

PUBLIC

Annual Performance Assurance Report

2017/18

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MESSAGE FROM THE PERFORMANCE ASSURANCE BOARD (PAB) CHAIR

Once again, both ELEXON and the PAB have observed that the amount of change within the industry shows no signs of abating. Large scale programmes such as the smart meter rollout, the increasing trend for new business models, and the sheer volume of work that participants are needing to maintain a watching eye over are all having an impact on risks within the market.

Alongside this, the BSC Auditor noted, in its key findings, that 'the knowledge of Settlement processes within the industry is being spread more thinly, meaning a greater number of issues where the root cause is human error and lack of proper training and understanding'.

Despite the volume of change being imposed on BSC Parties the BSC Auditor was able to give an unqualified audit opinion again in 2017/18, and the Technical Assurance Agent noted a general improvement in the overall health of the market.

In recognition of the changing market, and to ensure that the Performance Assurance Framework (PAF) remains relevant and fit for purpose, ELEXON has been carrying out a review of the current arrangements. Quick wins are being implemented as appropriate, and a final set of recommendations will be made on conclusion of the project in the second quarter of 2020.

I would like to thank both the industry and the PAB for the contributions they have made to this piece of work, and look forward to the refreshed approach to delivering the PAF that I'm sure the review will result in.

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OVERVIEW

The Performance Assurance Board (PAB) is required, by [Balancing and Settlement Code \(BSC\) Section Z 8.1](#), to prepare an Annual Performance Assurance Report (APAR), which includes:

- Results from risk evaluation and risk assurance procedures focussing on the outcome of deployment of Performance Assurance Techniques (PATs)
- The actual costs associated in delivering the Performance Assurance Framework (PAF) compared with the estimated costs set out in the Risk Operating Plan
- Recommendations for modifying the PATs

Risk Performance and Assurance Procedures

ELEXON strives to deliver a transparent, risk based PAF focusing on the key Settlement Risks affecting BSC Parties. In collaboration with our customers, and with support from the Operational Support Managers (OSMs), we use a range of techniques to monitor performance against BSC obligations, detect instances of non-compliance and, where appropriate, put in place corrective measures.

Settlement Risk performance data and a summary of each of the PATs is included in Appendices A and B.

During 2017/18, the following areas stood out as noteworthy:

Successes

Settlement Risk (SR) 0072: Non Half Hourly (NHH) Gross Error

The average volume of NHH gross error was 24.5 GWh (post RF) which is well below the threshold of 165 GWh. Supplier feedback on the introduction of the amber Business Unit Settlement Risk Rating (BUSRR) in 2017/18 for SR0072 was positive, with Suppliers noting that it provides better clarity of overall industry performance. Suppliers also acknowledged that the support by ELEXON in notifying them of erroneous instances above 500MWh helped bring NHH gross error (post Final Reconciliation (RF)) to its lowest volume since July 2014.

SR0024 and SR0025: Missing Meter Technical Details (MTDs)

Detailed analysis carried out by ELEXON in February 2017 indicated that the level of missing MTDs did not indicate a significant industry wide Settlement issue. However, as missing MTDs have the potential to impact Settlement accuracy, ELEXON agreed to investigate the root causes with a focus on the transfer of MTDs between Meter Operator Agents (MOA) as part of a Change of Agent events.

ELEXON conducted a Technical Assurance of Performance Assurance Parties (TAPAP) check into missing MTDs to assess the impact on Settlement. The check covered 11 Performance Assurance Parties (PAPs) and 22 Market Participant Ids (MPIDs). ELEXON identified non-compliances across all 22 MPIDs.

Key non-compliances identified were:

- Suppliers not sending [D0148s](#) following a successful appointment and not backing out invalid appointments
- MOAs not sending MTDs within the required time limit

The root causes identified across the PAPs are as follows:

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- System issues, including system failures and systems not fully or correctly capturing BSC processes and time limits
- Inadequate staff training contributing to human error
- Processes not documented to fully align with BSC obligations
- A lack of robust controls and monitoring resulting in non-compliances not being identified and incorrect actions being taken by staff
- Differing interpretations of BSCP processes contributing to inefficiency in process operations

Across the MSID sample used in the TAPAP check (268 MSIDs), 85% were settled on actual readings. This indicates that failures identified against the processes audited did not prevent the collection and processing of actual readings in the majority of instances.

ELEXON recommended, on the basis of the TAPAP findings, that the Error and Failure Resolution (EFR) technique be applied to Performance Assurance Parties (PAPs) only where the non-compliances and/or root causes had been found to have a significant impact on Settlement performance or other PAPs' processes. The PAB used these findings in conjunction with the results of the 2017/18 BSC Audit to inform its decision on the application of EFR to non-complaint PAPs.

Going forward, ELEXON will consider how [BSCP514](#) (SVA Meter operations for Metering Systems registered in SMRS), might be made clearer in order to address differing interpretations of the obligations. We will also review the net significance of the associated Settlement Risks (SR0024, SR0025, SR0033 and SR0034) and any changes will be progressed as within period revisions to the Risk Evaluation Register in conjunction with the current PAF Review.

Half Hourly Data Collector (HHDC) Documentation Errors

Last year, the Technical Assurance Agent (TAA) identified five Category 1.01 non-compliances linked to issues with incorrect HH MTDs, compared with three the previous year. This indicates that HHDC back office processes for managing MTDs may have been lacking. Upon further investigation, ELEXON reported that the non-compliances were not affecting Settlement. The HHDCs were using the correct MTDs for Settlement purposes, but had provided the incorrect MTDs to the TAA for audit.

The TAA recorded six Category 1.01 non-compliances in the 2017/18 audit year. Of the six non-compliances raised, five have already been resolved. The five non-compliances that have been resolved were due to administrative errors and did not have a material impact on Settlement. For this reason, the TAA has not recorded HHDC documentation errors as a key issue in 2017/18.

Mandatory HH Settlement for Profile Classes 5-8

Throughout 2017/18 ELEXON continued to work closely with BSC Parties and the PAB to monitor compliance with the mandated switch to HH Settlement for Meters in Profile Classes 5-8

By 1 April 2017, the actual industry completion stood at 97.56%, which was a very positive result. We supported the market with the remaining migrations and worked in close cooperation with Ofgem to report the status. Also, we made sure to take the industry's feedback on board through holding a 'lessons learnt' meeting to feed these takeaways into the future market-wide Settlement Reform work that ELEXON is leading on for Ofgem. ELEXON also worked closely with Ofgem and the PAB to determine approaches to managing non-compliance. The vast majority, 98.95%, of P272 migrations were completed by the end of 2017/18, one full year after the actual P272 deadline of 1 April 2017.

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Areas of improvement

Commissioning

The results of the main TAA sample in 2016/17 showed that over 70% of Metering Systems (pre and post P283) had missing, incorrect or incomplete Commissioning records. In 2017/18 the number of Commissioning non-compliances was seen to have reduced to 63%.

The BSC Auditor found commissioning audit issues in 4 out of 11 LDSOs and 6 out of 12 HHMOAs. These issues can generally be split into two categories:

- Issues relating to the MOA failing to forward the Commissioning records to the Supplier after the overall accuracy assessment, or failing to inform the Supplier of defects preventing the overall accuracy assessment
- Issues relating to the LDSO failing to perform CT testing within 16 Working Days (WDs) of energisation and not providing testing records to the MOA

Despite the relatively high number of ongoing commissioning related EFR plans (19), all PAPs have made significant improvements regarding:

- Commissioning the measurement transformers when the Party is a Licenced Distribution System Operator (LDSO)
- Commissioning the Meter when the Party is a Meter Operator Agent (MOA)

ELEXON has also helped facilitate further Commissioning improvements by holding TAA and Commissioning training sessions for the industry.

Metering Faults

In 2017/18 there was a 50% reduction in HH Metering System failures with the TAA recording seven Category 1.02 non-compliances. Therefore, the TAA has not highlighted HH Metering System failures as a key issue.

The BSC Auditor, however, identified an increase in Settlement impacting issues for 15 (out of 51) audited Meter Operating Agents in the current year ended 31 March 2018, compared to 8 (out of 47) in the previous year. The auditor reports this change against Meter Operators in both SVA and CVA markets.

The increased focus on using DTN data around Meter faults processes has resulted in a more detailed view of the complex issues associated with these processes.

Further work required

SR0074: Non Half Hourly (NHH) energy settled on actuals

During 2017/18, ELEXON increased the 500MWh threshold for estimated energy settled below 97% in a reporting period to 700MWh. ELEXON predicted the amount of red BUSRRs would decrease post-implementation of the BUSRR criteria change for SR0074. In fact the amount of red and amber BUSRRs actually increased. On average, Suppliers settled 96.58% of NHH energy volumes on actual reads against the obligation to achieve 97%. This was slightly, 0.04%, lower than 2016/17, which was 96.62%. The increase in the number of red and amber BUSRRs was due to a decline in performance of Suppliers with less than 2% market share, which continues to grow in size with new Suppliers entering the market.

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The reduction of the good performing high volume NHH sites, being migrated to HH Settlement, resulted in a decrease in the volume settled on actual Meter readings. Suppliers in the EFR process have highlighted that maintaining the standard has been impacted by:

- The impact of the smart roll-out on industry resources
- The challenge of engaging customers to obtain reads
- Hard to Read (HTR) sites such as small industrial sites that are unattended and located in remote areas
- Issues with recruiting staff with sufficient knowledge and experience of managing Settlement issues and data retrieval strategies

The PAB has stressed that the mandatory migration of NHH Meters to HH Settlement and the smart meter roll-out were expected industry events and that Suppliers have an obligation to address performance issues quickly and return to the industry standards. In September 2017, ELEXON hosted a NHH Performance improvement workshop for Suppliers that was well attended and received. The workshop highlighted a general gap in knowledge about the risk and encouraged Suppliers to work together to obtain solutions. ELEXON will continue to seek to improve communication and knowledge sharing with Suppliers, especially newer market entrants. The PAB will continue to monitor Supplier EFR Plans to ensure that performance improvements are realised efficiently and effectively.

The issue of HTR sites is the subject of a proposed [modification to the BSC](#). Underperformance against SR0074 targets is subject to a Supplier Charge. Modification P366 proposes to amend how the Supplier Charge is applied to NHH non-domestic Meters that are HTR. Due to the nature of the NHH performance requirements, small Suppliers are most susceptible to HTR related Supplier Charges. The proposer believes they are unfairly disadvantaged and less able to compete competitively for customers with HTR sites. The Modification Proposal, if approved, will create a process to identify and approve HTR sites and exclude them from SP08a calculations.

SR0081: HH energy settled on actuals

During 2017/18, ELEXON introduced measurement of performance at the First Reconciliation Run (R1) as well as the Initial Reconciliation Run (SF) for SR0081. It also decreased the 500MWh threshold to 400MWh. Suppliers have reported that the introduction of R1 performance measurement has been beneficial, as measuring performance at SF only was a tough metric due to the short amount of time available to resolve any issues. Generally, Suppliers said the decrease in the MWh threshold had not resulted in any significant changes to their BUSRR ratings or internal processes. On average industry settled 98.55% of HH energy on actuals at SF and 99.09% at R1 against a 99% BSC obligation.

Suppliers have highlighted issues with:

- An increased number of Meters requiring manual reads (which are not as easy to obtain, as those which have working communications)
- Difficulty in co-ordinating third Party Agents, customers and communications providers for site visits to fix onsite problems

Suppliers' EFR progress against this risk has been a concern. Whilst some Suppliers have been able to improve performance, events such as contract rounds and bad weather have prevented this from being consistent. The PAB will continue to monitor Supplier EFR Plans to ensure that performance improvements are realised efficiently and effectively.

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SR0081b: HH energy settled on actuals Measurement Class E Metered Sites

In January 2016 ELEXON began monitoring the HH Settlement Performance of the metered sites (Measurement Class E) undergoing migration to mandatory HH Settlement from NHH. This was because Settlement Performance was well below the 99% actual read target. The PAB agreed a 'for information' BUSRR with a red rating to be applied to identify Suppliers who were not achieving the target. The BUSRR has been in effect since April 2017 and will continue until the mandatory migration to HH was complete.

ELEXON is now in the process of reviewing performance against this risk so that the PAB can reach a decision about its continued status i.e. continue monitoring 'for information', make it a top Settlement Risk and apply EFR for poor performance or stop monitoring.

SR3019: Quality of HH MTDs

SR3019 replaced SR0022 and SR0028 and combines the BUSRR criteria for both risks to assess the quality of MTDs. The BUSRR for SR3019 uses Performance Assurance Reporting and Monitoring System (PARMS) Serial data (HM13) which reports the number of MTDs that are re-submitted with a Key Field change, which could indicate errors. The BUSRR also considers non-compliances reported by the TAA that relate to MTDs. Both Suppliers and Half Hourly Meter Operator Agents (HHMOAs) are assessed through this BUSRR.

In October 2017 (six months after implementing the combined BUSRR criteria) ELEXON reviewed the BUSRR and sought industry feedback about its application. ELEXON obtained full updates on each of the HM13 and TAA instances for the Suppliers and HHMOAs that had a red BUSRR in September and October.

The review did not highlight any substantial Settlement impacting issues. However, ELEXON acknowledged concerns about whether the datasets accurately quantify the impact on Settlement. Suppliers identified issues obtaining drill down data from Data Collectors without which it is difficult to examine the impact of the resent MTDs. Parties highlighted that the TAA audit cycle was causing confusion and were unsure how to address the issues identified. All TAA non-compliances have to be assessed on a case by case basis to evaluate their impact on Settlement. This is time consuming and evidence to date does not indicate widespread issues relating to the quality of MTDs. Going forward ELEXON will continue to investigate these concerns and may consider using the BSC Audit function to see if any other issues are highlighted.

Measurement transformer calibration certificates

In 2017/18 the TAA recorded 538 non-compliances in addition to the number of outstanding measurement transformer certificate non-compliances. Although this is down from 2016/17, 665, it compares with 516 in 2015/16. The TAA still reports this as a key issue.

ELEXON and the TAMEG are working to create a process which will allow for confirmation of overall accuracy of measurement transformers without the need for certificates. ELEXON will provide continual updates to the PAB and once the new process has been agreed and implemented, the PAB will be keen to see the number of new non-compliances identified reduce.

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FUTURE CONSIDERATIONS: THE PAF REVIEW

In 2016/17 the BSC Panel agreed to a formal review of the PAF to ensure it continues to meet the challenges of a rapidly changing market and provide value to its stakeholders. The project is being delivered in four work streams that cover the design of the PAF, data provision to support it, a review of the mitigating assurance techniques and the risks related to the rollout of smart metering:

Workstream 1: Smart Metering Rollout

- To provide immediate assurance against the challenges of the smart metering rollout by developing proofs of concept to enable the effective monitoring of significant Settlement Risks associated with the rollout

Workstream 2: PAF Procedures

- To deliver recommendations to improve the operability and effectiveness of the Risk Evaluation Methodology (REM) and other PAF procedures that ensure that risks are more meaningful and reflective to participants.

Workstream 3: Review of the Performance Assurance Techniques (PATs)

- To produce a set of recommendations in relation to existing or new techniques that can be applied efficiently and cost effectively to mitigate identified risks

Workstream 4: Data provision

- To create proofs of concept to test the viability of alternative methods of data provision that place less burden on participants to provide data and that supports more accurate risk appraisal

Alongside the PAF Procedures workstream, ideas for improving existing working procedures that could be implemented outside the review, and sooner, will be captured and handed over to ELEXON's operational teams. This will be managed within ELEXON through the governance arrangements of the PAF Review Project Board. This process will also be used to feed suggestions into the subsequent review of the PATs that is scheduled to be undertaken throughout 2018/19, concluding in Q2 2020.

We are looking for stakeholders to contribute to the review; we will provide regular updates on our progress through Newscast and on the ['Review of the Performance Assurance Framework'](#) page on the BSC website.

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COSTS OF DELIVERING THE PAF

The BSC requires ELEXON to compare the actual costs of delivering the PAF and implementing the PAFs with the estimated costs set out in the Risk Operating Plan (ROP) for the same period. The table below includes the actual and forecasted costs for 2016/17 for information.

	Operational	Contracted	Total
2016/17 ROP forecast	£1,007,530	£2,424,913	£3,432,443
2016/17 actual	£985,816	£2,268,965	£3,254,781
2017/18 ROP forecast	£1,047,436	£2,515,718	£3,563,154
2017/18 actual	£986,856	£2,310,893	£3,297,749

Operational costs

Operational costs cover the provision of ELEXON staff to deliver the PATs. The 2017/18 forecast was calculated by applying standard daily rates to the amount of staff time allocated to PAF activities.

The reduction in actual operational costs compared to forecasted costs was a result of underspend on people costs, due to delays in filling vacated posts.

Contracted costs

The contracted costs cover outsourced provision of the following:

- Annual Balancing and Settlement Code (BSC) Audit
- Delivery of the Technical Assurance of Metering (TAM) by the Technical Assurance Agent (TAA)
- The Qualification Service
- Support and maintenance for the risk database (ATLAS)
- Support and maintenance of the Performance Assurance Reporting and Monitoring System software

The £204,825 reduction between the ROP forecasted and actual contractual costs is due to:

- The BSC Operational Audit underspend of £168k is due to removal of the need to draw on contract exit costs or budgeted contingency
- The TAM underspend of £119k is due to completing fewer CVA inspections than budgeted and the fact that no ad-hoc TAA reporting was requested during the period
- The Qualification and Re-Qualification underspend of £301k is due to the fact that no Re-Qualifications were required and the reduction in negotiated charges within the period

These savings were offset in part by an increase against budget of PAB expenses (actual spend of £14,500 compared to budget of £6,900, largely due to an increase in two day PAB meetings) and in ad hoc costs incurred through requests for reporting from the PAB.

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FURTHER INFORMATION

If you have any questions or require further information on the Annual Performance Assurance Report, please contact:

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APPENDIX A: SETTLEMENT RISK PERFORMANCE

Gross error

SR0072: The risk that Non Half Hourly Data Collectors (NHHDCs) process incorrect Meter readings, resulting in erroneous data being entered into Settlement

Error volumes below the green line in Chart 1 are considered acceptable. During 2017/18 the volume of gross error across industry remained below the 165 GWh threshold. The average gross error volume post RF¹ was 24.5 GWh, the same as in 2016/17.

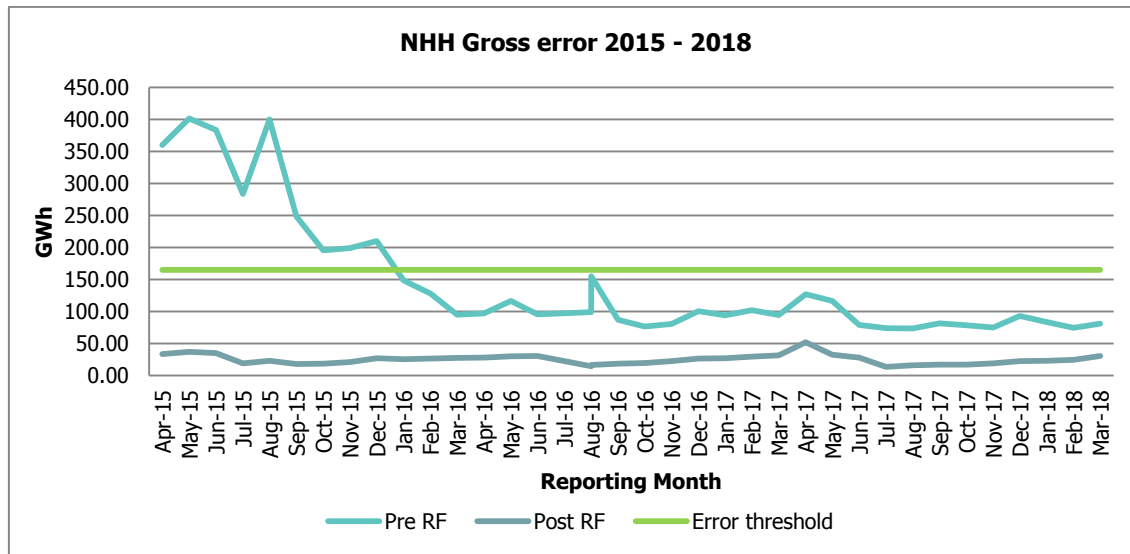


Chart 1: Gross error

¹ Final Settlement Run

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Energy settled on actual Meter reads

SR0081: The risk that Half Hourly Data Collectors (HHDCs) do not process valid HH readings resulting in estimated data being entered into Settlement

The downward trend in HH performance at SF continues. On average, in 2017/18 industry settled 98.55% (instead of 99%) of HH energy on actual Meter reads at SF². This compares with 98.59% in 2016/17. At R1³, on average 99.09 % of HH energy was settled on actual Meter reads.

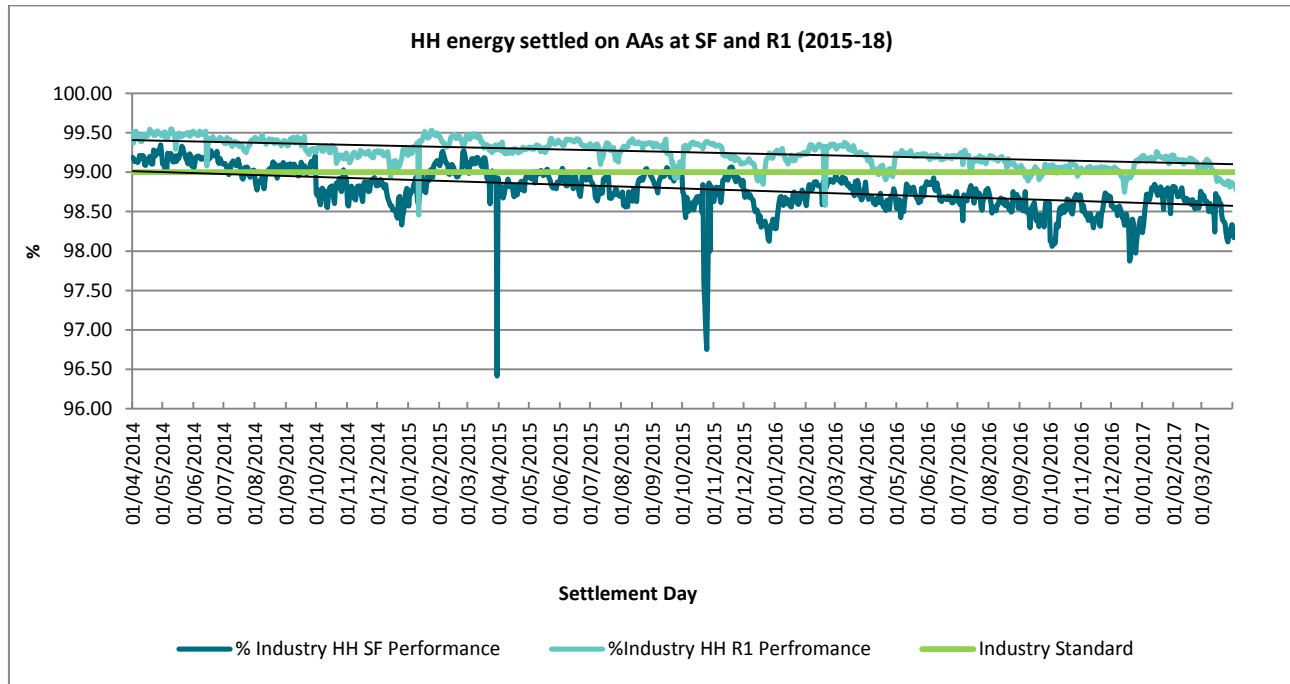


Chart 2: HH energy settled on actual reads

² The Initial Reconciliation Run

³ The first Reconciliation Run

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SR0074: The risk that NHHDCs do not collect and / or enter valid Meter readings resulting in old/default data entering Settlement.

During 2017/18 industry settled 96.58% (instead of 97%) of NHH energy on actual Meter reads at Final Reconciliation (RF) compared with 96.62% in 2016/17.

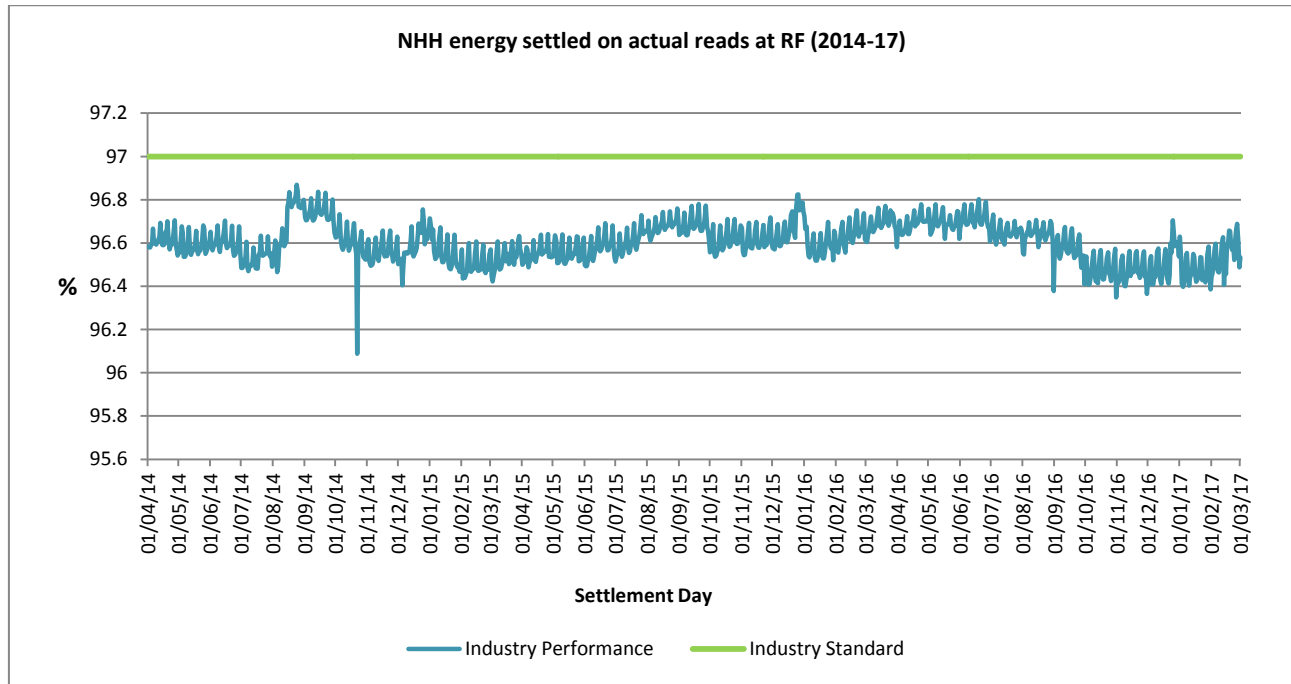


Chart 3: NHH energy settled on actual reads

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Quality of HH MTDs

SR003019: The risk that Half Hourly Meter Operator Agents (HHMOAs) do not provide correct Meter Technical Details (MTDs), including when HHMOAs make changes to MTDs, to the Half Hourly Data Collector, resulting in Meter readings not being collected or misinterpreted

The quality of HH MTDs is monitored by:

- looking at the number of times MTDs are re-submitted where there has been a change in a key/mandatory field of the D0268 (HH MTD). Actual performance is optimal when < 2% of MTDs are re-sent and <5% of TAA visits have non-compliances related to MTDs (see chart 4); and
- looking at the number of MTD related non-compliances identified by the TAA (see table 1, page 16).

Optimal performance for correct sending of MTDs is anything above the green line in chart 4. During the period 2017/18 industry performance did not meet the required level of accuracy (>98% of HH MTDs should be accurate, i.e. <2% should be re-submitted). On average, just over 2% of HH MTDs were re-submitted (2.33%) in 2017/18 compared with 2.98 % in 2016/17.

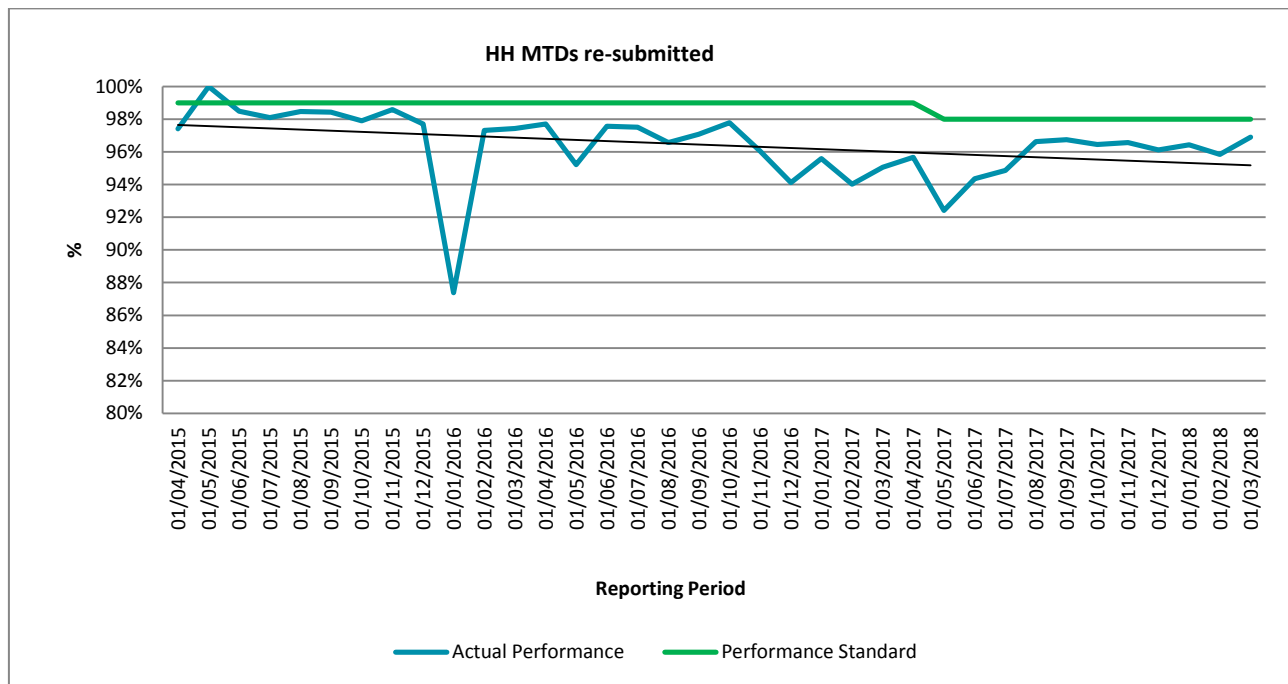


Chart 4: % HH MTDs re-submitted

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Optimal performance for MTD related non-compliances is less than 5% of TAA visits. During 2017/18, the TAA identified MTD related non-compliances at 6.45% of TAA audit visits, compared with 5.84% in 2016/17.

Non-compliances	2015/16 No. of non-compliances	2015/16 % per site visit	2016/17 No. of non-compliances	2016/17 % per site visit	2017/18 No. of non-compliances	2017/18 % per site visit
Cat 1.01 Incorrect Standing Data held by DC (MTDs)	3	0.22%	5	0.37%	6	0.41%
Cat 2.01 Incorrect Standing Data held by MOA (MTDs)	14	1.05%	11	0.81%	19	1.28%
Cat 2.02 Non-Key Field MTDs do not match DC	24	1.80%	38	2.79%	36	2.43%
Cat 2.03 MTDs not provided	37	2.77%	34	2.49%	29	1.96%
Total non-compliances as % of site visits	78.00%	5.84%	88.00%	6.45%	90.00%	6.08%
No. site visits	1336	N/A	1364	N/A	1480	N/A

Table 1: MTD related TAA non-compliances

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Missing MTDs

SR0024: The risk that NHHMOAs do not provide MTDs to the correct NHHDCs resulting in Meter readings not being collected

NHH Performance

The total number of missing NHH MTDs is acceptable if it is below 0.5% (the light green line in Chart 5). Industry recorded between 0.12% - 0.23% missing MTDs in 2017/18. This compares with a 0.12% to 0.25% in 2016/17.

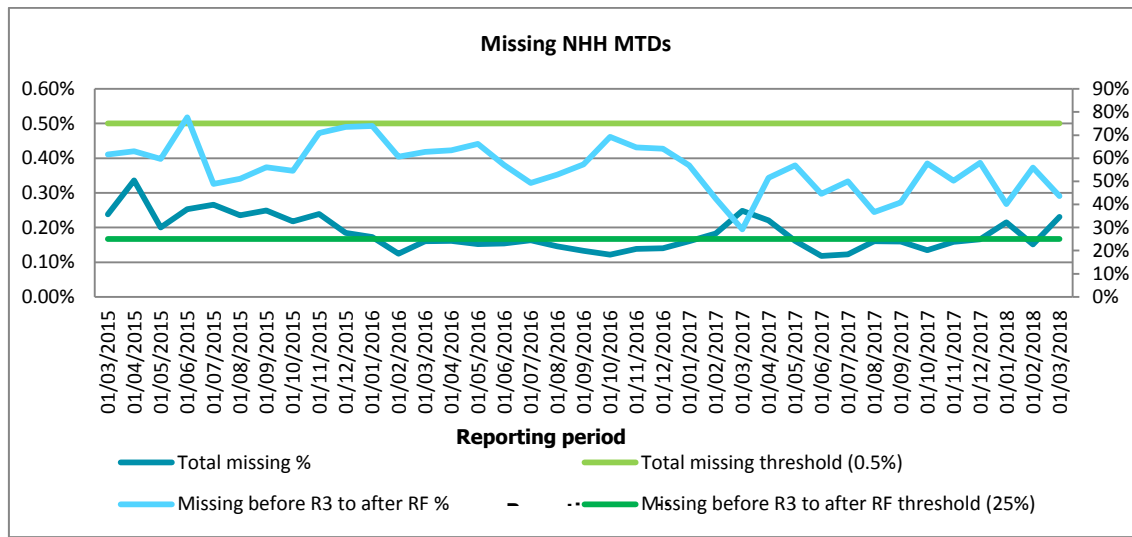


Chart 5: Missing NHH MTDs

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SR0025: The risk that HHMOAs do not provide MTDs to the correct HHDCs resulting in Meter readings not being collected.

The total number of missing HH MTDs should be below 0.5% (the light green line in Chart 5) and the level of missing MTDs 'before R3 to after RF' should be 0%.

During 2017/18 the proportion of missing HH MTDs across industry was above the 0.5% threshold, ranging between 0.77% and 1.25%. This compares with 0.77% to 1.17% in 2016/17. For 2017/18, 68.14 % of MTDs, were still missing 'before R3 to after RF' compared with 54.96% in 2016/17.

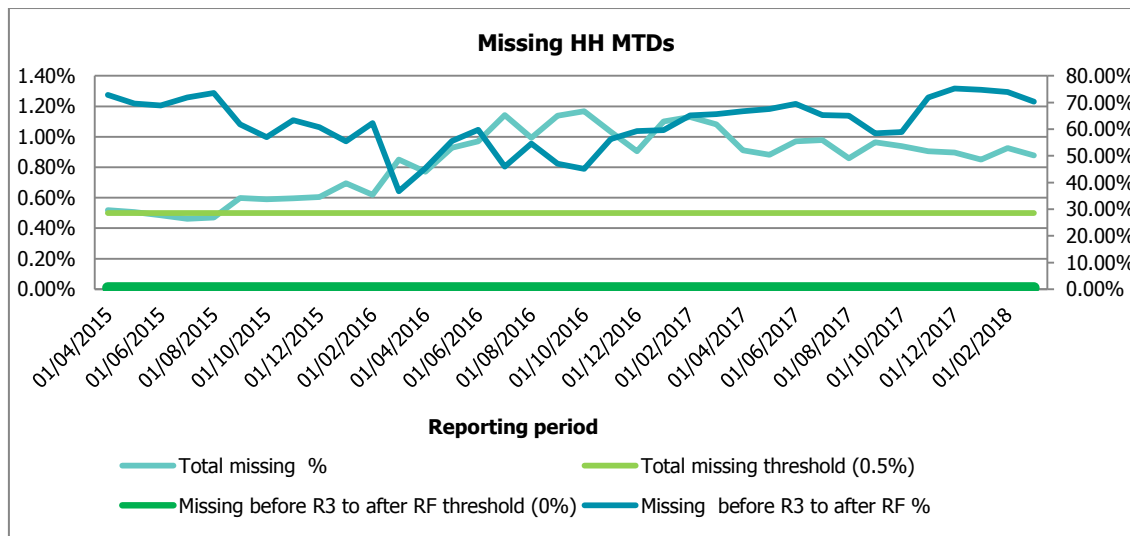
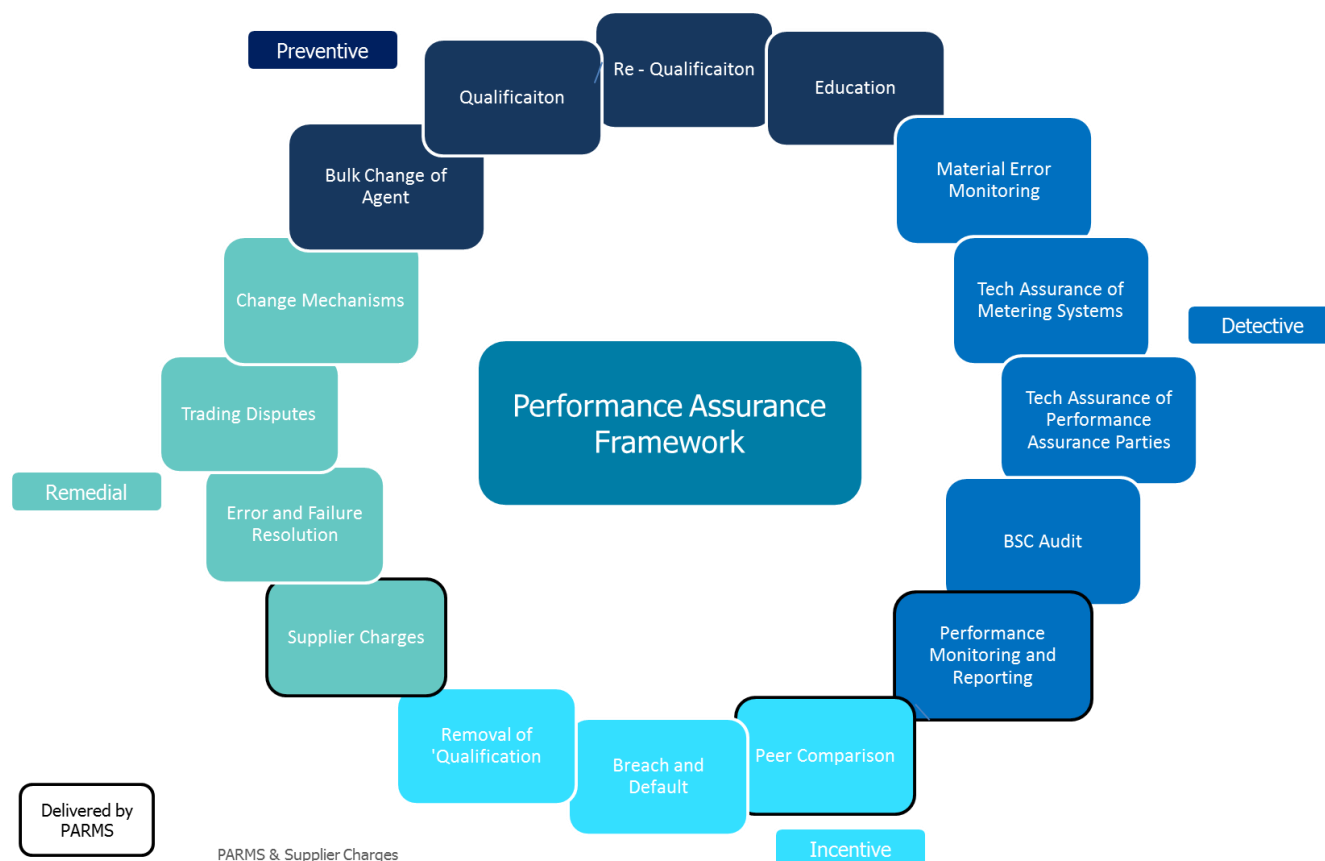


Chart 6: Missing HH MTDs

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APPENDIX B: SUPPLEMENTARY INFORMATION ON PERFORMANCE ASSURANCE TECHNIQUES

The PAF is made up of 16 assurance techniques:



Highlights are provided below of activities undertaken for techniques deployed during the 2017/18 Performance Assurance Operating Period (PAOP)⁴:

BSC Audit

The BSC Audit report is published on the [BSC Audit page](#) of the BSC Website.

The BSC Auditor issued an unqualified opinion on 14 June 2018 following the Panel meeting meaning the level of potential error indicated by the audit did not exceed the threshold of 1.3TWh.

The number of BSC Audit findings this year was consistent with last year. The proportion of Medium and High rated issues, however, increased from 26 (2016/17) to 41 (2017/18). These issues were spread across a relatively small number of Suppliers and agents which are well established in the roles in which they operate. The volume of issues

⁴ The Bulk Change of Agent, Re-Qualification and Removal of Qualification and techniques were not deployed during the PAOP.

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in the HH Market has also increased, partly reflecting the increase in HH Metering due to the migration of NHH PC5-8 Meters to mandatory HH Settlement.

The BSC Auditor has noted rapid growth in the number of smaller Suppliers and Party Agents but without sufficiently mature processes to ensure the BSC and BSCPs are properly followed. Additionally, the BSC Auditor noted that the knowledge of Settlement processes within the industry is being spread more thinly, resulting in a greater number of issues where human error and lack of proper training and understanding are the key contributors.

Breach and Default

There were four events of default between 1 April 2017 and 31 March 2018. Two of these were resolved and cleared the Default process. We expelled one Party (with no BM units and no energy contract volume) from the BSC following appointment of an Administrator. The other Party had its customers assigned to a Supplier of Last Resort due to its inability to pay debts due.

Education

Education is a preventative Performance Assurance Technique (PAT) within the Performance Assurance Framework (PAF) used to address Settlement Risks. ELEXON publishes guidance on common (market) issues identified and the best ways to address them. This may include a view of root causes of these issues. It may also reference other areas of the BSC that may help in monitoring or controlling the issue in some way. In addition, ELEXON assigns an Operational Support Manager (OSM) to each BSC Party and Party Agent once Qualified. The OSM provides a first point of contact and is able to provide day to day support and guidance regarding the BSC arrangements.

ELEXON runs regular training courses for electricity market participants; these courses are free of charge to BSC Parties. During 2017/18, ELEXON provided the following performance assurance related training/educational days:

- Total training courses delivered: 39
- Total number of delegates: 270
- 56% of training courses were delivered to 'off the shelf' Suppliers
- ELEXON organised a training day where 14 new Suppliers were in attendance; addressing popular topics such as Introduction to ELEXON and GCDC, Supplier Volume Allocation, Imbalance Settlement, PARMS, Supplier Charges and Large EAC/AA
- ELEXON delivered a webinar titled 'Beginner's Guide to Settlement Performance for Suppliers' which had 172 participants sign up
- ELEXON also hosted workshops on Settlement, Trading Disputes, Performance Assurance Framework and Technical Assurance of Metering between April 2017 and March 2018

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Error and Failure Resolution

SR3019⁵

SR3019	Number of plans	Number closed during period	Number ongoing after the period ended
EFR turned on before APAR period and open during the period	1	0	1
EFR turned on during the APAR period	0	0	0
Total:	1	0	1

SR0024⁶ and SR0025⁷

At the February 2017 PAB meeting, ELEXON highlighted issues with the current process for reporting on missing Meter Technical Details (MTDs) and assessing the need for EFR. The PAB agreed to stop EFR investigations for these risks until another approach could be found.

At the June 2017 PAB meeting ELEXON presented its findings and recommended a TAPAP check for the PAPs contributing to the most significant 'missing MTD' categories. The PAB agreed that EFR be used to address significant issues raised by the TAPAP checks.

SR0072⁸

In April 2017 a new BUSRR was implemented for SR0072 which specifically highlighted the number of instances each month where an instance was 500MWhs or higher. The introduction of the BUSRR appears to have helped Suppliers to address high volume instances more quickly which has supported those Parties within the EFR process to enable them to exit the technique and reduced the number of Suppliers requiring EFR to be applied.

⁵ **SR3019:** The risk that HHMOAs do not provide correct MTDs, including when HHMOAs make changes to MTDs, to the Half Hourly Data Collectors (HHDCs) resulting in Meter readings not being collected or misinterpreted

⁶ The risk that NHHMOAs do not provide Meter Technical Details to the correct NHHDCs resulting in Meter readings not being collected.

⁷ The risk that HHMOAs do not provide Meter Technical Details to the correct HHDCs resulting in Meter readings not being collected.

⁸ The risk that NHHDCs process incorrect Meter readings, resulting in erroneous data being entered into Settlement.

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SR0072	Number of plans	Number closed during period	Number ongoing after the period ended
EFR turned on before APAR period and open during the period	3	3	0
EFR turned on during the APAR period	1	1	0
Total:	4	4	0

SR0074⁹

The EFR plans that are in place to deal with Settlement Risk SR0074 focus on Suppliers setting out the root causes of MSIDs not settling 97% of its Non Half Hourly (NHH) Energy on Actual Advances (AA) by the Final Reconciliation Run (RF) and putting in place actions to address the root causes.

There have been increases in the number of Suppliers having EFR applied in addition to Suppliers already in EFR not making adequate progress to exit the EFR process.

As a result of insufficient progress, 10 of the ongoing 22 plans have been subject to escalation to the PAB. The PAB has also considered escalation to the Panel this year to address SR0074 performance.

SR0074	Number of plans	Number closed during period	Number ongoing after the period ended
EFR turned on before APAR period and open during the period	17	4	13
EFR turned on during the APAR period	9	0	9
Total:	26	4	22

SR0081¹⁰

The EFR plans that are in place to address with Settlement Risk SR0081 focus on Suppliers identifying and addressing root causes of not settling 99% of Half Hourly(HH) Energy on Actual Advances (AA) by the Initial Settlement Run (SF). The month on month market performance has been below the 99% SF standard.

⁹ The risk that NHHDCs do not collect and / or enter valid Meter readings resulting in old/default data entering Settlement.

¹⁰ The risk that HHDCs do not process valid HH readings resulting in estimated data being entered into Settlement.

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Due to insufficient progress, four of the seven ongoing plans have been subject to PAB Escalation in accordance with BSCP538 "Error and Failure Resolution".

Since 31 March 2018, two of the Suppliers have exited EFR after three months of consistently good performance.

SR0081	Number of plans	Number closed during period	Number ongoing after the period ended
EFR turned on before APAR period and open during the period	8	1	7
EFR turned on during the APAR period	0	0	0
Total:	8	1	7

Commissioning non-compliances detected through TAPAP

EFR was used to address non-compliances with the Commissioning process which were highlighted during TAPAP checks performed in May 2016.

The majority of remaining non-compliances associated the transferring of records between the LDSO and MOA. ELEXON will be introducing two new data flows as part of the November 2018 BSC Release to allow:

- The LDSO to inform the MOA of measurement transformer Commissioning, and for the MOA to complete internally when it has performed its own Commissioning
- The MOA to inform the Supplier/Registrant of the Commissioning status and if required for the Supplier/Registrant to communicate with the LDSO/IDNO or MOA to resolve a gap in the Commissioning process

Commissioning	Number of plans	Number closed during period	Number ongoing after the period ended
EFR turned on before APAR period and open during the period	19	1	18
EFR turned on during the APAR period	0	0	0
Total:	19	1	18

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Non Compliances Identified through Supplier Migration monitoring

EFR was applied if Parties were not complying with the mandatory HH migration requirements which are being monitored by the PAB.

EFR plans which extended past the 1 April 2017 Implementation Date were revised to address missing the P272 migration deadline risk. Suppliers that had Profile Class (PC)5-8 Meters that were capable of settling Half Hourly remaining as NHH registered were entered into EFR. The PAB robustly monitored the plans and five Suppliers were subject to PAB Escalation after the Implementation Date. All of the plans have now been completed.

Mandatory HH migration	Number of plans	Number closed during period	Number ongoing after the period ended
EFR turned on before APAR period and open during the period	8	8	0
EFR turned on during the APAR period	11	11	0
Total:	19	19	0

EFR plans for addressing missing D0313¹¹ flows or missing passwords from D0313 flows following TAPAP checks

These plans focus on process changes and system fixes for MOAs that have not been sending D0313s or have not been including the correct passwords in these flows.

All of the MOAs have now completed EFR plans. However, ELEXON has completed industry analysis which highlights some potential ongoing issues with these processes. ELEXON will be investigating further and discussing next steps, to address issues with identified MOAs, with the PAB.

D0313 TAPAP	Number of plans	Number closed during period	Number ongoing after the period ended
Total:	10	10	0

¹¹ Auxiliary Meter technical Details.

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EFR plans for issues detected by the BSC Auditor

During 2017/18 EFR was applied to address medium and higher issues identified by the BSC Auditor during the 2016-2017 BSC Audit.

Of the 23 Audit issues that required EFR plans:

- Eight related to MOA processes including Commissioning, Fault resolution, Energisation changes and Meter reconfiguration change or removal
- Two related to LDSOs and their obligations to commission Meters
- Ten related to Non Half Hourly Data Collector (NHHDC) processes including Resolution of D0023 'Failed Instruction' flows, Management of Long Term Vacant Sites, Processing of Agreed Final Reads following the Disputed Reads process and failure to apply Gross Volume Allocation in accordance with the BSC rules
- Two related to Suppliers' processes for addressing issues sent in the D0095 'Non-Half Hourly Data Aggregation Exception Report' and the D00235 'Half Hourly Data Aggregation Exception Report'
- One related to the management of the Change Process for an organisation covering a number of roles

BSC Audit	Number of plans	Number closed during period
Total:	23	9 issues were closed and 10 lowered so that EFR can be switched off.

Qualification

The SVA Qualification process and re-Qualification process are preventative techniques used by the PAB to manage Settlement Risks. The Qualification process provides assurance that new entrants have developed their systems and processes according to the standards defined in the BSC and its subsidiary documents. The re-Qualification process provides assurance that existing Party Agents remain compliant when making major changes to their systems and processes.

During 2017/18, the PAB considered and approved 35 role-specific Qualification applications. The majority of the Suppliers Qualified were brought through by consultancies as 'off the shelf' Suppliers (26 of the 35 applications). The PAB did not approve any re-Qualification or Removal of Qualification during 2017/18.

Roles	Qual 2016/2017	Qual 2017/2018
Supplier Meter Registration Agent (SMRA)	2	3
Unmetered Supplies Operator (UMSO)	2	3
Half Hourly Data Collector (HHDC)	0	0
Non Half Hourly Data Collector (NHHDC)	0	0
Half Hourly Data Aggregator (HHDA)	0	0

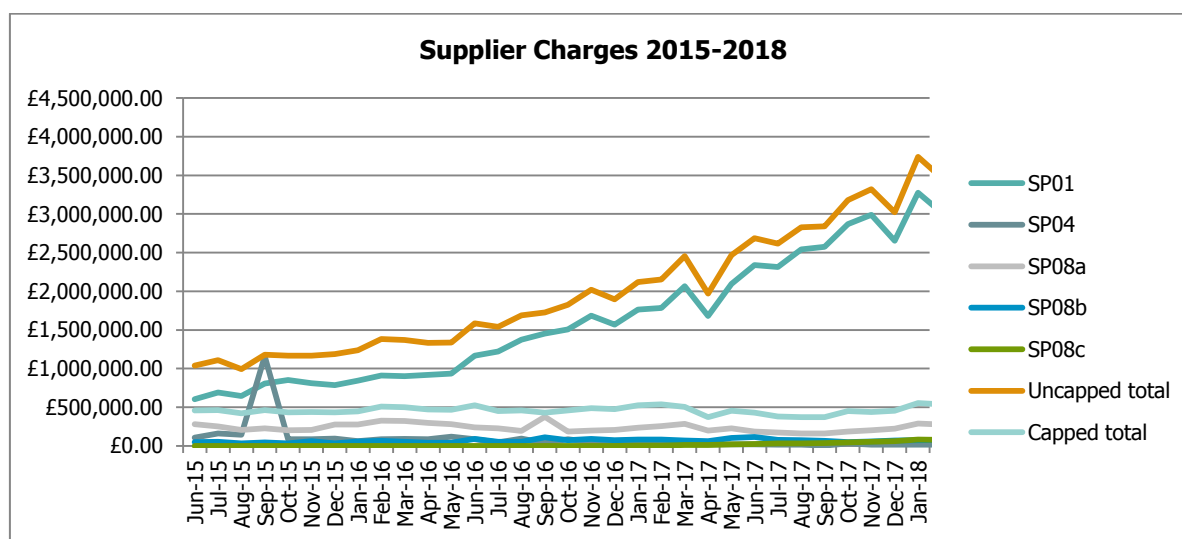
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Non Half Hourly Data Aggregator (NHHDA)	0	0
Half Hourly Meter Operator Agent (HHMOA)	6	0
Non Half Hourly Meter Operator Agent (NHHMOA)	14	0
Central Volume Allocation Meter Operator Agent (CVAMOA)	0	0
Supplier (NHH/HH)	73	29
Meter Administrator (MA)	0	0
Total	97	35

Supplier Charges

Supplier Charges is a remedial technique that provides a mechanism for applying liquidated damages to Suppliers failing to meet applicable performance levels set out in the Balancing Settlement Code (BSC). The charges compensate Parties disadvantaged by those who are unable to meet the defined Standards. Supplier Charges are subject to a national monthly cap. We calculate the cap across the 14 Grid Supply Point (GSP) Groups by relative annual consumption compared to total annual consumption for the previous year. We use the Retail Price Index (RPI) to calculate the revised figures for both the national monthly cap and the individual Supplier cap.

The total Uncapped Supplier Charges for 2017/18 was £35,981,837.32 (capped to £5,406,808.55 compared to £24,378,281.76 (capped to £5,837,839.03) in 2016/17.



SP01 is related to the non-delivery of routine performance logs or 'Serials'

SP04 is related to the installation of HH Metering

SP08a is related to percentage of energy on Annual Advances and Actual Readings R3 to RF

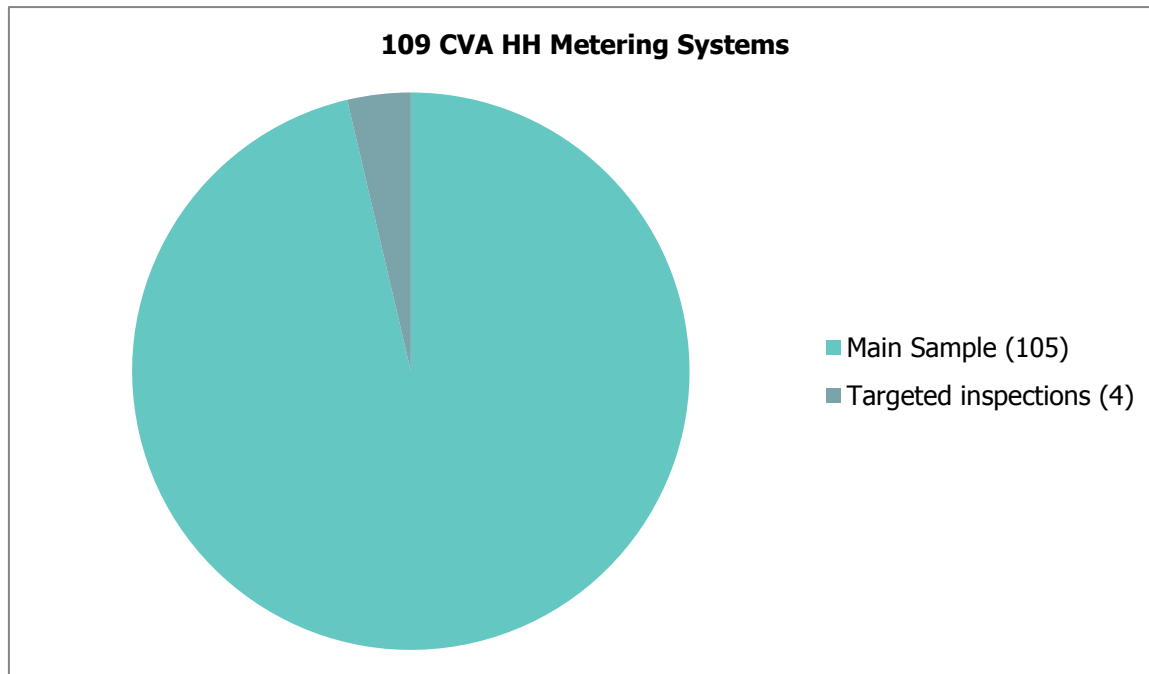
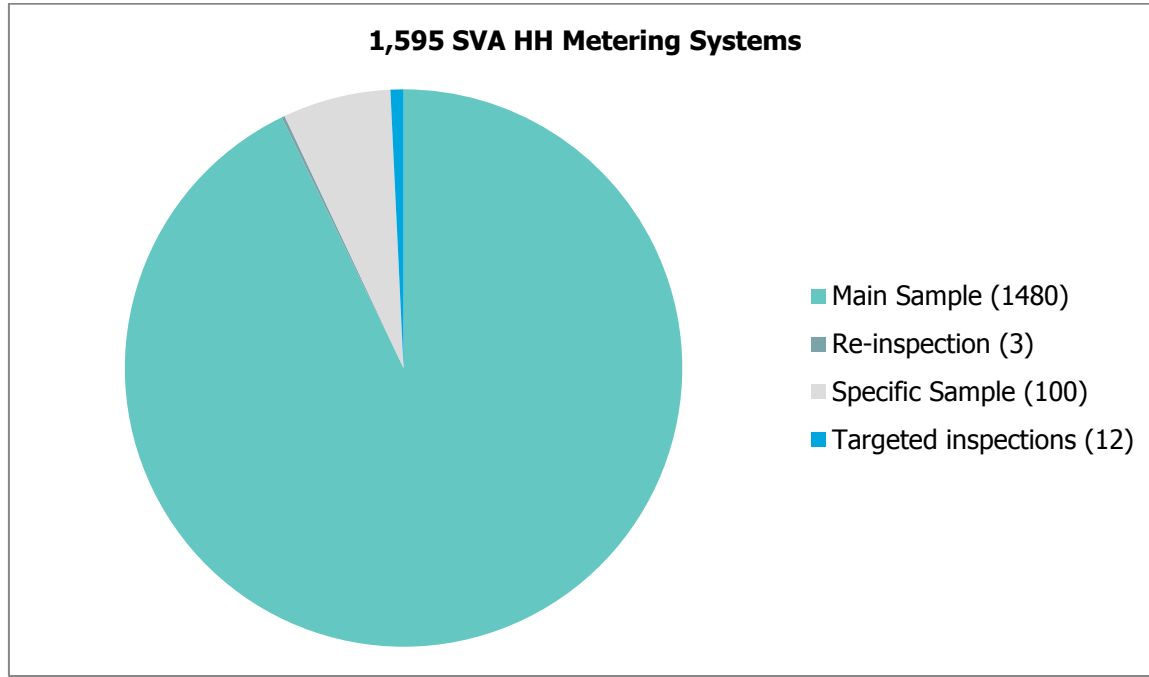
SP08b is related to percentage of Half Hourly Energy settled on actual Meter readings at SF and R1

SP08c is related to failure to settle specified percentages of energy on Annual Advances and Actual Readings

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Technical Assurance of Metering Systems

During the 2017-18 PAOP, the TAA completed the following inspection visits:



There has been a stabilisation in the number of Category 1 non-compliances raised in 2017/18. The number of non-compliances raised for major time drift has increased. The ELEXON Trading Disputes team has deemed that these non-compliances had no material impact on Settlement.

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The TAA recorded 50% fewer Metering Equipment related faults (Category 1.02 non-compliance) in comparison to last year, and similarly a decline in errors introduced to Settlement due to incorrect Current transformer (CT) ratio selection (Category 1.04 non-compliance).

Similarly, there was no increase in the numbers of Category 1 non-compliances recorded for the CVA market in this audit period.

However, around 1.2% of SVA Sample Inspection Visits, where the Metering Equipment was accessed, had associated Category 1 non-compliances recorded against those Metering Systems. Extrapolating this across the current SVA Metering System population, the TAA estimated that approximately 1,800 SVA Metering Systems could be materially impacting Settlement (when time drift non-compliance is removed).

In the CVA Market, of the 96 Metering Systems accessed, over 40 had no Commissioning records available for the TAA to review.

In summary, the key issues identified by the TAA as impacting the health of the market were:

- Incorrect voltage levels at meter terminals
- CTs shorted out
- Wiring faults
- Faulty meter
- Incorrect CT ratio selection

Technical Assurance of Performance Assurance Parties (TAPAP)

During the 2017/18 PAOP, ELEXON conducted a TAPAP check into missing MTDs to assess the impact on Settlement. The check covered 11 Performance Assurance Parties (PAPs) and 22 Market Participant Ids (MPIDs). Non-compliances were identified across all audited MPIDs.

In addition, ELEXON commissioned KPMG to undertake an ad-hoc TAPAP check on a single PAP to assess causes and impacts of a previously identified Settlement Error and subsequent preventative controls put in place by the party to mitigate against future occurrences of the error.

ELEXON invested in formal audit training for key team members performing TAPAP checks and improvements were made to internal processes to ensure adherence to best practice and to improve the quality of service provided to PAPs subject to TAPAP checks.

Trading Disputes

The overall number of Trading Disputes raised during 2017/18 was 73 compared to 48 in 2016/17. Of the 73 Trading Disputes raised, 60 related to Supplier Volume Allocation (SVA) sites and 13 related to Central Volume Allocation (CVA) sites. The Trading Disputes Committee (TDC) upheld 65 Trading Disputes and rejected 5 Trading Disputes on the grounds that no Settlement Error had occurred. At the end of the 2017/18 PAOP there were 21 Trading Disputes remaining open, under investigation.

The table below shows the root causes and the level of materiality of the Trading Disputes upheld in 2017/18:

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No. of disputes	Root causes	Materiality
1	Aggregation Rule not updated with new generation plant unit resulting in export data not accounted for in Settlement	£7,221
8	Current Transformer (CT) ratio mismatch between physical CT and CT ratio programmed in the Meter resulting in Meter over or under - recording	£114,022
3	Data Aggregation issue – files not submitted or files submitted with erroneous data by Data Aggregators (DAs) for a Settlement Run resulting in incorrect volumes in Settlement Runs	£55,562
3	Data estimation issue – Data Collectors (DCs) estimating zeros where there was consumption on site resulting in incorrect energy volumes in Settlement	£210,049
1	Disconnection issue – Metering System registered as disconnected in error resulting in missing energy volumes in Settlement	£1,034
2	Energisation status issue – incorrect Energisation status recorded for Metering System resulting in missing energy volumes in Settlement	£47,743
4	Faulty Meter – fault with a Meter resulting in consumption being over or under recorded	£2,635,042
1	Incorrect MTDs	£42,207
30	Erroneously Large EAC/AA uncorrected before Final Reconciliation (RF) run	£227,963
5	National Grid Data issue - Incorrect Non-Balancing Mechanism (BM) Short Term Operating Reserve (STOR) Balancing Services Adjustment Costs were included in some Balancing Services Adjustment Data (BSAD).	£252,043
2	Phase Failure caused the Meter to under-record consumption on site	£385
1	Unregistered Metering System resulting in missing energy volumes in Settlement	£87,639
2	Voltage Transformer (VT) mismatch between physical VT	£3,448

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	and VT ratio programmed in the Meter resulting in Meter over or under - recording	
2	Data Collection system issues upon system upgrade and MTDs being transposed, resulting in erroneously high consumption being recorded in Settlement	£4,480,352
Total 65		£8,213,894