ELEXON

TAMEG47/01 - Technical Assurance of Metering (TAM) Stats Report October 2021

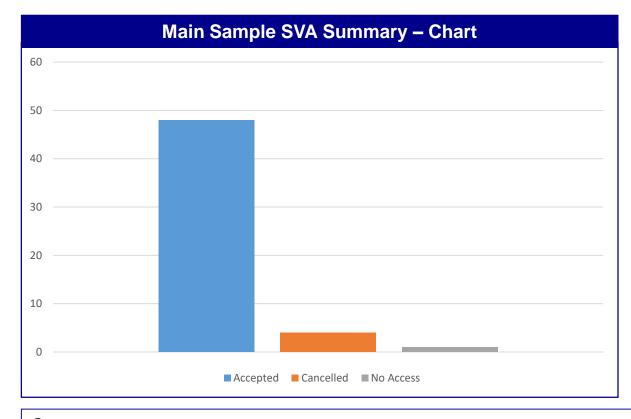
PUBLIC

SITE VISITS - MAIN SAMPLE SVA

Technical Assurance of Metering (TAM) – Desktop Audit Summary

Site Visits – Main Sample SVA

2021/2022 Audit Year



Main Sample SVA Summary – Data Table							
Accepted	Cancelled	No Access					
48	4	1					

- A small trial sample of Site Visits was scheduled to gauge any ongoing impacts on access rates as a result of COVID-19. Additional communications to Suppliers were sent prior to scheduling the visits in an attempt to improve access rates.
- Initial results appear positive, with only one recorded No Access so far and the TAA reporting no additional COVID-19 impacts. As a result, further Site Visits are now being scheduled in for the remainder of the Audit Year. Elexon and the TAA will continue to engage with Suppliers in an effort to maintain the improvement in access.

Non-Compliances

Category 1 – A non-compliance has been identified which is deemed to be currently affecting the quality of data for Settlement purposes

Only one Category 1 non-compliance (1.03 Outstation clock outside of agreed tolerance) was recorded as a result of the inspections carried out.

Category 2 – A non-compliance has been identified which is deemed to potentially affect the quality of data for Settlement purposes

A total of 92 Category 2 non-compliances were recorded, broken down as follows:

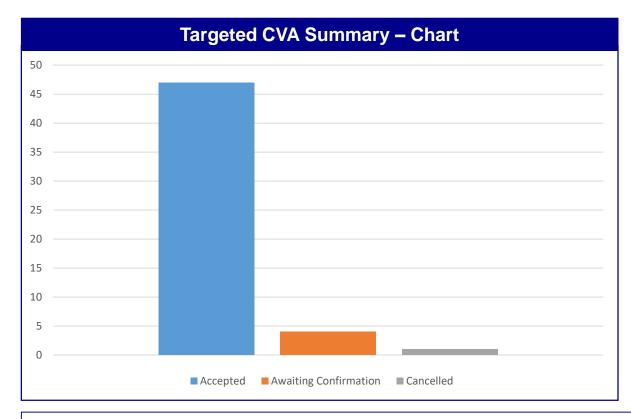
Category	Description	Total
2.17	Meter Certificates not provided	26
2.15	Commissioning records not provided	23
2.11	Settlement Metering Equipment not sealed	8
2.06	Possibility that overall accuracy of Metering System not maintained	7
2.16	Measurement Transformer Certificates not provided	7
2.02	Other non-Key fields (e.g. Measurement Transformer Ratios)	5
2.13	No justification provided of applied compensation	5
2.15	Commissioning records incomplete	5
2.03	Meter Technical Details not provided – Meter Operator Agent and Data Collector	3
2.15	Miscellaneous	2
2.03	Complex Site Supplementary Information Form not provided (SVA Only)	1

SITE VISITS - TARGETED CVA

Technical Assurance of Metering (TAM) – Desktop Audit Summary

Site Visits – Targeted CVA

2021/2022 Audit Year



Targeted CVA Summary – Data Table							
Accepted	Awaiting Confirmation	Cancelled					
47	4	1					

Comments:

• The TAA are carrying out inspections of all CVA sites in GSP Groups _K, _J and _M in response to anomalies in the Annual Demand Ratio (ADR) for these areas

Non-Compliances

Category 1

As yet, the targeted inspections have not recorded any Category 1 non-compliances.

Category 2

A total of 152 Category 2 non-compliances have been recorded, broken down as follows:

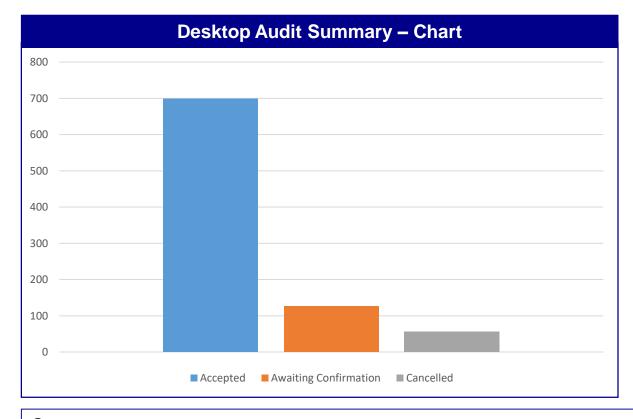
Category	Description	Total
2.16	Measurement Transformer Certificates not provided	32
2.13	No justification provided of applied compensation	29
2.13	Other non-compliance not covered elsewhere	17
2.15	Commissioning records incorrect	17
2.17	Meter Certificates not provided	12
2.06	Possibility that overall accuracy of Metering System not maintained	11
2.15	Commissioning records not provided	11
2.15	Commissioning records incomplete	10
2.11	Settlement Metering Equipment not sealed	7
2.16	Measurement Transformer Certificates do not match site equipment	4
2.17	Meter Certificates do not match site equipment	2

DESKTOP AUDITS

Technical Assurance of Metering (TAM) – Desktop Audit Summary

Desktop Audits

2021/2022 Audit Year



Desktop Audit Summary – Data Table									
Accepted Awaiting Confirmation Cancelled									
699	126	56							

Comments:

· Accepted Desktop Audits comprise completed and scheduled audits.

SUPPLIER

Supplier Non-Compliances

Category A - A non-compliance has been identified from an Desktop Audit, which is deemed to be currently affecting, or has a high likelihood of affecting, the quality of data for Settlement purposes

Category B - A non-compliance has been identified from a Desktop Audit, which has been deemed to have a lower likelihood of affecting the quality of data for Settlement purposes, or for the non-provision of evidence

Supplier Category A Non-Compliances

A.1X: Registrant failed to confirm or complete Desktop Audit notification

A.2X: Data mismatch between Single Line Diagram, or other support documentation

A.4X: Measurement transformer ratio mismatch

A.5X: Suspect data on Commissioning evidence provided

A.9X: D0268 mismatch (key fields)

A.14X: Number of circuits mismatch

Supplier Category B Non-Compliances

B.1X: D0268 not provided

B.3X: Single Line Diagram not provided

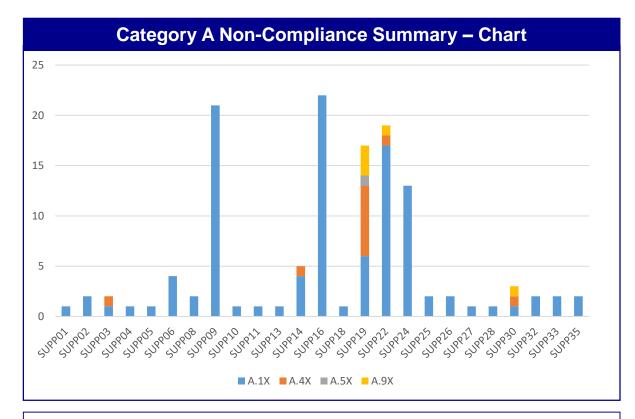
B.7X: Allocation Schedule not provided

B.17X: D0268 mismatch (non-key fields)

Technical Assurance of Metering (TAM) – Supplier Category A Non-Compliance Summary (1)

Desktop Audits

2021/2022 Audit Year



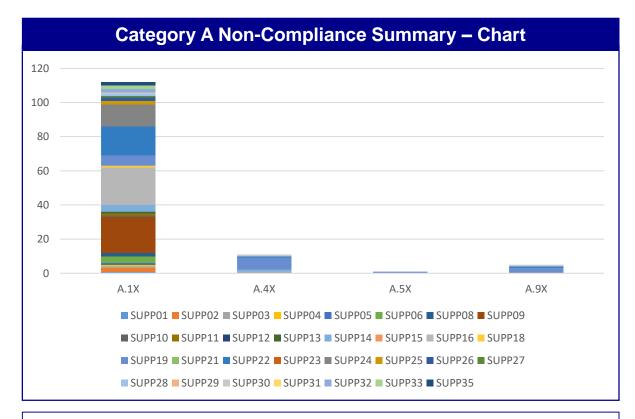
- Five Suppliers SUPP09, 16, 19, 22 and 24 were responsible for the majority of Category A non-Compliances (just over 70%)
- The figures include Category A.1X, for which the Registrant failed to confirm or complete the Desktop Audit notification

Category A Non-Compliance Summary – Data Table						
Supplier	Cat A	DA Accepted	DA Awaiting Confirmation	DA Cancelled		
SUPP01	1	0	1	0		
SUPP02	2	0	2	0		
SUPP03	2	19	1	0		
SUPP04	1	1	1	0		
SUPP05	1	0	1	0		
SUPP06	4	39	4	0		
SUPP08	2	0	2	0		
SUPP09	21	4	24	7		
SUPP10	1	28	1	1		
SUPP11	1	0	1	0		
SUPP13	1	17	1	0		
SUPP14	5	44	4	1		
SUPP16	22	61	24	11		
SUPP18	1	1	2	1		
SUPP19	17	161	6	3		
SUPP22	19	159	19	0		
SUPP24	13	0	13	10		
SUPP25	2	14	2	0		
SUPP26	2	20	2	0		
SUPP27	1	0	1	0		
SUPP28	1	29	1	2		
SUPP30	3	52	1	1		
SUPP32	2	17	6	13		
SUPP33	2	2	2	0		
SUPP35	2	0	3	0		

Technical Assurance of Metering (TAM) – Supplier Category A Non-Compliance Summary (2)

Desktop Audits

2021/2022 Audit Year



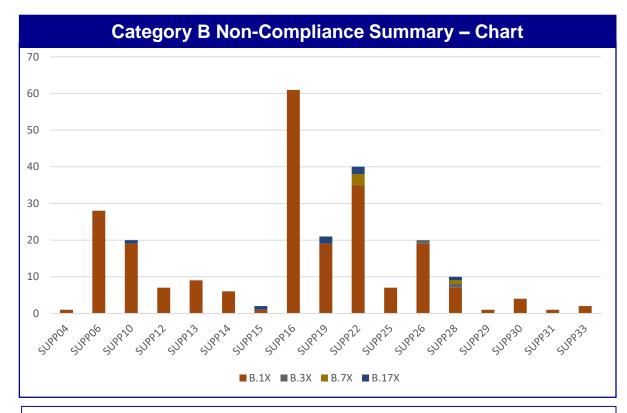
- For SUPP09, 16, 22 and 24 the majority of these relate to a failure to confirm or complete notification, as is the case for all of the other Suppliers bar one
- The exception is SUPP19, where the majority were in Category A.4X, although SUPP19 has also completed the most Desktop Audits so far this

Category A Non-Compliance Summary – Data Table						
Supplier	A.1X Registrant failed to confirm or complete Desktop Audit notification	A.4X Measurement transformer ratio mismatch	A.5X Suspect data on Commissioning evidence provided	A.9X D0268 mismatch (key fields)		
SUPP01	1					
SUPP02	2					
SUPP03	1	1				
SUPP04	1					
SUPP05	1					
SUPP06	4					
SUPP08	2					
SUPP09	21					
SUPP10	1					
SUPP11	1					
SUPP13	1					
SUPP14	4	1				
SUPP16	22					
SUPP18	1					
SUPP19	6	7	1	3		
SUPP22	17	1		1		
SUPP24	13					
SUPP25	2					
SUPP26	2					
SUPP27	1					
SUPP28	1					
SUPP30	1	1		1		
SUPP32	2					
SUPP33	2					
SUPP35	2					

Technical Assurance of Metering (TAM) – Supplier Category B Non-Compliance Summary

Desktop Audits

2021/2022 Audit Year



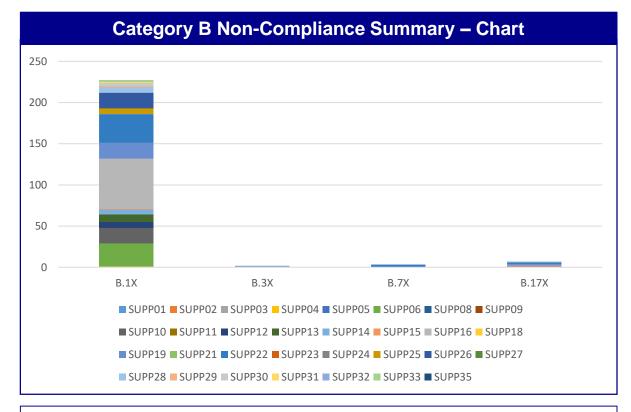
- Six Suppliers SUPP06, 10, 16, 19, 22 and 26 were responsible for around 80% of all Category B Non-Compliances
- Of these, SUPP16 and SUPP26 were particularly notable for the high proportion of audits in which a Category B was recorded

Category B Non-Compliance Summary – Data Table					
Supplier	Cat B	DA Accepted	DA Awaiting Confirmation	DA Cancelled	
SUPP04	1	1	1	0	
SUPP06	28	39	4	0	
SUPP10	20	28	1	1	
SUPP12	7	7	0	0	
SUPP13	9	17	1	0	
SUPP14	6	44	4	1	
SUPP15	2	9	0	1	
SUPP16	61	61	24	11	
SUPP19	21	161	6	3	
SUPP22	40	159	19	0	
SUPP25	7	14	2	0	
SUPP26	20	20	2	0	
SUPP28	10	29	1	2	
SUPP29	1	1	0	0	
SUPP30	4	52	1	1	
SUPP31	1	1	0	0	
SUPP33	2	2	2	0	

Technical Assurance of Metering (TAM) – Supplier Category B Non-Compliance Summary (2a)

Desktop Audits – Specific Sample

2021/2022 Audit Year



Comments:

 The overwhelming majority of Category B failures related to non-provision of a D0268

Category B Non-Compliance Summary – Data Table					
Supplier	B.1X D0268 not provided	B.3X Single Line Diagram not provided	B.7X: Allocation Schedule not provided	B.17X D0268 mismatch (non-key fields)	
SUPP04	1				
SUPP06	28				
SUPP10	19			1	
SUPP12	7				
SUPP13	9				
SUPP14	6				
SUPP15	1			1	
SUPP16	61				
SUPP19	19			2	
SUPP22	35		3	2	
SUPP25	7				
SUPP26	19	1			
SUPP28	7	1	1	1	
SUPP29	1				
SUPP30	4				
SUPP31	1				
SUPP33	2				

METER OPERATOR AGENT (MOA)

Meter Operator Agent (MOA) Non-Compliances

Category A - A non-compliance has been identified from an Desktop Audit, which is deemed to be currently affecting, or has a high likelihood of affecting, the quality of data for Settlement purposes

Category B - A non-compliance has been identified from a Desktop Audit, which has been deemed to have a lower likelihood of affecting the quality of data for Settlement purposes, or for the non-provision of evidence

MOA Category A Non-Compliances

A.4M: Measurement transformer ratio mismatch

A.5M: Suspect data on Commissioning evidence provided

A.6M: Settlement data mismatch

A.7M: Overall Accuracy outside of limits

A.9M: D0268 mismatch (key fields)

MOA Category B Non-Compliances

B.1M: D0268 not provided

B.4M: Complex Site Supplementary Information form not provided

B.8M: Request for Metering System investigation (D0001) and fault resolution report (D0002) not provided

B.9M: Settlement data (3 days) not provided

B.10M: Compensation figures not provided (where applicable)

B.11M: Commissioning record (part 1) not provided (Pre Nov 2018)

B.12M: Commissioning record (part 1) not provided (Post Nov 2018)

B.13M: Commissioning record (part 2) not provided

B.14M: CT/VT Certificates or supporting evidence for overall accuracy calculation not provided

B.16M: Overall accuracy calculation not provided

B.17M: D0268 mismatch (non-key fields)

MOA06

MOA07

MOA08

MOA09

MOA10

MOA11

MOA12

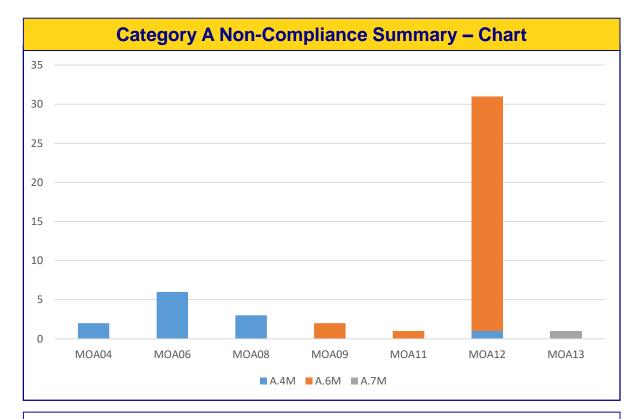
MOA13

31

Technical Assurance of Metering (TAM) – HHMOA Category A Non-Compliance Summary (1)

Desktop Audits

2021/2022 Audit Year



Comments:

 MOA12 were responsible for the majority of Category A non-compliances, and had by far the highest proportion of audits return this result

Category A Non-Compliance Summary – Data Table						
МОА	Cat A	DA Accepted	DA Awaiting Confirmation	DA Cancelled		
MOA01	0	0	5	0		
MOA02	0	57	20	7		
MOA04	2	38	15	6		
MOA05	0	7	0	3		

126

141

125

84

43

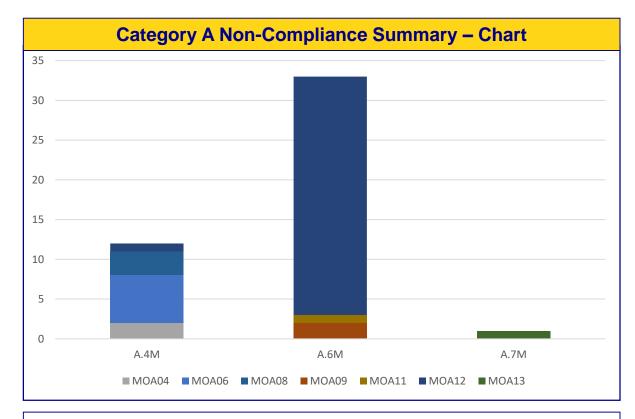
16

12

Technical Assurance of Metering (TAM) – HHMOA Category A Non-Compliance Summary (2)

Desktop Audits

2021/2022 Audit Year



Comments:

- The majority of MOA12's Category A Non-Compliances were issues with Settlement data mismatches
- For the other MOAs, the most common issues were Measurement transformer ratio mismatches

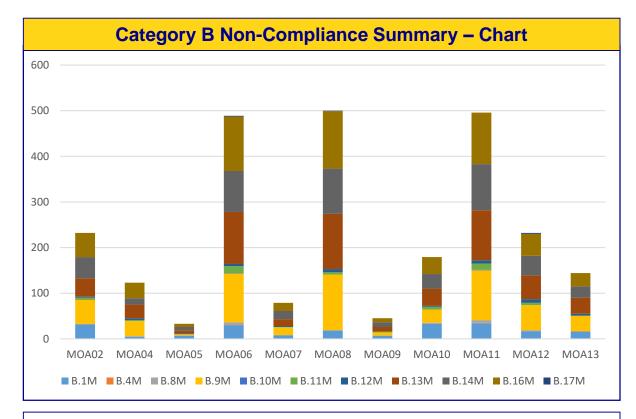
Category A Non-Compliance Summary – Data Table

MOA	A.4M Measurement transformer ratio mismatch	A.5M Suspect data on Commissioning evidence provided	A.6M Settlement data mismatch	A.7M Overall Accuracy outside of limits	A.9M D0268 mismatch (key fields)
MOA01					
MOA02					
MOA04	2				
MOA05					
MOA06	6				
MOA07					
MOA08	3				
MOA09			2		
MOA10					
MOA11			1		
MOA12	1		30		
MOA13				1	

Technical Assurance of Metering (TAM) – HHMOA Category B Non-Compliance Summary (1)

Desktop Audits

2021/2022 Audit Year



Comments:

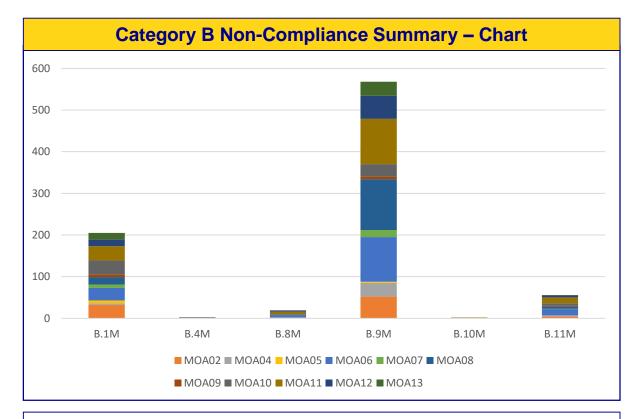
 Three MOAs – MOA02, 05 and 07 stand out as having a high proportion of Category Bs relative to the number of audits carried out

Category B Non-Compliance Summary – Data Table						
МОА	Cat B	DA Accepted	DA Awaiting Confirmation	DA Cancelled		
MOA01	0	0	5	0		
MOA02	232	57	20	7		
MOA04	123	38	15	6		
MOA05	33	7	0	3		
MOA06	489	126	4	4		
MOA07	79	18	9	12		
MOA08	500	141	16	1		
MOA09	45	14	0	8		
MOA10	179	46	0	1		
MOA11	496	125	20	8		
MOA12	232	84	23	3		
MOA13	144	43	14	2		

Technical Assurance of Metering (TAM) – HHMOA Category B Non-Compliance Summary (2)

Desktop Audits

2021/2022 Audit Year



Comments:

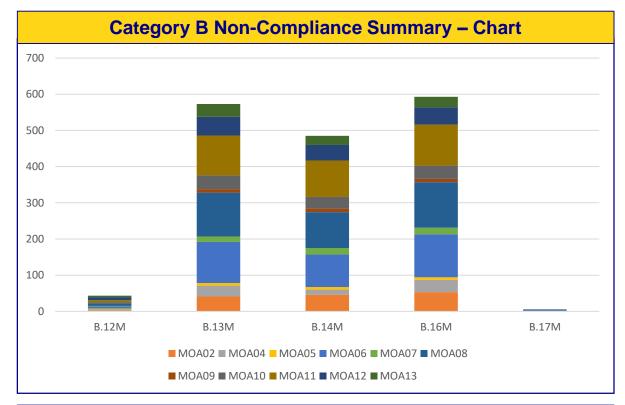
 The majority of Category B Non-Compliances relate to non-provision of a D0268, 3 days of Settlement Data, Part 2 Commissioning records, and/or overall accuracy calculations and the evidence for them (see next slide)

C	Category B Non-Compliance Summary – Data Table						
МОА	B.1M D0268 not provided	B.4M Complex Site Supplementary Information form not provided	B.8M Request for Metering System investigation (D0001) and fault resolution report (D0002) not provided	B.9M Settlement data (3 days) not provided	B.10M Compensation figures not provided (where applicable)	B.11M Commissionin g record (part 1) not provided (Pre Nov 2018)	
MOA01							
MOA02	32	1		52		5	
MOA04	4		2	33		2	
MOA05	7			3			
MOA06	30	1	5	107	1	15	
MOA07	8			17		1	
MOA08	18		1	122		5	
MOA09	7			7		2	
MOA10	33		2	29		6	
MOA11	34	1	6	109	1	14	
MOA12	16		3	55		5	
MOA13	16			34		1	

Technical Assurance of Metering (TAM) – HHMOA Category B Non-Compliance Summary (3)

Desktop Audits

2021/2022 Audit Year



Comments:			

Category B Non-Compliance Summary – Data Table						
МОА	B.12M Commissioning record (part 1) not provided (Pre Nov 2018)	B.13M Commissioning record (part 2) not provided	B.14M CT/VT Certificates or evidence for overall accuracy calculation not provided	B.16M Overall accuracy calculation not provided	B.17M D0268 mismatch (non- key fields)	
MOA01						
MOA02	2	41	46	53		
MOA04	4	30	14	34		
MOA05	2	7	7	7		
MOA06	5	114	90	119	2	
MOA07	2	15	18	18		
MOA08	7	121	99	126	1	
MOA09		10	10	9		
MOA10	2	38	32	37		
MOA11	7	110	101	113		
MOA12	8	52	43	48	2	
MOA13	4	35	25	29		

DATA COLLECTOR (DC)

Data Collector (DC) Non-Compliances

Category A - A non-compliance has been identified from an Desktop Audit, which is deemed to be currently affecting, or has a high likelihood of affecting, the quality of data for Settlement purposes

Category B - A non-compliance has been identified from a Desktop Audit, which has been deemed to have a lower likelihood of affecting the quality of data for Settlement purposes, or for the non-provision of evidence

DC Category A Non-Compliances

A.4C: Measurement transformer ratio mismatch

A.6C: Settlement data mismatch **A.9C**: D0268 mismatch (key fields)

A.10C: Mini-Mar is outside of tolerance

DC Category B Non-Compliances

B.1C:D0268 not provided

B.7C: Allocation Schedule not provided

B.8C: Request for Metering System investigation (D0001) and fault resolution report (D0002) not provided

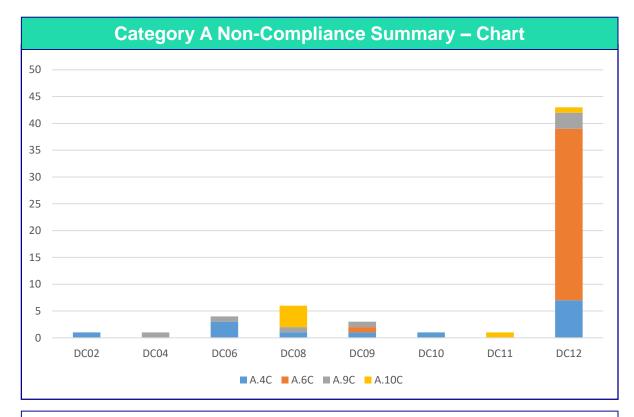
B.9C: Settlement data (3 days) not provided

B.17C: D0268 mismatch (non-key fields)

Technical Assurance of Metering (TAM) – HHDC Category A Non-Compliance Summary (1)

Desktop Audits

2021/2022 Audit Year



Comments:

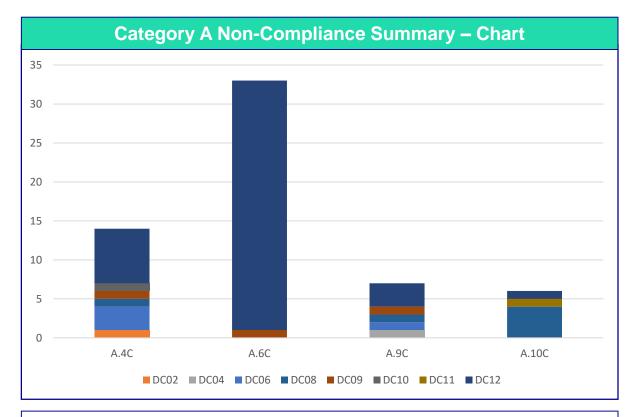
 Although DC12 recorded by far the largest number of Cat A non-Compliances, they also participated in the most audits

Category A Non-Compliance Summary – Data Table						
DC	Cat A	DA Accepted	DA Awaiting Confirmation	DA Cancelled		
DC01	0	0	4	0		
DC02	1	48	17	7		
DC04	1	15	13	5		
DC05	0	0	8	7		
DC06	4	149	17	2		
DC07	0	1	0	0		
DC08	6	58	0	1		
DC09	3	130	20	12		
DC10	1	6	4	6		
DC11	1	40	1	5		
DC12	43	239	37	10		
DC13	0	13	5	0		

Technical Assurance of Metering (TAM) – HHDC Category A Non-Compliance Summary (2)

Desktop Audits

2021/2022 Audit Year



Comments:

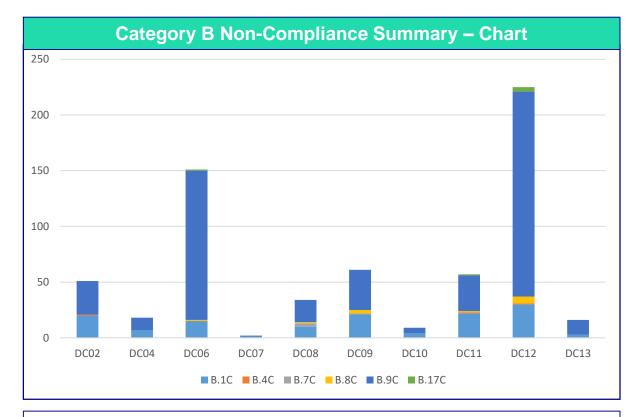
 However, their non-compliances were also much more heavily weighted to Settlement data mismatches than other DCs

Cate	Category A Non-Compliance Summary – Data Table						
DC	A.4C Measurement transformer ratio mismatch	A.6C Settlement data mismatch	A.9C D0268 mismatch (key fields)	A.10C Mini-Mar is outside of tolerance			
DC01							
DC02	1						
DC04			1				
DC05							
DC06	3		1				
DC07							
DC08	1		1	4			
DC09	1	1	1				
DC10	1						
DC11				1			
DC12	7	32	3	1			
DC13							

Technical Assurance of Metering (TAM) – HHDC Category B Non-Compliance Summary (1)

Desktop Audits

2021/2022 Audit Year



Comments:

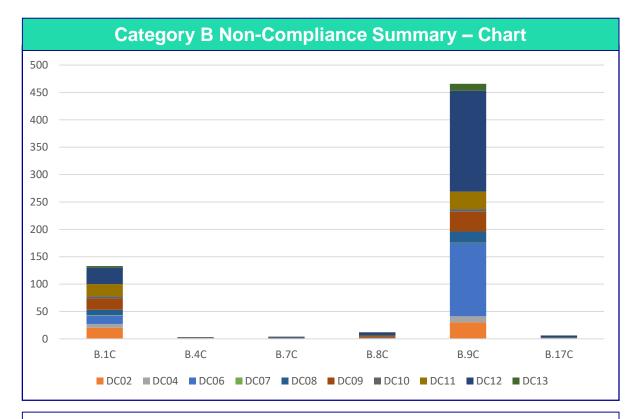
 Only three DCs – DC08, 09 and 12 – averaged less than one Category B Non-Compliance per Accepted audit

Categ	Category B Non-Compliance Summary – Data Table						
DC	Cat B	DA Accepted	DA Awaiting Confirmation	DA Cancelled			
DC01	0	0	4	0			
DC02	51	48	17	7			
DC04	18	15	13	5			
DC05	0	0	8	7			
DC06	151	149	17	2			
DC07	2	1	0	0			
DC08	34	58	0	1			
DC09	61	130	20	12			
DC10	9	6	4	6			
DC11	57	40	1	5			
DC12	225	239	37	10			
DC13	16	13	5	0			

Technical Assurance of Metering (TAM) – HHDC Category B Non-Compliance Summary (2)

Desktop Audits

2021/2022 Audit Year



Comments:

• The clear majority of Non-Compliances were for non-provision of Settlement data, followed by non-provision of a D0268

С	Category B Non-Compliance Summary – Data Table						
DC	B.1C D0268 not provided	B.4C Complex Site Supplementary Information form not provided	B.7C Allocation Schedule not provided	B.8C Allocation Schedule not provided	B.9C Settlement data (3 days) not provided	B.17C D0268 mismatch (non-key fields)	
DC01							
DC02	20	1			30		
DC04	7				11		
DC05							
DC06	15			1	134	1	
DC07	1				1		
DC08	10		3	1	20		
DC09	21		1	3	36		
DC10	4				5		
DC11	22	1		1	32	1	
DC12	30	1		6	184	4	
DC13	3				13		

LICENSED DISTRIBUTOR SYSTEM OPERATOR (LDSO)

Licensed Distributor System Operator (LDSO) Non-Compliances

Category A - A non-compliance has been identified from an Desktop Audit, which is deemed to be currently affecting, or has a high likelihood of affecting, the quality of data for Settlement purposes

Category B - A non-compliance has been identified from a Desktop Audit, which has been deemed to have a lower likelihood of affecting the quality of data for Settlement purposes, or for the non-provision of evidence

LDSO Category A Non-Compliances

A.4R: Measurement transformer ratio mismatch

A.5R: Suspect data on Commissioning evidence provided

LDSO Category B Non-Compliances

B.3R: Single Line Diagram not provided

B.11R: Commissioning record (part 1) not provided (Post Nov 2018)

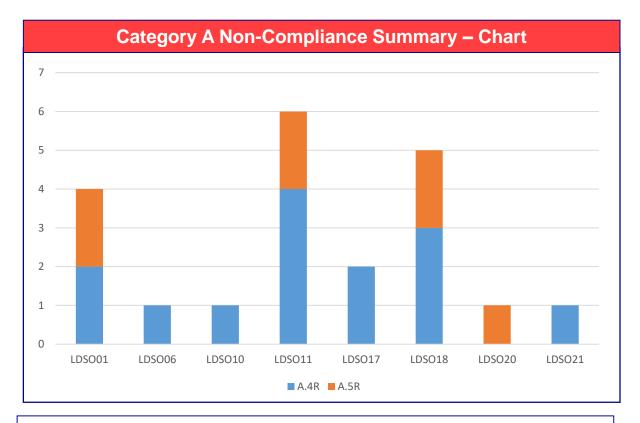
B.15R: Missing D0215

B.18R: Missing fields in the D0215 flow

Technical Assurance of Metering (TAM) – HHDC Category A Non-Compliance Summary (1)

Desktop Audits

2021/2022 Audit Year



Comments:

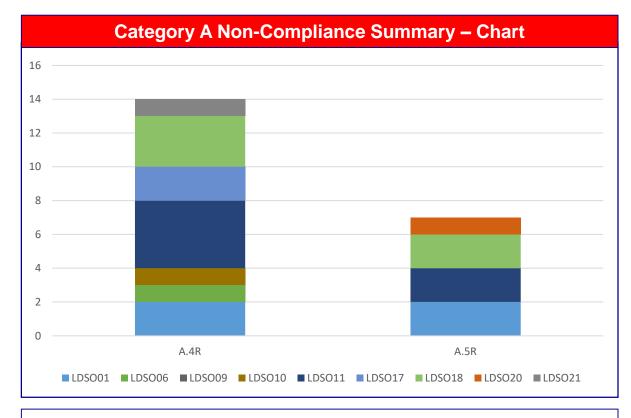
• LDSOs in general recorded very few Category A Non-Compliances

Category A Non-Compliance Summary – Data Table						
LDSO	Cat A	DA Accepted	DA Awaiting Confirmation	DA Cancelled		
LDSO01	4	66	9	6		
LDSO02	0	55	9	4		
LDSO03	0	28	1	2		
LDSO04	0	1	0	0		
LDSO05	0	3	0	0		
LDSO06	1	12	1	2		
LDSO07	0	7	0	0		
LDSO08	0	42	4	4		
LDSO09	0	3	0	0		
LDSO10	1	32	4	5		
LDSO11	6	78	5	5		
LDSO12	0	9	11	0		
LDSO13	0	38	12	4		
LDSO14	0	28	13	2		
LDSO15	0	33	6	6		
LDSO16	0	3	0	0		
LDSO17	2	59	16	4		
LDSO18	5	73	16	3		
LDSO19	0	5	0	2		
LDSO20	1	32	7	0		
LDSO21	1	48	0	3		
LDSO22	0	2	1	0		
LDSO23	0	9	0	0		
LDSO25	0	33	11	3		

Technical Assurance of Metering (TAM) – HHDC Category A Non-Compliance Summary (2)

Desktop Audits

2021/2022 Audit Year



Comments:

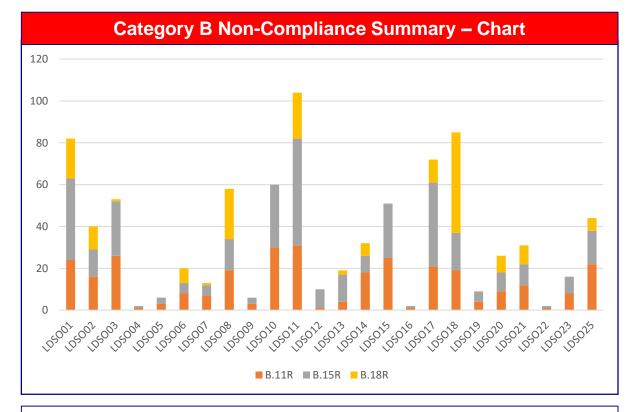
• The majority relate to measurement transformer ratio mismatches

Category A Non-Compliance Summary – Data Table						
LDSO	A.4R Measurement transformer ratio mismatch	A.5R Suspect data on Commissioning evidence provided				
LDSO01	2	2				
LDSO02						
LDSO03						
LDSO04						
LDSO05						
LDSO06	1					
LDSO07						
LDSO08						
LDSO09						
LDSO10	1					
LDSO11	4	2				
LDSO12						
LDSO13						
LDSO14						
LDSO15						
LDSO16						
LDSO17	2					
LDSO18	3	2				
LDSO19						
LDSO20		1				
LDSO21	1					
LDSO22						
LDSO23						
LDSO25						

Technical Assurance of Metering (TAM) – HHDC Category B Non-Compliance Summary (1)

Desktop Audits

2021/2022 Audit Year



Comments:

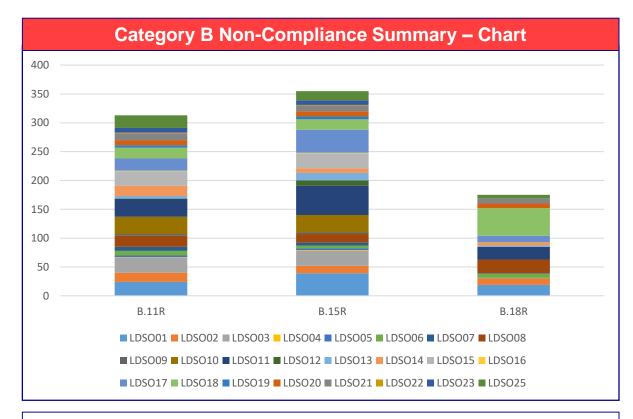
 Only four LDSOs recorded fewer than 1 Category B Non-Compliance per accepted audit

Category B Non-Compliance Summary – Data Table					
Cat B	DA Accepted	DA Awaiting Confirmation	DA Cancelled		
82	66	9	6		
40	55	9	4		
53	28	1	2		
2	1	0	0		
6	3	0	0		
20	12	1	2		
13	7	0	0		
58	42	4	4		
6	3	0	0		
60	32	4	5		
104	78	5	5		
10	9	11	0		
19	38	12	4		
32	28	13	2		
51	33	6	6		
2	3	0	0		
72	59	16	4		
85	73	16	3		
9	5	0	2		
26	32	7	0		
31	48	0	3		
2	2	1	0		
16	9	0	0		
44	33	11	3		
	Cat B 82 40 53 2 6 20 13 58 6 60 104 10 19 32 51 2 72 85 9 26 31 2 16	Cat B DA Accepted 82 66 40 55 53 28 2 1 6 3 20 12 13 7 58 42 6 3 60 32 104 78 10 9 19 38 32 28 51 33 2 3 72 59 85 73 9 5 26 32 31 48 2 2 16 9	Cat B DA Accepted DA Awaiting Confirmation 82 66 9 40 55 9 53 28 1 2 1 0 6 3 0 20 12 1 13 7 0 58 42 4 6 3 0 60 32 4 104 78 5 10 9 11 19 38 12 32 28 13 51 33 6 2 3 0 72 59 16 85 73 16 9 5 0 26 32 7 31 48 0 2 2 1 16 9 0		

Technical Assurance of Metering (TAM) – HHDC Category B Non-Compliance Summary (2)

Desktop Audits

2021/2022 Audit Year



Comments:

 Non compliances were relatively evenly split between Categories B.11R and B.15R, with some but not all participants also recording a number of Non-Compliances in B.18R

Category B Non-Compliance Summary – Data Table

LDSO	B.11R Commissioning record (part 1) not provided (Post Nov 2018)	B.15R Missing D0215	B.18R Missing fields in the D0215 flow
LDSO01	24	39	19
LDSO02	16	13	11
LDSO03	26	26	1
LDSO04	1	1	
LDSO05	3	3	
LDSO06	8	5	7
LDSO07	7	5	1
LDSO08	19	15	24
LDSO09	3	3	
LDSO10	30	30	
LDSO11	31	51	22
LDSO12	1	9	
LDSO13	4	13	2
LDSO14	18	8	6
LDSO15	25	26	
LDSO16	1	1	
LDSO17	21	40	11
LDSO18	19	18	48
LDSO19	4	5	
LDSO20	9	9	8
LDSO21	12	10	9
LDSO22	1	1	
LDSO23	8	8	
LDSO25	22	16	6