

BSCP32/4.1 Application for a Metering Dispensation**Part A – Applicant Details**

To: BSCCo	Date Sent:
From: Requesting Applicant Details	
Name of Sender:	
Contact email address:	
Contact Tel. No.:	Contact Fax. No. N/A
Name of Applicant Company: EDF Energy Limited	
Address: Alexander House,	
1 Mandarin Road, Rainton Brdige Business Park	
Houghton Le Spring, Sunderland, England	
Post Code: DH4 5RA	Our Ref: A/UPWARE/19/0808-1EN(1)
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

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: Pivot Power LLP	
Address: Alexander House,	
1 Mandarin Road, Rainton Bridge Business Park,	
Houghton Le Spring, Sunderland, England	
Post Code: DH4 5RA	

Contact Name at Affected party:	
Contact email address:	
Contact Tel. No.	Contact Tel. No.
Company Name of Affected party: National Grid Electricity System Operator (NGESO) Ltd.	
Address: Faraday House,	
Warwick Technology Park, Gallows Hill, Warwick	
Post Code: CV34 6DA	

Contact Name at Affected party:	
Contact email address:	
Contact Tel. No:	Contact Tel. No.
Company Name of Affected party: National Grid Electricity Transmission PLC (NGET)	
Address: Faraday House,	
Warwick Technology Park, Gallows Hill, Warwick	
Post Code: CV34 6DA	

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 / ~~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:

The affected project for this application is the 49.9MW Burwell Solar Photo Voltaic (PV) Farm (*connection offer reference: A/UPWARE/19/0808-1EN(1)* , connected at Burwell Main 400kV substation via the 13kV 60MVA tertiary of SGT1).

At the highest level, the Metering Dispensation is required as the Actual Metering Point (AMP) cannot be at the Defined Metering Point (DMP), which is the Grid Entry Point (GEP), please see attached document which shows an indicative layout 'BURWELL METERING AND PROTECTION SLD 0000053250'

The need to move the AMP is due to the following concerns:

- 1) Space constraints within NGET's existing compound. The planned area for the assets that make up EDF's connection (13kV & 33kV Switchgear and 60MVA transformer) are densely packed in the 400kV compound. The additional space required for the 33kV HAM (High Accuracy Metering) unit would have proved to be a risk to the project.
- 2) The distance between EDF's CoP2 metering panels (located within a small substation adjacent to the NGET compound) and the HAM unit would have exceeded 100m, providing concerns regarding the accuracy of metering due to the resistance of the secondary wiring runs.

The intent is for EDF to install metering current transformer (CTs) and voltage transformers (VTs) on the incoming circuit breaker within the EDF owned and operated switching station, adjacent to the SGT1 bay. It is currently foreseen that the circuits between the DMP and the proposed AMP shall be no more than 150m, which is as close as practicable.

The Metering Dispensation aims to secure BSC Panel approval for EDF to install the metering instrument transformers on EDF's most upstream circuit breaker, and to register this as the metering point for Settlement purposes.

We currently understand that there will be no impact on other Registrants. NGET initially worked with EDF to devise this solution, and NGESO has been informed without any concerning feedback returned. The impact on Settlement will be limited by calculating the delta losses between the DMP and the AMP and accounting for these within the Metering System.

Period of Metering Dispensation requiredLifetime / ~~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:

The issues that have driven the need for a Metering Dispensation are not foreseen to change or be resolved within the lifetime of the project's connection.

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*

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? *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?

We have included a calculation showing that maximum additional losses due to the extra cable will be in the range of 0.0090715% of total generation (4.52kW). We will consider the Metering System accuracy and ensure that the overall accuracy is within CoP2 requirements.

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 datasheet):

To-be-installed design is TBC by Contractor. Initial design information is included

What is the type of power cable/line?

33kV single core unarmoured Aluminium conductor – 2 x 630mm² cores per phase

What is the length of this power cable/line?

Up to 150m (exact distance unknown at current time)

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

Max DC resistance: $2c/\text{phase} \times 150\text{m} = 0.0035175 \text{ ohm/km}$

What is the impedance of this power cable/line?

Impedance: $2c/\text{phase} \times 150\text{m} = 0.009 \text{ ohm/km}$

What is the capacitance of this power cable/line?

Maximum Capacitance : $2c/\text{phase} \times 150\text{m} = 0.02475 \text{ uF/km}$

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

No, only the additional cable shall add additional losses due to the moving of the metering point

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

The additional cable impedance shall be considered within the metering programming/configuration of the meters and this will be determined during the detailed design phase which is currently underway, expected completion of this is within the next 4-6 weeks. If required the cable losses associated with the impedance will be applied to the meters.

We have calculated that the worst-case additional losses, due to the extra 150m of cabling between the AMP and DMP will be 38,697.64 kWh/ annum, or 0.0090715% of the exported active power.

NOTE: These figures have been calculated on the worst-case basis that the Solar PV farm will export at 49.9MW (the registered capacity of the solar farm) 24h/day, 365.25 days per year. In realistic terms, due to the nature of the solar PV farm, the maximum export of power from the development will be lower and only 49.9MW will be exported at the daily solar peak, therefore actual losses shall be lower.

*Delete as applicable.

Materiality

Please complete the following:

What is the cost of providing compliant Metering Equipment?	What does this cost entail?
<i>No alternative can provide a solution that complies with CoP2 for metering. Please see issues/drivers in the application.</i> <i>The alternatives would be to expand the NGET substation to include the HAM but the distance to the metering panels might still present an issue to accurate metering if the distance to the metering panels is still >100m. This wouldn't be accepted by NGET.</i>	<i>Unable to obtain this cost as the solution would not be accepted by NGET. A budget cost would circa £5M.</i>
What is the cost of the proposed solution?	What does this cost entail?
<i>Some extra cost due to additional Civil works, budget cost for this is circa £50K.</i>	<i>The only additional cost to this scheme is that EDF, rather than NGET, will have to procure the metering unit (HAM or metering class CTs and VTs).</i> <i>There is also additional Civil requirements driven by the need to install additional CTs on EDF's circuit breaker.</i>
What is the impact to Settlement of your proposed solution?	Why?
<i>None, other than small additional losses if they aren't compensated for.</i>	N/A
What is the impact to other Registrants of your proposed solution?	Why?
<i>None/very limited if they aren't compensated for.</i>	<i>No other Registrants will be impacted.</i>

Site Details (for Site Specific Metering Dispensation)

Site Name:	Burwell Solar PV Farm
Site Address:	EDF Burwell Switching Station, Newham Drove, Burwell, East Cambridgeshire, England, CB25 0DT (North-West of NG 400kV Substation)

MSID(s):	7468
Registered in: CMRS / SMRS*: *Delete as applicable.	CMRS
For SMRS, please advise of SMRA in space provided.	N/A

Manufacturer Details (for Generic Metering Dispensation)

Manufacturer Name:	
Metering Equipment Details:	

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

Part D - Technical Details

Code of Practice details

Metering Dispensation against Code of Practice*	<i>Code of Practice 2: The Metering of Circuits with a Rated Capacity not exceeding 100 MVA for Settlement Purposes</i>
Issue of Code of Practice*:	<i>Issue 4 - Version 15.0</i>
Capacity of Metering Circuits/Site Maximum Demand (MW/MVA):	60MVA
(Proposed) Commissioning Date of Metering:	15/08/22
Accuracy at Defined Metering Point:	<i>CoP2 overall accuracy limits</i>
Accuracy of Proposed Solution (including loss adjustments):	<i>CoP2 overall accuracy limits</i>
Outstanding non-compliances on Metering Systems:	N/A
Deviations from the Code of Practice (reference to appropriate clause):	Section 4.3.3 Compensation for Power Transformer and Line Losses <i>Subject to Appendix A paragraph 1 and paragraph 5(ii), where the Actual Metering Point and the Defined Metering Point do not coincide a Metering Dispensation shall be applied for and, where necessary, accuracy compensation for power transformer and/or line losses shall be provided to meet the overall accuracy at the Defined Metering Point</i> <i>Appendix A: For transfers of electricity between the following parties the Defined Metering Point (DMP) shall be at one of the following locations:-</i> <i>5. For transfers between the Transmission System and:- (i) Generating Plant, the DMP shall be at the point(s) of connection of the Generating Plant to the Transmission System.</i>

* 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