ELEXON

TECHNICAL ASSURANCE REPORT RISK 11

Unmetered Supplies Volumes Calculated Incorrectly

Public

Document owner
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Document number
PAB247/04A

Date
26 August 2021

Contents

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Executive summary

Elexon undertook a TAPAP check on 14 Unmetered Supplies Operator (UMSO) Market Participant Identifier (MPIDs) that are currently operating as UMSOs in both the Non Half Hourly (NHH) and Half Hourly (HH) market. The selection of candidates provided us with total assurance for approximately 91.48% of the NHH UMS market.

Because Elexon's existing data and reporting on Unmetered Supplies (UMS) is predominantly based on the NHH market, the check candidates were selected mainly based on this data. The checks did however still look to cover UMSO processes in relation to the HH market. The TAPAP was performed with three main objectives:

- To investigate and develop an understanding of the internal processes performed by Parties for Unmetered Supplies;
- To understand more about error in the market so that Elexon can reassess the net significance of Risk 11; and
- To be in a position to assess the reporting that currently exists and look at what additional reporting or techniques may be needed for future risk assessment and mitigation.

The TAPAP check performed an investigation into the following processes:

- The creation and maintenance of the UMSO inventories;
- Investigating Meter System Identifier (MSID) error identified in the Material Error Monitoring (MEM); and
- The transfer of any MSID from NHH to HH.

In addition, we requested feedback from the checked Parties regarding current arrangements and how they can be improved.

Successes	Concerns
Across all UMSOs was a strong knowledge of UMS processes with a good understanding of the challenges associated with inventory updates.	Despite there being a lot of knowledge, some gaps were identified around the MEM process and the use of local miscellaneous charge codes, both of which carry a risk of inaccurate data entering Settlement.
Where UMSOs actively took a role in industry committees and other Elexon engagement, this enabled circulation of upcoming changes to internal stakeholders.	The use of a paper based processes still existed for maintaining inventories.
There was evidence of robust data management systems being used for administration of UMSO activities.	A number of activities such as transferring data from one system to another required a manual process.
Some of the UMSOs held clearly defined and documented processes that were also subject to periodic review, with internal audit teams carrying out checks to ensure obligations under BSCP520[1] are understood and retained.	Some UMSOs did not possess formal process documentation but only used instead personally written notes.
There were instances where the UMSO took a proactive approach to D0310[2] resolution, by engaging with named contacts at the sender and working to resolve issues before re-sending a D0052[3]. Furthermore, follow-up checks were performed to confirm D0310 resolution.	Where no formal process or prioritisation approach existed to ensure accuracy of the UMS portfolio, inventories had not been updated for very long periods.
UMSOs had taken on customer engagement projects for targeted updates of inventorys and with customer education during the on boarding process.	UMS operations are heavily reliant on a limited number of experienced staff and in some cases not supported by documented processes.
All UMSOs were seen to have been proactive in their approach to the HH migration of 100kW NHH portfolios.	There are significant challenges associated with receiving inventory updates, due to the reliance on customer engagement.
UMSOs had proactively contacted customers in instances where Suppliers failed to engage with the process.	Many issues required input from the Data Collector (DC), often at the stage of DC validation. The Dc interaction had not been present in order to resolve the issues.
One approach demonstrated attention to detail and proactiveness in engaging with Suppliers and Supplier Agents, leading to many issues being resolved in a timely manner.	The same approach that was used repeatedly to obtain resolution to EAC issues had failed to resolve the error.
	Engagement with all stakeholders (customers, Suppliers and DCs) was problematic.

[1] Unmetered Supplies Registered in SMRS
[2] Notification of Failure to load or receive Metering System Settlement Details
[3] Affirmation of Metering System Settlement Details

Audit findings

Governance and Process Management

All of the UMSOs that we audited had dedicated teams for UMS work with a clear delegation of responsibilities. Where Parties held more than one MPID, there was a variety of arrangements within its structure. Most held combined teams for multiple MPIDs, but one Party has teams split by MPIDs across different geographical sites. However, there was no obvious benefit for one or the other arrangement. It was illustrated that all were still able to support the other areas by working flexibly when needed and by keeping good communication between each location/team. In the one case where the teams were split across different location, some of the practices were slightly different.

One observation across all of the checked entities was that the teams were very small. This therefore poses a risk that should one member of staff be absent for an extended period, or more than one was absent at the same time, vital activities could be missed. However, some had the facility to draw on additional staff from other areas of the business in the event of an increased workload so could also be used for absences but only short term.

Process and system updates where generally made on an ad-hoc basis (with one Party performing standard quarterly reviews and updates), triggered by an industry change and/or where the BSC Audit has highlighted issues and areas for improvement. There was no set cycle for a review of internal processes and controls for most. It was however noted that UMS teams did have the knowledge and ability required to effectively review its own UMS systems in line with any industry changes.

Two of the checked candidates stated that they do perform regular internal audits of the UMS team, against internal process documentation (where they existed), its obligations under BSCP520 and the Unmetered Supplies Operational Information Document. One UMSO did use the internal audit function, but the last one was done sometime in 2017 (usually completed on a 5 year cycle). At the time, this did highlight some areas for improvement, which was to ensure there was a level of consistency across the business for its processes. However, it was evident through the TAPAP that there are still a number of inconsistencies between the different areas.

It was also noted that having a presence on the Unmetered Supplies User Group (UMSUG) was beneficial for having access to regular updates on upcoming industry change that can be cascaded to the wider business. It was discussed at a number of the checks that where this attendance is absent, it is more difficult to keep track of relevant changes. It was also noted that it would be beneficial to have some Supplier attendance at UMSUG meetings.

UMS Systems

Six of the checked MPIDs used the same data management system for UMS activities, two were in the process of migrating to this same system and four used an alternative with no plans to migrate.

The more widely used system was said to hold customer inventories, calculate Estimated Annual Consumption (EACs) and has the functionality to create, store and send data flows through the Data Transfer Network (DTN). The system also allows for the processing and analysis of large data sets and for bespoke reporting, which is used to support improvements and customer engagement. For example, the system could identify if an updated inventory had not been received within a specified timeframe.

Some UMSOs have taken an active role in driving system upgrades and also provide pre-release acceptance testing prior to implementation. This indicated in the audit that there was a level of confidence by the respective UMSOs of its system, that it was working as intended and that they viewed the EAC calculations it produces as robust and accurate.

A number of key improvements to UMS processes and standing data accuracy were created in this way. These included:

- Carrying out a review of inventory type held by customers, in order to ensure they are assigned to the correct category;
- Consolidating UMSO process documents into a single process and training guide linked to the system. This guide was also subject to periodic review;
- Improved error monitoring for flagging issues to senior team members for further investigation and resolution. This had recently been used to identify and resolve an issue where batches of MSID details had not been sent due to missing or incorrect information on upstream cable identities;
- Using the systems reporting to monitor workloads but also pick up on any errors or omissions in operating the process. This had already led to improved outcomes: for example, a supply that had been included as

one of the MSID samples due to having been de-energised for some time without being disconnected had already been picked up and marked for disconnection by the time of the TAPAP check.

The remaining Parties use systems that either operate mostly with manual processes (with few automated processes), or use separate systems for two parts of the whole process (which would require a manual interaction for transferring data between the two). It was advised during the audit that there are controls around these processes, but these are mostly manual processes for checking that the outputs are what is expected, with some software support for areas such as Market Domain Data (MDD) updates.

Knowledge and Training

Overall, Parties demonstrated a good knowledge of the work required to maintain a UMS portfolio and meet all core BSC obligations. There was a trend that Team Leaders took the overall responsibility for training and making sure work meets the requirements of BSCP520, as such no non-compliances were found during the check. However, Elexon identified specific knowledge gaps in two key areas for one Party:

- the MEM process; and
- the use of local miscellaneous charge codes.

It was noted from the audit that a number of different approaches to training is taken;

- Comprehensive training plans with a timeline of how long the training will take;
- On the job and 1-2-1 training;
- Self-written notes with active checklists; and
- Monitoring of knowledge and training ahead of task progression.

Across all Parties, further training is undertaken on an ad-hoc basis, following a system or industry change, and/or identification of a training need through performance management.

The core UMS teams were trained in all areas of the UMSO work. Should one or more staff member be absent from work, activities can be prioritised and actioned by another member of staff. Staff were also given access to each other's mailboxes and phones can be redirected across the different sites.

Across all of the checked Parties there was contingency for when there was a short term absence or an increase in work load. Despite the core UMS teams being very small there are fully trained staff that could be drawn upon from other areas of the business who were upskilled through activities such as work shadowing, alongside formal training.

Process documentation

There was a range of findings in respects of recording, maintaining and retaining knowledge for UMS processes. One of the checked entities recorded all of the relevant processes in a single document, providing step-by-step instructions and detailing its internal controls. In addition, it periodically checked that the document content was correct and up-to-date. Its internal audit team would also carry out checks to make sure that staff understand and are making correct use of the material.

Another Party demonstrated strong document management of its key processes, particularly when concerned with updates of inventories and investigating mismatches or errors. There are detailed working instructions for all manual processes, which are maintained and updated in a structured and regular fashion.

One UMSO maintained obligations within individual work instructions for the relevant operational area rather than with specific UMS process documentation.

One Party recorded process level information, such as EAC calculation methodology which was updated quarterly, or on an ad-hoc basis following an industry change.

Another UMSO again reviewed its documentation on a quarterly cycle and then on an ad hoc basis, again where there is an industry and/or internal change. Furthermore, all document changes were cross-checked by the regulatory teams.

Another also detailed key processes, such as responses to customer enquiries which are monitored through Key Performance Indicators (KPIs).

However, not all Parties held a formal process documentation creation and review processes. One Party's training documentation is limited to processes specifically for the UMS system rather than complete UMS procedures for the

end to end process. There was also no process for periodic review of documentation, nor is the document version controlled.

Another Party did not possess any formalised, version controlled, regularly updated working instruction documents. In this instance, the last known document that was created as a working instruction document was created in 2014 but it had not been continually reviewed and updated. This was said to be because nothing had changed with its processes so there was no need to have this document updated. However, training notes from previous role holders were passed on to assist with the training and were updated as per the business need.

Creation and maintenance of UMSO inventories

UMSOs face significant challenges in ensuring inventories are accurate and regularly updated, due to the dependency on customer proactivity. This is mostly as a result of outdated customer contacts from multiple changes of personnel, old sites where data has been lost over time by the customer (many of the existing connection agreements are with customers that are historical) and a general lack of customer engagement (UMS is not their priority). As a result, some inventories within the audit sample had not been updated for 10-15 years.

The BSC states that it is the responsibility of the UMSO to establish appropriate arrangements with the customer for the procuring and maintenance of this information. For some legacy UMSOs, a large portion of its customer portfolio is from known customers, ones that add to their existing inventories. Connection agreements will be mostly the same, but with multiple signatories for different areas. For these UMSOs there are only a small number of new customers. Also when a new customer is signed up and a connection agreement is signed, it is deemed that the customer should know their obligations. With a couple of exceptions, none of the UMSOs provided formal training/information or advice to customers to help them understand and highlight their obligations.

One Party updates inventories following twice-weekly checks of an internal report which is filtered to show where relevant new work has been completed. Similarly, disconnection of equipment will trigger the process for removing the item. Inventories are then re-loaded into the UMS system to issue an updated certificate, which automatically triggers a revised D0052 'Affirmation of Metering System Settlement Details' dataflow. However, Elexon noted for this Party there were inventories in the MPID sample that had not undergone an update for nine years. The UMS system does however allow for reporting of inventories that have not been updated for an extended period, which could be used for more pro-active inventory management, but in this case it was not.

One Party demonstrated a robust approach to inventory management and maintained a strategy for obtaining updates. This includes:

- All customers are made aware of their obligations to provide inventory updates following on boarding;
- HH customers are expected to provide an inventory update, or confirm there has been no change, on a monthly basis;
- NHH customers are expected to provide an inventory update, or confirm there has been no change, on an annual basis;
- Customer notifications are issued via the UMS system to make customers aware of upcoming or missed deadlines for inventory submission;
- Monitoring reports are produced through the UMS system, ensuring prioritisation of inventories requiring updates, based on age and size; and
- Clear escalation process in obtaining inventory updates, including emails, telephone calls and letters.

This Party noted that it often encounters issues when trying to obtain up-to-date customer contact details from Suppliers, where its initial contact attempts have failed. Suppliers are often hesitant to provide customer details, due to perceived General Data Protection Regulation (GDPR) concerns.

Two further Parties had also identified customer education during the on boarding process as being a critical proactive control. This included early customer engagement through sending a welcome pack and support offered to make customers aware of their responsibilities.

One Party uses regular monthly reporting to identify missing inventories, and communicates via email on a regular basis with customers to ensure inventory accuracy. The MSID sample demonstrated where inventories were old or outdated, the UMSO held audit trails of regular attempts to communicate with the relevant customer despite not having a successful update.

One Party had identified customer engagement as a critical proactive control to mitigate the risk of outdated inventories. Prior to the COVID-19 pandemic lockdowns, the UMS team was carrying out stakeholder engagement

sessions, including attending external customer meetings. It had incorporated customer feedback in designing effective communications, producing a standardised customer e-mail highlighting key information. It had also made information available to customers online, including walkthrough videos.

Another Party also takes a bespoke approach to inventory management and had historically taken on a customer engagement project, but the project was met with a limited success (24% of letters resulted in a positive outcome), with the prevailing reason being outdated customer contact details. It advised that a new customer engagement project was proposed for implementation in 2020, but this was delayed because of the changing of priorities in response to the COVID-19 pandemic. This customer engagement project is anticipated to meet with a higher success rate, as it will be supported by improvement analytic capabilities. Its UMS system has the functionality to automatically request inventory updates at periodic intervals as well as supporting these types of analytics. It does however require e-mail addresses for this function to work and this was evidentially a big challenge due to the lack of customer engagement.

One UMSO runs monthly reports that checks for unregistered and energisation matches covering a period of 10 years. Daily reports are also run elsewhere within the business to check for new connections and reports are sent to the UMS team. If connection details do not look correct, the UMS team will then check with the relevant internal department. The UMS team will also check with the customer when adding to or creating new inventories that the details it has is correct. However, if there is no response the site will be set up on the details from the initial quotation information, no proactive follow up is made.

One UMSO did not have a formal process to update every inventory, however attempts are made in some instances and usually with no response. A monthly email is sent to all HH customers which serves as a reminder that the customer has yet to provide an updated/confirmed submission. This is targeted as;

- Large EAC NHH customers who will typically have regular changes to their inventory are chased quarterly, six monthly or annually depending on the type of inventory and frequency of changes to the customer inventory and EAC;
- Christmas lighting is checked every year to a set schedule with an email requesting an update;
- If customers contacts the UMSO about their energy bills, a reminder is provided to check and update the inventory;
- All others are not chased but will be amended on the back of any new/additional work that has been done or if the customer has advised proactively of new information; and
- Any legacy sites from 14 years ago are rarely checked and updated.

No further follow up is made to secure the information. The UMSO advised that materiality isn't high on an individual basis so even if the connection does not appear to be compliant, this is not prioritised and chased. However, when inventory records are successfully changed, this is usually following a customer update or where there is a report of additional connections or work taking place. Any anomalies or missing locations are queried and reported back to the customer but a physical check to see what is actually on site is not performed due to its impracticality. Google searches and virtual forms of checking are used but the accuracy of the information is completely reliant on the customer.

When there is a new customer signed up, the process involves a collaboration with internal network services teams who generate the MSID, UMSO informs the customer, and then the relevant details can be loaded into the UMS system. This results in a communication to the customer who then chooses the Supplier to register the MSID. This is checked for validity when the D0052 and the inventory is sent to the Supplier to confirm what is being installed. There are also controls in place to prevent connections being processed before the customer has signed up with the Supplier.

The UMSO advised that customers do not usually reply to update requests. However, if there is no update after two years it will perform targeted investigations to confirm the details. The UMSO advised that this is time consuming and is not always successful. If no response is received, an assumption is that the record is correct and no further follow up is made to secure the information.

Some UMS teams had carried out some onsite audits to check the physical asset matched the inventory, along with activities to review site plans and making use of Google street view and maps. However, resourcing levels and cost has meant that auditing of inventories in this way has remained primarily desk-based.

Many of the UMSOs within the check echoed the view that in many cases the effort to complete a successful update would outweigh the benefit obtained for the work involved. Too much manpower is needed to do a full investigation of the complete portfolio and UMS teams are very small so there is not the resource to do this.

One challenge that UMSOs face is where customer inventory submissions are not submitted in the correct format, or not containing the required information. This is particularly prevalent in customers that have has sites registered for many years, or longer standing sites where information may have been lost over time.

For one Party, at the time of the check, inventory management was a manual process, including verifying data against the Operational Information Document (OID) and the Elexon charge code spreadsheets. This was however in the process of being replaced by a data management tool.

One UMSO advised that for its portfolio most records are kept as paper in a filing system. If any of the records are required then a digital scan can be made upon request and send by email. This holds a high risk that they are lost or damaged and would be time consuming to administer.

D0310 'Notification of Failure to load or receive Metering System Settlement Details' management and investigating MPID error identified in the MEM

A number of UMSOs stated that it believed to hold the correct EAC value on the D0052 (the "master record"). In some cases the UMS system is updated daily with Metering Point Registration System (MPRS), as such there is a high degree of confidence that this was the case, so it would resubmit the D0052 without first contacting the Data Collector (DC). However, this can result in the DC repeatedly rejecting D0052s, leading to long outstanding erroneous EACs, as was evidenced within the audit sample. This suggests further action is required in order to resolve the issue. As such, direct contact with the appropriate Supplier and Supplier Agent may assist in identifying the issue that has resulted in the rejection and reduce known Settlement errors.

Elexon acknowledges that there could be process failures, or standing data errors, in instances where the DC is repeatedly rejecting D0052s. However, as the UMSO is deemed to hold the correct D0052 in all instances, further engagement with the DC to ascertain exactly why D0052s are repeatedly rejected may reduce the number of long outstanding erroneous EACs.

For one Party, a dedicated team is responsible for the management of D0310 data flows. Following receipt of a D0310, the team will contact the DC to determine why the D0052 was rejected. Following identification and resolution of any issues, the D0052 is resubmitted. The dedicated team then follows up the resubmitted D0052 by contacting the DC to confirm that it has been accepted. This Party demonstrated a good understanding of the data flows involved, and how to check individual items within the software used for this process. However, we observed a number of knowledge gaps around the MEM process, which resulted in this Party being unaware of instances where the DC had failed to submit a D0310 following a rejection of a D0052.

One Party demonstrated best practice when concerned with MEM and D0310 management. In all observed instances within the sample, it had evidenced proactive follow up actions in resolving errors identified on the MEM and receipt of a D0310. Following receipt of a D0310, the UMSO will reissue the 'master record' D0052 and notify the Supplier of the discrepancy. However, it noted that resolution progress often encounters issues with Supplier engagement in supporting communications between the UMSO and DC or Data Aggregator (DA). It advised that resolution of discrepancies could be better facilitated if a contact list of Supplier, DCs and DAs was made available along with a tightening of associated timescales.

One UMSO advised that it has had some cases when sites have not yet been set up in the DC system when a D0052 was issued, so a resulting D0310 rejection had been received. It advised it suspected these instances are where an amended D0052 was mostly likely sent before the Supplier has updated the DC. The UMSO noted it did not know how quickly Suppliers update Meter Point Administration Service (MPAS), therefore it may be that this delay is causing issues. However, if a D0310 is received, the sending Party is contacted to clarify the rejection reason. The UMSO system is also set up to be able to trigger an email to the DC to find out why it has rejected the EAC. It will also perform a cross reference with the Elexon MEM report but if it does not receive a reply from the DC stating it is not appointed, a follow up is not made to check this status.

This UMSO takes a similar approach to the MEM as with D0310s. When there is an error the DC is contacted to clarify the reason, clear the error and for the EAC to be processed. This is sent as an aggregated list rather than contact being made on an individual basis. Once this contact is made, no further follow up is taken until the next MEM report is issued. This is because historically when this has been done, the DC had not responded or provided any engagement.

One UMSO did feel that the MEM was a valuable document. The report was simple and enables them to do what is needed to update the EACs. It is, however, presumed that the correct value will be loaded by the recipient once an

amended D0052 has been sent so no follow up is taken, so if no response is received to reject the EAC it is presumed correct. It will however check that the MPID is not on the following MEM report and perform a comparison to the report that identified the error. The Party considered the errors mostly resulting from Supplier activities or lack of Supplier action, for example where the Supplier is required to update MPAS.

Also when there is a change of Supplier, the UMSO provides the certificate to the Supplier who are expected to correctly use the information.

It was observed during more than one check that D0310s were not received following a D0052 regardless of whether the error is identified in the MEM. One Party advised that it did not get many D310 data flows at all and even DC's with a large UMS portfolio do not send a D0310 despite having a large number of EAC errors. This further frustrates the resolution process, especially when taken in conjunction with poor response rates from Suppliers and Supplier Agents.

One Party that advised it does not receive many D0310 flows. It stated that the number received in the last 12 months was in single digits. However, the Party further clarified that when it does receive a D0310, it is usually when the EAC value that was sent has had more than one MSID, or incorrect information - for example if the Supplier had mismatched the data.

The transfer of 100kW MPIDs from NHH to HH

Overall, it was noted that the migration of 100kW portfolios to HH Settlement is on track. This was evidenced during the TAPAP through a selection of MPIDs within the audit sample that had successfully been identified as qualifying for HH migration.

UMSOs had undertaken various analysis projects to identify MPIDs that were close to the 100kW threshold. Furthermore, one UMSO evidenced a proactive approach in contacting customers directly where Suppliers had failed to engage with the process. It identified a number of Suppliers with poor engagement, and recognised that should lack of engagement persist, it would represent a significant risk to the successful implementation of Market Wide Half Hourly Settlement (MHHS).

Another UMSO has actively engaged with the Meter Administrators (MA) to ensure that MPIDs can be appropriately set up, and has reached out to Suppliers to the same effect.

One UMSO performed an assessment of sites at inventory level because some of the aggregated MSIDs are not large enough to qualify. Initial contact was made with the appointed Suppliers along with copies of the EAC Certificates and Elexon documents. This was to enable the Supplier to make the initial customer contact as per the published documents. However, it has experiences issues with obtaining a reply from Suppliers and little or slow progress.

One UMSO impact assessed the UMS system ahead of the 100kW migration and identified a number of positive functions to help with the project and also improvements that needed to be made to facilitate the migration. It also noted that the 100kW migration also prompted investigations into a number of portfolios close to the threshold, which had not received a recent inventory update. Furthermore, investigations also included sites with long unchanged EACs. The UMSO observed that EACs from targeted portfolios typically remained unchanged following its review.

It also highlighted that registration issues can arise during the transfer from NHH to HH, when the previous NHH MPID is closed and a HH MPID created. This is typically due to poor document retention by the customer from older inventories.

UMSO feedback

We requested UMSO feedback and engagement regarding current arrangements and how they can be improved.

A number of UMSOs advised that they didn't have much interaction with Elexon's Operational Support Managers (OSMs), or other contacts at Elexon, to be able to obtain information on industry change or anything else relevant to UMS processes.

Some UMSOs do have a team member on the UMSUG so have visibility of some of the changes and subjects that impact them. One UMSO suggested a UMS specific mailing list, however Elexon highlighted the weekly Newscast update that is provided to the industry, along with other updates already sent out to industry contacts. However, Elexon would investigate if there is anything more that can be done to address this. It was also noted that it would be beneficial to have some Supplier attendance in the UMSUG group.

Risk 11 Technical Assurance of Performance Assurance Parties (TAPAP) Report

One UMSO stated that that the timescales for processing the MEM report is problematic due to the date of the snapshot, the time between reports and the actions that would need to be taken to work on each case. Each snapshot is of a certain date, so if the error isn't resolved via its communication with the DC by the next MEM report, they do sometimes drop off the report anyway. This is despite not receiving confirmation or a response from the DC that it had been rectified.

It was noted by another UMSO that the MEM process could be improved through tightening of the associated timescales on rectification of actions. This is because in the majority of instances, the EAC values are correct yet there are errors; for example in the Effective From Dates (EFD). Furthermore, the addition of a robust contact list for Suppliers and Supplier Agents would also facilitate this process.

It was also noted by an UMSO that the change of DC process does not consider the UMSO role. They believed an UMSO would not know if the wrong DC had received the D0052 because it does not receive many D310s to reject the EAC, and there are not any other processes to detect this.

Follow up actions and recommendations

A number of potential outcomes of the audit were detailed within the scope paper for this check but the key point of performing this TAPAP was to learn how Parties run UMS processes. These outcomes were:

- Determine whether Error Failure Resolution (EFR) is required for any of the selected Parties;
- Determine whether further analysis and TAPAP audits should take place;
- Reassess the net significance of Risk 11;
- Review and enhance the current MEM reporting for UMS in line with any findings from the check (this will supplement the work already ongoing as a result of the PAF review);
- Look at what can be done to support the transition to Market-Wide Half Hourly Settlement (MHHS);
- Produce industry guidance for Risk 11; and
- Review individual TAPAP findings against their BSC Audit Issues to check alignment and review the ratings provided by the BSC Auditor.

EFR and BSC Audit

During the check we did not discover any non-compliances. Therefore, EFR is not required for any of the checked Parties. The findings from this TAPAP will be passed to the BSC Auditor following approval of the findings report.

Additional TAPAP checks

Further checks were considered, however Elexon has made the decision that this would not provide enough benefit to the continued assessment and improvement of Risk 11 to perform further checks. Furthermore, there are a number of other follow up actions and work areas that would provide more benefit at this time.

Reassess net significance of Risk 011

To reassess the net significance of Risk 11, Elexon requires a better understanding of the data and the root causes of errors. The original Risk 11 scoring was based on raw numbers pulled from our databases. The TAPAP has now provided this deeper understanding, which can help to identify what portion of the error is fixable, and over what timeframe. Prior to performing this check there was no real context behind the numbers that were used for the risk evaluation.

Review of MEM reporting

The MEM reporting was reviewed under the Data Provision workstream for the Performance Assurance Framework (PAF) Review that concluded in November 2020. One of the outcomes of the Risk 11 check was to be able to supplement the work already ongoing as a result of the PAF review recommendations. This recommendation proposed to formally define the process by which we obtain new data under the MEM technique. Defining such a process within a BSC Code Subsidiary Document (CSD) would support any future ad hoc changes to assurance data sources whilst providing better governance, transparency and opportunity for industry input. However, with the approach of the MHHS work, the reporting will need to be looked at if UMS MEM processes are to be adapted to facilitate HH reporting, therefore the recommendation is on hold and will be considered in due course.

NHH to HH migration and MWHHS

Elexon has taken monthly confidential updates to the PAB on the migration of UMS sites with a maximum demand over 100kW. This update provides an aggregated view of all migration progress against the initial MSIDs identified as requiring migration, as well as additional MSIDs identified by UMSOs as also needing to migrate. Monitoring the progress of the migration has meant that Elexon has spoken to UMSOs and Suppliers regarding its progress. The knowledge gained through the TAPAP audits has enabled a more informed conversation when we have engaged with UMSOs for the processes involved for administering UMS sites and the migration.

The risk owner for Risk 11 has also suggested that monitoring of NHH UMS with a maximum demand over 100kW could be incorporated into the planned Risk 11 Risk Reporting. This monitoring will be considered as part of the design of the risk reporting.

Review of guidance

A Risk Evaluation Supplementary Information Document for Risk 11 is published on the Elexon website with more information on this Risk. This document outlines the methodology used to assess the risk to Settlement related to the

retrieval of Metered data. There are also a number of pages and documents available for Parties to support them with UMS activities:

- A dedicated website page for Unmetered Supplies
- Section S Simple Guide, page 6 for Unmetered Supplies
- UMS Charge Code Process
- UMS Monitoring Explanatory notes
- Unmetered Energy Street Lighting Inventories (MUESLI)
- Unmetered Supplies Operational Information Document

These documents and pages will be reviewed in line with the findings and feedback received from the checked Parties about the process.

UMSO and stakeholder engagement

During the check, a number of Parties expressed frustration at the difficulties in resolving errors because engagement from various stakeholders was problematic. It was mentioned by multiple UMSOs that it would be useful to have contact lists specifically for UMS departments within Suppliers and DCs (similar to that of the Commissioning contact list). Elexon will look into creating this for publishing on the Elexon portal.

It was also noted that having a presence on the UMSUG was beneficial because of having access to regular updates on industry change that can then be cascaded to the wider business. It was discussed at a number of the checks that where this attendance is absent, it is more difficult to keep track of relevant changes. It was also noted that it would be beneficial to have some Supplier attendance in the UMSUG.

We were also advised that there appeared to be an absence of interaction between Elexon and UMSOs. Communications to industry regarding changes that matter to the UMS process were not clearly highlighted to Parties and were sometimes missed. However, it was recognised that this could be because the recipient of communications such as the Elexon Newscast is within a regulatory team, rather than a subject matter expert. Elexon will take this on board to look at improving the interactions between UMSOs and Elexon with involvement from the Operational Support Managers (OSMs).

BSC change for UMS processes

One of the issues that was identified with the overall process was around timeframes for various Supplier and DC obligations. Some of the processes exist in other BSCPs but not in BSCP520. As a result, UMSOs struggle to gain support and engagement from Suppliers and DCs because there are no timeframes to refer to in BSCP520. As discovered within the check, this has caused issues with the D0052/D0310 process for resolving EAC errors. Elexon is currently in conversation with an UMSO providing support for a Change Proposal (CP) to address some of these concerns. This CP will mirror the existing timeframes in BSCP501 for the similar obligations in BSCP520 for Suppliers updating SMRA.

Furthermore, Elexon also proposes that an additional CP is considered to create timeframes for the D0052/D0310 dataflow exchange to further strengthen the process.

Recommendations

The below recommendations were presented to the August 2021 Performance Assurance Board (PAB) meeting:

1. Subject specific documents and the Elexon website will be reviewed in line with the findings and feedback received from the checked Parties about the process;

2. Creation of a contact list specifically for UMS for UMSOs, Suppliers and DCs to help with error resolution D0310s and MEM report exception resolution;

3. Elexon will look into how Supplier membership at UMSUG can be encouraged;

4. Look at improving the interactions between UMSOs and Elexon with involvement from the OSMs. In addition OSMs can also address the concern around any gaps in knowledge that have been identified as well as improving industry engagement;

5. Investigate the appropriateness for the development of a CP to update timeframes for Suppliers updating SMRA into BSCP520 to mirror BSCP501; and

6. Investigate the appropriateness for the development of a CP to create timescales in BSCP520 for the management of the D0052/D0310 dataflow exchange process.

Appendix A: Scope of the check

Because Elexon's existing data and reporting on Unmetered Supplies (UMS) is predominantly based on the Non Half Hourly (NHH) market, the check candidates were selected mainly based on NHH data. The TAPAP checks did however still look to cover Unmetered System Operator (UMSO) obligations in relation to the Half Hourly (HH) market, while also making efforts to promote the transition to Market Wide HH Settlement.

Request for information (RFI)

On 11 September 2019, Elexon sent a Request for Information (RFI) to registered UMSOs. The request asked for two items - a summary of their portfolio and relevant process documentation. Elexon received responses against nine MPIDs.

Elexon found that while many UMSOs made accurate declarations compared to the Supplier Meter Registration Service (SMRS) and Material Error Monitoring (MEM) data Elexon has available, there were also inaccuracies. These inaccuracies were most prominent in UMSOs' declarations of information such as:

- Total Meter System Identifier (MSID) counts,
- Estimated Annual Consumption (EAC) values and
- Error identified through Material Error Monitoring (MEM).

UMSOs providing inaccurate submissions highlights risks such as:

- Inventories not being maintained efficiently,
- EACs being calculated incorrectly, and
- UMSOs not actively engaging with the MEM reporting and trying to resolve mismatches with the relevant NHHDA.

Elexon also found that many UMSOs have outdated inventories and EAC Effective-From-Dates (EFD), with some EACs and inventories dating back to as early as 01 Jan 1998, which is the earliest possible EFD. Inventories and EACs being out of date pose a risk of new unmetered connections or disconnections being unaccounted for in Settlement because the information will not be current and true.

Because Elexon obtains Supplier Meter Registration Service (SMRS) and EAC snapshots on a quarterly basis, a degree of inaccuracy was to be expected when comparing against the information provided by UMSOs in the RFI. While most of the submissions were accurate in relation to the data held by Elexon, there were some stark differences in values declared by UMSOs. In particular, EAC values, MPID counts and MEM error. Many of these however appear to be due to misunderstandings of the RFI. For example, one UMSO submitted a low MPID count which appears to be due to only providing information on MPIDs that have error identified in MEM reports. Another UMSO's low EAC values appear to be due to providing MWh values, not kWh.

Elexon had however received many incomplete RFI submissions. Information such as EAC EFDs, current Supplier, MEM error and Energisation Status were missing in UMSO submissions. Many UMSOs have declared some inventories are missing/outstanding and many have declared that a large majority of their inventories have not been updated for years.

The TAPAP check looked to further explore this process by performing a deep dive investigation into the following processes;

- The creation and maintenance of the UMSO inventories;
- Investigating MPID error identified in the MEM; and
- The transfer of any MPIDs from NHH to HH.

In addition, we requested UMSO feedback and engagement regarding current arrangements and how they can be improved.

100kW MPIDs

Elexon identified that some of the largest NHH UMS MPIDs have EACs that would qualify them as 100kW Metering Systems based on their maximum demand exceeding 100kW. Elexon selected the top 100 NHH MPIDs based on their EACs and identified which UMSOs these MPIDs are associated with, as well as the combined total energy of them.

The combined energy of these 100 MPIDs equals 429,628MWh. These 100 MPIDs comprise 65.24% of all NHH UMS energy, which is currently split between approximately 34,000 MPIDs. Considering the target of Market Wide Half

Hourly Settlement, Elexon used this data set to contribute to the MPID samples used during TAPAP checks. These MPIDs have also been taken into consideration when selecting which Parties to select as check candidates.

What did the audit cover?

The check covered a number of entities that operated as an UMSO from either a Licensed Distribution System Operators (LDSO) or Independent Distribution Network Owners (IDNO). The TAPAP was performed with three main objectives;

- To investigate and develop an understanding of the internal processes performed by Parties for Unmetered Supplies;
- To understand more about error in the market so that Elexon can reassess the net significance of Risk 11; and
- To be in a position to assess the reporting that currently exists and look at what additional reporting or techniques may be needed for future risk assessment and mitigation.

How was the audit conducted?

Elexon conducted the TAPAP audit in accordance with BSCP535, Technical Assurance,

Elexon selected a random sample of no more than 15 MSIDs per Market Participant ID (MPID), which were taken from the data received through the RFI, UMSO inventories and the Elexon MEM report.

The initial intention was to conduct the audits in person, on site, with any follow up conducted by teleconference as required. However, with the arrival of the COVID-19 Pandemic these were all competed as remote audits performed with screens shots, desktop sharing and virtual meetings.

When did the audits take place?

Elexon proposed that these audits were undertaken in Q1/Q2 2020 but because of the COVID-19 pandemic the TAPAP technique was put on hold until Parties were comfortable with making arrangements for the remote audits. This was so that Parties were able to dedicate resource to BAU.

PAB agreed that the TAPAP technique was able to operate throughout the Q4 2020-Q2 2021 lockdown, but only where Parties are able to facilitate the checks and with the consideration of prioritising BAU and avoiding clashes with other Elexon audits such as the Line Loss factor audit and the BSC Audit. Therefore Elexon was able to implement the R011 set of checks as remote audits during the COVID-19 disruption.

Feedback from Parties was that this approach was well received. Elexon noted specific praise that the remote audits provided flexibility that allowed Parties to accommodate their BAU priorities throughout the pandemic and the audit period. A remote audit has always been an option as part of the TAPAP technique but site visits had been mostly used on previous checks. Elexon will continue to provide this as an option for future TAPAPs, to support our customers and provide a bespoke audit service.

Appendix B: BSC Settlement Risks and Evaluation of Risks

Balancing and Settlement Code (BSC), Section Z 5.4, requires that the Performance Assurance Board (PAB) establish and maintain an annual Risk Evaluation Methodology (REM) that it will use to identify, evaluate and assess materiality of Settlement Risks.

BSC Section Z 5.1 sets out several key points with regards to Settlement Risk evaluation:

- A **Settlement Risk** is:
- "a risk of any failure or error in a step or process required under the Code (including in each case a risk which has materialised as an actual failure or an error) for the purpose of effecting Settlement or otherwise required in connection with Settlement in accordance with the provisions of the Code"
- The **significance of a risk** is set out both in terms of "the **probability** of the failure or error…. and its impact on settlement"
- The level at which a Settlement Risk is considered **'material'** is at the discretion of the PAB i.e.
- "of a level which the Performance Assurance Board determines (in its opinion) to be material"
- The Performance Assurance Framework (PAF) should have regard to two objectives:
- "(i) the **efficient, equitable and accurate allocation of energy** between Suppliers resulting from the aggregated consumption of Metering Systems for which each Supplier is responsible; and
- (ii) the **efficient, accurate and co-ordinated transfer of Metering Systems data** by Performance Assurance Parties between Suppliers and Supplier Agents. "BSC Section Z, 5.1 also sets out several key points with regards to Settlement Risk evaluation and how we will capture this information in the.

The Risk Evaluation Register (RER) is reviewed at least annually by the Performance Assurance Board (PAB) following the process described in Section Z and currently contains 34 Risks that relate to either Central Volume Allocation (CVA) or Supplier Volume Allocation (SVA) risks.

Each year, PAB deploys the Performance Assurance Framework (PAF) to manage Settlement Risks. To do this, the PAB identify, evaluate and prioritise the risks that may occur within Settlement and the extent to which they apply to each Performance Assurance Party (PAP). The PAB applies Performance Assurance Techniques (PATs) to PAPs based on the risk they pose to Settlement, this is published in the Risk Operating Plan (ROP).

For the 2019/20 BSC year, eight Risks were identified by the PAB as being a focus of work under the PAF. Of these eight, five have been recognised as having TAPAP as a recommended technique to investigate the root cause of and manage the impact of these Risks. The scope of this check relates to one of these focus risks.

2019/20 Risk Evaluation Register

This was the first RER with Unmetered Supplies under the new risk assignment.

Risk ID	Risk Category	Risk Sub-Category	Lower Impact	Forecast Impact	Upper Impact	Volatility
011	Data retrieval and processing	Unmetered Supplies	£9.8m	£17.6m	£30.4m	Medium

Risk 11 is the risk that Unmetered Supplies volumes are calculated incorrectly or not at all resulting in erroneous or missing data in Settlement.

A Risk Evaluation Supplementary Information Document for Risk 11 is published on the ELEXON website with more information on this Risk. This document outlines the methodology used to assess the Settlement Risk related to the retrieval of metered data.

Unmetered Supplies is an area that the PAF has limited information on, largely due to limitations within both the process and the data available. A paper to propose the scope for this check was presented and approved at the December 2019 (PAB 227 paper 08), however, due to the COVID-19 pandemic that started in March 2020, the TAPAP technique was put on hold so that PAPs could concentrate on BAU.

Since the scope was originally agreed, this risk has been reassessed as part of the annual assurance and risk management processes and as a result Risk 11 was no longer a 'focus risk' in the ROP. However, it was agreed that this check would still go ahead once Parties were able to facilitate the work. UMS processes are an area of unknown for Elexon and the findings of the check would also feed into other related work streams.

2020/21 Risk Evaluation Register

Volumes of both HH and NHH UMS energy have decreased by 6% since the initial scoring of Risk 11. This can be attributed to improvements in energy efficiency, such as more energy efficient UMS equipment and increased adoption of Central Management Systems (CMS) for controlling street lighting. ELEXON has reported parties have an improved understanding of the Material Error Monitoring (MEM) data and how to quantify 'error' more accurately.

ELEXON has forecasted a 56% decrease materiality attributed to Risk 11.

Risk ID	Risk Category	Risk Sub-Category	Lower Impact	Forecast Impact	Upper Impact	Volatility
011	Data retrieval and processing	Unmetered Supplies	£5.0m	£7.8m	18.0m	Medium

2021/20 Risk Evaluation Register

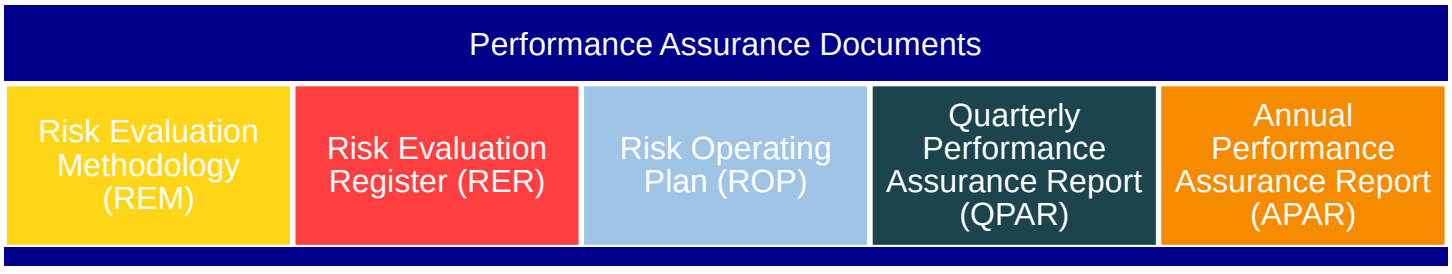
Elexon has reported parties that have an improved understanding of the Material Error Monitoring (MEM) data and how to quantify 'error' more accurately.

Elexon has forecast a 5.8% decrease in the consumption of HH Unmetered Supplies (UMS) Metering Equipment, and a 1.6% decrease in the consumption of NHH UMS Metering Equipment. This is in line with the annual consumption reductions observed in the GB Market for UMS Meters.

Elexon has forecast a 6.3% increase in the proportion of incorrectly calculated HH UMS Consumption, and a 21.3% decrease in the proportion of incorrectly calculated NHH UMS Consumption in line with the decreasing volume of error that is being recorded in relation to UMS Meters.

The overall materiality of Risk 11 has decreased 33.9%.

Risk ID	Risk Category	Risk Sub-Category	Lower Impact	Forecast Impact	Upper Impact	Volatility
011	Data retrieval and processing	Unmetered Supplies	£1.6m	£5.2M	£14.2M	Medium



Appendix C: What is a Technical Assurance of Performance Assurance Parties (TAPAP) Check?

TAPAP is one of the detective (audit) techniques in the Performance Assurance Framework (PAF). The aim of TAPAP is to detect where Suppliers and Supplier Agents are meeting their Balancing and Settlement Code (BSC) obligations. To identify if any instances of failure pose a risk to Settlement and if there are weakness in any of the BSC processes (and other processes as appropriate).

TAPAP checks are targeted at key market performance and risk areas on an annual basis. We conduct checks either via site visits or as off-site/remote reviews of information and data.

The following Performance Assurance Parties (PAPs) may be subject to checks at the discretion of the Performance Assurance Board (PAB):

Suppliers	
Supplier Agents	*Half Hourly Data Collectors (HHDCs)*
	Non Half Hourly Data Collectors (NHHDCs)
	Half Hourly Data Aggregators (HHDAs)
	Non Half Hourly Data Aggregators (NHHDAs)
	Half Hourly Meter Operators (HHMOAs)
	Non Half Hourly Meter Operators (NHHMOAs)4
Licensed Distribution System Operators (LDSOs)	
Unmetered Supplier Operators (UMSOs)	
Supplier Meter Registration Agents (SMRAs)	
Meter Administrators (MAs)	

BSC Section Z

Performance Assurance

Contains the rules for the implementation of Performance Assurance Techniques (PATs). It covers the procedures relating to Settlement Risks and Risk Management Determinations – including the Risk Evaluation Methodology (REM) and the Risk Evaluation Register (RER) and the Risk Operating Plan (ROP)

BSCP 535

Technical Assurance

This Balancing and Settlement Code Procedure Document (BSCP) defines the process for providing assurance that PAPs are meeting their obligations as stated within the BSC or Code Subsidiary Documents as appropriate.

[4] (from go-live of Retail Code Consolidation (RCC) and the Retail Energy Code (REC) on 1 September 2021 NHH MOAs will not be covered under BSC Assurance Activities)