VERITEK

Electricity Industry Participation Code Audit Report

For

INFLUX ENERGY DATA LTD:

NZBN: 9429037465971

Class B Approved Test House

Prepared by Steve Woods – Veritek Limited

Date of Audit: 23/03/22

Date Audit Report Complete: 19/04/22

Date Audit Report Due: 21/04/22

Executive Summary

Influx Energy Data Limited (Influx) is a Class B Approved Test House and is required to undergo an audit by 21 April 2022, in accordance with clause 16A.19(b).

The audit was conducted in accordance with the ATH Audit Guidelines V1.3 produced by the Electricity Authority.

The audit found 13 non-compliances and makes three recommendations. Six of the issues relate to the accuracy of fields in the certification reports. Influx has been working through getting the certification reports fully compliant with the Code and it is expected these matters will be resolved in a short timeframe.

The other issues relate to certification practices, and are as follows:

- two ICPs have an absolute error and uncertainty test result greater than 1.5%, the CTs are class 0.5, and the meters are class 1.0, which means at least one of the components is operating outside its class, or there is an unidentified uncertainty not taken into account,
- Influx does not measure the load applied and record the resulting increment of the meter register value over a measured period of time when conducting raw meter data tests; the test is limited to checking that the register advances, and
- the sample did not match the population when statistical sampling certification was applied on 22 October 2021; one meter type was in the population but not in the sample and there were only 11 meters of this type, so the MEP has cancelled the certification for the relevant ICPs.

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 a next audit frequency of six months. After considering Influx's responses to the areas of non-compliance I recommend an audit frequency of 12 months. The main reason for not recommending a longer period is that seven out of the 13 non-compliances have been disputed, indicating that remedial actions are not planned for the three issues noted above. If the Authority agrees with the responses provided by Influx, then a longer period could be considered.

The matters found are shown in the tables below:

Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Accurate information	2.2	10.6 of Part 10	Inaccurate information recorded in 50 fields in certification reports.	Moderate	Low	2	Identified
Services Access Interface	3.2	8(2) of Schedule 10.7	All services access interfaces not recorded for two installations.	Strong	Low	1	Identified
Services Access Interface	3.5	10 of Schedule 10.4	All services access interfaces not recorded for two installations.	Strong	Low	1	Identified
Meter Certification Expiry Date	3.12	27(5) of Schedule 10.7	Meter certification expiry date not recorded for all meters in five installations.	Moderate	Low	2	Identified
Invalid certification	5.1	8(1) Of Schedule 10.7	Two ICPs have an absolute error and uncertainty test result greater than 1.5%, meaning at least one of the components is operating outside its class.	Moderate	Low	2	Disputed
ATH Design Report Obligations	5.4	3 of Schedule 10.7	Changes to the design for four installations not documented.	Strong	Low	1	Identified
Certification Tests	5.12	9(1)(ii)(B) of Schedule 10.7	ATH did not measure the load applied and record the resulting increment of the meter register value over a measured period of time when conducting a raw meter data test for all 23 Category 1 metering installations checked.	Moderate	Low	2	Disputed

Subject	Section	Clause	Non-compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Test Results	5.16	10(1)&(2) Of Schedule 10.7	Two ICPs have errors greater than 1.5%, meaning at least one of the components is operating outside its class.	Moderate	Low	2	Disputed
Selected component certification	5.18	11(3) Of Schedule 10.7	Raw meter data output tests not conducted for 23 metering installations.	Moderate	Low	2	Disputed
Statistical Sampling	5.26	16 of Schedule 10.7	The sample did not match the population when statistical sampling certification was applied on 22/10/21. One meter type was in the population but not in the sample.	Moderate	Low	2	Cleared
Measuring Transformer Certification	5.67	3 of Schedule 10.8	Burden range is not sufficiently clear when CTs are certified.	Strong	Low	1	Disputed
Measuring Transformers in service burden range	5.68	2(1)(E) Of Schedule 10.8	Burden range is not sufficiently clear when CTs are certified.	Moderate	Low	2	Disputed
All Functions and Activities must be completed	5.76	10.42(2)	Not all functions and activities required for certification are completed, specifically, raw meter data output tests are not conducted.	Moderate	Low	2	Disputed
Future Risk Rating						**22**	
Indicative Audit Frequency						**6 months**	

Future risk rating	1-3	4-6	7-8	9-17	18-26	27+
Indicative audit frequency	36 months	24 months	18 months	12 months	6 months	3 months

Table of Recommendations

Subject	Section	Clause	Recommendation for improvement	Remedial Action
Use of Contractors	2.1	10.3	Consider using photo checks as part of the contractor audit regime.	Identified
Quality management systems	2.6	3(1) & 4(1) of Schedule 10.3	Request an updated version of the ISO report to include category 3 metering installations in the scope.	Identified
Certification of metering installations	5.1	8(1) Of Schedule 10.7	I recommend Influx sets a pass/fail threshold for Category 2 comparative testing which takes into account the class of the metering components.	Not planned

Persons Involved in This Audit

Auditor:

Steve Woods

Veritek Limited

Electricity Authority Approved Auditor

Influx personnel assisting in this audit were:

Name	Title
Barny Barnett	Compliance Manager
Glen Hardie	Test House Manager
Jaime Canton	Customer Excellence Manager
Graeme Prestidge	Head of Metering, Compliance & ATH

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1. ADMINISTRATIVE

1.1 Exemptions from Obligations to Comply with Code (Section 11 of Electricity Industry Act 2010)

Code related audit information

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

Audit observation

I checked the Authority's website for any relevant exemptions.

Audit commentary

There are no exemptions in place.

1.2 Scope of Audit

Influx is a Class B ATH, and this audit was performed at their request, to encompass the Electricity Industry Participation Code requirement for an audit, in accordance with clause 16A.19(b).

The Authority has stipulated that the next audit was due by 21 April 2021 in accordance with clause 1(4)(c) of schedule 10.3.

The audit was conducted in accordance with the ATH Audit Guidelines V1.3 produced by the Electricity Authority.

Influx provides ATH services to metering equipment providers in respect of the installation and/or re-certification of Category 1 to Category 3 metering. Influx provides training and also conducts field audits to ensure the on-going compliance and competence of sub-contractors.

Influx wishes its ATH approval to include the following functions of Clause 4(2) of Schedule 10.3:

(b) installation and modification of metering installations:

(c) installation and modification of metering components:

(d) calibration of metering components on site:

(e) certification, using the selected component certification method, of:

(i) category 1 metering installations:

(ii) category 2 metering installations:

(iii) category 3 metering installations with a primary voltage of less than 1kV:

(g) certification, using the comparative recertification method, of category 2 metering installations:

(h) issuing of certification reports in respect of certifications of metering installations under paragraphs (e) to (g):

(i) inspection of:

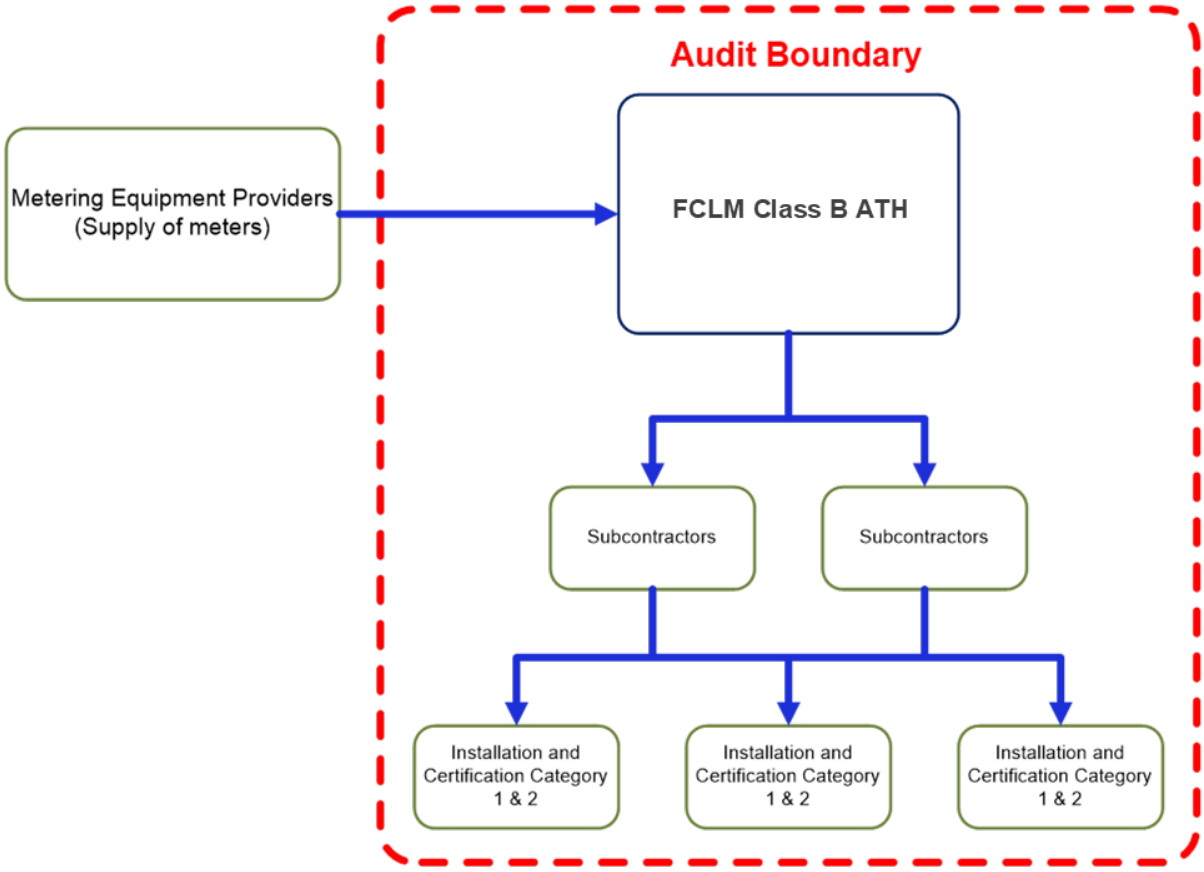
(i) category 1 metering installations:

(ii) category 2 metering installations:

(iii) category 3 metering installations with a primary voltage of less than 1kV.

Influx also requires approval to certify metering components. I note that neither the Class B or Class A functions listed in Clauses 3(2) and 4(2) of Schedule 10.3 include certification of metering components.

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



1.3 Previous Audit Results

The last audit was conducted in March 2021 by Brett Piskulic of Veritek. The tables below show the findings:

Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
Accurate information	2.2	10.6 of Part 10	Inaccurate information recorded in nine metering installation certification reports.	Still existing
Metering Installation Type	3.2	8(2) of Schedule 10.7	Each services access interface not recorded for three metering installations certified since 1/02/21.	Still existing
Services Access Interface	3.5	10 of Schedule 10.4	Each services access interface not recorded for three metering installations certified since 1/02/21.	Still existing
Maximum interrogation cycle	3.14	36(3) of Schedule 10.7	Maximum interrogation cycle not recorded for each services access interface for three metering installations.	Still existing
Invalid certification	5.1	8(1) Of Schedule 10.7	ICP 0001408543UN780 had an absolute error and uncertainty test result of 1.97%, meaning at least one of the components is operating outside its class.	Still existing
Certification Tests	5.12	9(1)(ii)(B) of Schedule 10.7	ATH did not record the accumulation of pulses when conducting a raw meter data test.	Still existing
Test Results	5.16	10(1)&(2) Of Schedule 10.7	ICP 0001408543UN780 had an absolute error and uncertainty test result of 1.97%, meaning at least one of the components is operating outside its class.	Still existing
Measuring Transformer Certification	5.67	3 of Schedule 10.8	CTs are certified without calibration being carried out.	Cleared

Table of Recommendations

Subject	Section	Clause	Recommendation for improvement	Remedial Action
Use of Contractors	2.1	10.3	Develop an overall schedule and record of contractor audits.	Cleared
Category 2 certification tests	5.1	8(1) Of Schedule 10.7	I recommend Influx sets a pass/fail threshold for Category 2 comparative testing which takes into account the class of the metering components.	Still existing

2. ATH REQUIREMENTS

2.1 Use of Contractors (Clause 10.3 of Part 10)

Code related audit information

A participant may perform its obligations and exercise its rights under this Part by using a contractor. A participant who uses a contractor to perform the participant's obligation under this Part remains responsible and liable for, and is not released from, the obligation, or any other obligation under this Part.

Audit observation

I checked Influx understands of this requirement by conducting a walk-through of contractor management processes. I checked the audit regime in place to ensure contractors are competent and are following Influx's instructions.

Audit commentary

Influx has a number of contractors operating under their ATH. Clause 10.3(c) requires that Influx "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."

Influx uses contractors to conduct certification activities, a register is maintained of these parties and individuals, and this was viewed during the audit. Influx conducts post installation and live auditing of fieldwork and associated paperwork on an ongoing basis. Audits are conducted by the Test House Manager who is also running regular training sessions with the contractors. Consideration is being given to getting other contractors to assist with field audits, particularly given the difficulty with travelling with the COVID-19 situation. There is an overall schedule of audit targets per region per month. I recommend Influx could also add photo checks as another form of audit for Category 1 installations. All Category 2 certification reports are checked for completeness and accuracy.

Recommendation	Description	Audited party comment	Remedial action
Contractor audits	Consider using photo checks as part of the contractor audit regime.	10.3 c - We 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. We comply by using EWRB registered AMC (qualified electricians as a minimum) who refresh their competencies biannually. We also have an audit schedule in place to audit some AMC's throughout the year. The recommendation to consider using photo checks as part of the contractor audit regime is a good idea and Go Canvas reports and photos may be used as a desk top audit tool.	Identified

Audit outcome

Compliant

2.2 Provision of Accurate Information (Clause 10.6 of Part 10)

Code related audit information

A participant must take all practicable steps to ensure that information that it provides under this Part is:

- *complete and accurate*
- *not misleading or deceptive*
- *not likely to mislead or deceive.*

If a participant, having provided information under this Part, becomes aware that the participant has not complied with these requirements, the participant must, except if clause 10.43 applies, as soon as practicable provide such further information, or corrected information, as is necessary to ensure that the participant complies.

Audit observation

I checked compliance with this clause at the end of the audit to determine whether compliance had been achieved.

Audit commentary

I found several issues with the accuracy of information recorded on certification reports as follows:

- four category 2 metering installations certified using the comparative recertification method did not include confirmation that burden resistors were added which is a requirement of

clause 3 of schedule 10.7, which stipulates any changes to the design must be documented and notified to the MEP within 10 business days, and

- 22 category 2 metering installations certified using the comparative recertification method had a certification date recorded for the measuring transformers; I recommend this field is left blank, because measuring transformers are not certified,
- eight category 2 installations did not have the validity period recorded,
- one category 2 installation did not have all services access interfaced recorded,
- 13 category 1 installations did not have the meter certification date recorded,
- one category 1 installation did not have the meter certification or expiry date recorded, and
- one category 1 installation had incorrect certification and expiry dates recorded

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.2 With: Clause 10.6 of Part 10 From: 01-Apr-21 To: 23-Mar-22	Inaccurate information recorded in 50 fields in certification reports. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. Certification was carried out correctly, therefore the impact is considered low.

Actions taken to resolve the issue	Completion date	Remedial action status

We have rectified all but one issue by changing our certification reports to cover these issues and reports are checked to ensure all information is recorded. The last remaining issue of burden not being recorded, our Category 2 certification form template is to be updated to include notice that burden has been added	14/05/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Staff are aware of changes made to forms and check to ensure details are recorded correctly.	14/05/2022	

2.3 Dispute Resolution (Clause 10.50(1) to (3) of Part 10)

Code related audit information

Participants must in good faith use 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

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

Audit commentary

Influx has not needed to resolve any disputes in accordance with these clauses.

Audit outcome

Compliant

2.4 ATH Approval (Clause 10.40 of Part 10)

Code related audit information

A person wishing to be approved as an ATH, or an ATH wishing to renew its approval, must apply to the Authority:

- *at least two months before the intended effective date of the approval or renewal*
- *in writing*
- *in the prescribed form*
- *in accordance with Schedule 10.3.*

A person making an application must satisfy the Authority (providing, where appropriate, suitable evidence) that the person:

- *has the facilities and procedures to reliably meet, for the requested term of the approval, the minimum requirements of this Code for the class or classes of ATH for which it is seeking approval*

- *has had an audit under Schedule 10.3*
- *is a fit and proper person for approval.*

Audit observation

I checked the most recent application for re-certification.

Audit commentary

Influx has appropriate approval and appropriate facilities and procedures to meet the minimum requirements of the Code.

Audit outcome

Compliant

2.5 ATH Requirements (Clause 10.41 of Part 10)

Code related audit information

An ATH must, when carrying out activities under this Part:

- *only carry out activities for which it has been approved by the Authority*
- *exercise a degree of skill, diligence, prudence, foresight, and economic management, taking into account the technological complexity of the metering components and metering installations being tested:*
  - *determined by reference to good industry practice*
  - *that would reasonably be expected from a skilled and experienced ATH engaged in the management and operation of an approved ATH*
- *comply with all applicable safety, employment, environmental, and other enactments*
- *exercise any discretion given to it under this Part by:*
  - *taking into account the relevant circumstances of the particular instance*
  - *acting professionally*
- *recording the manner in which it carried out its activities and its reasons for carrying the activities out in that manner.*

Audit observation

I checked policy and process documentation to confirm compliance with these clauses.

Audit commentary

Influx has only conducted activities that fall within the scope of their approval. I have concluded from this audit that Influx has met the requirements of this clause.

The Influx ATH procedures and policies are manged in Confluence. Each contractor is issued with a Manual which contains all relevant documents.

I checked compliance with other enactments, specifically the electricity regulations with regard to safety practices and I confirm the following critical points are managed in a robust manner:

- the electrical registration and practicing licence details of contractors are checked for currency,

- access to basic insulation - meters are supplied with long terminal covers and all installations are left at least in the conditions they were found,

- livening practices, specifically polarity testing - instructions are clear in relation to this and results are recorded in certification records,

- safety practices with regard to the management of asbestos switchboards - the process and instructions were checked, and they appear to be robust and complete, and

- general safety practices and the appropriate use and testing of personal protective equipment - policy and instruction is clear in relation to this; PPE must be worn, including safety glasses.

There is a reliance on each contractor being certified as an electrician, because this certification also requires compliance with health and safety legislation.

Audit outcome

Compliant

2.6 Quality Management Systems (Clauses 3(1) & 4(1) of Schedule 10.3)

Code related audit information

An ATH must establish, document, implement, maintain, and comply with a quality management system which records its processes and procedures to ensure compliance with this Part.

An applicant applying for approval or renewal of approval, as a class A ATH must, as part of its application, confirm that it holds and complies with AS/NZS ISO 17025 accreditation, for at least the requested term of the approval.

An applicant applying for approval, or renewal of approval, as a class B ATH must, as part of its application to the Authority, confirm that it holds and complies with AS/NZS ISO 9001:2016 certification for at least the requested term of the approval. The applicant must also confirm that the scope of the certification covers the activities that it proposes to undertake, and that a conflict-of-interest policy is maintained at all times in compliance with AS/NZS ISO 17025.

Despite the above, a class B ATH may apply to the Authority for approval without confirming that it holds and complies with AS/NZS ISO 9001:2016 certification for the term of the requested approval, provided that the applicant confirms that:

- *it holds and complies with AS/NZS ISO 9001:2016 certification at the time of the application and that certification expires during the approval period,*

- *it has appropriate plans in place to ensure that it renews its AS/NZS ISO 9001:2016 certification so that this certification is in place continuously during the term of approval.*

Audit observation

I obtained and reviewed the most recent ISO 9001:2015 Certificate of Registration and audit report to confirm the scopes were appropriate and that certification was in place.

Audit commentary

Influx provided a copy of their ISO 9001:2015 Certificate of Registration which was issued on 29 May 2021 and has an expiry date of 27 May 2024 and the most recent audit report, dated 19 May 2021, which was conducted by Kiwi Certification. The scope of the ISO certification is appropriate for the

work undertaken and is recorded as "Test House and Metering Services including Installation of metering equipment; Commissioning and certifying of Category 1-3 metering installations under the provisions of the rules of the Electricity Authority and the purchase of calibration services from Class A and Class B Test Houses certified for the purpose".

The scope recorded in the audit report is slightly different to the scope in the ISO certificate. The report states: "…Commissioning and certifying of Category 1-2 metering installations…", but the certificate states: "…Commissioning and certifying of Category 1-3 metering installations…". It appears to be merely an error in the report, with the certification correctly recording that the category 3 installations are included in the scope.

I recommend Influx gets an updated version of the report to include category 3 metering installations.

Recommendation	Description	Audited party comment	Remedial action
Quality management systems	Request an updated version of the ISO report to include category 3 metering installations in the scope.	Influx ISO accreditation certificate states Cat 1-3. The ISO surveillance report says cat 1 and 2. Influx 2022 ISO surveillance audit is taking place in May 2022 and we will have them include cat 3 in the report at that time.	Identified

The audit findings are summarised in the following table:

DESCRIPTION	RATING	STATUS
1. Although Metering forms are checked by the Metering team (On Behalf of the test house) the issues identified are not currently recorded as non-conformances in the QMS. (Clause 8.7 refer)	NC	Cleared
2. Records for the current liability insurance, current practicing licence and health and safety agreement for Solar City was not available in the database. Data base was being updated. (Clause 7.5.3 refer)	AI	Cleared
3. The health and safety agreement for Neutral inspections was signed on 15/09/2020 however the date was not on the agreement. (Clause 7.5.3 refer)	AI	Cleared
4. Although the business did determine and monitor management system performance the QMS did not clearly capture/document what was required. This included: a) what needs to be monitored and measured, b) the methods for monitoring, measurement, analysis and evaluation needed to ensure valid results, c) when the monitoring and measuring shall be performed,	AI	Cleared

d) when the results from monitoring and measurement shall be analysed and evaluated. (Clause 9.1 refer)		
5. There is an opportunity to list the specific resources required for the QMS as identified to make it easier to review adequacy. Resources included People: Test house manager, QA Manager, Contractors. Infrastructure: Offices and software. Equipment: Hioki Testing Equipment and Organisation Knowledge: Procedures. (Clause 7.1 refer)	C	Cleared
Key MNC = Major Non-Conformances AI = Action Items C = Comments		

Audit outcome

Compliant

2.7 Organisation and Management (Clause 15 of Schedule 10.4)

Code related audit information

An ATH must ensure that it has managerial staff who, unless otherwise permitted in the relevant approval, all have the authority and resources needed to discharge their duties; and the responsibilities, authority, and functional relationships of all its personnel are fully and accurately specified and recorded in the ATH's records.

An ATH must appoint a technical manager (however named) with overall responsibility for technical operations, who must have appropriate engineering qualifications and experience in the operation of an approved ATH; and a quality manager (however named), with responsibility for the quality management certification and the implementation of the quality management system.

Audit observation

I checked records in the quality manual to confirm compliance.

Audit commentary

Glen Hardie is appointed as Technical Manager. Barny Barnett is appointed as Quality Manager. Both have appropriate qualifications and experience.

An ATH must ensure that all staff who perform or supervise work or activities regulated under this Part are technically competent, experienced, qualified, and trained for the functions they perform. I checked the training and competency assessment processes and I confirm compliance with this clause.

Audit outcome

Compliant

2.8 Document Processes and Procedures (Clause 16 Of Schedule 10.4)

Code related audit information

An ATH must establish, document, implement, maintain, and comply with a quality management system which records its processes and procedures.

Audit observation

I checked the Class B quality documentation, and I reviewed the relevant ISO report.

Audit commentary

The quality management system meets the requirements of the Code.

Audit outcome

Compliant

2.9 Quality Standard Required for Field Work (Clause 17 Of Schedule 10.4)

Code related audit information

If a class A ATH arranges for another person to carry out field work, it must ensure that person is certified to the relevant AS/NZS ISO9001:2008 or AS/NZS ISO9001:2016 standard at all times while the person carries out the work.

Audit observation

Influx is not approved as a class A ATH.

Audit commentary

Influx is not approved as a class A ATH.

Audit outcome

Not applicable

2.10 Material Change Requirements (Clause 16A.11)

Code related audit information

If the ATH intends to make a material change to any of its facilities, processes, procedures, or the scope of the ATH's ISO accreditation is reduced, the ATH must arrange for an additional audit at least five business days before the change or reduction in scope take place.

Audit observation

Influx has not conducted any material changes.

Audit commentary

Influx has not conducted any material changes.

Audit outcome

Not applicable

2.11 Audit Required for ATH Approval (Clause 16A.12 and 16A.13)

Code related audit information

The ATH must provide an audit report to the Authority by the due date. If there are areas where compliance is not achieved, the ATH must also submit a compliance plan which specifies the actions that the ATH intends to address, any issues identified in the audit report and the time frames to complete those actions.

Audit observation

Influx is currently undergoing an audit and the report will be provided with a compliance plan.

Audit commentary

Influx is currently undergoing an audit and the report will be provided with a compliance plan.

Audit outcome

Compliant

2.12 Accommodation & Environment (Clause 1 of Schedule 10.4)

Code related audit information

An ATH must maintain a list of personnel who are authorised to access and use its laboratory and *storage facilities and restrict access to its laboratory and storage facilities to:*

(i) the personnel specified

(ii) the Authority

(iii) an auditor conducting an audit

(iv) any other person who is, at all times, directly supervised by a member of personnel specified.

Audit observation

Influx does not operate a laboratory function; their scope is limited to field installation work.

Audit commentary

Influx does not operate a laboratory function; their scope is limited to field installation work.

Audit outcome

Not applicable

2.13 Compensation Factors (Clause 8 of Schedule 10.4)

Code related audit information

If an ATH is approved to certify metering installations, the ATH must have a documented process for the determination of compensation factors.

Audit observation

I checked the documentation in relation to compensation factors and I checked 48 certification reports.

Audit commentary

The documentation achieves compliance with the Code and checks of the certification reports confirmed accuracy.

Audit outcome

Compliant

2.14 Metering Component Stickers (Clause 8(3) of Schedule 10.8)

Code related audit information

An ATH must ensure that a certification sticker is:
- made of weather-proof material
- permanently attached
- filled out using permanent markings.

Audit observation

I checked Influx's component stickers to confirm compliance.

Audit commentary

All component stickers are compliant with this clause.

Audit outcome

Compliant

2.15 Interference with Metering Installations (Clause 10.12)

Code related audit information

Subject to clause 48 of Schedule 10.7, an ATH may not directly or indirectly interfere with a metering installation unless it is also the MEP or has been instructed to do so by the existing or gaining MEP for the installation.

Audit observation

I audited this clause by exception.

Audit commentary

I did not identify any interference by Influx during the audit.

Audit outcome

Compliant

3. METERING RECORDS AND REPORTS

3.1 Physical Location of Metering Installations (Clause 10.35 of Part 10)

Code related audit information

If it is not practical in the circumstances to locate the metering installation at the point of connection, the reconciliation participant must calculate the quantity of electricity conveyed through the point of connection using a loss compensation process approved by the certifying ATH.

If this occurs the ATH must record the calculation, measurements, and assumptions in the installation certification report.

Audit observation

I checked whether Influx had certified any installations with loss compensation.

Audit commentary

Influx has not been required to conduct any loss compensation calculations.

Audit outcome

Compliant

3.2 Metering Installation Type (Clause 8(2) of Schedule 10.7)

Code related audit information

The metering installation certification report must specify whether the installation is half hour, non-half hour or half hour and non-half hour metering.

The metering installation certification report must also record each services access interface and the conditions under which each services access interface may be used.

Audit observation

I checked 48 certification records to confirm compliance.

Audit commentary

This clause was changed from 1st February 2021 to require the ATH to record each services access interface and the conditions under which each services access interface may be used. Prior to this change the ATH was required to determine and record a single services access interface.

46 of 48 certification records have all possible services access interfaces recorded with their respective maximum interrogation cycles. ICPs 0001603420WME98 and 0000034097CHF04 do not have all services access interfaces recorded.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.2 With: Clause 8(2) of Schedule 10.7 From: 30-Jun-21 To: 05-Apr-22	All services access interfaces not recorded for two installations. Potential impact: None Actual impact: None Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong because they mitigate risk to an acceptable level. 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
We have rectified this issue by changing our certification reports to cover these issues and reports are checked to ensure all information is recorded.	14/04/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Staff are aware of changes made to forms and check to ensure details are recorded correctly.	14/04/2022	

3.3 Record Metering Installation Category (Clause 8(4) Of Schedule 10.7)

Code related audit information

An ATH must record the category of the metering installation in the metering installation certification report.

Audit observation

I checked 48 certification reports to confirm compliance.

Audit commentary

All reports correctly recorded the metering category.

Audit outcome

Compliant

3.4 Calibration Test Points (Clause 7(7) Of Schedule 10.4)

Code related audit information

An ATH may select a test point other than those specified in the relevant standard listed in Table 5 of Schedule 10.1, or at a lower burden than specified in the standard, but must, if it does this, document its reasons for the selection of these test points in the calibration report.

Audit observation

Influx does not calibrate components.

Audit commentary

Influx does not calibrate components.

Audit outcome

Not applicable

3.5 Services Access Interface (Clause 10 of Schedule 10.4)

Code related audit information

An ATH must, when preparing a metering installation certification report, determine, and record in the certification report, the services access interfaces and the conditions under which each services access interface may be used. The services access interface means the point, at which access may be gained to the services available from a metering installation, that is:

- *recorded in the certification report by the certifying ATH for the metering installation,*
- *where information received from the metering installation can be made available to another person*
- *where signals for services such as remote control of load (but not ripple control) can be injected.*

Audit observation

I checked 48 certification reports to confirm compliance.

Audit commentary

This clause was changed from 1st February 2021 to require the ATH to record each services access interface and the conditions under which each services access interface may be used. Prior to this change the ATH was required to determine and record a single services access interface.

46 of 48 certification records have all possible services access interfaces recorded with their respective maximum interrogation cycles. ICPs 0001603420WME98 and 0000034097CHF04 do not have all services access interfaces recorded.

Audit outcome

Non-compliant

<table>
<tr><th>Non-compliance</th><th colspan="3">Description</th></tr>
<tr><td>Audit Ref: 3.5

With: Clause 10 of Schedule 10.4

From: 30-Jun-21

To: 05-Apr-22</td><td colspan="3">All services access interfaces not recorded for two installations.

Potential impact: None

Actual impact: None

Audit history: Once

Controls: Strong

Breach risk rating: 1</td></tr>
<tr><th>Audit risk rating</th><th colspan="3">Rationale for audit risk rating</th></tr>
<tr><td>Low</td><td colspan="3">The controls are recorded as strong because they mitigate risk to an acceptable level.

There is no impact because the MEP normally determines the location of the services access interface; therefore, the audit risk rating is low.</td></tr>
<tr><th colspan="2">Actions taken to resolve the issue</th><th>Completion date</th><th>Remedial action status</th></tr>
<tr><td colspan="2">We have rectified this issue by changing our certification reports to cover these issues and reports are checked to ensure all information is recorded.</td><td>14/04/2022</td><td rowspan="3">Identified</td></tr>
<tr><th colspan="2">Preventative actions taken to ensure no further issues will occur</th><th>Completion date</th></tr>
<tr><td colspan="2">Staff are aware of changes made to forms and check to ensure details are recorded correctly.</td><td>14/04/2022</td></tr>
</table>

3.6 Certification & Calibration Reports (Clause 11(1) of Schedule 10.4)

Code related audit information

An ATH must, for each metering installation that it certifies, produce a certification report in accordance with Schedule 10.7. An ATH must, for each metering component:

- *that it calibrates, produce a calibration report in accordance with Schedule 10.8*
- *that it certifies, produce a certification report in accordance with Schedule 10.8.*

Audit observation

I requested a sample of 48 certification records to confirm compliance.

Audit commentary

Influx does not calibrate components.

Certification reports are produced for all installations. **Section 2.2** discusses the accuracy of the fields in the reports.

Audit outcome

Compliant

3.7 ATH Record Keeping Requirements (Clause 12 of Schedule 10.4)

Code related audit information

The ATH must document and maintain its record keeping system for certificates, reports, and any other records. The records can be stored in any media, such as hard copy or electronically. The records should be stored in a manner that prevents deterioration or damage and that retrieval of a record cannot result in change or damage to the record. Electronic storage should be backed up.

The ATH must securely store all records, certificates, and reports and ensure that each metering installation is:

- uniquely identified

- sufficiently detailed to verify the tests carried out including test conditions, the test equipment used and the personnel carrying out the tests.

Audit observation

I checked the certification records for 48 metering installations along with the storage practices.

Audit commentary

All records were available, and records are stored indefinitely.

Audit outcome

Compliant

3.8 Retention of Records (Clause 13 of Schedule 10.4)

Code related audit information

The ATH must keep all records, certificates, and calibration reports for all components and installations certified for at least 48 months after the date of decommissioning.

Audit observation

I checked the certification records for 48 metering installations along with the storage practices.

Audit commentary

All records were available, and records are stored indefinitely.

Audit outcome

Compliant

3.9 Advise MEP of Records, Certificates or Reports for a Metering Installation (Clause 14 Of Schedule 10.4)

Code related audit information

The ATH must provide the MEP responsible for the metering installation with the record, certificate, or report for the metering installation within five business days of certification. The ATH must ensure the MEP receives the record. This can be either as an electronic copy or any other agreed format.

Audit observation

I checked the communication trail for 48 metering records.

Audit commentary

All records were provided within five business days. In all cases Influx is both the ATH and the MEP.

Audit outcome

Compliant

3.10 Certification at a Lower Category (Clause 6(4) Of Schedule 10.7)

Code related audit information

If the ATH makes a determination to certify a metering installation at a lower category under clause 6 of Schedule 10.7, the certification report must include all information required to demonstrate compliance.

Audit observation

Influx has not certified any installations as a lower category.

Audit commentary

Influx has not certified any installations as a lower category.

Audit outcome

Compliant

3.11 Meter Requirements (Clause 26(3) & (4) of Schedule 10.7)

Code related audit information

The ATH needs to document the following in the metering records:

- the meter manufacturer's required recommendations for regular maintenance

- any maintenance that has been carried out on the meter, such as battery monitoring and replacement.

An ATH must record in the metering installation certification report, the maximum interrogation cycle for the metering installation before it certifies a metering installation incorporating a meter.

Audit observation

I checked process documentation, conducted a walk-through of the process and checked 26 certification records.

Audit commentary

As a Class B ATH, Influx is unlikely to deal with any meters where maintenance is required.

I checked 48 certification reports, and I confirm the maximum interrogation cycle was recorded in all cases.

Audit outcome

Compliant

3.12 Meter Certification Expiry Date (Clause 27(5) of Schedule 10.7)

Code related audit information

The ATH must record the certification expiry date for each meter in a metering installation in the metering installation certification report and the meter certification report.

Audit observation

I checked 48 certification records to confirm compliance.

Audit commentary

My checks of 48 certification reports confirmed that the meter certification expiry dates were correctly recorded in 43 reports, but for the ICPs listed below the expiry date was not recorded.

ICP	Certification date	Expiry date	Comments
0003146930BU751	10/12/2021	10/12/2036	No meter certification or expiry date.
0000708790WP2CE	29/09/2021	10/09/2024	Four meters but certification expiry date only recorded for one meter.
0000928359TU287	27/07/2021	10/09/2024	Two meters but certification expiry date only recorded for one meter.
0000938248TU58A	20/07/2021	6/07/2026	Two meters but certification expiry date only recorded for one meter.
0001947522WA40E	7/08/2021	3/11/2027	Two meters but certification expiry date only recorded for one meter.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.12 With: Clause 27(5) of Schedule 10.7 From: 20-Jul-21 To: 23-Mar-22	Meter certification expiry date not recorded for all meters in five installations of a sample of 48. 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 recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement and participants is minor; therefore, the audit risk rating is low.		
Actions taken to resolve the issue		**Completion date**	**Remedial action status**

When a meter change is requested, AMC have been asked to ensure all meters are changed and to ensure certification of the whole site. Communication reminding AMC of this has been sent. When a site has multiple asset locations the AMC may be unaware of some assets, so our asset management systems record both asset and site certification dates and therefore determines overall certification of the site and the earliest expiry date is used.	14/04/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Email sent to AMC reminding them to ensure the whole site is certified	14/04/2022	

3.13 Measuring Transformer Requirements (Clause 28(3) of Schedule 10.7)

Code related audit information

The ATH needs to document the following in the metering records:

- the manufacturer's recommendations for any regular maintenance required for the measuring transformer

- any maintenance that has been carried out on the measuring transformer.

Audit observation

I checked whether any measuring transformers required maintenance.

Audit commentary

Influx has not installed any measuring transformers where maintenance is required.

Audit outcome

Not applicable

3.14 Determine Maximum Interrogation Cycle (Clause 36(3) & (4) Of Schedule 10.7)

Code related audit information

An ATH must record the maximum interrogation cycle for each services access interface for the metering installation. The maximum interrogation cycle for a metering installation is the shortest of the following periods:

- the period of inherent data loss protection for the metering installation

- the period of memory availability given the data storage device configuration

- the period in which the accumulated drift of a data storage device clock is expected to exceed the maximum time error set out in Table 1 of clause 2 of Schedule 15.2 for the category of the metering installation.

Audit observation

I checked 48 certification reports to confirm the maximum interrogation cycle is recorded.

Audit commentary

The maximum interrogation cycle was correctly recorded for all 48 certifications checked during the audit.

Audit outcome

Compliant

4. CALIBRATION AND CERTIFICATION OF METERING COMPONENTS

4.1 Accommodation and Environment (Clause 1(D)-(E) Of Schedule 10.4)

Code related audit information

The ATH must ensure that the environment in which its activities are undertaken is monitored, appropriate for the tests being carried out and unlikely to affect the required accuracy.

Audit observation

Influx does not operate a laboratory function because their scope is limited to field installation work. Temperature is measured and recorded when comparative certification is conducted.

Audit commentary

Influx does not operate a laboratory function because their scope is limited to field installation work. Temperature is measured and recorded when comparative certification is conducted.

Audit outcome

Compliant

4.2 Use of Measurement Standards (Clause 1(F) Of Schedule 10.4)

Code related audit information

The ATH must comply with the specific requirements of the applicable standard listed in Table 5 of Schedule 10.1.

Audit observation

I checked the standards being used to confirm compliance.

Audit commentary

Influx does not conduct calibration but has ensured that all metering components certified have been type tested and calibrated to the correct standards.

Audit outcome

Compliant

4.3 Test Equipment (Clause 2 of Schedule 10.4)

Code related audit information

An ATH must, at all times, ensure that it has access to all items of equipment required for the performance of the calibrations and tests it is approved to undertake under this Part; and each item of equipment it uses is maintained in accordance with the manufacturer's recommendations and this Code. A class B ATH must have and maintain procedures for the purchase of test equipment and associated consumables.

Audit observation

Influx maintains a register of equipment, including test equipment. I confirmed this was up to date and that all relevant equipment is regularly checked and tested.

Audit commentary

Influx maintains a register of equipment, including test equipment. I confirmed this was up to date and that all relevant equipment is regularly checked and tested. Influx has seven Hioki working standards, six of these have current calibration reports and one is not currently in use and has not been calibrated. There are two further Hioki working standards which are owned and used by contractors. The contractors have supplied copies of the current calibration reports to Influx. There have been no repairs during the audit period.

A class B ATH must have and maintain procedures for the purchase of test equipment and associated consumables. The relevant process was demonstrated during the audit. The relevant consumables are seals, sealing tools and stickers.

Audit outcome

Compliant

4.4 Calibration of Reference & Working Standards (Clause 3(1)(a), (b)(i) and (6) of Schedule 10.4)

Code related audit information

An ATH must ensure that any reference standard is calibrated by an approved calibration laboratory and that any working standard is calibrated by an approved calibration laboratory or class A ATH. The calibration reports for the calibrated standards must be held by the ATH and indicate that the standard is within the manufacturer's accuracy specifications.

Audit observation

Influx currently has seven Hioki working standards in use, and I checked the most recent calibration records.

Audit commentary

Influx has seven Hioki working standards in use, and they all have current calibration reports.

Audit outcome

Compliant

4.5 Calibration Interval (Clause 3(2) of Schedule 10.4)

Code related audit information

Each reference standard or working standard must be calibrated within the applicable calibration interval set out in Table 1 of Schedule 10.4.

Audit observation

I checked Influx's working standards to confirm they had current calibration certificates.

Audit commentary

Influx ensures that the eight working standards currently used for category 2 installation certification are calibrated within the required maximum of 12 months, this was confirmed by my checks of the calibration records.

Audit outcome

Compliant

4.6 Calibration of Reference Standards (Clause 3(1)(B)(Ii), (2), (3)(C), (4) And (5) Of Schedule 10.4)

Code related audit information

Class A ATHs must ensure that in calibration of reference standards, any uncertainties are sufficiently small so that the overall uncertainty in the measurements used to test a metering installation does not exceed one third of the maximum permitted error set out in Table 1 of Schedule 10.1 for the category of metering installation that the reference standard will be used to calibrate.

If a reference standard is used in conditions that deviate from those in the calibration report, the class A ATH must calculate and apply adjustments using its own processes and procedures so that the reference standard achieves the reference conditions.

If a reference standard is used in conditions that deviate from those in the calibration report, the class A ATH must calculate and apply adjustments using its own processes and procedures so that the reference standard achieves the reference conditions.

Audit observation

Influx does not have a reference standard.

Audit commentary

Influx does not have a reference standard.

Audit outcome

Not applicable

4.7 33kv or above calibrated by an Approved Calibration Laboratory (Clause 3(3)(B) Of Schedule 10.4)

Code related audit information

Class A ATHs must ensure that a working standard on a system operating at a voltage of 33kV or above has been calibrated by an approved calibration laboratory.

Audit observation

Influx does not use HV working standards.

Audit commentary

Influx does not use HV working standards.

Audit outcome

Not applicable

4.8 Metering Component Testing System (Clause 4 of Schedule 10.4)

Code related audit information

An ATH may use a complete calibrated metering component testing system (a test bench) as an alternative to a separately calibrated working standard only if the ATH:

- calibrates the test bench as if it was a working standard

- carries out a testing system accuracy test, using approved reference standards before completing the calibration report.

Audit observation

Influx does not have a laboratory or component testing system.

Audit commentary

Influx does not have a laboratory or component testing system.

Audit outcome

Not applicable

4.9 Calibration Errors (Clause 5 of Schedule 10.4)

Code related audit information

A Standard cannot be used if the ATH believes is has a calibration error. If an error is found, then all ATH's that have used the standard must be notified. All metering installations certified using the standard must be treated as defective in accordance with Clause 10.43.

Audit observation

I checked Influx understands this requirement through interview. I checked whether this situation had occurred.

Audit commentary

Influx understands the requirements of this clause. There are no examples of standards with calibration errors.

Audit outcome

Compliant

4.10 Measurement Traceability (Clause 6 of Schedule 10.4)

Code related audit information

An ATH must document, maintain, and comply with a system that ensures, whenever it undertakes a calibration test or measurement, the ATH can replicate the test or measurement in every respect and the results of the measurements are traceable.

Audit observation

Influx conducts comparative certification, and the records contain sufficient information for the test to be replicated.

Audit commentary

Influx conducts comparative certification, and the records contain sufficient information for the test to be replicated.

Audit outcome

Compliant

4.11 Calibration Methods (Clause 7(6) of Schedule 10.4)

Code related audit information

An ATH must only use components that have been certified by an ATH or calibration laboratory.

A Class B ATH must follow 17025 calibration methods for components.

The test points must be those listed in the relevant IEC standard.

An ATH must ensure that uncertainty of measurement does not exceed one third of the error listed in the relevant IEC standard listed in Table 5.

If a CT is to be used in a Metering Installation is certified using the selected component method, then it must be tested for errors at 5% to 120% of rated current.

An ATH must have documented instructions for calibration that match the IEC standard.

Audit observation

I checked with Influx whether it calibrates components in accordance with this clause.

Audit commentary

Influx does not calibrate components.

Audit outcome

Not applicable

4.12 Data Storage Device Certification (Clause 5 of Schedule 10.8)

Code related audit information

All data storage devices must be certified before they can be used in a metering installation. The ATH must ensure that the data storage devices in a metering installation have been type tested by an approved test laboratory, that the results for data storage devices are appropriate for that model and version and have a calibration report.

Audit observation

I checked the certification records for 48 metering installations to confirm compliance.

Audit commentary

Influx certifies data storage devices in accordance with these clauses. The certification report is combined with the metering installation certification report and contains the required details. Influx provided copies of type test reports for the most common data storage devices.

Audit outcome

Compliant

4.13 Metering Component Stickers (Clause 8(1) and 8(4) of Schedule 10.8)

Code related audit information

An ATH must confirm certification by attaching a metering component certification sticker to the metering component or, if not practicable, provide the sticker with the metering component.

If an ATH certifies the metering component on the same day it certifies the metering installation that the metering component is installed in, the ATH may combine the certification stickers and attach it to the metering installation in accordance with clause 41 of Schedule 10.7.

Audit observation

I checked Influx's component stickers to confirm compliance.

Audit commentary

All component stickers are compliant with this clause. I checked photos of five installations to confirm they were correctly applied.

Audit outcome

Compliant

4.14 Metering Component Stickers (Clause 8(2) of Schedule 10.8)

Code related audit information

A metering component certification sticker must show:

- the name of the metering component owner (if available)

- if the metering component is a meter or a measuring transformer:

a) the name of the ATH or the approved calibration laboratory who calibrated the metering component

b) the name of the ATH who certified the metering component

c) the date on which the metering component was certified

d) the initials or other unique identifier of the person who carried out the certification of the metering component.

Audit observation

I checked Influx's component stickers to confirm compliance.

Audit commentary

All component stickers are compliant with this clause. I checked photos of five installations to confirm the stickers were correctly applied.

Audit outcome

Compliant

4.15 Sealing and Monitoring of Seals (Clause 9 of Schedule 10.4 & Clause 47(7) of Schedule 10.7)

Code related audit information

An ATH is required to have a documented system for applying seals to a metering installation to ensure that each metering component in the metering installation that could be expected to affect the accuracy or reliability of the metering installation is sealed. The system of sealing will ensure monitoring of the integrity of the metering installation and that unauthorised access to the metering installation will be identifiable so that the MEP can be notified.

The sealing system will identify:

- the ATH who affixed the seal

- the person (or the sealing tool) who applied the seal

- when the seal was applied.

Audit observation

I checked the quality documentation and a sample of 48 certification records to confirm compliance.

Audit commentary

Influx uses the wire and ferrule method for sealing. Nylon "wire" is used where stainless wire would not be appropriate, e.g., for the sealing of potential fuses. I confirmed the accuracy of the sealing tool register during the audit.

Audit outcome

Compliant

5. CALIBRATION AND CERTIFICATION OF METERING INSTALLATIONS

5.1 ATH Must Not Certify Metering Installations under Certain Circumstances (Clause 8(1) Of Schedule 10.7)

Code related audit information

An ATH must not certify a metering installation unless the metering installation complies with this Part.

Audit observation

I checked a sample of 48 certification records to confirm compliance.

Audit commentary

During the previous audit there was one example of a metering installation which should not have been certified as it was not confirmed as complying with part 10. The category 2 metering installation at ICP 0001408543UN780 was recertified using the comparative recertification method on 6 January 2021. The certification report recorded an absolute error and uncertainty test result of 1.97%, which included a known test equipment uncertainty of 0.284%. The meter is a Class 1 and the CTs are class 0.5, so this error means at least one of the components was operating outside its class at the time of the test, which does not comply with the Code. It is likely that the very low load at the time of testing contributed to the poor error result. The previous audit report also recommended that Influx set a pass/fail threshold for Category 2 comparative testing which takes into account the class of the metering components. For example, with Class 1 meters and Class 0.5 CTs there should not be errors greater than 1.5%. Influx has disputed this non-compliance, but I think the Code is clear and this installation is not compliant with the Code. Clause 8(2)(d) is also relevant, which requires ATHs to "ensure that each metering component in the metering installation functions correctly." I have repeated the recommendation from the previous audit. One additional example was identified during this audit where ICP 0000017180CE23D was certified despite not meeting the requirements of the Code. The total error including uncertainty of 0.513 is 1.76%, which once again is greater than 1.5%. The meter is a class 1 and the CTs are class 0.5.

Recommendation	Description	Audited party comment	Remedial action
8(1) Of Schedule 10.7	I recommend Influx sets a pass/fail threshold for Category 2 comparative testing which takes into account the class of the metering components.	Disputed. Note that existing dispute from last audit is still active. Table 1 specifically states 2.5% and that higher accuracy components can be used. Not operating outside of class as power factor could have been leading or lagging power factor and/or low load (both meter and CT affecting overall accuracy)	Not planned

Influx is also the MEP for both installations, and certification has not been cancelled despite this being raised in their MEP audit.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.1 With: 8(1) Of Schedule 10.7 From: 06-Jan-21 To: 23-Mar-22	Two ICPs have an absolute error and uncertainty test result greater than 1.5%, meaning at least one of the components is operating outside its class. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. It is likely that the accuracy measurement was affected by the low load at the time of testing and if repeated with more load accuracy would be confirmed as within limits, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Disputed. Note that existing dispute from last audit is still active. Table 1 specifically states 2.5% and that higher accuracy components can be used. Not operating outside of class as power factor could have been leading or lagging power factor and/or low load (both meter and CT affecting overall accuracy)		Disputed
Preventative actions taken to ensure no further issues will occur	**Completion date**	

5.2 Determination of Metering Categories (Clause 5 of Schedule 10.7 & Clause 10.11)

Code related audit information

An ATH is required to determine the category of the metering installation in accordance with Table 1 of Schedule 10.1 before it certifies a metering installation.

Audit observation

I checked certification records for 48 metering installations to confirm compliance.

Audit commentary

All 48 certification reports had the metering category recorded correctly.

Audit outcome

Compliant

5.3 Requirement for Metering Installation Design Report (Clause 2(4) Of Schedule 10.7)

Code related audit information

The ATH must receive a design report from the MEP before installing or modifying a metering installation or a component in a metering installation.

Audit observation

I checked the current suite of design reports and the certification records for 48 metering installations.

Audit commentary

Influx is both the MEP and the ATH. I checked the design reports and I confirm they are all compliant.

Audit outcome

Compliant

5.4 ATH Design Report Obligations (Clause 3 of Schedule 10.7)

Code related audit information

Before certifying a metering installation, the ATH must check the design report to confirm the metering installation will function as designed and that the metering installation will comply with Part 10.

The certifying ATH must update the design report with any changes and provide it to the MEP responsible for the installation within 10 days of installation certification.

Audit observation

I checked the current suite of design reports and the certification records for 48 metering installations.

Audit commentary

The design reports contain all of the required information, including configuration schemes and schematic drawings. The design report was recorded in all 48 certification records.

Four category 2 metering installations certified using the comparative recertification method did not include confirmation that burden resistors were added. This is a requirement of clause 3 of schedule 10.7, which stipulates any changes to the design must be documented and notified to the MEP within 10 business days.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.4 With: Clause 3 of Schedule 10.7 From: 01-Apr-21 To: 23-Mar-22	Changes to the design for four installations not documented. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as strong because they mitigate risk to an acceptable level. The impact on settlement and participants is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Category 2 certification form template to be updated to include notice that burden has been added	14/05/2022	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Amended form will mitigate this issue	14/05/2022	

5.5 Certification as a Lower Category (Clause 6(1) of Schedule 10.7)

Code related audit information

An ATH may determine that the metering category of a current transformer installation is lower than would otherwise be the case and certify the installation at that lower category only if:

- a protection device, like a fuse or a circuit breaker, is installed so that it limits the maximum current; or

- the MEP provides evidence from historical data that the maximum current will be lower than the current setting of the protection device for the category that metering installation is currently certified at; or

- the components in the metering installation will use less than 0.5 GWh in any 12-month period; or

- the MEP provides evidence from historical data that the installation will use less than 0.5 GWh in any 12-month period.

Audit observation

Influx has not certified any installations as a lower category.

Audit commentary

Influx has not certified any installations as a lower category.

Audit outcome

Not applicable

5.6 Use of Current Transformer Rating Lower Than Supply Capacity (Clause 6(2)(a) of Schedule 10.7)

Code related audit information

If the ATH determines the category of a current transformer metering installation is lower than would otherwise be the case and a current limiting device is used, the ATH must:

- confirm the suitability and operational condition of the protection device

- record the rating and setting of the protection device in the metering records

- seal the protection device

- apply, if practicable, a warning tag or label to the seal.

Audit observation

Influx has not certified any installations as a lower category.

Audit commentary

Influx has not certified any installations as a lower category.

Audit outcome

Not applicable

5.7 Determining Metering Installation Category at a Lower Category Using Current Transformer Rating (Clause 6(2)(b) & (d) of Schedule 10.7)

Code related audit information

The ATH may determine the metering installation category according to the metering installation's expected maximum current, if:

- there has been a request to do so from the MEP,

- the MEP provides evidence from historical data that the maximum current will be lower than the current setting of the protection device for the category that metering installation is currently certified; and

- the ATH considers it is appropriate to do so in the circumstances.

The MEP must obtain the maximum current that flows through the installation each month from the participant interrogating the installation. From this data the ATH can calculate the maximum current from the raw meter data by either calculation from the kVA by trading period if available or from a maximum current indicator if fitted. If the MEP does not receive the monthly report from the participant interrogating the installation or if the current exceeds the maximum calculated rating of the installation, the certification of the installation is automatically cancelled.

Audit observation

Influx has not certified any installations as a lower category.

Audit commentary

Influx has not certified any installations as a lower category.

Audit outcome

Not applicable

5.8 Suitability of Determination of a Metering Installation Category at a Lower Category using Current Transformer Rating (Clause 6(3) Of Schedule 10.7)

Code related audit information

Before the ATH determines a metering installation to be a lower category, the ATH must first visit the site of the metering installation to ensure it is suitable for the metering installation to be determined to be a lower category.

Audit observation

Influx has not certified any installations as a lower category.

Audit commentary

Influx has not certified any installations as a lower category.

Audit outcome

Not applicable

5.9 Use of Metering Installation Certification Methods (Clause 7(1) Of Schedule 10.7)

Code related audit information

When certifying a metering installation, the ATH must use either of the following methods:

a) the selected component certification method if the metering installation is category 1, 2, or 3; or

b) the fully calibrated certification method.

Audit observation

I checked certification records for 48 metering installations to confirm compliance.

Audit commentary

Influx uses the comparative recertification method of certification for recertification of Category 2 metering installations and the selected component method for new installations or where components are replaced. Influx has not conducted any fully calibrated certification.

Audit outcome

Compliant

5.10 Certification of a Metering Installation Using Statistical Sampling or Comparative Recertification (Clause 7(2) Of Schedule 10.7)

Code related audit information

In addition to the selected component and fully calibrated methods, the ATH may also recertify an installation using:

a) an approved statistical sampling process for category 1 metering installations; or

b) the approved comparative recertification method for a category 2 metering installation

Audit observation

Influx conducted statistical sampling for some of the Influx MEP meter fleet.

I checked certification records for 24 category 2 metering installations to confirm compliance.

Audit commentary

Influx conducted statistical sampling of a population of 988 ICPs. The sample passed testing and certification was applied for seven years. The population was selected to include meters likely to pass testing. The Code and the standard both require that the sample matches the population. I checked the detailed results and found that one meter type was included in the population but not in the sample that was tested. Originally there were 22 of these meters in the population, but at the time of the audit this number had reduced to 11. These 11 ICPs were certified by statistical sampling, but upon this issue being raised, certification was cancelled by Influx as an MEP. Non-compliance is recorded in **section 5.26**.

Influx uses the comparative method of certification for recertification of category 2 metering installations and the selected component method for new installations or where components are replaced.

Audit outcome

Compliant

5.11 Metering Installation Certification Requirements (Clause 8(3) Of Schedule 10.7)

Code related audit information

An ATH may only certify a metering installation as category 3 or higher if the metering installation incorporates a half hour meter.

Audit observation

Influx conducted certification of one Category 3 metering installation during the audit period.

Audit commentary

ICP 0001603420WME98 incorporates a HHR meter.

Audit outcome

Compliant

5.12 Certification Tests (Clause 9(1) of Schedule 10.7)

Code related audit information

An ATH, when required to carry out tests specified in Tables 3 or 4 of Schedule 10.1, must comply with the provisions of clause 9(1) of Schedule 10.7 for the following tests:

- a prevailing load test

- an installation or component configuration test

- a raw meter data output test.

A prevailing load test is defined in the Code as a test that is carried out by comparing the output of the metering installation against a working standard connected to the metering installation. For a category 2 or higher metering installation, the prevailing load check must be done against a calibrated instrument (working standard). For a category 1 metering installation industry, best practice has defined a prevailing load test as a measurement of disk revolutions or pulses compared with time and current measurements. The revolutions or pulses are compared against a table or chart to validate the accuracy of the measurement. The prevailing load check is more than simply confirming that the meter operates but is only intended to identify a "gross error" like a phase missing or reversed or a significant metering error.

If the ATH carries out an installation or component configuration test on a metering installation or a metering component, it must ensure that the test equipment configuration is the same as the metering installation or component configuration recorded in the design report.

To carry out a raw meter data output test for a category 1 metering installation or category 2 metering installation, the ATH must apply a load on each phase that is:

- *greater than 5% of the meter's maximum rated current for category 1 installations,*
- *10 amps on each phase for category 2 metering installations.*

In addition, the ATH must use either the working standard referred to in subclause (1)(a) or an ammeter in good working order with an accuracy range of +/-5% to measure the load applied to the metering installation and recording the resulting increment of the meter register value over a measured period of time or recording the resulting accumulation of pulses from the load over a measured period of time.

The ATH must also ensure that the change in the meter register that occurs under subclause (ii)(A) or (ii)(B) is at least "1" in the least significant digit, or one mark if the least significant digit does not have numerical markings.

If the meter is a Ferraris disc meter, the ATH must undertake two raw meter data output tests in which the second test must have a load applied to the meter that is at least double the load applied in the first test.

To carry out a raw meter data output test for a half-hour installation, the ATH must either compare the output from a working standard to the raw meter data from the metering installation for a minimum of 1 trading period, or if the raw meter data is to be used for the purposes of Part 15, confirm that the MEP's back-office processes include a comparison of:

- *the increment of the accumulating meter registers, and*
- *the sum of the half-hour metering raw meter data for the same period.*

Audit observation

I checked process documentation and 48 certification reports to confirm compliance.

Audit commentary

This clause was changed from 1st February 2021 introducing minimum load requirements for ATHs when conducting raw meter data tests. The minimum load required on each phase is:

- greater than 5% of the meter's maximum rated current for category 1 installations,
- 10 amps on each phase for category 2 metering installations.

When conducting a raw meter data test the code change also requires the ATH to record either:

- the resulting increment of the meter register value over a measured period of time, or
- the resulting accumulation of pulses from the load over a measured period of time.

Prior to this change there was no specified minimum load requirement, and the ATH was not required to record the increment of the meter register value or the resulting accumulation of pulses.

I checked 23 Category 1 metering installations and I found that the "tick box" for "All load checks completed" was ticked in all cases, but Influx confirmed that the "load test" is limited to ensuring the

register advances by at least one digit. The process does not include using an ammeter to measure the load applied and does not include recording the resulting increment of the meter register value over a measured period of time. Compliance is not achieved for all 23 metering installations.

Raw meter data output tests for an HHR metering installation which are category 1 or category 2 must be conducted by either:

- comparing the output from a working standard to the raw meter data from the metering installation for a minimum of one trading period, or
- confirming that the metering equipment provider's back-office processes include a comparison of the difference in the increment of the meter registers to the half-hour metering raw meter data, if the raw meter data is to be used for the purposes of Part 15.

Influx compares the output from a working standard to the raw meter data from the metering installation for a minimum of one trading period for category 2 installations, the results are recorded in the metering installation certification report. For category 1 installations Influx has received confirmation from the MEP that the comparison occurs.

Prevailing load tests must be conducted on a metering installation or metering component by using a working standard connected to the metering installation. Influx has conducted prevailing load tests in accordance with this clause using a working standard.

Installation or component configuration tests must ensure that the actual configuration scheme is the same as the scheme for the metering installation or metering component recorded in the design report. The configuration scheme is recorded on the design report and confirmed in the metering installation certification report.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.12 With: Clause 9(1)(ii)(B) of Schedule 10.7 From: 01-Feb-21 To: 23-Mar-22	ATH did not measure the load applied and record the resulting increment of the meter register value over a measured period of time when conducting a raw meter data test for all 23 Category 1 metering installations checked. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**

Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact is minor because a register advance test is conducted therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Disputed. We are recording the resulting increment of the meter register value in our new form as requested by the code. As we discussed during the audit, we feel the bigger point is why are we doing this now with modern AMI meters? If we take a step back and say what is the value of this test with AMI metering, the answer may well be very little to none. Ensuring the register is advancing will show an AMI is operating correctly. The code would have related directly to Ferraris disc meters and the possibility of damage during transit and needs to be looked at with current metering in mind. On the day of the audit this was discussed with the auditor and we agreed this point needed to be looked at. If a Ferraris disc meter is being installed, a raw meter data test recording the increment of the register, load and time taken could be added to the code. Influx would be surprised if 0.01% of meters installed in the past year were Ferraris disc meters.		Disputed
Preventative actions taken to ensure no further issues will occur	**Completion date**	

5.13 Raw Meter Data Test for All Metering Installations (Clause 9(1A) Of Schedule 10.7)

Code related audit information

If the ATH performs a raw meter data output test under sub-clause (1)(c) or sub-clause (1)(d), for a metering installation that will be certified for remote meter reading, the ATH must:

a) obtain the raw meter data from the back-office system where the raw meter data is held; or

b) ensure that the metering equipment provider responsible for the metering installation has a process to validate a meter reading taken at the time of the metering installation certification with a meter reading from the metering equipment provider's back-office system.

Audit observation

I checked documentation and 48 certification reports to confirm compliance.

Audit commentary

Influx has confirmation from the MEP that they have a back-office validation process.

Audit outcome

Compliant

5.14 Alternate Raw Meter Data Test for Category 1 And 2 Metering Installations (Clause 9(1)(C) Of Schedule 10.7)

Code related audit information

A raw meter data output test is carried out for a category 1 metering installation or category 2 metering installation by comparing a known load change against the increment of the sum of the meter registers.

Audit observation

Refer to **sections 5.12** and **5.13**.

Audit commentary

Refer to **sections 5.12** and **5.13**.

Audit outcome

Compliant

5.15 Raw Meter Data Output Test (Clause 9(2) And 9(3) Of Schedule 10.7)

Code related audit information

If the ATH performs a raw meter data output test that requires a comparison between two quantities, the ATH must not certify the metering installation unless the test demonstrates that the difference between the two quantities is within the applicable accuracy tolerances set out in Table 1 of Schedule 10.1.

Audit observation

I checked process documentation and records for 48 metering installations to confirm compliance.

Audit commentary

There were no examples of inaccurate or failed test results.

Audit outcome

Compliant

5.16 Test Results (Clause 10(1) & (2) of Schedule 10.7)

Code related audit information

An ATH must not certify a metering installation if the results of tests on the metering installation or any of its metering components find that:

- a metering component did not pass all the tests

- the metering installation did not meet the requirements for certification.

Within five business days of reviewing the tests, the ATH must advise the relevant MEP why it did not certify the metering installation.

Audit observation

I checked process documentation and records for 48 metering installations to confirm compliance.

Audit commentary

During the previous audit there was one example of a metering installation which should not have been certified as it was not confirmed as complying with part 10. The category 2 metering installation at ICP 0001408543UN780 was recertified using the comparative recertification method on 6 January 2021. The certification report recorded an absolute error and uncertainty test result of 1.97%, which included a known test equipment uncertainty of 0.284%. The meter is a Class 1 and the CTs are class 0.5, so this error means at least one of the components was operating outside its class at the time of the test, which does not comply with the Code. It is likely that the very low load at the time of testing contributed to the poor error result. The previous audit report also recommended that Influx set a pass/fail threshold for Category 2 comparative testing which takes into account the class of the metering components. For example, with Class 1 meters and Class 0.5 CTs there should not be errors greater than 1.5%. Influx has disputed this non-compliance, but I think the Code is clear and this installation is not compliant with the Code. Clause 8(2)(d) is also relevant, which requires ATHs to "ensure that each metering component in the metering installation functions correctly." One additional example was identified during this audit where ICP 0000017180CE23D was certified despite not meeting the requirements of the Code. The total error including uncertainty of 0.513% is 1.76%, which once again is greater than 1.5%. The meter is a class 1 and the CTs are class 0.5.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.16 With: Clause 10(1) & (2) of Schedule 10.7 From: 06-Jan-21 To: 23-Mar-22	Two ICPs have errors greater than 1.5%, meaning at least one of the components is operating outside its class. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**

Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. It is likely that the accuracy measurement was affected by the low load at the time of testing and if repeated with more load accuracy would be confirmed as within limits, therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Disputed. Note that existing dispute from last audit is still active. Table 1 specifically states 2.5% and that higher accuracy components can be used. Not operating outside of class as power factor could have been leading or lagging power factor and/or low load (both meter and CT affecting overall accuracy)		Disputed
Preventative actions taken to ensure no further issues will occur	**Completion date**	

5.17 Selected Component Certification (Clause 11(2) of Schedule 10.7)

Code related audit information

An ATH may only use the selected component certification method to certify a metering installation which complies with the categories and component specifications set out in Table 1 of Schedule 10.1.

Audit observation

I checked process documentation, and records for 24 metering installations to confirm compliance.

Audit commentary

Compliance is confirmed with this clause for all 24 installations.

Audit outcome

Compliant

5.18 Selected Component - Circumstances where method may be used (Clause11(3) Of Schedule 10.7)

Code related audit information

An ATH must only use the selected component certification method to certify the metering installation if:

- the required tests in Table 3 of Schedule 10.1 are carried out

- each data storage device, meter, and measuring transformer has been calibrated and certified

- each data storage device is certified in accordance with clause 5 of Schedule 10.8

- the ATH provides a certification report for the metering installation.

Audit observation

I checked process documentation, and records for 24 metering installations to confirm compliance.

Audit commentary

Certification reports were provided in all cases and all components were certified, but not all of the required tests in table 3 were conducted. None of the 23 Category 1 installations had raw meter data output tests conducted, which does not achieve compliance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.18 With: Clause 11(3) Of Schedule 10.7 From: 01-Feb-21 To: 23-Mar-22	Raw meter data output tests not conducted for 23 metering installations. 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 recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement and participants is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status

Disputed. We are recording the resulting increment of the meter register value in our new form as requested by the code. As we discussed during the audit, we feel the bigger point is why are we doing this now with modern AMI meters? If we take a step back and say what is the value of this test with AMI metering, the answer may well be very little to none. Ensuring the register is advancing will show an AMI is operating correctly. The code would have related directly to Ferraris disc meters and the possibility of damage during transit and needs to be looked at with current metering in mind. On the day of the audit this was discussed with the auditor and we agreed this point needed to be looked at. If a Ferraris disc meter is being installed a raw meter data test, recording the increment of the register, load and time taken could be added to the code. Influx would be surprised if 0.01% of meters installed were Ferraris disc meters.		Disputed
Preventative actions taken to ensure no further issues will occur	**Completion date**	

5.19 Comparative Recertification – Circumstances where method may be used (Clause 12(2) of Schedule 10.7)

Code related audit information

An ATH may only use the comparative recertification method to recertify a category 2 metering installation if:

- the certification of the current transformers in the metering installation expires before the meter certification expiry date

- each data storage device and/or meter has been calibrated and certified.

Audit observation

I checked process documentation and records for 23 metering installations to confirm compliance.

Audit commentary

The process documentation is clear, and all comparative certification reports contained confirmation that the meter was replaced by another certified meter.

Audit outcome

Compliant

5.20 Comparative Recertification Tests (Clause 12(3) And 12(5)(A) Of Schedule 10.7)

Code related audit information

An ATH must, when recertifying the category 2 metering installation using the comparative recertification metering installation certification method, ensure that:

- the metering installation has passed the tests set out in Table 3 of Schedule 10.1 using a working standard

- the accuracy of the current measurement sensor (current transformer or high accuracy Rogowski coil) enables the metering installation to meet the specified accuracy requirements of Table 1 of Schedule 10.1

- the overall metering installation accuracy meets the requirements of Table 1 of Schedule 10.1 and

- the ATH provides a certification report for the metering installation.

Audit observation

I checked process documentation and records for 23 metering installations to confirm compliance.

Audit commentary

The certification reports confirmed that appropriate testing was conducted and that the total accuracy was within the requirements of table 1. A certification report was provided for each metering installation.

Audit outcome

Compliant

5.21 Fully Calibrated – Circumstances Where Method May be Used (Clause 13(3) of Schedule 10.7)

Code related audit information

An ATH must use the fully calibrated certification method to certify the metering installation:

- by carrying out the tests set out in Table 4 of Schedule 10.1

- if each of the components (the data storage device, meter, and measuring transformer) has been calibrated and certified.

Audit observation

Influx does not conduct certification under this clause.

Audit commentary

Influx does not conduct certification under this clause.

Audit outcome

Not applicable

5.22 Fully Calibrated - Certify Each Metering Component (Clause 13(4) Of Schedule 10.7)

Code related audit information

Each individual metering component in the metering installation must have a current certification report that confirms that the metering component complies with the requirements of its accuracy class; and includes the certification date of the metering component.

Audit observation

Influx does not conduct certification under this clause.

Audit commentary

Influx does not conduct certification under this clause.

Audit outcome

Not applicable

5.23 Fully Calibrated - Additional Metering Installation Certification Report Requirements (Clause 13(5) & (6) Of Schedule 10.7)

Code related audit information

The ATH must provide a certification report for the metering installation. The certification report must include confirmation that:

- the ATH has checked the design report of the metering installation to confirm the metering installation functions in accordance with the report

- the overall metering installation accuracy meets the requirements of Table 1 of Schedule 10.1

- the accuracy of the metering installation remains within the maximum permitted error for the relevant metering installation

- each metering component in the metering installation is used only in a permitted combination as set out in table 1 of Schedule 10.1.

Audit observation

Influx does not conduct certification under this clause.

Audit commentary

Influx does not conduct certification under this clause.

Audit outcome

Not applicable

5.24 Fully Calibrated – Use Meter Class Accuracy (Clause 13(7) Of Schedule 10.7)

Code related audit information

An ATH must, before it certifies a metering installation, ensure that the ATH uses the meter class accuracy, and not the actual accuracy, to calculate whether the actual error is within the maximum permitted error.

Audit observation

Influx does not conduct certification under this clause.

Audit commentary

Influx does not conduct certification under this clause.

Audit outcome

Not applicable

5.25 Insufficient Load (Clause 14 of Schedule 10.7)

Code related audit information

Every metering installation requires a test to ensure that the installation is correctly recording the energy used at the installation. The tests required are defined in Tables 3 and 4 of Schedule 10.1. The checks range from a minimum check that the meter registers increment through to a full raw meter data output check against a working standard and a check against the back-office data for a half hour installation.

If the ATH decides to certify half hour metering installation that has insufficient load to complete a prevailing load check, the ATH must ensure that:

- it performs an additional integrity check of the metering installation wiring, and records the results of this check in the certification report

- it records in the certification report that the metering installation is certified under clause 14 of Schedule 10.7.

Once load is present and following a request from the MEP, the ATH must carry out prevailing load tests. If the tests demonstrate that the metering installation performs within the maximum permitted error, the certifying ATH must:

- update the metering installation certification report, within five business days of completing the tests, to include the results of the tests carried out

- leave the original metering installation certification expiry date unchanged.

Audit observation

Influx has not conducted insufficient load certification.

Audit commentary

Influx has not conducted insufficient load certification.

Audit outcome

Not applicable

5.26 Statistical Sampling (Clause 16 of Schedule 10.7)

Code related audit information

A group of meters can be sampled by the ATH and the results of the sample group can be extended to a larger group of the same meters. This is a process of certification by statistical sampling. The ATH must select a sample using a statistical sampling process that is:

- detailed in AS/NZS1284 (or approved and published by the Authority)

- recertify the group by recertifying each metering installation in the sample using the fully calibrated certification method

- advise the MEP as soon as reasonably practicable whether the sample passes or fails the recertification requirements.

If the ATH carries out a statistical sampling process when recertifying a group of category 1 metering installations on behalf of an MEP, it must document and record:

- the process it follows for selecting samples

- any assumptions about those samples

- the metering installations in the sample

- the metering installations in the recertified group.

An ATH that recertifies a group of metering installations using a statistical sampling process does not need to apply a certification sticker to the remainder of the metering installations in the family or group that was sample tested.

If the group meets the recertification requirements, the ATH must use the maximum validity period set out in Table 5 of AS/NZS 1284 as the certification validity period for each metering installation in the group.

Audit observation

Influx conducted statistical sampling of a population of 988 ICPs. I checked the results in detail to ensure compliance.

Audit commentary

Influx conducted statistical sampling of a population of 988 ICPs. The sample passed testing and certification was applied for seven years. The population was selected to include meters likely to pass testing. The Code and the standard both require that the sample matches the population. I checked the detailed results and found that one meter type was included in the population but not in the sample that was tested. Originally there were 22 of these meters in the population, but at the time of the audit this number had reduced to 11. These 11 ICPs were certified by statistical sampling, but upon this issue being raised, certification was cancelled by Influx as an MEP.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.26 With: Clause 16 of Schedule 10.7 From: 22-Oct-21 To: 22-Oct-21	The sample did not match the population when statistical sampling certification was applied on 22/10/21. One meter type was in the population but not in the sample. Potential impact: Medium Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement and participants is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
As per MEP audit, this meter type was withdrawn from the sample and the certification for this meter type cancelled.	14/04/2022	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Meter type withdrawn and certification cancelled for the 11 ICP's.	14/04/2022	

5.27 Statistical Sampling - Certification Method (Clause 7(3) Of Schedule 10.7)

Code related audit information

If the ATH uses statistical sampling, it must use either the selected component method or the fully calibrated method, as applicable, to certify each metering installation in the sample.

Audit observation

Influx conducted statistical sampling of a population of 988 ICPs. I checked the results in detail to ensure compliance.

Audit commentary

All installations were recertified using the selected component method.

Audit outcome

Compliant

5.28 Certification Validity Periods (Clause 17 of Schedule 10.7)

Code related audit information

A metering installation certification expiry date is the earliest of:

a) the date of commissioning plus the maximum certification validity period for the relevant category of metering installation, as set out in Table 1 of Schedule 10.1; or

b) the earliest metering component certification expiry date; or

c) a date determined by the ATH if the ATH believes that the circumstances and condition of the components in a metering installation warrant deviation from Table 1 of Schedule 10.1.

The expiry date for a metering installation in a group recertified using a statistical sampling process, is the earliest expiry date of the metering installations in the sample.

Audit observation

I checked 48 metering installation certification records to confirm compliance.

Audit commentary

The certification and expiry dates were correctly recorded in all 48 of the metering installation certification reports.

Audit outcome

Compliant

5.29 Metering Installation Accuracy (Clause 21 of Schedule 10.7)

Code related audit information

An ATH must, before it certifies a metering installation, ensure that the metering installation does not exceed the relevant maximum permitted error after the application of any external compensation factors.

Audit observation

I checked 48 metering installation certification records to confirm compliance.

Audit commentary

The process documentation stipulates the maximum permitted errors for certification. I checked a sample of certification records that confirmed this was being applied correctly.

Audit outcome

Compliant

5.30 Error Calculation (Clause 22 of Schedule 10.7)

Code related audit information

If a metering installation is certified using the comparative recertification or fully calibrated methods, the ATH must calculate and record the percentage of overall error of the metering installation. The ATH must calculate this using appropriate mathematical methods that include:

- all sources of measurement error including test instrument errors, reference standard variations when used in conditions that deviate from those in the calibration report, variations in repeated observations, the instrument resolution or discrimination threshold and any assumptions incorporated in the measurement method and procedure

- the error calculation must include the uncertainty in the measurement at a 95% level of confidence using JCGM 100:2008

- the error and its calculation must be recorded in the certification report.

The ATH must not certify the metering installation if the uncertainty is greater than the maximum permitted site uncertainty or the combined error that includes the measured error and the uncertainty, is greater than the maximum permitted installation error.

Audit observation

I checked 23 metering installation certification records and discussed the process for error calculation.

Audit commentary

Influx's methodology includes the uncertainty associated with the working standards and clamps, plus consideration of temperature. The technician measures the ambient temperature on-site and this is recorded in the metering installation certification report. The certification report calculates the total uncertainty based on the working standard uncertainty which has been derived from the most recent calibration report and the influence of temperature. The total error including uncertainty is recorded in the metering installation certification report. The calculation methodology is compliant.

Audit outcome

Compliant

5.31 Compensation Factors (Clause 24(1)(b) of Schedule 10.7)

Code related audit information

Before it certifies a metering installation that requires a compensation factor to adjust raw meter data, the ATH must:

- advise the MEP of the compensation factor

- ensure that the compensation factor that will be applied to raw meter data external to the metering installation is applied as follows:

a) for ratio compensation, on a category 1 metering installation or higher category of metering installation; or

b) for error compensation, on a metering installation that quantifies electricity conveyed through a point of connection to the grid; or

c) for loss compensation, only on a category 3 or higher metering installation.

Audit observation

I checked 48 metering installation certification records, and process documentation.

Audit commentary

Influx has a documented process for the management of compensation factors (multipliers). The testing procedures for category 2 metering installations provide confirmation of the multiplier and CT ratio, the multiplier is recorded on the metering installation certification report. Influx only deals with multipliers, not loss or error compensation factors. The compensation factor was correctly recorded in all 48 certification records checked.

Audit outcome

Compliant

5.32 Record Metering Installation Compensation Factor (Clause 24(2) Of Schedule 10.7)

Code related audit information

If a compensation factor is applied to a metering installation, the ATH must record in the certification report, the methodology, assumptions, measurements, calculation and details of each compensation factor that is included within the internal configuration of the metering installation and each compensation factor that must be applied to the raw meter data.

Audit observation

I checked 48 metering installation certification records, and process documentation.

Audit commentary

Influx has a documented process for the management of compensation factors (multipliers). The testing procedures for category 2 metering installations provide confirmation of the multiplier and CT ratio, the multiplier is recorded on the metering installation certification report. Influx only deals with multipliers, not loss or error compensation factors. The compensation factor was correctly recorded in all 48 certification records checked.

Audit outcome

Compliant

5.33 Installation of Metering Components (Clause 25 of Schedule 10.7)

Code related audit information

Before it certifies a metering installation, the ATH must ensure that the installation of the metering components was carried out by an ATH. However, a suitably qualified person such as a switchboard manufacturer may install the measuring transformers and any required associated burden, the test facilities, potential fuses and switchboard wiring.

Before it certifies a metering installation, the ATH must ensure that each metering component is installed in accordance with the installation design report.

Audit observation

I checked process documentation and conducted a walk-through of the process.

Audit commentary

This clause is designed to allow switchboard manufacturers to install measuring transformers in switchboards at the time of manufacture. This clause does not allow the installation of meters or data loggers. Influx has a documented process to ensure compliance with this clause. Only CTs and test blocks are supplied, not meters.

Audit outcome

Compliant

5.34 Determine Metering Installation Certification Expiry Date (Clause 27(1) & (2) Of Schedule 10.7)

Code related audit information

The ATH needs to determine the meter certification expiry date for each meter in a metering installation. The meter certification expiry date must be the earliest end date of the following periods, calculated from the date of commissioning of the metering installation:

a) the maximum metering installation certification validity period for the relevant category of metering installation; or

c) the certification period specified in the meter certification report.

Audit observation

I checked 48 certification records to confirm compliance.

Audit commentary

The meter commissioning date and expiry date was correctly recorded in all 48 of the metering installation certification records.

Audit outcome

Compliant

5.35 Meter Certification Shelf Life (Clause 27(4) Of Schedule 10.7)

Code related audit information

If a meter is not installed in a metering installation within 24 months of the date of the meter's certification report, the meter must be recertified before it is installed.

Audit observation

I checked 48 certification records to confirm compliance.

Audit commentary

Influx understands the requirements of this clause and ensures that all meters are certified at the time of installation.

Audit outcome

Compliant

5.36 Measuring Transformers Must Be Certified (Clause 28(2) Of Schedule 10.7)

Code related audit information

All measuring transformers must be certified before they can be used in a metering installation. If a measuring transformer has previously been used in another metering installation, the ATH must ensure that the measuring transformer has been recalibrated since it was removed from the previous metering installation. This must be undertaken either by an approved calibration laboratory or an ATH.

Audit observation

I checked 24 certification records to confirm compliance.

Audit commentary

All of the installations had certified measuring transformers. Influx has a clear understanding of this requirement.

Audit outcome

Compliant

5.37 Measuring Transformers Used in a Certified Metering Installation (Clause 28(4) Of Schedule 10.7)

Code related audit information

To certify any metering installation incorporating measuring transformers, the ATH must ensure that:

- the installation has certified measuring transformers

- the installation has a test facility which has provision for isolation, installed as physically close to the meter as practical in the circumstances

- the test facility is fitted with a transparent cover

- the installation has securely mounted measuring transformers which are, if practicable, in a sealed enclosure

- the maximum permitted error is calculated in accordance with clause 22 for the fully calibrated certification method or the comparative recertification method

- any voltage supplies from a voltage transformer to a meter or that other equipment in the metering installation is protected by appropriately rated fuses or circuit breakers dedicated to the supply. All fuses and circuit breakers must be suitably sealed or located in sealed enclosures,

- the measuring transformer's secondary circuit is earthed and that it is earthed at no more than one point

- the total in-service burden (magnitude and phase angle, where appropriate), complies with clause 31.

Audit observation

I checked 24 certification records, including photos for some installations, and process documentation to confirm compliance.

Audit commentary

The process documentation and design reports stipulate all of the requirements above. The certification reports confirmed compliance with regard to certification. Photos confirmed transparent covers were used.

When certifying category 2 installations burden testing is conducted and the results are recorded in the metering installation certification report. The process and certification reports specify that the in-service burden must be within the range of the current transformer. If the in-service burden is found to be lower than the burden range for the current transformer burden resistors are installed to increase the burden and the burden tests are repeated. The in-service burden was within the burden range for the current transformer in all 24 records checked.

Audit outcome

Compliant

5.38 Measuring Transformer Certification Expiry Date (Clause 29 of Schedule 10.7)

Code related audit information

The ATH needs to determine the measuring transformer certification expiry date for each measuring transformer in a metering installation. The measuring transformer certification expiry must be within the validity period specified in the measuring transformer certification report.

Audit observation

I checked 24 certification records to confirm compliance.

Audit commentary

Current transformers are either supplied by TWS with a certification date and a validity period, or they are certified by Influx. All dates were correctly recorded.

Audit outcome

Compliant

5.39 Other Equipment Connected to Measuring Transformers (Clause 30 of Schedule 10.7)

Code related audit information

If the ATH certifies a metering installation incorporating a measuring transformer used by another metering installation, it must ensure that where voltage transformers are connected to more than one meter:

- the meters are included in the metering installation being certified

- appropriate fuses or circuit breakers are provided to protect the metering circuit from short circuits or overloads affecting the other meter.

While it is desirable that only metering equipment is connected to measuring transformers in a metering installation if, in some circumstances, the MEP connects other equipment to measuring transformers, the ATH must ensure that:

- the accuracy of the metering installation remains within the maximum permitted error for the relevant metering installation category

- the metering installation certification report confirms that the accuracy of the metering installation remains within the maximum permitted error for the relevant metering installation

- any wiring between the equipment and any part of the metering installation is continuous

- the equipment is labelled appropriately, including with any de-energisation restrictions

- the connection details of the other equipment are recorded in the metering installation design report

- there are appropriate fuses or circuit breakers provided to protect the voltage transformer and metering circuit from short circuits or overloads affecting the other equipment.

Audit observation

I checked whether the situation arises where other equipment is connected to measuring transformers.

Audit commentary

This scenario is not likely to occur with the scope of the Influx ATH operation, and no examples were available to review.

Audit outcome

Compliant

5.40 Burden & Compensation (Clause 31 of Schedule 10.7)

Code related audit information

An ATH may certify a metering installation for a POC to the grid that includes error compensation factors as an alternative to the use of burden resistors only if the ATH is satisfied the error compensation factors will provide a more accurate result than the use of burden resistors.

An ATH may change the burden on a voltage transformer, without obtaining the approval of the MEP, if the ATH confirms in the certification report that the difference between the new burden and the burden at the time of the most recent metering installation certification is:

a) less than or equal to 1/30th of the VA rating of the voltage transformer, if the voltage transformer is rated at less than 30 VA; or

b) no greater than 1 VA, if the voltage transformer is rated at equal to or greater than 30 VA.

Before it certifies a metering installation incorporating a measuring transformer:

- *ensure that the in-service burden does not exceed the upper limit of the range specified for the measuring transformer, if specified in the design report for the metering installation.*
- *ensure that the in-service burden on the measuring transformer is within the range specified in the certification report by installing burdening resistors, if necessary,*
- *confirm that a class A ATH has confirmed by calibration that the accuracy of the measuring transformer will not be adversely affect by the in-service burden being less than the lowest burden test point specified in the standard, if the primary voltage of the measuring transformer is greater than 1kV,*
- *confirm that the measuring transformer's manufacturer has confirmed that the accuracy of the measuring transformer will not be adversely affected by the in-service burden being less than the lowest burden test point specified in the standard.*

Audit observation

I checked processes and the records for 24 metering installations to confirm compliance.

Audit commentary

When certifying category 2 installations burden testing is conducted and the results are recorded in the metering installation certification report. The process and certification reports specify that the in-service burden must be within the range of the current transformer. If the in-service burden is found to be lower than the burden range for the current transformer burden resistors are installed to increase the burden and the burden tests are repeated. The in-service burden was within the burden range for the current transformer in all 24 records checked.

Audit outcome

Compliant

5.41 Alternative Certification (Clause 32(1) of Schedule 10.7)

Code related audit information

If the ATH cannot comply with the requirements for certifying a measuring transformer solely due to the inability to obtain physical access to test the measuring transformers, it can certify the metering installation for a period not exceeding 24 months only if:

- the measuring transformer has not previously been certified due to failure to obtain access

- the ATH is satisfied that the metering installation will comply with the applicable accuracy requirements

- the ATH has advised the MEP that the metering installation has been certified by this method

- the MEP has advised the registry of the certification, if the ICP is not an NSP.

Audit observation

Influx has not applied alternative certification.

Audit commentary

Influx has not applied alternative certification.

Audit outcome

Not applicable

5.42 Installations Incorporating Control Devices (Clause 33(2) of Schedule 10.7)

Code related audit information

Before the ATH can certify a metering installation incorporating a control device that must be certified, it must ensure:

- that the certification expiry date for each control device is the same as the metering installation certification expiry date and record that date in the installation certification report

- that the control device complies with the applicable standards listed in Table 5 of Schedule 10.1

- the control device is fit for purpose

- if the metering installation contains a control device that has previously been used in another metering installation, that the control device is still fit for service.

- that the control device is:

a) likely to receive control signals

b) correctly connected

c) correctly programmed.

Audit observation

I checked certification records for 10 metering installations to confirm compliance.

Audit commentary

Influx is certifying control devices and correctly applying stickers. The control device certification expiry date is correctly recorded in the installation certification report.

Audit outcome

Compliant

5.43 Control Device Reliability (Clause 34(1) & (3) to (5) of Schedule 10.7)

Code related audit information

In order to ensure control device accuracy or the completeness of reconciliation information, the ATH must determine the likelihood of the control device not receiving control signals before it certifies a metering installation incorporating a control device.

If the ATH believes the likelihood of the control device not receiving control signals would affect the accuracy or completeness of the information for consumption reconciliation, the ATH may certify the remainder of the metering components and the installation, excluding the control device. The ATH must advise the MEP within three business days of its decision. The MEP is then responsible for advising both the reconciliation participant for the POC for the metering installation and the control signal provider of the ATH's determination.

Audit observation

I checked correspondence in relation to this matter to determine compliance.

Audit commentary

As an ATH and MEP, Influx has good information of areas with signal propagation issues and appropriate instructions are provided to contractors.

Audit outcome

Compliant

5.44 Data Storage Devices (Clauses 36(2) of Schedule 10.7)

Code related audit information

If a data storage device has previously been used in another metering installation, the ATH must ensure that the data storage device has been recalibrated since it was removed from the previous metering installation by an approved calibration laboratory, an approved test laboratory, or an ATH.

Audit observation

I checked processes and the records for 48 metering installations to confirm compliance.

Audit commentary

All data storage devices are integrated with the meters and are recertified prior to being reinstalled.

Audit outcome

Compliant

5.45 Data storage device requirements (Clause 38(1) and (2) of Schedule 10.7 and clause 5(1) of Schedule 10.8)

Code related audit information

An ATH must ensure that each data storage device in the metering installation:

- is installed so that on-site interrogation is possible without the need to interfere with seals

- has a dedicated power supply unless the data storage device is integrated with another metering component

- is compatible with each other metering component of the metering installation

- is suitable for the electrical and environmental site conditions in which it is installed

- has all of its outputs and inputs appropriately electrically isolated and rated for purpose

- has no outputs that will interfere with the operation of the metering installation

- records periods of data identifiable or deducible by both date and time on interrogation

- has memory capacity and functionality that is suitable for the proposed functions of the data storage device specified in the design report for the metering installation

- has availability of memory for a period that is suitable for the proposed functions as set out in the design report for the metering installation, and at least for a minimum continuous period of 15 days.

The data storage device must have an event log which records the following:

a) loss of power supply

b) critical internal alarms

c) meter phase failure if integral to the meter

d) software configuration changes

e) a record of time changes.

Audit observation

I checked processes and the records for 48 metering installations to confirm compliance.

Audit commentary

All of the points above apart from the point regarding environmental suitability are covered by the type test reports. Influx has appropriate instructions for the identification and recording of unsuitable environments.

Audit outcome

Compliant

5.46 Location of Metering Installation Certification Stickers (Clause 41(1) and 41(9) of Schedule 10.7)

Code related audit information

An ATH must confirm the metering installation certification by attaching a metering installation certification sticker as close as possible to the meter, while maintaining reasonable visibility of the certification sticker and the meter.

When attaching a metering installation certification sticker, the ATH must remove or obscure any invalid or expired certification stickers.

Audit observation

I checked the photos for five metering installations to confirm compliance.

Audit commentary

In all cases, the certification stickers contained the appropriate detail and were correctly applied. Old certification stickers are either removed or obscured.

Audit outcome

Compliant

5.47 Alternate Location of Metering Installation Certification Sticker (Clause 41(4) Of Schedule 10.7)

Code related audit information

If attaching a certification sticker is not practicable, the ATH must devise and use an alternative means of documenting the information and keep any metering component certification sticker with the documented information.

Audit observation

I checked with Influx whether this scenario had arisen.

Audit commentary

This scenario has not arisen and is unlikely to arise.

Audit outcome

Not applicable

5.48 Contents of Metering Installation Certification Sticker (Clause 41(2) Of Schedule 10.7)

Code related audit information

The metering installation certification sticker must show:

- the name of the ATH who certified the metering installation

- the certification date of the installation

- the metering installation category

- the ICP

- the certification number for the metering installation.

Audit observation

I checked the photos for five metering installations to confirm compliance.

Audit commentary

In all cases, the certification stickers contained the appropriate detail and were correctly applied.

Audit outcome

Compliant

5.49 Combining certification stickers (Clause 41(5) – Clause 41(8) of Schedule 10.7)

Code related audit information

If an ATH certifies a metering component on the same day that the ATH certifies the metering installation, the ATH may combine the metering installation certification sticker with the metering component certification sticker.

If the certification sticker is combined, the ATH must:

- *ensure that the combined sticker shows all the information required by subclause (2) and clause 8(2) of Schedule 10.8,*
- *meet the requirements of subclauses (1), (3) and (4), as if the combined sticker were a metering installation certification sticker.*

The combined sticker is immediately invalid if:

- *the metering installation certification expiry date changes; or*
- *a metering component to which the combined certification sticker relates is removed from the metering installation.*

Audit observation

Influx has not used a combined metering installation and component sticker.

Audit commentary

Influx has not used a combined metering installation and component sticker.

Audit outcome

Compliant

5.50 Enclosures (Clause 42 of Schedule 10.7)

Code related audit information

An ATH must, before it certifies a metering installation, ensure that, if a metering component in the metering installation is housed in a separate enclosure from the meter enclosure, the enclosure is appropriate to the environment in which it is located and has a warning label attached stating that the enclosure houses a metering component.

Audit observation

I checked the photos for five metering installations to confirm compliance.

Audit commentary

Although this clause only refers to enclosures other than the metering enclosure, I have considered this clause to apply to metering enclosures as well.

The photos for five metering installations showed that all enclosures were appropriate for the environment, and the Influx certification sticker has an appropriate warning. Influx reviews photos of all installations to confirm enclosure suitability.

Audit outcome

Compliant

5.51 Metering Component Certification (Clause 43(1) of Schedule 10.7)

Code related audit information

Before certifying an installation, the ATH must ensure that each component has been certified by an ATH and has been stored appropriately since component certification.

Audit observation

I checked the processes for storage of components, and the records for 48 metering installations to confirm compliance.

Audit commentary

Influx has appropriate arrangements for storage and transportation.

Audit outcome

Compliant

5.52 Sealing Requirements (Clause 47(2) (3) (4) and (5) Of Schedule 10.7)

Code related audit information

Before an ATH certifies a metering installation or leaves it unattended, the ATH must ensure that each metering component that could reasonably be expected to affect the accuracy or reliability of the metering installation is sealed.

The metering components which must be sealed include:

- each part and connection of a data storage device in, or attached to, the metering installation except for a port for on-site reading that is not capable of carrying out any other function

- the main switch cover, if the main switch:

a) is on the supply side of the metering installation

b) has provision for sealing.

Audit observation

I checked process documentation, design reports and the photos for five metering installations to confirm compliance.

Audit commentary

The process documentation achieves compliance with all of the requirements above. Main switches are sealed where this is possible using paper seals. I confirmed the sealing tool number for three technicians were correctly recorded in the sealing tool register, enabling tracking of the persons who apply any given seal. The date of application of seals is recorded in the metering installation certification record.

Audit outcome

Compliant

5.53 Seals for Metering Component Enclosures (Clause 47(6) Of Schedule 10.7)

Code related audit information

When applying a seal to a metering component in an enclosure, the ATH must attach a warning label in a prominent position inside the enclosure.

Audit observation

I checked process documentation, design reports and the photos for five metering installations to confirm compliance.

Audit commentary

The process documentation, design reports and the photos for five metering installations confirm compliance. The warning label is installed in a prominent position.

Audit outcome

Compliant

5.54 Requirements for Sealing System (Clause 47(7) Of Schedule 10.7)

Code related audit information

An ATH must use a sealing system that enables identification of:

- the ATH who affixed the seal

- the person (or the sealing tool) who applied the seal

- when the seal was applied.

Audit observation

I checked process documentation, design reports and the photos for five metering installations to confirm compliance.

Audit commentary

The process documentation, design reports and the photos for five metering installations confirm compliance. The certification records contain the relevant details required by this clause. The sealing tool register was confirmed as accurate and up to date.

Audit outcome

Compliant

5.55 Removal or Breakage of Seals (Clause 48(6) of Schedule 10.7)

Code related audit information

When the ATH investigates an unauthorised removal or breakage, it must assess the accuracy and continued integrity of the metering installation. If the ATH considers the accuracy and continued integrity is unaffected, it must replace the removed or broken seals.

If the accuracy and continued integrity is affected, the ATH must replace the removed or broken seal and advise the MEP that the metering installation is potentially inaccurate, defective, or not fit for purpose.

Audit observation

I checked the process documentation and reporting form for compliance.

Audit commentary

Influx has appropriate instructions in relation to this requirement, and there is the ability to record this information on the commissioning record for the installation.

Audit outcome

Compliant

5.56 Wiring (Clause 6 of Schedule 10.8)

Code related audit information

An ATH must, before it certifies a metering installation, ensure that all wiring in the metering installation is suitable for the environment in which the metering installation is located, fit for purpose, securely fastened, and compliant with all applicable requirements and enactments.

The ATH must ensure that the wiring between metering components in the metering installation:

- is run as directly as practicable

- is appropriately sized and protected

- does not, to the extent practicable, include intermediate joints for any measuring transformer circuits

- includes conductors that are clearly and permanently identified, by the use of any one or more of the following:

a) colour coding

b) marker ferrules

c) conductor numbering.

If it is not practicable to exclude intermediate joints for any measuring transformer circuits, the ATH must ensure that the intermediate joints are sealed or in a sealed enclosure.

Audit observation

I checked process documentation, design reports and the certification records for 24 metering installations to confirm compliance.

Audit commentary

The process documentation, design reports and certification records confirm compliance. The technicians confirm that the wiring matches the design report via a check box in the metering installation certification report.

Audit outcome

Compliant

5.57 Fuses and Circuit Breakers (Clause 7 of Schedule 10.8)

Code related audit information

An ATH must, before it certifies a metering installation, ensure that all fuses and circuit breakers that are part of the metering installation are appropriately rated for the electrical duty and discrimination required, clearly labelled and sealed or located in sealed enclosures.

Audit observation

I checked process documentation, design reports and the certification records for 24 metering installations to confirm compliance.

Audit commentary

The process documentation, design reports and certification records confirm compliance. The technicians confirm that the metering installation matches the design report in the metering installation certification report.

Audit outcome

Compliant

5.58 Calibration of Metering Components Where Relevant (Clause 7(1) Of Schedule 10.4)

Code related audit information

Before the ATH certifies a metering installation or metering component, it must ensure that the metering components have been calibrated by an approved calibration laboratory or an ATH with appropriate approval under Schedule 10.3.

Audit observation

I checked process documentation, design reports and 48 certification reports to confirm compliance.

Audit commentary

All certified components have calibration reports and stickers.

Audit outcome

Compliant

5.59 Requirement for Calibration of Metering Components (Clause 7(2) Of Schedule 10.4)

Code related audit information

Before the ATH certifies a metering component it must ensure that the component is calibrated or adjusted under the physical and electrical conditions specified in Table 5 of schedule 10.1 and the conditions permit the calculation of uncertainties at the reference conditions.

Audit observation

I checked process documentation, design reports and 48 certification reports to confirm compliance.

Audit commentary

All certified components have calibration reports and stickers.

Audit outcome

Compliant

5.60 Metering Component Calibration Method (Clause 7(3) Of Schedule 10.4)

Code related audit information

A class B ATH must follow the relevant requirements of ISO17025 for calibration of components and only use methodologies that have been verified in their most recent audit.

Audit observation

Influx's Class B ATH does not calibrate components.

Audit commentary

Influx's Class B ATH does not calibrate components.

Audit outcome

Not applicable

5.61 Metering Component Calibration Test Points (Clause 7(4) Of Schedule 10.4)

Code related audit information

If the ATH calibrates a component, it must ensure that the test points that it uses are either:

- no less than the test points in Table 5 of Schedule 10.1 or

- sufficient to calculate the metering installation error as defined in clause 22 of Schedule 10.7.

Audit observation

Influx's Class B ATH does not calibrate components.

Audit commentary

Influx's Class B ATH does not calibrate components.

Audit outcome

Not applicable

5.62 Determine Metering Component Error and Record (Clause 7(5) Of Schedule 10.4)

Code related audit information

An ATH must, when calibrating a metering component:

- if necessary, adjust and document the error compensation

- ensure that any adjustment carried out is appropriate to achieve an error as close as practicable to zero

- ensure that the uncertainty of measurement during the calibration of the metering component does not exceed one third of the maximum permitted error in the relevant standard listed in Table 5 of Schedule 10.1.

If the metering component is intended for a metering installation which will be certified using the selected component certification method, the ATH must ensure that the ATH records the errors of a current transformer from 5 % to 120 % of rated primary current.

Audit observation

Influx's Class B ATH does not calibrate components.

Audit commentary

Influx's Class B ATH does not calibrate components.

Audit outcome

Not applicable

5.63 Class B ATH Calibrating Metering Components (Clause 2(3) Of Schedule 10.3)

Code related audit information

If a class B ATH wishes to calibrate components (such as class 0.5 meters, class 1 meters, class 2 meters, class 0.5 current transformers, and class 1.0 current transformers) this must be carried out under the relevant provisions and methodologies of ISO 17025. The final audit report must include a list of all relevant requirements of ISO 17025 for calibrating these metering components and all relevant methodologies audited.

Audit observation

Influx's Class B ATH does not calibrate components.

Audit commentary

Influx's Class B ATH does not calibrate components.

Audit outcome

Not applicable

5.64 Meter Certification (Clause 1 of Schedule 10.8)

Code related audit information

All meters must be certified before they can be used in a metering installation. The ATH must ensure that the meters in a metering installation have been type tested by an approved test laboratory, that the results for the meter are appropriate for that meter model and version and have a calibration report.

Audit observation

I checked the certification records for 48 metering installations and Influx's database to confirm compliance.

Audit commentary

Influx certifies meters in accordance with this clause. Influx provided copies of type test reports for the most commonly used meters.

Audit outcome

Compliant

5.65 Meter Requirements When Meter Is Relocated (Clause 26(2) Of Schedule 10.7 and Clause 43(2) Of Schedule 10.7)

Code related audit information

If a meter has previously been used in another metering installation, the ATH must ensure that the meter has been recalibrated since it was removed from the previous metering installation by an approved calibration laboratory or an ATH unless it is less than 12 months since the meter was commissioned in the previous installation.

Audit observation

I checked processes and the records for 48 metering installations to confirm compliance.

Audit commentary

Influx ensures that all meters are calibrated by a class A ATH prior to being reinstalled.

Audit outcome

Compliant

5.66 Measuring Transformer Error Testing (Clause 2(1)(A) & (B) Of Schedule 10.8)

Code related audit information

Before certifying a measuring transformer, an ATH must test the measuring transformer's errors at a range of primary values at their rated burdens. If the measuring transformer is a multi-tap current transformer, an ATH must carry out the calibration tests and only certify the transformer for the ratios that have been calibrated.

Audit observation

I checked two ICPs where selected component certification was conducted and measuring transformers were certified.

Audit commentary

Calibration reports confirm compliance with this clause.

Audit outcome

Compliant

5.67 Measuring Transformer Certification (Clause 3 of Schedule 10.8)

Code related audit information

Before it certifies a measuring transformer, the ATH must ensure that:

- the measuring transformer has a current calibration report issued by an approved calibration laboratory or an ATH approved to carry out calibration

- the measuring transformer calibration report:

- confirms that the measuring transformer complies with the standards listed in Table 5 of Schedule 10.1

- records any tests the ATH has performed to confirm compliance

- confirms that the measuring transformer has passed the tests

- records any recommendations made by the ATH on error compensation

- includes any manufacturer's calibration test reports.

The ATH is required to produce a measuring transformer certification report that includes:

- the date on which it certified the measuring transformer

- the certification validity period for the measuring transformer, which must be no more than 120 months

- whether the certification was based on batch test certificates

- if the certification was based on batch test certificates, confirmation that the manufacturer's batch testing facility is, in the ATH's opinion, of an acceptable standard

- the range that the in-service burden must be within

The ATH must provide confirmation that the ATH has inspected the manufacturer's test certificates, and carried out any additional tests it considers necessary, to satisfy itself that the measuring transformer meets the accuracy requirements.

Audit observation

I checked two ICPs where selected component certification was conducted and measuring transformers were certified.

Audit commentary

Calibration reports were available and checked for these two metering installations, confirming compliance with the relevant parts of this clause.

The only issue identified is that the burden range is not clearly recorded. There is a statement with the following wording: *"Note: Calculated VA Full Load must be above 25% of the installed CTs VA rating. For example, 5VA > 1.25VA; 10VA > 2.5VA & 15VA > 3.75 VA and no more than the rated VA, unless exempt."* This does not achieve the requirements of the Code, which are specific and require recording of *"…the range, including highest and lowest values, that the in-service burden must be within".* This means specific recording of the range for each set of CTs. For example, "1.25 VA to 5.0 VA". The statement regarding CTs which are exempt is not sufficiently clear. These CTs should also have specific details of the lowest and highest VA figures.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.67 With: Clause 3 of Schedule 10.8 From: 01-Apr-21 To: 23-Mar-22	Burden range is not sufficiently clear when CTs are certified. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	This clause has several parts to it and the burden range is only one of a number of requirements. The controls are strong for most parts and Influx has documented the expectations in relation to the burden range, but it's not strictly compliant, therefore the controls are recorded as strong. The impact on settlement and participants is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Disputed. As per our certification report we specify the range as "Full Load must be above 25% of the installed CTs VA rating, 5VA > 1.25VA; 10VA > 2.5VA & 15VA > 3.75 VA and no more than the rated VA"		Disputed
Preventative actions taken to ensure no further issues will occur	**Completion date**	

5.68 Measuring Transformers in service burden range (Clause 2(1)(E) Of Schedule 10.8)

Code related audit information

Before certifying a measuring transformer, the ATH must determine the range that the in-service burden must be within to ensure the measuring transformer remains accurate, by using one or more of the following:

- *the measuring transformer's nameplate rating*

- *the calibration report for the measuring transformer*
- *the manufacturer's documentation for the measuring transformer*
- *the standard set out in Table 5 of Schedule 10.1 the measuring transformer was manufactured to.*

Audit observation

I checked two ICPs where selected component certification was conducted and measuring transformers were certified.

Audit commentary

I found the burden range is not clearly recorded. There is a statement with the following wording: "Note: Calculated VA Full Load must be above 25% of the installed CTs VA rating. For example, 5VA > 1.25VA; 10VA > 2.5VA & 15VA > 3.75 VA and no more than the rated VA, unless exempt." This does not achieve the requirements of the Code, which are specific and require recording of "…the range, including highest and lowest values, that the in-service burden must be within". This means specific recording of the range for each set of CTs. For example, "1.25 VA to 5.0 VA". The statement regarding CTs which are exempt is not sufficiently clear. These CTs should also have specific details of the lowest and highest VA figures.

Audit outcome

Non-compliant

Non-compliance	**Description**
Audit Ref: 5.68 With: Clause 2(1)(E) Of Schedule 10.8 From: 01-Apr-21 To: 23-Mar-22	Burden range is not sufficiently clear when CTs are certified. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Influx has documented the expectations in relation to the burden range, but it's not strictly compliant, therefore the controls are recorded as moderate. The impact on settlement and participants is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	**Completion date**	**Remedial action status**

Disputed. As per our certification report we specify the range as "Full Load must be above 25% of the installed CTs VA rating, 5VA > 1.25VA; 10VA > 2.5VA & 15VA > 3.75 VA and no more than the rated VA"		Disputed
Preventative actions taken to ensure no further issues will occur	**Completion date**	

5.69 Measuring Transformer - Epoxy Insulated (Clause 2(2) Of Schedule 10.8)

Code related audit information

Before it certifies an epoxy insulated current transformer, the ATH must ensure that the certification tests allow for, and the metering installation certification report shows, the current transformer's age, temperature, and batch.

Audit observation

I checked the policy regarding epoxy CTs.

Audit commentary

Epoxy insulated CTs are discarded upon discovery.

Audit outcome

Compliant

5.70 Control Device Certification (Clause 4 of Schedule 10.8)

Code related audit information

Before it certifies a new control device, the ATH must produce a certification report that:

- confirms that the control device complies with the applicable standards listed in Table 5 of Schedule 10.1

- includes the details and results of any test that the ATH has carried out to confirm compliance under paragraph (a)

- confirms that the control device has passed such tests.

Before it certifies an existing installed control device, the ATH must produce a certification report that confirms:

- that the control device is fit for purpose

- the control device certification validity period that the ATH considers appropriate, which must be no more than 180 months.

Audit observation

I checked the certification records for 10 metering installations to confirm compliance.

Audit commentary

Influx certifies control devices in accordance with these clauses. The certification report is combined with the metering installation certification report and contains the required details.

Audit outcome

Compliant

5.71 Data Storage Devices (Clause 36(2) Of Schedule 10.7)

Code related audit information

If a data storage device has previously been used in another metering installation, the ATH must ensure that the data storage device has been recalibrated since it was removed from the previous metering installation by an approved calibration laboratory, an approved test laboratory, or an ATH.

Audit observation

I checked the certification records for 48 metering installations to confirm compliance.

Audit commentary

All data storage devices are integrated with the meters and are recertified prior to being reinstalled.

Audit outcome

Compliant

5.72 On-site Calibration and Certification (Clause 9(1) of Schedule 10.8)

Code related audit information

An ATH may only calibrate a metering component on site in the metering component's normal environment by measuring the influence of all on-site variables and including their estimated effects in the uncertainty calculation. An ATH must ensure that:

- the effects of any departures from the reference conditions can accurately and reliably be calculated

- the metering installation, in which the metering component is incorporated, is within the applicable accuracy tolerances set out in Table 1 of Schedule 10.1 after taking into account all known influences including temperature and temperature co-efficient measurements.

Audit observation

Influx conducts comparative recertification but does not conduct onsite calibration of metering components.

Audit commentary

Influx conducts comparative recertification but does not conduct onsite calibration of metering components.

Audit outcome

Not applicable

5.73 On Site Metering Component Calibration (Clause 9(2) Of Schedule 10.8)

Code related audit information

If the ATH calibrates a metering component on site using manual methods, computers, or automated equipment for the capture, processing, manipulation, recording, reporting, storage, or retrieval of calibration data, it must ensure that its computer software:

- is documented in the ATH's procedures

- can manipulate the variables that affect the performance of the metering component in a manner that will produce results that would correctly indicate the level of compliance of the metering component with this Code.

Audit observation

Influx conducts comparative recertification but does not conduct onsite calibration of metering components.

Audit commentary

Influx conducts comparative recertification but does not conduct onsite calibration of metering components.

Audit outcome

Not applicable

5.74 On site metering component calibration records (Clause 9(3) of Schedule 10.8)

Code related audit information

An ATH that certifies a metering component on site must include confirmation in the metering component certification report that:

- it has calculated the uncertainty of measurement taking into account all environmental factors for both the metering component being calibrated and the working standards

- the calculation of the uncertainty comprises all uncertainties in the chain of calibration

- the ATH has used a calibration procedure to calibrate the metering component that was included in the ATH's most recent audit and is appropriate for on-site calibration.

Audit observation

Influx conducts comparative recertification but does not conduct onsite calibration of metering components.

Audit commentary

Influx conducts comparative recertification but does not conduct onsite calibration of metering components.

Audit outcome

Not applicable

5.75 Data Storage Device Certification Expiry Date (Clause 37 of Schedule 10.7)

Code related audit information

Before certifying a meter installation which incorporates a data storage device, the ATH must determine the expiry date of the data storage device. The ATH must record the expiry date in the certification report for the metering installation and the certification report for the data storage device.

Audit observation

I checked the certification records for 48 metering installations to confirm compliance.

Audit commentary

All data storage devices are integrated with the meters and in all cases the data storage devices expiry date is the same as the meter.

Audit outcome

Compliant

5.76 All Functions and Activities must be completed (Clause 10.42(2))

Code related audit information

Where Part 10 requires the ATH to complete a function or activity before a metering installation is certified, the ATH must complete that function or activity as part of the process for certifying the metering installation.

Audit observation

I checked the records for 48 metering installations to confirm compliance.

Audit commentary

As recorded in **Section 5.12**, Table 3 requires a raw meter data output test to be conducted, and Clause 9 of Schedule 10.7 stipulates that the following process:

(c) to carry out a **raw meter data** output test for a **category 1 metering installation** or **category 2 metering installation**, must do so by—

(i) applying a load on each phase that is—

(A) greater than 5% of the **meter's** maximum rated current for a **category 1 metering installation**; or

(B) 10 amps on each phase for a **category 2 metering installation**; and

(ii) using either the **working standard** referred to in subclause (1)(a) or an ammeter in good working order with an accuracy range of +/- 5% to measure the load applied to the **metering installation** and—

(A) recording the resulting increment of the **meter** register value over a measured period of time; or

(B) recording the resulting accumulation of pulses from the load over a measured period of time.

I checked 23 Category 1 metering installations and I found that the "tick box" for "All load checks completed" was ticked in all cases, but Influx confirmed that the "load test" is limited to ensuring the register advances by at least one digit. The process does not include using an ammeter to measure the load applied and does not include recording the resulting increment of the meter register value over a measured period of time. Compliance is not achieved for all 23 metering installations because the Code requires the completion of all functions or activities, and this one is not completed.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.76 With: Clause 10.42(2) From: 01-Apr-21 To: 23-Mar-22	Not all functions and activities required for certification are completed, specifically, raw meter data output tests are not conducted. Potential impact: Medium Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement and participants is minor; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status

Disputed. We are recording the resulting increment of the meter register value in our new form as requested by the code. As we discussed during the audit, we feel the bigger point is why are we doing this now with modern AMI meters? If we take a step back and say what is the value of this test with AMI metering, the answer may well be very little to none. Ensuring the register is advancing will show an AMI is operating correctly. The code would have related directly to Ferraris disc meters and the possibility of damage during transit and needs to be looked at with current metering in mind. On the day of the audit this was discussed with the auditor and we agreed this point needed to be looked at. If a Ferraris disc meter is being installed a raw meter data test, recording the increment of the register, load and time taken could be added to the code. Influx would be surprised if 0.01% of meters installed were Ferraris disc meters.		Disputed
Preventative actions taken to ensure no further issues will occur	**Completion date**	

6. INSPECTION OF METERING INSTALLATIONS

6.1 General Inspection Requirements (Clause 44 (1) (a) to (e) of Schedule 10.7)

Code related audit information

When carrying out an inspection of a metering installation, the ATH must:

- check and confirm that the data storage device in the metering installation operates as required

- check and confirm that the expected remaining lifetime of each battery in the metering installation will be reasonably likely to meet or exceed the metering installation certification expiry date

- ensure that no modifications have been made to the metering installation without the change having been documented and certification requirements satisfied

- visually inspect all seals, enclosures, metering components, and wiring of the metering installation for evidence of damage, deterioration, or tampering

- ensure that the metering installation and its metering components carry appropriate certification stickers.

Audit observation

I checked four completed inspection reports to confirm compliance.

Audit commentary

Influx has not completed any inspections of metering installations containing data storage devices. The inspection reports checked confirmed all of the other points above were checked on-site and recorded in the inspection report.

Audit outcome

Compliant

6.2 Raw Meter Data Test (Clause 44(1)(F) Of Schedule 10.7)

Code related audit information

When carrying out an inspection of a category 1 metering installation, the ATH must also check and confirm there is no difference between the volume of electricity recorded by the master accumulation register of a data storage device, and the sum of the meter registers.

Audit observation

Influx has not conducted any inspections where data storage devices are present.

Audit commentary

Influx has not conducted any inspections where data storage devices are present.

Audit outcome

Not applicable

6.3 Prepare Inspection Report (Clause 44(2) Of Schedule 10.7)

Code related audit information

An ATH must prepare an inspection report for each inspection of a metering installation that it carries out, which includes the following:

- details of the checks carried out, the results, and the installation certification expiry date

- the serial numbers of all components in the metering installation

- any non-compliances and the action taken to remedy the non-compliance

- the name of the inspector and the date on the inspection.

Audit observation

I checked four completed inspection reports to confirm compliance.

Audit commentary

The inspection reports checked contained all the relevant information including the name of the inspector and date of inspection.

Audit outcome

Compliant

6.4 Provide Inspection Report to MEP (Clause 44(3) Of Schedule 10.7)

Code related audit information

The ATH must, within 10 business days of carrying out the inspection, provide the inspection report to the MEP.

Audit observation

I checked the timeframes for sending inspection reports to MEPs.

Audit commentary

Influx is also the MEP therefore they have the records as soon as the inspection is complete. Compliance is achieved.

Audit outcome

Compliant

6.5 Inspections for Category 2 & Above Installations (Clause 46(2) of Schedule 10.7)

Code related audit information

When carrying out an inspection of a category 2 or higher metering installation, the ATH must also conduct the following additional checks:

- a visual inspection of each metering component in the metering installation for damage, tampering, or defect

- if the current transformer can be safely accessed, check the position of the current transformer tap to ensure it is still appropriate for the expected maximum current for the metering installation

- check for the presence of appropriate voltages at the metering installation

- check the voltage circuit alarms and fault indicators.

Audit observation

No Category 2 inspections were conducted during the audit period.

Audit commentary

No Category 2 inspections were conducted during the audit period.

Audit outcome

Not applicable

7. PROCESS FOR HANDLING FAULTY METERING INSTALLATIONS

7.1 Investigation of Faulty Metering Installations (Clause 10.43(3) of Part 10)

Code related audit information

As a participant, the ATH must inform the MEP if it believes a metering installation is faulty, inaccurate, defective, or not fit for purpose.

Audit observation

I checked the results of the process followed for four examples of faulty metering installations.

Audit commentary

In all four cases, the MEP was notified immediately.

Audit outcome

Compliant

7.2 Testing of Faulty Metering Installations (Clause 10.44 of Part 10)

Code related audit information

When advised by an MEP that a metering installation is faulty, inaccurate, defective, or not fit for purpose, the ATH must test the metering installation as soon as practical and provide a statement of situation.

Audit observation

I checked the results of the process followed for four examples of faulty metering installations.

Audit commentary

In all four cases, appropriate testing and reporting was conducted immediately. The meters were replaced, and the metering installations were recertified in all seven cases. Details of the testing completed, and actions taken were recorded in the certification paperwork. The certification paperwork contains sufficient information to report to relevant parties and meet the requirements for a statement of situation.

Audit outcome

Compliant

7.3 Statement of Situation (Clause 10.46(1) of Part 10)

Code related audit information

The ATH must include the following in the statement of situation:

- the details and results of the tests carried out

- a conclusion, with reasons, as to whether or not the metering installation is faulty

- an assessment of the risk to the completeness and accuracy of the raw meter data

- the remedial action proposed or undertaken

- any correction factors to apply to raw meter data to ensure that the volume information is accurate

- the period over which the correction factor must be applied to the raw meter data.

Audit observation

I checked the results of the process followed for four examples of faulty metering installations.

Audit commentary

In all four cases, appropriate testing and reporting was conducted immediately. The meters were replaced, and the metering installations were recertified in all four cases. Details of the testing completed, and actions taken were recorded in the certification paperwork. The certification paperwork contains sufficient information to report to relevant parties and meet the requirements for a statement of situation.

Audit outcome

Compliant

7.4 ATH to keep records of modifications to correct defects (Clause 10.47 of Part 10)

Code related audit information

When taking action to remedy an inaccuracy or defect within a metering installation, the ATH must ensure that records of any modifications that are carried out to the metering installation are kept for each metering component of the metering installation in the metering records and in a manner reasonable in the circumstances to ensure that further investigation can be carried out.

Audit observation

I checked the results of the process followed for four examples of faulty metering installations.

Audit commentary

In all four cases, appropriate testing and reporting was conducted immediately. The meters were replaced, and the metering installations were recertified in all four cases. Details of the testing completed, and actions taken were recorded in the certification paperwork. The certification paperwork contains sufficient meets the requirement to record any modifications to the metering installation.

Audit outcome

Compliant

8. Conclusions

The audit found 13 non-compliances and makes three recommendations. Six of the issues relate to the accuracy of fields in the certification reports. Influx has been working through getting the certification reports fully compliant with the Code and it is expected these matters will be resolved in a short timeframe.

The other issues relate to certification practices, and are as follows:

- two ICPs have an absolute error and uncertainty test result greater than 1.5%, the CTs are class 0.5, and the meters are class 1.0, which means at least one of the components is operating outside its class, or there is an unidentified uncertainty not taken into account,
- Influx does not measure the load applied and record the resulting increment of the meter register value over a measured period of time when conducting raw meter data tests; the test is limited to checking that the register advances, and
- the sample did not match the population when statistical sampling certification was applied on 22 October 2021; one meter type was in the population but not in the sample and there were only 11 meters of this type, so the MEP has cancelled the certification for the relevant ICPs.

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 a next audit frequency of six months. After considering Influx's responses to the areas of non-compliance I recommend an audit frequency of 12 months. The main reason for not recommending a longer period is that seven out of the 13 non-compliances have been disputed, indicating that remedial actions are not planned for the three issues noted above. If the Authority agrees with the responses provided by Influx, then a longer period could be considered.

9. Influx Response

Influx thanks Veritek (Steve) for the audit process and his input into the review of our Test House compliance. As always, the process has proven valuable either through reassurance of areas that our ATH continues to operate well in, or the small recommendations of improvement.

Audit findings followed by Influx response -

- two ICPs have an absolute error and uncertainty test result greater than 1.5%, the CTs are class 0.5, and the meters are class 1.0, which means at least one of the components is operating outside its class, or there is an unidentified uncertainty not taken into account,

    - Influx response – we would like to dispute this as per our last audit and are still awaiting a response from the EA. Table 1 specifically states that the maximum installation error including uncertainty is 2.5%.

- Influx does not measure the load applied and record the resulting increment of the meter register value over a measured period of time when conducting raw meter data tests; the test is limited to checking that the register advances.

    - Influx response - we are recording the resulting increment of the meter register value in our new form as requested by the code. As we discussed during the audit, we feel the bigger point is why are we doing this now with modern AMI meters? If we take a step back and say what is the value of this test with AMI metering, the answer may well be very little to none. Ensuring the register is advancing will show an AMI is operating correctly. The code would have related directly to Ferraris disc meters and the possibility of damage during transit and needs to be looked at with current metering in mind. On the day of the audit this was discussed with the auditor, and we agreed this point needed to be looked at. If a Ferraris disc meter is being installed a raw meter data test, recording the increment of the register, load and time taken could be added to the code. Influx would be surprised if 0.01% of meters installed in the past year were Ferraris disc meters.

- the sample did not match the population when statistical sampling certification was applied on 22 October 2021; one meter type was in the population but not in the sample and there were only 11 meters of this type, so the MEP has cancelled the certification for the relevant ICPs.

    - Influx response - as per MEP audit, this meter type was withdrawn from the sample and the certification cancelled for the 11 ICP’s.

Overall, we are pleased with the findings of this audit and believe that the ATH still performs at a high level in its management and daily operation. On the day of the audit, Steve indicated an 18 month audit period, we would like to recommend the audit cycle be set to a minimum of 24 months.

This would appropriately reflect how our business has performed and is tracking to perform for the next audit cycle.