
Wholesale Retail Code Change Proposal – Ref CPW075

Modification proposal	Wholesale Retail Code Change Proposal – CPW075 – Settlement Estimation
Decision	The Authority has decided to reject this Change Proposal.
Publication date	12 January 2021
Implementation date	N/A

Background

As part of the drive to improve the quality of data in the Business Retail Market, the need for accurate and timely Meter Reads has been identified as a priority matter to be addressed. Within CMOS, estimated readings are produced where no meter reading exists for the past 16 months from the Final Settlement Report (RF) production date. There is currently a high proportion of estimated readings within the market which are being used on long unread meters to produce settlement consumption charges.

This Change Proposal was raised by United Utilities and seeks to improve the volume estimation routine undertaken by the settlement engine in CMOS, for the period after a meter's latest read (the 'Meter Post-Advance Period'). Currently, the estimation routine for metered volume in the Meter Post-Advance Period does not filter out reads depending on how they were taken. These reads could therefore have been taken visually or remotely, supplied by customers or estimated by Trading Parties or CMOS.

The issue

At present, estimated reads are included in the volume estimation routine. The Proposer believes that these reads are causing inaccurate forward consumption to be forecast by CMOS, which they argue is having a material impact on charging and reconciliation.

The Proposer states that when a meter has historical readings, CMOS will forward estimate based on these readings regardless of the meter reading method. If, however, a meter remains unread for such a time that estimated Central Systems Generated Reads ('G' reads) are produced, the same readings that have just been created also begin to influence the forward consumption estimation within settlement. This is because settlement calculations do not differentiate between an estimated reading and a visual reading, and means that estimated consumption starts to be generated based on estimated readings.

The Proposer states that implementation of CPW075 will enable more accurate calculation of estimated volume, with less potential for large variances within settlement reconciliation. As 'G reads' form a significant proportion of all estimated reads in CMOS, (96.2%, as highlighted by the CPW075 sub-group analysis), this change was raised to mitigate the effects that potentially inaccurate 'G reads' are having on the estimation routine.

The Change Proposal¹

Proposed solution

This Change Proposal seeks to amend Code Subsidiary Document (CSD) 0207: 'Charge Calculation, Allocation and Aggregation of the Wholesale Retail Code (WRC).

The proposed solution seeks to exclude the estimated reads from the estimation routine for the Meter Post-Advance period. If CPW075 was to be implemented, this would mean estimated reads of the following types would not be involved in the estimation process:

1. G reads;
2. Transfer reads ('T' reads);

¹ The proposal and accompanying documentation is available on the MOSL website at <https://www.mosl.co.uk/market-codes/change#scroll-track-a-change>

3. Reconnection reads ('Y' reads); and
4. Pre-loaded reads ('P' reads).

Alternative solution

Throughout the Panel's Final Recommendation Report, an 'alternative solution' is referenced (also referred to as a 'workaround'). For the purposes of clarity within this decision document, the 'alternative solution' was identified by a sub-group member and was the suggested formalisation of a workaround used by the industry – by at least one Wholesaler – where a read is inserted into a meter's reading history at least a year prior to the meter's latest read, i.e. the difference in days between the meter's latest read and the inserted read is more than 365 days.

As CMOS aims to use at least a year's worth of reads to calculate a forward estimate, it was suggested that an inserted read –labelled a 'Calculated Read' – could rebase forward estimation, rather than using estimated reads.

Whilst the alternative solution was included in the sub-group's initial analysis, it wasn't favoured by industry and the sub-group decided not to present it to Panel. It therefore wasn't part of the recommendation to Ofwat and does not require a decision within this document. It has been included and defined in this decision document for clarity as it was heavily referenced within the consultation and Final Recommendation Report.

Industry consultation and assessment

CPW075 sub-group analysis

As part of the assessment of CPW075, MOSL conducted several pieces of analysis into meters in the market and their readings, and presented this to the CPW075 sub-group. This analysis is summarised in the [Panel's Final Recommendation Report](#) in Section 4 and in Attachment 2: 'CPW075 sub-group Analysis.' The assessment undertaken on both solutions showed the following:-

- **Estimated Reads' Prevalence** – Estimated reads form over 22% of all reads in the market, and a significant proportion of these estimated reads (96.2%) are G reads.
- **Differences in Daily Consumption** – Transfer reads submitted after two existing G reads generally showed daily consumption values similar to previous levels – 86% of daily consumption differences were less than 1

m³ – but over the course of a long period, these differences could accrue to a substantial difference. Similarly, Cyclic reads ('C' reads) submitted after two existing G reads generally showed similar daily consumption values – 78% of daily consumption differences were less than 1 m³.

- **Effectiveness of Solutions** – The effects of the proposed solution and alternative solution were compared against the current CMOS estimation routine, using data provided by the sub-group. The following points were observed:
 - The current estimation routine in CMOS and the proposed solution in CPW075 tended to output similar results. In some cases, ignoring estimated reads produced estimated volume more in line with the next expected read at the meter. In others, the default CMOS estimation routine aligned better.
 - Generally, the differences in volumes estimated between the two routines were not significant.
 - Inserting a 'Calculated Read' into a meter's reading profile, which can 're-base' forward estimation and is the mechanism in the alternative solution, assisted greatly in forecasting volumes, for both estimation routines. However, the sub-group noted that the placement of the read into the meter's reading profile needed to be carefully considered, as CMOS did not use the Calculated Read if it was not at least a year prior to the latest read.
 - For cases involving T reads, the current estimation routine in CMOS and the proposed solution in CPW075 would likely use the same reads for estimation. This trend was detected in examples provided by sub-group members, where the dates of most visual reads submitted after the transfer read were within one year of it, i.e. the 'base' read was the read prior to the T read.
- **Materiality** the following points were observed:
 - 13,056 meter reads, out of a total of 10,403,477 reads assessed, showed negative advance due to a 'C' read existing after an estimated read which was lower than the previous estimated read.
 - In approximately 72% of these cases, CMOS would use these two reads to estimate forward at a zero rate, because the reads were more than a year apart.
 - Whilst the split of these meters across most Wholesalers generally aligned with their market share, there were examples of frequency lower than market share, as well as frequency significantly higher

than market share, which gave a high-level view of those Trading Parties which would benefit the most from the change.

Industry Consultation

An industry consultation was undertaken in relation to this Change Proposal. The consultation received 16 responses: 10 Wholesalers, 5 Retailers and the Consumer Council for Water (CCW). The full responses and a more detailed summary of these has been provided in the [Final Recommendation Report](#).

The majority of respondents (10 out of 16) favoured the Change Proposal over the workaround identified, with two respondents favouring the workaround and four respondents (3 Wholesalers and 1 Retailer) not agreeing with either solution. The reasons cited for supporting the proposal included the proposed solution was an automated approach, it would target all meters in the market, it would increase the accuracy of settlement estimation, it's cost-effective and its implementation does not cause significant impacts or incur high costs for most Trading Parties. Those who did not support the proposal stated that it did not tackle long unread reads or improve data accuracy to justify the cost of the solution, and additional analysis would be needed to understand market implications.

Key themes from the CPW075 industry consultation responses are listed below.

Solution does not address the cause of long unread meter reads or improve data accuracy of settlements

The four respondents who did not agree with either solution stated that neither solution attempted to treat the cause of the issue, which would be for all long unread meters in the market to be read, which would improve the accuracy of reads and reduce the reliance on estimated reads. A Wholesaler stated that 'G reads' are generated through long unread meters, which is a market-wide issue that all Trading Parties are trying to tackle. They stated that by implementing the solution set out in this Change Proposal, it would shift focus away from the problem and could allow complacency. Another Wholesaler made a similar argument, stating the preferred approach would be not to implement either proposal and instead work towards a position where all long unread meters are read and the readings entered into CMOS, which they felt would be the best way to provide accurate meter reads and therefore estimates.

A Retailer who did not agree with either solution also referenced the sub-group analysis, which found the proposed solution was not effective in improving the accuracy of settlements. The Retailer stated that when reviewing the analysis

provided, neither solution delivered sufficient increases to data accuracy to justify implementation. A Wholesaler also stated that the solutions were proposed to help improve settlement forward estimation and potentially reduce the need for Post-RF Re-Runs, but noted that there were no guarantees of accuracy when estimating consumption under either methodology.

Implementation and operational costs

Three Wholesalers stated that the implementation of either solution would incur them no costs or minimal costs. Generally, Trading Parties stated that there would be minimal implementation and operational costs associated with the implementation of the proposed solution, however there were a few exceptions. A Wholesaler stated that it would need to divert some resources to amend its 'demand' model, which is based on the settlement engine within CMOS. Another Wholesaler stated that implementation of the proposed solution would have no potential improvement to its revenue position, but it would still bear the allocation of the MOSL implementation cost. A further Wholesaler stated that it would need to undertake significant integration, process adjustment and testing.

In relation to the alternative solution, respondents shared a wide range of implementation and operational costs associated with the implementation of this solution. One Wholesaler stated that the alternative solution would require system changes and priced these between £50,000 and £100,000. This overall cost was echoed by another Wholesaler, where costs of manual investigation and correction have been included. One Wholesaler and two Retailers did not provide quantitative figures but stated that there would be costs associated with system changes and the establishment of new processes. Another Retailer stated at least one further employee would be needed to manage the additional workload, and highlighted that it would also need to deliver additional training.

Benefits vs costs

10 respondents (six Wholesalers and four Retailers) thought that the benefits did outweigh the costs, with the majority of these stating the level of improvement in settlement accuracy that the proposed solution would deliver over the longer term makes it a worthwhile investment. One Wholesaler stated that the proposed solution will impact all Trading Parties and will apply in perpetuity, and therefore the cost of implementation should be considered negligible. Another Wholesaler stated that the initial costs seem high, but the costs of the manual workaround would be higher for Trading Parties in the long term.

Six respondents (four Wholesalers, one Retailer and CC Water) did not believe that the benefits of the proposed solution outweighed the costs of the change. The reasons for this included that the proposal does not address the root cause of the issue, it requires a large change to CMOS and it is too expensive for the benefits it delivers. A Wholesaler stated that the changes required to CMOS would theoretically not be needed as a permanent solution once the long unread meters have been resolved. A Retailer stated that when reviewing the sub-group analysis, the current proposal did not appear to successfully increase accuracy of estimation to a degree that would justify the cost of implementation. The Retailer also stated that when combined with the relatively low quantity of affected sites in the wider market, they believed that this limited increase to accuracy would prevent the proposal from being a cost effective solution.

Impact on end customers

Eight respondents stated that they thought the proposed solution would have a positive impact on the end customer, with the majority of these respondents stating that estimating volumes using non-estimated reads would lead to a higher degree of accuracy in primary charges, which should result in fairer bills to customers and less volatility in charging. One Retailer stated that avoiding zero estimation will avoid customer bill 'shocks.' One Wholesaler stated that enabling Trading Parties to invoice accurate settlement charges will benefit the market, which exists to benefit the customer.

Six respondents stated that neither the proposed solution nor the alternative solution would benefit the end customer. One Retailer stated that both solutions focused on settlement charges and not customer bills, but noted that an end benefit to customers could be derived if Retailers pass on savings. Another Retailer stated the solutions do not deliver sufficient value to the customer base to justify its cost of implementation and operation, and stated the implementation of either approach may require Trading Parties to divert limited resources away from other projects or services that would deliver a higher level of positive impact to the end consumer. One Wholesaler stated that there was no guarantee that either solution could produce more accurate results and instead suggested better customer engagement and acquisition of visual reads. Another Wholesaler stated that the end customer could benefit by gaining a more accurate bill but noted that over time, additional costs incurred in providing either solution may be included in Wholesale/Retail charges.

CCW stated they wanted to see clear evidence on the benefits that will be seen by customers through both solutions. This was raised consistently by CCW

throughout all consultation questions, as they noted that the main focus of the change was improvement to settlement calculations between Retailers and Wholesalers, and whilst this could mean more accurate customer bills, they wanted this to be made clear in the Panel's Final Recommendation Report.

Objectives and principles of WRC

10 respondents stated the proposed solution would better facilitate the objectives and principles, including efficiency, proportionality, seamless markets and simplicity, cost-effectiveness and security. One Retailer stated that an Objective of the WRC is to ensure accurate billing and the solutions in the proposal would help to achieve this. One Wholesaler stated that the settlements process is key within the WRC and a Change Proposal that seeks to improve the accuracy of calculations can be deemed to be proportionate.

Six respondents did not agree that the proposed solution better facilitates the objectives and principles. One Wholesaler stated that they do not feel that the change is proportionate to the issue, with another Wholesaler stating that both solutions do not currently respect the principles of simplicity and proportionality. One Retailer echoed this view, stating they do not believe that the current proposals facilitate the principles of proportionality and cost effectiveness. CCW stated that due to lack of clear customer benefits in the consultation documents they could not fully answer this question as the customer representative.

Settlement assurance

15 respondents agreed that some level of assurance work on settlement calculations should take place, should the proposed solution be approved and implemented. One Wholesaler stated that if this solution was implemented there would need to be assurance checks to ensure settlement does not generate inaccurate reports, which would impact invoicing and credit support values. One Retailer stated that whilst they had reservations about the proposed solution on the basis of cost, if implemented it would be critical that the solution does drive increased data accuracy in the market. Another Retailer stated it was vital to ensure that the proposed solution worked correctly by extensive testing, which would give both Retailers and Wholesalers confidence that the new calculations would be correct.

The sub-group's view on the consultation responses

Following the consultation, the CPW075 sub-group discussed the responses received. The sub-group consisted of three Wholesalers, two Retailers, CCW and MOSL representatives.

Members held differing views on whether respondents to the consultation had fully understood the potential benefits and implications of implementing the proposed solution. The sub-group acknowledged that the alternative solution would generally require a higher level of manual intervention and system changes from Trading Parties.

Members did not consider the implementation of CPW075 to detract from other ongoing work in the market focused on reducing the number of long unread meters. The sub-group recognised the potential risks associated with an incorrect implementation of CPW075's proposed solution and agreed that a robust delivery strategy should be developed.

MOSL's views

Based on the analysis undertaken, MOSL preferred the workaround to the proposed solution. A reason for this was the assessment and analysis undertaken on both solutions did not show significant differences when estimating volumes. MOSL stated that the analysis undertaken was rigorous and included both an automated approach and a manual 'by hand' calculation, and showed the alternative solution greatly assisted in rebasing forward estimation. MOSL noted that it cannot be stated categorically that the proposed solution in CPW075 will increase the accuracy of volumes estimated for all meters in the market.

Another reason for MOSL preferring the workaround was that the proposed solution seeks to amend an aspect of a core CMOS function, the settlement engine, which could pose risks in terms of issues that may cause the inaccurate calculation of settlement charges, e.g. unintended consequences on other algorithms, processes etc. This, in turn, would pose problems for Trading Parties in the primary charges' reconciliation process. MOSL stated they are not averse to making necessary amendments to the settlement engine but prefers to deliver changes through other effective mechanisms, if possible. The proposed solution would also necessitate a robust testing strategy to ensure calculations are completed correctly and Trading Parties can be left confident in the accuracy of charges that appear in settlement reports.

MOSL also stated that one of the key trends observed in the analysis of market data was that there are a small number of cases where a 'fix' could be implemented immediately to improve forward estimation. MOSL therefore preferred an approach which identifies and targets the high priority cases first, which are relatively few in number, rather than the proposed solution.

Panel recommendation

The Panel considered this Change Proposal at its meeting on 25 August 2020. One panel member voted in favour, six against and five abstained and therefore the recommendation to the Authority was to reject this change.

The Panel raised a concern with the cost-effectiveness of the change and questioned the monetary benefits that would be gained following implementation of its solution. The Panel was not convinced that customers would be positively impacted by CPW075's implementation, as a direct link between Wholesale charges and Retail billing does not always exist. Members also noted that the change would amend a core integral part of CMOS, and did not consider the potential benefits gained – which may or may not be distributed across the market – to outweigh the resource effort needed for a robust delivery of the change.

The five Panel members who abstained did so on the basis that they felt there was insufficient evidence regarding the benefits of the change to enable them to form a view. The six Panel members who did not support the change, did so on the basis that it is not cost-effective, will not necessarily have a positive impact on customers, should not remain an issue as the number of long unread meters in the market reduce and its solution poses material risks to the calculation of settlement charges that alternative remedial actions – e.g. submitting meter reads – do not have.

Our decision

We have considered the issues raised by the Change Proposal and the supporting documentation provided in the Panel's Final Recommendation Report, and have decided to reject the proposal.

Reasons for our decision

We acknowledge the concerns raised by the Proposer and respondents to the consultation, and recognise the need to improve the accuracy of settlement information in CMOS. After reflecting on the evidence received and the consultation responses, we have concluded that the implementation of this

Change Proposal will not better facilitate the principles and objectives of the WRC for the reasons set out below.

We are not clear that the benefits of the Change Proposal outweigh the associated costs to MOSL and Trading Parties. From the evidence presented in the Panel's Final Report, it is not clear that the proposed solution is effective in addressing the issue of improving the volume estimation routine undertaken by the settlement engine in CMOS. This is evident in the sub-group analysis that was presented as part of the assessment of the Change Proposal, where it was found that the current estimation routine in CMOS and the proposed solution in CPW075 produced similar results, and there was not a significant difference in volumes estimated between the two routines. This analysis does not give sufficient confidence that the solution will be effective in tackling the issues identified in this Change Proposal. We therefore are not convinced that the proposed solution represents a cost effective solution, or that the implementation and operational costs are proportionate given the solution has not been proved to be effective.

We also think that the costs outlined in the proposal may not represent the full extent of costs. This is because the costs do not factor in additional assurance or testing that may be required depending on the impact the change has on the settlement engine in CMOS. We agree with respondents that assurance checks would be necessary to make sure the solution does not adversely impact the accuracy of settlement. As noted by MOSL, a change to the settlement engine, a core function of CMOS, could carry additional risks including unintentional impacts on other parts of the system. The scale of these potential risks would not be known until testing is carried out, and therefore could result in increased costs beyond what is set out in the proposal.

In addition, it is our view that the solution does not address the root cause of the issue that CPW075 is seeking to solve - long unread meter reads. This was a concern shared by consultation respondents. The underlying principle of this Change Proposal, which seeks to remove estimated reads, would not be required if meters were read accurately and in a timely manner. We therefore encourage the continued efforts of Trading Parties and MOSL to reduce levels of long unread meters. We agree with MOSL that whilst changes to CMOS can at times be appropriate, we would prefer alternative mechanisms to be explored that could be just as, if not more, effective, rather than changing fundamental parts of CMOS.

Furthermore, the impact of the proposed change on end customers has not been fully explored. This was also a concern raised by CCW, who requested

further evidence be provided to determine the link between the implementation of this change and customer benefits, such as more accurate customer billing.

We acknowledge the work that has already gone into developing the proposed solution, including the work of sub-group members to carefully consider the proposal and alternative options. We share the view of the Panel that this work has been important, and we particularly support the sub-group's robust approach when analysing the market data, assessing the proposed solutions and considering and responding to questions raised by the Panel. We welcome the continued efforts of MOSL and Trading Parties to tackle the issue of long unread meters as part of the Market Performance Operating Plan (MPOP).

Decision notice

In accordance with paragraph 6.3.7 of the Market Arrangements Code, the Authority rejects this Change Proposal.

Georgina Mills
Director, Business Retail Market