GCDF : Code Change Proposal for Small BEGA

Proposed Modifications

- The purpose of ESO Interim/Final Operational Notification for Embedded Small Power Stations with Bilateral Agreement (Small BEGAs) is to be able to participate in BM Market. ESO shall not provide an Operational Notification to Small BEGAs as it falls in scope of relevant DNO.
- Therefore, it is proposed to change the definition of **Interim Operational Notification** (ION) to '**Interim-Balancing Compliance Notification**' (I-BCN) and **Final Operational Notification** (FON) to '**Final - Balancing Compliance Notification**' (F-BCN)

Type C

- ECP.6.2.6 : Add an extra text: For **Embedded Small Power Stations**, requirements of ECP.6.2.10 shall prevail.

- ECP.6.2.10 : In relation to a **Generator** in respect of an **Embedded Small Power Station** with a **Bilateral Embedded Generation Agreement** (BEGA) with **The Company, Interim Operational Notification** shall be replaced with '**Interim-Balancing Compliance Notification**', where following requirements apply: Prior to issuing an '**Interim-Balancing Compliance Notification**', the **Generator** shall submit to **The Company** following documents to **The Company's** satisfaction,
  - **i.** **FON** from relevant **Network Operator** (as applicable)
  - ii. A copy of **Power-Generating Module Document** signed off from the relevant **Network Operator** ensuring requirements in accordance with ENA **Engineering Recommendation** G99 are fulfilled
  - iii. Document(s) certifying fulfilment of ECC.6.5 requirements

Type D

- ECP.6.3.6: Add an extra text: For **Embedded Small Power Stations**, requirements of ECP.6.3.10 shall prevail.

- ECP.6.3.10 : In relation to a **Generator** in respect of an **Embedded Small Power Station** with a **Bilateral Embedded Generation Agreement** (BEGA) with **The Company, Interim Operational Notification** shall be replaced with '**Interim-Balancing Compliance Notification**', where following requirements apply: Prior to issuing an '**Interim-Balancing Compliance Notification**', the **Generator** shall submit to **The Company** following documents to **The Company's** satisfaction,
  - **i.** **FON/ION** from relevant **Network Operator** (as applicable)
  - ii. A copy of **Power-Generating Module Document** signed off from the relevant **Network Operator** ensuring requirements in accordance with ENA **Engineering Recommendation** G99 are fulfilled
  - iii. Document(s) certifying fulfilment of ECC.6.5 requirements

- ECP.7.6 : In relation to a **Generator** in respect of an **Embedded Small Power Station** with a **Bilateral Embedded Generation Agreement** (BEGA) with **The Company, Final Operational Notification** shall be replaced with '**Final-Balancing Compliance Notification**' issued by **The Company** provided the following requirements are fulfilled
  - i. The relevant **Network Operator** issues **Final Operational Notification** to an **Embedded Generator**
  - ii. All the unresolved items (if any) on the **Interim-Balancing Compliance Notification** are fulfilled to **The Company's** satisfaction

Definitions Proposed in the GC Modification

Interim – Balancing Compliance Notification (replacing ION for Small BEGAs) :

A notification from **The Company** to a **Generator** in respect of an **Embedded Small Power Station** with a **Bilateral Embedded Generation Agreement** (BEGA) with **The Company,** acknowledging that the **Generator** has demonstrated compliance, except for the **Unresolved Issues**, with

(a) The requirements in accordance with ENA **Engineering Recommendation** G99 as required by the relevant **Network Operator**
(b) The **Bilateral Agreement**

Final - Balancing Compliance Notification (replacing FON for Small BEGAs) :

A notification from **The Company** to a **Generator** in respect of an **Embedded Small Power Station** with an **Bilateral Embedded Generation Agreement** (BEGA) with **The Company,** confirming that the **Generator** has demonstrated compliance:

(a) with ENA **Engineering Recommendation** G99 supported by the **Final Operational Notification** from the relevant **Network Operator**
(b) with the relevant sections of the Grid Code as applicable, and
(c) with the **Bilateral Agreement**,
And completion of all the items in the schedule of **Unresolved Issues** to **The Company**'s satisfaction.

Limited - Balancing Compliance Notification (replacing LON for Small BEGAs) :

A notification from **The Company** to a **Generator** in respect of an **Embedded Small Power Station** with a **Bilateral Embedded Generation Agreement** (BEGA) with **The Company,** stating that the **Generator's Plant** and/or **Apparatus** specified in such notification may be, or is, unable to comply:

(a) with the relevant provisions of ECC.6.5 of the Grid Code
(b) And/or in accordance with ECP.9.1 (ii) of the Grid Code, upon receipt of notification from the **Network Operator** concerning a **Generator** failing to meet the requirements of ENA **Engineering Recommendation** G99 or any provisions of the Grid Code, or where applicable **Bilateral Agreement**

Feedback from Previous GCDF – November 2023

- It was asked what the process would be for existing customers that are issued with a Limited Operational Notification (LON), as they would have previously been issued with a FON?
  - ***The responsibility for issuing a LON to Small BEGAs on account of technical non-compliance as per G99 shall remain with the DNOs***
  - ***ESO shall only issue LON (to be replaced by L-BCN) for Small BEGA when they are non-compliant with ECC.6.5 or upon receiving a similar incidence instruction from DNO***

- It was asked if the ESO could look at the current BEGA as it doesn't seem fit for purpose for smaller generators? Could the ESO look at a different agreement for Small Generators that want to participate in the BM which is more specific in terms of the obligations that Small Generators need to meet rather than the complexity of the current BEGA which is confusing for these generators?
  - ***There are ongoing internal discussions with Contracts and Commercial Codes teams to create a guideline aimed towards Small Customers to make them aware of the various options to participate in the BM (in addition to BEGAs), and circulate as an industry wide guidance instead of recreating a whole new contract structure aimed towards only Small BEGAs***

- It was asked if there are any new Grid Code definitions that are being considered as part of this change, then could some thought be given in terms of whether new definitions are required in light of the dWSTC Project which is seeking to rationalise and simplify the code
  - ***Gathered internal feedback on proposed definitions of I-BCN, F-BCN and L-BCN and we have got a consensus so far. Next step would be to discuss the implications in GCDF***

- It was asked that when the modification is raised, it is clear to understand what the requirements and obligations for customers are currently, and what would change as part of the proposal. This could be represented as a table that clearly shows the current requirements and obligations, and then what these would be should the modification be approved.
  - ***Please see next slide***

Feedback from Previous GCDF – November 2023

Small BEGAs - Type C and D PGMs

	Requirements as per G99 (current)	Requirements as per GC (current)	Requirements as per Proposed Modifications
Simulations Studies (Pre-ION)	Voltage Control (C7.4)	Voltage Control (ECP.A.3.4)	Voltage Control (C7.4)
	Reactive Capability (C7.3)	Reactive Capability (ECP.A.3.3)	Reactive Capability (C7.3)
	FRT-FFCI (C7.5)	FRT-FFCI (ECP.A.3.5)*	FRT-FFCI (C7.5)
	LFSM-O (C7.6)	LFSM-O (ECP.A.3.6)	LFSM-O (C7.6)
	LFSM-U (C7.7)	LFSM-U (ECP.A.3.6)	LFSM-U (C7.7)
	Voltage and Frequency Controller Model Verification and Validation (C7.8)	Voltage and Frequency Controller Model Verification and Validation (ECP.A.3.7)	Voltage and Frequency Controller Model Verification and Validation (C7.8)
	GC0148 Modification- G99 to be amended	GC0148 Modification	GC0148 Modification- G99 to be amended
Compliance Tests (pre-FON)	Pre-20% Voltage Control	Pre-20% Voltage Control	Pre-20% Voltage Control
	Voltage Control	Voltage Control**	Voltage Control
	Reactive Capability	Reactive Capability	Reactive Capability
	Frequency Response	Frequency Response ***	Frequency Response
	GC0148 Modification- G99 to be amended	GC0148 Modification	GC0148 Modification- G99 to be amended
Additonal Requirements	Completion of PGMD		Completion of PGMD + DNO sign-off /confirmation

Note: Until the time G99 gets amended with GC0148 requirements, ESO shall assess the relevant compliance for Small BEGAs.
GC0148 modification – Implementation of EU Emergency and Restoration Code Phase II

*: FRT Simulations as per Grid Code includes balanced supergrid voltage faults >140ms. Since this is missing from G99, a Small BEGA is not mandated to carry out these simulations as per GC

**: Voltage Control Tests as per GC includes 4% step injection. However, since this is missing from G99, a Small BEGA is not mandated to carry this out

***: Frequency Response Tests as per GC also includes FSM ramp tests. Since this is missing from G99, a Small BEGA is not mandated to carry out this unless they want an MSA

The proposed modification would enable Small BEGAs to continue following the G99 compliance requirements at the discretion of DNO with only requirement of providing the DNO sign-off on the PGMD on compliance. This would eliminate the need for ESO to carry out Grid Code compliance on Small BEGAs (with exception of ECC.6.5 and GC0148 as explained above).