

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

To: BSCCo	Date Sent: 23rd August 2022
From: Requesting Applicant Details	
Name of Sender:	
Contact email address:	
Contact Tel. No.	Contact Fax. No.
Name of Applicant Company: National Grid Interconnectors Limited	
Address: 1 – 3 Strand, London	
Post Code: WC2N 5EH	Our Ref: Company Registered Number 03385525
Name of Authorised Signatory:	
Authorised Signature:	Password:

Confidentiality:

Does any part of this application form contain confidential information?

Request for Confidentiality **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 1

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: RTE Réseau de Transport d'Electricité.	
Address: Immeuble Window – 7c place du Dome	
92800 Paris La Defense	
France	
Post Code: N/A	

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/490

Site Specific

**Delete as applicable.*

In September 2021 Bipole 1 was damaged in a fire which resulted in the complete rebuild of Bipole 1. With the Bipole 1 DC Settlement Metering Equipment destroyed in the fire it was agreed the DC Settlement Metering Equipment would be replaced with AC Settlement Metering Equipment in line with Elexon CoP1 requirements. This has the benefit of removing and amending the current Metering Dispensations in force due to the current limitations of the DC Settlement Metering Equipment (D/165 for DC Metering Equipment (DC Meters, DC Current Transformers (DCCTs) and Voltage Dividers (VDs)) and the Actual Metering Point (AMP) not being at the Defined Metering Point (DMP), D/227 for new DC Meters and D/490 for the use of optical CTs instead of DCCTs for both Bipoles, and associated sub documents ISG222_04A, 04B, 04C & 04D).

There has been no change or impact to the Bipole 2 DC Settlement Metering System. NGIL are planning to replace the Bipole 2 DC Metering System in October 2023. A separate Metering Dispensation application will be submitted to replace D/165, D/227 & D/490 accordingly.

This Metering Dispensation is for the location of the AC Metering Equipment to be installed (AMP at the end of the 400kV cable connection in the National Grid Interconnectors Limited (NGIL) 400kV compound and not at the DMP (the point of connection to the Transmission System)) in the National Grid Electricity Transmission (NGET) 400kV compound, due to insufficient space requirements in the 400kV gas insulated substation. The cable length is approx. 260m. We are proposing not to compensate for the cable losses over 260m on the basis that the errors are small and overall accuracy will still be maintained with CoP1 limits (+/-0.5% at Unity Power Factor).

Cable loss calculations have been provided in section D1 along with the technical note PDD-409193-REP-020_revB.

Period of Metering Dispensation required

Lifetime

**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:

This is an enduring solution as there is insufficient space requirements to install new AC current and voltage transformers, including associated equipment, within the existing NGET 400kV gas insulated substation.

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 or Asset Metering System for power transformer and/or cable/line losses, provide the following information:

Describe how do you propose to correct the Metering System, or Asset Metering System, to account for the losses of the power transformer?

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? 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, or Asset Metering System, to account for the losses of the power cable/line?

A new MSID will be created to separate the new AC metering for Bipole1 from the existing DC metering on Bipole 2. We are not proposing to compensate for cable losses over 260m between the AMP (Bipole 1 AC yard – cable feeder bay) and the DMP (NGET 400kV substation at Sellindge – Bay X505), on the basis that the errors are small and overall accuracy will still be maintained with CoP1 limits (+/-0.5% at Unity Power Factor).

Landis Gyr model ZMQ202C.8r4aE22f9-1/1.5 Cl0.2s meters will be installed for Main and Check metering.

An estimate of the losses is provided in document PDD-409193-REP-020 and calculated according to Elexon guidance note. Electrical resistance was calculated based on conductor operating temperature in various load scenarios using Cymcap v8.0r1 software.

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

400kV cable specification is provided by document ref. no: 70/3652, sheet 6.

What is the type of power cable/line?

400kV Single Core Cable 2500sqmm, PILC insulation, corrugated seamless aluminium sheathed and served, document ref. no: 70/3652.

What is the length of this power cable/line?

Route length 260m, document ref. no: 70/3652, sheet 3

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

DC Resistance of the Conductor at 20°C = 0.0072 Ω /km

DC Resistance of the Conductor at Operating Temperature = 0.00896 Ω /km; Conditions: Full Load 1600 A / Norm. hot 25°C / Soil Thermal Resistivity 1.2 Km/W

What is the impedance of this power cable/line?

X = 0.1641 Ω /km

What is the capacitance of this power cable/line?

C = 0.1076 μ F/km

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

In accordance with Elexon guidance (Calculating and compensating for power transformer and cable (or line) losses – standard methods 30th July 2018), conductor losses are considered only, neither dielectric losses (15132 W) nor sheath losses (2677 W) have been included in the calculations.

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

We are not proposing to compensate for the cable losses over 260m on the basis that the errors are small and overall accuracy will still be maintained with CoP1 limits (+/-0.5% at Unity Power Factor).

*Delete as applicable.



PDD-409193-REP-02
0_revB.pdf

Materiality

Please complete the following:

What is the cost of providing compliant Metering Equipment or Asset Metering Equipment?	What does this cost entail?
£3,100,000 to provide Bipole 1 AC metering solution at the DMP (the point of connection).	£3,100,000 (estimated on the basis that Bipole 1 circuit at the NGET 400kV SF6 metalclad substation will need to be dismantled to gain access to the Busbar side CT chamber to change the CT's to Class 0.2s. Given the configuration of the SF6 metalclad switchgear at the busbar side this will include the requirement for double busbar outages for the duration of the outages). Bipole 2 operations would not be impacted.
What is the cost of the proposed solution?	What does this cost entail?
£700,000 to provide Bipole 1 AC Settlement Metering Equipment 260m from the DMP.	Procurement, design, installation and commissioning of the new Settlement Metering Equipment (CT's, VT's and Meters).
What is the impact to Settlement of your proposed solution?	Why?
None	No impact, as the overall accuracy of the Metering System will be within the required tolerances.
What is the impact to other Registrants of your proposed solution?	Why?
None	No impact, as the overall Metering System will be within the required tolerances.

Site Details (for Site Specific Metering Dispensation)

Site Name:	Sellindge Convertor Station
Site Address:	Church Lane, Sellindge, Ashford, Kent, TN25 6AF
MSID(s) / AMSID(s): *Delete as applicable.	TBC for Bipole 1 (Bipole 2 DC Metering Equipment to remain on MSID 1026)
Registered in: CMRS / SMRS / AMRS*:	CMRS

*Delete as applicable.	
For SMRS, please advise of SMRA in space provided.	N/A

Manufacturer Details (for Generic Metering Dispensation)

Manufacturer Name:	N/A
Metering Equipment / Asset Metering Equipment Details*: *Delete as applicable	N/A

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

Metering Dispensation against Code of Practice*	CoP1
Issue of Code of Practice*:	Issue 3 Version 14.0
If against Code of Practice 11 against which Asset Metering Type	N/A
Capacity of Metering Circuits/Site Maximum Demand (MW/MVA):	1000MW
(Proposed) Commissioning Date of Metering:	19th October 2022
Accuracy at Defined Metering Point:	As stated in CoP1
Accuracy of Proposed Solution (including loss adjustments):	As per CoP1
Outstanding non-compliances on Metering Systems or Asset Metering Systems*:	N/A
*Delete as applicable	
Deviations from the Code of Practice (reference to appropriate clause):	AMP not at DMP (4.3.3). DMP for an External Interconnector is set out in Appendix A, bullet 9: “For transfers between the Transmission System, or a Distribution System operated by a Licensed Distribution System Operator, and an External System the DMP shall be at the point(s) of connection of that External System to the Transmission System or to the Distribution System operated by a Licensed Distribution System Operator.”

* insert Code of Practice number and issue

Any Other Technical Information

 70_3652_1.jpeg  70_3652_3.jpeg.jpeg  70_3652_6.jpeg

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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: 23rd August 2022*

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: 23 August 2022

Duly authorised for and on behalf of BSCCo