

---

# ENTSO-E response to GB compliance understanding

External Project Team / WG CNC

---

29 May 2017

---

## 1. Contents

1. Contents.....	2
2. Response to GB compliance understanding.....	3
GB understanding of LVFRT .....	3
ENTSO-E response: .....	3
No need for changes in current practice .....	3
ENTSO-E response: .....	3
Equipment Certificates requested in 2019.....	3
ENTSO-E response: .....	3
PGM compliance assessment could be based on EqC .....	3
ENTSO-E response: .....	3
Consequences of absent EqCs .....	4
ENTSO-E response: .....	4
NC RfG compliant standards .....	4
ENTSO-E response: .....	4
Scope of NC RfG compliant standards .....	4
ENTSO-E response: .....	4
GB blue guide?.....	5
ENTSO-E response: .....	5
Plant commissioning to be interrupted by absence of EqCs?.....	5
ENTSO-E response: .....	5
3. Road map for CENELEC technical specifications 50549-1; - 2 and -10.....	5
4. IGD on connection network codes related to EqC .....	6

## 2. Response to GB compliance understanding

The following subsections include ENTSO-E response to the GB understanding of compliance issues raised via e-mail.

### GB understanding of LVFRT

For fault ride through TSOs rely on compliance information from manufacturers, but the information is always traceable back to tests, etc., that have been witnessed by a representative of the TSO. For other aspects the TSOs rely on other on-site tests and simulations.

#### ENTSO-E response:

LVFRT function is normally a part of the type testing approval e.g. wind turbines compliance testing according to IEC61400-21. Electrical simulation model verification e.g. for wind turbines could be performed according to IEC61400-27. The compliance and verification testing is the responsibility of the facility owner. Typically the TSO accepts a test specification and could eyewitness the verification testing if needed.

### No need for changes in current practice

The GB TSOs see no need to change this practice, for the (relatively small) volumes of their activities. In addition the DSOs are unlikely to be able to have interaction with each manufacturer to ensure compliance of all units from each manufacturer

#### ENTSO-E response:

According to the NC RfG, the power generating facility owner shall provide of evidence of compliance. The NC RfG imposes no obligation on the relevant system operators to interact with manufacturers. Moreover NC RfG Article 41(3) defines, that the relevant system operator shall make public available a list of information and documents to be provided as well as the requirements to be fulfilled by the power generating facility owner within the framework of the compliance process. This shall include conditions and procedures for the use of relevant EqCs issued by an authorised certifier by the power-generating facility owner.

### Equipment Certificates requested in 2019

Any such manufacturers' information for D connected generation will need to have the status of Equipment Certificates (EqC) if it is to be relied on for compliance from May 2019

#### ENTSO-E response:

According to NC RfG Articles 46(2), 49(2), 53(1) and 56(2) EqCs can be used as a part of the compliance justification, but are not mandatory. A power generating module may include more than a generation unit(s) and the required functions could be performed by other systems components than the generator component. The EqC might be used for any type of facility – A, B, C and D and a single EqC may cover only parts of a power generating module.

### PGM compliance assessment could be based on EqC

PGMs of all Types will rely on Equipment Certificates to use the existing compliance assessment approaches used/specified by DSOs

#### ENTSO-E response:

The compliance process shall be defined by each relevant system operator according to NC RfG Article 41(3). The use of EqCs is not mandatory.

## Consequences of absent EqCs

If manufactures' information is not provided in EqC form, i.e. fully certified in accordance with EC 765/2008, PGM facility owners will all face performing individual tests and simulations on new or modified facilities – which in many cases might only be demonstrable at the manufacturers' works

### ENTSO-E response:

The EC 765/2008 does not apply to product specifications and required functionality. EC 765/2008 is a self-declaration stating that a manufacturer makes products according to specific procedures and test specifications - i.e. a quality assurance declaration. Such a CE declaration has nothing to do with product compliance verification.

## NC RfG compliant standards

Can EqC be granted without NC RfG compliant standards? Relevant ENs seems unlikely to be developed in time. If European Norms are not available, what standards can be used?

### ENTSO-E response:

Since 2007 a European Norm has been in force – the EN50438:2007 Requirements for micro-generating plants to be connected in parallel with public low-voltage distribution networks. The latest version of this norm is from 2013. The norm states the minimum functional requirements for small scale generation units. In addition the IEC61400-2 states the minimum design requirements for small scale wind turbines. Until now the following standards, norms and European directives have been applied for small scale generation units: EN 50110, EN 50160, HD 60364, IEC 60364, EN 61000-3-2:2006, IEC 61000-3-2:2005, EN 61000-3-3, EN 61000-4-30, EN 61000-6-1, IEC 61000-6-1, EN 61000-6-3, IEC 61000-6-3, HD 60364-5-551, IEC 60364-5-55:2001/A2:2008, IEC 60255-127, EN 50524, EN 60034, EN 60255-151:2009, IEC 60034 series, IEC 60255-151:2009, EN 60664-1, IEC 60664-1, EN 61000, IEC 61000, EN 61000-3, IEC 61000-3, EN 61000-4, IEC 61000-4, EN 62116, IEC 62116, IEC 60364-5-55, IEC/TR 60725, IEC/TR 61000-3-15, IEC/TS 62282-1:2010, 2004/108/EC, 89/336/EEC.

Moreover, the NC RfG does not require the use of standards. The relevant system operator may define compliance testing and simulation procedures at its own discretion.

## Scope of NC RfG compliant standards

Do NC RfG compliant standards not require all national parameters and determination of significance (i.e. Type thresholds)?

### ENTSO-E response:

The compliance verification shall be done on the product level, i.e. verification that the minimum design requirements are obtained and the product are compliant and the product parameters is configurable within the specified selectable ranges defined by NC RfG or any further national specification non exhaustive requirements.

In principle, standards could be developed independent from the existence of type thresholds and the national specifications of the non-exhaustive requirements. Being EU legislation, the provisions network codes and their implementation would however prevail over standards in cases of contradictions.

## GB blue guide?

What aspects of the “blue guide” (C 2016 72) are to be applied, if any?

### ENTSO-E response:

What is the “blue guide”?

## Plant commissioning to be disturbed by absence of EqCs?

Unless there is a fallacy in any of the above statements, it seems likely that there will be a hiatus in the orderly commissioning of new plant – particularly mass market domestic scale generation.

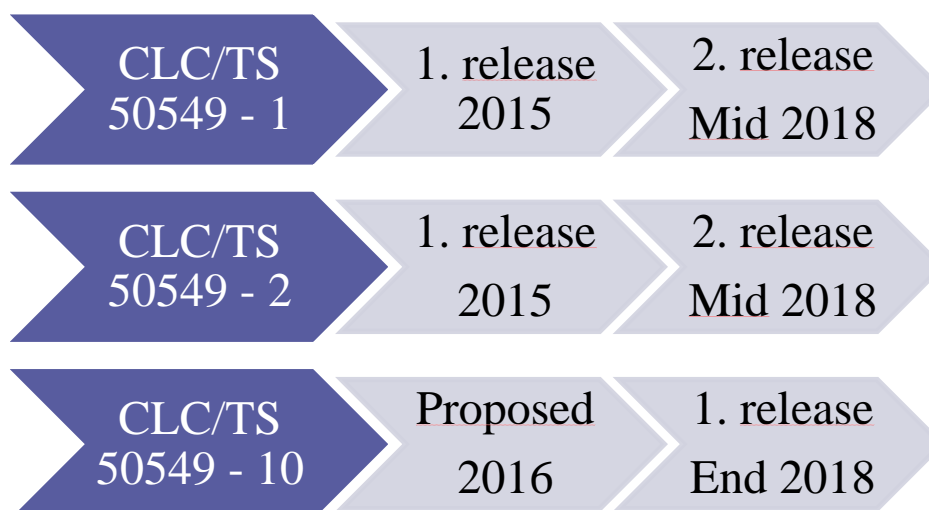
### ENTSO-E response:

As stated earlier numerous standards, norms and directives exist and have been applied globally for more than 10 years for small generation units. One may continue to use these standards and norms for the next 3-5 years to cover aspects which are not covered or changed due to the network codes.

In addition the IECRE activities establishing a global certification of renewable energy sources have been launched several years ago and are in full operation especially on wind turbines and solar devices – GB is member of the IECRE organization. Further details on IECRE activities follow the link:

<http://www.iecre.org/>

## 3. Road map for CENELEC technical specifications 50549-1; - 2 and -10



CENELEC CLC/TS 50549-1: Requirements for generating plants to be connected in parallel with distribution networks - Part 1: Connection to a LV distribution network above 16 A

CENELEC CLC/TS 50549-2: Requirements for generating plants to be connected in parallel with distribution networks - Part 2: Connection to a MV distribution network

CENELEC CLC/pr/EN 50549-10: Requirements for generating plants to be connected in parallel with distribution networks - Part 10: Tests demonstrating compliance of units

---

## 4. IGD on connection network codes related to EqC

IGD on Compliance Testing & Monitoring can be found via the following link:

[https://thales.entsoe.eu/sites/al/ImplementationGuidances/170306%20IGD\\_Guidance%20on%20Compliance%20Testing%20and%20Monitoring.docx?Web=1](https://thales.entsoe.eu/sites/al/ImplementationGuidances/170306%20IGD_Guidance%20on%20Compliance%20Testing%20and%20Monitoring.docx?Web=1)