/NI

G98/NI has been written to be as close to G83 as possible, but incorporating the RfG requirements, and also basing the requirements on BS EN 50438. It is likely that BS EN 50438 will be superseded by EN 50549 in the near future, in which case G98/NI will need to be updated.

The principle effects of the RfG are to require LFSM, to ensure that the compliance verification information is all contained in an Installation Document, and to make allowance for Equipment Certificates to demonstrate compliance. There is no Equipment Certificate regime in place, but the existing type testing regime will continue whereby manufacturers' information can continue to be used to demonstrate compliance.

Comments received so far on G98/NI have been largely confined to editorial issues.

3.2.3 EREC G99/NI

NIE Networks have an ambition to use EN 50549 as far as possible to replace NI specific documentation. However a published and RfG compliant EN 50549 is likely to be two or three years away. So G99/NI has been written to apply the requirements of G59/1/NI, modified to include RfG requirements, and also to extend the concept of type testing above the current G59 limit of 50kW. Recognising the likely emergence of Equipment Certificates, there is no upper limit to the use of type tested products, and accommodation has been made for the assembly of type tested products into complete Power Generating Modules.

Key drafting points from stakeholder feedback are:

(a) G99/NI covers the increasing requirements of Type A power generation modules through to Type D power generation modules – technical requirements are dealt with in separate chapters for each Type. Compliance requirements for Types A and B are dealt with in separate chapters in G99/NI; compliance requirements for Types C & D are dealt with in the PPM Setting Schedule.

(b) LFSM and fault ride through (FRT) have been included in G98/NI and G99/NI (in sections 11, 12 and 13).

(c) Examples of the combination of generating units of different technologies, both existing and new have been included in section 6.1.5. Understanding what G99/NI applies to and what G59/1/NI applies to, and how generating units should be combined into Power Generating Modules for compliance is a key issue that needs clarity.

(d) The requirements for reconnection after planned or inadvertent disconnection remain the same as currently – see section 10.3.3 and 10.3.4.

(e) The new RfG operational metering requirements for new Power Generating Modules of Type B and above will generally be met by DNOs own telemetry. All types will need to fit appropriate control ports to enable the DNO to issue instructions relating to active power output. Type C and D Power Generating Modules will need to fit dynamic system monitoring equipment. These are all new requirements, and the drafting in G99/NI is trying to balance current and future needs with cost. Drafting for these points can be found in sections 11.1.4, 12.1.3, 12.7, 13.1.3, 13.9 and Annex C.3.

(f) There are new requirements for Type B, C and D Power Generating Modules to submit simulation studies – see Annexes B5 and C7.

(g) Stakeholders seem to agree that there is no case to allow for non-type tested generation of less than 16A per phase. Hence all such generation, and also Power Generating Modules of <800W, will be dealt with exclusively in G98/NI.

(h) Requirements for assembling type tested components into a type tested Power Generating Module have been laid out in section 15. These do not obviate the need for checks on site to prove functionality, but they are designed to minimise the need for complex site testing as part of the compliance assessment process.

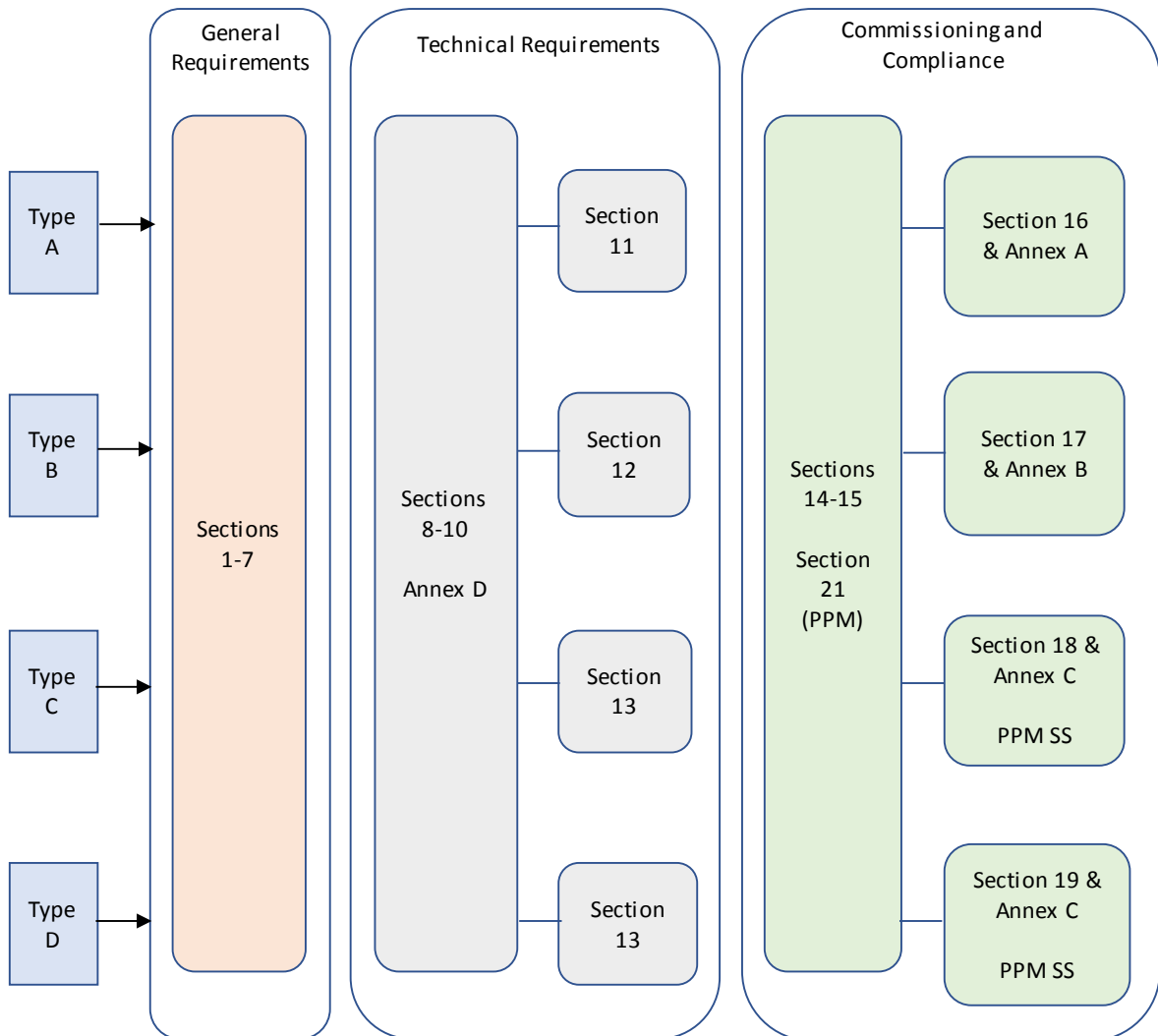
3.2.4 The PPM Setting Schedule

The overall structure of G99/NI has been created to deal with the specifics of technical requirements and of compliance within discrete sections for each Type of module with the exception of Type C and Type D Power Park Modules (PPM). The PPM setting schedule has been developed from the existing Wind Farm Power Station Settings Schedule and covers all aspects of compliance for Types C and D PPMs. This is a joint SONI and NIE Networks document and builds on the collaborative approach to compliance requirements established in the Wind Farm Power Station Settings Schedule.

3.3 EREC G99/NI Compliance Requirements

G99/NI has been written to extend the philosophy of type testing as far as possible above the current 50kW limit. In doing so it has to cope with smaller Type A modules in the sub 50kW range (i.e. as existing) and up to much larger components, possibly used to form Type B, C or D modules. The development of these approaches has benefitted from significant stakeholder feedback during and between the workshops mentioned above.

The overall structure of G99/NI has been created to deal with the specifics of technical requirements and of compliance within discrete sections for each Type of module, as per the diagram below.



For each type, the forms in the Annexes are designed to guide Generator through the connection process and also to act as the Installation Document for Type A (Annex A3) and supporting compliance information (Annex A2), and the Power Generating Module Document for Types B and C (Annex B2, and Annex C2 and their supporting forms). Type D requires the EON, ION, FON process and this is covered in section 19 (and also uses the C2 forms).

At the stakeholder workshops mentioned in 3.2 above, the use of all the suggested forms was discussed with participants. As a result of those workshops it was agreed to modify the presentational order in the consultation version of G99/NI – although further dialogue with stakeholders would still be welcome. These are not changes of requirement or detail, but improvements to the readability of G99/NI and the practicalities of using it. NIE Networks will review these structural suggestions, in continuing dialogue with stakeholders, in parallel with the consultation on the content of G99/NI.

4. APPLICABLE DISTRIBUTION CODE OBJECTIVES

Impact of the modification on the Applicable Distribution Code Objectives:	
Relevant Objectives	Identified impact
To permit the development, maintenance and operation of an efficient, coordinated and economical system for the distribution of electricity	Neutral
To facilitate competition in the generation and supply of electricity	Neutral
To efficiently discharge the obligations imposed upon NIE Networks by its distribution licence and comply with the Regulation and any relevant legally binding decision of the European Commission and/or the Agency for the Co-operation of Energy Regulators;	Positive
To promote efficiency in the implementation and administration of the Distribution Code	Neutral

5. CONSULTATION QUESTIONS

- i. Comments are welcome on any part of the draft Distribution Code, G98/NI, G99/NI and the PPM Setting Schedule. Please comment in the manner that is most convenient to you. Specific word templates are available in the consultation pack for making detailed drafting comments on, but please do not feel constrained to use them.
- ii. Do you have any general comments on how effectively the RfG requirements have been incorporated into NI documents and is there any aspect that needs modifying before final publication?
- iii. Do you have any comments on the envisaged connection and compliance assessment process?

6. NEXT STEPS

Responses to this consultation should be sent to the Distribution Code Administrator at david.hill@nienetworks.co.uk by **17:00 15 February 2019** on the pro-forma provided expressly for the purpose, or via any other convenient means. Given the very tight timescale to progress this modification, responses after this date may not be considered.

For more information, please contact:

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