

ISG208/01 – NON-STANDARD BM UNIT APPLICATION FOR THE ROSECOTE ENERGY STORAGE SCHEME

MEETING NAME ISG 208

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Purpose of paper Decision

Classification Public

Summary Centrica has applied for a non-standard BM Unit for its energy storage scheme at Rosecote. We invite the Imbalance Settlement Group (ISG) to approve the application.

1. Background

- 1.1 Centrica has constructed a 49 MW energy storage scheme at Rosecote. The energy storage scheme consists of 16 battery groups and 16 power conversion systems connected to the North Western GSP Group (_G) Distribution system via a single 132/11kV circuit connected to the Electricity North West Limited (ENWL) owned 132kV busbar at Rosecote. The scheme is metered at the point of connection which is the Defined Metering Point (DMP).
- 1.2 The energy storage scheme is designed to be operated as a single unit to provide a frequency response ancillary service to the Transmission Company.
- 1.3 For the purpose of this paper each battery group is equivalent to a Generating Unit (GU) and so we will refer to them as battery GUs¹. This approach is consistent with references to other types of module in the Grid Code (e.g. Combined Cycle Gas Turbines (CCGT) Modules and Power Park Modules (PPMs)), which refer to collections of GUs.
- 1.4 Centrica has submitted electrical single line diagrams (SLD) to support this application (Attachments B and C).
- 1.5 Attachment B shows a second Low Voltage connection to the ENWL Distribution System. This is a backup supply which will be registered in the Supplier Meter Registration Service (SMRS) and used when the energy storage scheme is shutdown. Centrica has confirmed that there is an interlocking arrangement which means that it would be impossible for the energy storage scheme to be importing and / or exporting through both the Central Volume Allocation (CVA) and the Supplier Volume Allocation (SVA) Meter at the same time.
- 1.6 Attachment C shows that the Settlement Meters are at the Defined Metering Point; the connection between the Distribution System and the energy storage scheme.

2. Non-standard BM Unit application

- 2.1 In accordance with Section K3.1.5 and 3.1.6, Centrica is seeking the ISG's approval to register a non-standard BM Unit for the energy storage scheme at Rosecote.

¹ Neither "Battery storage" nor "energy storage" is defined in the Balancing and Settlement Code. Nevertheless, energy storage is treated as though it is a generator because the definition of a Generating Unit 'means any Apparatus which produces electricity'. Grid Code Modification GC0096 'Energy Storage' is currently considering changes to the Grid Code to explicitly recognise the role and participation of energy storage.

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- 2.2 In accordance with Section K3.1.4, a single GU can be registered as a standard BM Unit. However, typically, as is the case for the Rosecote energy storage scheme, an energy storage scheme is comprised of a number of battery GUs, which could be independently controlled. Whilst certain types of groups of GUs are defined as standard BM Units (e.g. CCGTs, PPMs), groups of energy storage GUs are not currently recognised as a standard configuration in either the BSC or the Grid Code and cannot therefore be considered to be standard BM Units.
- 2.3 As the energy storage scheme is designed to be operated as a single unit, there is only one control system that controls the input/output. It is also metered at a single point, the DMP, which is the point of connection to the 132kV connection at ENWL's Rosecote substation
- 2.4 Centrica believes that should a BM Unit be required for each power conversion system, the Applicable Balancing Services Volume Data (ABSVD) would have to be calculated by the Transmission Company individually for each of the 16 required BM Units and applied to each BM Unit individually as part of the Settlement process, which would be an administrative burden for all parties involved.
- 2.5 The applicant has stated that there are recurring costs associated with maintaining CVA BM Units and the associated CVA Metering Systems; these would be much higher than otherwise necessary, if each battery GU was registered individually, with no identifiable benefit. In line with Section D Annex-3 3.1 (b) and (c) (Attachment D), assuming 16 BM Units (and two MSIDs²) were required, Centrica would be incurring an annual charge of £20,400³ as opposed to £2,400, if only one BM Unit was registered.
- 2.6 Under Section K, paragraph 3.1.2(a), responsibility must lie with one Party. Centrica has confirmed that it will be the Lead Party of this BM Unit.
- 2.7 Under Section K, paragraph 3.1.2(b), a BM Unit must be controlled independently of any other. Centrica has confirmed that the Rosecote energy storage scheme BM Unit will be controlled independently of any other.
- 2.8 Under Section K, paragraph 3.1.2(c), a BM Unit must have Metering Equipment which is installed pursuant to Section L and conforming to the appropriate Code of Practice (CoP). Centrica has confirmed that CoP2 compliant Metering Equipment will be installed.
- 2.9 Under Section K, paragraph 3.1.2(d) the BM Unit shall not comprise Plant and Apparatus whose Imports and Exports are measured by both CVA Metering System(s) and SVA Metering System(s). Centrica has confirmed that this BM Unit is only measured by CVA Metering System(s), or SVA Metering Systems as a backup, at any one time.
- 2.10 Under Section K, paragraph 3.1.2(e) a BM Unit must be the smallest aggregation of Plant and/or Apparatus that satisfies paragraphs K3.1.2(a), (b) and (c). Although in theory each battery group can be individually controlled and therefore would be the smallest aggregation of Plant and Apparatus to satisfy paragraph K3.1.2(a), (b) and (c), in practise there is only one control system. The Rosecote energy storage scheme is contracted to provide a frequency response ancillary service to the Transmission Company as a single BM Unit.

3. Transmission Company and ELEXON comments

² Where different Line Loss Factors are required for the Import and Export Metering System by the LDSO, limitations in the Central Data Collection Agent's (CDCA) system mean 2 Metering System Identifiers are required.

³ (16 BMUs x 12 months x £100 (£19,200) + 2 MSIDs x 12 months x £50 (£1,200))

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- 3.1 The Transmission Company has reviewed the non-standard BM Unit application and has no issues with or objections to it.
- 3.2 ELEXON recommends that the ISG agree this application on the basis that:
- the responsibility for the flows of electricity associated with the BM Unit lie with one Party (Section K 3.1.2 (a));
 - The Plant and Apparatus associated with the Roosecote energy storage scheme is capable of independent control from any other Plant and Apparatus (Section K3.1.2(b));
 - all volumes flowing from and to the BM Units will be captured by compliant Metering Systems and these volumes will be determined separately from volumes to and from other BM Units (Section K 3.1.2 (c));
 - the BM Unit does not comprise Central Volume Allocation (CVA) and Supplier Volume Allocation (SVA) Metering Systems that measure the same Imports or Exports at any one time (Section K 3.1.2 (d)); and
 - Although the BM Unit would not be the smallest aggregation of Plant and Apparatus that satisfies K3.1.2 (a)-(c) (Section K3.1.2(e)), the Roosecote energy storage scheme is designed to operate as a single unit.

4. Recommendations

- 4.1 We invite you to:
- a) **APPROVE** the non-standard BM Unit for the Roosecote energy storage scheme.

Appendices

Appendix 1 – BM Unit Configurations

Attachments

Attachment A – Roosecote Non Standard BM Unit Application form BSCP15/4.13

Attachment B (CONFIDENTIAL) – Roosecote Energy Storage System LV Single Line Diagram

Attachment C (CONFIDENTIAL) – Roosecote Energy Storage System Overall Single Line Diagram inc. ENWL compound

Attachment D – Schedule of Main and SVA Specified Charges

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APPENDIX 1 - BM UNIT CONFIGURATIONS

The BSC states that a BM Unit shall comprise Plant and/or Apparatus for who's Exports and / or Imports a Party is responsible (Section K3.1.1).

A BM Unit must satisfy the following conditions (K3.1.2):

- responsibility for the BM Unit would lie with one Party;
- it would be capable of independent control;
- it would be visible to the Settlement Administration Agent (SAA) as a metered quantity separately from anything that is not included in the BM Unit;
- the BM Unit does not comprise of CVA and SVA Metering Systems that measure the same Imports or Exports
- it would be the smallest aggregation of Plant and Apparatus that satisfies the first three bullet points above.

The BSC also sets out a number of standard configurations of BM Units (Section K3.1.4), including:

- a single Generating Unit (GU), Combined Cycle Gas Turbine (CCGT) or Power Park Module (PPM),
- a Combined BM Unit,
- the Imports through the station transformers of a Generating Plant or premises, which are directly connected to the Transmission System, at a single Boundary Point.
- directly connected premises which are connected at one boundary point only

The BSC states that a Registrant and/or Central Data Collection Agent (CDCA) / Central Registration Agent (CRA) can apply to the Panel for a non-standard BM Unit configuration in the following circumstances (K3.1.5):

- the Plant / Apparatus does not fall into a category listed in section K3.1.4 or the CDCA / CRA considers that there is reasonable doubt that this is the case;
- the Plant / Apparatus does fall into a category listed in K3.1.4 but the responsible Party considers that a different configuration would satisfy the requirements set out in K3.1.2; or
- there is more than one set of Exports / Imports at a CVA boundary Point and more than one Party is responsible for these.