

ISG208/04 – METERING DISPENSATION D/488 – GRUDIE BRIDGE AND ACHANALT POWER STATIONS

MEETING NAME ISG 208

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Purpose of paper Decision

Classification Public

Summary SSE has applied for a lifetime Metering Dispensation (D/488) against Code of Practice 2 for the location of the Metering Equipment associated with the Generating Units for Grudie Bridge and Achanalt Hydro Power Stations. SSE also wants to use the existing non-compliant class 0.2 current transformers (CTs). We invite the ISG to approve D/488 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.
- 1.3 The process for applying for a Metering Dispensation is set out in BSCP32 'Metering Dispersations'.

2. Background to Metering Dispensation application (D/488)

- 2.1 Grudie Bridge and Achanalt Hydro Power Stations were built in 1950. Grudie Bridge comprises two Generating Units (G1 and G2, 6.7MW and 12MW respectively) and Achanalt comprises one Generating Unit (3MW).
- 2.2 Both Power Stations connect to an 11kV busbar, located within 11kV switchgear at Grudie Bridge Power Station, which has been owned and operated by Scottish Hydro-Electric Power Distribution (SHEPD) since 1993. Each Generating Unit is metered at the Defined Metering Point (DMP) just below the 11kV busbar.
- 2.3 Scottish Hydro-Electric Transmission Limited (SHETL) carried out reinforcement works on its 132kV network and built a new 132/33kV substation next to Grudie Bridge (Attachments B and C). Customers connected to the Grudie Bridge 11kV busbar have been transferred to the new 33kV busbar in the new 132/33kV substation. This leaves only the Grudie Bridge Generating Units and the Achanalt Generating Unit connected to the SHEPD busbar.
- 2.4 SSE Generation wish to retake ownership of the generator circuit breakers and bus-coupler to:
- facilitate future station refurbishment;
 - improve operational flexibility by having full control of the bus-coupler; and

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- improve site safety by reducing the need for SSE Networks (i.e. SHEPD) staff to enter the hydro station building to maintain and operate the '1S0' bus coupler.
- 2.5 If SSE Generation takes full ownership of the 11kV busbar and 1S0 bus-coupler, this will move the ownership boundaries from the three current DMPs to new Boundary Points (and new DMPs) on the two incoming feeders.
- 2.6 To be fully compliant with CoP2, metering would have to be installed on the two incoming feeders. There are existing current transformers¹ on the two incoming feeders which could be used but these will need to be tested for accuracy (cost ~ £10k).
- 2.7 However, one of the Grudie Bridge Generating Units (G1) and the Achanalt Generating Unit share the same section of 11kV busbar and therefore one incoming feeder. Metering this incoming feeder would mean the two Generating Units could not be traded separately. The applicant wishes to trade them separately and therefore keep the existing Metering Equipment where it is, rather than install new Meters on existing measurement transformers at the new DMPs.

3. Metering Dispensation application (D/488)

- 3.1 SSE has applied for a lifetime Metering Dispensation against CoP2 for the location of the Metering Equipment associated with the Grudie Bridge and Achanalt Generating Units (Attachment A). The existing Metering Equipment is compliant with CoP2, except for:
- the measurement transformers' location away from the new DMPs (Attachment B); and
 - the CTs are class 0.2 instead of class 0.2s.
- 3.2 The applicant considers the losses from the Actual Metering Point (AMP) (existing DMPs) to the new DMPs to be minimal (one metre of copper busbar) and does not propose to compensate for these losses.
- 3.3 The table below sets out the class accuracy (ratio error) limits for a class 0.2 CT versus a class 0.2s CT:

CT Accuracy class	Ratio error				
	(1% rated current)	(5% rated current)	(20% rated current)	(100% rated current)	(120% rated current)
0.2	-	0.75	0.35	0.2	0.2
0.2s	0.75	0.35	0.2	0.2	0.2

- 3.4 The applicant also considers the impact of using the existing class 0.2 CTs to be minimal on the following bases:
- the generators rarely run at low power outputs as they are designed to have maximum efficiency at their rated output; and
 - there will be no continuous power import through the AMPs as the station has a separate common services low voltage switchboard which is metered by a dedicated MPAN. There would only be a very transient power import (less than a few seconds) when the generators are energised during start-up.

¹ These current transformers were used by the LDSO to monitor energy flows from the Grudie Bridge 11kV busbar, via two circuits, onto other parts of its network.

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- 3.5 As overall accuracy at the DMPs will be maintained within the CoP2 limits the applicant does not consider the proposed solution poses a risk to Settlement or other Registrants.
- 3.6 Following the submission of the application the applicant confirmed it would like the electrical single line diagrams (Attachments B and C), provided as part of the application, to remain confidential for commercial reasons.

4. MDRG comments

- 4.1 We circulated the Metering Dispensation application (D/488) to the Metering Dispensation Review Group (MRDG) and the Licensed Distribution System Operator (LDSO) for comments.
- 4.2 Four out of five MDRG members responded. All four MDRG members support the Metering Dispensation application on a lifetime basis as:
- accuracy will be maintained within CoP2 limits at the new DMPs;
 - it enables the individual generators to be metered separately;
 - the statement about load running brings comfort that this will not have a material impact on Settlement; and
 - it is the least change option.

5. LDSO comments

- 5.1 At the time of preparing this paper the LDSO (SHEPD) has not yet provided a response.

6. ELEXON's view

- 6.1 ELEXON supports this lifetime application as accuracy will be maintained within CoP2 limits at the new DMPs despite the location and accuracy class of the CTs. In addition, the current location of the Settlement Meters facilitates separate trading of each Generating Unit.

7. Recommendation

- 7.1 We invite you to:
- a) **APPROVE** Metering Dispensation application D/488 on a lifetime basis.

Attachments

Attachment A – Metering Dispensation application (D/488)

Attachment B (CONFIDENTIAL) – Grudie Bridge and Achanalt single line diagram (before and after)

Attachment C (CONFIDENTIAL) – Grudie Bridge GSP detailed single line diagram (after)

For more information, please contact:

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