

BSCP32/4.1 Application for a Metering Dispensation

Part A – Applicant Details

To: BSCCo		Date Sent: <u>15/08/2019</u>
From: Requesting Applicant Details		
Name of Sender:		
Contact email address:		
Contact Tel. No.	Contact Fax. No. _____	
Name of Applicant Company: <u>Southern Electric Power Distribution</u>		
Address:		
Post Code:	Our Ref: <u>East Claydon VTs v1</u>	
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 2¹

Contact Name at Affected party:	
Contact email address:	
Contact Tel. No.	Contact Tel. No.
Company Name of Affected party: <u>National Grid Electricity System Operator</u>	
Address:	
Post Code:	

Contact Name at Affected party:	
Contact email address:	
Contact Tel. No:	Contact Tel. No.
Company Name of Affected party: <u>WPD (EMEB) _B</u>	
Address:	
Post Code:	

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 ~~/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:

Southern Electric Power Distribution (SEPD) is installing 2 new feeders connecting to its distribution system at the National Grid East Claydon 132kV substation in response to required increase network capacity in this area as part of our regulatory responsibilities. The installation of these feeders to SEPD's Distribution System is to ensure compliance with P2/6 for the Cowley – Headington 132kV network in an N-1 scenario in line with the terms of the Distribution Licence. System modelling indicates that there is a risk that SEPD would be non-compliant during Winter 2019/20.

After installation of most of the equipment, it has been identified that the Voltage Transformers to be used with the System Connection Point metering don't fully comply with the relevant Metering Codes of Practice (CoP) due to them being a Capacitive Type. The installation of the Capacitive VT was an oversight with regards to the requirement for high accuracy metering. Steps have been taken to review and update the SEPD guidance documentation used by project teams to clearly emphasise the requirements for Measurement Transformers where they are to be used in conjunction with such metering.

The quoted time for procurement of compliant replacement VT's is around 6 months. Installation of the replacement VTs is expected to require around 3 months, though timing for commencement of the work and length time taken is contingent on agreement of a schedule of outages with National Grid necessary to complete the work. This means that installation cannot be done in time to meet the Winter 2019/20 requirement.

Although the costs of replacing the units with compliant ones is around £93,000, there are increased risks to supplies in the area along with associated additional costs should an interruption occur. Under the CI/CML methodology, the impact of an interruption to supplies in this part of the Distribution System would be around £853,000 for a 30-minute fault.

A Temporary Metering Dispensation is being sought from the start of operation of the new feeders for a period up to 3 Years. The start of operation would be Winter 2019/20 in order to reduce risks to supplies in the area and ensure Regulatory responsibilities can be met. SEPD intend to replace these units with ones that comply with the Metering CoP before the end of this period. The initial calibration testing already ensures the VTs meet the accuracy requirements in the Metering CoP from initial energisation.

The National Grid East Claydon 132kV substation currently has existing Systems Connection Points to East Midlands (_B) GSP Group registered under GSP ECLA_1, and Midlands (_E) GSP Group under II_BANB_E. The metering for the GSP_ECLA_1 is located on the LV side of the SGTs that feed the East Claydon 132kV substation busbars and is subject to Metering Dispensation D/031 due to AMP not being at the DMP for these shared busbars. The AMP used for GSP_ECLA_1 necessitates the inclusion of the GSP_ECLA_H volumes in a difference Metering arrangement. GSP_ECLA_1 already has a difference metering arrangement in place, which is subject to Metering Dispensation D/005, due to the presence of Systems Connection Point II_BANB_E to the Midlands (_E) GSP Group that also connects to the East Claydon 132kV substation busbars. The AMP for II_BANB_E is located at the DMP.

Period of Metering Dispensation required

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

If temporary, indicate for how long the Metering Dispensation is required.	3 Years
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Provide justified reasoning for the period of Metering Dispensation requested in the box below:

Rationale for duration of Metering Dispensation:

The Voltage Transformers are brand new units, meeting the required accuracy class for the relevant Meters CoP and should not be subject to significant degradation in the first three years of service.

A three-year period will put work on these units in line with the periods for required maintenance of other equipment and thereby reduce the impact the work to replace the VTs will have on operation of the network.

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?

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?

What are the copper losses for this power transformer?

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

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

*Delete as applicable.

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

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?

What is the length of this power cable/line?

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

What is the impedance of this power cable/line?

What is the capacitance of this power cable/line?

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

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

*Delete as applicable.

Materiality

Please complete the following:

What is the cost of providing compliant Metering Equipment?	What does this cost entail?
£93,000 Potential additional costs of £853,000 for each half-hour of system fault resulting in customer supply loss (see notes in the Reason for Application for additional details).	Design and supply wound VTs. Obtain National Grid DCAAR for new installation. Remove existing CVT units Install wound VTs. Recommission 132kV circuits.
What is the cost of the proposed solution?	What does this cost entail?
No additional costs would be incurred at this time.	Proposal is to delay this replacement for up to 3 years.
What is the impact to Settlement of your proposed solution?	Why?
None	Accuracy of Metering system will be maintained within CoP limits.
What is the impact to other Registrants of your proposed solution?	Why?
None	Accuracy of Metering system will be maintained within CoP limits.

Site Details (for Site Specific Metering Dispensation)

Site Name:	East Claydon 132kV GSP
Site Address:	East Claydon Road, MK18 3NF
MSID(s):	7370
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:	

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

Metering Dispensation against Code of Practice*	2
Issue of Code of Practice*:	Version 14.0, Issue 4
Capacity of Metering Circuits/Site Maximum Demand (MW/MVA):	2 x 90MVA circuits
(Proposed) Commissioning Date of Metering:	Oct-2019
Accuracy at Defined Metering Point:	±1.0
Accuracy of Proposed Solution (including loss adjustments):	Within CoP2 limits
Outstanding non-compliances on Metering Systems:	None
Deviations from the Code of Practice (reference to appropriate clause):	Use of a capacitive type VT isn't consistent with Clause 5.1 which states that all Measurement Transformers shall be of wound construction.

* insert Code of Practice number and issue

Any Other Technical InformationDetails of the Capacitive Voltage Transformers

Manufacturer Name:	Arteche		
Details:	CVT Type DDB-145		
	Insulation level	145	kV
	Rated power frequency withstand voltage	275	kV
	Rated lightning impulse withstand voltage	650	kV
	Rated switching impulse withstand voltage	N/A	kV
	Rated power freq. withstand volt. for secondary windings insulation	3	kV
	Rated power freq. withstand voltage on low voltage terminal	10	kV

	Capaci	4800	p F	+	1 0	%	-	5	%	C 1	5807	pF	279 268	pF
	1.1.1 Primary	Second ary	Burd.	Class	The r. Burd	Secondar y Terminal s	Simu l Burd .							
	132000/V3	110 /V3	50	0,5/3P		1a-1n	1							
	132000/V3	110 /V3	50	0,5/3P		2a-2n	2							
	Total					800	Total		100					
OUTPUTS		1.2Un	Rated Voltage Factor				1.5Un/30s							

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:* 15/08/2019

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:* 16 August 2019

Duly authorised for and on behalf of BSCCo