

28th October 2026

Embedded Large Power Stations: Compliance Interactions

Issue 1



Foreword

This Guidance Note has been prepared by the National Energy System Operator (NESO) in collaboration with Network Operators to describe to Generators and other Users how the Grid Code Compliance Process is intended to work in relation to Embedded Large Power Stations.

These Guidance Notes are prepared solely for the assistance of prospective Generators connecting their Embedded Large Power Stations to a distribution System.

These Guidance Notes are based on the Grid Code, Issue 6 Revision 46 effective from 8th October 2026. Definitions for the terminology used in this document can be found in the Grid Code.

Note that at present there is no published guidance to the Compliance Process for Embedded Medium Power Stations with a Bilateral Embedded Generation Agreement (BEGA). Although such guidance may be developed in the future, in the meantime Generators developing Embedded Medium Power Stations and where it is intended to seek a BEGA should discuss the compliance and commissioning process with both the DNO and NESO.

NESO welcomes comments including ideas to reduce the compliance effort while maintaining the level of confidence. Feedback should be directed to the NESO Engineering Compliance team at: box.ec.queries@neso.energy

Disclaimer: This document has been prepared for guidance only and does not contain all the information needed to comply with the specific requirements of a Bilateral Agreement with NESO. Please note that whilst these guidance notes have been prepared with due care, NESO does not make any representation, warranty or undertaking, express or implied, in or in relation to the completeness and or accuracy of information contained in these guidance notes, and accordingly the contents should not be relied on as such.

Version	Date	Comment
1	28 th October 2026	First Issue



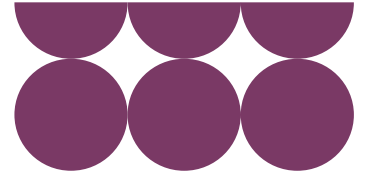
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Abbreviations

Abbreviation	Description
BCA	Bilateral Connection Agreement
BEGA	Bilateral Embedded Generation Agreement
BELLA	Bilateral Embedded Licence exemptible Large power station Agreement
BM	Balancing Mechanism
DNO	Distribution Network Operator (including Independent Distribution Network Operators)
E&W	England & Wales
ENA	Energy Networks Association
EON	Energisation Operational Notification
EREC G99	Engineering Recommendation G99
F-BCN	Final-Balancing Compliance Notification
FON	Final Operational Notification
GB	Great Britain
I-BCN	Interim-Balancing Compliance Notification
ION	Interim Operational Notification
ISOP	Independent System Operator
NESO	National Energy System Operator
NGET	National Grid Electricity Transmission
R-DNO	Relevant Distribution Network Operator
PGMD	Power Generating Module Document
SHETL	Scottish Hydro Electric Transmission Limited
SoW	Statement of Works
SPT	SP Transmission



Introduction

The purpose of this Guidance Note is to address and clarify the compliance aspects with respect to Generators with a Bilateral Agreement with NESO (i.e. BEGAs and BELLAs) in relation to an Embedded Large Power Station. A new Embedded Large Power Station is subject to the compliance requirements of G99 as well as the Grid Code (e.g. European Connection Conditions (ECCs)). Based on customer engagements and NESO's compliance experience, it has been observed that there have been several instances where an Embedded Large Power Station has undergone duplicated compliance assessment with both the Network Operator and NESO in their connections process. This has resulted in dissatisfaction and a number of frustrations amongst the customers due to an inefficient and repetitive compliance assessment process for Embedded Large Power Stations.

In order to clarify the Compliance Process for Embedded Large Power Stations, NESO has engaged with the Network Operators to develop and agree an efficient compliance process capturing any interactions between the Generator, NESO and Network Operator which has been explained further in these guidance notes.

Relevant background: established process for Embedded Small Power Stations with a BEGA

Embedded Small Power Stations with a BEGA are sites below 50MW in NGET Transmission Area, below 30MW in SPT's Transmission Area and below 10MW in SHETL's Transmission Area. These Generators are not mandated to have a Bilateral Agreement with NESO and can voluntarily opt for one for commercial reasons. Since the implementation of Grid Code Modification GC0171, NESO has implemented a well proven and efficient compliance process for Embedded Small Power Stations with a BEGA as shown in the figure below.

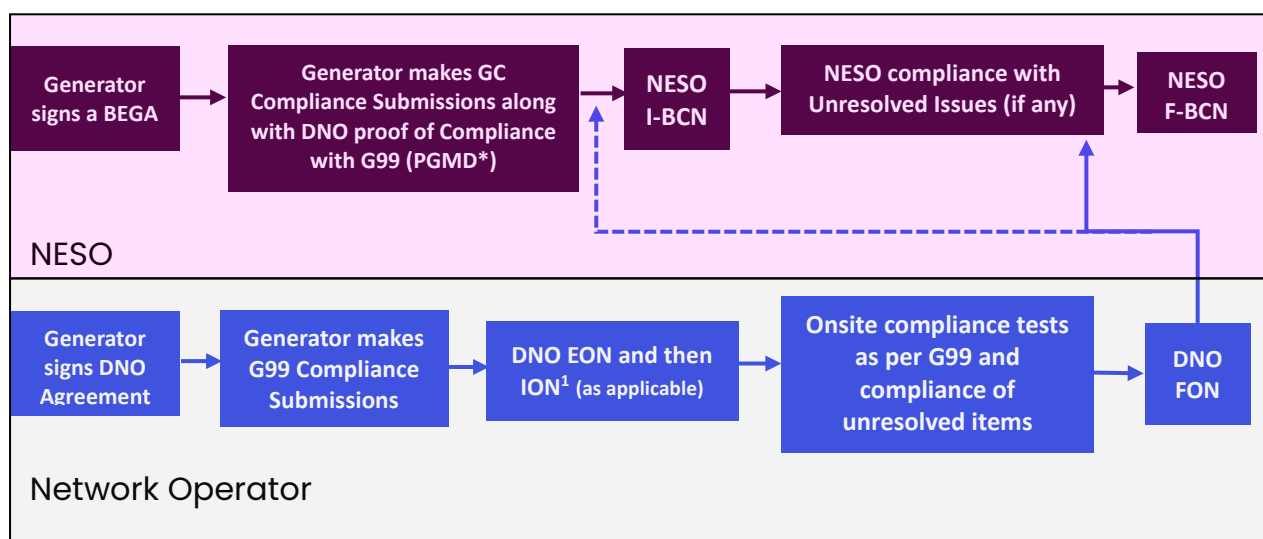


Figure 2

- 1: Note that, EON and ION from the DNO may not be issued at the same stage.
- In this and subsequent diagrams, only a subset the full EREC G99 requirements is shown. The applicable requirements are subject to Section 6.1.6 of EREC G99, which is replicated in Appendix A

In this process, the Embedded Small Power Station would undertake technical compliance with respect to the requirements of EREC G99 to the satisfaction of the relevant Network Operator. Note that, only Type D Power Generating Modules that are part of Embedded Small Power Stations shall receive both an EON and ION from the DNO. Consequently, NESO shall undertake compliance of all the other additional requirements of the BEGA (communications plant etc. required for participation in Balancing Mechanism). NESO shall require a copy of the PGMD along with the DNO ION (as relevant and applicable depending on the Type of Power



Generating Module) or the DNO FON prior to issuance of NESO I-BCN and F-BCN. As per figure 2, an Embedded Small Power Station may undertake the compliance with the DNO and NESO simultaneously in which NESO shall require a copy of PGMD along with DNO ION for issuance of I-BCN.

Alternatively, an Embedded Small Power Station may already have completed the G99 compliance and achieved FON from the DNO, in which case NESO shall issue an I-BCN as per Grid Code ECP.6.2.10 or ECP.A.6.3.10 requirements shown by the dotted line in figure 2.

This approach has eliminated duplication of compliance activities between the DNO and NESO and improved the customer experience in the connections process.



Proposed Interim process for Embedded Large Power Stations

Based on the learnings from GC0171, a similar approach has been considered to address the compliance issues with Embedded Large Power Stations. These are sites connected to the distribution network with a Registered Capacity above 100MW in NGET's Transmission Area, 30MW or above in SPT's Transmission Area and 10MW or above in SHETL's Transmission Area. Generators in respect of such Embedded Large Power Stations are mandated to have a Bilateral Agreement with NESO. It's worth noting that there is an active Grid Code Modification (GC0117) that is proposing to bring down the threshold of Large Power Stations to 10MW across GB which could further add complexity to Embedded Large Power Stations undergoing compliance assessment.

Until Grid Code modification GC0117 is formally implemented¹, an interim compliance process is depicted in the flow chart as per figures 3 & 4. It aims to elucidate the interactions between the Network Operator and NESO when undertaking compliance assessment of an Embedded Large Power Station. A Network Operator refers to the Distribution Network Operator which has a direct connection to the Transmission System. Note also that there may be a Distribution Network Operator (not directly connected to the transmission system) that is embedded within the Network Operator's network and to which the Large Power Station is connected. Such embedded DNO is referred to as the host DNO within this document, as it is "hosting" the connection of the Large Power Station. The DNO with the direct connection to the Transmission System, and to which the host DNO connects is therefore referred to as the relevant Network Operator or relevant DNO. Further details are explained in figure 4.

¹ If GC0117 is not implemented, then this proposed solution could potentially become defacto permanent.

Where there is a relevant Network Operator directly connected to Transmission System

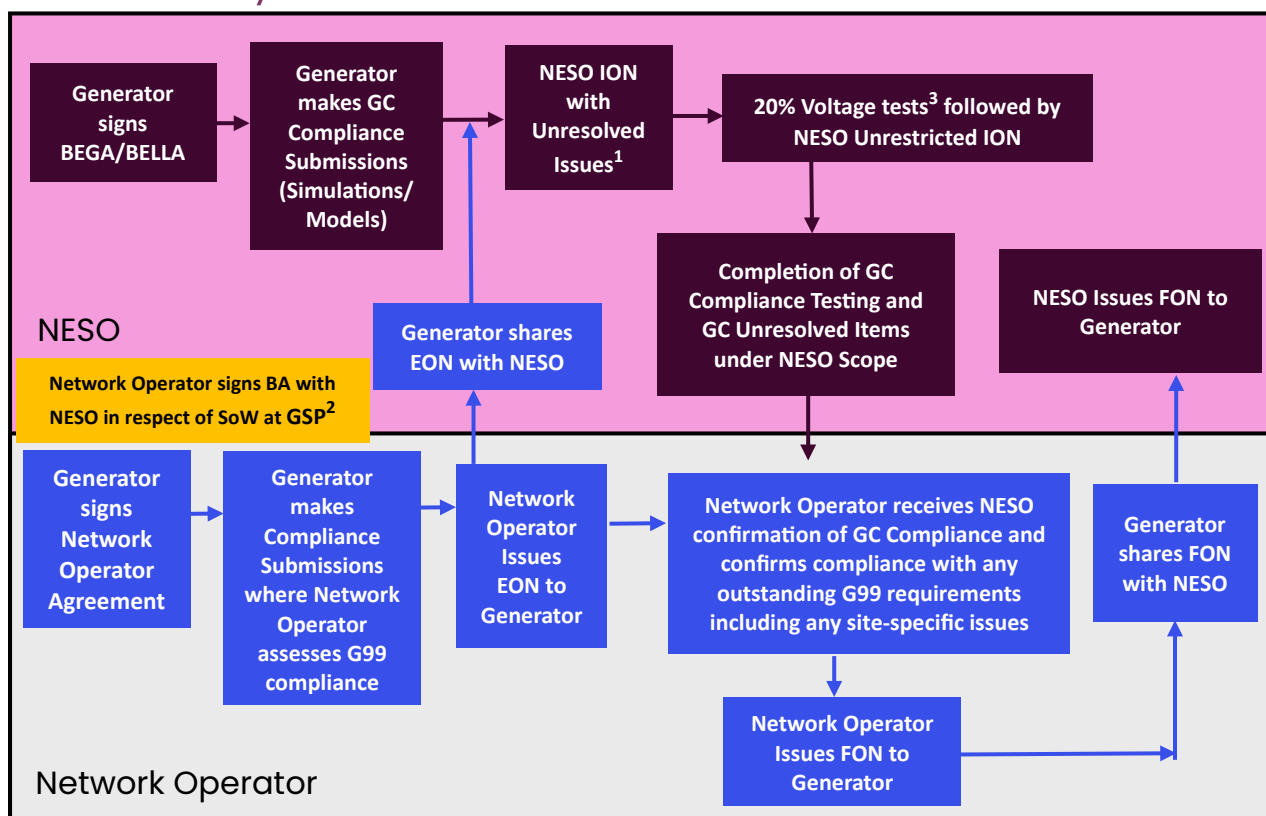


Figure 3

- 1: The list of Unresolved Issues on NESO ION may also include any outstanding EREC G99 items (to be confirmed by the relevant Network Operator) which shall be completed prior to receiving the FON from the relevant Network Operator
- 2: For each Embedded Generator connection, the relevant Network Operator (that is directly connected to transmission system) would need a Bilateral Agreement with NESO in respect of Statement of Works. Establishing such an agreement is separate from the Compliance Process for issuance of Operational Notifications stated above.
- 3: The 20% voltage control test is the requirement for Power Park Modules only.

The process flow in figure 3 applies for an Embedded Large Power Station that is connected to the relevant Network Operator which is directly connected to the Transmission System. In such case, the following agreements are in place for the affected parties.

- Agreement between Generator and NESO
- Agreement between Generator and relevant Network Operator
- Agreement between NESO and relevant Network Operator

In this process, the Network Operator, after assessing the relevant compliance with respect to the EREC G99, will issue an Energisation



Operational Notification (EON) to the Generator (Type C or D Power Generating Module) in respect of Embedded Large Power Station. The Generator will then be responsible for sharing this EON with NESO. The Generator shall also submit the copy of PGMD to NESO upon request.

NESO, after assessing the relevant Grid Code compliance submissions, will issue an Interim Operational Notification (ION) to the Generator. This ION will allow the Generator to synchronise and export the power onto the system for the first time. The ION will have the list of any unresolved items that the Generator will be required to complete prior to receiving a (Final Operational Notification) FON from NESO. The unresolved list may also include items (if any, in accordance with G99) that have been shared by the relevant Network Operator after issuance of an EON. Upon receiving the NESO ION, the Generator shall carry out the Grid Code compliance testing to the satisfaction of NESO. For the avoidance of doubt, technical performance of the Generator in respect of voltage control, reactive capability, fault ride through and frequency response etc. along with any other applicable requirements subject to bilateral agreement shall be assessed by NESO with respect to the Grid Code. The onsite compliance tests shall be conducted by following the requirements of Integral Equipment Testing specified in OC7.5 of the Grid Code. The Generator in respect of an Embedded Large Power Station must liaise with both the relevant Network Operator and NESO prior to conducting the tests.

NESO will notify the Generator and Network Operator when the Generator has completed the compliance of Grid Code unresolved items under the scope of NESO. This will be communicated via email correspondence to the Network Operator during the NESO compliance process. The Network Operator shall confirm compliance with any outstanding EREC G99 requirements including any site-specific issues prior to issuing the FON as per EREC G99. The Generator will share this FON with NESO. The Compliance Process is concluded when NESO issues their FON to the Generator upon completion of all the unresolved issues.

Where there is a host Distribution Network Operator that is Embedded within the relevant (upstream) Network Operator

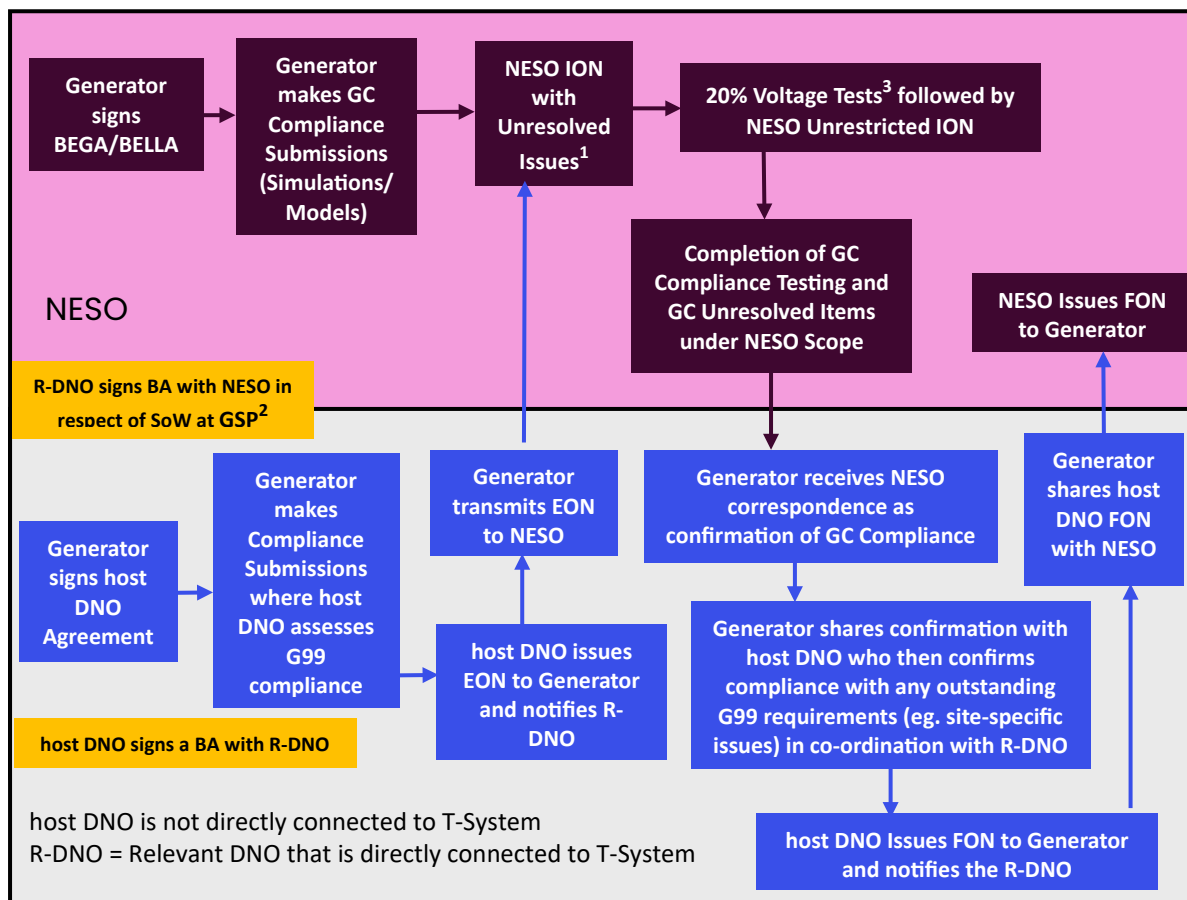


Figure 4

- 1: The list of Unresolved Issues on NESO ION may also include any outstanding EREC G99 items (to be confirmed by the host DNO) which shall be completed prior to receiving host DNO FON
- 2: For each Embedded Generator connection, the relevant Network Operator (that is directly connected to transmission system) would need a Bilateral Agreement with NESO in respect of Statement of Works. Establishing such a Bilateral Agreement is separate from the Compliance Process for issuance of Operational Notifications. The host DNO shall also sign a Bilateral Agreement with the relevant Network Operator and should provide them with all the necessary information to fulfil their obligations as required.
- 3: The 20% voltage control test is the requirement for Power Park Modules only.

The process flow in figure 4 applies for an Embedded Large Power Station that is connected to a host DNO. In such case, the following agreements are in place for the affected parties.

- Agreement between Generator and NESO
- Agreement between Generator and a host DNO



- Agreement between host DNO and relevant Network Operator
- Agreement between NESO and relevant Network Operator

In this process, the host DNO, after assessing the relevant compliance with respect to the EREC G99, will issue an Energisation Operational Notification (EON) to the Generator in respect of Embedded Large Power Station and notify the relevant Network Operator. The Generator will then be responsible for sharing this EON with NESO. Please note, the host DNO may share with the relevant Network Operator a list of any unresolved items that shall be completed by the Generator prior to issue of host DNO FON. The Generator shall also submit the copy of PGMD to NESO upon request.

NESO, after assessing the relevant Grid Code compliance submissions, will issue an Interim Operational Notification (ION) to the Generator. This ION will allow the Generator to synchronise and export the power onto the system for the first time. The ION will have the list of any unresolved items that the Generator will be required to complete prior to receiving a (Final Operational Notification) FON from NESO. This unresolved list may also include items (if any, in accordance with EREC G99) that have been shared by the relevant Network Operator. Upon receiving the NESO ION, the Generator shall carry out the Grid Code compliance testing to the satisfaction of NESO. For the avoidance of doubt, technical performance of the Generator in respect of voltage control, reactive capability, fault ride through and frequency response etc. along with any other applicable requirements subject to bilateral agreement shall be assessed by NESO with respect to the Grid Code. The onsite compliance tests shall be conducted by following the requirements of Integral Equipment Testing requirements specified in OC7.5 of the Grid Code. The Generator in respect of an Embedded Large Power Station must liaise with the host DNO (in co-ordination with the relevant Network Operator) and NESO prior to conducting the tests.

NESO will notify the Generator when the Generator has completed the compliance of Grid Code unresolved items under the scope of NESO. This will be communicated via email correspondence. The Generator shall share this with the host DNO who shall confirm compliance with any outstanding EREC G99 requirements including any site-specific issues in co-ordination with the relevant Network Operator prior to issuing the FON



as per G99. The Generator will share this FON with NESO. The Compliance Process is concluded when NESO issues their FON to the Generator upon completion of all the unresolved issues.



Appendix A – Interaction with the ISOP² as per G99 (Proposed Draft)

Note: These are the provisional changes in EREC G99 as discussed in an expert group in relation to the compliance interactions between NESO and Network Operator. There is a DNO working group in place to implement the proposed G99 changes via formal code modification, so there may yet be minor changes to the draft EREC G99 shown here.

6.1.6 Interaction with the ISOP

- 6.1.6.1 It should be noted that if the aggregate **Registered Capacity** of all **Power Generating Module(s)** (synchronous together with asynchronous) on one or more sites in common ownership is >50 MW, then the **Generator** becomes licensable.
- 6.1.6.2 **Generators** with a bilateral agreement with the **ISOP** may be required to comply with the applicable requirements of the **Grid Code**. Where **Grid Code** requirements apply, it is the **Generator's** responsibility to comply with the relevant parts of both the **Distribution Code** and **Grid Code**.
- 6.1.6.3 In the case where the **Generator** has a bilateral agreement with the **ISOP**, the **Generator** shall demonstrate compliance with this EREC G99 to the **DNO**, and any additional **Grid Code** compliance requirements shall be demonstrated by the **Generator** to the **ISOP**. In these cases, the **Generator** will make the **Generator's** interim and final **PGMD**, and/or the **Generator's FON**, available to the **ISOP** on request. The **ISOP** may seek confirmation from the **DNO** of the compliance status of the **Power Generating Module** as recorded on the **Generator's PGMD**.
- 6.1.6.4 In some cases the Grid Code requirements may be different to those in Sections 12-13 of this EREC G99. In these cases, the **DNO** and the **ISOP** may agree to apply the Grid Code requirements in substitution for the EREC G99 requirements. In these cases, the **DNO** will record these exceptions in the **Connection Agreement**, and the compliance with those requirements will be assessed by the **ISOP**.
- 6.1.6.5 In the case of an embedded large power station, the **ISOP** will be responsible for confirming the **Generator's** compliance with all **Grid Code** requirements. In general, this will mean that the requirements of Sections 12-13, 17, 18 and parts of Section 19 of this EREC G99 will be superseded by the equivalent requirements in the **Grid Code**. The **DNO** will remain responsible for ensuring the **Generator's** compliance with the remaining parts of this EREC G99.
- 6.1.6.6 See also section 6.2.4.4 regarding the issuing of operational notices (i.e. **EONs**, **IONs** and **FONs**).

6.2.4 Power Generating Facilities which include Type B, Type C or Type D Power Generating Modules

- 6.2.4.1 The connection process is similar to that described in paragraph 6.2.3 above, although detailed system studies will almost certainly be required and consequently the **Generator** might need to provide additional information. The information should be provided using the Standard Application Form (generally available from the **DNO's**

² For the purpose of this document, ISOP (Independent System Operator) refers to NESO.



websites). The data that will generally be required is defined in the **Distribution Code**, Data Registration Code (DDRC), Schedules 5a, 5b and 5c.

6.2.4.2 For most **Generators**, the requirements of Section 6.2.4.3 apply, however where a **Generator** has a bilateral agreement with the **ISOP** Section 6.2.4.4 applies instead.

6.2.4.3 **Generators** who do not have a bilateral agreement with the **ISOP**

- (a) For **Type B** and **Type C Power Generating Modules** the compliance, testing and commissioning requirements are detailed in Sections 17 and 18 respectively of this EREC G99. On successful completion of a **Type B** or **Type C Power Generating Module Document** the **DNO** will issue a **Final Operational Notification** to the **Generator**.
- (b) **Generators** who own **Type B** and **Type C Power Generating Modules** do not have permanent rights to operate their **Power Generating Modules** without a valid **Final Operational Notification** which will be issued by the **DNO** following completion of the commissioning tests and compliance process, refer to Sections 17.4.3 and 18.4.3.
- (c) For **Type D Power Generating Modules** the compliance, testing and commissioning requirements are detailed in Section 19 of this EREC G99. Prior to commissioning the first **Type D Generating Unit**, once all the relevant documents have been provided to the **DNO** to its satisfaction, the **DNO** will issue an **Energisation Operational Notification** to the **Generator** followed by an **Interim Operational Notification** and a **Final Operational Notification**. This staged process is described further in Section 19 of this EREC G99.

Generators who own **Type D Power Generating Modules** do not have rights to operate their **Power Generating Modules** without:

- (i) a valid **Final Operational Notification**, refer to Section 19.5.4;
- (ii) an **Interim Operational Notification**, refer to Section 19.3.6; or
- (iii) a **Limited Operational Notification**, refer to Section h 19.6.4.1.

6.2.4.4 **Generators** who have a bilateral agreement with the **ISOP**

- (a) For small power stations comprising **Type B**, **Type C** and **Type D Power Generating Modules**, **Generators** should refer to the requirement of 6.1.6.3 of this EREC G99. The **Generator** will receive two notifications when the compliance assessment process has been successfully completed. The **DNO** will issue a **FON** when the **DNO** has confirmed that the **Generator** has complied with the relevant parts of this EREC G99. Subsequently, the **ISOP** will issue a Final Balancing Compliance Notification when the **ISOP** is satisfied that the **Generator** has met the requirements of the **Grid Code** and of the bilateral agreement between the **Generator** and the **ISOP**. The **Generator** must have both a valid **FON** from the **DNO** and a valid Final-Balancing Compliance Notification from the **ISOP** to have permanent rights to operate the relevant **Power Generating Module**.
- (b) For large power stations comprising **Type B**, **Type C** and **Type D Power Generating Modules**,
 - (i) Once all the relevant documentation and pre-energisation checks have been completed to the **DNO's** satisfaction, the **DNO** will issue an **EON** to the **Generator** in respect of the large power station, to confirm that the **Generator** may energise the **Generator's Installation** from the **DNO's**



Distribution Network. The **Generator** shall provide a copy of this **EON** to the **ISOP** upon request.

- (ii) The **Generator** shall not **Synchronize** any generating plant for the first time until the **ISOP** has issued an **ION** to the **Generator**.
 - (iii) The **Generator** shall receive two notices on completion of the assessment of compliance. The **DNO** will issue a **FON** when the **DNO** has confirmed that the **Generator** has complied with the relevant parts of this EREC G99. Subsequently the **ISOP** will issue its final operational notification when the **ISOP** is satisfied with **Grid Code** compliance. The **Generator** must have both a valid **FON** from the **DNO** and a valid final operational notification from the **ISOP** in order to have permanent rights to operate the relevant **Power Generating Module**.
- (c) The **Generator** shall provide the **DNO** with a copy of the **ISOP** final operational notification and associated data in the **ISOP**'s "user data file structure" when requested to do so by the **DNO**.