GRID CODE MODIFICATION GC0148 - SENDBACK

17 MARCH 2023

EXTRACTS FROM GRID CODE

Key – Black – Baseline Legal Text

Blue – Proposed Legal Text as submitted to The Authority in October 2022

Red – Updated text to address defect and reflect discussions of the reconvened Workgroup

Extracts from Glossary and Definitions

Critical Tools and Facilities	**Apparatus** and tools required in relation to **Black Start**: a) In the case of **The Company** include, but are not limited to: i) Tools for operating and monitoring the **Transmission System** including but not limited to state estimation, the **Balancing Mechanism**, **Load** and **System Frequency** control, alarms, real time system operation and operational security analysis including off line transmission analysis; ii) The ability to control, protect and monitor transmission assets including switchgear, tap changers and other **Transmission System** equipment including where available auxiliary equipment and to ensure the safe operation of **Plant** and **Apparatus** and the safety of personnel; iii) **Control Telephony** systems as provided for in CC.6.5.1 – CC.6.5.5 and ECC.6.5.1 – ECC.6.5.5; iv) Operational telephony as provided for in STCP 04-5; and v) Tools and communications systems to facilitate cross border operations. b) In the case of **Generators**, **HVDC System Owners**, **DC Converter Station** owners, **Defence Service Providers**, and **Restoration Service Providers** ~~and **Virtual Lead Parties**~~: i) Tools for monitoring relevant ~~their~~ **Plant** and **Apparatus**; ii) The ability to control, protect and monitor their **Plant** and **Apparatus** necessary for **Black Start** including as applicable primary **Plant**, switchgear, tap changers and other auxiliary equipment and to ensure the safe operation of **Plant** and personnel; and iii) **Control Telephony** as provided for in CC.6.5.1 – CC.6.5.5 and ECC.6.5.1 – ECC.6.5.5. c) In the case of **BM Participants** and **Virtual Lead Parties** who are not **Generators**, **HVDC System Owners**, **DC Converter Station** owners, **Defence Service Providers** or **Restoration Service Providers** as provided for in item b) above: i) Tools for monitoring relevant **Plant** and **Apparatus** (excluding **Plant** and **Apparatus** not owned by the **BM Participant** or **Virtual Lead Party**); and ii) **Control Telephony** as provided for in CC.6.5.1 – CC.6.5.5 and ECC.6.5.1 – ECC.6.5.5 d) In the case of **Network Operators**: i) Control room **Apparatus** and tools for monitoring their **System** including but not limited to, alarms, real time system operation and operational security analysis including off line network analysis; ii) The ability to control, protect and monitor those assets necessary for **Black Start** including switchgear, tap changers and other network equipment including where

	available auxiliary equipment and to ensure the safe operation of **Plant** and personnel; and iii) **Control Telephony** as provided for in CC.6.5.1 – CC.6.5.5 and ECC.6.5.1 – ECC.6.5.5. e) In the case of **Non-Embedded Customers**: i) Tools for monitoring their **System** including but not limited to, alarms and real time system operation; ii) The ability to control, protect and monitor those assets necessary for **Black Start** including switchgear, tap changers and other network equipment including where available auxiliary equipment and to ensure the safe operation of **Plant** and personnel; and iii) **Control Telephony** as provided for in CC.6.5.1 – CC.6.5.5 and ECC.6.5.1 – ECC.6.5.5.
Virtual Lead Party	As defined in the **BSC**.

Extracts from Connection Conditions

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CC.3 SCOPE

CC.3.1 The **CC** applies to **The Company** and to **GB Code Users**, which in the **CC** means:

(a) **GB Generators** (other than those which only have **Embedded Small Power Stations**), including those undertaking **OTSDUW**;

(b) **Network Operators**;

(c) **Non-Embedded Customers**;

(d) **DC Converter Station** owners; and

(e) **BM Participants** and **Externally Interconnected System Operators** in respect of CC.6.5, CC.7.9 and CC.7.10 only.

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CC.7.9 **GB Generators, DC Converter Station** owners and **BM Participants** (including **Virtual Lead Parties**) shall provide a **Control Point.**

a) In the case of **GB Generators** and **DC Converter Station** owners, for each **Power Station** or **DC Converter Station** directly connected to the **National Electricity Transmission System** and for each **Embedded Large Power Station** or **Embedded DC Converter Station**, the **Control Point** shall receive and act upon instructions pursuant to OC7 and BC2 at all times that **Generating Units** or **Power Park Modules** at the **Power Station** are generating or available to generate or **DC Converters** at the **DC Converter Station** are importing or exporting or available to do so. In the case of all **BM Participants**, the **Control Point** shall be continuously staffed except where the **Bilateral Agreement** specifies that compliance with BC2 is not required, in which case the **Control Point** shall be staffed between the hours of 0800 and 1800 each day.

b) In the case of **BM Participants**, the **BM Participant's Control Point** shall be capable of receiving and acting upon instructions from **The Company** and the relevant **Transmission Licensees' Control Engineers**.

The Company will normally issue instructions via automatic logging devices in accordance with the requirements of CC.6.5.8(b).

Where the **BM Participant's Plant** and **Apparatus** does not respond to an instruction from **The Company** via automatic logging devices, or where it is not possible for **The Company** to issue the instruction via automatic logging devices, **The Company** shall issue the instruction by telephone.

In the case of **BM Participants** who own and/or operate a **Power Station** or **DC Converter Station** with an aggregated **Registered Capacity** or **BM Participants** with **BM Units** with an aggregated **Demand Capacity** per **Control Point** of less than 50MW, or, where a site is not part of a **Virtual Lead Party** as defined in the **BSC**, a **Registered Capacity** or **Demand Capacity** per site of less than 10MW:

a) where this situation arises, a representative of the **BM Participant** is required to be available to respond to instructions from **The Company** via the **Control Telephony** or **System Telephony** system, as provided for in CC.6.5.4, between the hours of 0800-1800 each day.

b) Outside the hours of 0800-1800 each day, the requirements of BC2.9.7 shall apply.

For the avoidance of doubt, where **The Company** has agreed with a **BM Participant**~~s who are unable to provide~~ that **Control Telephony** is not required and where the **BM Participant** ~~and~~ does not have a continuously staffed **Control Point** the **BM Participant** may be unable to act as a **Defence Service Provider** and shall be unable to act as a **Restoration Service Provider** or **Black Start Service Provider** where these require **Control Telephony** or a **Control Point** in respect of the specification of any such services falling into these categories.

CC.7.10 Obligations on Users in respect of Critical Tools and Facilities

CC.7.10.1 From DD/MM/YY *(this is one year after implementation)* **The Company**, each **Generator**, **DC Converter Station** owner, **Network Operator**, **Non-Embedded Customer** and each **Restoration Service Provider** with a continuously staffed **Control Point** or **Control Centre** as provided for in CC.7.9 ~~In addition to the requirements of CC.6.5.1 – CC.6.5.5 and CC.6.5.8(b), **The Company**, each **GB Code User**, each **BM Participant** (including **Virtual Lead Parties**) and each **Restoration Service Provider**~~ shall:-

(i) Ensure they have the appropriate **Critical Tools and Facilities** necessary to control their assets for **Black Start**, from their **Control Point** or **Control Centre** as appropriate for a minimum period of 72 hours (or such longer period as agreed between the ~~**User**~~ **Generator**, **DC Converter Station** owner, **Network Operator**, **Non-Embedded Customer** and/or **Restoration Service Provider** and **The Company**) following a **Total Shutdown** or **Partial Shutdown**.

(ii) ~~In satisfying this requirement, **The Company** and **GB Code Users** in respect of their **Critical Tools and Facilities** shall~~ Ensure as far as reasonably practical that they have adequate control equipment redundancy in place so that in the event of a failure of one or more components of the control system its function is unimpaired.

(iii) ~~Each **GB Code User** and **Restoration Service Provider** will~~ Report on the results of their management and testing for their **Critical Tools and Facilities** on request by **The Company**.

CC.7.10.2 From DD/MM/YY *(this is one year after implementation)* each **BM Participant** including a **Virtual Lead Party** with a continuously staffed **Control Point** as provided for in CC.7.9 (excluding those **BM Participants** covered by the requirements of CC.7.10.1), shall:-

(i) Ensure they have the appropriate **Critical Tools and Facilities** (as defined in clause (c) of the definition of **Critical Tools** and **Facilities** in the **Grid Code Glossary and Definitions**) for a minimum period of 72 hours (or such longer period as agreed between the **BM Participant** including a **Virtual Lead Party** and **The Company**) following a **Total Shutdown** or **Partial Shutdown**.

(ii) Ensure as far as reasonably practical that they have adequate control equipment redundancy in place at their **Control Point** so that in the event of a failure of one or more components of their **Critical Tools and Facilities** its function is unimpaired.

(iii) Report on the results of their management and testing for their **Critical Tools and Facilities** on request by **The Company**.

~~In satisfying this requirement, **The Company** and **GB Code Users** in respect of their **Critical Tools and Facilities** shall ensure as far as reasonably practical that they have adequate control equipment redundancy in place so that in the event of a failure of one or more components of the control system its function is unimpaired.~~

CC.7.10.3 In the case of a **BM Participant** or **Virtual Lead Party** which has a **Black Start Contract** in respect of one or more of its aggregated **Plants**, the requirements of CC.7.10.1 shall only apply between the **Control Point** of the **BM Participant** or **Virtual Lead Party** and that **Plant** with a **Black Start Contract**. For other non-contracted **Plants** under the control of the **BM Participant** or **Virtual Lead Party**, the requirements of CC.7.10.2 shall continue to apply. ~~Each **GB Code User** and **Restoration Service Provider** will report on the results of their management and testing for their **Critical Tools and Facilities** on request by **The Company**.~~

Extracts from ECC's

ECC.3 SCOPE

ECC.3.1 The **ECC** applies to **The Company** and to **Users**, which in the **ECC** means:

(a) **EU Generators** (other than those which only have **Embedded Small Power Stations**), including those undertaking **OTSDUW** including **Power Generating Modules,** and **DC Connected Power Park Modules.** For the avoidance of doubt, **Electricity Storage Modules** are included within the definition of **Power Generating Modules** for which the requirements of the **ECC** would be equally applicable.

(b) **Network Operators** but only in respect of:-

(i) **Network Operators** who are **EU Code Users**

(ii) **Network Operators** who only have **EU Grid Supply Points**

(iii) **Embedded Medium Power Stations** not subject to a **Bilateral Agreement** as provided for in ECC.3.2, ECC.3.3, EC3.4, EC3.5, ECC5.1, ECC.6.4.4 and ECA.3.4;

(iv) Notwithstanding the requirements of ECC3.1(b)(i)(ii) and (iii) , **Network Operators** who own and/or operate **EU Grid Supply Points**, are only required to satisfy the requirements of this **ECC** in relation to each **EU Grid Supply Point**. **Network Operators** in respect of all other **Grid Supply Points** should continue to satisfy the requirements as specified in the **CC**s.

(c) **Non-Embedded Customers** who are also **EU Code Users** ;

(d) **HVDC System Owners** who are also **EU Code Users**; and

(e) **BM Participants** and **Externally Interconnected System Operators** who are also **EU Code Users** in respect of ECC.6.5, ECC.7.9 and ECC.7.10 only.

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ECC.7.9 **Generators, HVDC System Owners** and **BM Participants** (including **Virtual Lead Parties**) shall provide a **Control Point.**

a) In the case of **EU Generators** and **HVDC System Owners**, for each **Power Station** or **HVDC System** directly connected to the **National Electricity Transmission System** and for each **Embedded Large Power Station** or **Embedded HVDC System**, the **Control Point** shall receive and act upon instructions pursuant to OC7 and BC2 at all times that **Power Generating Modules** at the **Power Station** are generating or available to generate or **HVDC Systems** are importing or exporting or available to do so. In the case of all **BM Participants**, the **Control Point** shall be continuously staffed except where the **Bilateral Agreement** specifies that compliance with BC2 is not required, in which case the **Control Point** shall be staffed between the hours of 0800 and 1800 each day.

b) In the case of **BM Participants**, the **BM Participant's Control Point** shall be capable of receiving and acting upon instructions from **The Company** and the relevant **Transmission Licensees' Control Engineers**.

The Company will normally issue instructions via automatic logging devices in accordance with the requirements of ECC.6.5.8(b).

Where the **BM Participant's Plant** and **Apparatus** does not respond to an instruction from **The Company** via automatic logging devices, or where it is not possible for **The Company** to issue the instruction via automatic logging devices, **The Company** shall issue the instruction by telephone.

In the case of **BM Participants** who own and/or operate a **Power Station** or **HVDC System** with an aggregated **Registered Capacity** or **BM Participants** with **BM Units** with an aggregated **Demand Capacity** per **Control Point** of less than 50MW, or, where a site is not part of a **Virtual Lead Party** as defined in the **BSC**, a **Registered Capacity** or **Demand Capacity** per site of less than 10MW:

a) where this situation arises, a representative of the **BM Participant** is required to be available to respond to instructions from **The Company** via the **Control Telephony** or **System Telephony** system, as provided for in ECC.6.5.4, between the hours of 0800-1800 each day.

b) Outside the hours of 0800-1800 each day, the requirements of BC2.9.7 shall apply.

For the avoidance of doubt, **BM Participants** who are unable to provide **Control Telephony** and do not have a continuously staffed **Control Point** may be unable to act as a **Defence Service Provider** and shall be unable to act as a **Restoration Service Provider** or **Black Start Service Provider** where these require **Control Telephony** or a **Control Point** in respect of the specification of any such services falling into these categories.

ECC.7.10 Obligations on Users in respect of Critical Tools and Facilities

ECC.7.10.1 From DD/MM/YY *(this is one year after implementation)* **The Company**, each **Generator**, **HVDC System Owner**, **Network Operator**, **Non-Embedded Customer** and each **Restoration Service Provider** with a continuously staffed **Control Point** or **Control Centre** as provided for in ECC.7.9 ~~In addition to the requirements of CC.6.5.1 – CC.6.5.5 and CC.6.5.8(b), **The Company**, each **GB Code User**, each **BM Participant** (including **Virtual Lead Parties**) and each **Restoration Service Provider**~~ shall:-

(i) Ensure they have the appropriate **Critical Tools and Facilities** necessary to control their assets for **Black Start**, from their **Control Point** or **Control Centre** as appropriate for a minimum period of 72 hours (or such longer period as agreed between the ~~**User**~~ **Generator**, **HVDC System Owner**, **Network Operator**, **Non-Embedded Customer** and/or **Restoration Service Provider** and **The Company**) following a **Total Shutdown** or **Partial Shutdown**.

(ii) ~~In satisfying this requirement, **The Company** and **GB Code Users** in respect of their **Critical Tools and Facilities** shall~~ Ensure as far as reasonably practical that they have adequate control equipment redundancy in place so that in the event of a failure of one or more components of the control system its function is unimpaired.

(iii) ~~Each **GB Code User** and **Restoration Service Provider** will~~ Report on the results of their management and testing for their **Critical Tools and Facilities** on request by **The Company**.

ECC.7.10.2 From DD/MM/YY *(this is one year after implementation)* each **BM Participant** including a **Virtual Lead Party** with a continuously staffed **Control Point** as provided for in ECC.7.9 (excluding those **BM Participants** covered by the requirements of ECC.7.10.1), shall:-

(i) Ensure they have the appropriate **Critical Tools and Facilities** (as defined in clause (c) of the definition of **Critical Tools** and **Facilities** in the **Grid Code Glossary and Definitions**) for a minimum period of 72 hours (or such longer period as agreed between the **BM Participant** including a **Virtual Lead Party** and **The Company**) following a **Total Shutdown** or **Partial Shutdown**.

(ii) Ensure as far as reasonably practical that they have adequate control equipment redundancy in place at their **Control Point** so that in the event of a failure of one or more components of their **Critical Tools and Facilities** its function is unimpaired.

(iii) Report on the results of their management and testing for their **Critical Tools and Facilities** on request by **The Company**.

~~In satisfying this requirement, **The Company** and **GB Code Users** in respect of their **Critical Tools and Facilities** shall ensure as far as reasonably practical that they have adequate control equipment redundancy in place so that in the event of a failure of one or more components of the control system its function is unimpaired.~~

ECC.7.10.3 In the case of a **BM Participant** or **Virtual Lead Party** which has a **Black Start Contract** in respect of one or more of its aggregated **Plants**, the requirements of ECC.7.10.1 shall only apply between the **Control Point** of the **BM Participant** or **Virtual Lead Party** and that **Plant** with a **Black Start Contract**. For other non-contracted **Plants** under the control of the **BM Participant** or **Virtual Lead Party**, the requirements of ECC.7.10.2 shall continue to apply. ~~Each **GB Code User** and **Restoration Service Provider** will report on the results of their management and testing for their **Critical Tools and Facilities** on request by **The Company**.~~