ELEXON

Metering Dispensation D/566 - Dogger Bank B Offshore Wind Farm

Imbalance Settlement Group (SVG)

Date of meeting	**07 November 2023**	Paper number	**273/XX**
Owner/author	**Lee Walker**	Purpose of paper	**Decision**
Classification	**Public**	Document version	**1.0**

Summary **Dogger Bank Offshore Wind Farm Project 2 Projco Limited has applied for a lifetime Metering Dispensation (D/566) from Code of Practice (CoP) 5. We invite the SVG to approve Metering Dispensation D/566 on a lifetime basis.**

1. BSC requirements

1.1 Section L[1] of the Balancing and Settlement Code (BSC) requires all Metering Equipment to either:

- comply with the requirements set out in the relevant Code of Practice (CoP) at the time the Metering System is first registered for Settlement under the BSC (L3.2.2); or
- be the subject of, and comply with, a Metering Dispensation (L3.4).

1.2 Section L allows the Registrant of a Metering System, or prior to the appointment of a Registrant of a Metering System, BSCCo, to apply for a Metering Dispensation if, for financial or practical reasons, Metering Equipment will not or does not comply with some or all the requirements of a CoP.

1.3 The process for applying for a Metering Dispensation is set out in BSCP32[2].

2. Confidentiality

2.1 BSCP32 allows the Metering Dispensation applicant to request confidentiality via the application form (BSCP32/4.1).

2.2 In this case, the applicant has asked to keep the single line diagrams (SLDs) confidential (Attachments B – C).

[1] 'Metering'
[2] 'Metering Dispensations'

© Elexon 2023

3. Background to Metering Dispensation D/566

3.1 Elexon implemented CP1553[3] on 30 June 2022. It changed CoP5[4] to require class 0.5s current transformers (CTs) instead of class 0.5 CTs.

3.2 Elexon raised a generic Metering Dispensation (D/544) to allow class 0.5 CTs to be installed and registered for Settlement until 30 December 2023.

4. Metering Dispensation D/566 – Dogger Bank B Wind Farm

4.1 Dogger Bank Offshore Wind Farm Project 2 Projco Limited has applied for a lifetime Metering Dispensation (D/566) from CoP5 (Attachment A).

4.2 Three sets of class 0.5 CTs for three of Dogger Bank B Offshore Wind Farm's CoP5 low voltage (LV) alternating current (AC) Metering Systems have already been installed and will not be registered until May 2024. This means generic Metering Dispensation D5/44 will have expired making the class 0.5 CTs non-compliant with CoP5.

4.3 The affected CTs were procured well in advance of release of CoP5 (v17.0) and were already installed in relevant equipment in November 2021 (Attachments B – C). Further, relevant feeders for the CTs were installed on the Offshore platform on 12 December 2022 and 12 January 2023.

4.4 Considering the CTs have been installed, and mechanical completion of equipment finalised, replacement at this stage would have a programme and cost implications for the project.

4.5 Typical operating loads for the CTs in question are very low:

- CT1 = 8.11kW (3 phase load) - CT Ratio (80/1A) - Iprimary = 14.45A based on 231V line to ground voltage, which is 18.1% of rated primary current
- CT2 = 1.18kW (3 phase load) - CT Ratio (100/1A) - Iprimary = 1.7A based on 231V line to ground voltage, which is 1.7% of rated primary current.
- CT3 = 8.29kW (3 phase load) - CT Ratio (100/1A) - Iprimary = 11.96A based on 231V line to ground voltage, which is 12% of rated primary current.

4.6 For CT1 and CT3, operational primary current is < 20% of rated primary current and IEC 61869-2[5] tolerances for ratio errors and phase displacement at values < 20% are different (wider) for accuracy class 0.5 compared to class 0.5s CTs.

4.7 For CT2, operational primary current is <20% but loads connected are heaters on the Gas Insulated Switchgear (GIS) which will only be in-service if there is an outage of power on the Offshore platform and a controlled environment is not maintained from the main systems. This means that under normal operation there are no loads associated with this CT and the probability of when these loads are connected under outage conditions are low over the lifetime of the project.

4.8 The materiality impact should be considered as insignificant, considering the connected loads are very small, i.e., <2.8kW per phase for each CT.

5. MDRG comments

5.1 We circulated the Metering Dispensation application and its attachments to the Metering Dispensation Review Group (MDRG) for comments (Attachments A – C).

5.2 Two out of four MDRG Members responded.

a) One MDRG Member comments on the application I agree with the Dispensation. Any difference in the actual errors of these class 0.5 CTs vs 0.5s CTs will not have a material impact on Settlement. CTs were purchased prior to D/544. The CTs were installed in relevant equipment in November 2021 and on the relevant feeders on the Offshore platform 12 December 2022 and 12 January 2023 so this is acceptable and in the spirit of D/544 should be acceptable.

b) Second MDRG Member comments on the application, I support this dispensation due to the low materiality and the proven design/purchase of the metering system ahead of the CoP change.

[3] 'Tightening the requirements for the minimum accuracy classes for Meters and Current Transformers in the CoPs'
[4] 'Code of practice for the metering of energy transfers with a Maximum Demand of up to (and including) 1MW for Settlement purposes'
[5] 'Instrument transformers - Part 2: Additional requirements for current transformers'

© Elexon 2023

6. NETSO comments

6.1 We circulated the Metering Dispensation application (and its attachments) to the National Electricity Transmission System Operator (NETSO) for comments (Attachments A - B).

6.2 The NETSO supports the application - The loads connected to the CTs are low which means the delta in readings are also low. The delta in readings are low enough that even over the lifetime (25 years) of the wind farm and with the scenario of constant load on all three CTs, the cost of the error in reading is minimal over the lifetime of the wind farm (25 years). It should also be noted that in normal condition CT2 will not have any load connected to it meaning the effect of the error in reading is going to be lower when considered over 25 years.

7. Elexon's view

7.1 Elexon supports this application as CoP5 overall accuracy limits will be maintained at the DMP for the three circuits using these class 0.5 CTs. Any difference in the actual errors of these class 0.5 CTs versus class 0.5s CTs will not have a material impact on Settlement particularly as these circuits experience low loads and some loads are only used as a back-up.

8. Recommendation

8.1 We invite the SVG to:

a) **APPROVE** Metering Dispensation D/566, from Code of Practice 5, for the Metering Equipment associated with the Dogger Bank B Wind Farm, on a lifetime basis.

Attachments

Attachment A – Metering Dispensation application (D/566)

Attachment B (CONFIDENTIAL) - SLD CT1

Attachment C (CONFIDENTIAL) - SLD CT2 and CT3

For more information, please contact:

Lee Walker, Metering Analyst

Lee.Walker@elexon.co.uk

020 7380 4033

© Elexon 2023