

BALANCING CODE NO. 4

(BC4)

GRID CODE MODIFICATION GC0156

DATED ~~145172517~~ ~~APRIL~~~~MARCH~~~~FEBRUARY~~~~JANUARY~~~~NOVEMBER~~ 2023~~2~~

TERRE PROCESSES

Text taken from GC0148 when submitted to Ofgem in October 2022

CONTENTS

(This contents page does not form part of the Grid Code)

<u>Paragraph No/Title</u>	<u>Page Number</u>
BC4.1 <u>INTRODUCTION</u>	2
BC4.2 <u>OBJECTIVE</u>	2
BC4.3 <u>SCOPE</u>	2
BC4.4 <u>REQUIREMENTS FOR BM PARTICIPANTS WHO WISH TO PARTICIPATE IN TERRE</u>	2
BC4.4.1 <u>RR Provider Prequalification Prequalification Timelines</u>	2
BC4.4.2 <u>Minimum Technical Requirements</u>	2
BC4.4.3 <u>Prequalification Timelines</u>	3
BC4.4.4 <u>Requalification Criteria</u>	3
BC4.5 <u>SUBMISSION OF TERRE RELATED DATA BY BM PARTICIPANTS</u>	3
BC4.5.1 <u>Communication from BM Participants to The Company</u>	3
BC4.5.2 <u>RR Provider Data submissions before TERRE Gate Closure</u>	4
BC4.5.3 <u>Re-submission of parameters by BM Participants before TERRE Gate Closure</u>	5
BC4.5.4 <u>Defaulting Rules for TERRE Bids</u>	5
BC4.6 <u>Processing of TERRE Bids before passing to the TERRE Central Platform</u>	5
BC4.6.1 <u>Cases where a TERRE Bid will be Restricted</u>	5
BC4.7 <u>Instructing BM Participants</u>	5
BC4.7.1 <u>Communication from The Company to BM Participants</u>	5
BC4.7.2 <u>Creating RR Instructions from RR Acceptances</u>	5
BC4.7.3 <u>Cases where RR Instructions may not be issued</u>	6
BC4.7.4 <u>Infeasibility of RR Acceptances</u>	6
BC4.8 <u>Publication of TERRE Data</u>	6
BC4.8.2 <u>Publication of Data at the National Level</u>	6
BC4.9 <u>Outages of computer systems leading to the suspension of the TERRE market</u>	7 6
BC4.10 <u>TERRE Market Suspension</u>	7

BC4.1 INTRODUCTION

Balancing Code No 4 (BC4) sets out the procedures for:

- (a) prequalification requirements for participation in **TERRE** by **BM Participants**;
- (b) submission of data by **BM Participants** wishing to take part in **TERRE**;
- (c) validation of data from **BM Participants** wishing to take part in **TERRE**;
- (d) issuing of **RR Instructions**; and
- (e) publication of **TERRE** related data.

BC4.2 OBJECTIVE

This procedure facilitates the participation of **BM Participants** in the **TERRE** market. Participation in **TERRE** is voluntary for **BM Participants**.

BC4.3 SCOPE

BC4 applies to :-

- (a) **The Company**;
- (b) **BM Participants**;
- (b) **Externally Interconnected System Operators**; and
- (c) **Network Operators**.

BC4.4 REQUIREMENTS FOR BM PARTICIPANTS WHO WISH TO PARTICIPATE IN TERRE

The Company shall ensure that each relevant Balancing Service prequalification process shall, as a minimum, require the **RR** provider to submit a self-certification of the **RR** Minimum Technical Requirements as defined in BC4.4.1 and BC4.4.2.

BC4.4.1 RR Provider Prequalification Prequalification Timelines

All **BM Participants** who wish to participate in **TERRE** must have successfully completed the prequalification process to be a **RR** provider as detailed in **BC5**.

BC4.4.2 Minimum Technical Requirements

All **BM Participants** who wish to participate in **TERRE** must have the following capabilities:

- (a) **BM Participants** must have the ability to submit data and receive instructions by the use of electronic data communication facilities as provided for in CC.6.5.8 or ECC.6.5.8.
- (b) **BM Participants** must be capable of following an **RR Instruction** issued by **The Company**.
- (c) **BM Participants** must be able to provide **Physical Notifications**.
- (d) **BM Participants** must be able to provide a subset of **Dynamic Parameters** (as detailed in BC4.5.2).
- (e) **BM Participants** must provide operational metering for their total output and for any individual component that may have an output greater than 1MW. This metering must have the following accuracy;
 - a. For a **BM Unit** with either a **Generation Capacity** greater than 100MW or **Demand Capacity** greater than 100MW, a metering accuracy better than 0.5%.

- b. For a **BM Unit** with a **Generation Capacity** greater than 10MW but less than or equal to 100MW or **Demand Capacity** greater than 10MW but less than or equal to 100MW, a metering accuracy better than 1%.
- c. For all other **BM Units**, an accuracy better than 2.5% is required.
- (f) **BM Participants** must have the ability to inform **The Company** if their availability changes using **Export and Import Limits**.
- (g) For **BM Participants** connected within a **User System**, **BM Participants** must be capable of informing **Network Operators** of their availability and activation in realtime if required.

BC4.4.3 Prequalification Timelines

The following minimum timescales for the prequalification process apply:-

- (a) Within 8 weeks of a formal application from the **BM Participant**, **The Company** shall confirm the application is complete (from the perspective of information provision).
- (b) If the application is incomplete, the **BM Participant** shall provide the missing evidence within 4 weeks of the a request from **The Company** or it will be presumed that the application has been withdrawn.
- (c) Within 3 months of confirming that all information has been provided, **The Company** shall confirm if the potential **BM Participant** meets the requirements in BC4.4.2. For the avoidance of doubt, **The Company** will not carry out independent tests but will review the evidence provided.

BC4.4.4 Requalification criteria

Under certain conditions, an **BM Participant** must requalify.

- (a) Every five years, a **BM Participant** must requalify to the technical requirements in BC4.4.2 and according to the timescales in BC4.4.3.
- (b) If at any time, a **BM Participant** becomes aware of changes to the configuration forming the **BM Unit**, that means the minimum technical requirements in BC4.4.2 can no longer be met, then that **BM Participant** must withdraw from **TERRE** and must requalify.

BC4.5 SUBMISSION OF TERRE RELATED DATA BY BM PARTICIPANTS

BC4.5.1 Communication from BM Participants to The Company

- (a) Submission of data specified in BC4.5.2 will be by use of electronic data communications facilities, as provided for in CC.6.5.8 or ECC.6.5.8.
- (b) In the event of a failure of the electronic data communication facilities, the data used in the **TERRE** auction will be based on the most recent data received and acknowledged by **The Company**. In the event of missing data, it will be assumed the **BM Participant** did not wish to submit data for the relevant **TERRE Auction Period**.
- (c) **Planned Maintenance Outages** will normally be arranged to take place during periods of low data transfer activity.
- (d) Upon any **Planned Maintenance Outage**, or following an unplanned outage described in BC4.5.1(b) (where it is termed a "failure") in relation to a pre-**TERRE Gate Closure**:
 - (i) If a **BM Participant** has submitted **Physical Notifications** and a _____ **TERRE Bid** for a **TERRE Auction Period** the **BM Participant** _____ should continue to act in relation to _____ any period of time in _____ accordance with _____ the **Physical**

Notifications current at the time of _____ the start of the **Planned Maintenance Outage** or the computer _____ system failure in relation to each such period of time subject to the _____ provisions of BC2.5.1. Depending on when in relation to **TERRE** _____ **Gate Closure** the planned or unplanned maintenance outage arises, _____ such operation will either be operation in preparation for the _____ relevant output in real time, or will be operation in real time. _____ No further **ssubmissions** of **BM Participants** data should be _____ attempted. **Plant** failure or similar problems causing _____ significant deviation from the **Physical Notification** should _____ be notified to **The Company** by the submission of a revision _____ to **Export and Import Limits** in relation to the **RR Provider** _____ so affected;

- (ii) _____ No data will be transferred from **The Company** to the _____ **Balancing-M Mechanism Reporting Agent (BMRA)** until the _____ communication facilities are re-established.

BC4.5.2 RR Provider Data submissions before TERRE Gate Closure

To participate in a **TERRE** auction, a **BM Participant** must have prequalified and must submit a **TERRE Bid** covering at least one of the **TERRE Activation Periods** within the **TERRE Auction Period**.

In addition to a valid **TERRE Bid**, a sub-set of **Balancing Mechanism** parameters are also required covering the **TERRE Auction Period** and the **Settlement Periods** immediately before and after the **TERRE Auction Period** (to allow ramping before and after).

If a **BM Participant** is active in the **Balancing Mechanism** the only additional data needed to participate in a **TERRE** auction is a valid **TERRE Bid** covering the relevant times.

For a **BM Participant** that is not active in the **Balancing Mechanism**, the following subset of parameters are required with exceptions as noted below:

(a) Physical Notifications

Physical Notifications follow the same format and rules as covered in **BC1** and **BC2** with the following exceptions;

- (1) A **BM Participant** that is not active in the **Balancing Mechanism** but wishes to participate in **TERRE** is only required to have submitted **Physical Notifications** covering the **TERRE Auction Period** and the **Settlement Periods** immediately before and after the **TERRE Auction Period** for which they have submitted a **TERRE Bid**.
- (2) Defaulting rules as described in the **Data Validation, Consistency and Defaulting Rules** will only apply to **Settlement Periods** for which the **BM Participant** previously submitted **Physical Notifications** for the previous **Operational Day**.

(b) Export and Import Limits

For a **BM Participant** that is not active in the **Balancing Mechanism** but wishes to participate in **TERRE**, these are the same as described in **BC1** and **BC2**.

(c) Run Up Rate and Run Down Rates

For a **BM Participant** that is not active in the **Balancing Mechanism** but wishes to participate in **TERRE** these are the same as described in **BC1** and **BC2**.

- (d) For a **BM Participant** that is not active in the **Balancing Mechanism** but wishes to participate in **TERRE**, the other **Dynamic Parameters** listed in BC1.A.1.5 are not required.

TERRE Bids must follow the formats and rules in the **TERRE Data Validation and Consistency Rules**.

- BC4.5.3 Re-submission of parameters by BM Participants before TERRE Gate Closure
- The rules outlined in **BC1** and **BC2** for the revision of **Physical Notifications**, **Export and Import Limits**, **Run Up Rates** and **Run Down Rates** also apply for **TERRE**.
- TERRE Bids** can be revised up to **TERRE Gate Closure** in order to be used in the **TERRE** auction (as described in the **TERRE Data Validation and Consistency Rules**).
- BC4.5.4 Defaulting rules for TERRE Bids
- TERRE Bids** will not be defaulted using previously submitted values. This is due to the ability to link **TERRE Bids** and the re-use of sequence numbers. Hence a **BM Participant** wishing to participate in a particular **TERRE** auction must submit **RR Bids** specifically covering the relevant **TERRE Activation Periods**.
- BC4.6 Processing of TERRE Bids before passing to the TERRE Central Platform
- BC4.6.1 Cases where a TERRE Bid will be Restricted
- TERRE Bids** will be passed to the **TERRE Central Platform** but will be flagged as **Restricted** under the following cases:-
- (a) Data within the submission does not conform to formats required as detailed in the **TERRE Data Validation and Consistency Rules** (e.g. missing or incorrect keywords, data in the wrong order, corrupted files etc).
 - (b) If a **TERRE Bid** does not have a corresponding **Physical Notification**, the **TERRE Bid** will be flagged as **Restricted**.
 - (c) If a **TERRE Bid** will result in violating a **System Constraint**, it will be flagged as **Restricted**.
 - (d) If a **BM Participant** has already been instructed for an **Ancillary Service** or for **Reserve**, a **TERRE Bid** may need to be flagged as **Restricted**. For the avoidance of doubt – participation in **TERRE** does not exclude an **BM Participant** from offering other services to **The Company** but on occasions if there are conflicts between services, **The Company** may have to flag these **TERRE Bids** as **Restricted**.
- BC4.7 Instructing BM Participants
- BC4.7.1 Communication from The Company to BM Participants
- For the purposes of communication, an **RR Instruction** will follow the same format as a **Bid-Offer Acceptance** and so the rules of BC2.7 also apply for **RR Instructions**.
- BC4.7.2 Creating RR Instructions from RR Acceptances
- Results from the **TERRE Central Platform** are returned to **The Company** in the form of **RR Acceptances**.
- RR Acceptances** do not include physical ramps and so **Run Up Rates** and **Run Down Rates** will be used to create **RR Instructions**.
- In order to comply with all of the **RR Acceptances** for a **BM Participant**, several **RR Instructions** may be required.
- RR instructions** will ramp **BM Participants** from their **Committed Level**, hold them at the required output level, and then return the **BM Participant** back to the **Committed Level**.
- The **TERRE** market wishes to incentivise **RR Instructions** which ramp within +/-5 minutes of the start and end of the **TERRE Activation Periods**. Hence, where possible, **Run Up Rates** and **Run Down Rates** will be applied so that ramping is symmetric around the start and end of the **TERRE Activation Periods**.
- However the **TERRE Product** allows for up to 30 minute ramping to and from full activation and so for the first and final ramps up to 30 minutes of ramping can be used for creating an **RR Instruction**.

Details of how **RR Instructions** will be created can be found in the **TERRE Instruction Guide**.

BC4.7.3 Cases where RR Instructions may not be issued

In the time between receiving **TERRE Bids** and the **RR Acceptances** being returned to **The Company**, system conditions may require the issuing of a **Bid Offer Acceptance** to the **BM Participant** for which the **RR Acceptance** applies.

In these cases, it may be necessary to not issue an **RR Instruction** to the **BM Participant** or to modify the **RR Instruction** so that it is compatible with the **Bid Offer Acceptance** that has been previously been issued to the **BM Participant**.

This situation can only arise for a **BM Participant** which is also active in the **Balancing Mechanism**.

The following may apply:

- (a) If the **Bid Offer Acceptance** is in the same direction as the **RR Instruction** but the MW levels of the **RR Instruction** are less than the **Committed Level** after the **Bid Offer Acceptance** is applied, the **RR Instruction** will not be issued.
- (b) If the **Bid Offer Acceptance** is in the same direction as the **RR Instruction** but the MW levels of the **RR Instruction** are greater than the **Committed Level** after the **Bid Offer Acceptance** is applied the **RR Instruction** will be issued relative to the **Committed Level**.
- (c) If the **Bid Offer Acceptance** is in the opposite direction to the **RR Instruction** the **RR instruction** will not be issued.

BC4.7.4 Infeasibility of RR Acceptances

If the **RR Acceptances** for an **BM Participant** are not consistent with the **Physical Noifications** and the **Run Up Rates** and **Run Down Rates**, then **The Company** will adjust the MW levels so that **RR Instructions** can be created using the declared parameters.

Details of how these infeasibility rules will be applied are contained in the **TERRE Instruction Guide**.

BC4.8 Publication of TERRE Data

BC4.8.1 Publication of Data at the National level

The Company shall provide data in accordance with the requirements of the **BSC**. The following data items will be provided:

- (a) **TERRE Bids** and details of those restricted
- (b) **Final Physical Notifications**
- (c) **RR activations**
- (d) **RR Instructions**
- (e) Interconnector Volumes per 15 minute period of the **TERRE Activation Period**
- (f) The **TERRE** clearing price

~~(g)~~ Volume of **GB** need met

(g)

The **TERRE** market operates in short processing times meaning that **Planned Maintenance Outages** or unplanned computer system failures can result in the suspension of the **TERRE** market.

Suspension of the **TERRE** market in **GB** will occur in the following circumstances:

- (a) Loss of communication from **The Company** to the **TERRE Central Platform**
- (b) Failure of the **TERRE Central Platform** to produce **RR Acceptances**
- (c) Loss of communication from the **TERRE Central Platform** to **The Company**
- (d) Loss of electronic logging devices to a large number of **BM Participants**

TERRE Market Suspension

The **TERRE** market shall be suspended in **GB** when one of the following circumstances arises:

- (a) Suspension of the **Balancing Mechanism** in accordance with OC9.4.6; or
- (b) Outages of computer systems leading to the suspension of the **TERRE** market as provided for in BC4.9; or
- (c) Operators of the **TERRE Central Platform** notify **The Company** that the **TERRE** market has been or is to be suspended.

Where the **TERRE** market has been suspended as a result of item (a) above, or is to be or has been suspended as a result of items (b) or (c) above, **The Company** will as soon as reasonably practical, inform **Users** and the **BSCCo** that the **TERRE** market is to be or has been suspended. **The Company** will notify **Users** and the **BSCCo** if the **TERRE** market suspension arose as a result of a **Total System Shutdown or Partial System Shutdown System RestorationBlack Start** event (which triggers a System Restoration) or another condition in accordance with the requirements of the **BSC**.

In the case of **TERRE** market suspension under BC4.10 (b) or (c), **The Company** shall (as soon as is practicable) determine, in its reasonable opinion, the time and date from when the **TERRE** market is to be suspended. **The Company** shall also notify **Users** and the **BSCCo** of the time of **TERRE** market suspension and the reason for the suspension.

Where the **TERRE** market has been suspended, it will not be resumed until the start of a defined **Settlement Period** which shall be determined:-

- i) by the **BSC Panel** in accordance with section G3.1.8 of the **BSC** (in the case of a **Total System Shutdown or Partial System Shutdown System RestorationBlack Start** event (which triggers a System Restoration)); or
- ii) by section Q.5.A of the **BSC** (in the case of **TERRE** market suspension for any other reason other than **System RestorationBlack Start**).

In the case of **TERRE** market suspension as a result of a **Total System Shutdown or Partial System Shutdown System RestorationBlack Start** event (which triggers a System Restoration), as provided for under BC4.10(a), **Users** shall use reasonable endeavours to submit **TERRE Bids** ten hours prior to the start of the **Settlement Period** determined by the **BSC Panel** in accordance with paragraph G3.1.8 of the **BSC** and as notified by **The Company** to **Users** in preparation for the resumption of the **TERRE** market.

In the case of **TERRE** market suspension as a result of another event as provided for under BC4.10(b) or BC4.10(c), **Users** shall use reasonable endeavours to submit **TERRE Bids** as soon as possible after notification from **The Company** of the **Settlement Period** from when the **TERRE** market is to be resumed.

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