BSCP32/4.1 Application for a Metering Dispensation

Part A – Applicant Details

To: BSCCo	**Date Sent:** 30/06/2023
From: Requesting Applicant Details Name of Sender: Contact email address: Contact Tel. No.	Contact Fax. No. N/A
Name of Applicant Company: Ecotricity Ltd (RENC)	
Address: Lion House, Rowcroft, Stroud, United Kingdom,	
Post Code: GL5 3BY	Our Ref:
Name of Authorised Signatory: Authorised Signature: By email	Password:

Confidentiality:

Does any part of this application form contain confidential information?

Request for Confidentiality No/*

If 'YES', please state the parts of the application form that are considered confidential, including justification below. Information that is considered confidential:
…… number, site name, expiry date (if any) and BSC Panel determinations will routinely be made available in the public domain unless the applicant informs BSCCo otherwise at the time of application

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Part B - Affected Party Details

Number of Affected parties 2[1]
Does this Metering Dispensation affect the metering arrangements for a generator that has applied for/obtained a CFD Agreement? ☐Yes ☒No
If Yes, you must contact the Low Carbon Contracts Company and advise them of your Metering Dispensation application and include them as an Affected Party.
Have you notified all Affected Parties? ☒Yes ☐No

Contact Name at Affected party:	
Contact email address:	
Contact Tel. No.	Contact Tel. No.
Company Name of Affected party: National Grid Electricity Distribution	
Address: Avonbank, Feeder Road, Bristol	
Post Code: BS2 0TB	

Contact Name at Affected party:	
Contact email address:	
Contact Tel. No.	Contact Tel. No.
Company Name of Affected party: Alveston Wind Park Ltd	
Address: Lion House, Rowcroft, Stroud, United Kingdom	
Post Code: GL5 3BY	

[1] For more than one Affected party, Part B should be completed for each, using additional copies of Part B as required.

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Part C – Reason for Application

If the application is an extension or update for an existing Metering Dispensation, enter existing ref: D/……..

Site Specific

Describe why you require a Metering Dispensation. Include any steps you propose to limit the impact on Settlement and other Registrants:

Ecotricity Ltd is applying for a lifetime Metering Dispensation from Code of Practice (CoP) 2.

The Metering Dispensation application relates to the location of the Settlement measurement transformers for a new Battery Energy Storage System (BESS), which will be co-located alongside an existing windfarm at a site near Alveston, South Gloucestershire. The site currently comprises of a 6.9MW Alveston wind park, commissioned in 2017, and a new 10MW battery (ALBESS) which will be connected in late September 2023.

The existing metering for the wind farm is fully compliant with CoP2 and has its Actual Metering Point (AMP) located at the Defined Metering Point (DMP), at the 132kV point of connection (PoC) to National Grid Electricity Distribution's (NGED) Distribution System.

A Metering Dispensation will allow for optimum registration of the Metering System for the new BESS to connect and share a grid connection point with the wind farm.

A unique requirement for a Metering Dispensation arises because of two assets being co-located on land close to each other. This arrangement allows for the amalgamation of two PoCs into one and allowing a single Boundary Point connection for both assets. Without this, the site would require 2 PoCs to NGED's Distribution System which is an inefficient use of infrastructure and uneconomical. Furthermore, the timescales for securing a separate PoC would be significant and likely to delay operation of the BESS by 12-18 months.

The proposed solution is for the ALBESS Settlement metering to be located at 11kV and not at the DMP as this will allow both assets to be settled independently but share a PoC to the gird. As a result, the AMP for the BESS will not align with the DMP in Appendix A of CoP2 and, according to clause 4.3.3 CoP2, ALBESS will need a Metering Dispensation for the location of the BESS measurement transformers. It will be necessary to compensate for the losses between the AMP to the DMP in order to maintain CoP2 overall accuracy limits at the DMP, for the BESS Metering Systems (Import and Export).

As a result, the proposed solution will:

- **Simplify the project design and footprint of required infrastructure and implementation**
  - A fully compliant Metering System, necessitating another Boundary Point for ALBESS will require additional infrastructure on site increasing both cost and timescales for completion of the project. Furthermore, such infrastructure would cause increased levels of environmental impacts, such as increased land-take/footprint, noise, etc, from additional piling & infrastructure.

- **Provide significant savings to project costs**
  - Additional infrastructure would increase overall project CAPEX. The materiality section below shows savings in excess of £3.9m.
  - Given this project will enter the Capacity Market, these savings will ultimately benefit the Consumer.

- **Deliver an economic metering arrangement compliant to CoP 2 for both assets**
  - Allows for all meters on site to be complaint to the related codes of practice whilst enabling each asset to be settled separately whilst sharing a PoC.

Period of Metering Dispensation required

Lifetime

If temporary, indicate for how long the Metering Dispensation is required.	N/A

Provide justified reasoning for the period of Metering Dispensation requested in the box below:

Rationale for duration of Metering Dispensation:

A Metering Dispensation is required for the lifetime of the assets as there is no intention for the connection arrangement to change through the project lifetime.

Part D1 - Loss Adjustments for Power Transformer and/or Cable/Line Losses

Where loss adjustments are proposed and applied (or are to be applied) to the Metering System for power transformer and/or cable/line losses, provide the following information:

Describe how do you propose to correct the Metering System to account for the losses of this power transformer?

A compensation factor to account for power transformer losses will be applied to the main and check Meter. Please see Appendix 1 calculation.

In order to validate the loss adjustments applied (or to be applied) to the Metering System please provide the following information together with supporting data (e.g. power transformer test certificates):

What are the iron losses for this power transformer?

11.46kW

What are the copper losses for this power transformer?

104.32kW at nominal tap.

Are there any other losses that have been taken into account? Yes*. If Yes what are they?

Bus-bar, Earthing Transformer and 11kV cabling (Details in Appendix 1)

Demonstrate how these elements of loss have been used in the corrections to the Metering System.

Please see Appendix 1 calculation.

*Delete as applicable.

Describe how do you propose to correct the Metering System to account for the losses of the power cable/line?

A compensation factor for power cable losses will be applied to the main and check Meter.

In order to validate the loss adjustments applied (or to be applied) to the Metering System please provide the following information together with supporting data (e.g. cable/line manufacturer's data sheet):

Please see Appendix 1 calculation.

What is the type of power cable/line?

Please refer to Appendix 1

What is the length of this power cable/line?
Please refer to Appendix 1

What is the DC resistance of this power cable/line?
Please refer to Appendix 1

What is the impedance of this power cable/line?
Please see Appendix 1 calculation.

What is the capacitance of this power cable/line?

0.512μF/km

Are there any other losses that have been taken into account? Yes*. If Yes what are they?

Yes – approximation for short section of bus-bar between HV transformer bushing and PoC

Demonstrate how these elements of loss have been used in the corrections to the Metering System.

Please refer to Appendix 1 calculation.

*Delete as applicable.

Materiality

Please complete the following:

What is the cost of providing compliant Metering Equipment?	What does this cost entail?
£3,930,000.00	Compliant Metering 1 x 15MVA 132/11kV Power Transformers 1 x 132kV Voltage Transformer 2 x 132kV Current Transformers 1 x 132kV Dead Tank Circuit Breaker 2 x 132kV Disconnectors & Earth Switches 1 x 132kV Set of Surge Arrestors Extension of existing 132kV AIS substation Secondary Equipment (e.g. cabling) Associated Civil & Piling Works *Note: We are only detailing areas of difference rather than listing all of the equipment.*
What is the cost of the proposed solution?	What does this cost entail?
£25,500	1 x 11kV Voltage Transformer 3 x 11kV Curent Transformer Secondary Equipment (e.g. cabling) *Note: We are only detailing areas of difference rather than listing all of the equipment. Asset infrastructure shared with co-located Wind.*
What is the impact to Settlement of your proposed solution?	Why?
The 'location' non-compliance of the BESS metering will have no impact on Settlement	None as compensations will be applied to the BESS Metering Systems to refer measurement to the DMP. Overall accuracy of the BESS Metering Systems will remain within CoP2 overall accuracy limits of error, at the DMP.
What is the impact to other Registrants of your proposed solution?	Why?

The 'location' non-compliance of the BESS metering will have no impact on other Registrants	Considering losses are accounted for there should be no further implications on other Registrants. The existing Wind Farm Settlement metering is located at the 132kV DMP and is fully compliant with CoP2. The BESS metered data will be compensated to refer measurement to the DMP and will be differenced off the WF metered data, in order to determine the WF metered volumes.

Site Details (for Site Specific Metering Dispensation)

Site Name:	Alveston Energy Storage
Site Address:	Old Green Farm, Alveston, BS35 3TD
MSID(s):	New MPANs located at 11kV for BESS Import 2200043649507 Export 2200043649516
Registered in: SMRS*:	SMRS
For SMRS, please advise of SMRA in space provided.	National Grid Electricity Distribution

Manufacturer Details (for Generic Metering Dispensation)

Manufacturer Name:	N/A
Metering Equipment Details:	N/A

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Part D - Technical Details

Code of Practice details

Metering Dispensation against Code of Practice*	CoP2
Issue of Code of Practice*:	Version 18, Issue 5 (Latest dated 29th June 2023)
Capacity of Metering Circuits/Site Maximum Demand (MW/MVA):	17MVA
(Proposed) Commissioning Date of Metering:	September – October 2023
Accuracy at Defined Metering Point:	+/- 0.5% @120% to 10% incl. @pf=1.0 Active energy. CT Class 0.2S, VT Class 0.5
Accuracy of Proposed Solution (including loss adjustments):	+/- 0.5% @120% to 10% incl. @pf=1.0 Active energy Note: All transformer losses, cable losses, earthing transformer loss and measurement transformer errors, etc, will be compensated in the Meters so the accuracy will be 'as if' it were at the DMP.
Outstanding non-compliances on Metering Systems:	None
Deviations from the Code of Practice (reference to appropriate clause):	APPENDIX A DEFINED METERING POINTS 6. For transfers between a Distribution System operated by a Licensed Distribution System Operator and Generating Plant, the DMP shall be at the point(s) of connection of the generating station to the Distribution System operated by a Licensed Distribution System Operator. AMP is not at the DMP in accordance with CoP2, 4.3.3 'Compensation for Power Transformer and Line Losses' (Loss compensation will be applied to refer measurement from the AMP to the DMP).

* insert Code of Practice number and issue

Any Other Technical Information

Note – the existing wind farm MPANs applicable at DMP are:
Import 2200042787377
Export 2200042787386

Declaration

We declare that other than as set out above we are in all other respects, in compliance with the requirements of the relevant Code of Practice and the BSC. A schematic is attached to this application for clarification of the metering points involved.

Signature: ..... *Date:* *30/06/2023*

Password:

Duly authorised for and on behalf of Applicant Company

Confirmation of Receipt and Reference

BSCCo acknowledges receipt of this document and has assigned the reference number as indicated on the first page.

Signature: *M Smith* *Date:30 June 2023*

Duly authorised for and on behalf of BSCCo