

**ELECTRICITY INDUSTRY PARTICIPATION CODE  
METERING EQUIPMENT PROVIDER AUDIT REPORT**

For



**FINANCIAL CORPORATION LIMITED (FCLM)**

Prepared by: Brett Piskulic – Veritek Limited

Date audit commenced: 6 October 2020

Date audit report completed: 27 January 2021

Audit report due date: 01-Feb-21

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## EXECUTIVE SUMMARY

**Financial Corporation Limited (FCLM)** is a Metering Equipment Provider (MEP) and is required to undergo an audit by 1 February 2021 in accordance with clause 16A.17(b).

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

The audit found a similar level of compliance to the previous audit with 17 areas of non-compliance identified, the main issues are as follows:

- incomplete information contained in certification records from ATHs,
- certification cancelled and registry not updated for:
  - 11 installations not fit four purpose due to low burden, and
  - 98 installations without inspections conducted within the allowable window,
- certification cancelled or expired for 2,711 ICPs, and
- data provided to some traders is not raw meter data.

FCLM reported that its ability to complete planned compliance activities in 2020 was affected by the impact of the Covid-19 pandemic. The issues encountered included access problems and delivery delays of meter stock.

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 nine months.

## 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	Identified
Registry updates	3.2	2 of Schedule 11.4	76 registry updates later than 15 business days.	Strong	Low	1	Identified
Design Reports for Metering Installations	4.1	2 of Schedule 10.7	Design Report not recorded for three metering installations.	Strong	Low	1	Identified
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 CT information is missing for 7 ICPs. Some inaccurate certification records.	Moderate	Low	2	Identified
Response to switch request	6.1	1(1) of Schedule 11.4	Three 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	Certification cancelled and registry not updated for: 11 installations not fit four purpose due to low burden, and 98 installations without inspections conducted within the allowable window.	Weak	Medium	6	Disputed Cleared for category 1 missed inspection which have now been cancelled
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.	Moderate	Medium	4	Identified
Timekeeping	7.10	23 of Schedule 10.7	73 meters with time clocks that are not monitored every 12 months.	None	Low	5	Identified
Interim certification	7.19	18 of Schedule 10.7	703 ICPs with expired interim certification.	Moderate	Medium	4	Identified
Category 1 Inspections	8.1	45 of Schedule 10.7	Inspections not conducted within the allowable window for 89 category 1 installations.	Moderate	Low	2	Identified
Category 2 to 5 inspections	8.2	46(1) of Schedule 10.7	Inspections not conducted within the allowable window for 8 installations.	Moderate	Low	2	Identified
Access to Raw Meter Data	10.1	1 of Schedule 10.6	Data provided to some traders 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 2 ICPs.	Strong	Low	1	Identified
Future Risk Rating						39	
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
		Nil	

## ISSUES

Subject	Section	Recommendation	Description
		Nil	





### 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
Barry Barnett	Compliance Manager
Shuv Biswas	Data Services Manager
Jaime Canton	TL Customer Excellence
Graeme Prestidge	Manager Service Delivery

### 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

### FCLM

FCLM MEP data is held in Orion, which is subject to backup arrangements in accordance with standard industry protocols.

### TRUM

TRUM MEP data is held in Maximo, which is subject to backup arrangements in accordance with standard industry protocols.

## 1.6. Breaches or Breach Allegations

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

## 1.7. ICP Data

<b>FCLM</b>				
<b>Metering Category</b>	<b>Number of ICPs 2018</b>	<b>Number of ICPs Apr 2019</b>	<b>Number of ICPs Nov 2019</b>	<b>Number of ICPs Oct 2020</b>
1	31,576	33,275	34,638	36,601
2	1,477	1,545	1,588	1,639
3	46	51	51	52
4	8	10	11	13
5	0	0	0	0
9	16	8	5	9
<b>TRUM</b>				
<b>Metering Category</b>		<b>Number of ICPs Jan 2019</b>	<b>Number of ICPs Nov 2019</b>	<b>Number of ICPs Oct 2020</b>
1		147,063	123,967	88,089
2		1,233	1,211	1,167
3		4	4	0
4		6	6	0
5		13	13	0
9		15	18	17

## 1.8. Authorisation Received

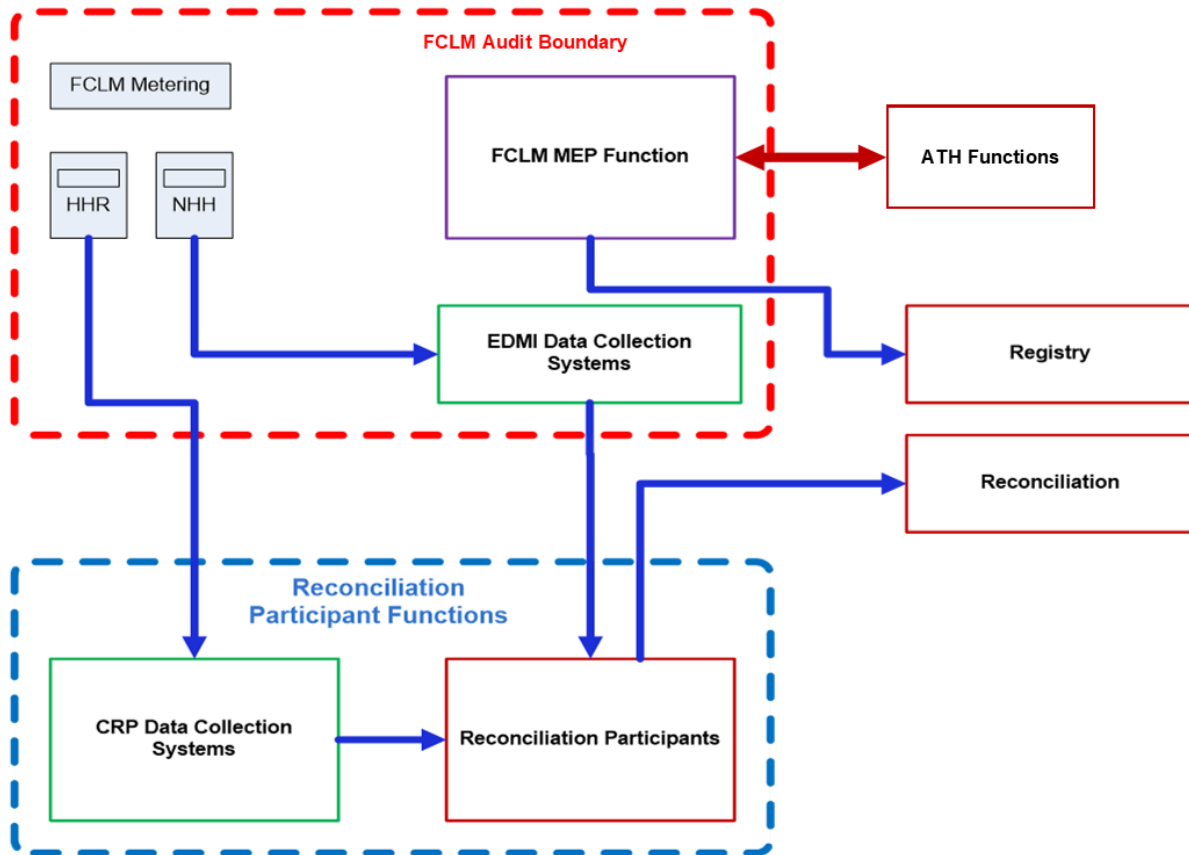
A letter of authorisation was not required or requested.

## 1.9. Scope of Audit

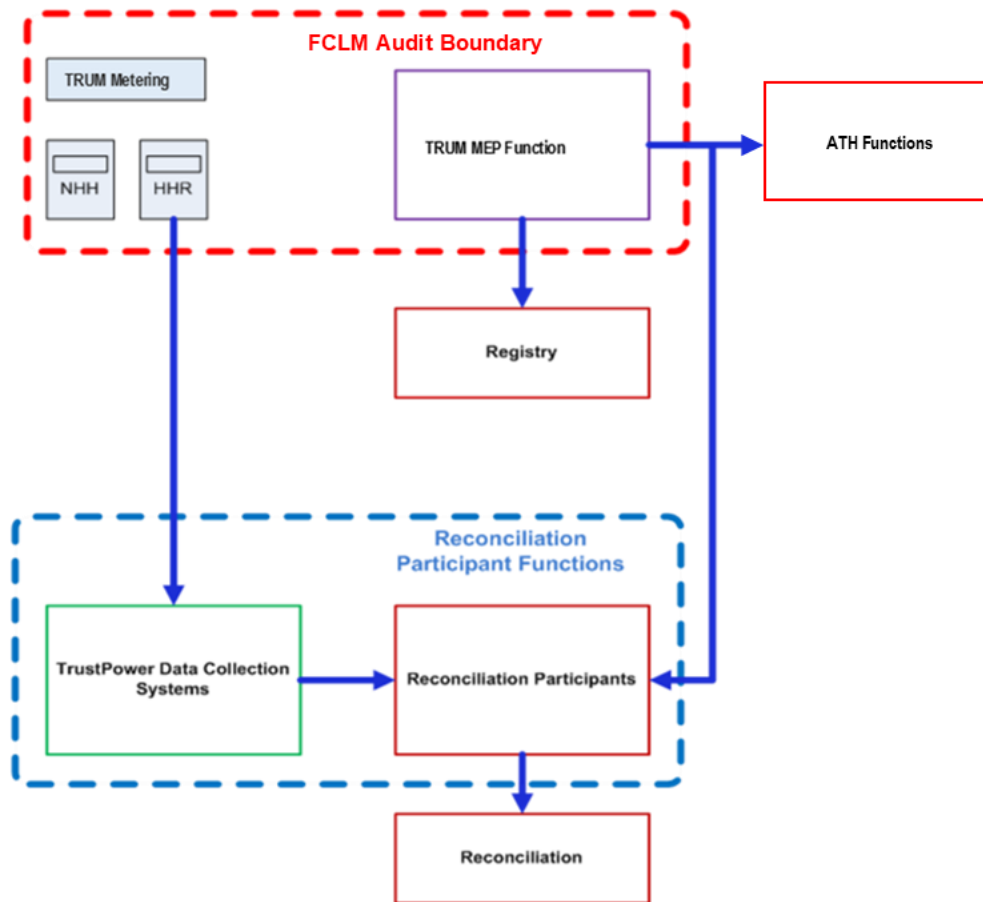
This audit was conducted in accordance with the Guideline for Metering Equipment Provider Audits V2.2, which was published by the Electricity Authority.

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

### FCLM



## TRUM



## 1.10. Summary of previous audit

The previous audits were conducted in January 2020 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
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
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	Metering records not populated on registry for 3 ICPs. Some CT information is missing for 9 ICPs. Some inaccurate certification records.	Still existing
Response to switch request	6.1	1(1) of Schedule 11.4	Five 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
Cancellation of certification	6.4	6 of Schedule 11.4	Certification cancelled and registry not updated for: 3 installations not monitored since insufficient load certification was completed, 3 installations not fit four purpose due to low burden, 20 installations without inspections conducted within the allowable window, and 1 category 2 installation outside accuracy tolerances.	Still existing

Subject	Section	Clause	Non-compliance	Status
Certification of metering installations	7.1	10.38 (a), clause 1 and clause 15 of Schedule 10.7	Certification cancelled or expired for 2,468 ICPs.	Still existing
Certification tests	7.2	10.38(b) and clause 9 of Schedule 10.6	Component certification test not completed.	Cleared
Insufficient load	7.7	14(3) and (4) of Schedule 10.7	Monitoring not conducted of 3 installations certified with insufficient load.	Cleared
Timekeeping	7.10	23 of Schedule 10.7	40 meters with timeclocks that are not checked every 12 months.	Still existing
Metering Installations Incorporating a Meter	7.15	26(1) of Schedule 10.7	Meter not certified.	Cleared
Interim certification	7.19	18 of Schedule 10.7	829 ICPs with expired interim certification.	Still existing
Category 2 to 5 inspections	8.2	46(1) of Schedule 10.7	Inspections not conducted within the allowable window for 20 installations.	Still existing
Maximum interrogation cycle	10.5	8 of Schedule 10.6	913 ICPs not read during the maximum interrogation cycle.	Cleared
Time Errors for Metering Installations	10.7	8(4) of Schedule 10.6	Clock errors greater than the threshold for 23 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 60 metering installations, covering all relevant ATHs.

##### TRUM

I checked certification records for 54 metering installations, covering all relevant ATHs.

#### Audit commentary

##### FCLM

I checked 60 certification records and found the services access interface was recorded correctly by the ATHs for all 60 of the certifications.

##### TRUM

I checked 49 certification records and found the services access interface was recorded correctly by the ATHs for 44 of the certifications. There were five certification records where the services access interface had not been recorded by the FCLM ATH.

#### Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 10.9(2)  From: 19-Mar-20 To: 30-Sep-20	Services access interface not recorded in certification records for five metering installations.  Potential impact: Low  Actual impact: None  Audit history: None  Controls: Moderate  Breach risk rating: 2
Audit risk rating	Rationale for audit risk rating
<b>Low</b>	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
------------------------------------	-----------------	------------------------

Feedback provided to ATH regarding missing data Training provided to team to check for incomplete data by ATH	15/01/2021	Identified
<b>Preventative actions taken to ensure no further issues will occur</b>	<b>Completion date</b>	
Further training to be clear on ATH requirements on Metering certification reports and a random sample to be checked once a month	On Going	

## 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.

### 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.

### 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.

#### **Audit commentary**

##### FCLM

FCLM uses the FCLM identifier in all cases.

##### TRUM

TRUM uses the TRUM 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 has not certified any metering installations where communication equipment is present.

#### **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.

#### 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.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.5 With: Clause 11.2 and Clause 10.6  From: 01-Feb-21 To: 30-Sep-20	Registry not always updated as soon as practicable in some cases.  Potential impact: Medium  Actual impact: Low  Audit history: Twice  Controls: Moderate  Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are recorded as moderate because there is room to improve processes.  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

Continue to manage the program of work to ensure these sites are identified and provide training to the team to ensure all required updates are actioned when required.	20/01/2021	Identified
<b>Preventative actions taken to ensure no further issues will occur</b>	Completion date	
Look to create improved reporting and automation to cancel sites that become non-compliant. Most of these were sites that missed inspection due to Covid-19 restrictions. Initially we looked at applying for an exemption then subsequently decide to update certification and look to replace and recertify,	01/08/2021	

### 3. PROCESS FOR A CHANGE OF MEP

#### 3.1. Payment of Costs to Losing MEP (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 notification requirements are met (in relation to the registry and the reconciliation manager).*

*The gaining MEP must pay the losing MEP a proportion of the costs within 20 business days of assuming responsibility.*

*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.*

##### Audit observation

###### FCLM

I checked if FCLM had sent or received any invoices.

###### TRUM

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.

##### 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 01/02/20 to 30/09/20 for all records where FCLM became the MEP to evaluate the timeliness of updates.

## TRUM

I checked the audit compliance report for the period 01/02/20 to 30/09/20 for all records where TRUM became the MEP to evaluate the timeliness of updates.

### Audit commentary

## FCLM

I examined the audit compliance report for 1,102 switches in relation to this clause and the findings are shown in the table below.

I checked the 71 ICPs in detail, and I found that late nomination by the trader was the cause of the late update for two ICPs. 45 of the late updates were due to replaced events where the original updates were on time. The remaining 24 were the result of a late update by FCLM.

Audit	Total ICPs	Total within 15 days	Average days	% compliant
Oct 2015	283	124	45	44%
May 2016	440	88	66	20%
Dec 2016	60	53	33	88%
Oct 2017	517	478	7	92%
Jun 2018	367	328	6	89%
April 2019	1,562	1,465	8	94%
Nov 2019	906	841	-	93%
<b>Oct 2020</b>	<b>1,102</b>	<b>1,031</b>	<b>-</b>	<b>94%</b>

## TRUM

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

The audit compliance report identified four late updates. I found that late nomination by the trader was the cause of the late update for two ICPs. One of the late updates was due to a replaced event where the original update was on time. There was one late update which was the result of a late update by TRUM.

Audit	Total ICPs	Total within 15 days	Average days	% compliant
Nov 2019	34	23	-	68%
<b>Oct 2020</b>	<b>9</b>	<b>5</b>	<b>-</b>	<b>56%</b>

### Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.2 With: Clause 2 of Schedule 11.4  From: 01-Feb-20 To: 30-Sep-20	76 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
Continue to report and manage fieldwork activities and try encouraging return of completion paperwork to ensure timeframes are met.  Existing process to Identify anomalies was carried out pre monthly invoicing. Change process to be a daily task		20/01/2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Actively work reports created and ensure processing team have the resource to process the work as it comes in and follow up where required		On Going	

### 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.

#### 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.

#### **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 FCLM 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 MEP's 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.

#### **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 2015. 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 2015. 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, 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 the FCLM, Accucal, VCOM, Delta and Wells ATHs for certification activities. Both FCLM and the ATHs have provided design reports for this work which I have checked.

##### TRUM

TRUM has engaged Delta and FCLM ATHs for certification activities. Both TRUM and the ATHs have provided design reports for this work which I have checked.

#### Audit commentary

##### FCLM

FCLM has provided design reports which are used by Wells on the Lines Company Network. In all other cases the ATHs provide design reports. I have checked the design reports and confirm they include all of the requirements noted above and they were prepared by a person with the appropriate level of skills, expertise, experience and qualifications. I checked the sign off details to confirm compliance.

I checked 60 certification records and confirmed that a design report reference was recorded in all 60 examples.

##### TRUM

The design reports include all of the requirements noted above and they were prepared by a person with the appropriate level of skills, expertise, experience and qualifications.

I checked 49 certification records and found the design report reference was recorded correctly by the ATHs for 46 of the certifications. There were three certification records where the design report reference had not been recorded by the FCLM ATH.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.1 With: Clause 2 of Schedule 10.7 From: 09-Jul-20 To: 24-Aug-20	Design Report not recorded for three metering installations. Potential impact: Medium Actual impact: Low Audit history: None 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
Provide feedback to the ATH regarding missing mandatory data Continue to remind internal staff to identify missing data and send it back to the ATH to complete		20/01/2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Immediate reminder sent and training provided to staff to ensure they identify missing data appropriately and encourage contractors to complete this. Carry out regular internal audits		On Going	

#### 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

I confirmed that FCLM uses the FCLM, Accucal, VCOM, Delta and Wells ATHs.

###### TRUM

I confirmed that TRUM uses the FCLM and Delta ATHs.

## Audit commentary

### FCLM

I have checked the Authority's website and confirm that the FCLM, Accucal, VCOM, Delta and Wells ATHs have current and appropriate scope of approvals. FCLM monitors the ATH schedule on the Authority's website to ensure that these ATHs have an appropriate scope of approval.

### TRUM

I checked the Authority's website and confirm that the FCLM and Delta 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 60 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 49 metering installations.

## Audit commentary

### FCLM

The design report reference was recorded in all 60 certification reports.

All ATHs are now calculating uncertainty correctly for metering installations certified using the comparative method. The certification reports checked included 15 using the comparative recertification method and two using the fully calibrated method. In all 17 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, of the 49 reports I checked all, except three included a reference to the design report.

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.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.3 With: Clause 4(1) of Schedule 10.7 From: 09-Jul-20 To: 24-Aug-20	Design Report not recorded for three metering installations. Potential impact: Medium Actual impact: Low Audit history: None 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
Immediate reminder sent and training provided to staff to ensure they identify missing data appropriately and encourage contractors to complete this.		20/01/2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Continue to remind internal staff to identify missing data and send it back to the ATH to complete Carry out regular internal audits		On Going	

#### 4.4. Subtractive Metering (Clause 4(2)(a) of Schedule 10.7)

##### Code reference

Clause 4(2)(a) of Schedule 10.7

##### Code related audit information

*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.

**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.

**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.

**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.

**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.

#### **Audit commentary**

##### FCLM

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

##### TRUM

TRUM is responsible for metering at one NSP. TRUM confirmed that subtraction is not used at this NSP.

#### **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.

#### **Audit commentary**

##### FCLM

FCLM is not responsible for any grid metering.

##### TRUM

TRUM 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.

#### 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.

#### 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 installations:*

- *required functionality*
- *terms of use*
- *required interface format*
- *integration of the ripple receiver and the meter*
- *functionality for controllable load.*

*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. There have been no new design reports created during the audit period.

#### TRUM

TRUM has previously provided copies of the design reports to all distributors and traders in order to achieve compliance with this requirement. There have been no new design reports created during the audit period.

#### **Audit commentary**

#### FCLM

TRUM has previously provided copies of the design reports to all distributors and traders in order to achieve compliance with this requirement. There have been no new design reports created during the audit period.

#### TRUM

TRUM has previously provided copies of the design reports to all distributors and traders in order to achieve compliance with this requirement. There have been no new design reports created during the audit period.

#### **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**

*The MEP must advise the registry of the registry metering records or any change to the registry metering records for a metering installation for which it is responsible, no later than 10 business days following:*

- a) the electrical connection of an ICP that is not also an NSP*
- b) any subsequent change in any matter covered by the metering records.*

#### **Audit observation**

#### FCLM

I checked the audit compliance report for the period 01/02/20 to 30/09/20 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 01/02/20 to 30/09/20 for all records where TRUM became the MEP to evaluate the timeliness of registry updates.

#### **Audit commentary**

#### FCLM

The table below shows that there were registry updates for 597 new connections completed of which 277 were late, and 54% of updates were compliant. I checked 30 records in detail, and I found that late updates were caused by late nomination for nine of the 30. Nine 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 FCLM.

There were 1,818 registry updates completed after recertification of which 186 were late, and 90% of updates were compliant. I checked 30 records in detail, and I found that 25 of the late updates were due to replaced events where the original updates were on time. The remaining five 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	May 2016	149	61	88	28	41%
	Dec 2016	345	177	168	17	51%
	Oct 2017	411	375	36	8	91%
	Jun 2018	322	284	38	7	88%
	April 2019	596	489	107	8	82%
	Nov 2019	796	540	256	-	68%
	<b>Oct 2020</b>	<b>597</b>	<b>320</b>	<b>277</b>	<b>-</b>	<b>54%</b>
Recertification	May 16	12,362	6,340	6,022	192	51%
	Dec 16	31,245	2,605	28,640	394	8%
	Oct 2017	7,420	3,167	4,253	349	43%
	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%
	<b>Oct 2020</b>	<b>1,818</b>	<b>1,632</b>	<b>186</b>	<b>20</b>	<b>90%</b>

#### TRUM

The table below shows that there were registry updates for 499 new connections completed of which 60 were late, and 88% of updates were compliant. I checked all 60 records in detail, and I found that late updates were caused by late nomination for 14 of the 60. Seven of the late updates were due to replaced events where the original updates were on time. The remaining 39 were the result of late updates by TRUM.

There were 306 registry updates completed after recertification of which 38 were late, and 88% of updates were compliant. I checked all 38 records in detail, and I found that 13 of the late updates were due to replaced events where the original updates were on time. The remaining 25 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	2015	142	116	26	-	81.7%

	2016	203	187	16	6.8	92.1%
	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%
	<b>2020</b>	<b>499</b>	<b>439</b>	<b>60</b>	<b>-</b>	<b>88%</b>
Update	2015	3,067	2,113	954	-	68.9%
	2016	3,927	3,243	684	31	82.6%
	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%
	<b>2020</b>	<b>306</b>	<b>268</b>	<b>38</b>	<b>15.33</b>	<b>88%</b>

#### Audit outcome

##### Non-compliant

Non-compliance	Description		
Audit Ref: 4.10 With: Clause 3 of Schedule 11.4  From: 01-Feb-20 To: 30-Sep-20	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		
<b>Low</b>	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
Discrepancy reporting to identify these and have initiate discussions with third parties to minimise where possible		20/01/2021	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
<p>Look at our process as to what event data we use when updating data to the registry. If the update does not affect reconciliation, then look to use the date updated. (Will seek advice before change of process)</p> <p>Discrepancy reporting and follow up including retrospectively to identify trends and address these.</p> <p>Continue to lobby 3<sup>rd</sup> parties to update registry in a timely fashion to enable us to meet our obligations</p>	On Going	

#### 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.

##### 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.

##### Audit outcome

Compliant

#### 4.12. Responsibility for Metering at 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 metering equipment provider that is responsible for decommissioning the metering installation must—*

*(a) if the metering equipment provider is responsible for interrogating the metering installation—*

*(i) arrange for a final interrogation to take place before the metering installation is decommissioned; and*

*(ii) provide the raw meter data from the interrogation to the trader that is recorded in the registry as being responsible for the ICP; or*

*(b) if another participant is responsible for interrogating the metering installation, advise the other participant not less than three business days before the decommissioning—*

*(i) of the date and time of the decommissioning; and*

*(ii) that the participant must carry out a final interrogation.*

*(2) To avoid doubt, if a metering installation at an ICP is to be decommissioned because the ICP is being decommissioned—*

*(a) the metering equipment provider is not responsible for arranging a final interrogation of the metering installation; and*

*(b) the trader that is recorded in the registry as being responsible for the ICP must arrange for a final interrogation of the metering installation under clause 11.18(3).*

##### 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.

##### 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.

##### 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.

#### Audit commentary

##### FCLM

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

##### TRUMM

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.

**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.

**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.

**Audit commentary**

FCLM

FCLM is not responsible for any grid metering.

TRUM

TRUM 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

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

#### **Audit commentary**

##### FCLM

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

##### TRUM

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

#### **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**

##### 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.

#### **Audit commentary**

##### FCLM

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

### TRUM

There were two temporary connections of ICPs identified where TRUM is the MEP during the audit period. There was a note in the metering installation certification reports stating that temporary electrical connections were conducted for the purpose of testing and certification of the metering installations for both ICPs.

### **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 60 metering installations to evaluate compliance with this clause.

##### TRUM

I checked all registry records and the certification records for 49 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 Nov 2020	Issue
0	Incorrect metering category
7	Incorrect ATH

0	Meter certification date and certifying ATH not recorded
0	Meter certification expiry date not recorded
4	HHR/NHH, Maximum interrogation cycle or services access interface not recorded
0	CT expiry date earlier than installation expiry date
4	Incorrect installation certification expiry date
0	Incorrect installation certification date
7	CT metered installations without measuring transformer information on the registry

#### TRUM

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

Quantity Nov 2020	Quantity Nov 2019	Quantity April 2019	Quantity 2018	Issue
0	0	0	1	Incorrect metering category
20	1	38	3	Incorrect ATH
0	0	13	18	Meter certification date and certifying ATH not recorded
0	0	6	5	Meter certification expiry date not recorded
11	0	6 (HHR/NHH)	5	HHR/NHH, Maximum interrogation cycle or services access interface not recorded
0	0	0	8	CT expiry date earlier than installation expiry date
0	0	0	1	Incorrect installation certification expiry date
0	0	7	0	Incorrect installation certification date
0	-	-	-	CT metered installations without measuring transformer information on the registry

The inspection process identified the following incorrect data fields out of 522 inspections:

Quantity Nov 2019	Quantity April 2019	Issue
22	24	TARIFF ERROR – meter configuration discrepancy
0	19	CERT EXPIRY – Installation Expiry date incorrectly recorded
0	34	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-Feb-20 To: 30-Sep-20	Some CT information is missing for 7 ICPs.  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
Report was created just after audit was undertaken to ensure we pick up where by old ATH code TRUS was used instead of FCLM due to being existing TRUM sites certified under TRUS name now certified under FCLM – Data Corrected		20/12/2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Actively work report created which identifies anytime where FCLM are not the ATH to ensure we are not missing ones that were previously TRUS or other ATH incorrectly  Create report that identifies missing CT information		01/03/2021	

## 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.

**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.

**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 2016 to confirm compliance.

TRUM

I checked a directory of metering records from 2016 to confirm compliance.

**Audit commentary**

FCLM

FCLM keeps metering records indefinitely.

TRUM

TRUM 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

I checked an example where FCLM contracted an ATH to recertify an installation that was previously certified by another ATH.

##### TRUM

TRUM 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

I checked an example where FCLM contracted Accucal to recertify an installation that was previously certified by VEMS. FCLM demonstrated that records are kept in ORION; these were forwarded to the Accucal ATH prior to the recertification as required by this clause.

##### TRUM

TRUM 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 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 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.

#### Audit commentary

##### FCLM

The switch breach history detail report for the audit period contained three ICPs where the FCLM response was later than 10 business days. The details are shown in the table below.

ICP	Nomination Date	Acceptance Date	Days to acceptance
0001113241WM6C1	25/03/2020	15/04/2020	13
9501100064LWC1F	9/06/2020	29/06/2020	13
20140110050PN04E	23/03/2020	14/04/2020	13

##### TRUM

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-Feb-20 To: 29-Jun-20	Three late MN files.  Potential impact: Low  Actual impact: None  Audit history: Once  Controls: Strong  Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	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
Internal training for FCLM Orion system to ensure full team have the skill and knowledge to process MEP nominations and other registry acknowledgements		20/12/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Look into possibility of alert of reports to identify when these have not been cleared to ensure transparency and that these can be worked effectively		01/03/2021	

## 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, in the prescribed form for each metering installation for which the MEP is responsible.*

*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 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.

#### Audit commentary

##### FCLM

Analysis of the list file and audit compliance report for the period 01/02/20 to 30/09/20 for all FCLM ICPs found the issues detailed in the table below.

Quantity of ICPs						Issue	FCLM Response
Oct 20	Nov 19	Apr 19	Jul 18	Sep 17	Dec 16		
2	3	11	30	49	78	Blank metering records	Waiting for trader to arrange access to install FCLM meters.
3	0	0	0	1	2	Category 2 ICP recorded as Category 1	Corrected.
1	1	0	0	0	2	Compensation factor of 3 on recently certified installations	Waiting for customer to upgrade switchboard to 3 phase.
0	0	0	1	0	5	ICPs over Category 1 with interim certification	-
0	0	0	15	9	3	ICPs with Y for the HHR flag but with NHH installations	-
2	1	0	1	2	0	Category 2 installations certified for more than 10 years or for zero years (cert date = expiry date)	Corrected.
0	1	0	1			Category 4 installations certified for more than 5 years	-
2	2	6	3	3	5	Category 1 installations certified for more than 15 years or for zero years (cert date = expiry date)	Corrected.
0	2					Day + Night not equal to 24	-
8	10	2	1	1	0	ICPs with IN24. The EA has advised that IN24 should not be used.	Investigating.
0	0	0	0	0	0	ICPs with IN0	-
3	3	0	0	0	0	ICPs with UN0	Investigating.



1	1					ICPs with UN19	Investigating.
1	1	0	0	0	0	Day without night	Updated to UN24.
5	3	3	296	293	37	Night without day	Investigating.
0	0	0	3	4	3	CN only, these should have an associated code or they could be IN	-
73	189	12	592	157	464	Controlled load with no control device	Mainly non-AMI electronic meters. Being replaced.
174	195					UN only with a relay installed	Historical data not held by FCLM. Update on compliance rollout.
213	0	2	81	77	487	IN content code without a control device	Investigating
7	8	19	56	60	129	Installations without CT information populated on the registry	Historical data not held by FCLM. Update on compliance rollout.
2	2	0	0	0	3	Interim certification expiry dates incorrect	Investigating.
Not checked	10	14	9	8	6	Export ICPs without an injection register	-
0	1	2	2	4	1	Category 3 or 4 with a NHH meter installation type	-
Not checked	35	41	158	279	188	Profile requiring certified control device where control device is not certified (excl. AMI)	Investigating.
0	3					Category 1 with CTs.	-
4	2					Certification or expiry dates incorrect	
7	-	-	-	-	-	Incorrect ATH	

## TRUM

Analysis of the audit compliance report for the period 01/01/19 to 22/11/19 for all TRUM ICPs found the issues detailed in the table below.

Quantity of ICPs					Issue	TRUM Response
Oct 20	Nov 19	Dec 18	Dec 17	Aug 16		
7,602	11,949	2	46	79	No control device information on the registry.	Actively working through these, number is decreasing
21	28	0	0	1	Blank metering records on the registry.	Either unmetered sites, decommissioned or another MEP should have loaded an event. All checked and correctly do not have our metering installed.
47	47	-	-	-	Day + Night not equal to 24	No issue here as all DC/NC so will not add up as its control component only outside register switch.
0	0	0	0	0	Day without night.	-
1	0	0	1	1	Night without day.	To be changed to UN24.
0	0	0	1	3	UN12 - these are metered streetlights. They are likely to be NC12 but this needs to be confirmed.	-
353	488	1,474	1680	-	UN only with a relay installed	Actively working through these, number is decreasing
2	2	0	0	0	HHR profile with NHH meter.	Our data correct Retailer had wrong flag and has since been corrected.
0	0	0	1	1	Category 2 with no CTs on the registry.	-
0	1	30	957	4,873	Certification or expiry dates incorrect	-
11	11	13	22	1	Compensation factor of 3 certified after 29/08/13.	Actively working through these.
0	0	0	2	2	Category 1 with CTs.	-
Not checked	Not checked	216	255	222	Installations without 7304 register.	-

30	37	58	18	Not checked	CN only on residential ANZSIC code (these are all pumps and are correct)	All correct
Not checked	Not checked	54	38	26	Export ICPs without an injection register	-
Not checked	Not checked	168	165	0	Profile requiring certified control device where control device is not certified (excl. AMI).	-

### Audit outcome

#### Non-compliant

Non-compliance	Description		
<p>Audit Ref: 6.2</p> <p>With: Clause 7 (1), (2) and (3) of Schedule 11.4</p> <p>From: 01-Feb-20</p> <p>To: 30-Sep-20</p>	<p>Some registry records incomplete or incorrect.</p> <p>Potential impact: Medium</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	<p>I have recorded the controls as strong in this area. The number of discrepancies is very small.</p> <p>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.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Discrepancy reporting tools used to identify these and work them based on priority levels that effect third parties		On Going	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Continue to actively work these reports and update appropriately in a timely manner.		On going	

### 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 five 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 five 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 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.

## 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.

## 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) or 19(6)*
- 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 the maximum current conveyed through the metering installation at any time exceeds the current rating of its metering installation category as set out in Table 1 of Schedule 10.1*
- 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.*

*A metering equipment provider must, 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.*

#### **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.

#### **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 the previous audit 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. No new examples of insufficient load certification were identified.

The next issue relates to low burden on CT metered installations. The Authority provided a memo on 04/04/16 clarifying that:

The Electricity Industry Participation Code 2010 (Code) requires an ATH to ensure that an approved calibration laboratory or a class A ATH has confirmed that all measuring transformers comply with the standards in Table 5 of Schedule 10.1 (clause 3(b) of Schedule 10.8). If the errors are within the limits set by the standards, the transformer has passed the test and may be certified as accurate within that range of burden (clause 3 of Schedule 10.8 and Table 5 of Schedule 10.1).

If a measuring transformer is installed in a metering installation with the burden lower than the lowest test point used in the measuring transformer's calibration, then burdening resistors must be used to ensure that the measuring transformer operates within its calibration range.<sup>1</sup>

The memo also states:

If an ATH certifies a metering installation with under-burdened measuring transformers, and it has not complied with clause 31(7) of Schedule 10.7 of the Code, then:

1. The ATH will breach clause 31(7) of Schedule 10.7 and also clause 43 of Schedule 10.7 by failing to grant certification in accordance with Part 10
2. The metering installation may be classed outside the applicable accuracy tolerances specified in Table 1 of Schedule 10.1, or not be fit for purpose, and if so, the metering installation certification is cancelled (clause 20(1)(b) of Schedule 10.7)
3. In certifying the metering installation, the ATH may breach clause 21 of Schedule 10.7 by certifying a metering installation that exceeds that maximum permitted error set out in Table 1 of Schedule 10.1.

The Authority confirmed on 01/03/18 that certification is cancelled for installations where low burden is not addressed.

Analysis of the certification records for 30 recently certified Category 2 and above metering installations found that eight had been certified with burden lower than the lowest test point, without a Class A ATH confirming that the measuring transformers will not be adversely affected, or the addition of burden resistors. Therefore, in accordance with the Authority's memo, this metering installations are considered "not fit for purpose". This means certification is cancelled.

There were three installations identified in the previous audit as certified with low burden which have also not been cancelled.

The ICPs are shown in the table below.

ICP	ATH	CT make/ model	Ratio	Rated burden	Lowest in-service burden	Comment
<b>From previous audit</b>						
0000025444TR57D	VCOM	Secura	200/5	Unknown	0.17	No burden resistors added.
0000006289KP68E	VCOM	TWS SEW90 B	200/5	5VA	0.283	No burden resistors added.
0000000216NT14B	VCOM	Unkno wn	150/5	15VA	1.255	Burden resistors added but in-service burden still less than 25% of the stated rated burden of 15VA.

From this audit period						
0001062130WM3AF	WELL	TWS	200/5	5VA	0.74	No burden resistors added.
0001602540WM9CC	WELL	TWS	200/5	5VA	0.8	No burden resistors added.
0001701830WMF15	WELL	TWS	200/5	5VA	0.86	No burden resistors added.
0002060460WM629	WELL	TWS	300/5	5VA	0.72	No burden resistors added.
0002090820WMD1C	WELL	TWS	250/5	5VA	0.73	No burden resistors added.
0005558012TC949	WELL	TWS	250/5	5VA	0.69	No burden resistors added.
0005731053WMFEF	WELL	TWS	150/5	5VA	0.88	No burden resistors added.
0272000010PN2B6	WELL	TWS	250/5	5VA	1.15	No burden resistors added.

FCLM does not conduct category 1 sample inspections, so I checked for any installations where 10 yearly inspections were required. FCLM has chosen to record the expiry date for all category 1 installations as no more than 10 years as they do not intend to complete any inspections of category 1 installations. My analysis found 89 category 1 ICPs with certification periods greater than 10 years that were due for inspection during the audit period. As inspections were not completed within the inspection window and the certification had not been cancelled, I have recorded non-compliance. FCLM has subsequently cancelled the certification of all 89 installations backdated to ten years after the certification date.

#### TRUM

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

- eight category 2 metering installations were not inspected within the allowable window; certification is therefore cancelled, and
- one category 2 installation was identified during the last audit that was not inspected within the allowable window for which certification has not been cancelled.

The details are shown below.

ICP	Certification date	Certification expiry	Comments
From previous audit			
0001393176AL45D	20/11/2008	20/11/2023	Certification cancelled due to inspection being done late
From this audit period			
0000307208BU895	9/02/2010	9/02/2025	Certification cancelled due to inspection not being done
0000410496WP917	12/03/2010	10/08/2021	Certification cancelled due to inspection not being done
0000450530WP216	1/02/2010	8/08/2022	Certification cancelled due to inspection not being done

0000490417CE7EF	29/03/2010	29/03/2025	Certification cancelled due to inspection not being done
0000502200WPEB4	10/02/2010	10/02/2025	Certification cancelled due to inspection not being done
0000612250WP2E9	23/02/2010	2/07/2022	Certification cancelled due to inspection not being done
0000758670WP204	26/01/2010	26/01/2025	Certification cancelled due to inspection not being done
0002270433MLEBB	11/02/2010	11/02/2025	Certification cancelled due to inspection not being done

## 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-Feb-20</p> <p>To: 30-Sep-20</p>	<p>Certification cancelled and registry not updated for:</p> <p>11 installations not fit four purpose due to low burden, and</p> <p>98 installations without inspections conducted within the allowable window.</p> <p>Potential impact: Medium</p> <p>Actual impact: Medium</p> <p>Audit history: Multiple times</p> <p>Controls: Weak</p> <p>Breach risk rating: 6</p>		
Audit risk rating	Rationale for audit risk rating		
<b>Medium</b>	<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.</p> <p>The issues found can all potentially have a moderate impact on other participants and on settlement. The audit risk rating is medium.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Only 8 inspections were missed not 98 as noted</p> <p>These were sites that missed inspection due to Covid-19 restrictions. Initially we looked at applying for an exemption then subsequently decide to update certification and look to replace and recertify.</p> <p>We had cancelled these sites just not withing the 10 day requirement. We believe the correct expiry was used, the day after the required window. Would like clarification of Auditors interpretation.</p>		20/12/2020	<p>Disputed</p> <p>Cleared for category 1 missed inspection which have now been cancelled</p>



Preventative actions taken to ensure no further issues will occur	Completion date	
<p>We are no longer completing Cat 2 inspections we have now including this in our Cat 2 recertification program to be replaced.</p> <p>Report to be created to cancel certification if inspections not completed in time.</p>	01/02/2021	

## 6.5. Registry Metering Records (Clause 11.8A)

### Code reference

*Clause 11.8A*

### Code related audit information

*The MEP must provide the registry 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.

### 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.

### 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 certification 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.

## Audit commentary

### FCLM

The registry shows 2,549 ICPs have expired certification. The table below gives a breakdown of these.

Dec 2016	Sep 2017	Jul 2018	April 2019	Nov 2019	Oct 2020	Description
2,376	1,648	1,118	896	826	<b>702</b>	Expired interim certification
1,782	1,539	1800	1,572	1507	<b>1607</b>	Expired full certification (Category 1)
95	39	67	50	52	<b>137</b>	Expired full certification (Category 2)
					<b>1</b>	Expired alternative certification (Category 2)
1	0	2	2	0	<b>2</b>	Expired full certification (Category 3)
0	0	0	1	1	<b>0</b>	Expired full certification (Category 4)
5	0	0	9	1	<b>89</b>	Cancelled certification due to overdue inspections (Category 1)
0	0	0	0	1	<b>0</b>	Cancelled certification due to overdue inspections (Category 2)
0	0	0	5	1	<b>0</b>	Cancelled certification due to overdue inspections (Category 3 & 4)
0	9	7	5	3	<b>0</b>	Cancelled certification due to certification as a lower category and monitoring not conducted
0	0	0	17	3	<b>11</b>	Cancelled due to low burden
<b>4,262</b>	<b>3,236</b>	<b>2995</b>	<b>2,558</b>	<b>2395</b>	<b>2549</b>	<b>Total</b>

FCLM provided the table below which details the reasons for not being able to complete a meter replacement at 1,058 installations.

Reason	Comment	2019	2020
Access	Customer refusals and issues with access	230	385
Health & Safety	Health and Safety	17	45
No Power	De-energised sites (TLC and Retailer)	99	7
Technical (Includes tariff issues)	Tariff issues related to Load Control	714	492
Questionable ICP	ICPs created in error by the Network	2	-
Unable to locate	ICPs that have been unable to locate	29	5

FCLM provided the following information regarding issues which have impacted its ability to complete planned compliance activities in 2020:

*FCLM has had its compliance rollouts affected for a number of reasons in 2019/2020 year.*

*Covid-19 being the main factor as well as well as other meter rollouts (Intellehub), comms upgrades by other MEPs, Meter supplies and new series 3 meters being introduced Nov 2020 requiring extensive testing of meters/programs and a new headend.*

*This has prevented planned work due to*

*1 \_ Not able to access sites*

*2 – Hold up with stock deliveries*

3 – Limited resources available to carry out compliance work

4 – Testing new comms solutions required for meter replacements.

5 – Stat sampling not carried out by service provider.

FCLM has plans in place to have non-compliant sites addressed in 2021 and advanced planning completed to ensure ongoing compliance.

1 Stat sampling now managed by its own test house after 2 years of no results with others. We have issued all of the jobs required and hope to complete early 2021.

2 We have worked with TLC on their tariff issues and have a solution. We are now proceeding with changing out 550 ICPs identified. The remainder of customer issues we are now dealing directly with retailers and getting good results.

3 We have identified areas where there is a shortage of meter installers and have trained electricians under our test house so the work can proceed. This has recently been completed in the Wellington area. This also ties in with stat sampling and replacement of the Electralines non-compliant meters. We have also done the same in Central Otago.

#### TRUM

The registry shows 162 ICPs have expired certification. The table below gives a breakdown of these.

Quantity 2020	Quantity 2019	Description
1	2	Interim certified without another MEP nominated
0	1	Interim certified with another MEP nominated
126	37	Cancelled or expired Category 2 installations
9	19	Cancelled Category 2 due to inspections not conducted within the allowable window
0	1	Cancelled Category 4 due to inspection not conducted within the allowable window
26	13	Category 1 fully certification expired
162	73	<b>Total</b>

#### 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-Feb-20 To: 30-Sep-20	Certification cancelled or expired for 2,711 ICPs.  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	<p>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.</p> <p>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.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Statistical sampling in progress will address a number of these sites along with Cat 2 recertification program. We also have identified a remedy in the Line area to address a number of previous UTI sites		01/03/2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Continue actively pushing our compliance program of work to ensure project such as stat sampling is completed and number of non-compliance reduces		On Going	

## 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 60 metering installations to confirm compliance.

#### TRUM

I checked the certification records for 49 metering installations to confirm compliance.

### Audit commentary

#### FCLM

Certification activities have been conducted by FCLM using the FCLM, Accucal, VCOM, Delta and Wells 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.

#### TRUM

Certification activities have been conducted by the FCLM, Delta and Wells 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**

Compliant

### **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.

#### **Audit commentary**

##### FCLM

All relevant metering is compliant with this clause.

##### TRUM

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.

##### Audit commentary

###### FCLM

There are no examples of burden changes having occurred.

###### TRUM

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.

#### Audit commentary

##### FCLM

24 category 2 metering installations have CT ratios above 500/5. I confirmed that 17 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 seven metering installations.

##### TRUM



18 category 2 metering installations have CT ratios above 500/5. I checked the certification records for all 18 installations, and I confirm appropriate protection is in place to limit the maximum current to less than 500A.

#### Audit outcome

Compliant

### 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.

#### Audit commentary

##### FCLM

The FCLM instruction to ATHs requires load banks to be used to increase load to conduct testing. My checks of recent certifications did not identify any installations certified with insufficient load.

There were three examples identified during the previous audit that have since had certification 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.

#### Audit outcome

Compliant

### 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

FCLM has not conducted monitoring of insufficient load certifications.

##### TRUM

TRUM has not conducted monitoring of insufficient load certifications.

#### **Audit commentary**

##### FCLM

FCLM has not conducted monitoring of insufficient load certifications.

##### TRUM

TRUM 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.

#### 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.

#### 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:*

- a) has a time keeping error of not greater than an average of 2 seconds per day over a period of 12 months*
- b) 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.

#### 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 73. The time error has not been monitored and corrected every 12 months for all 73 meters.

##### TRUM

TRUM confirmed there are no metering installations with time clocks.

#### Audit outcome

Non-compliant

Non-compliance	Description
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Audit Ref: 7.10 With: Clause 23 of Schedule 10.7  From: 01-Feb-20 To: 30-Sep-20	73 meters with time clocks that are not monitored every 12 months.  Potential impact: Low  Actual impact: Low  Audit history: Once previously  Controls: None  Breach risk rating: 5		
<b>Audit risk rating</b>	<b>Rationale for audit risk rating</b>		
<b>Low</b>	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.		
<b>Actions taken to resolve the issue</b>		<b>Completion date</b>	<b>Remedial action status</b>
Sie visit to confirm time clock accuracy		01/02/2021	Identified
<b>Preventative actions taken to ensure no further issues will occur</b>		<b>Completion date</b>	
These have been scheduled for replacement during 2021		31/12/2021	

#### 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.

##### 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 35 ICPs showed that the reconciliation participant was aware of the bridging in all cases, as they had issued the work orders. One of 35 control devices was bridged for longer than 10 business days but the ICP had the GXP profile meaning the control device was not used for reconciliation.

#### **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.

#### **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.

#### **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.

#### **Audit commentary**

##### FCLM

It was recorded in the previous audit that FCLM was in the process of recertifying 1,200 category 1 metering installations by statistical sampling. This project is still in progress and has not yet been completed.

##### TRUM

TRUM has conducted statistical sampling during the audit period. I checked the certification results and confirmed that the registry had been updated appropriately.

#### **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 a 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 advise the registry of the compensation factor.*

#### **Audit observation**

##### FCLM

I checked the records for 30 Category 2 and above metering installations to confirm that compensation factors were correctly recorded on the registry.

##### TRUM

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

#### **Audit commentary**

##### FCLM

Compensation factors have been updated accurately on the registry. I confirmed this by checking the records for 30 ICPs.

#### TRUM

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

#### **Audit outcome**

Compliant

### 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 60 metering installations to confirm compliance.

##### TRUM

I checked the certification records for 49 metering installations to confirm compliance.

#### **Audit commentary**

##### FCLM

Meters were certified for all 60 installations.

##### TRUM

Meters were certified for all 49 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 30 metering installations to confirm compliance.

##### TRUM

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

#### **Audit commentary**

##### FCLM

Measuring transformers were certified for all 30 installations.

TRUM

Measuring transformers were certified for both installations.

**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 60 metering installations to confirm compliance.

TRUM

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

**Audit commentary**

FCLM

The 60 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.

**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.

#### **Audit commentary**

#### FCLM

All relevant ATHs have appropriate approval.

#### TRUM

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.

#### **Audit commentary**

#### FCLM

There are 702 previously interim certified installations with expired certification.

#### TRUM

There is one previously interim certified installation with expired certification.

#### **Audit outcome**

Non-compliant

Non-compliance	Description
----------------	-------------

Audit Ref: 7.19 With: Clause 18 of Schedule 10.7 From: 01-Apr-15 To: 30-Sep-20	703 ICPs with 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 five 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
These are treated as Non Certified and addresses as per 7.1.  These are part of our compliance plan to strive to obtain 100% certification		01/02/2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Code changes as of 1st February 2021 will remove this clause as not penalise us twice for these non- compliant sites.		01/02/2021	

## 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 120 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, a sample of the category 1 metering installations selected under clause 45(2) of Schedule 10.7 has been inspected by an ATH.*

*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 two 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.

## Audit commentary

### FCLM

FCLM does not intend to commence Category 1 inspections through sampling. They intend to re-certify installations rather than do inspections. I checked the registry records and found there were no Category 1 ICPs due for inspection. My analysis found 89 category 1 ICPs with certification periods greater than 10 years that were due for inspection during the audit period. As inspections were not completed within the inspection window, I have recorded non-compliance. FCLM has subsequently cancelled the certification of all 89 installations backdated to ten years after the certification date.

### 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.

## Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 8.1 With: Clause 45 of Schedule 10.7  From: 16-Sep-20 To: 20-Nov-20	Inspections not conducted within the allowable window for 89 category 1 installations.  Potential impact: Medium  Actual impact: Low  Audit history: None  Controls: Moderate  Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	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
Certifications backdated and report created to identify these in future. These are currently part of a Stat Sampling process and its envisaged that they will get another 7 years certification		01/03/2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Continue to manage reports and update where appropriate in a timely manner.  Ensure these are covered in Compliance program		01/03/2021	

## 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:*

- 120 months for Category 2
- 60 months for Category 3
- 30 months for Category 4
- 18 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.

### 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 eight metering installations.

### Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 8.2 With: Clause 46(1) of Schedule 10.7  From: 26-Jul-20 To: 20-Nov-20	Inspections not conducted within the allowable window for 8 installations.  Potential impact: Medium Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	Rationale for audit risk rating
<b>Low</b>	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
As per 6.4 We are no longer completing Cat 2 inspections we have now including this in our Cat 2 recertification program to be replaced. Certification Cancelled	20/12/2020	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
As per 6.4 We are no longer completing Cat 2 inspections we have now including this in our Cat 2 recertification program to be replaced.	01/01/2022	

### 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.

#### 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.

#### 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) three 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.*

#### **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.

#### **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 resealed 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.

#### **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 two examples of bridged meters, which are deemed to be faulty due to the bridging.

##### TRUM

I checked 13 examples of faulty metering installation investigations, which included one example of theft and 12 faulty or stopped meters.

#### Audit commentary

##### FCLM

The two bridged meters were resolved and recertified within the appropriate timeframes and notification was provided within 20 business days.

##### TRUM

In all 13 examples the faulty metering installations were investigated and recertified. Notification was provided to the traders within five business days in all 13 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 two examples of bridged meters, which are deemed to be faulty due to the bridging.

##### TRUM

I checked 13 examples of faulty metering installation investigations, which included one example of theft and 12 faulty or stopped meters.

#### **Audit commentary**

##### FCLM

The two bridged meters were resolved within the appropriate timeframes and notification was provided. 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.

##### TRUM

In all 13 cases, appropriate testing and reporting was conducted immediately. 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 (Clause10.46(2))

#### **Code reference**

*Clause10.46(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 market administrator (for all category 3 and above metering installations and any category 1 and category 2 metering installations) on request.*

#### **Audit observation**

##### FCLM

I checked two examples where FCLM had become aware of faulty metering installations.

##### TRUM

I checked 13 examples where TRUM had become aware of faulty metering installations.

#### **Audit commentary**

##### FCLM

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

TRUM

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

**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.

#### 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. FCLM advised that the data for three traders, Pulse, Switch and Kea is converted into the EIEP3 format by FCLM before being sent to the traders. FCLM estimated this to be approximately 10 to 15% of all data provided. When converted to the EIEP3 format it is rounded from three to two 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.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 10.1  With: Clause 1 of Schedule 10.6  From: 01-Feb-20  To: 20-Oct-20	Data provided to some traders is not raw meter data.  Potential impact: Low  Actual impact: Low  Audit history: None  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.		20/12/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Changed files to include 4 Decimal places		20/12/2020	

## 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.

### 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.

#### **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.

#### **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.

#### **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.

## 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.

## 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  $\pm 5$  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.*

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

*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 malfunctioning or tampering, and if this is detected, carry out the appropriate requirements of Part 10.*

*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.

#### **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 monthly and any meters that have not communicated have the AMI flag changed to "N". This process has been improved since the last audit to include meters that have not communicated since the time of installation. 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 2016.

##### TRUM

TRUM 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.

**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.

**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.

**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:

<b>Metering Installation Category</b>	<b>HHR Metering Installations (seconds)</b>	<b>NHH Metering Installations (seconds)</b>
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 two examples during October 2020.

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. EDM I confirmed that the data would need to be manually apportioned to prior periods. This will be a rare event, but EDM I and FCLM have a process in place to deal with this if required.

#### TRUM

TRUM 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-Feb-20 To: 20-Oct-20	Clock errors greater than the threshold for 2 ICPs. Potential impact: Low Actual impact: None Audit history: Once Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	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	

## 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.

### 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.

### 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.*

## 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.

## 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-validates 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 EDM I 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_PCTTHRSOLD	Register Read Validation Percentage Threshold	NUMBER	1
ORION_AM	RRVAL_PCTTHRSOLD	Register Read Validation Percentage Threshold	NUMBER	1

An example of the report was examined, and it showed some 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.

#### TRUM

TRUM 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.

#### **Audit commentary**

##### FCLM

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

##### TRUM

TRUM does not conduct electronic data collection.

#### **Audit outcome**

Not applicable

## CONCLUSION

The audit found a similar level of compliance to the previous audit with 17 areas of non-compliance identified, the main issues are as follows:

- incomplete information contained in certification records from ATHs,
- certification cancelled and registry not updated for:
  - 11 installations not fit for purpose due to low burden, and
  - 8 installations without inspections conducted within the allowable window,
- certification cancelled or expired for 2,711 ICPs, and
- data provided to some traders is not raw meter data

FCLM reported that its ability to complete planned compliance activities in 2020 was affected by the impact of the Covid-19 pandemic. The issues encountered included access problems and delivery delays of meter stock.

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 nine months.

## PARTICIPANT RESPONSE

FCLM 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 or the small number of improvement recommendations received.

Due to the required date of next audit falling in January, it became practical to carry out the onsite Audit one month early, pre-Christmas. We would like to acknowledge that many of the data discrepancies and known issues are being addressed currently and on track to be completed by the end of January 2021. We would also like to have our Audit date fall at any other month than January as the Auditor and FCLM find it difficult to Plan Audits around the Christmas period.

The Covid-19 pandemic has affected our ability to implement our 2020 compliance plan causing difficulties with Meter Equipment Supplies, Availability of Field Service Providers and ability to carry out Inspections within the applicable window. This has created some unavoidable non-compliances and impacted progress, actual versus planned.

On balance, we feel that an Audit cycle of 24 months would more appropriately reflect the excellent compliance controls in place, the significant improvement in FCLM's performance in the 11 months since the last audit, and the work that is on track to be completed by the end of January 2021 (the full 12 months audit period).

We do not agree with the risk rating given to the following Clauses and request these be considered when determining next audit date:

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

##### ❖ Only 8 inspections were missed not 98 as noted

- ❖ These were sites that missed inspection due to Covid-19 restrictions. Initially we looked at applying for an exemption then subsequently decide to update certification and look to replace and recertify.
- ❖ We had cancelled these sites just not withing the 10 day requirement. We believe the correct expiry was used, the day after the required window. Would like clarification of Auditors interpretation.
- ❖ These sites have been scheduled for recertification and addition of Burden resistors if required.
- ❖ We believe the risk rating should be 2 not 6 as we were aware of then, certification was cancelled and there is no evidence to suggest there is an impact to reconciliation or site accuracy as overall site accuracy < +- 2%.

Potential impact: Low

Actual impact: Low

Audit history: Multiple times

Controls: Strong

Breach risk rating: 2.

#### 7.19 Interim Certification (Clause 18 of Schedule 10.7)

- ❖ This clause will no longer exist after 01/02/2021 and therefore we request we are not penalised via this rik rating.
- ❖ These are treated as Non-Certified and addresses as per 7.1. and therefore, already addressed
- ❖ These are part of our compliance plan to strive to obtain 100% certification

Non-compliance	Description
Audit Ref: 7.19 With: Clause 18 of Schedule 10.7 From: 01-Apr-15 To: 30-Sep-20	703 ICPs with expired interim certification.  Potential impact: High Actual impact: Medium Audit history: Multiple times Controls: Moderate Breach risk rating: 4

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

This is a technicality. We where using industry standard EIEP files which only allowed for 2 decimal places. As we rectified to 4 decimal places as soon as we became aware of the breach, I request that we are not penalised via this Risk rating.

- ❖ By standardizing to EA recommended EIEP3 format we now breach. Modified file to contain 4 decimal places.