DCode

DCRP_16_04_05b

Distribution Code Review Panel

Meeting 62 – Thursday 8 December 2016

Distribution Code Guidance Note 3 – ER G83

Paper by Code Administrator

Distribution Code Guidance Note 3 was first issued by the Panel 1 December 2012 and is due to expire 31 December 2016. The guidance note was issued at that time to allow the continued connection of the Stirling Engine as it could only operate within ±1% of the nominal frequency of 50Hz and was therefore unable meet the frequency changes introduced with publication of G83/2. Recognizing the limitations of this specific emerging technology, and noting the Stirling engine was niche and far from mass market, the Panel agreed to the issue of the guidance allowing the technology to continue its niche use.

It was expected in the longer term that either the requirements of the EU Network Code *Requirements for Generators (RfG)* when enacted in UK law would require Stirling engine designs to be modified to comply, or to seek a specific derogation. Similarly if the growth of this technology showed a risk of being material, then again full compliance with G83 would be required. The Panel set threshold of materiality, considering the technical and commercial effects of the technology, to be 50MW.

In August 2016 Ofgem issued guidance on Emerging Technologies. The RfG outlines the requirements that apply to future generators wanting to connect to the electricity network (at transmission or distribution level). The RfG allows manufacturers to submit a request for their generation technology to be classified as an 'emerging technology'.
Generators that are classified as an 'emerging technology' will not have to comply with the new requirements introduced as a result of the RfG. A generator must meet three criteria to be eligible to be classified as an 'emerging technology':

a. The generator technology must be "Type A" in GB;
b. The generator technology must be commercially available in GB; and
c. The accumulated sales of the generator technology, at the time of application, within GB, must not exceed 25 per cent of the maximum level of cumulative capacity of 58.023 MW (ie 14.50MW).

Each application must contain the manufacturer's name, address and contact information, a description of the generation technology, as well as evidence that the generation technology complies with all three of the eligibility criteria above. The application must also provide a detailed explanation to justify why the generation technology should be classified as an 'emerging technology', as well as consideration of the wider impacts of classifying them as an 'emerging technology'. Manufacturers wishing to apply had to submit their application to Ofgem by 17 November 2016.

By no later than 17 May 2017, Ofgem will decide which generators' technologies, if any, are classified as an 'emerging technology', for the purposes of the GB synchronous area. Alongside Ofgem's decision, they will publish a list of 'emerging technologies' and the cumulative maximum capacity of generators classified as 'emerging technologies'.

In the decision, Ofgem will also provide additional information on the on-going reporting requirements for manufacturers of these generators. In the event that the cumulative maximum capacity of all generators classified as 'emerging technologies' connected to the network exceeds 58.023 MW, the 'emerging technology' classification will be withdrawn for all new generators seeking a connection after the threshold has been reached.

Request to Panel
It is proposed that guidance note 3 is amended to reflect the guidance published by Ofgem.

This could take the form of an additional sentence that informs the reader that although the Panel deadline has now expired the Panel would expect all manufactures from 1 Jan 2017 to comply with the requirements contained in Ofgem's Guidance.

https://www.ofgem.gov.uk/system/files/docs/2016/08/rfg_emerging_technologies_guidance.pdf

GUIDANCE NOTE 3

First issued 1 December 2012

ENGINEERING RECOMMENDATIONS G83

The Panel is aware that small scale generation using the Stirling engine as a prime mover has been designed using resonance to operate within ±1% of the nominal frequency of 50Hz. Accordingly it is not technically possible for generation using this technology currently to remain connected down to 47.0 Hz as required by G83/2.
Recognizing the limitations of the current technology, and noting that currently the adoption of this technology is niche and far from mass market, the Panel believes that those G83/2 tests relating to behavior at frequencies out side of the ±1% range should be waived or modified, thus allowing this technology to continue its niche use.
In the longer term the Panel expects that either the requirements of the EU Network Code "Requirements for all Generators" when enacted in UK law will require Stirling engine designs to be modified to comply, or to seek a specific derogation. Similarly if the growth of this technology showed a risk of being material, then again full compliance with G83 would be required. The Panel believes that a sensible threshold of materiality, considering the technical and commercial effects of the technology, to be 50MW.

This note applies from 1 December 2012 and applies in force until 31 December 2016.