

APPLICATION FOR A NON-STANDARD BM UNIT CONFIGURATION AT MOORFIELD DRIVE POWER STATION

MEETING NAME ISG 209

Date of meeting 20 September 2018

Paper number ISG 209/08

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Purpose of paper For Decision

Classification Public

Summary Green Frog Power (GFP) Trading Limited has applied for a non-standard BM Unit for Moorfield Drive Power Station. We invite the ISG to approve the application.

1. Background

- 1.1 Moorfield Drive Power Station is located in Altham and consists of 17, 1.2 MVA gas-fuelled generators with an aggregated generation capacity of 20MW¹.
- 1.2 The electrical single line diagrams (Attachments B, C, and D) show that the 17 Generating Units (GUs) connect in pairs and one singularly to 33kV/400V transformers. These transformers connect to the main site busbar which connects to the local Licensed Distribution System Operator's (LDSO) Distribution System (Electricity North West (ENWL)) at 33kV via two cables. The Settlement Metering System is located within the circuit breaker (just before the cables split), which is at the point of connection between the Power Station and the LDSO's Distribution System. This is at the Defined Metering Point (DMP).
- 1.3 The electrical single line diagrams also show that the site auxiliary supplies feed some isolated LDSO-owned assets (lighting, battery chargers) off the LDSO's Distribution Board. The supplies for these assets come via the Boundary Point and are measured and recorded as Imports by the Settlement Meter or are fed from within the site if the GUs are running. ELEXON confirmed after reviewing the diagram that all Imports and Exports are captured by the Settlement Metering System located at the DMP.

2. Non-standard BM Unit application

- 2.1 GFP Trading is seeking approval for a non-standard BM Unit for Moorfield Drive Power Station (Attachment A).
- 2.2 In accordance with the conditions of BSC Section K3.1.2 and the standard configurations described in K3.1.4, the standard BM Unit configuration for this site would be to register each GU as a separate BM Unit.
- 2.3 Where the configuration of Plant and Apparatus does not fall into a category of standard BM Unit configuration set out in BSC Section K3.1.4 (and summarised in Appendix 1 – BM Unit Configurations) or where the responsible Party considers a different configuration would satisfy the requirements of paragraph K3.1.2, the ISG, under authority delegated from the BSC Panel, must determine the outcome for an application for a non-standard BM Unit configuration (in accordance with Section K3.1.6).

¹ The total MVA (17 x 1.2MVA) is 20.4 MVA. Green Frog Trading clarified that less than maximum output will be used to ensure that the connection capacity is not breached, and to provide some level of redundancy.

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- 2.4 GFP Trading wants to register all 17 GUs and the associated plant auxiliary supplies within a single BM Unit. As this would not satisfy the requirements for a standard BM Unit, GFP Trading is seeking approval for a non-standard BM Unit in accordance with Section K3.1.6.
- 2.5 GFP Trading believes that it is reasonable and practical to consider and treat the entire site as a single BM Unit for the following reasons:
- 2.5.1 If GFP Trading had to register each GU as a separate BM Unit, GFP Trading states that this will be troublesome for the Transmission Company, reduce system efficiency and cause unreasonable and unnecessary costs to GFP Trading. Should 17 standard BM Units be registered, the Transmission Company's control room would need to manage and dispatch 17 separate standard BM Units in order to bring the site to its full load. GFP Trading say that this would be inconvenient and there would also be costs incurred associated with inefficient dispatch (in effect, the potential for dispatch of less than full load). Therefore GFP Trading states that it would be preferential for the Transmission Company to dispatch the Generating Plant as a single unit and that the GUs will work as one, all synchronising together and compensating each other to ensure a constant output.
- 2.5.2 If 17 BM Units were required, there would need to be 17 separate Metering Systems, located on each GU circuit, to measure the individual BM Unit flows. It would be extremely costly to install Metering Equipment and the associated metering class CTs and VTs for separate Metering Systems for each individual GU (GFP Trading's estimate is ~£119,000). In addition, each Metering System would require a Metering Dispensation from Code of Practice 2 as measurement would not be taking place at the DMP. Compensating for the electrical losses between the Metering Systems, located on each of the 17 GUs, and the DMP would introduce a loss of precision in calculating each BM Unit's metered data and therefore a loss of precision in Settlements.
- 2.5.3 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 GU was metered individually, with no identifiable benefit. In line with Section D Annex-3 3.1 (b) and (c), assuming 17 BM Units (and two MSIDs²) were required GFP Trading would be incurring an annual charge of £21,600³ as opposed to £2,400, if only one BM Unit (and two MSIDs) was registered.
- 2.5.4 Seventeen BM Units instead of one has cost and convenience implications for the central and GFP Trading's Settlement systems. This also applies to other areas where the site is represented within control systems, for example the Transmission Company's Electronic Data Transfer (EDT) and Electronic Dispatch Logging (EDL) systems.

3. Transmission Company and ELEXON comments

- 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;
 - even though the GUs within the BM Unit are capable of being independently controlled, GFP Trading state that the Transmission Company will always dispatch the Power Station as a single unit and the GUs will work as one, all synchronising together and compensating each other to ensure a constant output.

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 (17 BMUs x 12 months x £100 + 2 MSIDs x 12 months x £50)

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- the quantities of electricity associated with the BM Unit are visible to the Settlement Administration Agent (SAA) as a metered quantity separately from anything that is not included in the BM Unit (the Settlement Metering System is located at the point of connection between the Power Station and the LDSO's Distribution System at the DMP, and will capture all the energy associated with the 17 GUs and associated auxiliary supplies);
- the BM Unit does not comprise of CVA and SVA Metering Systems that measure the same Imports or Exports; and
- although it is not the smallest aggregation of Plant and Apparatus that satisfies the first three bullet points above, it would be inefficient and unnecessary to register 17 BM Units for the 17 GUs.

3.3 Whilst all non-standard BM Unit applications should be considered on their individual merits, ELEXON also notes that during 2016 and 2017, the ISG has approved a number of similar non-standard BM Unit configurations for GFP Trading sites. These include Redfield Road Power Station, Redfield Road B Power Station, Dowlais II Power Station, Trafalgar Park Power Station, Sudmeadow Power Station, Plymouth Rock Power Station, Alcoa Power Station, and Barton Hill Power Station.

4. Recommendations

4.1 We invite you to:

- a) **APPROVE** a single non-standard BM Unit status for Moorfield Drive.

Appendices

Appendix 1 – BM Unit Configurations

Attachments

Attachment A – Moorfield Drive Non Standard BM Unit Application Form BSCP15/4.13

Attachment B – (CONFIDENTIAL) MD_JG-0212-30-01 SLD Rev E

Attachment C – (CONFIDENTIAL) MD_JG-0212-30-02 SLD Rev E

Attachment D – (CONFIDENTIAL) MD_JG-0212-30-03 SLD Rev E

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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, CCGT or Power Park Module (PPM),
- a Combined Offshore 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.

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.