

Our Ref: 401012522

Your Ref:

Damian Tow
Brighton Energy Co-op
Ground floor flat
49 Montpelier Road
BN13BA

8th November 2011

Dear Mr Tow,

Thank you for your recent enquiry. As you are aware, prior consent for the connection of your proposed generation is required from UK Power Networks. This is because your proposed low voltage generation installation has a greater current output than 16 amps per phase. This 16 amp per phase limit is set out in the Electricity Industry's G83/1 Standard and regulation 22 of the Electricity, Safety Quality and Continuity Regulations, 2002.

On this basis we have undertaken a review of our current network arrangement with regard to *Units 1-9 Hove Enterprise Centre, Basin Road North, Brighton, E Sussex, BN41 1UY* and can confirm it should be feasible to connect a 45kW 3 phase PV generation installation without adversely impacting our network.

Please note that modifications to our equipment may be required to accommodate the energy supplier's export metering apparatus. If modifications are required then this work would be chargeable.

UK Power Networks has a statutory obligation to operate its distribution network within statutory voltage limits of 230 volts +10% -6% (giving limits of 253 – 217volts). If your generating plant causes the voltage to go outside these limits, it could ultimately result in the nuisance tripping of your generation set or an unsafe condition on our distribution network. If the over/under voltage condition is found to be a result of your generation installation we may require the customer to reduce the level of export or disconnect the generation plant altogether.

On the basis of the aforementioned assessment the following four options are available to you:-

Option 1 - Utilise a G59/2 type approved generator installation.

In order for equipment to be considered type approved it needs to be tested by the manufacturers in accordance with the requirements of ER G59/2 appendix A 13.7. We will need to see the manufacturer's G59/2 test certificates before we can confirm the connection of the proposed generation.

Subject to our confirmation, and following installation, commissioning tests should be undertaken by an approved contractor in accordance with G59/2 section 12.2.

On completion of the commissioning test you should send us the following information:

- G59/2 appendix 13.2 generation installation and commissioning notification form

- G59/2 type verification test certificate
- single line diagram of the installation
- BS7671 installation test certificate.

The notification form can be obtained from :-

<http://www.ukpowernetworks.co.uk/products-services/networks/connection-services/G59-Generator-Connections.shtml>

Option 2 - Utilise a G83/1 type verified installation modified in accordance with Guidance Note 2 of the Distribution Code.

Guidance Note 2 requires the high frequency setting of the inverter protection to be set to 51.5Hz with a time delay of 0.5 second. This option is only available providing the installation is commissioned by 2nd March 2012.

Subject to our confirmation and following installation, a commissioning test will need to be completed by an approved contractor in accordance with G83/1 section 7.

UK Power Networks will need to witness the commissioning test of the G83/1 high frequency setting at a cost of **£650.00 + VAT** per commissioning visit.

On completion of the commissioning test you should send us the following information:

- G83/1 appendix 3 commissioning confirmation form
- G83/1 type verification test certificate
- single line diagram of the installation
- BS7671 installation test certificate

Option 3 - Utilise a non type-approved G59/2 installation with a separate G59/2 certified protection relays with settings that can be adjusted on site.

In order to meet the protection requirements of G59/2 any tighter G83 limits set within inverters for example, should be disabled.

Subject to our confirmation and following installation, suitable commissioning tests should be undertaken by an approved contractor in accordance with G59/2 section 12.2.

UK Power Networks will need to witness the commissioning test of the G59/2 protection relay at a cost of **£1000.00 + VAT** per commissioning visit.

On completion of the commissioning test you should send us the following information:

- G59/2 appendix 13.3 generation installation and commissioning notification form
- single line diagram of the installation
- BS7671 installation test certificate

Option 4 - Reduce the rating the generator to 16A per phase or below and utilise a G83/1 type approved generator installation.

If you select this option you will need to send us the following information within 30days of completing the commissioning of the installation:

- completed G83/1 appendix 3 confirmation form
- G83/1 type verification test certificate
- single line diagram of the installation
- BS7671 installation test certificate.



These documents should be sent to the email address on the form. The confirmation form can be obtained from :-

<http://www.ukpowernetworks.co.uk/products-services/networks/connection-services/Single-G83-connections.shtml>

We await confirmation of how you propose to proceed with the generation before we can provide our agreement to the connection of the generation to our distribution system.

If you have any questions on the above or would like to discuss the matter further please don't hesitate to contact me.

Yours Sincerely

Jenni Wright
Project Designer
UK Power Networks

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