

ELECTRICITY INDUSTRY PARTICIPATION CODE
METERING EQUIPMENT PROVIDER AUDIT REPORT

For



INFLUX ENERGY DATA LIMITED

NZBN: 9429037465971

Prepared by: Steve Woods – Veritek Limited

Date audit commenced: 12 December 2021

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Audit report due date: 01-Mar-22

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EXECUTIVE SUMMARY

Influx Energy Data Limited is a Metering Equipment Provider (MEP) and is required to undergo an audit by 1 March 2022 in accordance with clause 16A.17(b).

Influx is responsible for ICPs under the FCLM, TRUM and LMGL participant identifiers.

The audit found an increase in non-compliance, largely due to two main areas. Firstly, there are many Approved Test House practices that are not compliant, leading to non-compliance for Influx. Secondly, Influx took over the Legacy Metering Group MEP function during 2021 and the metering base included over 20,000 installations with expired certification where Legacy Metering Group had failed to update the registry.

The main issues are as follows:

- certification cancelled or expired for 25,379 ICPs,
- incomplete information contained in certification records from ATHs,
- many Approved Test House practices are not compliant,
- seven ICPs had incorrect compensation factors recorded in the registry, leading to under submission by retailers for at least two ICPs of approx. 200,000 kWh since 2016, and
- data provided to some traders is not raw meter data.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The table below provides some guidance on this matter and recommends an audit frequency of three months. After considering FCLM's responses to the areas of non-compliance I recommend an audit frequency of 12 months to give sufficient time to continue with the improvements already underway.

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
MEP responsibility for services access interface	2.1	10.9(2)	Services access interface not recorded in certification records for five metering installations.	Moderate	Low	2	Identified
Provision of accurate information	2.5	11.2 and 10.6	Registry not always updated as soon as practicable in some cases.	Moderate	Low	2	Disputed
Registry updates	3.2	2 of Schedule 11.4	327 registry updates later than 15 business days.	Strong	Low	1	Identified
Design Reports for Metering Installations	4.1	2 of Schedule 10.7	Design Reports did not contain all relevant information.	Strong	Low	1	Cleared
Metering Installation Design & Accuracy	4.3	4(1) of Schedule 10.7	Design Report not recorded for three metering installations.	Strong	Low	1	Identified

Changes to registry records	4.10	3 of Schedule 11.4	Some records updated on the registry later than 10 business days.	Moderate	Low	2	Identified
Accurate and complete records	5.1	4(1) of Schedule 10.6	Some inaccurate certification records.	Moderate	Low	2	Identified
Response to switch request	6.1	1(1) of Schedule 11.4	14 late MN files.	Strong	Low	1	Identified
Provision of Registry Information	6.2	7 (1), (2) and (3) of Schedule 11.4	Some registry records incomplete or incorrect.	Strong	Low	1	Identified
Cancellation of certification	6.4	6 of Schedule 11.4	<p>Certification cancelled and registry not updated for:</p> <ul style="list-style-type: none"> • 1 installation with insufficient load not monitored, • 6 installations certified as a lower category but not monitored, • 14 installations not fit four purpose due to low burden, • 30 installations without inspections conducted by the due date, • 11 installations with invalid statistical sampling certification, • 19 installations with sum-check failures not remediated within three business days, • 3 ICPs with late inspections, and • 22,547 installations with invalid statistical sampling certification. 	Weak	High	9	Identified for most points. Disputed for the invalid statistical sampling
Certification of metering installations	7.1	10.38 (a), clause 1 and clause 15 of Schedule 10.7	Certification cancelled or expired for 25,379 ICPs.	Moderate	High	6	Identified
Certification Tests	7.2	10.38(b) and clause 9 of	Prevailing load test not conducted for one category 1 metering installation.	Strong	Low	1	Identified

		Schedule 10.6	Test results not all recorded for three TRUM installations.				
Certification as a Lower Category	7.6	6(1)(b) and (d), and 6(2)(b) of Schedule 10.7	Certification cancelled for 7 ICPs where certification as a lower category monitoring is not conducted.	Moderate	Low	2	Identified
Insufficient Load for Certification Tests	7.7	14(3) and (4) of Schedule 10.7	ICP 0003133800AA2B3 was certified on 28/10/21 under the insufficient load clause but monitoring was not conducted. Certification is therefore cancelled.	Moderate	Low	2	Identified
Timekeeping	7.10	23 of Schedule 10.7	31 meters with time clocks that are not monitored every 12 months.	None	Low	5	Identified
Compensation factors	7.14	24(3) of Schedule 10.7	Incorrect compensation factor for ICP 0000616050WPE6E. Incorrect compensation factors for a further 6 ICPs.	Moderate	High	6	Identified
Interim certification	7.19	18 of Schedule 10.7	302 FCLM ICPs with expired interim certification. 22,547 LMGL ICPs where most have expired interim certification.	Moderate	Medium	4	Disputed
Category 2 to 5 inspections	8.2	46(1) of Schedule 10.7	TRUM Inspections not conducted within the allowable window for 14 Category 2 installations. LMGL Inspections not conducted within the allowable window for six Category 2 installations.	Moderate	Low	2	Identified
Access to Raw Meter Data	10.1	1 of Schedule 10.6	Data provided to one trader is not raw meter data.	Moderate	Low	2	Identified
Time Errors for Metering Installations	10.7	8(4) of Schedule 10.6	Clock errors greater than the threshold for 73 ICPs.	Strong	Low	1	Identified
Future Risk Rating						53	
Indicative Audit Frequency						3 months	

Future risk rating	1-2	3-6	7-9	10-19	20-24	25+
Indicative audit frequency	36 months	24 months	18 months	12 months	6 months	3 months

RECOMMENDATIONS

Subject	Section	Recommendation	Description
Temporary electrical connection	4.17	Regarding clause 10.31A, 10.33 and 10.33A	Update the temporary electrical connection process to include an authorisation step by the trader and network owner.

ISSUES

Subject	Section	Recommendation	Description
		Nil	

1. ADMINISTRATIVE

1.1. Exemptions from Obligations to Comply with Code (Section 11)

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

Section 11 of the Electricity Industry Act provides for the Electricity Authority to exempt any participant from compliance with all or any of the clauses.

Audit observation

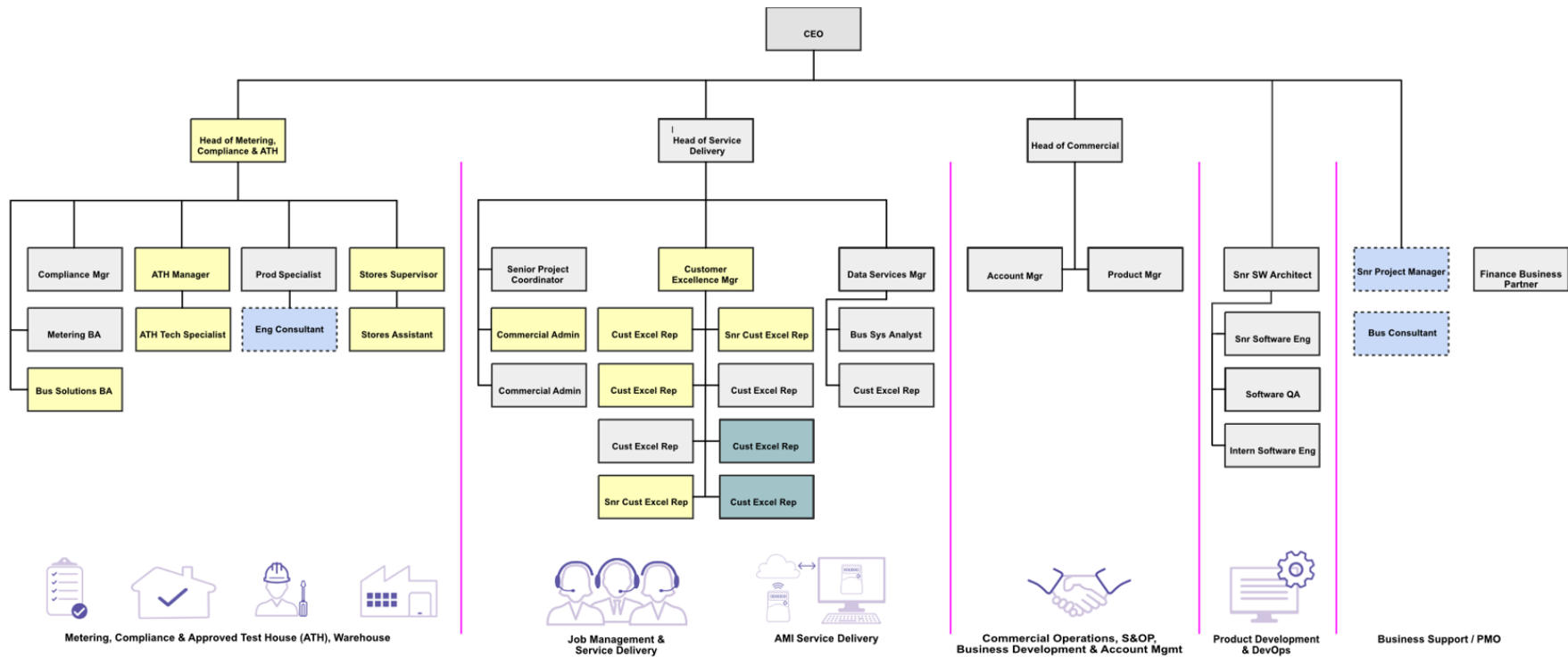
I checked the Electricity Authority website to confirm whether there were any exemptions in place.

Audit commentary

I checked the Electricity Authority website and I confirmed there are no exemptions in place.

1.2. Structure of Organisation

FCLM Metering Structure – Effective 2022.



1.3. Persons involved in this audit

Auditor:

Brett Piskulic

Veritek Limited

Electricity Authority Approved Auditor

FCLM personnel assisting in this audit were.

Name	Title
Barney Barnett	Compliance Manager
Shuv Biswas	Data Services Manager
Jaime Canton	Customer Excellence Manager
Graeme Prestidge	Head of Metering Compliance and ATH

1.4. Use of Agents (Clause 10.3)

Code reference

Clause 10.3

Code related audit information

A participant who uses a contractor

- *remains responsible for the contractor's fulfillment of the participants Code obligations*
- *cannot assert that it is not responsible or liable for the obligation due to the action of a contractor*
- *must ensure that the contractor has at least the specified level of skill, expertise, experience, or qualification that the participant would be required to have if it were performing the obligation itself.*

Audit observation

FCLM engages with ATHs to conduct certification activities and they are an ATH themselves, but there are no contractors used to perform MEP responsibilities.

Audit commentary

FCLM engages with ATHs to conduct certification activities and they are an ATH themselves, but there are no contractors used to perform MEP responsibilities.

1.5. Hardware and Software

Data is held in Orion and Maximo, which is subject to backup arrangements in accordance with standard industry protocols.

1.6. Breaches or Breach Allegations

Influx confirmed there are no breach allegations related to the scope of this audit.

1.7. ICP Data

FCLM				
Metering Category	Number of ICPs Apr 2019	Number of ICPs Nov 2019	Number of ICPs Oct 2020	Number of ICPs Dec 2021
1	33,275	34,638	36,601	39,797
2	1,545	1,588	1,639	1,823
3	51	51	52	55
4	10	11	13	15
5	0	0	0	0
9	8	5	9	13
TRUM				
Metering Category	Number of ICPs Jan 2019	Number of ICPs Nov 2019	Number of ICPs Oct 2020	Number of ICPs Dec 2021
1	147,063	123,967	88,089	69,427
2	1,233	1,211	1,167	1,053
3	4	4	0	7
4	6	6	0	1
5	13	13	0	6
9	15	18	17	19
LMGL				
Metering Category				Number of ICPs Dec 2021
1				27,555
2				196
3				14
4				0
5				0
9				4

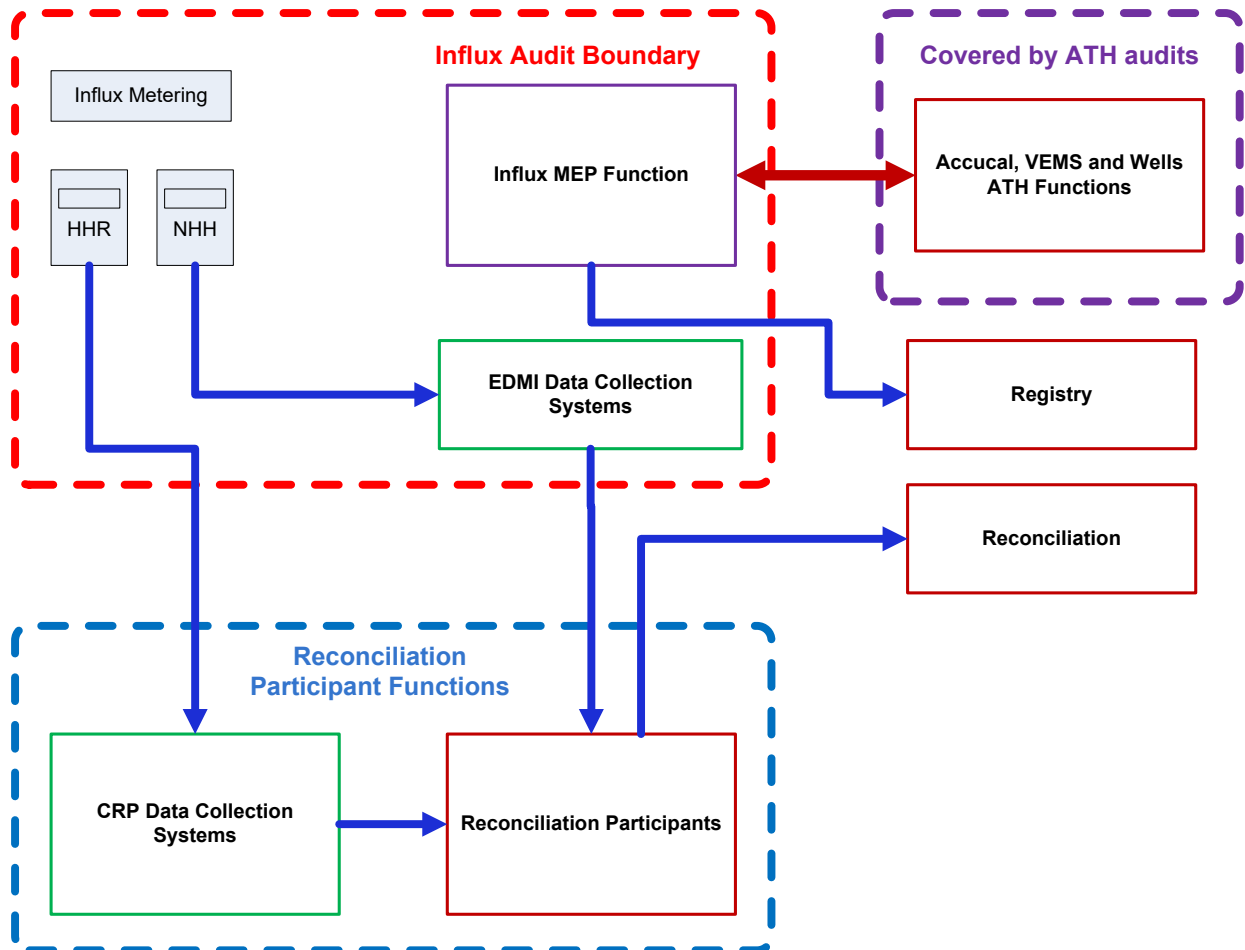
1.8. Authorisation Received

A letter of authorisation was not required or requested.

1.9. Scope of Audit

This audit was conducted in accordance with the Guideline for Metering Equipment Provider Audits V2.2, which was published by the Electricity Authority.

The boundaries of this audit are shown in the diagrams below for greater clarity.



1.10. Summary of previous audit

The previous audit was conducted in January 2021 by Brett Piskulic of Veritek Limited. The table below shows the issues raised and their current status.

Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
MEP responsibility for services access interface	2.1	10.9(2)	Services access interface not recorded in certification records for five metering installations.	Still existing
Provision of accurate information	2.5	11.2 and 10.6	Registry not always updated as soon as practicable in some cases.	Still existing
Registry updates	3.2	2 of Schedule 11.4	76 registry updates later than 15 business days.	Still existing
Design Reports for Metering Installations	4.1	2 of Schedule 10.7	Design Report not recorded for three metering installations.	Still existing
Metering Installation Design & Accuracy	4.3	4(1) of Schedule 10.7	Design Report not recorded for three metering installations.	Still existing
Changes to registry records	4.10	3 of Schedule 11.4	Some records updated on the registry later than 10 business days.	Still existing
Accurate and complete records	5.1	4(1) of Schedule 10.6	Some CT information is missing for 7 ICPs. Some inaccurate certification records.	Still existing
Response to switch request	6.1	1(1) of Schedule 11.4	Three late MN files.	Still existing
Provision of Registry Information	6.2	7 (1), (2) and (3) of Schedule 11.4	Some registry records incomplete or incorrect.	Still existing

Subject	Section	Clause	Non-compliance	Status
Cancellation of certification	6.4	6 of Schedule 11.4	Certification cancelled and registry not updated for: <ul style="list-style-type: none"> 11 installations not fit four purpose due to low burden, and 98 installations without inspections conducted within the allowable window. 	Still existing
Certification of metering installations	7.1	10.38 (a), clause 1 and clause 15 of Schedule 10.7	Certification cancelled or expired for 2,711 ICPs.	Still existing
Timekeeping	7.10	23 of Schedule 10.7	73 meters with time clocks that are not monitored every 12 months.	Still existing
Interim certification	7.19	18 of Schedule 10.7	703 ICPs with expired interim certification.	Still existing
Category 1 Inspections	8.1	45 of Schedule 10.7	Inspections not conducted within the allowable window for 89 category 1 installations.	Still existing
Category 2 to 5 inspections	8.2	46(1) of Schedule 10.7	Inspections not conducted within the allowable window for 8 installations.	Still existing
Access to Raw Meter Data	10.1	1 of Schedule 10.6	Data provided to some traders is not raw meter data.	Still existing
Time Errors for Metering Installations	10.7	8(4) of Schedule 10.6	Clock errors greater than the threshold for 2 ICPs.	Still existing

Table of Recommendations

Subject	Section	Clause	Recommendation for improvement	Status
			Nil	

2. OPERATIONAL INFRASTRUCTURE

2.1. MEP responsibility for services access interface (Clause 10.9(2))

Code reference

Clause 10.9(2)

Code related audit information

The MEP is responsible for providing and maintaining the services access interface.

Audit observation

FCLM

I checked certification records for 56 metering installations, covering all relevant ATHs.

TRUM

I checked certification records for 26 metering installations, covering all relevant ATHs.

LMGL

I checked certification records for 12 metering installations, covering all relevant ATHs.

Audit commentary

The Code now requires that all services access interfaces are recorded and the conditions under which each one may be used.

FCLM

I checked 56 certification records and found the services access interface was not recorded correctly by the ATHs for four of the certifications.

TRUM

I checked 26 certification records and found the services access interface was recorded correctly by the ATHs for all 26 of the certifications.

LMGL

I checked 12 certification records and found the services access interface was not recorded correctly by the ATHs for one of the certifications.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 10.9(2) From: 01-Dec-20 To: 27-Jan-22	Services access interface not recorded in certification records for five metering installations. Potential impact: Low Actual impact: None Audit history: Once Controls: Moderate Breach risk rating: 2

Audit risk rating	Rationale for audit risk rating		
Low	I have recorded the controls as moderate because there is room for improvement. There is no impact because the MEP normally determines the location of the services access interface; therefore, the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Influx records the correct access interface both in its MDMS and the Registry.		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Follow up with identified ATHs to correct error.		30/04/2022	

2.2. Dispute Resolution (Clause 10.50(1) to (3))

Code reference

Clause 10.50(1) to (3)

Code related audit information

Participants must in good faith use its best endeavours to resolve any disputes related to Part 10 of the Code.

Disputes that are unable to be resolved may be referred to the Authority for determination.

Complaints that are not resolved by the parties or the Authority may be referred to the Rulings Panel by the Authority or participant.

Audit observation

FCLM

I checked whether any disputes had been dealt with during the audit period.

TRUM

I checked whether any disputes had been dealt with during the audit period.

LMGL

I checked whether any disputes had been dealt with during the audit period.

Audit commentary

FCLM

FCLM has not been required to resolve any disputes in accordance with this clause.

TRUM

TRUM has not been required to resolve any disputes in accordance with this clause.

LMGL

TRUM has not been required to resolve any disputes in accordance with this clause.

Audit outcome

Compliant

2.3. MEP Identifier (Clause 7(1) of Schedule 10.6)

Code reference

Clause 7(1) of Schedule 10.6

Code related audit information

The MEP must ensure it has a unique participant identifier and must use this participant identifier (if required) to correctly identify its information.

Audit observation

FCLM

I checked the registry data to ensure the correct MEP identifier was used.

TRUM

I checked the registry data to ensure the correct MEP identifier was used.

LMGL

I checked the registry data to ensure the correct MEP identifier was used.

Audit commentary

FCLM

FCLM uses the FCLM identifier in all cases.

TRUM

TRUM uses the TRUM identifier in all cases.

LMGL

LMGL uses the LMGL identifier in all cases.

Audit outcome

Compliant

2.4. Communication Equipment Compatibility (Clause 40 Schedule 10.7)

Code reference

Clause 40 Schedule 10.7

Code related audit information

The MEP must ensure that the use of its communication equipment complies with the compatibility and connection requirements of any communication network operator the MEP has equipment connected to.

Audit observation

Relevant documentation was checked to ensure the compatibility of communication equipment.

Audit commentary

FCLM

FCLM ensures all communication equipment is appropriately certified with the relevant telecommunications standards. This is recorded in type test certificates and other approval documents.

TRUM

TRUM certified four metering installations where communication equipment is present. TRUM ensures all communication equipment is appropriately certified with the relevant telecommunications standards. This is recorded in type test certificates and other approval documents.

LMGL

LMGL certified three metering installations where communication equipment is present. LMGL ensures all communication equipment is appropriately certified with the relevant telecommunications standards. This is recorded in type test certificates and other approval documents

Audit outcome

Compliant

2.5. Participants to Provide Accurate Information (Clause 11.2 and Clause 10.6)

Code reference

Clause 11.2 and Clause 10.6

Code related audit information

The MEP must take all practicable steps to ensure that information that the MEP is required to provide to any person under Parts 10 and 11 is complete and accurate, not misleading or deceptive and not likely to mislead or deceive.

If the MEP becomes aware that in providing information under Parts 10 and 11, the MEP has not complied with that obligation, the MEP must, as soon as practicable, provide such further information as is necessary to ensure that the MEP does comply.

Audit observation

FCLM

The content of this audit report was reviewed to determine whether all practicable steps had been taken to provide accurate information.

TRUM

The content of this audit report was reviewed to determine whether all practicable steps had been taken to provide accurate information.

LMGL

The content of this audit report was reviewed to determine whether all practicable steps had been taken to provide accurate information.

Audit commentary

FCLM

The content of this audit report indicates that FCLM has taken all practicable steps to ensure that information is complete and accurate in most cases; however, in **sections 6.2** and **6.4** the report records that some information was not updated as soon as practicable. The main issue is that the registry is not always updated when certification is cancelled.

TRUM

The content of this audit report indicates that TRUM has taken all practicable steps to ensure that information is complete and accurate in most cases; however, in **sections 6.2** and **6.4** the report records

that some information was not updated as soon as practicable. The main issue is that the registry is not always updated when certification is cancelled.

LMGL

The content of this audit report indicates that LMGL has taken all practicable steps to ensure that information is complete and accurate in most cases; however, in **sections 6.2** and **6.4** the report records that some information was not updated as soon as practicable. The main issue is that the registry is not always updated when certification is cancelled.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.5 With: Clause 11.2 and Clause 10.6 From: 01-Feb-21 To: 27-Jan-22	Registry not always updated as soon as practicable in some cases. Potential impact: Medium Actual impact: Low Audit history: Three times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls for LMGL are weak because certification has been cancelled for several thousand ICPs for many years. TRUM and FCLM controls are stronger but still require improvement. Overall, the controls are considered moderate. The impact on other participants is minor; therefore, the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
In regard to LMGL, Influx has not been notified by either Delta ATH or the Electricity Authority that certification has been cancelled for several thousand ICPs. On acquisition the registry indicated these to be compliant and in dispute.			Disputed
Preventative actions taken to ensure no further issues will occur		Completion date	
Add to discrepancy reporting in progress.		30/04/2022	

3. PROCESS FOR A CHANGE OF MEP

3.1. Change of metering equipment provider (Clause 10.22)

Code reference

Clause 10.22

Code related audit information

The MEP for a metering installation may change only if the responsible participant enters into an arrangement with another person to become the MEP for the metering installation, and if certain requirements are met in relation to updating the registry and advising the reconciliation manager.

The losing MEP must notify the gaining MEP of the proportion of the costs within 40 business days of the gaining MEP assuming responsibility. The gaining MEP must pay the losing MEP within 20 business days of receiving notification from the losing MEP.

The costs are those directly and solely attributable to the certification and calibration tests of the metering installation or its components from the date of switch until the end of the current certification period.

The gaining MEP is not required to pay costs if:

- *the losing MEP has agreed in writing that the gaining MEP is not required to pay costs, or the losing MEP has failed to provide notice within 40 business days.*
- *within three business days, the gaining MEP replaces, removes or recertifies the metering component or metering installation*
- *the losing MEP has failed to provide notice of the costs to the gaining MEP within 40 business days.*

Audit observation

FCLM

I checked if FCLM had sent or received any invoices.

TRUM

I checked if TRUM had sent or received any invoices.

LMGL

I checked if TRUM had sent or received any invoices.

Audit commentary

FCLM

FCLM has not sent or received any invoices in relation to this clause during the audit period.

TRUM

TRUM has not sent or received any invoices in relation to this clause during the audit period.

LMGL

LMGL has not sent or received any invoices in relation to this clause during the audit period.

The table below shows that there is only one scenario where costs will be payable, and this is unlikely to occur.

Scenario	Likelihood of occurring	Costs payable
Gaining MEP replaces losing MEPs component	High	No
Gaining MEP removes losing MEPs component	High	No
Gaining MEP recertifies losing MEPs component	High	No
Gaining MEP replaces losing MEPs installation	High	No
Gaining MEP removes losing MEPs installation	High	No
Gaining MEP recertifies losing MEPs installation	High	No
Gaining MEP retains losing MEPs components and metering installation	Zero	Yes

Audit outcome

Compliant

3.2. Registry Notification of Metering Records (Clause 2 of Schedule 11.4)

Code reference

Clause 2 of Schedule 11.4

Code related audit information

The gaining MEP must advise the registry of the registry metering records for the metering installation within 15 days of becoming the MEP for the metering installation.

Audit observation

FCLM

I checked the audit compliance report for the period 1 December 2020 to 15 December 2021 for all records where FCLM became the MEP to evaluate the timeliness of updates.

TRUM

I checked the audit compliance report for the period 1 December 2020 to 15 December 2021 for all records where TRUM became the MEP to evaluate the timeliness of updates.

LMGL

I checked the audit compliance report for the period 1 December 2020 to 15 December 2021 for all records where LMGL became the MEP to evaluate the timeliness of updates.

Audit commentary

FCLM

I examined the audit compliance report for 120 switches in relation to this clause and the findings are shown in the table below.

I checked all three late ICPs in detail, and I found that late nomination by the trader was the cause of the late update for two ICPs. The remaining ICP had a correction made but the original update was on time.

Audit	Total ICPs	Total within 15 days	Average days	% Compliant
Jun 2018	367	328	6	89%
April 2019	1,562	1,465	8	94%
Nov 2019	906	841	-	93%
Oct 2020	1,102	1,031	-	94%
Dec 2021	120	117		97.5%

TRUM

I examined the audit compliance report for 6,534 switches in relation to this clause and the findings are shown in the table below.

The audit compliance report identified 279 late updates. 265 related to the transfer of ICPs from Northpower to TRUM when the Northpower meters were purchased in April 2021. 251 of the 265 were late due to late nomination by traders. Nine of the remaining 14 late updates were caused by late nomination by traders.

Audit	Total ICPs	Total within 15 days	Average days	% Compliant
Nov 2019	34	23	-	68%
Oct 2020	9	5	-	56%
Dec 2021	6,534	6,255		95.73%

LMGL

I examined the audit compliance report for 149 switches in relation to this clause and the findings are shown in the table below.

The audit compliance report identified 45 late updates. 36 were corrections where the original update was on time. Six of the remaining nine were late due to late nomination, one was due to late field notification and two were before the sale to FCLM and the reasons are unknown.

Audit	Total ICPs	Total within 15 days	Average days	% Compliant
Dec 2021	149	104		69.8%

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.2 With: Clause 2 of Schedule 11.4 From: 01-Dec-20 To: 27-Jan-22	327 registry updates later than 15 business days. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1

Audit risk rating	Rationale for audit risk rating		
Low	Controls are in place to ensure the timeliness of updates, but FCLM is often prevented from updating the registry due to late field notification. The impact on other participants is minor; therefore, the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
New work order tracking system in test . Will enable to track fieldwork activities to better manage timeframes.		30/04/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Add to discrepancy reporting in progress.		30/04/2022	

3.3. Provision of Metering Records to Gaining MEP (Clause 5 of Schedule 10.6)

Code reference

Clause 5 of Schedule 10.6

Code related audit information

During an MEP switch, a gaining MEP may request access to the losing MEP's metering records.

On receipt of a request from the gaining MEP, the losing MEP has 10 business days to provide the gaining MEP with the metering records or the facilities to enable the gaining MEP to access the metering records.

The losing MEP must ensure that the metering records are only received by the gaining MEP or its contractor, the security of the metering records is maintained, and only the specific metering records required for the purposes of the gaining MEP exercising its rights and performing its obligations are provided.

Audit observation

FCLM

I checked with FCLM to confirm whether there had been any requests from other MEPs.

TRUM

I checked with TRUM to confirm whether there had been any requests from other MEPs.

LMGL

I checked with LMGL to confirm whether there had been any requests from other MEPs.

Audit commentary

FCLM

This has not occurred, and no examples are available to examine. FCLM have stated that any information will be provided as necessary.

TRUM

This has not occurred, and no examples are available to examine. TRUM have stated that any information will be provided as necessary.

LMGL

This has not occurred, and no examples are available to examine. LMGL have stated that any information will be provided as necessary.

Audit outcome

Compliant

3.4. Termination of MEP Responsibility (Clause 10.23)

Code reference

Clause 10.23

Code related audit information

Even if the MEP ceases to be responsible for an installation, the MEP must either comply with its continuing obligations; or before its continuing obligations terminate, enter into an arrangement with a participant to assume those obligations.

The MEP is responsible if it:

- *is identified in the registry as the primary metering contact or*
- *is the participant who owns the meter for the POC or to the grid or*
- *has accepted responsibility under clause 1(1)(a)(ii) of schedule 11.4 or*
- *has contracted with a participant responsible for providing the metering installation.*

MEPs obligations come into effect on the date recorded in the registry as being the date on which the metering installation equipment is installed or, for an NSP the effective date set out in the NSP table on the Authority's website.

An MEPs obligations terminate only when:

- *the ICP changes under clause 10.22(1)(a),*
- *the NSP changes under clause 10.22(1)(b), in which case the MEPs obligations terminate from the date on which the gaining MEP assumes responsibility,*
- *the metering installation is no longer required for the purposes of Part 15, or*
- *the load associated with an ICP is converted to be used solely for unmetered load.*

Audit observation

FCLM

I confirmed that FCLM has ceased to be responsible for some metering installations by checking the event detail report.

TRUM

I confirmed that TRUM has ceased to be responsible for some metering installations by checking the event detail report.

LMGL

I confirmed that LMGL has ceased to be responsible for some metering installations by checking the event detail report.

Audit commentary

FCLM

FCLM has ceased to be responsible for some metering installations and they still continue with their responsibilities, mainly in relation to the storage or records, which are kept indefinitely. I checked five decommissioned ICPs from 2017. The records are still available for all five.

TRUM

TRUM has ceased to be responsible for some metering installations and they still continue with their responsibilities, mainly in relation to the storage or records, which are kept indefinitely. I checked five decommissioned ICPs from 2017. The records are still available for all five.

LMGL

LMGL has ceased to be responsible for some metering installations and they still continue with their responsibilities, mainly in relation to the storage or records, which are kept indefinitely. I checked five decommissioned ICPs from 2017. The records are still available for all five.

Audit outcome

Compliant

4. INSTALLATION AND MODIFICATION OF METERING INSTALLATIONS

4.1. Design Reports for Metering Installations (Clause 2 of Schedule 10.7)

Code reference

Clause 2 of Schedule 10.7

Code related audit information

The MEP must obtain a design report for each proposed new metering installation or a modification to an existing metering installation, before it installs the new metering installation or before the modification commences.

Clause 2(2) and (3)—The design report must be prepared by a person with the appropriate level of skills, expertise, experience and qualifications and must include a schematic drawing, details of the configuration scheme that programmable metering components are to include, confirmation that the configuration scheme has been approved by an approved test laboratory, maximum interrogation cycle for each services access interface, any compensation factor arrangements, method of certification required, and name and signature of the person who prepared the report and the date it was signed.

Clause 2(4)—The MEP must provide the design report to the certifying ATH before the ATH installs or modifies the metering installation (or a metering component in the metering installation).

Audit observation

FCLM

FCLM has engaged nine ATHs during the audit period. I checked the recently updated design reports.

TRUM

TRUM has engaged seven ATHs during the audit period. I checked the recently updated design reports.

LMGL

LMGL has engaged five ATHs during the audit period. I checked the recently updated design reports.

Audit commentary

FCLM

A new suite of design reports has recently been finalised. I checked a Category 1 design and a Category 2 design, and I confirm compliance.

I checked 56 certification records and confirmed that a design report reference was recorded in all 56 examples.

TRUM

A new suite of design reports has recently been finalised. I checked a Category 1 design and a Category 2 design, and I confirm compliance.

I checked 26 certification records and confirmed that a design report reference was recorded in all 26 examples.

LMGL

A new suite of design reports has recently been finalised. I checked a Category 1 design and a Category 2 design, and I confirm compliance.

I checked 12 certification records and confirmed that a design report reference was recorded in all 12 examples.

Prior to the development and publication of the FCLM design reports, not all design reports contained all relevant details. The main information missing was the new requirement to record all services access interfaces and the maximum interrogation cycle for each one.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.1 With: Clause 2 of Schedule 10.7 From: 01-Dec-20 To: 27-Jan-22	Design Reports did not contain all relevant information. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are recorded as strong because processes are in place to ensure that correct design reports are used, and a new suite of design reports has recently been published. The impact on other participants is minor; therefore, the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
New suite of design reports recently completed		Completed	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	
New suite of design reports recently completed		Completed	

4.2. Contracting with ATH (Clause 9 of Schedule 10.6)

Code reference

Clause 9 of Schedule 10.6

Code related audit information

The MEP must, when contracting with an ATH in relation to the certification of a metering installation, ensure that the ATH has the appropriate scope of approval for the required certification activities.

Audit observation

FCLM

FCLM has engaged nine ATHs during the audit period. I checked the Authority's website to confirm they had appropriate scopes of approval.

TRUM

TRUM has engaged seven ATHs during the audit period. I checked the Authority's website to confirm they had appropriate scopes of approval.

LMGL

LMGL has engaged five ATHs during the audit period. I checked the Authority's website to confirm they had appropriate scopes of approval.

Audit commentary

I checked the Authority's website and I confirm that all ATHs have appropriate scopes of approval.

Audit outcome

Compliant

4.3. Metering Installation Design & Accuracy (Clause 4(1) of Schedule 10.7)

Code reference

Clause 4(1) of Schedule 10.7

Code related audit information

The MEP must ensure:

- *that the sum of the measured error and uncertainty does not exceed the maximum permitted error set out in Table 1 of Schedule 10.1 for the category of the metering installation*
- *the design of the metering installation (including data storage device and interrogation system) will ensure the sum of the measured error and the smallest possible increment of the energy value of the raw meter data does not exceed the maximum permitted error set out in Table 1 of Schedule 10.1 for the category of installation*
- *the metering installation complies with the design report and the requirements of Part 10.*

Audit observation

FCLM

I checked the processes used by FCLM to ensure compliance with the design and with the error thresholds stipulated in Table 1. I also checked the certification records for 56 metering installations.

TRUM

I checked the processes used by TRUM to ensure compliance with the design and with the error thresholds stipulated in Table 1. I also checked the certification records for 26 metering installations.

LMGL

I checked the processes used by LMGL to ensure compliance with the design and with the error thresholds stipulated in Table 1. I also checked the certification records for 12 metering installations.

Audit commentary

FCLM

The design report reference was recorded in all 56 certification reports.

All ATHs are now calculating uncertainty correctly for metering installations certified using the comparative method. The certification reports checked included 16 using the comparative recertification method and three using the fully calibrated method. In all 19 cases, the ATH had correctly calculated and recorded the error and uncertainty in the certification records.

TRUM

The TRUM process requires the design report to be recorded on the metering installation certification report. Three certification reports did not have the design report recorded.

There were no certifications conducted during the audit period using the comparative recertification or the fully calibrated methods. TRUM uses the FCLM and Delta ATHs to conduct certification of Category 2 metering installations. Both ATHs are correctly calculating error and uncertainty.

LMGL

The design report was recorded for all 12 certification reports checked. There were no certifications conducted during the audit period using the comparative recertification or the fully calibrated methods, however ATHs now have compliant processes for calculating error and uncertainty.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.3 With: Clause 4(1) of Schedule 10.7 From: 01-Feb-21 To: 27-Jan-22	Design Report not recorded for three metering installations. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are recorded as strong because processes are in place to ensure that correct design reports are used. The impact on other participants is minor; therefore, the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
All category 2 plus sites to be checked by Influx Test House		30/04/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Follow up with identified ATHs to correct error.		30/04/2022	

4.4. Net metering and Subtractive Metering (Clause 10.13A and 4(2)(a) of Schedule 10.7)

Code reference

Clause 10.13A and Clause 4(2)(a) of Schedule 10.7

Code related audit information

MEPs must ensure that the metering installation records imported electricity separately from exported electricity. For category 1 and 2 installations the MEP must ensure the metering installation records imported and exported electricity separately for each phase. For category 3 or higher installations, the MEP does not need to ensure that imported and exported electricity is recorded separately for each phase.

If the metering installation contains multiple phases, the MEP may aggregate together the amounts of imported electricity recorded on different phases, or the amounts of exported electricity recorded on different phases. However, the MEP must not aggregate imported and exported electricity together. For metering installations for ICPs that are not also NSPs, the MEP must ensure that the metering installation does not use subtraction to determine submission information used for the purposes of Part 15.

Audit observation

FCLM

I asked FCLM to confirm whether subtraction was used for any metering installations where they were the MEP.

TRUM

I asked TRUM to confirm whether subtraction was used for any metering installations where they were the MEP.

LMGL

I asked LMGL to confirm whether subtraction was used for any metering installations where they were the MEP.

Audit commentary

FCLM

FCLM does not have any metering installations where subtractive metering is used.

TRUM

TRUM does not have any metering installations where subtractive metering is used.

LMGL

LMGL does not have any metering installations where subtractive metering is used.

Audit outcome

Compliant

4.5. HHR Metering (Clause 4(2)(b) of Schedule 10.7)

Code reference

Clause 4(2)(b) of Schedule 10.7

Code related audit information

For metering installations for ICPs that are not also NSPs, the MEP must ensure that all category 3 or higher metering installations must be half-hour metering installations.

Audit observation

FCLM

I checked FCLM's list file to confirm compliance with this requirement.

TRUM

I checked TRUM's list file to confirm compliance with this requirement.

TRUM

I checked LMGL's list file to confirm compliance with this requirement.

Audit commentary

FCLM

I checked FCLM's list file, and I confirm that all category 3 and above metering installations are HHR.

TRUM

I checked TRUM's list file, and I confirm that there are no category 3 and above metering installations.

LMGL

I checked LMGL's list file, and I confirm that there are no category 3 and above metering installations.

Audit outcome

Compliant

4.6. NSP Metering (Clause 4(3) of Schedule 10.7)

Code reference

Clause 4(3) of Schedule 10.7

Code related audit information

The MEP must ensure that the metering installation for each NSP that is not connected to the grid does not use subtraction to determine submission information used for the purposes of Part 15 and is a half-hour metering installation.

Audit observation

FCLM

I checked if FCLM is responsible for any NSP metering.

TRUM

I checked if TRUM is responsible for any NSP metering.

LMGL

I checked if LMGL is responsible for any NSP metering.

Audit commentary

FCLM

FCLM is responsible for metering at 30 NSPs. FCLM confirmed that subtraction is not used at these NSPs.

TRUM

TRUM is not responsible for metering at any NSPs.

LMGL

LMGL is not responsible for metering at any NSPs.

Audit outcome

Compliant

4.7. Responsibility for Metering Installations (Clause 10.26(10))

Code reference

Clause 10.26(10)

Code related audit information

The MEP must ensure that each point of connection to the grid for which there is a metering installation that it is responsible for has a half hour metering installation.

Audit observation

FCLM

FCLM is not responsible for any grid metering.

TRUM

TRUM is not responsible for any grid metering.

LMGL

LMGL is not responsible for any grid metering.

Audit commentary

FCLM

FCLM is not responsible for any grid metering.

TRUM

TRUM is not responsible for any grid metering.

LMGL

LMGL is not responsible for any grid metering.

Audit outcome

Compliant

4.8. Suitability of Metering Installations (Clause 4(4) of Schedule 10.7)

Code reference

Clause 4(4) of Schedule 10.7

Code related audit information

The MEP must, for each metering installation for which it is responsible, ensure that it is appropriate having regard to the physical and electrical characteristics of the POC.

Audit observation

FCLM

I asked FCLM to provide details of how they ensure the suitability of metering installations.

TRUM

I asked TRUM to provide details of how they ensure the suitability of metering installations.

LMGL

I asked LMGL to provide details of how they ensure the suitability of metering installations.

Audit commentary

FCLM

FCLM has a metering manual, which addresses the suitability of metering enclosures. The recent audit reports for the ATHs confirm compliance with the requirement to ensure enclosures are suitable.

TRUM

There is a written instruction to all contractors that they will ensure the enclosure provides protection from the environment, restricted access to terminals, basic insulation and wiring and ease of access for meter readers. The recent audit reports for the ATHs confirm compliance with the requirement to ensure enclosures are suitable.

LMGL

The same processes are used as for FCLM and TRUM. The recent audit reports for the ATHs confirm compliance with the requirement to ensure enclosures are suitable.

Audit outcome

Compliant

4.9. Installation & Modification of Metering Installations (Clauses 10.34(2), (2A) and (3))

Code reference

Clauses 10.34(2), (2A) and (3)

Code related audit information

If a metering installation is proposed to be installed or modified at a POC, other than a POC to the grid, the MEP must consult with and use its best endeavours, to agree with the distributor and the trader for that POC, before the design is finalised, on the metering installation's:

- *required functionality*
- *terms of use*
- *required interface format*
- *integration of the ripple receiver and the meter*

- *functionality for controllable load.*

This includes where the MEP is proposing to replace a metering component or metering installations with the same or similar design and functionality but excludes where the MEP has already consulted on the design with the distributor and trader.

Each participant involved in the consultations must use its best endeavours to reach agreement and act reasonably and in good faith.

Audit observation

FCLM

FCLM has previously provided copies of the design reports to all distributors and traders in order to achieve compliance with this requirement. A new suite of design reports has been developed and recently provided to relevant parties.

TRUM

TRUM has previously provided copies of the design reports to all distributors and traders in order to achieve compliance with this requirement. A new suite of design reports has been developed and recently provided to relevant parties.

LMGL

LMGL has previously provided copies of the design reports to all distributors and traders in order to achieve compliance with this requirement. A new suite of design reports has been developed and recently provided to relevant parties.

Audit commentary

FCLM

FCLM has previously provided copies of the design reports to all distributors and traders in order to achieve compliance with this requirement. A new suite of design reports has been developed and recently provided to relevant parties.

TRUM

TRUM has previously provided copies of the design reports to all distributors and traders in order to achieve compliance with this requirement. A new suite of design reports has been developed and recently provided to relevant parties.

LMGL

LMGL has previously provided copies of the design reports to all distributors and traders in order to achieve compliance with this requirement. A new suite of design reports has been developed and recently provided to relevant parties.

Audit outcome

Compliant

4.10. Changes to Registry Records (Clause 3 of Schedule 11.4)

Code reference

Clause 3 of Schedule 11.4

Code related audit information

If the MEP has an arrangement with the trader the MEP must advise the registry manager of the registry metering records, or any change to the registry metering records, for each metering installation for which it is responsible at the ICP, no later than 10 business days following:

- a) the electrical connection of the metering installation at the ICP*
- b) any subsequent change to the metering installation's metering records*

If the MEP is updating the registry in accordance with 8(11)(b) of Schedule 10.6, it must do so within 10 business days after the most recent unsuccessful interrogation.

If the MEP is updating the registry in accordance with clause 8(13) of Schedule 10.6, it must do so within 3 business days following the expiry of the time period or date from which the MEP determines it cannot restore communications.

Audit observation

FCLM

I checked the audit compliance report for the period 1 December 2020 to 15 December 2021 for all records where FCLM became the MEP to evaluate the timeliness of registry updates.

TRUM

I checked the audit compliance report for the period 1 December 2020 to 15 December 2021 for all records where TRUM became the MEP to evaluate the timeliness of registry updates.

LMGL

I checked the audit compliance report for the period 1 December 2020 to 15 December 2021 for all records where LMGL became the MEP to evaluate the timeliness of registry updates.

Audit commentary

FCLM

The table below shows that there were registry updates for 47 new connections completed of which four were late, and 91.49% of updates were compliant. I checked all four late records in detail, and I found that two late updates were caused by late field notification. The other two late updates were due to replaced events where the original updates were on time.

There were 159 registry updates completed after recertification of which five were late, and 96.86% of updates were compliant. I checked the five late records in detail, and I found that two of the late updates were due to replaced events where the original updates were on time. The remaining three were the result of late updates by FCLM.

Event	Audit	Total ICPs	ICPs Notified Within 10 Days	ICPs Notified Greater Than 10 Days	Average Notification Days	Percentage Compliant
New Connection	Jun 2018	322	284	38	7	88%
	April 2019	596	489	107	8	82%
	Nov 2019	796	540	256	-	68%
	Oct 2020	597	320	277	-	54%
	Dec 2021	47	43	4		91.49%
Recertification	Jun 2018	19,524	18,839	685	9	96%
	April 2019	14,123	11,967	2,156	49	85%
	Nov 2019	1,842	1,542	300	79	84%
	Oct 2020	1,818	1,632	186	20	90%
	Dec 2021	159	154	5	7.87	96.86

TRUM

The table below shows that there were registry updates for 103 new connections completed of which 35 were late, and 66% of updates were compliant. I checked all 35 records in detail, and I found that late updates were caused by late nomination for 13 of the 35. 11 of the late updates were due to replaced events where the original updates were on time. The remaining 11 were the result of late updates by TRUM.

There were 187 registry updates completed after recertification of which 42 were late, and 77.54% of updates were compliant. I checked 20 of the late records in detail, and I found that eight of the late updates were due to replaced events where the original updates were on time. The remaining 12 were the result of late updates by TRUM.

Event	Year	Total ICPs	ICPs Notified Within 10 Days	ICPs Notified Greater Than 10 Days	Average Notification Days	Percentage Compliant
New connection	2017	145	138	7	5.7	95.2%
	2018	2,297	2,141	156	4.5	93.2%
	2019	2,297	2,181	116	-	95%
	2020	499	439	60	-	88%
	2021	103	68	35	-	66%
Recertification	2017	17,776	5,756	12,020	24.7	32.4%
	2018	6,361	4617	1,774	129	72.6%
	2019	44,770	43,991	779	14.6	98%
	2020	306	268	38	15.33	88%
	2021	187	145	42	16.69	77.54%

LMGL

The table below shows that there were registry updates for 778 new connections completed of which 72 were late, and 90.75% of updates were compliant. I checked all 72 records in detail, and I found that late updates were caused by late nomination for 32 of the 72. 25 of the late updates were due to replaced events where the original updates were on time. The remaining 15 were the result of late updates by LMGL.

There were 343 registry updates completed after recertification of which 123 were late, and 64.14% of updates were compliant. I checked 10 of the late records in detail, and I found that eight of the late updates were due to replaced events where the original updates were on time. The remaining two were the result of late updates by LMGL.

Event	Year	Total ICPs	ICPs Notified Within 10 Days	ICPs Notified Greater Than 10 Days	Average Notification Days	Percentage Compliant
New connection	2021	778	706	72	-	90.75%
Recertification	2021	343	220	123	83.31	64.14%

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.10 With: Clause 3 of Schedule 11.4 From: 01-Dec-20 To: 27-Jan-22	Some records updated on the registry later than 10 business days. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	I have recorded the controls as moderate in this area because they reduce risk most of the time but there is still room for improvement, especially with new connection updates. The late updates for new connections occurred after the trader had populated their records, therefore the impact on participants, customers or settlement is minor, therefore the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Add to discrepancy reporting in progress.		30/04/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Work with parties identified in reporting to improve processes to meet MEP obligations		Ongoing	

4.11. Metering Infrastructure (Clause 10.39(1))

Code reference

Clause 10.39(1)

Code related audit information

The MEP must ensure that for each metering installation:

- an appropriately designed metering infrastructure is in place
- each metering component is compatible with, and will not interfere with any other component in the installation
- collectively, all metering components integrate to provide a functioning system
- each metering installation is correctly and accurately integrated within the associated metering infrastructure.

Audit observation

FCLM

FCLM metering infrastructure was examined as part of this audit to confirm compliance.

TRUM

TRUM metering infrastructure was examined as part of this audit to confirm compliance.

LMGL

LMGL metering infrastructure was examined as part of this audit to confirm compliance.

Audit commentary

FCLM

FCLM metering infrastructure was examined as part of this audit, and I confirm compliance.

TRUM

TRUM metering infrastructure was examined as part of this audit, and I confirm compliance.

LMGL

LMGL metering infrastructure was examined as part of this audit, and I confirm compliance.

Audit outcome

Compliant

4.12. Decommissioning of an ICP (Clause 10.23A)

Code reference

Clause 10.23A

Code related audit information

If a metering installation at an ICP is to be decommissioned, but the ICP is not being decommissioned, the MEP that is responsible for decommissioning the metering installation must:

- *if the MEP is responsible for interrogating the metering installation, arrange for a final interrogation to take place before the metering installation is decommissioned, and provide the raw meter data from the interrogation to the responsible trader*
- *if another participant is responsible for interrogating the metering installation, advise the other participant not less than 3 business days before the decommissioning of the time and date of the decommissioning, and that the participant must carry out a final interrogation.*

To avoid doubt, if a metering installation at an ICP is to be decommissioned because the ICP is being decommissioned:

- *the trader, not the MEP, is responsible for arranging a final interrogation of the metering installation*
- *the responsible trader must arrange for a final interrogation of the metering installation*

Audit observation

FCLM

I checked whether FCLM was the MEP at any decommissioned metering installations and whether notification had been provided to relevant traders.

TRUM

I checked whether TRUM was the MEP at any decommissioned ICPs and whether notification had been provided to relevant traders.

LMGL

I checked whether LMGL was the MEP at any decommissioned ICPs and whether notification had been provided to relevant traders.

Audit commentary

FCLM

There were no examples of decommissioned metering installations where the ICP was not decommissioned.

TRUM

There were no examples of decommissioned metering installations where the ICP was not decommissioned.

LMGL

There were no examples of decommissioned metering installations where the ICP was not decommissioned.

Audit outcome

Compliant

4.13. Measuring Transformer Burden and Compensation Requirements (Clause 31(4) and (5) of Schedule 10.7)

Code reference

Clause 31(4) and (5) of Schedule 10.7

Code related audit information

The MEP must, before approving the addition of, or change to, the burden or compensation factor of a measuring transformer in a metering installation, consult with the ATH who certified the metering installation.

If the MEP approves the addition of, or change to, the burden or compensation factor, it must ensure the metering installation is recertified by an ATH before the addition or change becomes effective.

Audit observation

FCLM

I asked FCLM whether they had approved any burden changes during the audit period.

TRUM

I asked TRUM whether they had approved any burden changes during the audit period.

LMGL

I asked LMGL whether they had approved any burden changes during the audit period.

Audit commentary

FCLM

There have not been any examples of this occurring during the audit period.

TRUM

There have not been any examples of this occurring during the audit period.

LMGL

There have not been any examples of this occurring during the audit period.

Audit outcome

Compliant

4.14. Changes to Software ROM or Firmware (Clause 39(1) and 39(2) of Schedule 10.7)

Code reference

Clause 39(1) and 39(2) of Schedule 10.7

Code related audit information

The MEP must, if it proposes to change the software, ROM or firmware of a data storage device installed in a metering installation, ensure that, before the change is carried out, an approved test laboratory:

- tests and confirms that the integrity of the measurement and logging of the data storage device would be unaffected*
- documents the methodology and conditions necessary to implement the change*
- advises the ATH that certified the metering installation of any change that might affect the accuracy of the data storage device.*

The MEP must, when implementing a change to the software, ROM or firmware of a data storage device installed in a metering installation:

- carry out the change in accordance with the methodology and conditions identified by the approved test laboratory under clause 39(1)(b)*
- keep a list of the data storage devices that were changed*
- update the metering records for each installation affected with the details of the change and the methodology used.*

Audit observation

FCLM

I checked if there any examples of changes in accordance with these clauses.

TRUM

I checked if there any examples of changes in accordance with these clauses.

LMGL

I checked if there any examples of changes in accordance with these clauses.

Audit commentary

FCLM

FCLM advised that there were no firmware or software changes during the audit period. They are currently working on a plan to update the communications firmware of their EDM1 meters.

TRUM

TRUM is not the MEP for any installations where changes to ROM, software or firmware have occurred.

LMGL

LMGL is not the MEP for any installations where changes to ROM, software or firmware have occurred.

Audit outcome

Compliant

4.15. Temporary Electrical Connection (Clause 10.29A)

Code reference

Clause 10.29A

Code related audit information

An MEP must not request that a grid owner temporarily electrically connect a POC to the grid unless the MEP is authorised to do so by the grid owner responsible for that POC and the MEP has an arrangement with that grid owner to provide metering services.

Audit observation

FCLM

FCLM is not responsible for any grid metering.

TRUM

TRUM is not responsible for any grid metering.

LMGL

LMGL is not responsible for any grid metering.

Audit commentary

FCLM

FCLM is not responsible for any grid metering.

TRUM

TRUM is not responsible for any grid metering.

LMGL

LMGL is not responsible for any grid metering.

Audit outcome

Compliant

4.16. Temporary Electrical Connection (Clause 10.30A)

Code reference

Clause 10.30A

Code related audit information

An MEP must not request that a distributor temporarily electrically connect an NSP that is not a POC to the grid unless the MEP is authorised to do so by the reconciliation participant responsible for that NSP and the MEP has an arrangement with that reconciliation participant to provide metering services.

Audit observation

FCLM

I checked if any NSPs where FCLM is the MEP had been temporarily electrically connected during the audit period.

TRUM

TRUM is not the MEP for any NSPs.

LMGL

LMGL is not the MEP for any NSPs.

Audit commentary

FCLM

There were no temporary electrical connections of NSPs where FCLM is the MEP during the audit period.

TRUM

TRUM is not the MEP for any NSPs.

LMGL

LMGL is not the MEP for any NSPs.

Audit outcome

Compliant

4.17. Temporary Electrical Connection (Clause 10.31A)

Code reference

Clause 10.31A

Code related audit information

Only a distributor may, on its network, temporarily electrically connect an ICP that is not an NSP. A MEP may only request the temporary electrical connection of the ICP if it is for the purpose of certifying a metering installation, or for maintaining, repairing, testing, or commissioning a metering installation at the ICP.

Audit observation

Clause 10.33 is also relevant to this audit because it outlines responsibilities for traders and MEPs in relation to temporary electrical connection.

FCLM

I checked for examples where the metering installation certification date was prior to the initial electrical energisation date of the ICP to determine whether there were any examples of temporary electrical connection for the purposes of testing and certification.

TRUM

I checked for examples where the metering installation certification date was prior to the initial electrical energisation date of the ICP to determine whether there were any examples of temporary electrical connection for the purposes of testing and certification.

LMGL

I checked for examples where the metering installation certification date was prior to the initial electrical energisation date of the ICP to determine whether there were any examples of temporary electrical connection for the purposes of testing and certification.

Audit commentary

FCLM

Five ICPs were temporarily electrically connected during the audit period for the purpose of testing and certification. Clause 10.31A relates to situations where the MEP requests the distributor to temporarily electrically connect, but FCLM did not request the distributor to temporarily electrically connect for any of the five ICPs. Therefore, it appears that clause 10.33 applies, which means FCLM temporarily electrically connected and required authorisation from the trader, who must have written approval from the network owner. FCLM did not have explicit authorisation from the trader and the trader did not have written approval from the network owner, therefore clause 10.33A(4) appears to be relevant, which states “No participant may electrically connect a point of connection, or authorise the electrical connection of a point of connection, other than a trader in the circumstances described in subclauses (1) to (3); or a distributor in the circumstances described in clause 10.31B.” Service orders are provided to FCLM for each ICP authorising metering and electrical connection, and FCLM believes this also allows temporary electrical connection. It seems that traders are non-compliant because there is no written permission from network owners but it’s not as clear whether FCLM is non-compliant, therefore I recommend FCLM updates their process to include an authorisation step, which will ensure compliance for all parties.

Recommendation	Description	Audited party comment	Remedial action
Regarding clause 10.31A, 10.33 and 10.33A	Update the temporary electrical connection process to include an authorisation step by the trader and network owner.	Most service providers have permission and training processes from the Network to be able to perform this action. We need clarification from the EA of what is required and by whom. We agree with the auditor that we are complying with the rule .	Investigating

TRUM

There were 10 temporary connections of ICPs identified where TRUM is the MEP during the audit period. The comments above for FCLM are also relevant to TRUM, where I recommend TRUM updates their process to include an authorisation step, which will ensure compliance for all parties.

LMGL

No examples of temporary electrical connection were identified.

Audit outcome

Compliant

5. METERING RECORDS

5.1. Accurate and Complete Records (Clause 4(1)(a) and (b) of Schedule 10.6, and Table 1, Schedule 11.4)

Code reference

Clause 4(1)(a) and (b) of Schedule 10.6, and Table 1, Schedule 11.4

Code related audit information

The MEP must, for each metering installation for which it is responsible, keep accurate and complete records of the attributes set out in Table 1 of Schedule 11.4. These include:

- a) the certification expiry date of each metering component in the metering installation*
- b) all equipment used in relation to the metering installation, including serial numbers and details of the equipment's manufacturer*
- c) the manufacturer's or (if different) most recent test certificate for each metering component in the metering installation*
- d) the metering installation category and any metering installations certified at a lower category*
- e) all certification reports and calibration reports showing dates tested, tests carried out, and test results for all metering components in the metering installation*
- f) the contractor who installed each metering component in the metering installation*
- g) the certification sticker, or equivalent details, for each metering component that is certified under Schedule 10.8 in the metering installation:*
- h) any variations or use of the 'alternate certification' process*
- i) seal identification information*
- j) any applicable compensation factors*
- k) the owner of each metering component within the metering installation*
- l) any applications installed within each metering component*
- m) the signed inspection report confirming that the metering installation complies with the requirements of Part 10.*

Audit observation

FCLM

I checked all registry records and the certification records for 56 metering installations to evaluate compliance with this clause.

TRUM

I checked all registry records and the certification records for 26 metering installations to evaluate compliance with this clause. I also checked the latest category 1 inspection reports.

LMGL

I checked all registry records and the certification records for 12 metering installations to evaluate compliance with this clause. I also checked the latest category 1 inspection reports.

Audit commentary

FCLM

Some issues were identified with the content of certification reports and registry records. They are listed in the table below.

Quantity Dec 2021	Quantity Nov 2020	Issue
12	0	Certification reports not provided. In many cases, job completion notes were supplied instead.
1	0	Incorrect metering category
4	7	Incorrect ATH
3	0	Meter certification date and certifying ATH not recorded
0	0	Meter certification expiry date not recorded
12	4	HHR/NHH, Maximum interrogation cycle or services access interface not correctly recorded
2	0	CT expiry date earlier than installation expiry date
7	4	Incorrect installation certification expiry date
1	0	Incorrect installation certification date
6	7	CT metered installations without measuring transformer information on the registry
4	0	Incorrect certification method
10	0	Validity period not recorded
9	0	Burden range not recorded
17	0	CTs recorded as certified without re-calibration

TRUM

Some issues were identified with the content of certification reports and registry records. They are listed in the table below.

Quantity Dec 2021	Quantity Nov 2020	Quantity Nov 2019	Quantity April 2019	Issue
5	0	0	0	Certification reports not provided. In some cases, job completion notes were provided.
0	0	0	0	Incorrect metering category
3	20	1	38	Incorrect ATH
11	0	0	13	Meter certification date and certifying ATH not recorded
0	0	0	6	Meter certification expiry date not recorded
1	11	0	6 (HHR/NHH)	HHR/NHH, Maximum interrogation cycle or services access interface not recorded
0	0	0	0	CT expiry date earlier than installation expiry date
4	0	0	0	Incorrect installation certification expiry date
1	0	0	7	Incorrect installation certification date
0	0	-	-	CT metered installations without measuring transformer information on the registry

The inspection process identified the following incorrect data fields out of 519 inspections:

Quantity Dec 2021	Quantity Nov 2019	Quantity April 2019	Issue
27	22	24	TARIFF ERROR – meter configuration discrepancy
0	0	19	CERT EXPIRY – Installation Expiry date incorrectly recorded
0	0	34	RELAY DETAILS – incorrect details in records

LMGL

Some issues were identified with the content of certification reports and registry records. They are listed in the table below.

Quantity Dec 2021	Issue
3	Certification reports not provided. In some cases, job completion notes were provided.
0	Incorrect metering category
0	Incorrect ATH
1	Meter certification date not recorded
0	Meter certification expiry date not recorded
1	HHR/NHH, Maximum interrogation cycle or services access interface not recorded
0	CT expiry date earlier than installation expiry date
0	Incorrect installation certification expiry date
0	Incorrect installation certification date
0	CT metered installations without measuring transformer information on the registry
1	Certification method not recorded
1	Burden range not recorded

The inspection process identified the following incorrect data fields out of 315 inspections:

Quantity Dec 2021	Issue
8	TARIFF ERROR – meter configuration discrepancy
0	CERT EXPIRY – Installation Expiry date incorrectly recorded
0	RELAY DETAILS – incorrect details in records

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 5.1 With: Clause 4(1) of Schedule 10.6 From: 01-Dec-20 To: 27-Jan-22	Some inaccurate certification records. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	I have recorded the controls as moderate because there is room for improvement. There is a minor impact on other participants; therefore, the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Registry updates completed as identified in the audit		21/02/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
All category 2 plus sites to be checked by Influx Test House Add to discrepancy reporting in progress.		30/04/2022	

5.2. Inspection Reports (Clause 4(2) of Schedule 10.6)

Code reference

Clause 4(2) of Schedule 10.6

Code related audit information

The MEP must, within 10 business days of receiving a request from a participant for a signed inspection report prepared under clause 44 of Schedule 10.7, make a copy of the report available to the participant.

Audit observation

FCLM

I asked FCLM whether any requests had been made for copies of inspection reports.

TRUM

I asked TRUM whether any requests had been made for copies of inspection reports.

LMGL

I asked LMGL whether any requests had been made for copies of inspection reports.

Audit commentary

FCLM

FCLM has not been requested to supply any inspection reports, but these are available and can be supplied on request.

TRUM

TRUM has not been requested to supply any inspection reports, but these are available and can be supplied on request.

LMGL

LMGL has not been requested to supply any inspection reports, but these are available and can be supplied on request.

Audit outcome

Compliant

5.3. Retention of Metering Records (Clause 4(3) of Schedule 10.6)

Code reference

Clause 4(3) of Schedule 10.6

Code related audit information

The MEP must keep metering installation records for 48 months after any metering component is removed, or any metering installation is decommissioned.

Audit observation

FCLM

I checked a directory of metering records from 2017 to confirm compliance.

TRUM

I checked a directory of metering records from 2017 to confirm compliance.

LMGL

I checked a directory of metering records from when Influx took over ownership of the LMGL metering to confirm compliance.

Audit commentary

FCLM

FCLM keeps metering records indefinitely.

TRUM

TRUM keeps metering records indefinitely.

LMGL

LMGL keeps metering records indefinitely.

Audit outcome

Compliant

5.4. Provision of Records to ATH (Clause 6 Schedule 10.6)

Code reference

Clause 6 Schedule 10.6

Code related audit information

If the MEP contracts with an ATH to recertify a metering installation and the ATH did not previously certify the metering installation, the MEP must provide the ATH with a copy of all relevant metering records not later than 10 business days after the contract comes into effect.

Audit observation

FCLM

FCLM has provided information to ATH's in the past and this may occur in future. There are no current examples to examine.

TRUM

TRUM has provided information to ATH's in the past and this may occur in future. There are no current examples to examine.

LMGL

LMGL has provided information to ATH's in the past and this may occur in future. There are no current examples to examine.

Audit commentary

FCLM

FCLM will comply with this requirement as it arises. There are no current examples where this has occurred.

TRUM

TRUM will comply with this requirement as it arises. There are no current examples where this has occurred.

LMGL

LMGL will comply with this requirement as it arises. There are no current examples where this has occurred.

Audit outcome

Compliant

6. MAINTENANCE OF REGISTRY INFORMATION

6.1. MEP Response to Switch Notification (Clause 1(1) of Schedule 11.4)

Code reference

Clause 1(1) of Schedule 11.4

Code related audit information

Within 10 business days of being advised by the registry manager that it is the gaining MEP for the metering installation for the ICP, the MEP must enter into an arrangement with the trader and advise the registry manager it accepts responsibility for the ICP and of the proposed date on which it will assume responsibility.

Audit observation

FCLM

I checked the switch breach history detail report to confirm whether all responses were within 10 business days.

TRUM

I checked the switch breach history detail report to confirm whether all responses were within 10 business days.

LMGL

I checked the switch breach history detail report to confirm whether all responses were within 10 business days.

Audit commentary

FCLM

The switch breach history detail report for the audit period contained 14 ICPs where the FCLM response was later than 10 business days.

TRUM

All responses were within 10 business days.

LMGL

All responses were within 10 business days.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.1 With: 1(1) of Schedule 11.4 From: 01-Dec-20 To: 27-Jan-22	14 late MN files. Potential impact: Low Actual impact: None Audit history: Twice Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as strong because they mitigate risk to an acceptable level. There was no impact; therefore, the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Add to Discrepancy Reporting		30/04/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Follow up reason for late MN as to identify and remedy cause.		Ongoing	

6.2. Provision of Registry Information (Clause 7 (1), (2) and (3) of Schedule 11.4)

Code reference

Clause 7 (1), (2) and (3) of Schedule 11.4

Code related audit information

The MEP must provide the information indicated as being ‘required’ in Table 1 of clause 7 of Schedule 11.4 to the registry manager, in the prescribed form for each metering installation for which the MEP is responsible.

The MEP does not need to provide ‘required’ information if the information is only for the purpose of a distributor direct billing consumers on its network.

From 1 April 2015, a MEP is required to ensure that all the registry metering records of its category 1 metering installations are complete, accurate, not misleading or deceptive, and not likely to mislead or deceive.

The information the MEP provides to the registry manager must derive from the metering equipment provider’s records or the metering records contained within the current trader’s system.

Audit observation

FCLM

I checked the audit compliance report and list file to identify discrepancies.

TRUM

I checked the audit compliance report and list file to identify discrepancies.

LMGL

I checked the audit compliance report and list file to identify discrepancies.

Audit commentary

FCLM

Analysis of the list file and audit compliance report for the period 1 December 2020 to 15 December 2021 for all FCLM ICPs found the issues detailed in the table below:

Dec 21	Oct 20	Nov 19	Apr 19	Jul 18	Issue found	FCLM comment
10	2	3	11	30	Blank metering records	Unmetered, decommissioned, meters removed or FCLM meters never installed.
6	3	0	0	0	Category 2 ICP recorded as Category 1	Corrected.
1	1	1	0	0	Compensation factor of 3 on recently certified installations	Certification is cancelled
0	0	0	0	1	ICPs over Category 1 with interim certification	-
0	0	0	0	15	ICPs with Y for the HHR flag but with NHH installations	-
2	2	1	0	1	Category 2 installations certified for more than 10 years or for zero years (cert date = expiry date)	Corrected.
1	0	1	0	1	Category 4 installations certified for more than 5 years	Corrected
0	2	2	6	3	Category 1 installations certified for more than 15 years or for zero years (cert date = expiry date)	-
0	0	2			Day + Night not equal to 24	-
3	8	10	2	1	ICPs with IN24. The EA has advised that IN24 should not be used.	Corrected
0	0	0	0	0	ICPs with IN0	-
3	3	3	0	0	ICPs with UN0	Not used for settlement

0	1	1			ICPs with UN19	
1					ICPs with UN12	Corrected
0	1	1	0	0	Day without night	
5	5	3	3	296	Night without day	Corrected
0	0	0	0	3	CN only, these should have an associated code, or they could be IN	-
3,632	73	189	12	592	Controlled load with no control device	Mostly AMI not communicating
276	174	195			UN only with a relay installed	Historical data not held by FCLM. Update on compliance rollout.
0	213	0	2	81	IN content code without a control device	-
6	7	8	19	56	Installations without CT information populated on the registry	Historical data not held by FCLM. Update on compliance rollout.
2	2	2	0	0	Interim certification expiry dates incorrect	
0	0	1	2	2	Category 3 or 4 with a NHH meter installation type	-
6	0	3			Category 1 with CTs.	
3	4	2			Certification or expiry dates incorrect	Corrected
11	7	-	-	-	Incorrect ATH	

TRUM

Analysis of the audit compliance report for the period 1 December 2020 to 15 December 2021 for all TRUM ICPs found the issues detailed in the table below:

Dec 21	Oct 20	Nov 19	Dec 18	Dec 17	Issue	TRUM Response
5,620	7,602	11,949	2	46	No control device information on the registry.	
1	21	28	0	0	Blank metering records on the registry.	
0	47	47	-	-	Day + Night not equal to 24	-
0	0	0	0	0	Day without night.	-
0	1	0	0	1	Night without day.	
0	0	0	0	1	UN12 - these are metered streetlights. They are likely to be NC12, but this needs to be confirmed.	-
270	353	488	1,474	1680	UN only with a relay installed	
0	2	2	0	0	HHR profile with NHH meter.	-
0	0	0	0	1	Category 2 with no CTs on the registry.	-
0	0	1	30	957	Certification or expiry dates incorrect	-
5	11	11	13	22	Compensation factor of 3 certified after 29/08/13.	
0	0	0	0	2	Category 1 with CTs.	-
26	30	37	58	18	CN only on residential ANZSIC code (these are all pumps and are correct)	All correct
2	-	-	-	-	Incorrect ATH	VEMS instead of VCOM

LMGL

Analysis of the audit compliance report for the period 1 December 2020 to 15 December 2021 for all LMGL ICPs found the issues detailed in the table below:

Dec 21	Issue	LMGL Response
4,028	No control device information on the registry.	Data quality on aquisition
25	Blank metering records on the registry.	Retailers initiation directley with FSPs
6	Day + Night not equal to 24	Site visits instiageted
0	Day without night.	-
1	Night without day.	Night register not used for submission
0	UN without POA of 24	-
53	UN only with a relay installed	Data Quaility
0	HHR profile with NHH meter.	-
0	Category 2 with no CTs on the registry.	-
12	Certification or expiry dates incorrect	All now corrected
0	Compensation factor of 3 certified after 29/08/13.	-
0	Category 1 with CTs.	-
0	CN only on residential ANZSIC code (these are all pumps and are correct)	All correct
0	Incorrect ATH	VEMS instead of VCOM

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.2 With: Clause 7 (1), (2) and (3) of Schedule 11.4 From: 01-Dec-20 To: 27-Jan-22	Some registry records incomplete or incorrect. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	I have recorded the controls as strong in this area. The number of discrepancies is very small. Very few of the discrepancies have an impact on participants, customers or settlement. The only relevant ones in this regard are tariff related and there were only a small number. The audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Registry updated where applicable as identified in audit.		21/02/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Add to daily discrepancy reporting so can be actioned daily.		30/04/2022	

6.3. Correction of Errors in Registry (Clause 6 of Schedule 11.4)

Code reference

Clause 6 of Schedule 11.4

Code related audit information

By 0900 hours on the 13th business day of each reconciliation period, the MEP must obtain from the registry:

- *a list of ICPs for the metering installations the MEP is responsible for*
- *the registry metering records for each ICP on that list.*

No later than 5 business days following collection of data from the registry, the MEP must compare the information obtained from the registry with the MEP's own records.

Within 5 business days of becoming aware of any discrepancy between the MEP's records and the information obtained from the registry, the MEP must correct the records that are in error and advise the registry manager of any necessary changes to the registry metering records.

Audit observation

FCLM

I conducted a walkthrough of the validation processes to confirm compliance.

TRUM

I conducted a walkthrough of the validation processes to confirm compliance.

LMGL

I conducted a walkthrough of the validation processes to confirm compliance.

Audit commentary

FCLM

FCLM runs a discrepancy report on a monthly basis; corrections are made within five days. I checked the latest report to confirm that it had been run and checked a file location to confirm that the report had been run for each month of the audit period.

TRUM

TRUM runs a discrepancy report on a nightly basis, exceptions are reported daily, and corrections are made within five days of confirming an error is present. I checked examples of recent reports to confirm the process was followed.

LMGL

LMGL runs a discrepancy report on a monthly basis; corrections are made within five days. I checked the latest report to confirm that it had been run and checked a file location to confirm that the report had been run for each month of the audit period.

Audit outcome

Compliant

6.4. Cancellation of Certification (Clause 20 of Schedule 10.7)

Code reference

Clause 20 of Schedule 10.7

Code related audit information

The certification of a metering installation is automatically cancelled on the date on which one of the following events takes place:

- a) the metering installation is modified otherwise than under sub clause 19(3), 19(3A) or 19(3C)*
- b) the metering installation is classed as outside the applicable accuracy tolerances set out in Table 1 of Schedule 10.1, defective or not fit for purpose under this Part or any audit*
- c) an ATH advises the metering equipment provider responsible for the metering installation of a reference standard or working standard used to certify the metering installation not being compliant with this Part at the time it was used to certify the metering installation, or the failure of a group of meters in the statistical sampling recertification process for the metering installation, or the failure of a certification test for the metering installation*
- d) the manufacturer of a metering component in the metering installation determines that the metering component does not comply with the standards to which the metering component was tested*
- e) an inspection of the metering installation, that is required under this Part, is not carried out in accordance with the relevant clauses of this Part*
- f) if the metering installation has been determined to be a lower category under clause 6 and:
 - a. the MEP has not received the report under 6(2A)(a) or 6(2A)(b); or**

- b. *the report demonstrates the maximum current is higher than permitted; or*
 - c. *the report demonstrates the electricity conveyed exceeds the amount permitted*
- g) *the metering installation is certified under clause 14 and sufficient load is available for full certification testing and has not been retested under clause 14(4)*
- h) *a control device in the metering installation certification is, and remains for a period of at least 10 business days, bridged out under clause 35(1)*
- i) *the metering equipment provider responsible for the metering installation is advised by an ATH under clause 48(6)(b) that a seal has been removed or broken and the accuracy and continued integrity of the metering installation has been affected.*
- j) *the installation is an HHR AMI installation certified after 29 August 2013 and*
 - a. *the metering installation is not interrogated within the maximum interrogation cycle; or*
 - b. *the HHR and NHH register comparison is not performed; or*
 - c. *the HHR and NHH register comparison for the same period finds a difference of greater than 1 kWh and the issue is not remediated within 3 business days*

A metering equipment provider must (unless the installation has been recertified within the 10 business days) within 10 business days of becoming aware that one of the events above has occurred in relation to a metering installation for which it is responsible, update the metering installation's certification expiry date in the registry.

If any of the events in Clause 20(1)(j) of Schedule 10.7 have occurred, update the AMI flag in the registry to 'N'.

Audit observation

FCLM

I checked for examples of all of the points listed above, and checked whether certification had been cancelled, and whether the registry had been updated within 10 business days.

TRUM

I checked for examples of all of the points listed above, and checked whether certification had been cancelled, and whether the registry had been updated within 10 business days.

FCLM

I checked for examples of all of the points listed above, and checked whether certification had been cancelled, and whether the registry had been updated within 10 business days.

Audit commentary

FCLM

I checked all of the points mentioned above.

I confirmed that monitoring had taken place for all installations certified at a lower category.

In previous audits there were examples of metering installations certified with insufficient load where FCLM had not conducted monitoring since certification. The certification of these installations has subsequently been cancelled and the registry has been updated. One additional example was identified. ICP 0003133800AA2B3 was certified on 28 October 2021 under the insufficient load clause but monitoring was not conducted. Certification is therefore cancelled.

Six ICPs were certified as a lower category and monitoring is not conducted. The ICPs are shown in the table below.

ICP	Compensation factor	Metering category	Certification date
0000025157EA4EA	160	2	16/07/2021
0085261336LC2A3	120	2	06/06/2017
0000164833CK11A	160	2	09/04/2021
0001148945WA829	120	2	23/04/2021
0000201030TU28D	160	2	13/05/2021
0000025613EA847	240	2	29/06/2021

I checked for examples of low burden on CT metered installations. The Code requires ATHs to: “ensure that the in-service burden on the measuring transformer is within the range specified in the certification report for the measuring transformer by installing burdening resistors to increase the in-service burden if necessary”. Four installations were certified by the Wells ATH where the burden was lower than the lowest test point the CTs were calibrated for, and burden resistors were not added. Certification is therefore cancelled. The ICPs are recorded in the table below, along with 10 ICPs from previous audits where certification was cancelled but the registry was not updated at the commencement of the audit. The registry was updated on 11 February 2022 for the 10 ICPs from previous audits but not for the four identified during this audit.

ICP	Certification date	ATH	CT make/ model	Ratio	Rated burden	Lowest in-service burden	Comment
From previous audits							
0000025444TR57D	19/08/19	VCOM	Secura	200/5	Unknown	0.17	No burden resistors added.
0000000216NT14B	08/08/19	VCOM	Unkown	150/5	15VA	1.255	Burden resistors added but in-service burden still less than 25% of the stated rated burden of 15VA.
0001062130WM3AF	15/07/2020	WELL	TWS	200/5	5VA	0.74	No burden resistors added.
0001602540WM9CC	29/04/2020	WELL	TWS	200/5	5VA	0.8	No burden resistors added.
0001701830WMF15	2/09/2020	WELL	TWS	200/5	5VA	0.86	No burden resistors added.
0002060460WM629	9/07/2020	WELL	TWS	300/5	5VA	0.72	No burden resistors added.
0002090820WMD1C	20/08/2020	WELL	TWS	250/5	5VA	0.73	No burden resistors added.
0005558012TC949	27/02/2020	WELL	TWS	250/5	5VA	0.69	No burden resistors added.
0005731053WMFEF	25/05/2020	WELL	TWS	150/5	5VA	0.88	No burden resistors added.
0272000010PN2B6	13/03/2020	WELL	TWS	250/5	5VA	1.15	No burden resistors added.

From this audit							
0015708565EL7DE	3/08/2021	WELL	TWS	200/5	5VA	0.53	No burden resistors added.
0000616050WPE6E	16/06/2021	WELL	TWS	300/5	5VA	1.12	No burden resistors added.
0001241205PN7EB	5/05/2021	WELL	TWS	250/5	5VA	0.62	No burden resistors added.
0003124120WF602	5/05/2021	WELL	Crompton	150/5	5VA	0.63	No burden resistors added.

Statistical sampling certification was applied to installations containing Iskra meters, which were not included in the statistical sample. 11 ICPs therefore have cancelled certification, as recorded in **section 7.13**.

As recorded in **section 10.9**, 19 ICPs failed sum-check and the cause was not remediated within three business days, therefore certification is cancelled.

TRUM

I checked all the points mentioned above and found two issues resulting in cancellation of certification, as follows:

- 14 category 2 metering installations were not inspected within the allowable window; certification is therefore cancelled, and
- three category 2 installations were identified during the last audit that were not inspected within the allowable window for which certification had not been cancelled prior to the commencement of the audit; certification is now cancelled.

The details are shown below.

ICP	Certification date	Certification expiry	Comments
From previous audit			
0000450530WP216	1/02/2010	8/08/2022	Certification cancelled on 27/01/2022
0000502200WPEB4	10/02/2010	10/02/2025	Certification cancelled on 27/01/2022
0000758670WP204	26/01/2010	26/01/2025	Certification cancelled on 27/01/2022
From this audit period			
0000001772CE988	1/02/2011	1/02/2026	Certification cancelled on 27/01/2022
0000001860CECAF	21/09/2010	21/09/2025	Certification cancelled on 27/01/2022
0000004487CE0F3	4/12/2010	4/12/2025	Certification cancelled on 27/01/2022
0000015747EA96D	3/05/2011	3/05/2026	Certification cancelled on 27/01/2022
0000024896EA7E9	10/01/2011	10/01/2026	Certification cancelled on 27/01/2022
0000024967EA2BF	8/04/2011	8/04/2026	Certification cancelled on 27/01/2022

0000025094EA6C1	9/02/2011	9/02/2026	Certification cancelled on 27/01/2022
0000030230EAA12	19/04/2011	19/04/2026	Certification cancelled on 27/01/2022
0000030288EAAB4	7/10/2010	7/10/2025	Certification cancelled on 27/01/2022
0000030398EA91D	16/02/2011	16/02/2026	Certification cancelled on 27/01/2022
0000048465NT845	21/07/2010	21/07/2025	Certification cancelled on 27/01/2022
0000056652UN6D9	18/06/2011	18/06/2026	Certification cancelled on 27/01/2022
0000063866CEC38	27/09/2010	27/09/2025	Certification cancelled on 27/01/2022
0000072075CE319	1/06/2011	1/06/2026	Certification cancelled on 27/01/2022

LMGL

Six category two inspections were due during the audit period. The table below shows that all six were either conducted late or not conducted.

ICP	Certification date	Certification expiry	Comments
0000047027DE383	15/10/2008	15/10/2023	Inspection conducted 08/12/2020 which is late.
0000231255UN9F2	23/04/2010	23/04/2025	Inspection conducted 09/12/2020 which is late.
0001050823AL2F7	20/06/2010	20/06/2025	Inspection conducted 22/12/2020 which is late.
0001050824ALF3D	20/06/2010	20/06/2025	Inspection conducted 22/12/2020 which is late.
0006485717AL0E4	5/06/2011	18/03/2025	Inspection report not available, certification was cancelled on 27/01/2022
0006592145AL682	1/06/2011	18/03/2025	Inspection report not available, certification was cancelled on 27/01/2022

22,547 ICPs have invalid statistical sampling certification and certification is therefore cancelled but the registry has not been updated despite certification being cancelled for approximately four years. The details of the invalid statistical sampling process and results are detailed in the Legacy Metering Limited MEP audit report for the audit conducted in February 2019. The reason for the statistical sampling being invalid is summarised below.

Project 1

The meters for two MEPs (Contact Energy and Legacy Metering) were included in one population. The Code states: *"A metering equipment provider may arrange for an ATH to recertify a group of category 1 metering installations for which the metering equipment provider is responsible using a statistical sampling process."* It's clear that Legacy Metering was not the MEP for all of the installations because they were not recorded in the registry as the MEP. Clause 10.22 clarifies that it is the trader who decides who the MEP is. Clause 10.22 states:

10.22 Change of metering equipment provider

(1) The **metering equipment provider** for a **metering installation** may change **only if the participant responsible for ensuring there is a metering installation under clause 10.24, 10.25, or 10.26 enters into an arrangement with another person to become the metering equipment provider for the metering installation and—**

(a) in the case of a **metering installation** for an **ICP** that is not also an **NSP**—

(i) the **trader** for the **metering installation** **records the name of the gaining metering equipment provider in the registry** in accordance with Part 11; and

(ii) the **gaining metering equipment provider** records in the **registry** that it accepts becoming the **metering equipment provider** (including the effective date from which the **gaining metering equipment provider** assumes its responsibility as **metering equipment provider** for the **metering installation**) in accordance with Part 11.

The other issue with this project is that three phase and single phase meters were included in the same population, which makes the pass/fail calculation difficult when using the variables method. Originally the three phase results were not all used in the calculation.

Project 2

Project 2 was conducted using actual light load accuracy and a certification period of seven years was applied. The Project 2 results do not fully comply with AS/NZS 1284.13. The required sample size was 100, but the actual sample was 116. Only 100 results were considered. AS/NZS 1284.13 contains the following information indicating that all 116 results must be considered.

Section 8.4 (Selection of samples) states: *“It is recommended that the number of meters selected should be 10% more than the required sample size to allow for the replacements if some meters are damaged.”*

Section 7.1.2 (Sampling accuracy by variables) states: *“Each meter in a sample shall be tested for accuracy in accordance with Clause 8.4.”*

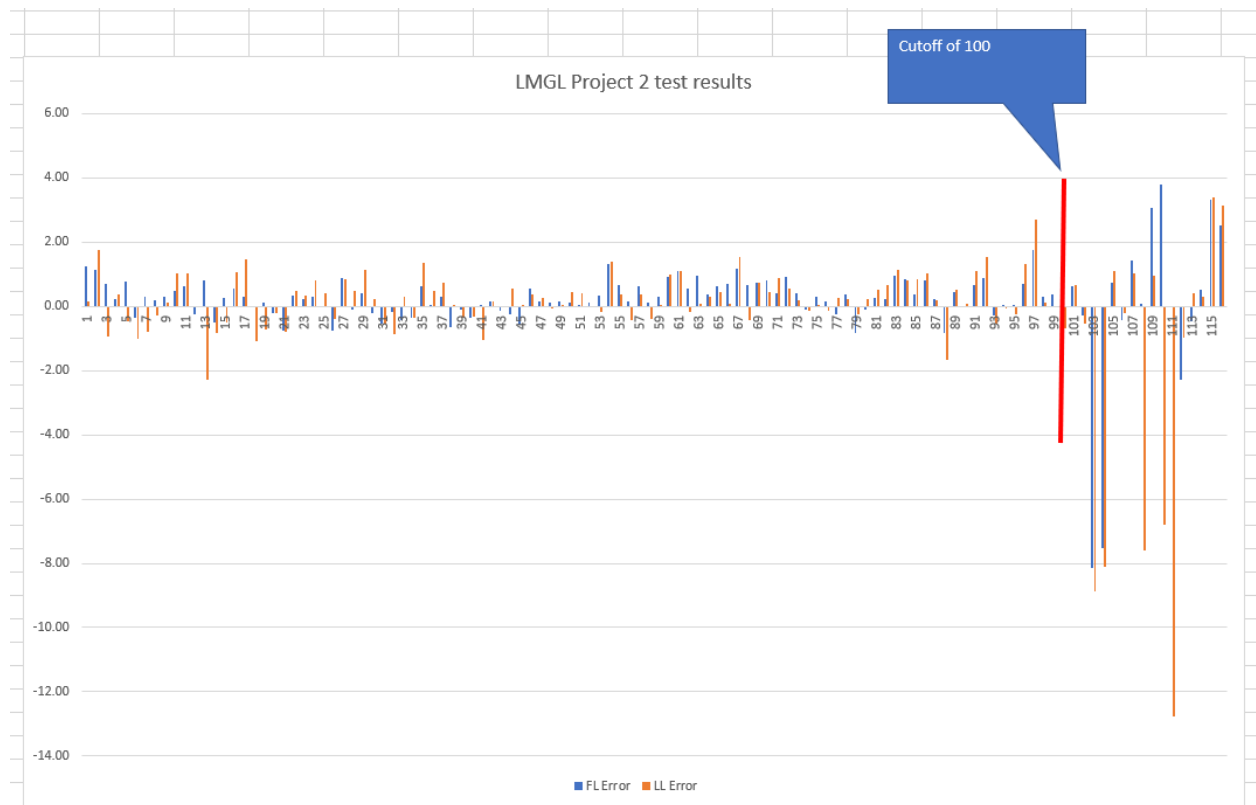
The graph below shows that the “cutoff” point of 100 excludes a high proportion of inaccurate meters. Clause 8.4 of AS/NZS 1284.13 requires the sample to be *“randomly selected to be representative of the selected meter population.”* The graph below shows that the sample is not representative of the meter population.

An additional point to note is that there were two three phase meters amongst the 16 not tested. The two three phase meters both had errors over 3% at the 0.5 power factor test point which could mean the entire population fails just on that issue. The standard states that all test points have equal weight, therefore the 0.5 power factor test point must be considered. The extract from the standard is shown below.

For in-service compliance, the Standard requires testing for errors at 2 points for direct-connected single-phase meters, 3 points for direct-connected polyphase meters and 4 points for CT-operated meters. The errors measured at these points are not averaged (**each has equal weight**); accordingly there is a greater chance of rejecting a meter sample (and ultimately the population that it represents) at one point of the 2 (3 or 4) test points even though the sample might conform at the other test points. This is consistent with the fact that the rate of consumption will vary in individual installations, both between installations and over time.

The Authority’s memo on statistical sampling reinforces this point by stating:

“As the integrity of the statistical sampling process depends on the meter sample being representative of the group, the ATH must satisfy itself that the meter sample properly represents the group. The ATH should keep auditable records to document the factors it considers in forming this view”



Clause 16(1) of Schedule 10.7 allows the MEP to arrange for an ATH to conduct statistical sampling in accordance with AS/NZS 1284. The information provided above shows that the sample was not selected in accordance with AS/NZS 1284 because it is not representative of the meter population.

Following this finding, the Delta ATH again invalidly recertified the meters in this population on 19 October 2020. Delta provided information detailing the process for selecting the sample. The information provided indicated that the ATH had not ensured that the sample was representative of the group. There was no detail of meter type, number of phases, manufacturer, model information included in the information provided for both the group and the sample. All of the 75 meters in the sample were single phase however a check of the ICPs in the group identified a number with chargeable capacities indicating they were likely to be three phase installations.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 6.4</p> <p>With: Clause 20 of Schedule 10.7</p> <p>From: 01-Dec-20</p> <p>To: 27-Jan-22</p>	<p>Certification cancelled and registry not updated for:</p> <ul style="list-style-type: none"> • 1 installation with insufficient load not monitored, • 6 installations certified as a lower category but not monitored, • 14 installations not fit four purpose due to low burden, • 30 installations without inspections conducted by the due date, • 11 installations with invalid statistical sampling certification, • 19 installations with sum-check failures not remediated within three business days, • 3 ICPs with late inspections, and • 22,547 installations with invalid statistical sampling certification. <p>Potential impact: High</p> <p>Actual impact: High</p> <p>Audit history: Multiple times</p> <p>Controls: Weak</p> <p>Breach risk rating: 9</p>		
Audit risk rating	Rationale for audit risk rating		
<p>High</p>	<p>I have recorded the controls as weak in this area because in most cases, the registry is not populated with the correct expiry date when certification is cancelled. The ICPs with invalid statistical sampling certification have been cancelled for many years without the registry being updated.</p> <p>The issues found can potentially have a high impact on other participants and on settlement. In particular the LMGL meters with invalid statistical sampling certification are likely to have a low level of accuracy and a high failure rate. The audit risk rating is high.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Working through these and registry updated where we have identified non compliance . Will change expiry date to 10 years for category 2 sites as we are no longer carrying out cat 2 inspections.</p> <p>This was initiated to recertify after 10 years due to Covid-19 preventing Influx from carrying out our inspection program within allocated period.</p>		21/02/2022	Disputed
<p>Preventative actions taken to ensure no further issues will occur</p>		Completion date	

<p>The majority of ICPs have been cancelled due to ATH errors that are not easily identifiable for an MEP.</p> <p>Disputed - In regard to LMGL, Influx has not been notified by either Delta ATH or the Electricity Authority that certification has been cancelled for several thousand ICPs</p> <p>On acquisition the registry indicated these to be compliant and in dispute.</p> <p>Upating of Influx Data monitoring system and processes</p> <p>Upating of Influx Data monitoring system and processes</p> <p>All category 2 plus sites to be checked by Influx Test House</p>	Ongoing	
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6.5. Registry Metering Records (Clause 11.8A)

Code reference

Clause 11.8A

Code related audit information

The MEP must provide the registry manager with the required metering information for each metering installation the MEP is responsible for and update the registry metering records in accordance with Schedule 11.4.

Audit observation

FCLM

This clause refers to schedule 11.4 which is discussed in **section 6.2**, apart from the requirement to provide information in the “prescribed form”. I checked for examples of FCLM not using the prescribed form.

TRUM

This clause refers to schedule 11.4 which is discussed in **section 6.2**, apart from the requirement to provide information in the “prescribed form”. I checked for examples of TRUM not using the prescribed form.

LMGL

This clause refers to schedule 11.4 which is discussed in **section 6.2**, apart from the requirement to provide information in the “prescribed form”. I checked for examples of LMGL not using the prescribed form.

Audit commentary

FCLM

This clause refers to schedule 11.4 which is discussed in **section 6.2**, apart from the requirement to provide information in the “prescribed form”. I checked for examples of FCLM not using the prescribed form and did not find any exceptions.

TRUM

This clause refers to schedule 11.4 which is discussed in **section 6.2**, apart from the requirement to provide information in the “prescribed form”. I checked for examples of TRUM not using the prescribed form and did not find any exceptions.

LMGL

This clause refers to schedule 11.4 which is discussed in **section 6.2**, apart from the requirement to provide information in the “prescribed form”. I checked for examples of LMGL not using the prescribed form and did not find any exceptions.

Audit outcome

Compliant

7. CERTIFICATION OF METERING INSTALLATIONS

7.1. Certification and Maintenance (Clause 10.38 (a), clause 1 and clause 15 of Schedule 10.7)

Code reference

Clause 10.38 (a), clause 1 and clause 15 of Schedule 10.7

Code related audit information

The MEP must obtain and maintain certifications for all installations and metering components for which it is responsible. The MEP must ensure it:

- *performs regular maintenance, battery replacement, repair/replacement of components of the metering installations*
- *updates the metering records at the time of the maintenance*
- *has a recertification programme that will ensure that all installations are recertified prior to expiry.*

Audit observation

FCLM

I conducted the following checks to identify metering installations with expired, cancelled or late certification:

- the audit compliance report was checked to identify ICPs with expired certification,
- the new connections process was checked by using the event detail report, PR255 and the list file to identify ICPs where the certification was not conducted within five business days of energisation, and
- I checked ICPs where certification was cancelled to ensure the registry was updated accordingly.

TRUM

I conducted the following checks to identify metering installations with expired, cancelled or late certification:

- the audit compliance report was checked to identify ICPs with expired certification,
- the new connections process was checked by using the event detail report, PR255 and the list file to identify ICPs where the certification was not conducted within five business days of energisation, and
- I checked ICPs where certification was cancelled to ensure the registry was updated accordingly.

LMGL

I conducted the following checks to identify metering installations with expired, cancelled or late certification:

- the audit compliance report was checked to identify ICPs with expired certification,
- the new connections process was checked by using the event detail report, PR255 and the list file to identify ICPs where the certification was not conducted within five business days of energisation, and
- I checked ICPs where certification was cancelled to ensure the registry was updated accordingly.

Audit commentary

Influx provided a copy of their compliance plan for all three participant codes. The plan includes quantities per year where recertification is required by statistical sampling or by replacement.

FCLM

1,276 ICPs have expired or cancelled certification. The table below gives a breakdown of these.

Dec 2021	Oct 2020	Nov 2019	April 2019	Jul 2018	Sep 2017	Description
302	702	826	896	1,118	1,648	Expired interim certification
735	1607	1507	1,572	1800	1,539	Expired full certification (Category 1)
192	137	52	50	67	39	Expired full certification (Category 2)
1	1					Expired alternative certification (Category 2)
0	2	0	2	2	0	Expired full certification (Category 3)
0	0	1	1	0	0	Expired full certification (Category 4)
0	0	1	0	0	0	Cancelled certification due to overdue inspections (Category 2)
0	0	1	5	0	0	Cancelled certification due to overdue inspections (Category 3 & 4)
6	0	3	5	7	9	Cancelled certification due to certification as a lower category and monitoring not conducted
1	11	3	17	0	0	Cancelled due to low burden
1						Cancelled certification due to certification as a lower category and the consumption threshold exceeded
1						Cancelled certification due to insufficient load certification without monitoring
11						Invalid statistical sampling certification
19						Sum-check failures not remediated within three business days.
1,269	2,549	2,395	2,558	2,995	3,236	Total

TRUM

The registry shows 1,402 ICPs have expired certification. The table below gives a breakdown of these.

Quantity 2021	Quantity 2020	Quantity 2019	Description
0	1	2	Interim certified without another MEP nominated
0	0	1	Interim certified with another MEP nominated
379	126	37	Cancelled or expired Category 2 installations
4	-	-	Cancelled or expired Category 3 installations
2	-	-	Cancelled or expired Category 5 installations
17	9	19	Cancelled Category 2 due to inspections not conducted within the allowable window
0	0	1	Cancelled Category 4 due to inspection not conducted within the allowable window

1,014	26	13	Category 1 fully certification expired
1,402	162	73	Total

LMGL

22,696 ICPs have cancelled or expired certification. The table below gives a breakdown of these.

Quantity 2021	Description
6	Cancelled certification due to late inspections
6	Cancelled or expired Category 2 installations
137	Category 1 fully certification expired
22,547	Cancelled certification due to invalid statistical sampling
22,696	Total

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 7.1 With: Clause 10.38 (a), clause 1 and clause 15 of Schedule 10.7 From: 01-Dec-20 To: 27-Jan-22	Certification cancelled or expired for 25,379 ICPs. Potential impact: High Actual impact: High Audit history: Multiple times Controls: Moderate Breach risk rating: 6
Audit risk rating	Rationale for audit risk rating
High	I have recorded the controls as moderate in this area because certification has been expired for a number of years for some ICPs and because some of the expired installations were fully certified at one point. The controls for FCLM and TRUM for Category 1 certification appear to be sound but the LMGL controls appear weak and 82% of ICPs have cancelled or expired certification. The impact on settlement is recorded as high because of the increased likelihood of failure or inaccuracy for metering installations with expired certification, therefore the audit risk rating is high.

Actions taken to resolve the issue	Completion date	Remedial action status
<p>FCLM non compliant meters were reduced from 2,549 to 1,279, over 50% in 2021. We will continue reduce this number and seek exemption for UTI's as per compliance plan.</p> <p>In regard to LMGL, Influx has not been notified by either Delta ATH or the Electricity Authority that certification has been cancelled for several thousand ICPs</p> <p>On acquisition the registry indicated these to be compliant and in dispute.</p>	21/02/2022	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
Influx has created a comprehensive compliance plan and submitted with the audit.	Ongoing	

7.2. Certification Tests (Clause 10.38(b) and clause 9 of Schedule 10.6)

Code reference

Clause 10.38(b) and clause 9 of Schedule 10.6

Code related audit information

For each metering component and metering installation an MEP is responsible for, the MEP must ensure that:

- *an ATH performs the appropriate certification and recertification tests*
- *the ATH has the appropriate scope of approval to certify and recertify the metering installation.*

Audit observation

FCLM

I checked the certification records for 56 metering installations to confirm compliance.

TRUM

I checked the certification records for 26 metering installations to confirm compliance.

LMGL

I checked the certification records for 12 metering installations to confirm compliance.

Audit commentary

FCLM

Certification activities have been conducted by several ATHs. The most recent audit reports for all ATHs confirm the appropriate testing is conducted. The certification records I checked contained confirmation of testing being completed.

There were two examples, ICPs 0000017144TC2BE and 1001106236LC3D8, where a category 1 metering installation was recertified after a meter was unbridged. ICP 1001106236LC3D8 had a meter change and compliance is achieved. Table 3 of Schedule 10.1 requires that a prevailing load test is conducted when a category 1 metering installation is recertified without the meter being changed. Clause 9(1)(a) requires

that prevailing load tests must be conducted using a working standard connected to the metering installation. I have recorded non-compliance as the ATH did not conduct a prevailing load test using a working standard for ICP 0000017144TC2BE.

TRUM

Certification activities have been conducted by several ATHs. The most recent audit reports for all ATHs confirm the appropriate testing is conducted. There were three ICPs with multiple meters where the certification report only contained details of one meter and test results for one meter. The ICPs are 0000928359TU287, 0000708790WP2CE and 0001947522WA40E.

LMGL

Certification activities have been conducted by several ATHs. The most recent audit reports for all ATHs confirm the appropriate testing is conducted. The certification records I checked contained confirmation of testing being completed.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 7.2 With: Clause 10.38(b) and clause 9 of Schedule 10.6 From: 27-Apr-21 To: 27-Jan-22	Prevailing load test not conducted for one category 1 metering installation. Test results not all recorded for three TRUM installations. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as strong because sufficient testing is conducted to ensure the installation is accurate. The impact is low as the accuracy of the metering installation is unlikely to have been impacted by the prevailing load test not being completed, the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Organise recertification by test house		31/03/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Notify test houses of obligations in regards to recertifying bridged meters.		30/04/2022	

7.3. Active and Reactive Capability (Clause 10.37(1) and 10.37(2)(a))

Code reference

Clause 10.37(1) and 10.37(2)(a)

Code related audit information

For any category 2 or higher half-hour metering installation that is certified after 29 August 2013, the MEP must ensure that the installation has active and reactive measuring and recording capability.

Consumption only installations that is a category 3 metering installation or above must measure and separately record:

- a) import active energy*
- b) import reactive energy*
- c) export reactive energy.*

Consumption only installations that are a category 2 metering installation must measure and separately record import active energy.

All other installations must measure and separately record:

- a) import active energy*
- b) export active energy*
- c) import reactive energy*
- d) export reactive energy.*

All grid connected POCs with metering installations which are certified after 29 August 2013 should measure and separately record:

- a) import active energy*
- b) export active energy*
- c) import reactive energy*
- d) export reactive energy*

Audit observation

FCLM

All relevant metering is compliant with this clause.

TRUM

All relevant metering is compliant with this clause.

LMGL

All relevant metering is compliant with this clause.

Audit commentary

FCLM

All relevant metering is compliant with this clause.

TRUM

All relevant metering is compliant with this clause.

LMGL

All relevant metering is compliant with this clause.

Audit outcome

Compliant

7.4. Local Service Metering (Clause 10.37(2)(b))

Code reference

Clause 10.37(2)(b)

Code related audit information

The accuracy of each local service metering installation in grid substations must be within the tolerances set out in Table 1 of Schedule 10.1.

Audit observation

This clause relates to Transpower as an MEP.

Audit commentary

This clause relates to Transpower as an MEP.

Audit outcome

Not applicable

7.5. Measuring Transformer Burden (Clause 30(1) and 31(2) of Schedule 10.7)

Code reference

Clause 30(1) and 31(2) of Schedule 10.7

Code related audit information

The MEP must not permit a measuring transformer to be connected to equipment used for a purpose other than metering, unless it is not practical for the equipment to have a separate measuring transformer.

The MEP must ensure that a change to, or addition of, a measuring transformer burden or a compensation factor related to a measuring transformer is carried out only by:

- a) the ATH who most recently certified the metering installation*
- b) for a POC to the grid, by a suitably qualified person approved by both the MEP and the ATH who most recently certified the metering installation.*

Audit observation

FCLM

I asked FCLM if there were any examples of burden changes, or the addition of non-metering equipment being connected to metering CTs.

TRUM

I asked TRUM if there were any examples of burden changes, or the addition of non-metering equipment being connected to metering CTs.

LMGL

I asked LMGL if there were any examples of burden changes, or the addition of non-metering equipment being connected to metering CTs.

Audit commentary

FCLM

There are no examples of burden changes having occurred.

TRUM

There are no examples of burden changes having occurred.

LMGL

There are no examples of burden changes having occurred.

Audit outcome

Compliant

7.6. Certification as a Lower Category (Clauses 6(1)(b) and (d), and 6(2)(b) of Schedule 10.7)

Code reference

Clauses 6(1)(b) and (d), and 6(2)(b) of Schedule 10.7

Code related audit information

A category 2 or higher metering installation may be certified by an ATH at a lower category than would be indicated solely on the primary rating of the current if the MEP, based on historical metering data, reasonably believes that:

- *the maximum current will at all times during the intended certification period be lower than the current setting of the protection device for the category for which the metering installation is certified, or is required to be certified by the Code; or*
- *the metering installation will use less than 0.5 GWh in any 12-month period.*

If a metering installation is categorised under clause 6(1)(b), the ATH may, if it considers appropriate, and, at the MEP's request, determine the metering installation's category according to the metering installation's expected maximum current.

If a meter is certified in this manner:

- *the MEP must, each month, obtain a report from the participant interrogating the metering installation, which details the maximum current from raw meter data from the metering installation by either calculation from the kVA by trading period, if available, or from a maximum current indicator if fitted in the metering installation conveyed through the point of connection for the prior month; and*
- *if the MEP does not receive a report, or the report demonstrates that the maximum current conveyed through the POC was higher than permitted for the metering installation category it is certified for, then the certification for the metering installation is automatically cancelled.*

Audit observation

FCLM

I checked all ICPs for examples where the CT ratio was above the threshold to confirm that protection was appropriate or that monitoring was in place.

TRUM

I checked all ICPs for examples where the CT ratio was above the threshold to confirm that protection was appropriate or that monitoring was in place.

LMGL

I checked all ICPs for examples where the CT ratio was above the threshold to confirm that protection was appropriate or that monitoring was in place.

Audit commentary

FCLM

32 category 2 metering installations have CT ratios above 500/5. I confirmed that 19 of these had appropriate protection in place to limit the maximum current to less than 500A.

I checked the recent monitoring reports and confirmed that monitoring is conducted correctly each month for the remaining metering installations, and I found six ICPs where monitoring is not conducted. The table below contains the details.

ICP	Compensation factor	Metering category	Certification date
0000025157EA4EA	160	2	16/07/2021
0085261336LC2A3	120	2	06/06/2017
0000164833CK11A	160	2	09/04/2021
0001148945WA829	120	2	23/04/2021
0000201030TU28D	160	2	13/05/2021
0000025613EA847	240	2	29/06/2021

TRUM

13 category 2 metering installations have CT ratios above 500/5. I checked the certification records for all 13 installations, and I confirm appropriate protection is in place to limit the maximum current to less than 500A.

LMGL

One category 2 metering installation has 1200/5 CTs. Monitoring is not conducted, and certification is cancelled in the registry.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 7.6 With: Clauses 6(1)(b) and (d), and 6(2)(b) of Schedule 10.7 From: 01-Dec-20 To: 27-Jan-22	Certification cancelled for 7 ICPs where certification as a lower category monitoring is not conducted. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	Rationale for audit risk rating

Low	<p>The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement.</p> <p>The impact on settlement and participants is minor; therefore, the audit risk rating is low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Influx data always endeavours to avoid certifying at a lower category . We are following up on how we have increased from 24 sites being compliant in 2021 to 32 in 2022 and 7 as being non compliant.</p> <p>Registry updated to reflect non compliance</p>		30/04/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>All category 2 plus sites to be checked by Influx Test House</p> <p>Review Influx certification requirements and clarify with ATHs</p>		30/04/2022	

7.7. Insufficient Load for Certification Tests (Clauses 14(3) and (4) of Schedule 10.7)

Code reference

Clauses 14(3) and (4) of Schedule 10.7

Code related audit information

If there is insufficient electricity conveyed through a POC to allow the ATH to complete a prevailing load test for a metering installation that is being certified as a half hour meter and the ATH certifies the metering installation the MEP must:

- *obtain and monitor raw meter data from the metering installation at least once each calendar month to determine if load during the month is sufficient for a prevailing load test to be completed:*
- *if there is sufficient load, arrange for an ATH to complete the tests (within 20 business days).*

Audit observation

FCLM

I checked if there were any examples of Insufficient load certifications.

TRUM

I checked if there were any examples of Insufficient load certifications.

LMGL

I checked if there were any examples of Insufficient load certifications.

Audit commentary

FCLM

ICP 0003133800AA2B3 was certified on 28 October 2021 under the insufficient load clause but monitoring was not conducted. Certification is therefore cancelled.

TRUM

TRUM does not allow certification in accordance with this clause. Load banks are required to be used to increase the load to conduct testing. My checks of recent certifications did not identify any installations certified with insufficient load.

LMGL

LMGL does not allow certification in accordance with this clause. Load banks are required to be used to increase the load to conduct testing. My checks of recent certifications did not identify any installations certified with insufficient load.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 7.7 With: Clauses 14(3) and (4) of Schedule 10.7 From: 28-Oct-21 To: 27-Jan-22	ICP 0003133800AA2B3 was certified on 28/10/21 under the insufficient load clause but monitoring was not conducted. Certification is therefore cancelled Potential impact: Medium Actual impact: Unknown Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. Instructions are clear that load should be added by ATHs. The impact on settlement and participants is unknown; therefore, the audit risk rating is recorded as low.		
Actions taken to resolve the issue		Completion date	Remedial action status
All category 2 plus sites to be checked by Influx Test House Certification should have an expiry date of 3 months from installation date to ensure follow up . Note monitoring is only required to notify test house to return and do load tests.		30/04/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Review Influx Data certification requirements and clarify with ATHs		30/04/2022	

7.8. Insufficient Load for Certification – Cancellation of Certification (Clause 14(6) of Schedule 10.7)

Code reference

Clause 14(6) of Schedule 10.7

Code related audit information

If the tests conducted under clause 14(4) of Schedule 10.7 demonstrate that the metering installation is not within the relevant maximum permitted error:

- *the metering installation certification is automatically revoked:*
- *the certifying ATH must advise the MEP of the cancellation within one business day:*
- *the MEP must follow the procedure for handling faulty metering installations (clause 10.43 - 10.48).*

Audit observation

FCLM

One installation is certified for insufficient load, but testing has not yet been conducted.

TRUM

TRUM has not conducted monitoring of insufficient load certifications.

LMGL

LMGL has not conducted monitoring of insufficient load certifications.

Audit commentary

FCLM

One installation is certified for insufficient load, but testing has not yet been conducted.

TRUM

TRUM has not conducted monitoring of insufficient load certifications.

LMGL

LMGL has not conducted monitoring of insufficient load certifications.

Audit outcome

Compliant

7.9. Alternative Certification Requirements (Clauses 32(2), (3) and (4) of Schedule 10.7)

Code reference

Clauses 32(2), (3) and (4) of Schedule 10.7

Code related audit information

If an ATH cannot comply with the requirements to certify a metering installation due to measuring transformer access issues, and therefore certifies the metering installation in accordance with clause 32(1) of Schedule 10.7, the MEP must:

- *advise the market administrator, by no later than 10 business days after the date of certification of the metering installation, of the details in clause 32(2)(a) of Schedule 10.7*
- *respond, within five business days, to any requests from the market administrator for additional information*
- *ensure that all of the details are recorded in the metering installation certification report*

- take all steps to ensure that the metering installation is certified before the certification expiry date.

If the market administrator determines the ATH could have obtained access the metering installation is deemed to be defective, and the MEP must follow the process of handling faults metering installations in clauses 10.43 to 10.48.

Audit observation

FCLM

I checked the registry records to confirm whether alternative certification had been applied.

TRUM

I checked the registry records to confirm whether alternative certification had been applied.

LMGL

I checked the registry records to confirm whether alternative certification had been applied.

Audit commentary

FCLM

Alternative certification has not been applied to any metering installations during the audit period.

TRUM

Alternative certification has not been applied to any metering installations during the audit period.

LMGL

Alternative certification has not been applied to any metering installations during the audit period.

Audit outcome

Compliant

7.10. Timekeeping Requirements (Clause 23 of Schedule 10.7)

Code reference

Clause 23 of Schedule 10.7

Code related audit information

If a time keeping device that is not remotely monitored and corrected controls the switching of a meter register in a metering installation, the MEP must ensure that the time keeping device:

- has a time keeping error of not greater than an average of 2 seconds per day over a period of 12 months*
- is monitored and corrected at least once every 12 months.*

Audit observation

FCLM

I asked FCLM whether there were any metering installations with time clocks.

TRUM

I asked TRUM whether there were any metering installations with time clocks.

LMGL

I asked LMGL whether there were any metering installations with time clocks.

Audit commentary

FCLM

FCLM has some Landis + Gyr meters with internal time clocks. FCLM is in the process of replacing these meters, of which there are currently 31. The time error has not been monitored and corrected every 12 months for all 31 meters.

TRUM

TRUM confirmed there are no metering installations with time clocks.

LMGL

LMGL confirmed there are no metering installations with time clocks.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 7.10 With: Clause 23 of Schedule 10.7 From: 01-Dec-20 To: 27-Jan-22	31 meters with time clocks that are not monitored every 12 months. Potential impact: Low Actual impact: Low Audit history: Twice previously Controls: None Breach risk rating: 5		
Audit risk rating	Rationale for audit risk rating		
Low	There isn't a process in place to check the time setting on these meters. The impact on settlement and participants could be minor; therefore, the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Influx Data has made every endeavour to replace these meters as there is no other option. We have reduced the number from 73 to 31 . Barriers include: <ul style="list-style-type: none"> • 7 customer refusals • 4 Can't locate customer(Vacant) • 14 Dealing with customer issues Influx believe the Breach a risk rating of 5 is excessive.		2021 - 2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Seek advice from EA on exemptions as an MEP for ICPs that are UTIs and unable to be made compliant .		30/04/2022	

7.11. Control Device Bridged Out (Clause 35 of Schedule 10.7)

Code reference

Clause 35 of Schedule 10.7

Code related audit information

The participant must, within 10 business days of bridging out a control device or becoming aware of a control device being bridged out, notify the following parties:

- *the relevant reconciliation participant*
- *the relevant metering equipment provider.*

If the control device is used for reconciliation, the metering installation is considered defective in accordance with 10.43.

Audit observation

FCLM

I checked the process for the management of bridged control devices, and I checked whether any notifications were required to other parties.

TRUM

I checked the process for the management of bridged control devices, and I checked whether any notifications were required to other parties.

LMGL

I checked the process for the management of bridged control devices, and I checked whether any notifications were required to other parties.

Audit commentary

FCLM

FCLM has a process for dealing with control devices which have been bridged out. If any are bridged out for more than 10 business days, they notify as required by this clause. There have not been any recent examples.

TRUM

TRUM has a process for dealing with control devices which have been bridged out, which is that they are immediately resolved. The records for five ICPs showed that the reconciliation participant was notified within 10 business days. None of the control devices were used for load or time switching profiles.

LMGL

LMGL has a process for dealing with control devices which have been bridged out, which is that they are immediately resolved. The records for two ICPs showed that the reconciliation participant was notified within 10 business days. One of the control devices was used for a load switching profile and the trader immediately changed the profile to RPS.

Audit outcome

Compliant

7.12. Control Device Reliability Requirements (Clause 34(5) of Schedule 10.7)

Code reference

Clause 34(5) of Schedule 10.7

Code related audit information

If the MEP is advised by an ATH that the likelihood of a control device not receiving signals would affect the accuracy or completeness of the information for the purposes of Part 15, the MEP must, within three business days inform the following parties of the ATH's determination (including all relevant details):

- a) the reconciliation participant for the POC for the metering installation*
- b) the control signal provider.*

Audit observation

FCLM

I checked the steps FCLM had taken to identify regions with signal propagation issues.

TRUM

I checked the steps TRUM had taken to identify regions with signal propagation issues.

LMGL

I checked the steps LMGL had taken to identify regions with signal propagation issues.

Audit commentary

FCLM

FCLM has not been advised of any areas by the ATHs.

TRUM

TRUM has not been advised of any areas by the ATHs.

LMGL

LMGL has not been advised of any areas by the ATHs.

Audit outcome

Compliant

7.13. Statistical Sampling (Clauses 16(1) and (5) of Schedule 10.7)

Code reference

Clauses 16(1) and (5) of Schedule 10.7

Code related audit information

The MEP may arrange for an ATH to recertify a group of category 1 metering installations for which the MEP is responsible using a statistical sampling process.

The MEP must update the registry in accordance with Part 11 on the advice of an ATH as to whether the group meets the recertification requirements.

Audit observation

FCLM

I checked whether statistical sampling had occurred during the audit period.

TRUM

I checked whether statistical sampling had occurred during the audit period.

LMGL

I checked whether statistical sampling had occurred during the audit period.

Audit commentary

FCLM

FCLM conducted statistical sampling of a population of 988 ICPs. The sample passed testing and certification has been applied for seven years. The population was selected to include meters likely to pass testing and a check was conducted to ensure the sample matched the population.

As recorded in **section 6.4**, the Code and the standard both require that the sample matches the population. I checked the detailed results and found that one meter type was included in the population but not in the sample that was tested. Originally there were 22 of these meters in the population, but at the time of the audit this number had reduced to 11. These 11 ICPs were certified by statistical sampling, but upon this issue being raised, certification has now been cancelled.

TRUM

TRUM has not conducted statistical sampling during the audit period.

LMGL

LMGL has not conducted statistical sampling during the audit period. As recorded in **sections 6.4** and **7.1**, statistical sampling conducted in earlier years is invalid and certification is cancelled.

Audit outcome

Compliant

7.14. Compensation Factors (Clause 24(3) of Schedule 10.7)

Code reference

Clause 24(3) of Schedule 10.7

Code related audit information

If an external compensation factor must be applied to a metering installation that is an NSP, the MEP must advise the reconciliation participant responsible for the metering installation of the compensation factor within 10 days of certification of the installation.

In all other cases the MEP must update the compensation factor recorded in the registry in accordance with Part 11.

Audit observation

FCLM

I checked the records for 42 Category 2 and above metering installations to confirm that compensation factors were correctly recorded on the registry.

TRUM

All certification conducted during the audit period was for Category 1 installations. I checked the audit compliance report for invalid compensation factors.

LMGL

One Category 2 installation was certified during the audit period and the compensation factor is correct. I checked the audit compliance report for invalid compensation factors.

Audit commentary

FCLM

Compensation factors have been updated on the registry. ICP 0000616050WPE6E had a compensation factor of 1 recorded in the certification report by Wells ATH, and therefore in the registry. The compensation factor should have been 60 and FCLM has now updated the registry and notified the trader. I sent FCLM a list of a further 20 ICPs with compensation factors of 1 to be checked for accuracy. Six ICPs should have compensation factors and the registry has now been updated and traders have been notified.

TRUM

Compensation factors have been updated accurately on the registry. I confirmed this by checking the records for two ICPs.

LMGL

One Category 2 installation was certified during the audit period and the compensation factor is correct. I checked the audit compliance report for invalid compensation factors, and none were found.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 7.14 With: Clause 24(3) of Schedule 10.7 From: 01-May-16 To: 25-Jan-22	Incorrect compensation factor for ICP 0000616050WPE6E. Incorrect compensation factors for a further 6 ICPs. Potential impact: Medium Actual impact: Medium Audit history: None Controls: Moderate Breach risk rating: 6		
Audit risk rating	Rationale for audit risk rating		
High	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement and participants is high. At least two ICPs were settled using incorrect compensation factors. Under submission of approx. 200,000 kWh has occurred since 2016.		
Actions taken to resolve the issue		Completion date	Remedial action status
Participants notified and Registry updated This issue is still under investigation and therefore we can not estimate the impact as it is still unknown.		21/02/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	

All category 2 plus sites to be checked by Influx Test House Add to daily discrepancy reporting so can be actioned daily.	30/04/2022	
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7.15. Metering Installations Incorporating a Meter (Clause 26(1) of Schedule 10.7)

Code reference

Clause 26(1) of Schedule 10.7

Code related audit information

The MEP must ensure that each meter in a metering installation it is responsible for is certified.

Audit observation

FCLM

I checked the certification records for 56 metering installations to confirm compliance.

TRUM

I checked the certification records for 26 metering installations to confirm compliance.

LMGL

I checked the certification records for 12 metering installations to confirm compliance.

Audit commentary

FCLM

Meters were certified for all 56 installations.

TRUM

Meters were certified for all 26 installations.

LMGL

Meters were certified for all 12 installations.

Audit outcome

Compliant

7.16. Metering Installations Incorporating a Measuring Transformer (Clause 28(1) of Schedule 10.7)

Code reference

Clause 28(1) of Schedule 10.7

Code related audit information

The MEP must ensure that each measuring transformer in a metering installation it is responsible for is certified.

Audit observation

FCLM

I checked the certification records for 42 metering installations to confirm compliance.

TRUM

Only Category 1 certification was conducted during the audit period.

LMGL

I checked the certification records for one metering installation to confirm compliance.

Audit commentary

FCLM

Measuring transformers were certified for all 42 installations.

TRUM

Only Category 1 certification was conducted during the audit period.

LMGL

Measuring transformers were certified for the one installation.

Audit outcome

Compliant

7.17. Metering Installations Incorporating a Data Storage Device (Clause 36(1) of Schedule 10.7)

Code reference

Clause 36(1) of Schedule 10.7

Code related audit information

The MEP must ensure that each data storage device in a metering installation it is responsible for is certified.

Audit observation

FCLM

I checked the certification records for 56 metering installations to confirm compliance.

TRUM

TRUM did not certify any metering installations containing data storage devices during the audit period.

LMGL

I checked the certification records for two metering installations to confirm compliance.

Audit commentary

FCLM

The 56 certification records that I checked confirmed that the data storage devices are being correctly certified.

TRUM

TRUM did not certify any metering installations containing data storage devices during the audit period.

FCLM

The two certification records that I checked confirmed that the data storage devices are being correctly certified.

Audit outcome

Compliant

7.18. Notification of ATH Approval (Clause 7 (3) Schedule 10.3)

Code reference

Clause 7 (3) Schedule 10.3

Code related audit information

If the MEP is notified by the Authority that an ATH's approval has expired, been cancelled or been revised, the MEP must treat all metering installations certified by the ATH during the period where the ATH was not approved to perform the activities as being defective and follow the procedures set out in 10.43 to 10.48.

Audit observation

FCLM

I checked the ATH register to confirm compliance.

TRUM

I checked the ATH register to confirm compliance.

LMGL

I checked the ATH register to confirm compliance.

Audit commentary

FCLM

All relevant ATHs have appropriate approval.

TRUM

All relevant ATHs have appropriate approval.

LMGL

All relevant ATHs have appropriate approval.

Audit outcome

Compliant

7.19. Interim Certification (Clause 18 of Schedule 10.7)

Code reference

Clause 18 of Schedule 10.7

Code related audit information

The MEP must ensure that each interim certified metering installation on 28 August 2013 is certified by no later than 1 April 2015.

Audit observation

FCLM

I checked the registry records (audit compliance report) to identify any ICPs with interim certification recorded.

TRUM

I checked the registry records (audit compliance report) to identify any ICPs with interim certification recorded.

LMGL

I checked the registry records (audit compliance report) to identify any ICPs with interim certification recorded.

Audit commentary

FCLM

There are 302 previously interim certified installations with expired certification.

TRUM

There are no interim certified installations with expired certification.

LMGL

As recorded in **sections 6.4** and **7.1** there are 22,547 installations with invalid statistical sampling certification. Most of these installations had interim certification, which is effectively still in place.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 7.19 With: Clause 18 of Schedule 10.7 From: 01-Apr-15 To: 02-Feb-22	302 FCLM ICPs with expired interim certification. 22,547 LMGL ICPs where most have expired interim certification. Potential impact: High Actual impact: Medium Audit history: Multiple times Controls: Moderate Breach risk rating: 4
Audit risk rating	Rationale for audit risk rating
Medium	I have recorded the controls as moderate in this area because certification has been expired for almost seven years for these ICPs. The impact on settlement is recorded as moderate because of the increased likelihood of failure or inaccuracy for metering installations with expired certification, therefore the audit risk rating is medium.
Actions taken to resolve the issue	
Completion date	Remedial action status

FCLM Expired Interim reduced from 702 to 302 planned to complete but UTIs will prevent 100% target. In regard to LMGL, Influx has not been notified by either Delta ATH or the Electricity Authority that certification has been cancelled for several thousand ICPs On acquisition the registry indicated these to be compliant and in dispute	31/12/2022	Disputed
Preventative actions taken to ensure no further issues will occur	Completion date	
Addressing non compliance as per Compliance plan		

8. INSPECTION OF METERING INSTALLATIONS

8.1. Category 1 Inspections (Clause 45 of Schedule 10.7)

Code reference

Clause 45 of Schedule 10.7

Code related audit information

The MEP must ensure that category 1 metering installations (other than interim certified metering installations):

- *have been inspected by an ATH within 126 months from the date of the metering installation's most recent certification or*
- *for each 12-month period, commencing 1 January and ending 31 December, ensure an ATH has completed inspections of a sample of the category 1 metering installations selected under clause 45(2) of Schedule 10.7.*

Before a sample inspection process can be carried out, the MEP must submit a documented process for selecting the sample to the Electricity Authority, at least 2 months prior to first date on which the inspections are to be carried out, for approval (and promptly provide any other information the Authority may request).

The MEP must not inspect a sample unless the Authority has approved the documented process.

The MEP must, for each inspection conducted under clause 45(1)(b), keep records detailing:

- *any defects identified that have affected the accuracy or integrity of the raw meter data recorded by the metering installation*
- *any discrepancies identified under clause 44(5)(b)*
- *relevant characteristics, sufficient to enable reporting of correlations or relationships between inaccuracy and characteristics*
- *the procedure used, and the lists generated, to select the sample under clause 45(2).*

The MEP must, if it believes a metering installation that has been inspected is or could be inaccurate, defective or not fit for purpose:

- *comply with clause 10.43*

- arrange for an ATH to recertify the metering installation if the metering is found to be inaccurate under Table 1 of Schedule 10.1, or defective or not fit for purpose.

The MEP must by 1 April in each year, provide the Authority with a report that states whether the MEP has, for the previous 1 January to 31 December period, arranged for an ATH to inspect each category 1 metering installation for which it is responsible under clause 45(1)(a) or 45(1)(b).

This report must include the matters specified in clauses 45(8)(a) and (b).

If the MEP is advised by the Authority that the tests do not meet the requirements under clause 45(9) of Schedule 10.7, the MEP must select the additional sample under that clause, carry out the required inspections, and report to the Authority, within 40 business days of being advised by the Authority.

Audit observation

FCLM

FCLM does not intend to commence Category 1 inspections through sampling. They intend to re-certify installations rather than do inspections.

TRUM

I checked whether TRUM had conducted sample inspections for Category 1 metering installations.

LMGL

I checked whether LMGL had conducted sample inspections for Category 1 metering installations.

Audit commentary

FCLM

FCLM does not intend to commence Category 1 inspections through sampling. They intend to re-certify installations rather than do inspections. My analysis found seven category 1 ICPs with certification periods greater than 10 years but these only appeared because incorrect certification expiry dates were present in the registry, therefore they were not overdue for inspection.

TRUM

TRUM had completed Category 1 inspections through statistical sampling. I checked the inspection process and the associated reporting, which confirms compliance with the Code.

LMGL

LMGL had completed Category 1 inspections through statistical sampling. I checked the inspection process and the associated reporting, which confirms compliance with the Code.

Audit outcome

Compliant

8.2. Category 2 to 5 Inspections (Clause 46(1) of Schedule 10.7)

Code reference

Clause 46(1) of Schedule 10.7

Code related audit information

The MEP must ensure that each category 2 or higher metering installation is inspected by an ATH at least once within the applicable period. The applicable period begins from the date of the metering installation's most recent certification and extends to:

- 126 months for Category 2

- *63 months for Category 3*
- *33 months for Category 4*
- *19 months for Category 5.*

Audit observation

FCLM

I checked the registry information to confirm which ICPs were due for inspection, and I then checked the inspection records for all relevant ICPs.

TRUM

I checked the registry information to confirm which ICPs were due for inspection, and I then checked the inspection records for all relevant ICPs.

LMGL

I checked the registry information to confirm which ICPs were due for inspection, and I then checked the inspection records for all relevant ICPs.

Audit commentary

FCLM

There were no inspections due during the audit period.

TRUM

As recorded in **section 6.4**, inspections were not conducted within the allowable window for 14 metering installations.

LMGL

As recorded in **section 6.4**, inspections were not conducted within the allowable window for six metering installations.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 8.2 With: Clause 46(1) of Schedule 10.7 From: 01-Dec-20 To: 27-Jan-22	TRUM Inspections not conducted within the allowable window for 14 Category 2 installations. LMGL Inspections not conducted within the allowable window for six Category 2 installations. Potential impact: Medium Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement and participants could be minor; therefore, the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Updated Cat 2 sites as expired No longer completing cat 2 inspections .		Completed	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Cat 2 sites to be certified as per updated compliance plan		Ongoing	

8.3. Inspection Reports (Clause 44(5) of Schedule 10.7)

Code reference

Clause 44(5) of Schedule 10.7

Code related audit information

The MEP must, within 20 business days of receiving an inspection report from an ATH:

- *undertake a comparison of the information received with its own records*
- *investigate and correct any discrepancies*
- *update the metering records in the registry.*

Audit observation

FCLM

I checked the inspection process and the results to confirm compliance.

TRUM

I checked the inspection process and the results to confirm compliance.

LMGL

I checked the inspection process and the results to confirm compliance.

Audit commentary

FCLM

FCLM reviews and updates records as required following inspections.

TRUM

The inspection report information was checked against TRUM's records within the required timeframe.

LMGL

The inspection report information was checked against TRUM's records within the required timeframe.

Audit outcome

Compliant

8.4. Broken or removed seals (Clause 48(4) and (5) of Schedule 10.7)

Code reference

Clause 48(4) and (5) of Schedule 10.7

Code related audit information

If the MEP is advised of a broken or removed seal it must use reasonable endeavours to determine

- a) who removed or broke the seal,*
- b) the reason for the removal or breakage.*

and arrange for an ATH to carry out an inspection of the removal or breakage and determine any work required to remedy the removal or breakage.

The MEP must make the above arrangements within

- a) 3 business days, if the metering installation is category 3 or higher*
- b) 10 business days if the metering installation is category 2*
- c) 20 business days if the metering installation is category 1.*

If the MEP is advised under 48(1B)(c) or (48(1F)(d) the MEP must update the relevant meter register content code for the relevant meter channel.

Audit observation

FCLM

I checked two examples of category 1 installations which had seals removed and the meters were bridged.

TRUM

I checked three examples of notification of missing seals, which were all as a result of inspection processes or notification by field technicians.

LMGL

I checked five examples of notification of missing seals, which were all as a result of inspection processes or notification by field technicians.

Audit commentary

FCLM

FCLM were advised that the meters were unsealed, and the meters bridged after being remotely disconnected. FCLM arranged for an ATH to visit sites within the required 20 days. The ATH unbridged the meters, recertified the installations and resealed the meters.

The FCLM process requires that all unsealed meters are tested by the ATH and recertified if required.

TRUM

I checked two examples where the field technician found unsealed meters whilst conducting inspection of category 1 installations. In both cases an investigation was conducted on-site, and the meters were re-sealed on the same day. There was one example where a meter was found unsealed by a field technician whilst on-site investigating another meter in the metering installation which was reported as faulty. All components were resealed, and the metering installation recertified on the same day.

LMGL

In all cases re-sealing occurred after a check of the integrity of the installation.

Audit outcome

Compliant

9. PROCESS FOR HANDLING FAULTY METERING INSTALLATIONS

9.1. Investigation of Faulty Metering Installations (Clause 10.43(4) and (5))

Code reference

Clause 10.43(4) and (5)

Code related audit information

If the MEP is advised or becomes aware that a metering installation may be inaccurate, defective, or not fit for purpose, it must investigate and report on the situation to all affected participants as soon as reasonably practicable after becoming aware of the information, but no later than:

- a) 20 business days for Category 1,*
- b) 10 business days for Category 2 and*
- c) 5 business days for Category 3 or higher.*

Audit observation

FCLM

I checked the process for the management of faulty metering. There were no examples to examine.

TRUM

I checked five examples of faulty metering installation investigations, which included three examples of tampering and two faulty or stopped meters.

LMGL

I checked seven examples of faulty metering installation investigations, which included one example of tampering, two bridged relays and four faulty or stopped meters.

Audit commentary

FCLM

The process for the management of faulty metering is compliant. The same process is used as for TRUM and LMGL, which confirms compliance.

TRUM

In all five examples the faulty metering installations were investigated and recertified. Notification was provided to the traders within five business days for all five examples.

LMGL

In all seven examples the faulty metering installations were investigated and recertified. Notification was provided to the traders within five business days for all seven examples.

Audit outcome

Compliant

9.2. Testing of Faulty Metering Installations (Clause 10.44)

Code reference

Clause 10.44

Code related audit information

If a report prepared under clause 10.43(4)(c) demonstrates that a metering installation is inaccurate, defective, or not fit for purpose, the MEP must arrange for an ATH to test the metering installation and provide a 'statement of situation'.

If the MEP is advised by a participant under clause 10.44(2)(a) that the participant disagrees with the report that demonstrates that the metering installation is accurate, not defective and fit for purpose, the MEP must arrange for an ATH to:

- a) test the metering installation*
- b) provide the MEP with a statement of situation within five business days of:*
- c) becoming aware that the metering installation may be inaccurate, defective or not fit for purpose; or*
- d) reaching an agreement with the participant.*

The MEP is responsible for ensuring the ATH carries out testing as soon as practicable and provides a statement of situation.

Audit observation

FCLM

I checked the process for the management of faulty metering. There were no examples to examine.

TRUM

I checked five examples of faulty metering installation investigations, which included three examples of tampering and two faulty or stopped meters.

LMGL

I checked five examples of faulty metering installation investigations, which included one example of tampering, two bridged relays and four faulty or stopped meters.

Audit commentary

FCLM

The process for the management of faulty metering is compliant. The same process is used as for TRUM and LMGL, which confirms compliance.

TRUM

In all five examples the faulty metering installations were investigated and recertified. Notification was provided to the traders within five business days for all five examples. The forms completed in the field by the ATHs contain sufficient information to report to relevant parties and meet the requirement for the provision of a statement of situation.

LMGL

In all seven examples the faulty metering installations were investigated and recertified. Notification was provided to the traders within five business days for all seven examples. The forms completed in the field by the ATHs contain sufficient information to report to relevant parties and meet the requirement for the provision of a statement of situation.

Audit outcome

Compliant

9.3. Statement of Situation (Clause 10.46(2))

Code reference

Clause 10.46(2)

Code related audit information

Within three business days of receiving the statement from the ATH, the MEP must provide copies of the statement to:

- *the relevant affected participants*
- *the Authority (for all category 3 and above metering installations and any category 1 and category 2 metering installations) on request.*

Audit observation

FCLM

I checked the processes in place where FCLM had become aware of faulty metering installations.

TRUM

I checked five examples where TRUM had become aware of faulty metering installations.

LMGL

I checked seven examples where TRUM had become aware of faulty metering installations.

Audit commentary

FCLM

The statements of situation were all provided within the appropriate timeframes for TRUM and LMGL. The same process is used for FCLM, which confirms compliance.

TRUM

The statements of situation were all provided within the appropriate timeframes.

LMGL

The statements of situation were all provided within the appropriate timeframes.

Audit outcome

Compliant

9.4. Timeframe to correct defects and inaccuracies (Clause 10.46A)

Code reference

Clause 10.46A

Code related audit information

When the metering equipment provider is advised under 10.43 or becomes aware a metering installation it is responsible for is inaccurate, defective or not fit for purpose the metering equipment provider must undertake remedial actions to address the issue.

The metering equipment provider must use its best endeavours to complete the remedial action within 10 business days of the date it is required to provide a report to participants under 10.43(4)(c).

Audit observation

FCLM

I checked the processes in place where FCLM had become aware of faulty metering installations.

TRUM

I checked five examples where TRUM had become aware of faulty metering installations.

LMGL

I checked seven examples where TRUM had become aware of faulty metering installations.

Audit commentary

FCLM

The issues were resolved within the appropriate timeframes for TRUM and LMGL. The same process is used for FCLM, which confirms compliance.

TRUM

All issues were resolved within 10 business days.

LMGL

All issues were resolved within 10 business days.

Audit outcome

Compliant

9.5. Meter bridging (Clause 10.33C)

Code reference

Clause 10.33C

Code related audit information

An MEP may only electrically connect an ICP in a way that bypasses a meter that is in place (“bridging”) if the MEP has been authorised by the responsible trader.

The MEP can then only proceed with bridging the meter if, despite best endeavours:

- *the MEP is unable to remotely electrically connect the ICP*
- *the MEP cannot repair a fault with the meter due to safety concerns*
- *the consumer will likely be without electricity for a period which would cause significant disadvantage to the consumer*

If the MEP bridges a meter, the MEP must notify the responsible trader within one business day and include the date of bridging in its advice.

Audit observation

I checked two examples of bridged meters to confirm compliance.

Audit commentary

I checked two examples of bridged meters and in both cases the bridging was necessary because remote reconnection was not possible, and the customers would be disadvantaged without reconnection occurring.

Audit outcome

Compliant

10. ACCESS TO AND PROVISION OF RAW METER DATA AND METERING INSTALLATIONS

10.1. Access to Raw Meter Data (Clause 1 of Schedule 10.6)

Code reference

Clause 1 of Schedule 10.6

Code related audit information

The MEP must give authorised parties access to raw meter data within 10 business days of receiving the authorised party making a request.

The MEP must only give access to raw meter data to a trader or person, if that trader or person has entered into a contract to collect, obtain, and use the raw meter data with the end customer.

The MEP must provide the following when giving a party access to information:

- a) the raw meter data; or*
- b) the means (codes, keys etc.) to enable the party to access the raw meter data.*

The MEP must, when providing raw meter data or access to an authorised person use appropriate procedures to ensure that:

- the raw meter data is received only by that authorised person or a contractor to the person*
- the security of the raw meter data and the metering installation is maintained*
- access to the raw meter data is limited to only the specific raw meter data under clause 1(7)(c) of Schedule 10.6.*

Audit observation

FCLM

I checked whether any parties had requested access to raw meter data. I checked the processes for handling and provision of raw meter data.

TRUM

I checked whether any parties had requested access to raw meter data.

LMGL

I checked whether any parties had requested access to raw meter data.

Audit commentary

FCLM

No requests have been received but FCLM advised access could be granted in accordance with this clause if necessary.

Raw meter data is collected by EDM I as an agent on behalf of FCLM. The raw meter data is normally received from meters in either whole watt hours (equivalent to kWh to three decimal places) or kWh to three decimal places. The majority of this data is then forwarded to the traders in the same format. The previous audit found that data for three traders was converted into the EIEP3 format by FCLM before being sent to the traders. When converted to the EIEP3 format it was rounded from three to two decimal places. This matter is largely resolved, but one issue is still outstanding. Data sent for the MERI code for 943 NHH ICPs is still sent with zero decimal places.

I have recorded non-compliance as the final data provided to the traders has been rounded and can no longer be deemed to be raw meter data.

TRUM

No requests have been received, but TRUM advised access could be granted in accordance with this clause if necessary.

LMGL

No requests have been received, but LMGL advised access could be granted in accordance with this clause if necessary.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 10.1 With: Clause 1 of Schedule 10.6 From: 01-Dec-21 To: 27-Jan-22	Data provided to one trader is not raw meter data. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as moderate because data includes all decimal places provided for a large proportion of ICPs. The impact is assessed to be low, because a small number of ICPs are affected and the issue only affects the third decimal place under certain circumstances.		
Actions taken to resolve the issue		Completion date	Remedial action status
By standardizing to EA recommended EIEP3 format we now breach. Modified file to contain 4 decimal places.		21/12/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Working with one retailer that cannot receive the new file format . These ICPs are in the process of being transferred to a new Retailer Code		31/12/2022	

10.2. Restrictions on Use of Raw Meter Data (Clause 2 of Schedule 10.6)

Code reference

Clause 2 of Schedule 10.6

Code related audit information

The MEP must not give an authorised person access to raw meter data if to do so would breach clause 2(1) of Schedule 10.6.

Audit observation

FCLM

I checked whether any parties had requested access to raw meter data.

TRUM

I checked whether any parties had requested access to raw meter data.

LMGL

I checked whether any parties had requested access to raw meter data.

Audit commentary

FCLM

No requests have been received but FCLM advised access could be granted in accordance with this clause if necessary.

TRUM

No requests have been received but TRUM advised access could be granted in accordance with this clause if necessary.

LMGL

No requests have been received but LMGL advised access could be granted in accordance with this clause if necessary.

Audit outcome

Compliant

10.3. Access to Metering Installations (Clause 3(1), (3) and (4) of Schedule 10.6)

Code reference

Clause 3(1), (3) and (4) of Schedule 10.6

Code related audit information

The MEP must within 10 business days of receiving a request from one of the following parties, arrange physical access to each component in a metering installation:

- *a relevant reconciliation participant with whom it has an arrangement (other than a trader)*
- *the Authority*
- *an ATH*
- *an auditor*
- *a gaining MEP.*

This access must include all necessary means to enable the party to access the metering components

When providing access, the MEP must ensure that the security of the metering installation is maintained and physical access is limited to only the access required for the purposes of the Code, regulations in connection with the party's administration, audit and testing functions.

Audit observation

FCLM

I checked whether any parties had requested access to metering installations.

TRUM

I checked whether any parties had requested access to metering installations.

LMGL

I checked whether any parties had requested access to metering installations.

Audit commentary

FCLM

No requests have been received, but FCLM advised access could be granted in accordance with this clause if necessary.

TRUM

No requests have been received, but TRUM advised access could be granted in accordance with this clause if necessary.

LMGL

No requests have been received, but LMGL advised access could be granted in accordance with this clause if necessary.

Audit outcome

Compliant

10.4. Urgent Access to Metering Installations (Clause 3(5) of Schedule 10.6)

Code reference

Clause 3(5) of Schedule 10.6

Code related audit information

If the party requires urgent physical access to a metering installation, the MEP must use its best endeavours to arrange physical access.

Audit observation

FCLM

I checked whether any parties had requested access to metering installations.

TRUM

I checked whether any parties had requested access to metering installations.

LMGL

I checked whether any parties had requested access to metering installations.

Audit commentary

FCLM

No requests have been received, but FCLM advised access could be granted in accordance with this clause if necessary.

TRUM

No requests have been received, but TRUM advised access could be granted in accordance with this clause if necessary.

LMGL

No requests have been received, but LMGL advised access could be granted in accordance with this clause if necessary.

Audit outcome

Compliant

10.5. Electronic Interrogation of Metering Installations (Clause 8 of Schedule 10.6)

Code reference

Clause 8 of Schedule 10.6

Code related audit information

When raw meter data can only be obtained from an MEP's back office, the MEP must

- *ensure that the interrogation cycle does not exceed the maximum interrogation cycle shown in the registry*
- *interrogate the metering installation at least once within each maximum interrogation cycle.*

When raw meter data can only be obtained from an MEP's back office, the MEP must ensure that the internal clock is accurate, to within ± 5 seconds of:

- *New Zealand standard time; or*
- *New Zealand daylight time.*

When raw meter data can only be obtained from an MEP's back office, the MEP must record in the interrogation and processing system logs, the time, the date, and the extent of any change in the internal clock setting in the metering installation.

The MEP must compare the time on the internal clock of the data storage device with the time on the interrogation and processing system clock, calculate and correct (if required by this provision) any time error, and advise the affected reconciliation participant.

When raw meter data can only be obtained from an MEP's back office, the MEP must, when interrogating a metering installation, download the event log, check the event log for evidence of any events that may affect the integrity or operation of the metering installation, such as malfunctioning or tampering.

The MEP must investigate and remediate any events and advise the reconciliation participant.

The MEP must ensure that all raw meter data that can only be obtained from the MEPs back office, that is downloaded as part of an interrogation, and that is used for submitting information for the purpose of Part 15 is archived:

- *for no less than 48 months after the interrogation date*
- *in a form that cannot be modified without creating an audit trail*
- *in a form that is secure and prevents access by any unauthorised person*
- *in a form that is accessible to authorised personnel.*

Audit observation

FCLM

I requested reporting on interrogation cycle to confirm compliance.

I checked the security and storage of data by looking at examples of data more than 48 months old.

TRUM

TRUM does not conduct electronic data collection.

LMGL

LMGL does not conduct electronic data collection.

Audit commentary

FCLM

I checked a report sent by FCLM which detailed the status of non-communicating meters. The FCLM process is that this report is run daily and any meters that have not communicated have the AMI flag changed to "N". My analysis of the report confirmed that all meters with an AMI flag of "Y" were interrogated within the maximum interrogation cycle.

Data is stored indefinitely, and this was confirmed by checking some historic data from 2017.

TRUM

TRUM does not conduct electronic data collection.

LMGL

LMGL does not conduct electronic data collection.

Audit outcome

Compliant

10.6. Security of Metering Data (Clause 10.15(2))

Code reference

Clause 10.15(2)

Code related audit information

The MEP must take reasonable security measures to prevent loss or unauthorised access, use, modification or disclosure of the metering data.

Audit observation

FCLM

I checked the security and storage of data by looking at examples of data more than 48 months old.

TRUM

TRUM does not conduct electronic data collection.

LMGL

LMGL does not conduct electronic data collection.

Audit commentary

FCLM

All data is secure, and any transmission is via SFTP, or password protected email.

TRUM

TRUM does not conduct electronic data collection.

LMGL

LMGL does not conduct electronic data collection.

Audit outcome

Compliant

10.7. Time Errors for Metering Installations (Clause 8(4) of Schedule 10.6)

Code reference

Clause 8(4) of Schedule 10.6

Code related audit information

When raw meter data can only be obtained from the MEPs back office, the MEP must ensure that the data storage device it interrogates does not exceed the maximum time error set out in Table 1 of clause 8(5) of Schedule 10.6.

Audit observation

FCLM

I conducted a walkthrough of the management of time errors, and I checked the relevant reports.

TRUM

TRUM does not conduct electronic data collection.

LMGL

LMGL does not conduct electronic data collection.

Audit commentary

FCLM

The MEP must ensure that a data storage device in a metering installation does not exceed the maximum time error set out in Table 1 of clause 8(5) of Schedule 10.6. The MEP must compare the time on the internal clock of the data storage device with the time on the interrogation and processing system clock, calculate and correct (if required by this provision) any time error, and advise the affected reconciliation participant. The relevant part of this table is shown below:

Metering Installation Category	HHR Metering Installations (seconds)	NHH Metering Installations (seconds)
1	±30	±60
2	±10	±60

During interrogation, the system time is compared to the data logger time. MultiDrive automatically adjusts any clock errors up to the appropriate pre-set value. Errors over the threshold are investigated and the time is adjusted manually unless fieldwork is required to resolve an issue.

The event information supplied to FCLM by EDM I contains clock adjustment information and this is sent to retailers as required by this clause.

I checked the most recent reports for time errors greater than 30 seconds. The reports contained 73 examples during December 2021.

This clause is clear that when errors are outside the threshold, compliance is not achieved. The exact text is as follows:

“A metering equipment provider must ensure that a data storage device in a metering installation for which it is responsible for interrogating does not exceed the maximum time error set out in Table 1 of sub-clause (5).”

EDMI provides data in NZST and FCLM converts to NZDT in the MDX Processing Application. I checked this in the system and confirm it is operating as expected.

I examined the situation where clocks are fast by more than one trading period to confirm what happens to the data in those trading periods. EDMl confirmed that the data would need to be manually apportioned to prior periods. This will be a rare event, but EDMl and FCLM have a process in place to deal with this if required.

TRUM

TRUM does not conduct electronic data collection.

LMGL

LMGL does not conduct electronic data collection.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 10.7 With: Clause 8(4) of Schedule 10.6 From: 01-Dec-21 To: 31-Dec-21	Clock errors greater than the threshold for 73 ICPs. Potential impact: Low Actual impact: None Audit history: Twice Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as strong because interrogation is attempted daily, and clock errors are addressed during all interrogations. The errors were all small and none were across a trading period, therefore there is no impact on participants or settlement. The audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Time adjusted when identified as outside tolerances		At the time	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	

Time adjusted when identified as outside tolerances	At the time	
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10.8. Event Logs (Clause 8(7) of Schedule 10.6)

Code reference

Clause 8(7) of Schedule 10.6

Code related audit information

When raw meter data can only be obtained from the MEP's back office, the MEP must, when interrogating a metering installation:

- a) ensure an interrogation log is generated*
- b) review the event log and:*
 - i. take appropriate action*
 - ii. pass the relevant entries to the reconciliation participant.*
- c) ensure the log forms part of an audit trail which includes:*
 - i. the date and*
 - ii. time of the interrogation*
 - iii. operator (where available)*
 - iv. unique ID of the data storage device*
 - v. any clock errors outside specified limits*
 - vi. method of interrogation*
 - vii. identifier of the reading device used (if applicable).*

Audit observation

FCLM

I conducted a walkthrough of the event management process, and I checked the most recent reports sent to all relevant retailers.

TRUM

TRUM does not conduct electronic data collection.

LMGL

LMGL does not conduct electronic data collection.

Audit commentary

FCLM

The FCLM process includes a step where the event logs are opened daily from the location where they are automatically stored. The events are reviewed, and actions taken including creation of field jobs as required. Event reports are sent to retailers and the files are then moved to an archive location.

TRUM

TRUM does not conduct electronic data collection.

LMGL

LMGL does not conduct electronic data collection.

Audit outcome

Compliant

10.9. Comparison of HHR Data with Register Data (Clause 8(9) of Schedule 10.6)

Code reference

Clause 8(9) of Schedule 10.6

Code related audit information

When raw meter data can only be obtained from the MEP's back office, the MEP must ensure that each electronic interrogation that retrieves half-hour metering information compares the information against the increment of the metering installations accumulating meter registers for the same period.

Audit observation

FCLM

I conducted a walkthrough of the sum-check process, and I checked the most recent reporting.

TRUM

TRUM does not conduct electronic data collection.

LMGL

LMGL does not conduct electronic data collection.

Audit commentary

FCLM

The sum-check process is conducted in Orion, below is an extract from the Orion specification which details the sum-check process. The register read materiality threshold is set at 1KWh.

Validating Register Reads 10.4.2

Register reads are validated against interval reads received for the same period on the same meter channel. The validation process creates validation errors which can be reviewed by a user in Orion.

The Register Read validation process runs as a nightly task. For performance reasons, the validation process only considers register reads from the past 90 days. Please note that this value (number of days) is configurable. If the validation issues are not resolved within this timeframe, the exception remains in the system and is not re-validated even if the related interval is subsequently updated.

Automatically resolved validation errors are removed from the TOU Data Errors list automatically. Validation errors can be manually flagged as Completed by users.

Figure 134: Register Read Validation Errors

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If a user flags an error as completed, this error is deleted from the system the next time the overnight process runs.

The following details the steps taken by the validation process to validate register reads in the system:

1. The process finds any manually resolved (Completed) validation errors, updates the register read as validated and deletes the validation error.

2. For all registers reads which have not been previously validated within the cut-off period, where there is a prior register read (not necessarily the day prior) on the same channel and where all required interval reads have been received or estimated for the period between the un-validated read and the most recent prior read:

a. A: Sum all interval read values where start read date time is between the register read and the prior register read.

b. B: Calculate the difference between the un-validated register read and the prior register read.

c. If the absolute value of $A - B$ equals or exceeds the materiality threshold AND the absolute value of $(A - B)/A$ equals or exceeds the percentage threshold and there is not already an exception for a register read, a validation error is created.

- d. If no exception is created, the read is flagged as validated and any previous validation error for this register read is deleted.
- e. Register reads, which previously failed validation and where the exception hasn't been resolved, will be re-checked regularly in case interval reads have been added or updated.
- f. Register reads are received from EDM1 in NZDT, so this process uses the NZDT times of the interval reads for these comparisons. It is assumed for each meter the time the register reads are taken (in Zulu time) does not change, only that the read time in NZDT differs when daylight savings is in effect.

Threshold parameters in Orion below:

system_id	param_code	param_desc	param_type_code	parameter
ORION_AM	RRVAL_CUTOFFDAYS	Register Read Validation Cutoff Days	NUMBER	90
ORION_AM	RRVAL_ABSTHRSHLD	Register Read Validation Materiality Threshold (kWh)	NUMBER	1
ORION_AM	RRVAL_PCTTHRS	Register Read Validation Percentage Threshold	NUMBER	1

An example of the report was examined, and it showed examples where the sum-check had failed. Data is still provided to participants, and it is labelled as having failed. The report is analysed to determine if further action is required. In most cases the failures are data issues such as missing intervals due to comms problems and where the register read is not recorded at midnight, these are resolved in subsequent sum-checks. There were 19 ICPs where resolution of the sum-check failure had not occurred within three business days. Non-compliance is recorded in **section 6.4**, but compliance is achieved with the requirement to conduct the comparison.

TRUM

TRUM does not conduct electronic data collection.

LMGL

LMGL does not conduct electronic data collection.

Audit outcome

Compliant

10.10. Correction of Raw Meter Data (Clause 10.48(2),(3))

Code reference

Clause 10.48(2),(3)

Code related audit information

If the MEP is notified of a question or request for clarification in accordance with clause 10.48(1), the MEP must, within 10 business days:

- respond in detail to the questions or requests for clarification
- advise the reconciliation participant responsible for providing submission information for the POC of the correction factors to apply and period the factors should apply to.

Audit observation

FCLM

FCLM has not received any requests in relation to this clause.

TRUM

TRUM does not conduct electronic data collection.

LMGL

LMGL does not conduct electronic data collection.

Audit commentary

FCLM

FCLM has not received any requests in relation to this clause.

TRUM

TRUM does not conduct electronic data collection.

LMGL

LMGL does not conduct electronic data collection.

Audit outcome

Not applicable

10.11.Raw meter data and compensation factors (Clause 8(10) of Schedule 10.6)

Code reference

Clause 8(10) of Schedule 10.6

Code related audit information

The MEP must not apply the compensation factor recorded in the registry to raw meter data downloaded as part of the interrogation of the metering installation.

Audit observation

FCLM

I checked whether compensation factors were applied to raw meter data.

TRUM

TRUM does not conduct electronic data collection.

LMGL

LMGL does not conduct electronic data collection.

Audit commentary

FCLM

Compensation factors are not applied to data where the installation is recorded as AMI.

TRUM

TRUM does not conduct electronic data collection.

LMGL

LMGL does not conduct electronic data collection.

Audit outcome

Compliant

10.12. Investigation of AMI interrogation failures (Clause 8(11), 8(12) and 8(13) of Schedule 10.6)

Code reference

Clause 8(11), 8(12) and 8(13) of Schedule 10.6

Code related audit information

If an interrogation does not download all raw meter data, the MEP must investigate the reason why or update the registry to show the meter is no longer AMI.

If the MEP chooses to investigate the reasons for the failure the MEP has no more than 30 days or 25% of the maximum interrogation cycle, from the date of the last successful interrogation (whichever is shorter).

If the MEP does not restore communications within this time or determines they will be unable to meet this timeframe they must update the registry to show the meter is no longer AMI.

Audit observation

FCLM

I requested reporting on interrogation cycles to confirm compliance.

TRUM

TRUM does not conduct electronic data collection.

LMGL

LMGL does not conduct electronic data collection.

Audit commentary

FCLM

I checked a report sent by FCLM which detailed the status of non-communicating meters or meters where data is incomplete. The FCLM process is that this report is run daily and any meters that have not communicated have the AMI flag changed to "N". My analysis of the report confirmed that all meters with an AMI flag of "Y" were interrogated within the maximum interrogation cycle.

TRUM

TRUM does not conduct electronic data collection.

LMGL

LMGL does not conduct electronic data collection.

Audit outcome

Compliant

CONCLUSION

Influx is responsible for ICPs under the FCLM, TRUM and LMGL participant identifiers.

The audit found an increase in non-compliance, largely due to two main areas. Firstly, there are many Approved Test House practices that are not compliant, leading to non-compliance for Influx. Secondly, Influx took over the Legacy Metering Group MEP function during 2021 and the metering base included over 20,000 installations with expired certification where Legacy Metering Group had failed to update the registry.

The main issues are as follows:

- certification cancelled or expired for 25,379 ICPs,
- incomplete information contained in certification records from ATHs,
- many Approved Test House practices are not compliant,
- seven ICPs had incorrect compensation factors recorded in the registry, leading to under submission by retailers for at least two ICPs of approx. 200,000 kWh since 2016, and
- data provided to some traders is not raw meter data.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The table below provides some guidance on this matter and recommends an audit frequency of three months. After considering FCLM's responses to the areas of non-compliance I recommend an audit frequency of 12 months to give sufficient time to continue with the improvements already underway.

PARTICIPANT RESPONSE

Influx would like to thank Veritek for the smooth audit process and for their input into the review of our MEP compliance. As always, the process has proven valuable, either through reassurance of areas that FCLM continues to operate well in, recognition of the effectiveness of new controls and identifying areas where we need to improve on.

2021 has been a very disruptive year with significant change and constraints that have impacted on our MEP Compliance activities. These include:

Omnibus Changes – Influx was extremely disappointed that after 2 years of deliberation the Electricity Authority gave the industry only 3 months notice to implement significant change. Due to the timing, December to February, it was impossible to resource and develop and implement significant system and process change. Influx chose to cease compliance work between February and August 2021 as not to breach.

Acquisitions of LMGL and Northpower legacy metering fleets.

Influx acknowledges that our overall fleet quality has deteriorated with these acquisitions and we have since invested resource into determining quality and subsequent compliance plan which has been submitted with this audit.

Due diligence of the LMGL fleet identified that the quality of a previous Sample Testing regime, carried out by Delta for LMGL, was under dispute. Influx has had no official notification from either the Electricity Authority or the Delta ATH, the dispute has been resolved and of any subsequent outcome.

- Influx therefore disputes Veritek's finding of Non Compliance of the certification and cancellation for 25,379 ICPs, as we believe them compliant until officially notified to the contrary.

Influx has also sought clarification from the Electricity Authority that our Sample Testing regime is in line with published guidelines AS/NZS 1284 to ensure future sample testing is compliant.

Covid-19

Influx ability to improve fleet quality has been impacted by Covid 19 especially in our ability to complete field works through lock downs and restricted levels. Our ability to implement the 2021 compliance plan was compromised by difficulties with Meter Equipment Supplies, Availability of Field Service Providers, and ability to carry out compliance work in the required time frames. This has created some unavoidable non-compliance and impacts actuals versus planned. We envisage this will be much the same case in early 2022.

Expired Certification

Influx has managed to reduce non compliance of the FCLM code by more than 50% reducing the number of non certified sites from 2,549 to 1,279.

Non Compliance under the TRUM code has increased due to Retailer driven Legacy to AMI displacement and therefore inability to get FCLM to be the nominated MEP.

3 party ATH performance

Test house practices have been identified as a contributor to Influx Data non-compliance. We will be working with the test houses to ensure we have addressed all non-compliances identified in the audit.

Summary

Influx acknowledges that our Non Compliance has been influenced by the acquisition of legacy metering fleets and believe we have a strong compliance plan and controls in place to manage future overall fleet compliance.

On balance we feel that an Audit cycle of 18 months would be more appropriate as to reflect the time required to make progress on implementing our compliance plan and to consider bringing our Audit planning and preparation away from December/ January which has operational constraints.