

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

<b>To: BSCCo</b>		<b>Date Sent:</b> 22 October 2020
<b>From: Requesting Applicant Details</b>		
Name of Sender:		
Contact email address:		
Contact Tel. No. _____	Contact Fax. No. _____	
Name of Applicant Company: SP Manweb plc		
Address: Prenton Way,		
Prenton		
Post Code: CH43 3ET	Our Ref: _____	
<b>Name of Authorised Signatory:</b>		
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**

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Number of Affected parties\_\_1\_\_<sup>1</sup>

Contact Name at Affected party:	
Contact email address:	
Contact Tel. No.	Contact Tel. No.
Company Name of Affected party: National Grid Electricity System Operator	
Address: 1-3 Strand	
London	
Post Code: WC2N 5EH	

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<sup>1</sup> 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:

As part of the Anglesey Distribution Network reinforcement scheme, SP Manweb have installed a 2<sup>nd</sup> 132/33kV Grid Transformer at Caergeiliog substation (GT2). This additional Grid Transformer helps to main supplies for the underlying Amlwch/Caergeiliog group on the isle of Anglesey.

The connection to supply GT2 from the National Grid network for this arrangement differs from typical supply arrangements elsewhere in the SP Manweb Network. The connection is ultimately derived from Wylfa GSP (with National Grid owning and operating the 132kV Busbars at Wylfa). The connection for Caergeiliog GT2 is via a teed connection to a National Grid 132kV owned circuit (EV Line) at tower location EV79 which runs from Wylfa to Penrhos and the south of the island. This Tee point location is some 18km from Wylfa.

A newly constructed SP Manweb 132kV circuit connects this “Interface” point to the SP Manweb Network via a 1.4km circuit into Caergeiliog and GT2 and then onto the 33kV busbars. This is illustrated below.

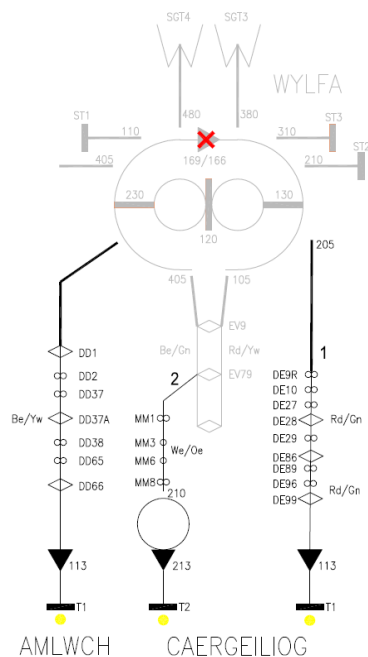


Figure 1- Outline supply arrangements (Wylfa)

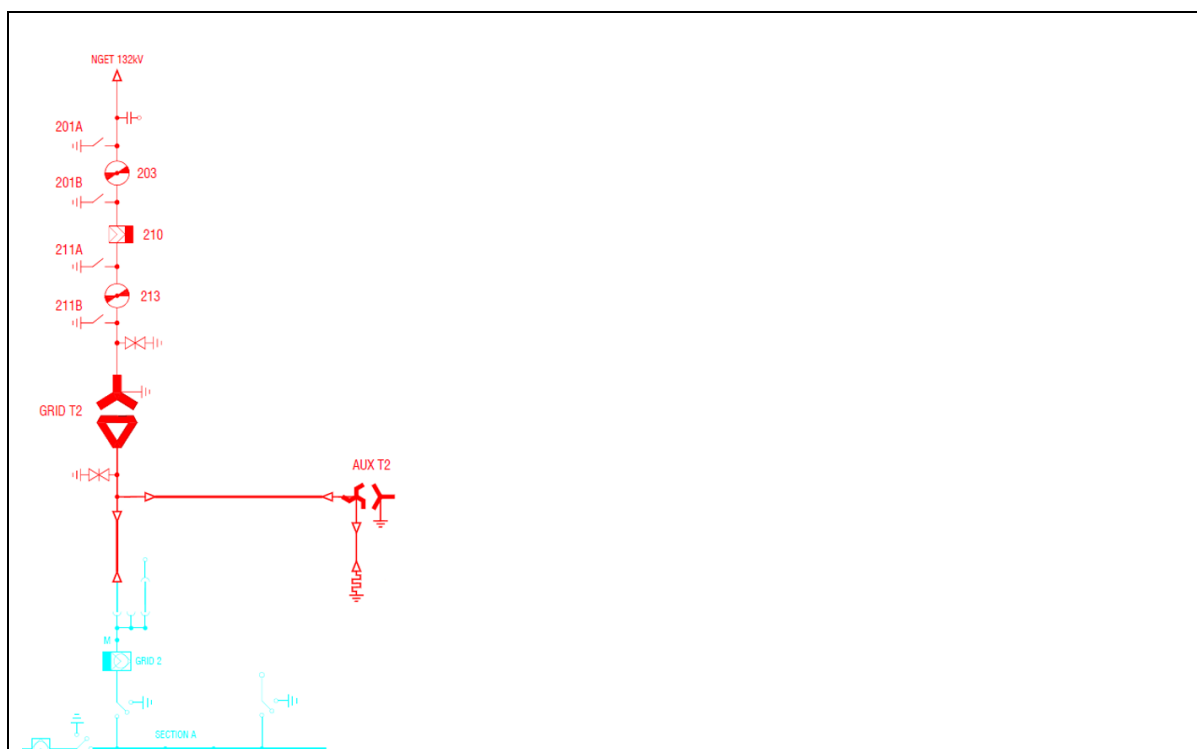


Figure 2 – Operational Diagram (Caergeiliog GT2)

Due to the remote location and practicalities of locating a meter at the National Grid / SP Manweb interface point and tee off point on tower EV79, a dispensation is required as it is proposed the meter is located at Caergeiliog and at 33kV.

The losses therefore with the SP Manweb network assets from the metering location at Caergeiliog GT2/33kV to the EV79 Tee off point at the 132kV interface needs to be taken into account as these would not be accounted for at the remote metering location as they would be upstream of the meters location and so not be visible.

### Period of Metering Dispensation required

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

If temporary, indicate for how long the Metering Dispensation is required.	n/a
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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 Metering Dispensation is required for the lifetime of connection as it will not be possible to locate the metering at the interface point and tee off point on tower EV79.

**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:

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

These elements of loss will be corrected by application of parameters programmed into the meters.

In order to validate the loss adjustments applied (or to be applied) to the Metering Systems 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?

The Transformer losses for the metered Caergeiliog GT2 are proposed to be taken into account on the basis of the Transformers published and stamped name plate stated values and recognised parameters, P0 (No load) and Pk (Load Loss) which are based the Transformers Factory Acceptance Tests.

Please see 4.3 and Appendix C of the attached Technical Report for more information and how the losses are taken into account.

These demonstrate the kW loss adjustment to be made to adjust the “measured” kW power measurement to that of an “adjusted” kW power measurement taking cognisance of both the Transformer and circuit losses from the meter location to the intake boundary point.

The full model and all electrical details / inputs are provided in the attached Technical Report.

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

These elements of loss will be programmed into the meters. The parameters to be programmed into the meters will be the combined totals of the Power Transformer and power line/cable losses.

Meters will meet the COP 2 accuracy class specifications and are CEWE Prometer W.

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

These elements of loss will be corrected by application of parameters programmed into the meters.

In order to validate the loss adjustments applied (or to be applied) to the Metering Systems 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?

The power cable and line losses for the metered Caergeiliog GT2 are proposed to be taken into account by:

- Details of the complete connectivity, SLD etc is illustrated in Section 2 of the attached Technical Report.
- Details of the electrical parameters is provided in Section 3 of the attached Technical Report.
- Details of the modelling carried out and electrical losses are provided in Section 4 of the attached Technical Report.

From these results, a loss adjustment curve is illustrated in Figure 6 and Figure 7 of the attached Technical Report. It is shown in these plots that Mid-Point average is taken as calculations were assessed at both unity and a 0.95 power factor.

Figure 6 shows that the 2<sup>nd</sup> order polynomial  $((743.79 \times LF^2) - (41.193 \times LF) + (17.08))$  can be added to the meters measured kW where LF is the applied load factor with reference to the 60,000kW Caergeiliog GT2 (meter measured kW/60,000).

These demonstrate the kW loss adjustment to be made to adjust the "measured" kW power measurement to that of an "adjusted" kW power measurement taking cognisance of both the Transformer and circuit losses from the meter location to the intake boundary point.

The full model and all electrical details / inputs are provided in the attached Technical Report.

Are there any other losses that have to be 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.

These elements of loss will be corrected by application of parameters programmed into the meters. The parameters to be programmed into the meters will be the combined totals of the Power Transformer and power line/cable losses

## Materiality

Please complete the following:

What is the cost of providing compliant Metering Equipment?	What does this cost entail?
Approximate cost is £110k	Would need to install free standing 132kV/110v CT/VT unit in close proximity to the tee. Secondary wiring would need to be marshalled then fed back to the location of the metering panel incurring additional costs. Accessibility would also be an issue.
What is the cost of the proposed solution?	What does this cost entail?
Approximate cost is £35k	CT/VTs are already installed via the 33kV switchgear and therefore provision is made to accommodate the metering via a standard 33kV metered switchgear arrangement.
What is the impact to Settlement of your proposed solution?	Why?
None	Proposed solution will result in volumes used in Settlement being within the required accuracy range.
What is the impact to other Registrants of your proposed solution?	Why?
None	Proposed solution will result in volumes used in Settlement being within the required accuracy range.

## Site Details (for Site Specific Metering Dispensation)

Site Name:	Caergeiliog GT2
Site Address:	Caergeiliog 33kV Substation, Caergeiliog, Anglesey, North Wales
MSID(s):	7425
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*:	Issue 4, version 14.0		
Capacity of Metering Circuits/Site Maximum Demand (MW/MVA):	60 MVA		
(Proposed) Commissioning Date of Metering:	December 2020		
Accuracy at Defined Metering Point:	Active Energy		
	CONDITION	LIMIT OF ERRORS AT STATED SYSTEM POWER FACTOR	
	Current expressed as % of Rates Measured Current	Power Factor	Limits of Error
	120% to 10% inclusive	1	±1.0 %
	Below 10% to 5%	1	±1.5 %
	Below 5% to 1%	1	±2.5 %
	120% to 10% inclusive	0.5 lag & 0.8 lead	±2.0 %
Accuracy of Proposed Solution (including loss adjustments):	Remains within CoP limits		
Outstanding non-compliances on Metering Systems:	None.		
Deviations from the Code of Practice (reference to appropriate clause):	Appendix A Paragraph 3 – AMP not located at DMP at a site where more than one Distribution System connects to the same busbar which is fed from the Transmission System.		

\* insert Code of Practice number and issue

**Any Other Technical Information**

Please see attached report “Metering Dispensation Caergeiliog GT2 (Technical Report)”.

## 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:* 22 October 2020

*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: 18/11/2020

Duly authorised for and on behalf of BSCCo

**BSCP32/4.2****This form is no longer used and is intentionally left blank**

**BSCP32/4.3****This form is no longer used and is intentionally left blank**

**BSCP32/4.4 Notification of Panel Ruling on Metering Dispensation Application**

<b>Reference No.:</b>
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From: Balancing and Settlement Code Company

To: *Applicant Company:*

*Address:*

*Contact Name:*

*Telephone Number:*

Cc: TAA

Metering Dispensation number:

Your application to the Panel with regard to the above Metering Dispensation from Code of Practice \_\_\_\_\_ was considered at the Panel meeting of \_\_\_\_\_ and the Panel have:

Agreed to the application\*

Dismissed the application\*

Referred the application for more information\*

\* *delete as applicable*

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**Other information**

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*Signature:* .....

*Date:*

Duly authorised for and on behalf of the Panel

The above Metering Dispensation and any conditions have been accepted by the Applicant Company.

*Signature:* .....

*Date:*

Duly authorised for and on behalf of the Applicant Company

**BSCP32/4.5      Application to Withdraw a Metering Dispensation**

To:      BSCCo

Cc:      TAA

<b>Reference No.:</b>
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**Company Details***Name of Applicant Company:* .....*Address:* .....

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*Contact Name:* .....*Telephone Number:* .....

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**Declaration**

The above named Registrant wishes to inform the Panel that, in respect of the above Metering Dispensation, it now intends to comply fully with the requirements of Code of Practice \_\_\_\_\_ and therefore wishes to withdraw either:

a)      The approved Metering Dispensation;

or

b)      The proposed Metering Dispensation.

*Signature:* .....      *Date:**Password:* .....

Duly authorised for and on behalf of Applicant Company

The above Metering Dispensation withdrawal has been received by BSCCo.

*Signature:* .....      *Date:*

Duly authorised for and on behalf of BSCCo

**BSCP32/4.6****This form is no longer used and is intentionally left blank**