

BSCP32/4.1 Application for a Metering Dispensation

Part A – Applicant Details

To: BSCCo		Date Sent: 06 July 2021
From: Requesting Applicant Details		
Name of Sender: _____		
Contact email address: _____		
Contact Tel. No.	Contact Fax. No.	
Name of Applicant Company: Gazprom Energy Ltd		
Address:		
8 First Street		
Manchester		
Post Code: M15 4RP	Our Ref: GMTRGLASS1	
Name of Authorised Signatory:		
Authorised Signature: _____	Password: _____	

Confidentiality:

Does any part of this application form contain confidential information?

Request for Confidentiality 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 4 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: UK Power Networks Ltd	
Address:	
Bircholt Road	
Maidstone	
Post Code: ME15 9XH	

Contact Name at Affected party:	
Contact email address:	
Contact Tel. No:	Contact Tel. No.
Company Name of Affected party: NETSO (contact through UKPN)	
Address:	
UK Power Networks Ltd	
Bircholt Road	
Maidstone	
Post Code: ME15 9XH	

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

BSCP32/4.1 Application for a Metering Dispensation (Cont.)**Part C – Reason for Application**

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

Site Specific

**Delete as applicable.*

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

The Glassenbury site currently consists of a 50MW UKPN connection with currently a 40MW Battery Energy Storage System (BESS) module metered at the 132kV Boundary Point (the Defined Metering Point (DMP)) to UKPN's Distribution System, with Code of Practice (CoP) 2 compliant Metering Equipment. This 40MW BESS has an existing 15-year, 2016 awarded, Capacity Market (CM) contract.

The proposal by the Applicant is to utilise the Glassenbury full site 50MW site connection capacity by two separate, and different, CM contracts, albeit both CM contracts being with the same party. The second CM contract, for a period of 20 years, is for a 10MW BESS module to be built on land adjacent to the Glassenbury site. The option of having separate 132kV connections and metering points at the same 132kV connection substation is not acceptable to UKPN and the cost of establishing a separate adjacent 132kV connection is prohibitive and would not be manageable in an acceptable timeline. Therefore, the logic is for the new 10MW BESS to be connected into, and metered at, the 33kV level, within the existing Glassenbury site, where electrical separation can be achieved, and to make appropriate allowances for the electrical losses from the Actual Metering Point (AMP) for the new 10MW BESS, to the DMP.

A lifetime Metering Dispensation is therefore required as the expected life span of the site is estimated at around 30 years should the site continue be viable. This is covering the AMP of the Metering Equipment for the 10MW BESS, away from the DMP. The compensation for electrical losses, from the AMP to the DMP, will be applied via an aggregation rule within the complex site supplementary information.

Period of Metering Dispensation required

Lifetime / ~~Temporary~~*

**Delete as applicable.*

If temporary, indicate for how long the Metering Dispensation is required.	
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Provide justified reasoning for the period of Metering Dispensation requested in the box below:

Rationale for duration of Metering Dispensation:

Based on the estimated life span of the site and current lease agreements we would like to apply for a lifetime dispensation. As we expect the production on the site upwards of 30 years should the site remain viable.

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?

The proposal is to split the existing site 33kV secondary network to allow the 10MW BESS module to be separately metered at 33kV. To cater for the losses it is intended for the 33kV BESS Meter readings to be adjusted to cater for a suitable proportion of the 132/33kV transformer losses and the separate cable losses, to create a combined loss factor for the 10MW BESS module.

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?

15.6kW

What are the copper losses for this power transformer?

193kW and prorate (38.6kW)

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

We have also made an allowance for the associated 33kV cabling system losses in the calculations.

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

We have not pro-rated the iron losses on the basis that the 10MW BESS module could be operational when the 40MW BESS module is not operational. In the calculation we have assumed the full iron losses of 15.6kW shall be assigned to the 10MW BESS module.

The stated copper losses for this transformer, at full load, are 194.1kW, as per the attached datasheet. We have therefore pro-rated the copper losses on the basis 10/50MW which is the appropriate pro rata of 20% of the full load copper losses for the 10MW BESS module.

- *Tx Iron losses = **15.6kW***
- *Tx Copper losses = **38.6kW***
- *Cable Losses = $175A \times 175A \times 0.0008\Omega = 0.245kW/cable$ (3 off) = **0.735kW** (see below)*

*Delete as applicable.

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

The different additional losses for the cable connection between the existing incoming 132kV Metering Point and the proposed new 33kV Metering Point have been calculated and allowed for by the appropriate loss factor adjustment.

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):

What is the type of power cable/line?

500mm Single XLPE Cu Secondary Cables

What is the length of this power cable/line?

100 metres

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

0.08Ω / km (Resistance D.C at 20 degrees C).

Calculated value = 0.008Ω/cable, cable is underground and therefore will not experience major swings in temperature

What is the impedance of this power cable/line?

*0.08 Ω/km. Calculated value = **0.008Ω***

What is the capacitance of this power cable/line?

*0.32 μF/km. Calculated value = **0.032μF***

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

No

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

Cable Copper losses have been calculated and taken into the overall circuit losses calculations.

15.6 + 38.6 + 0.735 = 54.935 kW

*Delete as applicable.

Materiality

Please complete the following:

What is the cost of providing compliant Metering Equipment?	What does this cost entail?
<p>£5.0m compliant 132kV connection for the 10MW BESS however, UKPN have issues with the number of ends on the 132kV circuit (Policy issue regarding P2/7). Two separate 132kV supplies into a single site will not be allowed.</p> <p>£100k (not fully compliant)</p>	<p>UKPN budget costs to establish a separate 132/33kV connection from UKPN (as per UKPN design policy)</p> <p>Establishment of a separate 33kV sub circuit and associated 33kV Metering breaker with associated Metering capabilities</p>
What is the cost of the proposed solution?	What does this cost entail?
£15-20k	Establishment of a separate CoP2 metering facility (even though the new BESS module is only 10MVA and could therefore be CoP3 metered), on the 33kV network, fed from a facility with an existing 132kV CoP2 Metering Point.
What is the impact to Settlement of your proposed solution?	Why?
There should be no impact to Settlement	<p>Both sites will now be within the Settlements system</p> <p>Each Metering System will be accurate within CoP2 limits at the DMP and difference metering will be employed to ensure the volumes for the 40MW BESS are calculated by differencing the 10MW BESS Meter readings off the Meter readings at the Boundary Point (the location of the 40MW BESS Metering System).</p> <p>The single 132kV connection, with two separately metered supplies, one at 132kV and one at 33kV, albeit both the separate CM contracts, will be with the same counter party and Registrant.</p> <p>The current market requirements normally involve the CM contract, plus the associated</p>

	Settlement arrangements, being combined into a single commercial contract arrangement at a single price. The 10MW BESS module will have different commercial terms to the 40MW BESS module and therefore needs to be metered separately.
What is the impact to other Registrants of your proposed solution?	Why?
None	<p>We have assumed the worst case on the transformer and cable losses and assigned the full losses to the 10MW BESS metering even though in reality this scenario is very unlikely</p> <p>No impact on other Registrants other than the BP Metering System Registrant. The 33kV metering loss factor will allocate losses between the 40MW and 10MW Metering Systems. The Registrant of the Boundary Point Metering System (same company) will not be impacted other than deduction of the CoP2 10MW BESS module Meter readings (and private network by over accounting the losses caused by its operation).</p>

Site Details (for Site Specific Metering Dispensation)

Site Name:	Glassenbury Battery Storage 10MW
Site Address:	Land adjacent to the North East of Glassenbury BESS, Cranbrook, Kent TN17 2QL and adjacent to the existing 40MW BESS site
MSID(s):	TBC for 10MW BESS Metering System
Registered in: CMRS / SMRS*: *Delete as applicable.	<p>SMRS</p> <p>(Boundary Point MPANs are 1900092037980 Export and 1900092049178 Import)</p>
For SMRS, please advise of SMRA in space provided.	UK POWER NETWORKS (SEEB)

Manufacturer Details (for Generic Metering Dispensation)

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

BSCP32/4.1 Application for a Metering Dispensation (Cont.)**Part D - Technical Details****Code of Practice details**

Metering Dispensation against Code of Practice*	CoP2
Issue of Code of Practice*:	Issue 4 (v14.0)
Capacity of Metering Circuits/Site Maximum Demand (MW/MVA):	10MW @ Unity PF. The cabling and switchgear is capable of providing significantly more than 10MW however only 10MW of BESS transformer capacity will be installed. The circuit capacity exceeds 10MW and is fed by a circuit with a 600 Amp rating at 33kV (34.29MVA).
(Proposed) Commissioning Date of Metering:	August 2021
Accuracy at Defined Metering Point:	CoP2 overall accuracy requirements as per section 4.3.1
Accuracy of Proposed Solution (including loss adjustments):	CoP2 overall accuracy requirements as per section 4.3.1
Outstanding non-compliances on Metering Systems:	None
Deviations from the Code of Practice (reference to appropriate clause):	<p>AMP not being at the DMP per clause 4.3.3 of CoP2 and Appendix A bullet 6:</p> <p>“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.”</p> <p>CoP2 metering to be applied to additional new 10MW Import/Export.</p>

* insert Code of Practice number and issue

Any Other Technical Information

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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: M Smith..... *Date:* 6 September 2021

Duly authorised for and on behalf of BSCCo