

The Voice of the Networks

**Energy
Networks
Association**

WG0048

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Update in respect of drafting proposals for the incorporation of the EU Network Code RfG into the GB Distribution Documents

- Presentations of proposals for drafting structure in March (WG0048) and April (JESG)
- Draft of new document G98 to replace G83 for smallest generation circulated in March 2015.
- Implementation Guidance covering note and document May GC0048
- June 2015 we noted a large amount of the GB content is detailed within European standards which could be used to remove volume from GB documentation

BSEN 50438 Requirements for micro-generating plants to be connected in parallel with public low voltage distribution networks

	BSEN 50438 comparison with G98 draft
Same	Over-current protection, Earthing, Interface protection (GB Annex), Connection and starting to generate electrical power (GB Annex), Response to under-frequencies
Generally similar - some missing GB requirements	Power Quality (missing GB req for group testing), Labelling (missing GB req for up to date information display), Maintenance and routine testing (missing user instruction availability),
Different	Continuous operating range (Voltage, frequency, over frequency), Reactive power capability, Short circuit contribution, loss of mains Commissioning
In BSEN and new to GB	Reactive power control modes, Synchronising (automatic), Safety, Information plate
Missing in BSEN	Frequency drift and step change stability test, Active power output, logic interface

BSEN 50438 Requirements for micro-generating plants to be connected in parallel with public low voltage distribution networks

	BSEN 50438 Annexes comparison with G98 draft
Same	Annex A (informative) National settings and requirements (will need updating in relation to RfG) Annex C (informative) Example notification sheets Some of Annex D (informative) Compliance type testing Annex F (informative) Commissioning
Different	Annex B (informative) Loss of Mains and overall system security Annex E (informative) Example test results sheet
New and required by RfG	Some of Annex D (informative) Compliance type testing - Active power feed-in at under-frequency
New	Some of Annex D (informative) Compliance type testing - Controllable reactive power; Connection and starting to generate electrical power; Voltage control by active power; Power response to over-frequency

TS 50549-1&2 Requirements for the connection of generating plant to a distribution system

	TS 50549 comparison with G98 draft
Same	Normal operating range, active response to frequency (more content in TS), Connection and starting to generate electrical power
Generally similar - some missing GB requirements	EMC and power quality (GB require group testing)
Different	Connection scheme, Switchgear, Immunity to disturbances, DC injection, Interface protection (although GB fits within ranges specified)
In TS and new to GB	LVRT, HVRT, Power response to voltage variations, some specifics of interface protection

TS 50549-1&2 Requirements for the connection of generating plant to a distribution system

	TS 50549 Annexes comparison with G98 draft
Same	(informative) Interconnection requirements (part)
Generally similar - some missing GB requirements	
Different	(informative) Interconnection requirements (part) (informative) Loss of Mains and overall power system security (informative) Examples of protection strategies (mainly islanding)
New and required by RfG	(informative) Frequency stabilising services (part)
In TS and new to GB	(informative) Remote information exchange (informative) Frequency stabilising services (part)

What does this mean for the documents?

- Some text from G98 draft documents can be removed
 - e.g. G83 5.2 Installation Wiring and Isolation is covered by BSEN50438 4.1 Electrical installation
- Some text will be replaced to reference BSEN50438 with specific GB parameters
 - e.g. Interface protection and control: The **Micro-generator** shall comply with the **GB** specific interface protection settings set out in EN50438 however the interface protection settings shall not be field adjustable
- Some text will be replaced to reference BSEN50438 with specific GB parameters
 - e.g. Limited Frequency Sensitive Mode: With regard to the **limited frequency sensitive mode — overfrequency (LFSM-O)**, the **Micro-generator** shall be capable of activating the provision of **active power frequency response** according to EN50438. The **GB** specific standard **frequency** threshold shall be [50.4 Hz]; the **droop** setting shall be [10 %]
- Type testing Annex in BSEN50438 can be used with some additional clarifications and requirements

- This is an opportunity to align more closely with Europe
- Using BSEN 50438 and TS 50549-1 & 2 will make the documents less immediately accessible and user friendly
- However the DG Connection Guides (a licence requirement) are well established and provide the information required by a User connecting small generation
- The RfG, Dcode, G83, G59 are applicable to manufactures and installers who can access technical documentation
- The DG Guides can be revised to ensure Installer and User requirements are adequately covered

- Drafting to incorporate BSEN 50438 and TS 50549-1 & 2 as applicable for smaller generators
- Still need to consider larger generators in conjunction with NGET once banding agreed
- Re drafted G98-1 to be available for August WG meeting
- Option as outlined by Martha (on behalf of Garth) in JESG in respect of access to documents – way in logic tree – document created of relevant clauses