

## Metering Dispensation D/507- Triton Knoll Offshore Wind Farm

### Supplier Volume Allocation Group (SVG)

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Owner/author	<b>Mike Smith</b>	Purpose of paper	<b>Decision</b>
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**Summary** Triton Knoll Offshore Wind Farm Limited has applied for a lifetime Metering Dispensation (D/507) against Code of Practice 5 to not measure the low voltage supplies to Offshore Transmission Owner (OFTO) assets, through its own auxiliary transformers on the Offshore platforms, at the Triton Knoll Offshore Wind Farm. We invite the SVG to approve D/507 on a lifetime basis.

### 1. BSC requirements

- 1.1 Section L 'Metering' 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; or
  - be the subject of, and comply with, a Metering Dispensation.
- 1.2 Section L allows the Registrant of a Metering System 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.
- 1.2.1 The process for applying for a Metering Dispensation is set out in BSCP32 'Metering Dispensations'.

### 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 noted on the application form that the application itself is not confidential. However, the applicant has requested that we keep the metering single line diagram (Attachment B) confidential. This is to prevent Elexon making these details public on the BSC Website.

### 3. Background to Metering Dispensation D/507

- 3.1 Triton Knoll is an 857.25MW Offshore wind farm located off the East Lincolnshire coast and comprises 90, 9.525MW, MHI Vestas turbines. The turbines connect to two Offshore substation platforms (Triton Knoll East and Triton Knoll West) with 66kV submarine array cables. At the Offshore substations the voltage is stepped up to 220kV and power transferred, via two 220kV Offshore cables<sup>1</sup>, to a transition joint pit onshore near Anderby Creek. From there they connect via 220kV land cables<sup>2</sup> to the wind farm's own 400/220kV onshore substation located near Bicker Fen, before finally connecting to the Transmission System onshore at National Grid's 400kV Bicker Fen substation.

<sup>1</sup> One, circa 50km cable, from each substation.

<sup>2</sup> 57km each circuit.

- 3.2 Knoll Offshore Wind Farm is a joint project owned by RWE, J-Power and Kansai Electric Power, with RWE leading the construction. It is a 'Generator Build' option under the Offshore Transmission Regime and an Offshore Transmission Owner (OFTO) will take over the Offshore Transmission System User Assets<sup>3</sup> (OTSUA), via a competitive tender process. Triton Knoll Offshore Wind Farm Limited expects this process to complete in 2022.
- 3.3 The Triton Knoll Offshore Wind Farm project also secured a Contract for Difference (CfD) from the UK Government in September 2017.
- 3.4 CoP1<sup>4</sup> Meters measure the main Imports to and Exports from the wind farm Power Park Modules (PPMs) on each substation platform. CoP5<sup>5</sup> Meters in the onshore substation, and the Offshore substations, measure the low voltage (LV) supplies to wind farm assets (Attachment B).
- 3.5 The auxiliary power for each Offshore substation, which feed OFTO assets and wind farm assets, can be provided from three different supplies (Attachment B):
- a) the OFTO owned Earthing and Auxiliary Transformer, ET1 and ET2; or
  - b) the wind farm owned Auxiliary Transformers, Aux 1 and Aux 2; or
  - c) the OFTO owned emergency diesel generators.
- 3.6 All three supplies are interlocked and have an automatic switchover facility. Normally, the auxiliary supplies for the auxiliary loads come from a) however, if this is not available due to forced or maintenance outage, the supplies switch to b) and if both are not available, the supplies will come from the emergency diesel generator c).
- 3.7 In the contingency operation, b), all auxiliary power to the Offshore substation, i.e. including wind farm and OFTO auxiliary loads, will be supplied by the wind farm operator.
- 3.8 Installation of CoP5 Meters on the LV side of the wind farm owned Auxiliary Transformers (Aux 1 and Aux 2), to be used only in the contingency operation condition (which will be infrequent and for limited duration of time), was believed not to be required during the design stage and therefore was not fitted.

#### **4. Metering Dispensation application (D/507)**

- 4.1 Triton Knoll Offshore Wind Farm Limited has applied for a lifetime Metering Dispensation (D/507) against CoP5. The applicant does not wish to measure the LV auxiliary supplies to OFTO assets, through its own auxiliary transformers on the Offshore platforms, at the Triton Knoll Offshore Wind Farm, under contingency operation.
- 4.2 This is because either the wind farm operator will provide these contingency LV auxiliary supplies from its own generation or, when not generating, its CoP1 Meters will record them as part of the Imports for the Triton Knoll Offshore Wind Farm PPMs. These contingency LV auxiliary supplies will be provided free of charge to the OFTO.
- 4.3 In addition, the cost of retrofitting tariff Meters now (~£500k), when the substations are already installed Offshore, would require very significant effort and would have negligible impact on the amount of energy metered.
- 4.4 Based on the availability study completed for the project the maintenance/faults duration, which would result in the wind farm operation in condition b), is ~25h/year. With the average power consumption of about 60kW (i.e. ~1500kWh/year) and Triton Knoll CfD energy cost of £72.5/MWh this gives loss of circa £110/year.

#### **5. MDRG comments**

- 5.1 We circulated the Metering Dispensation application (and attachments) to the Metering Dispensation Review Group (MDRG) for comments.
- 5.2 All four MDRG members responded:
- one MDRG member declined to comment as they are the Meter Operator Agent for the Triton Knoll Metering System;

<sup>3</sup> Since the implementation of P294 on 30 December 2013, the Balancing and Settlement Code treats OTSUA as part of the Total System.

<sup>4</sup> 'Code of Practice for the metering of circuits with a rated circuit capacity exceeding 100MVA for Settlement purposes'

<sup>5</sup> 'Code of Practice for the metering of energy transfers with a maximum demand of up to (and including) 1MW for Settlement purposes'

- one MDRG member declined to comment as their company (RWE) is involved with the development of the Triton Knoll Offshore Wind Farm;
- one MDRG member supports the application as the import is metered via the CoP1 sets when not generating and there is a commercial arrangement for this; and
- one MDRG member reluctantly supports the application. Their preference would be to reject the Metering Dispensation due to the importance of measuring all energy. However, they see the exceptional situation in this case to allow the Metering Dispensation.

## 6. NETSO comments

- 6.1 We circulated the Metering Dispensation application (and attachments) to the National Electricity Transmission System Operator (NETSO) for comments.
- 6.2 The NETSO has no objection to the SVG granting a Metering Dispensation.

## 7. Elexon's view

- 7.1 Elexon supports this Metering Dispensation application (D/507) as the supplies to the OFTO LV assets across the two, unmetered, generator/OFTO Boundary Points would:
- be very infrequently used and low in volume (~1500kWh/year); and
  - either come directly from the wind farm's own generation (i.e. below the CoP1 Meters); or
  - be recorded as part of the CoP1 Imports to the wind farm when not generating; and
  - will be provided to the OFTO free of charge (a private arrangement).

## 8. Recommendation

- 8.1 We invite the SVG to:
- a) **APPROVE** Metering Dispensation D/507, for Triton Knoll Offshore Wind Farm, on a lifetime basis.

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## Attachments

Attachment A – Metering Dispensation application (D/507)

Attachment B (Confidential) – Metering diagram for Triton Knoll Offshore Wind Farm

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## For more information, please contact:

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