ELEXON

# Metering Dispensation D/528 – Caergeiliog GT2

**ISG247**

| | | | |
|---|---|---|---|
| Date of meeting | **2 November 2021** | Paper number | **ISG247/XX** |
| Owner/author | **Chris Day** | Purpose of paper | **Decision** |
| Classification | **Public** | Document version | **v1.0** |


Summary

**SP Manweb plc has applied for a lifetime Metering Dispensation (D/528), against Code of Practice 2, for the location of the Metering Equipment associated with its Caergeiliog 132/33kV Grid Transformer (GT) 2 circuit. D/528 is to a replace temporary Metering Dispensation, D/511, which expires on 1 December 2021. The GT2 circuit is fed from the Wylfa 400/132kV substation via 18km of 132kV Transmission System overhead line, at which point it tees off. The Defined Metering Point (DMP) is at the Caergeiliog GT2 circuit connection to the overhead line at a Transmission System tower (EV79). The Actual Metering Point will be located 1.4km away from the DMP, on the lower voltage (LV) side of SP Manweb plc's 132/33kV GT2. We invite the ISG to approve D/528 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 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 noted on the application form that the application itself is not confidential. However, the applicant has requested that we keep certain related documents (Attachments B-D), confidential. This is to prevent Elexon making these details public on the BSC Website.

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

## 3. Background related to Metering Dispensation D/528 (and D/511)

3.1 As part of the Anglesey Distribution Network reinforcement scheme, SP Manweb plc (SP Manweb) installed a second 132/33kV GT at the Caergeiliog substation (GT2). This additional GT helps to maintain supplies for the underlying Amlwch/Caergeiliog group on the isle of Anglesey.

3.2 The connection to supply GT2 from the National Grid Electricity Transmission (NGET) network for this arrangement differs from typical supply arrangements elsewhere in the SP Manweb network. The connection is ultimately derived from Wylfa GSP (with NGET owning and operating the 132kV busbars at Wylfa). The connection for Caergeiliog GT2 is via a teed connection to a NGET 132kV owned circuit (EV Line), at tower location EV79, which runs from Wylfa to Penrhos and the south of the island. This tee-point location is 18km from Wylfa.

3.3 A newly constructed SP Manweb 132kV circuit connects this "Interface" point to the SP Manweb network via a 1.4km circuit into Caergeiliog and GT2 and then onto the 33kV busbars.

## 4. Metering Dispensation application D/528

4.1 In October 2020 SP Manweb plc applied for a lifetime Metering Dispensation (D/511), against CoP2[3], for the location of the Metering Equipment associated with its Caergeiliog 132/33kV GT2 circuit.

4.2 Due to the remote location and practicalities of locating Metering Equipment at the NGET/SP Manweb interface point, and tee off point on tower EV79, SP Manweb proposed to locate the Metering Equipment at the Caergeiliog 132/33kV substation at 33kV (the Actual Metering Point (AMP)).

4.3 SP Manweb plc compensated the Caergeiliog GT2 Meters for electrical losses from the AMP to the DMP for:

- two 33kV copper cables (70m) on the LV side of GT2;
- 132/33kV power transformer (GT2); and, on the HV side of GT2,
- 132kV aluminium XLPE cable (681m);
- 132kV aluminium overhead line (OHL) (735m); and
- 132kV aluminium OHL down-leads (35m).

4.4 At its meeting on the 1 December 2020 the ISG (236/06) approved Metering Dispensation D/511 on temporary basis, for 12 months, subject to the following conditions:

a) The Electrical Loss Validation Agent validates the compensation factors to be programmed into the Meter; and

b) Prior to expiring, the applicant provides justification as to why the Metering Equipment is to remain located at the Caergeiliog 132/33kV substation, at 33kV, or install Metering Equipment at 132kV and apply for a new Metering Dispensation on a lifetime basis.

## 5. Metering Dispensation application D/528

5.1 SP Manweb has applied for a lifetime Metering Dispensation (D/528), against CoP2, for the location of the Metering Equipment associated with its Caergeiliog 132/33kV GT2 circuit.

5.2 Regarding the first condition, Elexon can confirm that the ELVA did validate the proposed compensation figures and deemed them to be satisfactory on the 15 December 2020.

5.3 Regarding the second condition, SP Manweb have considered all options for the metering location. These are detailed below:

a) Option 1 – Metering at Wylfa GSP (fully compliant). A new circuit between Wylfa and Caergeiliog (18km) required plus, the switchgear at Wylfa is owned by NGET not SP Manweb. Cost would be in excess of £15m to build the new circuit.

b) Option 2 – Metering at NGET / SP Manweb interface point and tee off point on tower EV79 (fully compliant), would require a compound/compact substation to be installed at significant cost (£200k) for which land would need to be purchased at the current market rate (cost of land purchase not included in estimate).

c) Option 3 – Metering at 132kV at Caergeiliog (non-compliant). The cost is also high (estimated at £110k) and there is limited space within the substation. Risks to supply to the whole Island of Anglesey for these works if

[3] 'Code of Practice for the metering of circuits with a rated capacity not exceeding 100MVA for Settlement purposes'

a common mode failure occurs was also a key consideration as Customer Interruptions (CI)/Customer Minutes Lost (CML) costs are calculated as £787k for the first hour alone.

d) Option 4 (non-compliant) - Locating the metering at the 33kV substation has therefore been assessed as the most practical and economic solution. This location removes the risk to supplies and ensures consistency with the existing GTs at Amlwch and Caergeiliog, which are also metered at 33kV, with a Metering Dispensation approved (D/116[4]). The cost of this solution is £35k.

5.4 The Metering Dispensation is required for the lifetime of the connection as due to the unusual supply arrangement at the Wylfa GSP and remote location of the Caergeiliog substation it is not practical or cost effective to meter directly at the GSP or at the NGET/SP Manweb interface point (EV79).

5.5 Metering at the 132kV side of GT2 in the Caergeiliog substation would not be compliant and requires significant works at an existing substation with limited space to accommodate the metering. It also introduces significant risk to supplies if a common mode failure occurs.

5.6 In addition, the selected solution (i.e. to meter at 33kV) meets the operational good practice of ensuring consistency and standardisation on site at Caergeiliog, in keeping with the wider Wylfa scheme i.e. the existing transformer on site at Caergeiliog (GT1), and the transformer at Amlwch (GT1) are both metered at the 33kV grid breaker with line loss factors applied all the way back to Wylfa.

5.7 For the reasons described above the applicant believes the initial solution proposed under D/511 to be practically and financially reasonable compared to the alternative options considered above.

## 6. MDRG comments

6.1 We circulated the Metering Dispensation application and corresponding attachments to the MDRG for comment.

6.2 At the time of writing we have received two responses from MDRG members.

6.3 One MDRG member supports the application on a technical basis subject to the confirmation that the reactive losses are taken into account of in the loss calculations. Elexon confirmed that this is the case.

6.4 However the MDRG member had a number of other concerns. These are detailed below:

6.4.1 “Once a project is underway the costs to change things go up dramatically, so it becomes very easy to justify a non-compliant metering system on a financial basis, this is far from the first dispensation to come through in this manner and most likely will not be the last. I don’t accept that keeping consistency with the other two circuits is a valid reason for a dispensation – the metering CoPs are very clear that Material Change (which this most definitely is) require compliant metering.”

6.4.2 “For wider discussion rather than this dispensation specifically - I can’t help but feel we have got a system that isn’t entirely fair, some market participants go for a cheaper solution then apply for a retrospective dispensation whereas others will ensure there is compliant metering (probably to their financial detriment). I’m not sure what a better solution would look like or indeed what the makeup of a suitable group to look into making this aspect of our metering CoPs more fit for purpose practically would be. If we moved to allow any configuration with suitable compensation we would probably open the flood gates to all sorts complex compensations that are both difficult to assess and ensure that they remain suitable as time goes on and site/system configurations & equipment change.”

6.5 One MDRG member does not support the application on the following bases:

6.5.1 “The Dispensation request was submitted after the design and construction had commenced, leaving ISG in a more difficult position to resist the request, which was agreed on a temporary basis.”

6.5.2 “Given a year to consider the request to submit further details, then information has appeared shortly before the last ISG meeting, limiting the opportunity to challenge or debate”

6.5.3 “I accept that locating the metering at the tee point (option 2) – the Defined Metering Point (DMP) is not justifiable due to the need to procure land and to build a suitable compound”

6.5.4 “It is reasonable to install metering on the 132kV side of the SP substation.”

[4] The Metering Sub-Committee (MSC425) approved D/116 at its meeting on 21 January 1993.

6.5.5 “It is noted that the estimated cost of option 3 was estimated at £110k in an email dated 24 Nov 2020. This is the same estimated cost quoted in Oct 2021.”

6.5.6 “Option 3 still requires compensation for the 1.4km 132kV circuit to the tee point, but this compensation will be considerably more accurate than Option 4 which requires compensation for this circuit and additional compensation for the 132/33kV transformer”

6.5.7 “Option 3 refers to a common mode failure and the associated CI/CML impact. It is not clear why this cost is relevant. A fault with any of the equipment such as the transformer, not just metering, is possible and may incur these costs. The design of alternative supplies should already be mitigating the impact.”

6.5.8 “The other objection to option 3 is the lack of land at the substation. Can SP provide mapping to show their land ownership? Google maps (apparently during construction) shows much land surrounding both substations.”

## 7. NETSO comments

7.1 We circulated the Metering Dispensation application to the National Electricity Transmission System Operator (NETSO) for comments.

7.2 At the time of writing the NETSO had not yet provided comments. Elexon will provide a verbal update to the ISG, at its meeting, with any comments it receives.

## 8. Elexon’s view

8.1 Elexon supports this particular application as:

- the power transformer and cable/line losses will be accounted for; and
- Settlement accuracy will be maintained, within the overall accuracy limits of CoP2, at the DMP.

## 9. Recommendation

9.1 We invite the ISG to:

a) **APPROVE** Metering Dispensation D/528, for the Metering Equipment for the Caergeiliog GT2 circuit, on a lifetime basis.

## Attachments

Attachment A – Metering Dispensation application (D/528)

Attachment B (CONFIDENTIAL) – Technical Report

Attachment C (CONFIDENTIAL) – Application for Metering Dispensation (Assessment)

Attachment D (CONFIDENTIAL) – Caergeiliog - Losses Calculations

Attachment E – FAT Results

## For more information, please contact:

Christopher Day, Metering Analyst

christopher.day@elexon.co.uk

07917 471366