

## Metering Dispensation D/534 – Update for CoP5 Issue 7

### Supplier Volume Allocation Group

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**Summary**

**The Settlement metering Codes of Practice (CoPs) cover Metering Equipment designed for Alternating Current (AC) circuits. Metering Dispensation D/534 provides a Direct Current (DC) metering solution for small low voltage DC supplies to generator assets at Transmission System connected Offshore wind farms. D/534 is a Metering Dispensation against all relevant requirements in CoP5 Issue 6 (and CoP4 Issue 6) to enable a DC metering solution. Changes to CoP5 Issue 6, on 30 June 2022, mean Outstations, Meters and current transformers need to comply with CoP5 Issue 7. We invite the SVG to agree that Metering Dispensation D/534 should be updated to cover registrations of this DC metering solution against CoP5 Issue 7 from 30 June 2022.**

### 1. BSC requirements

- 1.1 Section L<sup>1</sup> 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 such Metering System, BSCCo<sup>2</sup>, 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 Section L also allows the Panel, any BSC Party or BSCCo<sup>2</sup>, to raise a generic Metering Dispensation. In this case, the Panel needs to consult with all BSC Parties. BSCCo does this on behalf of the Panel.
- 1.4 The process for applying for a Metering Dispensation is set out in [BSCP32](#)<sup>3</sup>.

### 2. Background to Metering Dispensation D/534

- 2.1 Low Voltage (LV) Direct Current (DC) metering is required for some Offshore wind farms to measure flows of electricity across some Boundary Points between Offshore Transmission System User Assets/Offshore Transmission Systems and generator's assets.
- 2.2 The current suite of 11 Settlement metering CoPs (1 to 11) only cover Metering Equipment designed for Alternating Current (AC) circuits. Therefore, no Direct Current (DC) Meters have been compliance-tested under

<sup>1</sup> 'Metering'

<sup>2</sup> A non-BSC Party may ask the BSCCo to raise a Metering Dispensation on its behalf - [P437](#) 'Allowing non-BSC Parties to request Metering Dispositions'

<sup>3</sup> 'Metering Dispositions'

[BSCP601<sup>4</sup>](#) against any Half Hourly CoP requirements. In addition, no DC Meters have been approved under the Electricity Act 1989, which would apply if a DC Meter was to be used for customer billing purposes.

### 3. Metering Dispensation D/534

- 3.1 In December 2021 Seagreen Wind Energy Limited submitted a site specific Metering Dispensation, D/534, for its Offshore wind farm (Seagreen), using a variation of two other approved Metering Dispensations, D/461 and D/474.
- 3.2 At their meetings on 11 January 2022, the SVG ([SVG251/03](#)) and the ISG ([ISG249/02](#)) agreed that Elexon should combine the solutions provided under all three Metering Dispensations into Metering Dispensation D/534 and make it a generic Metering Dispensation. The SVG and the ISG agreed that registrations against D/461 and D/474 should be end dated thus providing a single Metering Dispensation for a DC solution. The Statement of Generic Metering Dispensations can be found on the Metering Dispensations webpage: <https://www.elexon.co.uk/reference/exceptions/metering-dispensations/>
- 3.3 Further detail about the DC solution for D/534 can be found in Attachment A.

### 4. Changes to CoP5 Issue 6

- 4.1 On 30 June 2022, Elexon implemented [CP1527](#) and it incremented the Issue numbers of CoPs 1, 2, 3, 5 and 10, by one, as it introduced new Outstation requirements. Outstations now need to store up to 90 days' worth of Half Hourly data per Outstation channel, up from the minimum requirement of 10 days for CoPs 1 and 2 Outstations and 20 days for CoPs 3, 5 and 10 Outstations. CP1527 also mandated specific, selectable, integration periods for CoPs 3, 5, and 10 (i.e. 30, 20, 15, 10 and 5 minutes) and added a test for this requirement (and for CoPs 1 and 2) into BSCP601.
- 4.2 Elexon raised a generic Metering Dispensation, D/535, to continue to allow Outstations that comply with previous Issues of CoP 1, 2, 3, 5 and 10 to be registered for Settlement purposes until 30 December 2023. Unfortunately, D/535 cannot be used in conjunction with D/534 (as it is), because D/534 covers other (AC related) clauses in CoP5 Issue 6, not just those specific to Outstations<sup>5</sup> (see below).
- 4.3 Elexon also implemented [CP1553](#) on 30 June 2022 and CoPs 3, 5 and 10 now require class 0.5s current transformers (CTs), instead of class 0.5 CTs. CP1553 also changed CoP5 to require class 1 or B Meters, instead of class 2 or A Meters.
- 4.4 Elexon raised a generic Metering Dispensation, D/544, which allows existing stock of class 0.5 CT and class 2 or A Meters to be registered for Settlement purpose until 30 December 2023.

### 5. Metering Dispensation D/534 – Update for CoP5 Issue 7

- 5.1 In February 2023 Elexon submitted an updated generic Metering Dispensation application for D/534 (Attachment A) and issued it for consultation (see sections 6, 7 and 8 below).
- 5.2 D/534 needs to be updated to cover CoP5 Issue 7 to allow this DC metering solution to continue to be used for DC Metering Systems registered on or after 30 June 2022.
- 5.3 Outstations will need to comply with CoP5 Issue 7 and be protocol approved under BSCP601 but Elexon recommends that shunts or Hall Effect transducers used with the DC Meter type need not be equivalent to class 0.5s CTs but remain equivalent to class 0.5 CTs. This is due to the low materiality related to DC circuits covered by D/534 (approximately 60kW maximum). Since the DC Meter type specified has an accuracy equivalent to a class 0.5 Meter, this exceeds the new minimum requirement in CoP5 (class 1 or B) so does not need to be updated.

### 6. MDRG comments

- 6.1 We circulated the Metering Dispensation application to the Metering Dispensation Review Group (MDRG) for comments.
- 6.2 One MDRG member responded in agreement with Elexon's assessment as overall accuracy will remain within CoP limits and it supports new metering solutions required as we continue to move towards Net Zero.

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<sup>4</sup> 'Metering Protocol Approval and Compliance Testing'

<sup>5</sup> Clause 5.5 of CoPs 1, 2, 3, 5 and 10 covers Outstation requirements.

## 7. NETSO comments

- 7.1 We circulated the Metering Dispensation application to the National Electricity Transmission System Operator (NETSO) for comments.
- 7.2 The NETSO has no objection to this application considering the solution applies to small DC loads, i.e. with less impact on the Metering System, and the CoP5 limits could be maintained. The NETSO asked, if possible, whether a comparison could be conducted between the existing solution and the new mandated class 0.5s equivalent transducers (or resistors) DC solution to demonstrate the difference between both solutions in active power measuring, for further decision of the SVG.
- 7.3 We noted to the NETSO (and the MDRG) that we are not aware of a specific standard covering current transducers for LV DC metering and were therefore unsure if there was a class 0.5s equivalent for current transducers.
- 7.4 We are aware of a DC Meter standard ([IEC 62053-41<sup>6</sup>](#)), released in 2021, however, this appears to relate to directly connected (whole current) DC Meters but could also be used with Low Power Instrument Transformers (LPITs), as long as they are tested together. We noticed that one of the DC current transformer standards ([61869-14<sup>7</sup>](#)) states that it is applicable to voltages above 1500V and therefore would not cover LV DC scenarios. [IEC 61869-6<sup>8</sup>](#) seems to specify errors for LPITs, with analogue outputs, but we are unsure if it linked to 61869-14 and therefore might only cover LPITs used for measuring DC power systems with a rated voltage above 1500V.
- 7.5 As a result, we do not propose any modifications to the D/534 DC solution unless it becomes clear that there are standards applicable to LV transducers, and they can be used with DC Meters that meet IEC 62053-41. In this case a more generic LV DC metering solution could then be specified and used to replace D/534.

## 8. Generic Metering Dispensation consultation responses

- 8.1 On 6 February 2023 we carried out a 10WD consultation with all BSC Parties. We received one response from a BSC Party and it confirmed it has no issues with the change.

## 9. Update to the ISG

- 9.1 Under the [BSC Baseline Statement](#), the Imbalance Settlement Group (ISG) is solely responsible for CoPs 1 and 2. The SVG is solely responsible for CoPs 5, 6, 7, 8, 9, 10 and 11. The SVG and the ISG are jointly responsible for CoPs 3 and 4.
- 9.2 Since Metering Dispensation D/534 covers CoP4 as well as CoP5, but the update only relates to CoP5, we propose to provide a verbal update to the ISG, at its meeting on 7 March (ISG263), in relation to the SVG's decision about the update of D/534 for CoP5 Issue 7.

## 10. Elexon view

- 10.1 Elexon raised and supports this update to generic Metering Dispensation D/534 as accuracy of the solution will be maintained within CoP5 limits at the Defined Metering Point using the Hall Effect current transducer, DC Meter and a compliance and protocol approved Outstation dialled by the CDCA.
- 10.2 Updating D/534 to cover CoP5 Issue 7 will allow Registrants to continuing using the solution provided in D/534.
- 10.3 If approved, we will update the Statement of Generic Metering Dispensations for D/534 to make it clear that D/534 can be used against CoP5 Issue 6 and CoP5 Issue 7.

## 11. Recommendations

- 11.1 We invite the SVG to:
- a) **APPROVE** an update to Metering Dispensation D/534 to cover CoP5 Issue 7;
  - b) **NOTE** that Elexon will update the Statement of Generic Metering Dispensations for D/534 to make it clear that D/534 can be used against CoP5 Issue 6 and CoP5 Issue 7; and

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<sup>6</sup> 'Electricity metering equipment - Particular requirements - Part 41: Static meters for DC energy (classes 0,5 and 1)'

<sup>7</sup> 'Instrument transformers - Part 14: Additional requirements for current transformers for DC applications'

<sup>8</sup> 'Instrument transformers - Part 6: Additional general requirements for low-power instrument transformers'

- c) **NOTE** that Elexon will provide a verbal update to the ISG at its meeting, on 7 March (ISG263), in relation to the SVG's decision about the update of D/534 for CoP5 Issue 7.

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## **Attachments**

Attachment A – Updated Metering Dispensation D/534 application form

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## **For more information, please contact:**

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