BSCP32/4.1 Application for a Metering Dispensation

Part A – Applicant Details

To: BSCCo		**Date Sent:** 03/02/2020
From: Requesting Applicant Details		
Name of Sender		
Contact email address		
Contact Tel. No.		Contact Fax. No.
Name of Applicant Company: SSE Generation Ltd		
Address:	No. 1 Forbury Place	
	43 Forbury Road	
	Reading	
	UK	
Post Code:	RG1 3JH	Our Ref
Name of Authorised Signatory:		
Authorised Signature: _____		Password:

Confidentiality:

Does any part of this application form contain confidential information?

Request for Confidentiality ~~**YES**~~**/NO*** *******Delete as applicable*

If 'YES', please state the parts of the application form that are considered confidential, including justification below. Information that is considered confidential:
Reasons for requesting confidentiality: …… 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

BSCP32/4.1 Application for a Metering Dispensation (Cont.)

Part B - Affected Party Details

Number of Affected parties__3__[1]

Contact Name at Affected party:	
Contact email address:	
Contact Tel. No.	Contact Tel. No.
Company Name of Affected Party: SSE Generation Ltd	
Address: No. 1 Forbury Place	
43 Forbury Road	
Reading	
UK	
Post Code: RG1 3JH	

Contact Name at Affected party:	
Contact email address:	
Contact Tel. No:	Contact Tel. No:
Company Name of Affected party: National Grid Electricity System Operator Limited	
Address: Floorplate 2	
National Grid House	
Warwick Technology Park	
Gallows Hill	
Coventry	
Post Code: CV34 6DA	

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

Contact Name at Affected Party: Contact email address:	
Contact Tel. No.	Contact Tel. No.
Company Name of Affected Party: Scottish and Southern Electricity Networks	
Address: Inveralmond House	
200 Dunkeld Road	
Perth	
Post Code: PH1 3AQ	

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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 / ~~Generic~~* **Delete as applicable.*

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

Gordonbush wind farm (GBW) is located around 12km north west of Brora, in Sutherland. GBW consists of 35 x 2.05MW Repower (now called Senvion) turbines and has been fully operational since June 2012, with an output capacity of 70MW. GBW is currently metered to Code of Practice (CoP) 2 standards at the Defined Metering Point (DMP). The DMP is the Point of Connection (PoC) to Scottish and Southern Electricity Networks' (SSEN) transmission network at the Gordonbush 132kV substation.

GBW is being extended to the immediate South West, by 11 x 4.3MW turbines, giving a maximum extension capacity of 47.3MW. There is currently 38MW spare capacity on the existing super grid transformer (SGT) and single grid connection agreement, which will accommodate the extension wind farm (Gordonbush Extension Wind Farm (GBX)), giving a maximum overall capacity of 108MW. GBX would only be able to generate above 38MW when there is enough headroom available.

For the existing grid connection assets to be able to accommodate generation from GBX, modifications are required on the 33kV main substation switchboard. Part of these modifications include changing the existing GBW Metering System to meet the relevant technical requirements for Balancing and Settlement Code purposes (CoP1 requirements) at the DMP.

GBX will have the same PoC (and DMP) as the existing wind farm meaning that the existing and new turbines would operate as one Power Park Module (PPM). The Gordonbush extension wind turbines however, will be a separate Balancing Mechanism Unit (BMU) from the existing turbines.

SSER wish to meter GBX by metering the two off wind farm feeders of the extension individually with two off CoP2 Meters. The total output from GBX (BMU 2) will be calculated from the aggregation of the two Meters. The output of the GBW (BMU 1) will be calculated by subtracting the GBX Meters from the GBW CoP1 Meter at the PoC.

The two wind farms need to be metered separately for the below technical and commercial reasons:

1. Requirement for separate measurement inputs for different power park controllers (Senvion grid controller and SGRE PMU) ;
2. Requirement to achieve grid code compliance of each wind farm separately;
3. Requirement to measure and control output of both wind farms independently;
4. Only the existing Gordonbush wind farm is OFGEM RO accredited;
5. Possible different Power Purchase Agreement (PPA) provider;
6. Both wind farms are to participate in the balancing mechanism as two separate sites.

Considering the above reasons, National Grid Electricity System Operator and SSEN have both agreed to the proposed metering arrangement at Gordonbush wind farm.

A Metering Dispensation is also required to meter GBX to CoP2 standards rather than CoP1 standards due to the capacity of the circuits at the Actual Metering Points (AMPs) for GBX.

Diagram 1 shows the existing metering arrangement at Gordonbush and Diagram 2 shows the proposed metering arrangement for the extension wind farm with the location of the two non-compliant measurement locations.

Period of Metering Dispensation required

Lifetime / ~~Temporary~~* *Delete as applicable.

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

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

Rationale for duration of Metering Dispensation:

A Metering Dispensation is sought to meter Gordonbush extension on the wind farm array feeder panels and not at the DMP (PoC/Boundary Point) for the operational lifetime of the wind farm because:

- The existing Gordonbush wind farm and the extension share the same PoC (Boundary Point) where it is only possible to meter the total export and import for both wind farms;
- Gordonbush wind farm and Gordonbush extension wind farm will be traded as separate BMUs and require two separate Metering Systems. The proposed metering arrangement would provide reflective pricing rather than an average value and would allow for transparency of the different Bid/Offer prices;
- Provision has been made in switchgear design for metering current transformers (CTs) and voltage transformers (VTs) on the Gordonbush extension switchgear panels;

- The accuracy at the DMP will be maintained within CoP2 limits since the unmetered losses within the approximately 6m of copper bus-bar of the 33kV switchboard between the AMPs and DMP are negligible.

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?

N/A. AMP and DMP are separated by only 6m of copper busbar.

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):

N/A

What are the iron losses for this power transformer?

N/A

What are the copper losses for this power transformer?

N/A

Are there any other losses that have been taken into account? Yes/No*. If Yes what are they?

N/A

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

N/A

*Delete as applicable.

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

N/A. AMP and DMP are separated by only 6m of copper busbar.

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):

N/A

What is the type of power cable/line?

N/A

What is the length of this power cable/line?

N/A

What is the DC resistance of this power cable/line?

What is the impedance of this power cable/line?

N/A

What is the capacitance of this power cable/line?

N/A

Are there any other losses that have been taken into account? Yes/No*. If Yes what are they?

N/A

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

N/A

*Delete as applicable.

Materiality

Please complete the following:

What is the cost of providing compliant Metering Equipment?	What does this cost entail?
Greater than £100k	➢ Separate switchboard with additional incomer and ancillaries for GBX. ➢ Modification and commissioning works required to tee in connection to SGT.
What is the cost of the proposed solution?	What does this cost entail?
Less than £30k	Installation, commissioning and testing of two off CoP2 Meters.
What is the impact to Settlement of your proposed solution?	Why?
No impact	For GBX, accuracy will be maintained at the DMP (PoC/BP). Losses over 6m of busbar are negligible therefore Settlement will not be materially impacted by the proposed solution. GBX metered data will be deducted from the GBW CoP1 metered data to ensure that accuracy will be maintained at the DMP for GBW.
What is the impact to other Registrants of your proposed solution?	Why?
No impact	No other Registrants are affected as there is only one Registrant for the Metering System plus, accuracy is maintained for both (GBW and GBX) Metering Systems.

Site Details (for Site Specific Metering Dispensation)

Site Name:	Gordonbush Extension Wind Farm
Site Address:	Gordonbush Wind Farm, Brora, Scotland, KW9 6LX
MSID(s):	Gordonbush Extension Wind Farm: 8369 (For information: Gordonbush Wind Farm: 8332 and 8333)

Registered in: CMRS / SMRS*: *Delete as applicable.	CMRS
For SMRS, please advise of SMRA in space provided.	

Manufacturer Details (for Generic Metering Dispensation)

Manufacturer Name:	
Metering Equipment Details:	

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Part D - Technical Details

Code of Practice details

Metering Dispensation against Code of Practice*	CoP1
Issue of Code of Practice*:	Issue 2 (v13.0)
Capacity of Metering Circuits/Site Maximum Demand (MW/MVA):	**Boundary Point circuit capacity**: 120 MVA (SGT Rating) **Metered circuit capacity** (Circuit breaker rated at 1250A): 71.4 MVA (GBX 5L5), 71.4 MVA (GBX 6L5) **Generator connected capacity**: 27.2 MVA (GBX 5L5), 22.7 MVA (GBX 6L5)
(Proposed) Commissioning Date of Metering:	10/10/2020
Accuracy at Defined Metering Point:	As per CoP2 Accuracy Limits
Accuracy of Proposed Solution (including loss adjustments):	Within CoP2 accuracy limits (no loss adjustments used) The accuracy at the DMP will be maintained within CoP2 limits since the unmetered losses within the approximately 6m of copper bus-bar of the 33kV switchboard between the AMPs and DMP are negligible
Outstanding non-compliances on Metering Systems:	None
Deviations from the Code of Practice (reference to appropriate clause):	1. AMPs not at the DMP. GBX metering shall be located at the extension's wind farm feeder panels (5L5 and 6L5) and not at the DMP (Boundary Point (1TO)), which is where the GBW metering is already located. (Section 4.3.3 and Appendix A paragraph 5, Bullet i); and 2. Meter to CoP2 standards instead of CoP1 due to the circuit capacity of the two feeder circuits for GBX (all relevant clauses).

* insert Code of Practice number and issue

Any Other Technical Information

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:*

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: ..... *Date:*

Duly authorised for and on behalf of BSCCo