

BSCP32/4.1 Application for a Metering Dispensation

Part A – Applicant Details

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| To: BSCCo | Date Sent: 29/01/2021 |
| From: Requesting Applicant Details | |
| Name of Sender: _____ | |
| Contact email address: _____ | |
| Contact Tel. No. | Contact Fax. No. |
| Name of Applicant Company: ENGIE Power Ltd. _____ | |
| Address: No.1 Leeds, 26 Whitehall Road, Leeds | |
| | |
| | |
| Postcode: LS121BE | Our Ref: |
| Name of Authorised Signatory: _____ | |
| Authorised Signature: _____ | Password: _____ |

Confidentiality:

Does any part of this application form contain confidential information?

Request for Confidentiality YES

If 'YES', please state the parts of the application form that are considered confidential, including justification below. Information that is considered confidential:

This BSCP32 form is not confidential, but the two attachments (Single Line Diagram and Layout) are confidential.

Reasons for requesting confidentiality:

Commercially sensitive.....
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 ___1___¹

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| Contact Name at Affected party: | |
| Contact email address: | |
| Contact Tel. No. | Contact Tel. No. |
| Company Name of Affected party: National Grid | |
| Address: New Cross Substation | |
| Off Old Kent Road | |
| Peckham | |
| Post Code: SE15 1LR | |

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

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

The applicant kindly requests a temporary Metering Dispensation based on the following circumstance:

Background: The temporary connection is part of the construction of London Power Tunnels (LPT) project for National Grid. The LPT project is a critical national infrastructure upgrade of the National Grid Transmission system in South London. The temporary supply is only required for 4 years and 10 months (duration of the construction of tunnels).

The 11kV metering switchgear unit manufactured by Schneider uses current transformers (CTs) from Instrument Transformers Ltd (ITL) in Scotland and the voltage transformers (VTs) from SADTEM in France. When placing the order with Schneider we had indicated that we need a CoP3 compliant metering circuit breaker which contains the CTs and VTs, and this is the unit that has been supplied and is now installed at New Cross substation.

The applicant has been provided with metering CTs and VTs, which have been tested to the correct standards (IEC 61869-2 and IEC 61869-3, respectively) and are suitable for CoP3 metering. However, the supplier (Schneider) was unable to provide a measurement uncertainty evaluation (to the required confidence level) for the results obtained from Calibrating the CTs/VTs. It is our understanding that Schneider were unaware of CoP4 requirements.

CoP4 (paragraph 5.3.2 ‘Initial Calibration’) states that:

“For Certificates produced for measurement transformers ordered after the effective date of Issue 6, Version 5.0 of CoP4, the accuracy test results shall include a measurement uncertainty evaluation which shall be determined to a confidence level of 95% or greater in accordance with the UKAS Directive M3003”.

M3003, Edition 4, dated October 2019, is entitled ‘The Expression of Uncertainty and Confidence in Measurement’.

The applicant on realising this immediately liaised with the manufacturers of the CTs/VTs directly. The information that has been provided does not satisfy the measurement uncertainty requirements. The equipment is traceable and calibration certificates have been provided. The CT calibration standard has been verified, the manufacturer has provided calibration information, but the standard of calibration is still to be verified and the applicant

is awaiting further information. The communication with VT supplier is still ongoing but to date, the applicant has been unsuccessful in obtaining the required information.

The applicant has investigated other options:

1. Re-testing: Sending the switchgear that has been installed at site to a UKAS approved testing centre for retesting. This would require:
 - The removal/disassembly of the switchgear from site;
 - Finding a testing centre with capacity and availability to undertake these tests; and
 - Re-assembly of the switchgear at site after testing.
 - This will lead to a significant cost increase and time delay (approximately 6 – 8 weeks) to the National Grid project.
2. Replacement: The procurement, installation and commissioning of replacement switchgear has considerable time (approximately 12 weeks) and cost impact to the National Grid project.

As the applicant is currently working intensively towards meeting National Grid's 'available for commercial load' (ACL) requirements to provide the temporary supply by Feb 2021, it is becoming more evident that these options are not feasible due to the time and cost impact to the National Grid project.

The impact on Settlement and other Registrant is likely to be very low to immaterial. The CT/VTs are stamped with the correct accuracy class for CoP3 (class 0.5 for CTs and class 1.0 for a VT as a minimum) and CoP3 overall accuracy limits are very likely to be maintained using them. i.e. within $\pm 1.5\%$ at Unity Power Factor between 120% and 10% (inclusive) of rated current, $\pm 2.0\%$ at Unity Power Factor below 10% to 5% of rated current and $\pm 2.5\%$ at 0.5 lag and 0.8 lead Power Factor between 120% to 10% (inclusive).

The applicant when applying for this Metering Dispensation kindly requests that the Panel considers the following:

- The impact of not providing the supply on time will have a significant cost and time impact a critical national infrastructure project.
- The 4MVA connection to be provided is only to be used for 4 years and 10 months.
- The CT/VTs have correct accuracy class for a CoP3 Metering System. In fact, CTs and VT exceed CoP3 minimum class accuracy requirements (CT are class 0.5s not class 0.5 (i.e. extended range down to 1% rated current) and VT is class 0.5 not class 1.0).
- The applicant has undertaken all reasonable steps to ensure that the provided metering equipment meets the required standards by purchasing this equipment from a known UK supplier of 11kV metering units.

Period of Metering Dispensation required

Temporary

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| If temporary, indicate for how long the Metering Dispensation is required. | The temporary supply is required until <u>31st Dec 2025</u> , 4 years and 10 months. |
|--|---|

Provide justified reasoning for the period of Metering Dispensation requested in the box below:

Rationale for duration of Metering Dispensation:

The duration is predominantly for tunnel boring machines, part of the £1bn London Power Tunnels project. The project is due to complete by Dec 2025 and the temporary construction supply will be disconnected/de-energised after this point.

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?

Not applicable as the metering CT/VT are situated at the crossover boundary.

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): N/A

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?

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? 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. cable/line manufacturer's data sheet): N/A

What is the type of power cable/line? N/A

What is the length of this power cable/line? N/A

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

What is the impedance of this power cable/line? N/A

What is the capacitance of this power cable/line? N/A

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

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

Materiality

Please complete the following:

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| What is the cost of providing compliant Metering Equipment? | What does this cost entail? |
| <p>Estimate project cost is £198,558.</p> <p>(Consequent cost £30k/day for LPT)</p> | <p>This cost takes into account:</p> <ul style="list-style-type: none"> ➤ Potential Procurement time for new components, testing time and compliance check. (84 days x £1857 = £155,988) ➤ Labour, material and plant costs to replace or remove components. (Approx £2k per CT/VT, 6 metering transformers altogether = £12,000) ➤ Testing and commissioning costs. (Approx £1.5k per test, 6 tests altogether = £9,000) ➤ Site running costs (£1800 per week x 12 = £21,600) |
| What is the cost of the proposed solution? | What does this cost entail? |
| <p>Dispensation Cost - £22,284</p> <p>Proposed solution is a dispensation, cost incurred to date.</p> | <ul style="list-style-type: none"> - Non-compliant CT/VT cost. - Cost of design, labour and administrative charges. |
| What is the impact to Settlement of your proposed solution? | Why? |
| None | The metering is still a CoP3 compliant solution. |
| What is the impact to other Registrants of your proposed solution? | Why? |
| None | The metering is still a CoP3 compliant solution. |

Site Details (for Site Specific Metering Dispensation)

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|---------------|---|
| Site Name: | New Cross Substation |
| Site Address: | Off Old Kent Road, Peckham. SE15 1LR |

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| MSID(s): | 7422 |
| Registered in: CMRS | CMRS |
| For SMRS, please advise of SMRA in space provided. | |

Manufacturer Details (for Generic Metering Dispensation)

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| 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**

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|---|--|
| Metering Dispensation against Code of Practice* | CoP4 |
| Issue of Code of Practice*: | Issue 6 (Version 12) |
| Capacity of Metering Circuits/Site Maximum Demand (MW/MVA): | 4 MVA |
| (Proposed) Commissioning Date of Metering: | 25 th Feb 2021 |
| Accuracy at Defined Metering Point: | CoP3 |
| Accuracy of Proposed Solution (including loss adjustments): | CoP3 <i>No anticipated loss of accuracy as a result of this deviation.</i> |
| Outstanding non-compliances on Metering Systems: | None |
| | |
| Deviations from the Code of Practice (reference to appropriate clause): | CoP4 - Clause 5.3.2 – The CT and VT Calibration Certificates have been provided. Although, measurement uncertainty statement cannot be provided. |
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* insert Code of Practice number and issue

Any Other Technical Information

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| <p>Drawing no 1: 42_MU_0518. Enclosed</p> <p>Drawing no 2: 30002409_BHK_ZZ_XX_DR_HV_0101_Single_Line_Diagram_Construction_F.1. Enclosed.</p> <p><i>Please note the non-standard polarity of the metering CTs are currently being addressed and proposed solution will follow.</i></p> |
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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:* *1 February 2021*

Duly authorised for and on behalf of BSCCo