

## Issue 79 'Erroneous Consumption Values following Change of Supplier (CoS) Events'

**ELEXON**



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### About This Document

This document is the Issue 79 Group's Report to the Balancing and Settlement Code (BSC) Panel. ELEXON will table this report at the Panel's meeting on 13 June 2019.

There are two parts to this document:

- This is the main document. It provides details of the Issue Group's discussions and proposed solutions to the highlighted issue and contains details of the Workgroup's membership.
- Attachment A contains the Issue 79 Proposal Form.

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## Background

### What is the Issue?

A difference in processes is resulting in Suppliers being unable to agree on a Change of Supplier (CoS) reading for a proportion of Smart Meter Equipment Technical Specification 1 (SMETS1) Meters. This could result in both Excessive and Negative advances being entered into Settlement, risking its accuracy, where a dummy Meter exchange process isn't utilised.

An enduring solution is already in place in the form of [P302 'Improve the Change of Supplier Meter read and Settlement process for smart Meters'](#), and is expected to apply to all smart Meters by December 2020 (assuming there are no delays to the enrolment and adoption program). Therefore a cost-reflective, interim solution should be agreed upon to mitigate the risk to Settlement.

## Conclusions

The Meter Advances that bridge the gap between the old Supplier's closing read(s) and the new Supplier's opening read(s) can be avoided by the use of a dummy Meter exchange. This allows Suppliers to close and open on readings that are accurate and appropriate to each Party. A comprehensive Meter read history available due to availability of daily midnight readings on the smart Meter. This allows the old Supplier to close their account on an actual (and so auditable) readings from the Meter itself, so the risk to Settlement of the dummy Meter exchange is minimal.

This is preferable to effecting a BSC change, as the lead times associated with Party Agents' systems change, as would likely be necessary, would mean implementation in approximately June 2020, leaving only five months of benefit before SMETS1 Meters are enrolled in the DCC and so subject to the enduring P302 solution.

### What is the Issue?

Smart Meters that comply with the Smart Meter Equipment Technical Specifications 1 or 2 (SMETS) offer multiple configuration options.

Block tariffs and Time of Use (ToU) tariffs are more flexible when using a smart Meter; Smart Meters have a digital memory to record volumes, which is split into 48 sections (for clarity, these shall be referred to as dials). Given a Smart Meter can be organised, labelled and used according to the registered Supplier's preferences, it can record consumption volumes in any of these 48 dials. These dials can be organised in either ToU or block tariff style, or both depending on Supplier preferences

In cases where more than one of the 48 dials in a Meter is used (e.g. Economy 7 or new, innovative tariffs such as a seasonal tariff where multiple dials can be used), the gaining Supplier will not know whether the Meter was set up in a block tariff or ToU style (other than Standard Settlement Configuration). It need not be the first dial (if a single rate, flat tariff is assumed). The gaining Supplier will apply its chosen tariff to the Meter which will configure the chosen dials within the Meter. These may not be the same dials that were active during the previous supply period.

Where a losing Supplier uses two dials and the gaining Supplier uses one, both dials are not always accounted in the CoS read. This makes it impossible to agree a CoS reading.

The example below is an illustration of the above description. The Meters are run in a block tariff format, with the volumes recording usage at different prices. The prices will change after a certain amount of power used and may happen at any point in the day or not at all.

Date	Total kWh	Rate 1	Rate 2
1 August 2018	1000	800	200
31 August 2018	2500	2000	500

1000 kWh is entered into Settlement on 1 August, reflecting total consumption. The supply is then lost to another Supplier on 1 September. The new Supplier operates with a single price point in its tariff, therefore only needs to use a single register in its configuration.

The new Supplier reads Rate 1, 2000kWh, and enters this as the CoS reading. This does not reflect total consumption during the relevant period and, as a result, the losing Supplier incurs a negative advance. The same can also happen in reverse, where the gaining Supplier incurs a large Annualised Advance to the first Meter read.

### What is the solution?

The [P302 'Improve the Change of Supplier Meter read and Settlement process for smart Meters'](#) process is designed to resolve this issue by obligating the new Supplier to submit all 48 ToU register readings dials to the old Supplier. The two Suppliers then provide the readings for their active registers to their respective NHHDCs for processing. P302 is only obligated for Meters operated through the DCC or via mutual agreement between Parties, which is not always possible.



#### What is a dummy meter exchange?

A dummy meter exchange involves the use of Initial and Final Meter readings to effectively restart consumption histories even though no actual, physical change of Meter has taken place



#### What is a block tariff?

Block tariffs are volumetric charges. Under a block tariff scheme, users pay different amounts for different consumption levels. For example, a fixed rate up until 200kWh, at which point the price per kWh is increased.



#### What is a Time of Use tariff?

Time of Use tariffs charge consumers different prices for energy used during certain periods. For example, a domestic Supplier could provide a tariff where energy used between 09:00 – 17:00 on weekdays is cheaper than any other time.

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However, once the enrolment and adoption of SMETS1 Meters into the DCC is completed the P302 process will become mandatory. The enrolment and adoption program aims to migrate all SMETS1 Meters on to the DCC's secure network so that consumers can switch Suppliers without worrying about their Meter losing smart functionality. The deadline for this is December 2020, the smart Meter rollout deadline. Any SMETS1 Meter that is not adopted on to the DCC's network by that time will be replaced with a SMETS2 Meter. As such, a cost-reflective stop-gap solution should be agreed on an interim basis to minimise the risk to Settlement.

The use of a dummy Meter exchange process is one possible option. By using this process each Supplier can settle their volumes accurately and the discrepancy between opening and closing reads is irrelevant. This process could increase the likelihood of the manifestation of error relation to BSC Settlement Risk 008 '*Processing of Metered Data*' if an inaccurate volume is used as the closing read. Therefore if this process is to be used more frequently, the Issue Group considered whether the risk should be mitigated to a suitable degree.

## What are the current arrangements?

### What is the Change of Supplier process?

In order to establish the respective Settlement and customer billing liabilities on a CoS, the new Supplier (or new NHHDC) must obtain Meter readings on (or close to) the date and time when the new Supplier takes over responsibility for the customer's electricity supply.

The old Supplier needs a final read from which they will close the current account and provide a final bill to the customer for energy consumption, up to the point that the electricity supply switches to the new Supplier. The customer's chosen new Supplier uses an opening read as a starting point for electricity consumption going forward. Unless there is a change of Meter concurrent with the CoS, the opening and closing reads should be the same.

From a BSC perspective, Settlement processes use these CoS Meter reads to allocate metered import or export for NHH Metering Systems accurately to the respective Suppliers.

Under the current NHH CoS process, the NHHDC appointed by the new Supplier is responsible for determining the CoS reading for the Supply Start Date (SSD) on behalf of both the new and old Suppliers. This CoS reading (D0086) is then sent to the old Supplier to be used as the closing read.

### Cause of the Issue

Issue Group members consider that the issue is likely to arise where the incoming Supplier is using fewer registers than the outgoing Supplier. This results in the outgoing Supplier receiving a single reading from the incoming Supplier, when two (or more) are needed to account for all consumption in the closing Annualised Advances (AAs). It is less likely to arise where the incoming Supplier is using more registers than the old Supplier, although still possible. This is because the new Supplier could potentially read all the registers used by the new Supplier, as well as further registers to accommodate whichever tariff they are using.

Some Issue Group members highlighted that issues can also arise when there is no change of the number of registers being used, but where mismatches occur between readings time of use register one and the total cumulative register. Whilst it is theoretically possible to use the total cumulative register for a single rate SSC in Settlement (so long as the mapping is correct in the 'Notification of Mapping Details' (D0149) flow), it is preferable to use ToU register one. Indeed, this is the requirement in the standard for register numbering that has been introduced under the Master Register Agreement (MRA).

However, even if registers are labelled correctly, there is a risk of total cumulative readings being used. As SMETS1 Meters are susceptible to interoperability issues (due to different communications and interface standards operated by SMSOs), they can revert to running in non-smart mode with no external communications. If customer readings are provided under these circumstances, there is a distinct possibility that a total cumulative reading is provided instead of a reading for ToU register one. For any Meter that has been configured as two-rate at any time, the two registers will hold different values.

Issue Group members also referred to issues where the new Supplier deemed a reading based on the reading history from the old Supplier's NHHDC without knowing that they were using a total cumulative reading. This could then result in a later negative advance because ToU register one was being used going forward.

### Prevalence of the Issue

The Issue Group discussed the prevalence of this Issue across industry, as it was important to establish whether it was process-specific to the situation experienced by the Proposer.

Several members noted experience of similar situations with various Suppliers. However, the number of instances could not be defined, but was thought to be low in comparison to the total volume of CoS events. For instance, the Proposer has indicated experience of approximately 500 errors within thousands of CoS events, with other members of the Issue Group noting their experiences were 'few and far between'. This is supported by the fact that a wider trend regarding the error in Settlement synonymous with this Issue has not been detected.

### Use of dummy Meter exchange

The Proposer described their internal process of using the dummy Meter exchange process to remedy the Issue, highlighting they are automating parts of the dummy Meter exchange process to ensure consistency. Other Issue Group members noted that in light of



#### What is the MRA?

The Master Registration Agreement (MRA) is an Agreement that sets out the rules associated with the electricity Supplier registration process for Great Britain, incorporating Green Deal obligations. The MRA sets out the terms for the provision of Metering Point Administration Services (MPAS Registrations), and procedures in relation to the Change of Supplier to any premise/Metering point.

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the Issue, they employ the same remedial process to mitigate any risk to Settlement through a dummy Meter exchange. Issue Group members agreed positives that all attendees employed the same dummy Meter exchange remedial technique in absence of a formal process, in order that the integrity of Settlement is protected in the short term.

There was a minority view within the Issue Group of with the routine use of the dummy Meter exchange process, stating that it should only be used in exceptional circumstances and a precedent should not be set intimating otherwise. Other members sympathised with this view, but argued that it was a cost-reflective solution on an interim basis to protect the integrity of Settlement.

Additionally, A Supplier that was unable to attend the meeting informed ELEXON that they had established a system wherein the Meter read history, as provided by the old Supplier's NHHDC is checked against both the first ToU register and the total cumulative register within the Meter in question. The register which more accurately correlates with the Meter read history is then used for both the CoS reading and for ongoing billing and Settlement purposes. This significantly reduced the need to perform a dummy meter exchange process, further reducing risk to Settlement

## Risk to Settlement (dummy Meter exchange)

The Issue Group considered the risk to Settlement involved with using the dummy Meter exchange process. Members emphasising that any solution must ensure that all energy volumes are accounted for accurately and that there must be an auditable trail for the process followed.

Members clarified that using a dummy Meter exchange ensures volume errors do not enter Settlement, and therefore, the use of a dummy Meter exchange prevents a Settlement error, rather than creating a risk to Settlement.

## Audit records

SMETS1 Meters record a midnight reading on a daily basis, meaning that both the Final and Initial readings used are actual readings taken from the smart Meter – one by the outgoing Supplier and the other by the incoming Supplier. This enables Suppliers to close and settle on a reading that is accurate (and auditable) when the dummy Meter exchange process is followed. The obligation for every dummy Meter exchange event to be recorded by each NHHDC for auditing purposes is detailed within [Balancing and Settlement Process \(BSCP\) 504](#), under 4.14.6 'Gross Volume Correction and Dummy Meter Exchange Audit Requirement'.

## Enduring solution

P302 was acknowledged as the enduring solution. It was also acknowledged by the Issue Group that all SMETS1 Meters that had not been enrolled and adopted into the DCC by December 2020 must be replaced by SMETS2 Meters. As such, this Issue is expected to be remedied in full at that point. Moreover, an alternative solution to the Issue would likely involve system changes across market participants, with the relevant Modification requiring progression through the BSC Change process. Given the system changes that would be required across market participants, it would be reasonable to expect that implementation would not be prior to June 2020. This would mean that a codified solution

would only be in place for approximately 5 months before being surplus to requirements by P302.

With this in mind, the Issue Group felt that the costs associated with progressing a system change outweighed the manual costs of dummy Meter exchange events as and when they arise.

## 4 Conclusions

The Issue Group unanimously concluded that the continued use of the dummy Meter exchange process is an effective, cost-reflective interim solution to this Issue before all SMETS1 Meters are adopted and enrolled into the DCC by December 2020.

Issue Group members noted that whilst performing dummy Meter exchanges it is not an ideal solution in terms of manual processes and the costs involved, Code and/or system changes would not be beneficial to industry. This is due to the relative proximity of an enduring solution, meaning interim Code/system changes would unlikely be cost efficient.

Further, the Issue Group considered that, given there is no detrimental impact to the integrity of Settlement from the use of the dummy Meter exchange process, the large volume of high-impact changes currently being progressed will delivering greater value for market participants.

However, the Issue Group did highlight that if the enrolment and adoption of SMETS1 Meters is delayed, there may be appetite to implement some elements of P302 in a separate change to address this Issue identified under Issue 79. Equally, if P302 does not remedy the Issue as expected it will have to be revisited.



### Issue Group membership and attendance

Name	Organisation	23 May 2019
Elliott Harper	ELEXON ( <i>Chair</i> )	✓
Craig Murray	ELEXON ( <i>Lead Analyst</i> )	✓
Jon Spence	ELEXON ( <i>Design Authority</i> )	✓
Andy Knowles	Utilita ( <i>Proposer</i> )	✓
Daisy Harris	Utilita	✓
Christopher Hill	Robin Hood Energy	✓
Nik Wills	Stark Energy	✓
Matt Hutt	British Gas	☎
Megan Coventry	SSE	✓
Luke Pearson	IMServ	✓
Nathan Hill	IMServ	✓
Kerry Wells	Utility Warehouse	☎
Shaheeni Vekaria	Utility Warehouse	☎
Jack Goosey	Utility Warehouse	☎

## Appendix 2: Glossary & References

### Acronyms

Acronyms used in this document are listed in the table below.

Acronyms	
Acronym	Definition
BSCP	Balancing and Settlement Procedure
CoS	Change of Supplier
DCC	Data Communications Company
MRA	Master Registration Agreement
NHH	Non-Half Hourly
NHHDC	Non-Half Hourly Data Collector
SMETS	Smart Meter Equipment Technical Specification
SMSO	Smart Meter System Operator
SSC	Standard Settlement Configuration
SSD	Supply Start Date
ToU	Time of Use

### DTC data flows and data items

DTC data flows and data items referenced in this document are listed in the table below.

DTC Data Flows and Data Items	
Number	Name
D0086	Notification of Change of Supplier Readings
D0149	Notification of Mapping Details

### External links

A summary of all hyperlinks used in this document are listed in the table below.

All external documents and URL links listed are correct as of the date of this document.

External Links		
Page(s)	Description	URL
3	Webpage for BSC Modification P302	<a href="https://www.elexon.co.uk/mod-proposal/p302/">https://www.elexon.co.uk/mod-proposal/p302/</a>
5	Webpage for BSCP504	<a href="https://www.elexon.co.uk/csd/bscp504-non-half-hourly-data-collection-for-sva-metering-systems-registered-in-smrs/">https://www.elexon.co.uk/csd/bscp504-non-half-hourly-data-collection-for-sva-metering-systems-registered-in-smrs/</a>

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