PAB217/15 MISSING AND POOR QUALITY D0215 DATA FLOWS

MEETING NAME	Performance Assurance Board
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Purpose of paper	For Decision
Classification	Confidential
Summary	The PAB raised an action for ELEXON to investigate the impact and potential solutions with respect of missing and poor quality 'Provision of Site Technical Details' (D0215) data flows. Feedback from the industry, findings from the BSC Auditor and analysis undertaken by ELEXON all indicate significant failures in the operation of the D0215 process to be routine.

1. Background

1.1 At the September 2015 Technical Assurance of Metering Expert Group (TAMEG) meeting, ELEXON presented a paper and invited a group discussion of the D0170[1]/D0215[2] process. ELEXON took an action (TAMEG 21.08) to further investigate and analyse the D0215 process and pursuant D0268s[3].

1.2 ELEXON's analysis identified, of the reviewed data set, that there was a 50% mismatch between the Current Transformer (CT) ratios provided in D0215s and those in the D0268s flows. Furthermore, a specific process issue was identified at a single Distribution Network Operator (DNO) whereby CT ratios had been erroneously populated as Whole Current (W/C) for sites with Measurement Transformers.

1.3 ELEXON notes that it can be particularly challenging to determine validity of either the D0268 or the D0215 without undertaking a site visit. Furthermore, situations could arise where neither of the stated scenarios in D0268 or D0215 are representative of the site conditions.

1.4 Following the presentation of analysis to TAMEG, a Master Registration Agreement (MRA) Issue Form (MIF), MIF189 'Amending the D0215 Flow to enable Meter Operating Agents to set up and configure Meters to match DNO-provided Metering Equipment details' was raised in November 2015. MIF189 proposed changes to the D0215 flow, which would allow MOAs to fully understand the Metering requirements at site and support accurate Settlement, Customer, and Distribution Use of System (DUoS) data held within industry systems.

1.5 In March 2016, the BSC Auditor raised Issue 5177: Use and Accuracy of Information within the D0215, which resulted in ELEXON raising CP1495 in October 2017. Through the progression of that Change Proposal (CP) a new data flow (D0382[4] 'Rejection Response for Request to Licensed Distribution Service Operator (LDSO) for Site Technical Details') was introduced to the Data Transfer Catalogue (DTC). The D0382 serves as a rejection from the LDSO, where they're unable to provide a complete D0215 for one of the defined reasons within the valid set of the 'rejection reason' data items. The D0382 went live on 1 November 2018.

[1] D0170: *Request for Metering System Related Details*
[2] D0215: *Provision of Site Technical Details*
[3] D0268: *Half Hourly Meter Technical Detail*
[4] D0382: *Rejection Response for Request to LDSO for Site Technical Details*

1.6 The prevalence of D0215 flows containing incorrect data across the industry, was raised during the February 2018 Performance Assurance Board (PAB) meeting (PAB205). Consequently, ELEXON was requested to undertake further investigation into the D0215 process.

2. What is the issue?

2.1 The PAB raised concerns over the quality of D0215 flows issued to MOAs by the LDSO. Of primary concern is the number of observed missing or erroneous Measurement Transformer ratios, as incorrect CTs can result in high materiality Settlement disputes.

2.2 Another issue highlighted is that in some instances the Meter details are incorrect at the time the D0215 is received. Subsequently, MOAs are unable to guarantee the accuracy of the D0215 and instead obtain information from alternative sources. However, ELEXON notes that, even when information is obtained from alternative sources, the invalid details within the D0215, particularly when associated with CT/VT ratios, still have the potential to cause confusion and contribute to risks associated with the accuracy of a Metering Systems. There have been reported instances of MOAs having to rely on the 'additional comments' field in the D0142[5] data flow.

2.3 Furthermore, MOAs claim that in some instances LDSOs are inconsistent in issuing the D0215 flow, even if a request has been made via the D0170. MOAs have expressed considerable frustration with the above scenario, as they are obligated under the Code to request and chase D0215s which may, or may not be forthcoming.

3. D0215 Process

3.1 The processes for the Registration, Installation and Commissioning of Metering Systems are outlined within Balancing and Settlement Code (BSC) Procedure (BSCP) 514[6] and BSCP515[7].

3.2 Obligations outlined in the BSCP514 5.2.2: '*New Connections - Installations'* and BSCP514 7.2, 7.3, 7.4: '*Change of Measurement Class (CoMC)'* require the LDSO to send the D0215 within 5 Working Days (WD) following receipt of the D0170.

3.3 The D0215 includes Metering System details such as Measurement Transformer ratios, class, ratings which facilitate the MOA installation process.

4. Risk and Impact

4.1 In the 2019/20 Risk Evaluation Register (RER) the associated risk posed to Settlement by erroneous or missing D0215s is smeared across SR012: *'Technical details quality'* and SR008 *'Processing of Metered Data'*.

4.2 The combined forecasted average impact to the industry for the aforementioned risks for Performance Assurance Operating Period 2019/20 is £13.6m (SR012: £6.2m, SR008: £7.4m). The combined upper plausible forecasted impact for is estimated at £39.7m, with the lower forecasted impact at £6.2m, of gross material error.

4.3 SR012 and SR008 have been registered as band 3 – Moderate risk, according to their financial impact. Subsequently, D0215 issues have the potential to contribute to risks which have a combined plausible material impact ranging between £6.2 and £39.7m (see Table 1).

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[5] D0142: *Request for Installation or Change to a Metering System Functionality or the Removal of All Meters*

[6] BSCP514: *SVA Meter Operations for Metering Systems Registered in SMRS*

[7] BSCP515: *Licensed Distribution*

Table 1: Risk Evaluation Register (RER) 2019/20

Risk ID	Risk Category	Risk Sub-Category	Description	Impacts			Impact band
				Lower	Average	Upper	
008	Data retrieval and processing	Processing of metered data	SVA metered data is not processed or transferred correctly, or at all	£4.1m	£7.4m	£22.6m	3 - Moderate
012	Metering	Technical details quality	SVA Metering System technical details are created incorrectly	£2.1m	£6.2m	£17.1m	3 - Moderate

5. Analysis

5.1 ELEXON has refreshed the D0268 and D0215 reconciliation analysis, previous presented at September 2015 TAMEG meeting, in order to identify whether there were still significant issues with the D0215 flow. Analysis output is presented below (see Figure 1 on page 5).

5.2 Analysis results show that there has been an increase in overall CT mismatches since 2015. However, between 2016 and 2018 there has been a decreasing trend in CT mismatches; which, should the trend continue, could put 2019 below 2015 performance.

5.3 The decreasing trend is echoed by the overall percentage of CT mismatch, which has been continually reducing since 2014. Similarly, the VT ratio mismatch has also been decreased in percentage since 2014 and in total values since 2016.

5.4 The analysis highlighted four key categories of CT mismatches (see Figure 2 on page 6):

a) D0215 incorrectly states W/C;

b) Incorrect D0215 ratio;

c) No CT ratio provided in D0215; and

d) No CT ratio provided in D0268.

5.5 ELEXON notes that 50% of mismatches are due to the non-provision of CT ratio in D0215.

5.6 Similarly, VT ratio mismatches can be subdivided into three categories (see Figure 3 on page 6):

a) Incorrect VT ratio provided;

b) No VT ratio provided in D0215; and

c) No VT ratio provided in D0268.

5.7 As with the CT ratios, the highest number mismatches resulted from the non-provision of VT ratios in the D0215s.

6. Next steps

6.1 ELEXON proposes to provide PAB with further DTN analysis which aims to assess the frequency in which LDSO's respond to D0170 requests; and whether the BSCP514 obligated timescales are adhered to. Results from the D0170 analysis will feed into a scoping report for a potential TAPAP on the 'provision and accuracy of D0215s'.

6.2 Furthermore, ELEXON proposes to conduct additional DTN analysis of the D0382 flow to help determine reasons why D0215 are being rejected. D0383 analysis will be undertaken following the successful procurement of the flow.

6.3 Finally, ELEXON proposes to undertake a Request for Information (RFI); inviting LDSOs and MOAs to comment on the challenges faced with the use and accuracy of D0215 flow, and the impacted processes. Parties will also be invited to suggest potential technical solutions, or changes to the BSC arrangements, which may serve to mitigate challenges. The anecdotal evidence procured from the RFI will aim to steer future analysis undertaken as part of the D0215 potential TAPAP scoping paper.

7. Recommendations

7.1 We invite you to:

a) **NOTE** the update regarding D0215 data flow; and

b) **APPROVE** the recommended next steps.

Appendices

Appendix 1 – Analysis of missing and erroneous D0215s

ELEXON's previous analysis can be found here.

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Appendix 1 – Analysis of missing and erroneous D0215s

The main assumption made by the analysis is that the CT/VT ratio within the D0268 is correct.

I have assigned a mismatch category to each exception. Hopefully these categories are self-explanatory; however, I have provided a brief description below.

i) CT/VT ratio not populated on D0268 - For instances where the D0268 received following the D0215 does not contain a CT/VT Ratio

ii) D0215 erroneously states W/C - For instances where the D0215 states a CT ratio of "W/C", however, the following D0268 contains a CT ratio that doesn't relate to a W/C setup.

iii) Different ratio provided - For instances where there is a straight mismatch between the CT/VT ratios within the D0215 and D0268

iv) No CT/VT ratio provided on D0215 - For instances where a CT/VT ratios was not provided in the D0215, but the D0268 contains a valid CT/VT ratio

Figure 1: D0268 and D0215 Measurement Transformer Mismatch Analysis

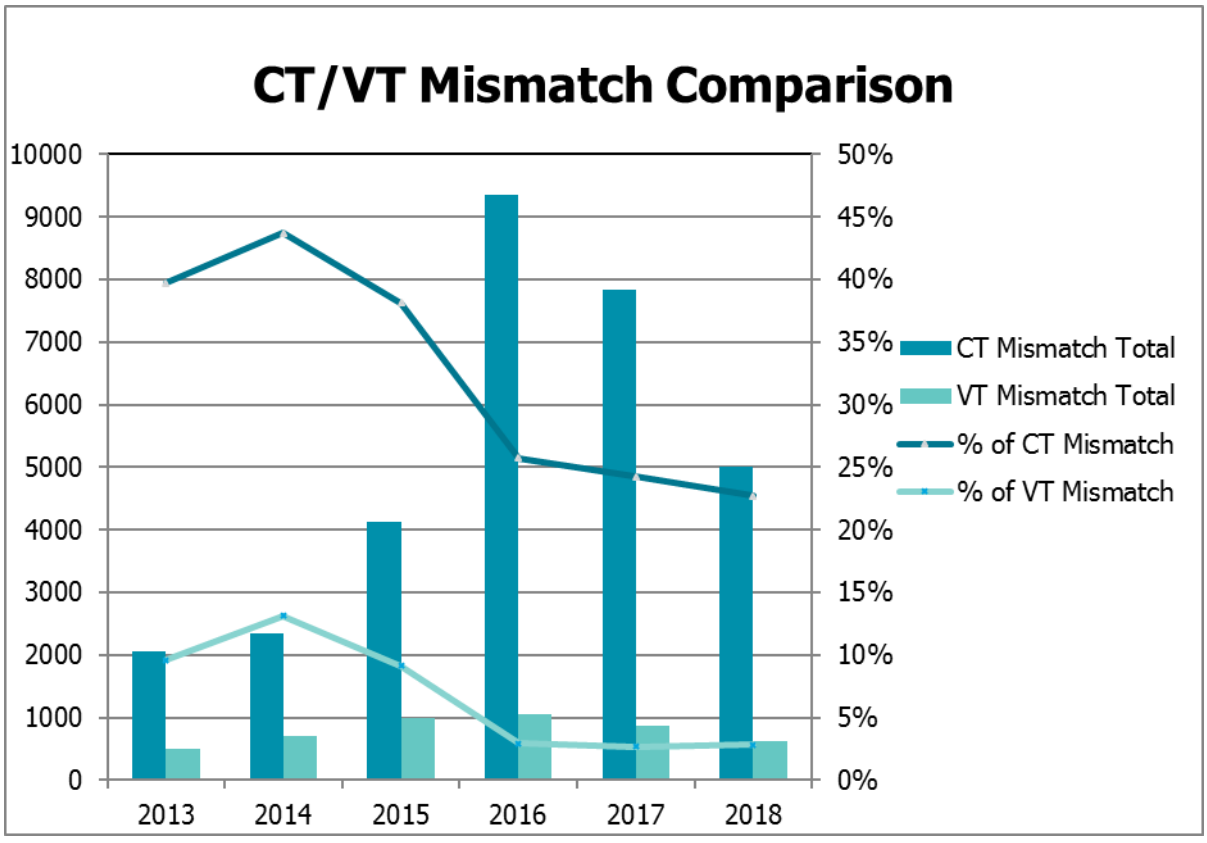

Figure 2: Current Transformer Mismatch Breakdown

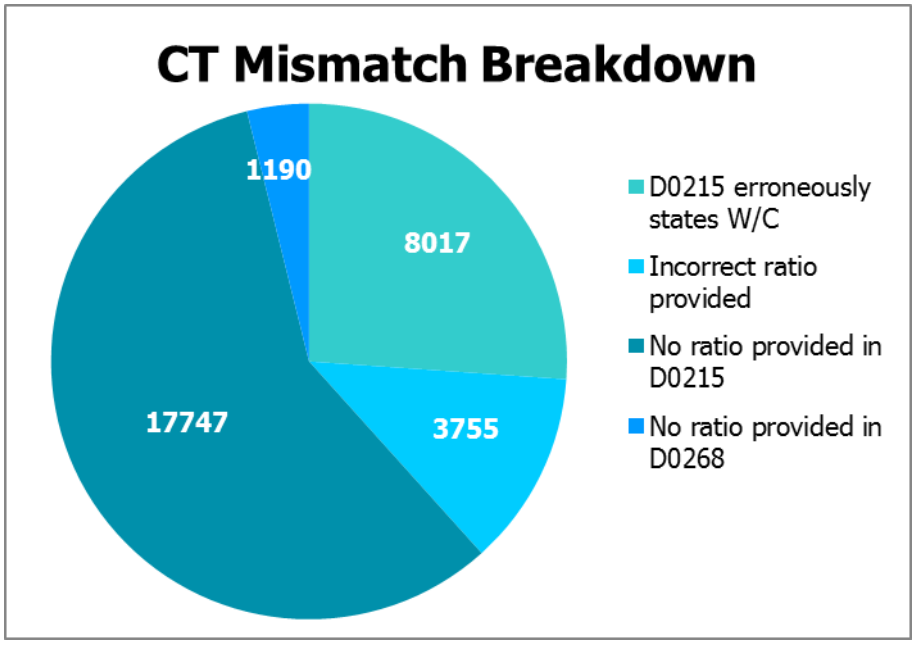

Figure 3: Voltage Transformer Mismatch Breakdown