

# 198/01 - APPLICATION FOR A NON-STANDARD BM UNIT FOR PEN Y CYMOEDD BATTERY MODULES

**MEETING NAME** ISG 198

**Date of meeting** 26 September 2017

**Paper number** ISG198/01

**Owner/author** Paulina Stelmach

**Purpose of paper** For Decision

**Classification** Public

**Summary** Vattenfall Wind Power Ltd (VWPL) has applied for a non-standard BM Unit for one battery module associated with Pen y Cymoedd battery storage facility. We invite the ISG to approve the application.

## 1. Background

- 1.1 Vattenfall Wind Power Limited (VWPL) is developing the 22MW Pen y Cymoedd battery storage facility<sup>1</sup> consisting of one battery module. The battery module will be co-located at the existing 228MW Pen y Cymoedd Wind Farm (T\_PNYCW-1), which is located near Hirwaun, South Wales. Pen Y Cymoedd Wind Farm is owned and operated by Pen Y Cymoedd Wind Farm Limited (BSC Party Id 'PYC') – the battery module (T\_PNYCB-1) will be owned and operated by VWPL (BSC Party Id 'VWPL'). PYC and VWPL are affiliate companies and have the same parent company – Vattenfall AB.
- 1.2 Pen y Cymoedd Wind Farm has a 400kV connection to the NGET Transmission System at the Rhigos 400kV Substation. The separate 22MW battery module is to be co-located with the wind farm. The battery module will be connected to the wind farm's 33kV electrical private system instead of connecting the battery module directly to the Transmission System at 400kV. The planned energisation date for the battery module is the beginning of November 2017 and first export is planned for thereafter.
- 1.3 VWPL has submitted an electrical single line diagram (SLD) to support this application (Attachment B). The battery module will be connected to the Wind Farm 33kV electrical system at the Point of Connection (PoC) as shown on the SLD. The battery module is already a subject of a lifetime Metering Dispensation D/471 was approved by the ISG on 13 December 2016 (ISG Paper 188/10). In accordance with BSC Section K3.1.2(c), the Metering Equipment for the battery module ('M<sub>B</sub>' in the SLD) will capture all Imports and Exports to or from the battery module. They will be located at the end of the 33kV cable that connects to the wind farm (the Actual Metering Point (AMP)). This is a distance of approximately 200m from the wind farm's 33kV busbar. Thus, the Settlement meters at the 400kV connection for the Wind Farm ('M<sub>W</sub>' in the SLD) will also register the imports and exports of the battery module, therefore it will also be necessary to amend the Aggregation Rule for the Wind Farm BM Unit to correctly divide the allocation of energy between the Wind Farm and the battery module.
- 1.4 Because PYC is responsible for the Wind Farm, and VWPL (i.e. "another person") will be responsible for the battery module, this will fall under the requirements of Section K 3.1.5(d) (see paragraph 2.2) that demands such configuration to be presented to the Panel (K3.1.6). VWPL is therefore making an application for the approval of a non-standard BM Unit.

<sup>1</sup> 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.

# 198/01 - APPLICATION FOR A NON-STANDARD BM UNIT FOR PEN Y CYMOEDD BATTERY MODULES

---

1.5 The wind farm and the battery module are separate entities, owned and operated by different Parties, and are being registered as separate BM Units. They are also to engage in separate commercial activities - the battery module is to provide "Enhanced Frequency Response" (EFR) services to NGET and the wind farm will operate as a Large Power Station with capability to provide Mandatory Services but will not provide EFR.

## 2. Non-standard BM Unit application

2.1 VWPL is seeking approval to register the battery module as a single non-standard BM Unit (Attachment A). As the battery module will be registered to VWPL, but is connected to an existing Transmission connected asset, i.e. Pen y Cymoedd Wind Farm registered to PYC, then this would fall under the requirements of Section K 3.1.5(d). VWPL is therefore making an application for the approval of a non-standard BM Unit, in accordance with Section K3.1.6.

2.2 Section K 3.1.5(d) states *[a non-standard BM Unit is required if] '(except in the case of an Interconnector) the relevant Plant and Apparatus Exports or Imports at a CVA Boundary Point at which there are other Exports or Imports for which another person is responsible (whether or not the relevant Plant and Apparatus falls into a category listed in paragraph 3.1.4).'*

2.3 VWPL has stated that it will have sole responsibility for the battery module (Section K3.1.2 (a)), and PYC will have sole responsibility for the Wind Farm. The Pen y Cymoedd Wind Farm BM Unit will be impacted because the Exports and/or Imports associated with the battery module will flow through the Meters for the Wind Farm BM Unit, so the Aggregation Rule for the Wind Farm will need to be amended to account for these battery module flows (i.e. deduct them).

2.4 Except Section K3.1.5 (d), all the conditions of BSC Section K3.1.2, for the standard BM Unit configuration for the battery module's Plant and Apparatus have been satisfied.

2.5 Under Section K, paragraph 3.1.2(a) requires that responsibility for the BM Unit would lie with one Party. VWPL are the Party responsible for the BM Unit. No other Party is responsible for this BM Unit as PYC are responsible for the separate Power Park Module BM Units.

2.6 Under Section K, paragraph 3.1.2(b) requires the BM Unit to be capable of being independently controlled. VWPL confirmed that the battery module will be operated and dispatched independently of the Wind Farm.

2.7 Under Section K, paragraph 3.1.2(c) requires that the quantities of electricity from the Plant and Apparatus in the BM Unit 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 electrical single line diagram shows that the Metering System for the battery module will only capture the Imports and Exports associated with the battery module.

2.8 Under Section K, paragraph 3.1.2(d) Imports and Exports cannot be captured by both CVA Metering System(s) and SVA Metering System(s). The Settlement Metering for the battery module will consist of a single Metering System registered in CVA.

2.9 Under Section K, paragraph 3.1.2(e), a BM Unit must be the smallest aggregation of Plant and/or Apparatus satisfying paragraphs (a), (b) and (c). VWPL confirmed that the battery module is the smallest aggregation of Plant and Apparatus that can be controlled independently.

## 3. Transmission Company and ELEXON comments

3.1 The Transmission Company provided no comments and is happy to support this application.

3.2 ELEXON recommends that the ISG agree this application on the basis that:

- there is more than one set of Exports / Imports at the CVA Boundary Point for the battery module and more than one Party will be responsible for these, as described in Section K3.1.5 (d);

# 198/01 - APPLICATION FOR A NON-STANDARD BM UNIT FOR PEN Y CYMOEDD BATTERY MODULES

---

- the responsibility for the flows of electricity associated with each BM Unit lie with a different Party;
- all other conditions of BSC Section K3.1.2, for a standard BM Unit configuration for this Plant and Apparatus have been met;

## 4. Recommendations

4.1 We invite you to:

- a) **APPROVE** a single non-standard BM Unit for the Pen y Cymoedd battery storage;

## Appendices

Appendix 1 – BM Unit Configurations

## Attachments

Attachment A – (CONFIDENTIAL) Pen y Cymoedd battery module non-standard BM Unit application Letter

Attachment B - (CONFIDENTIAL) - Pen y Cymoedd electrical single line diagram

## For more information, please contact:

Paulina Stelmach, Settlement Operations Analyst

[Paulina.stelmach@elexon.co.uk](mailto:Paulina.stelmach@elexon.co.uk)

020 7380 4372

# 198/01 - APPLICATION FOR A NON-STANDARD BM UNIT FOR PEN Y CYMOEDD BATTERY MODULES

---

## 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 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.