

**BSCP32/4.1 Application for a Metering Dispensation**

## Part A – Applicant Details

<b>To: BSCCo</b>	<b>Date Sent:</b> 24/03/2022
From: SSE ESL	
<b>Name of Sender:</b>	
<b>Contact email address:</b>	
<b>Contact Tel. No.</b>	<b>Contact Fax. No.</b>
<b>Name of Applicant Company:</b> SSE Energy Supply Limited	
<b>Company Address:</b> <u>No. 1 Forbury Place, 43 Forbury Road, Reading</u>	
<b>Site Address:</b>	
<b>Post Code:</b>	<b>Our Ref:</b>
<b>Name of Authorised Signatory:</b>	
Authorised Signature:	Password:

**Confidentiality:**

Does any part of this application form contain confidential information?

**Request for Confidentiality**    **NO**

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<sup>1</sup>

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: Lostock Sustainable Energy Plant Limited	
Address: Griffiths Road, Lostock Gralam, Northwich, Cheshire	
Post Code: CW9 7GW	

Contact Name at Affected party:	
Contact email address:	
Contact Tel. No:	Contact Tel. No.
Company Name of Affected party: Scottish Power Energy Networks	
Address: 3 Prenton Way, Prenton, Birkenhead,	
Post Code: CH43 3ET	

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)	
Address: Floorplate L3, Faraday House, Warwick Technology Park, Gallows Hill, Warwick,	
Post Code: CV34 6DA	

<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 New Application

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

Background to the dispensation request.

The new SP Manweb Rudheath 132kV substation located at Lostock Gralam, Northwich, Cheshire, facilitates the connection of generation from the Lostock Sustainable Energy Plant (LSEP) located on land adjacent to the substation. The Energy from Waste (EfW) facility provides a Steam Turbine generated output to the new substation via two LSEP owned bays where the Settlement measurement transformers are located. Construction of the substation is virtually complete with the construction of the EfW facility ongoing.

The substation has been designed to the technical requirements defined within the various SP Manweb specifications. The Gas Insulated Substation (GIS) has four feeder bays, two bus coupler bays, one bus section bay and two LSEP metered customer connection bays. The metered bays have been provided to the specified Code of Practice 2 (CoP2) to reflect the maximum contracted generation at the SPEN boundary of 75MW/84MVA shared across the two points of connection. The steam turbine-based generation\* comes across to the SP Manweb substation via LSEP owned switchgear and the main 132/11kV interface transformer. The consolidated single line diagrams (SLD) for the HV and MV systems associated with the facility are included as an annex to this Metering Dispensation request. The specific metering arrangement diagram is also included for completeness.

\*The steam turbine generator has a maximum output of 95.3MVA.

The Metering Dispensation is being sought prior to SP Manweb adopting the GIS in March 2023 and energisation of the EfW is planned to follow that.

Reason for the dispensation request.

During the late stages of the design, it has become apparent that the ONAN\* type interface transformer has a nameplate MVA maximum continuous rating of 102MVA. We understand this in theory takes the connection into the CoP1 category which would require significant changes to be made to the voltage transformer (VT) arrangements and Metering Equipment already provided should compliance be required. The transformer rating has been assigned to account for the ONAN cooling. It is not to provide Lostock Power with the potential to uprate the plant at a future date. This is not practicable based on the arrangement and construction of the plant and notable constraints on the SP Manweb Distribution System which limits output to 89MVA at the point of connection.

\* The transformer is oil filled and naturally cooled by convection around the tank. Air is not forced by the use of fans.

**Period of Metering Dispensation required**

Lifetime

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 lifetime Metering Dispensation is required on the basis that:

There is no intention to uprate the generation plant for the planned life of the EfW facility. If it were this would be a substantial construction exercise requiring LSEP to revisit most aspects of the design including the connection with SP Manweb and metering provisions.

The generation is split across two metered bays. As such the maximum possible export seen by the Metering Equipment is half the maximum output across each point of connection\*

SP Manweb have no intention of reinforcing their network further. The 89MVA export constraint is expected to remain for many years.

The switchgear is already on site with CoP1/2 category current transformers (CTs) and CoP2 category VTs in place. Metering panels are in final assembly and test and have been provided to the CoP2 standards. The only aspect of non-compliance with CoP1 are the 0.5 class VTs and the class of energy Meters which are class 0.5s/class 3.0 Active/Reactive Energy Meters, which would require replacement.

The cost to rework the switchgear, provide new class 0.2 VTs and the CoP1 category metering panels and class 0.2s/class 2.0 Active/Reactive Energy Meters is prohibitive. As the switchgear is provided through a main works contractor the ramifications on overall additional costs, engineering design and resubmission costs with SP Manweb, as well as consequential delays, are difficult to estimate. Lead times for the class 0.2 VTs are around six months.

\*With any of the LSEP feeder bays out of service a constraints scheme inhibits generation output to 50% of the agreed maximum.

## 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. The measurement transformers are located as close as practicable to the Defined Metering Point (DMP) (i.e. the points of connection to SPEN's Distribution System) so, no compensation for any losses, from the Actual Metering Point (AMP) to the DMP, is required.

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?

N/A. The measurement transformers are located as close as practicable to the Defined Metering Point (DMP) (i.e. the points of connection to SPEN's Distributions System) so, no compensation for any losses, from the Actual Metering Point (AMP) to the DMP, is required.

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:

<p>What is the cost of providing compliant Metering Equipment?</p>	<p>What does this cost entail?</p>
<p>GIS Switchgear modification costs are estimated at an additional £80k for the two LSEP bays and in the region of £10k for the Uprated metering panels. These costs are raw equipment and costs indicated by the GE factory and the Metering Equipment provider.</p> <p>The GIS equipment has been installed so changes would need to be made at site, this would necessitate main contractor design resubmission, project prolongation and management. This would lead to significantly higher costs.</p>	<p>The GIS switchgear VTs need to be changed from the existing class 0.5 to class 0.2 accuracy class for the two LSEP bays. These are GIS flange mounted devices and as such some reworking of the construction arrangement is required. The existing equipment needs removing from site and the new equipment installed.</p> <p>The main and check CoP2 Meters for each of the two bays need to be changed from class 0.5s to class 0.2s (Active Energy)/class 3 to class 2 (Reactive Energy) for CoP1 compatible units.</p> <p>The design of the metering schemes and the VT schemes for the two LSEP bays need to be resubmitted via the SP Manweb approvals process.</p> <p>The lead times of some six months for the new VTs and the delays in turning around the new equipment have yet to be fully assessed but potentially costly to the project in terms of delayed generation.</p>
<p>What is the cost of the proposed solution?</p>	<p>What does this cost entail?</p>
<p>The costs of the CoP2 compliant VTs forming part of the GIS switchgear is difficult to quantify but anticipated to be in the order of £50k for the two bays. CoP2 compliant Metering Equipment (with integral Outstations) including design and commissioning is approximately £30k.</p>	<p>This includes the equipment already supplied including:</p> <p>Class 0.2s CT and class 0.5 VTs for each LSEP bay. These are integral to the switchgear.</p> <p>Interconnecting cabling, wiring, fuses and links</p> <p>Two class 0.5s (Active Energy)/class 3 (Reactive Energy) Elexon approved CEWE Prometer/L+G Meters for each of the two LSEP bays</p>
<p>What is the impact to Settlement of your proposed solution?</p>	<p>Why?</p>

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We do not believe there is any material impact to Settlement on the solutions provided	As the generation connected has a maximum output (under any circumstances) of 85MVA at the points of connection and that is shared between two LSEP bays the overall accuracy limits defined by CoP2 can be maintained for the life of the works.
What is the impact to other Registrants of your proposed solution?	Why?
None that we are aware of.	Overall accuracy is maintained within CoP2 error limits.



**Site Details (for Site Specific Metering Dispensation)**

Site Name:	Lostock Sustainable Energy Plant
Site Address:	Lostock Sustainable Energy Plant, Griffiths Road, Lostock Gralam, Northwich, Cheshire, CW9 7GW
MSID(s):	TBC- on receipt of final signed connection agreement.
Registered in: <del>CMRS</del> / SMRS*: *Delete as applicable.	SMRS
For SMRS, please advise of SMRA in space provided.	SP Manweb

**Manufacturer Details (for Generic Metering Dispensation)**

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

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


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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 (Version 13.0) but Issue 3 (Version 14.0) could apply at commissioning date
Capacity of Metering Circuits/Site Maximum Demand (MW/MVA):	75MW/84MVA across 2 metered bays (based on the maximum generator output at the contracted operating regime)
(Proposed) Commissioning Date of Metering:	(August 2022)
Accuracy at Defined Metering Point:	CoP1 limits
Accuracy of Proposed Solution (including loss adjustments):	CoP2 limits
Outstanding non-compliances on Metering Systems:	None
Deviations from the Code of Practice (reference to appropriate clause):	To use Metering Equipment to CoP2 standards instead of CoP1 due to the rated capacity of the generating plant (<100MVA) fed across two LSEP owned bays. There are no plans to change the capacity of the generation plant over the lifetime of the EfW facility and CoP2 standards will be maintained.

\* insert Code of Practice number and issue

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**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

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**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:* 01 April 2022

Duly authorised for and on behalf of BSCCo