

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

For

BROADSPECTRUM LIMITED

Prepared by: Steve Woods – Veritek Limited

Date audit commenced: 21 November 2018

Date audit report completed: 28 January 2019

Audit report due date: 26-Oct-15

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EXECUTIVE SUMMARY

Broadspectrum Energy Limited (Broadspectrum) is a Metering Equipment Provider (MEP) and was required to undergo an audit by 26 October 2015, in accordance with clause 16A.14. This audit is over three years overdue, and during the period the audit was not conducted the level of compliance has reduced.

Broadspectrum is the MEP for 97 HHR ICPs. They do not operate a data collection system and they do not have any mass market ICPs. Broadspectrum is also an Approved Test House (ATH). The ATH function was not audited, although there is an overlap between the two operations.

The controls require strengthening in many of the areas relevant to the MEP function. 13 non-compliances were identified. The major issues are as follows:

- 27 ICPs had expired certification;
- 27 ICPs have cancelled certification because inspections were not conducted;
- four ICPs have cancelled certification because low burden was not addressed;
- uncertainty calculations are not conducted in accordance with the Code; and
- some registry errors exist, and registry validation is not conducted.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The table below provides some guidance on this matter and recommends an audit frequency of three months. This timeframe may not provide enough time to allow recertification to occur at the 58 installations with expired or cancelled certification. I therefore recommend the next audit is conducted in six months.

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Audit requirements	1.11	10.17A & 16A.17	Audit completed three years late.	None	High	12	Identified
Services access interface	2.1	10.9(2)	Services access interface not recorded for five ICPs.	Moderate	Low	2	Identified
Provision of accurate information	2.5	11.2 and Clause 10.6	All practicable steps have not been taken to ensure information is complete and accurate.	Weak	Low	3	Identified
Design reports	4.1	2 of Schedule 10.7	Maximum interrogation cycle not recorded for 21 of 30 records.	Weak	Low	3	Identified
Error and uncertainty	4.3	4(1) of Schedule 10.7	Uncertainty calculations not conducted in accordance with the Code.	Moderate	Low	2	Identified
Design consultation	4.9	10.34(2), (2A) and (3)	Liaison has not occurred with traders and distributors for newly	Weak	Low	3	Identified

			installed metering installations.				
Changes to registry records	4.10	3 of Schedule 11.4	Most records updated on the registry later than 10 business days.	Weak	Low	3	Identified
Response to switch notification	6.1	1(1) of Schedule 11.4	2 of 4 acceptances later than 10 business days.	Weak	Low	3	Identified
Registry accuracy	6.2	7 (1), (2) and (3) of Schedule 11.4	Incorrect registry information.	Weak	Low	3	Identified
Registry error correction	6.3	6 of Schedule 11.4	Registry validation not conducted.	None	Low	5	Identified
Cancellation of certification	6.4	20 of Schedule 10.7	Certification cancelled, and registry not updated for: <ul style="list-style-type: none"> 27 installations without inspections within the window four installations with low burden. 	None	Medium	8	Identified
Certification of metering installations	7.1	10.38 (a), clause 1 and clause 15 of Schedule 10.7	Certification expired for 27 metering installations.	Weak	Medium	6	Identified
Inspections	8.2	46(1) of schedule 10.7	Inspections not conducted within the allowable window for 27 installations.	None	Medium	8	Identified
Future Risk Rating						61	
Indicative Audit Frequency						3 months	

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

RECOMMENDATIONS

Subject	Section	Recommendation	Description
		Nil	

ISSUES

Subject	Section	Recommendation	Description
			Nil

1. ADMINISTRATIVE

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

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

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

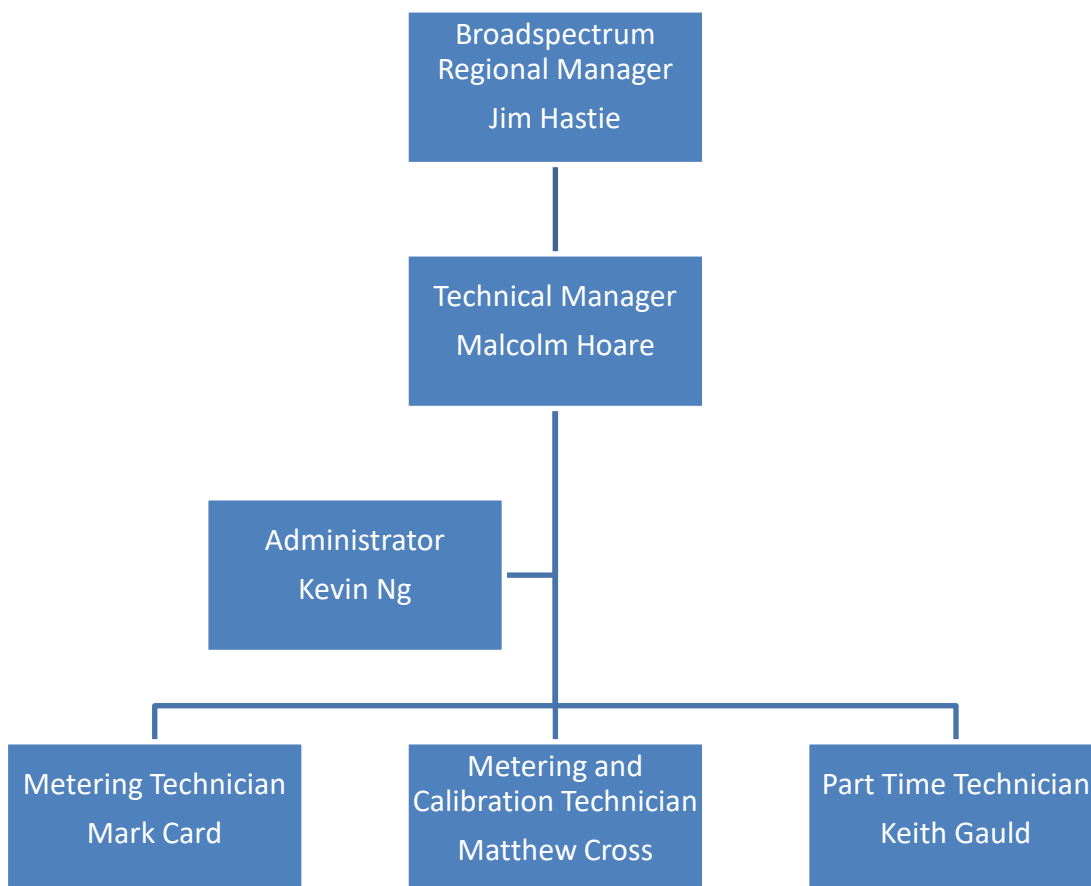
Audit observation

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

Audit commentary

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

1.2. Structure of Organisation



1.3. Persons involved in this audit

Auditor: Steve Woods

Veritek Limited

Electricity Authority Approved Auditor

Broadspectrum personnel assisting in this audit were:

Name	Title
Malcolm Hoare	Technical Manager

1.4. Use of Agents (Clause 10.3)

Code reference

Clause 10.3

Code related audit information

A participant who uses a contractor

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

Audit observation

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

Audit commentary

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

1.5. Hardware and Software

Broadspectrum MEP data is held in Lotus Notes which is subject to backup arrangements in accordance with standard industry protocols.

1.6. Breaches or Breach Allegations

The following two breach allegations were recorded by the Authority.

1409TSLO1	Transfield	investigation closed	no settlement	23/02/17 12:00 AM	Peter Wakefield	high	Part 10 clause 10.6 (2)	Part 10 clause 10.6 (1)	Part 10 Schedule 10.7	Part 10 Schedule 10.7	Transfield failed take all practicable steps to ensure that information provided under Part 10 was complete and accurate.
1412TSLO1	Transfield	closed	decline to pursue without warning	26/02/15 12:00 AM	Alex Ehler	low	Part 10 Schedule 10.7 clause 20 (2)	Part 10 Schedule 10.6 clause 4 (1) (a)			Two breaches as an MEP identified in the 2014 audits

1.7. ICP Data

Metering Category	Number of ICPs
1	3
2	27
3	35
4	19
5	13
9	0

1.8. Authorisation Received

A letter of authorisation was not required or requested.

1.9. Scope of Audit

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

Broadspectrum is the MEP for 97 HHR ICPs. They do not operate a data collection system and they do not have any mass market ICPs. Broadspectrum is also an Approved Test House (ATH). The ATH function was not audited, although there is an overlap between the two operations.

1.10. Summary of previous audit

The previous audit was conducted in November 2014 by Paul Troon. The table below shows the status of the issues raised.

Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
Notification of metering records	3.2	2 of Schedule 11.4	Failure to advise registry of metering records for one ICP within 15 business days of becoming the MEP.	Cleared
Design reports	4.1	2 of Schedule 10.7	Design reports incomplete.	Still existing

Subject	Section	Clause	Non-compliance	Status
Design consultation	4.9	10.34(2), (2A) and (3)	Failure to consult with Trader and distributor about metering design.	Still existing
Changes to registry records	4.10	3 of Schedule 11.4	Failure to provide metering information to the registry within the required 10 business days.	Still existing
Inspection reports	5.2	46(1) of Schedule 10.7	Inspection reports not signed.	Cleared
Accuracy of registry information	6.2	7 (1), (2) and (3) of Schedule 11.4	Failure to ensure registry metering records for 17 ICPs. Failure to ensure accurate registry records. Incorrect setting of installation type for one record.	Still existing
Correction of registry errors	6.3	6 of Schedule 11.4	Complete validation of registry records and MEP records not conducted.	Still existing
Cancellation of certification	6.4	20 of Schedule 10.7	Certification expired because inspection of one installation not performed inside required time window. Registry not updated with certification status.	Still existing
Certification expiry	7.1	10.38 (a), clause 1 and clause 15 of Schedule 10.7	Failure to maintain certification for 1 Cat 3 ICP.	Still existing
Certification as a lower category	7.6	6(1)(b) and (d), and 6(2)(b) of Schedule 10.7	Failure to comply with the requirements for meter installations certified at a lower category.	Cleared
Inspections	8.2	46(1) of Schedule 10.7	Inspection not performed within required time window	Still existing

Table of Recommendations

Subject	Section	Clause	Recommendation for improvement	Status
			Nil	

1.11. Audit Requirement (Clause 10.17A & 16A.17)

Code reference

Clause 10.17A & 16A.17

Code related audit information

Each metering equipment provider must arrange to be audited regularly in accordance with Part 16A in respect of the metering equipment provider's obligations under this Part.

In relation to audits required under clauses 10.17A and 11.8B, a metering equipment provider must ensure that audits are completed as specified by the Authority under clause 16A.14.

Audit observation

Broadspectrum is a Metering Equipment Provider (MEP) and was required to undergo an audit by 26 October 2015, in accordance with clause 16A.14. The audit was not conducted by the required timeframe and has only now been conducted. The level of compliance has reduced in the four-year period between audits.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 1.11 With: Clause 10.17A & 16A.17 From: 26-Oct-15 To: 21-Nov-18	Audit completed three years late. Potential impact: High Actual impact: High Audit history: None Controls: None Breach risk rating: 12		
Audit risk rating	Rationale for audit risk rating		
High	It doesn't appear that Broadspectrum has controls in place to ensure audits are completed on time. The impact is recorded as high because the level of compliance has reduced significantly during the period since the audit was due and when it was conducted.		
Actions taken to resolve the issue		Completion date	Remedial action status
Due to staff changes the MEP requirements were let slip with nobody actively looking after the MEP functions.		This audit has now been completed	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
The intention is to allocate the MEP role to a person, this will require some training before that person is fully conversant with the requirements of this role.	28/2/2019 Plus Training	

2. OPERATIONAL INFRASTRUCTURE

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

Code reference

Clause 10.9(2)

Code related audit information

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

Audit observation

I checked certification records for 30 metering installations.

Audit commentary

I checked 30 certification records and found the services access interface was not recorded for five ICPs.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: Clause 10.9(2) From: 26-Nov-14 To: 28-Nov-18	Services access interface not recorded for five ICPs. Potential impact: None Actual impact: None 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. There is no impact on other participants because the location of the services access interface is not normally derived from design reports or certification records, therefore the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
The latest certification checklist / design report already has a location for the service access interface to be recorded. At the end of the day the service access interface is identical for all our meters.		Previously completed	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
The only action that can be assigned to this is that additional checking of the paperwork is required		Ongoing	

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

Code reference

Clause 10.50(1) to (3)

Code related audit information

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

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

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

Audit observation

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

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 7(1) of Schedule 10.6

Code related audit information

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

Audit observation

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

Audit commentary

Broadspectrum uses the TRSV identifier in all cases.

Audit outcome

Compliant

2.4. Communication Equipment Compatibility (Clause 40 Schedule 10.7)

Code reference

Clause 40 Schedule 10.7

Code related audit information

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

Audit observation

I checked that the ATH has a process to check the relevant type test certificates to ensure compliance with this clause.

Audit commentary

Broadspectrum ensures all communication equipment is appropriately certified with the relevant telecommunications standards. This is recorded in type test certificates. Telecommunications providers no longer provide “approval” but the type test reports confirm no interference will occur.

Audit outcome

Compliant

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

Code reference

Clause 11.2 and Clause 10.6

Code related audit information

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

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

Audit observation

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

Audit commentary

The content of this audit report indicates that Broadspectrum has not taken all practicable steps to ensure that information is complete and accurate. There are many incorrect registry records and registry validation is not conducted in accordance with the Code.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 2.5</p> <p>With: Clauses 11.2 and Clause 10.6</p> <p>From: 26-Nov-14</p> <p>To: 28-Nov-18</p>	<p>All practicable steps have not been taken to ensure information is complete and accurate.</p> <p>Potential impact: Medium</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Weak</p> <p>Breach risk rating: 3</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are recorded as weak because they will not ensure errors are mitigated.</p> <p>The impact on settlement and participants is minor; therefore, the audit risk rating is low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
This relates back to the fact that we have not had a person fulfilling the MEP role, when this person takes on the role. These issues will be resolved. Broadspectrum has not knowingly issued incorrect information to anyone.		28/2/19	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
To allocate the MEP role to a person, this will require some training before that person is fully conversant with the requirements of this role		28/2/2019 Plus Training	

3. PROCESS FOR A CHANGE OF MEP

3.1. Payment of Costs to Losing MEP (Clause 10.22)

Code reference

Clause 10.22

Code related audit information

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

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

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

Audit observation

I checked if Broadspectrum had sent or received any invoices.

Audit commentary

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

Audit outcome

Not applicable

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

Code reference

Clause 2 of Schedule 11.4

Code related audit information

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

Audit observation

There were no examples found in the event detail report because Broadspectrum has not become the MEP for any ICPs other than new connections.

Audit commentary

There were no examples found in the event detail report because Broadspectrum has not become the MEP for any ICPs other than new connections.

Audit outcome

Not applicable

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

Code reference

Clause 5 of Schedule 10.6

Code related audit information

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

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

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

Audit observation

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

Audit commentary

This has not occurred, and no examples are available to examine.

Audit outcome

Compliant

3.4. Termination of MEP Responsibility (Clause 10.23)

Code reference

Clause 10.23

Code related audit information

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

The MEP is responsible if it:

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

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

An MEP's obligations terminate only when;

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

Audit observation

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

Audit commentary

Broadspectrum has ceased to be responsible for some metering installations and they still continue with their responsibilities, mainly in relation to the storage or records, which are kept indefinitely. I checked three decommissioned ICPs and the records were still available.

Audit outcome

Compliant

4. INSTALLATION AND MODIFICATION OF METERING INSTALLATIONS

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

Code reference

Clause 2 of Schedule 10.7

Code related audit information

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

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

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

Audit observation

Broadspectrum has engaged Accucal as an ATH and Broadspectrum is an ATH themselves. I checked the Broadspectrum design reports and I confirmed that the design reports for three metering installations where Broadspectrum is the MEP and Accucal was the ATH, were the same as those checked during the Accucal audit, where compliance was confirmed.

Audit commentary

The design reports were prepared by a person with the appropriate level of skills, expertise, experience and qualifications. The Broadspectrum design reports are compliant in most respects but the maximum interrogation cycle is not recorded for 21 of 30 records.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.1 With: Clause 2 of Schedule 10.7 From: 26-Nov-14 To: 28-Nov-18	Maximum interrogation cycle not recorded for 21 of 30 records Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3
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
The latest certification checklist / design report already has a location for the maximum interrogation cycle to be recorded. All the Broadspectrum's meters have a maximum interrogation cycle that is at least 4 times the normal interrogation cycle.	Previously completed	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
The only action that can be assigned to this is that additional checking of the paperwork is required	Ongoing	

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

Code reference

Clause 9 of Schedule 10.6

Code related audit information

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

Audit observation

I confirmed that Broadspectrum has only used Accucal and their own ATH during the audit period.

Audit commentary

I checked the Authority's website and confirm that Broadspectrum has an appropriate scope of approval.

Audit outcome

Compliant

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

Code reference

Clause 4(1) of Schedule 10.7

Code related audit information

The MEP must ensure:

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

Audit observation

I checked the processes used by Broadspectrum to ensure compliance with the design and with the error thresholds stipulated in Table 1. I also checked the certification records for 30 metering installations.

Audit commentary

Whilst error and uncertainty calculations are undertaken by the ATH, the Code requires the MEP function to ensure the measured error and uncertainty does not exceed the maximum permitted error in Table 1. Error and uncertainty calculations for comparative recertification are not compliant. Broadspectrum uses 0.57%, which is a conservative estimate. There is no direct link to the calibration report of the Hioki working standard and temperature is not taken into account.

Consideration of temperature is relevant for Hioki standards due to their temperature coefficient being quite high. The “Conditions of Guaranteed Accuracy” are shown below and indicate a guaranteed accuracy within the range 18° to 28°.

Conditions of Guaranteed Accuracy

Conditions of guaranteed accuracy	After 30 min warm-up, when measuring AC voltage; sine-wave input, PF=1, synchronized PLL
Temperature and humidity for guaranteed accuracy	23 ±5°C (73±9°F), 80% RH or less (applies to all specifications unless otherwise noted)

Further to this, the temperature characteristic indicates the 3196 working standard is within ± 0.03% per degree Celsius. When using this figure, it appears the combination of the working standard and clamp uncertainties may result in uncertainties greater than 0.6% at temperatures under approx. 10 degrees Celsius.

Other Characteristics

Frequency characteristic	69Hz to 1kHz:±3%f.s. 1kHz to 3kHz:±10% f.s. (RMS voltage and current), ±15% f.s. (active power)
Temperature characteristic	AC: Within ±0.03% f.s./°C at 50 or 60 Hz measurement, Within ±0.05% f.s./°C at 400 Hz measurement (from 0 to 18°C and from 28 to 40°C) DC: Within ±0.1% f.s./°C (from 0 to 18°C and from 28 to 40°C)

ICP 0000021956WEA44 was certified on 03/05/17 with an uncertainty of 0.57%, excluding temperature.

With regard to the design of the installation (including data storage device and interrogation system), Broadspectrum ensures the sum of the measured error and the smallest possible increment of the energy value of the raw meter data does not exceed the maximum permitted error set out in Table 1 of Schedule 10.1 for the category of installation. There are no components installed where “coarse” rounding is in place for the data or where meters with a low pulse rate are connected to separate data storage devices.

Broadspectrum ensures the metering installation complies with the design report and the requirements of Part 10 by requiring their ATH to confirm the installations match the design, or by requiring updates to be provided if the installation does not match the design.

Audit outcome

Non-compliant

Non-compliance	Description																										
Audit Ref: 4.3 With: Clause 4(1) of Schedule 10.7 From: 26-Nov-14 To: 28-Nov-18	Uncertainty calculations not conducted in accordance with the Code. 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 is likely to be minor; therefore, the audit risk rating is low.																										
Actions taken to resolve the issue		Completion date	Remedial action status																								
The uncertainties section of the inspection spreadsheet has been modified to include:- <table border="1"><thead><tr><th colspan="3">load run Uncertainties</th></tr><tr><th>Source</th><th>Varh %</th><th>Wh %</th></tr></thead><tbody><tr><td>Hioki calibration (Power)</td><td>0.26</td><td>0.26</td></tr><tr><td>Clamp Calibration Uncertainty</td><td>0.13</td><td>0.13</td></tr><tr><td>Clamp Position</td><td>0.39</td><td>0.39</td></tr><tr><td>Temperature Variation For 10 degrees variation</td><td>0.3</td><td>0.3</td></tr><tr><td></td><td></td><td></td></tr><tr><td>Total</td><td>0.5715</td><td>0.5715</td></tr></tbody></table> The temperature variation is unlikely to be any greater than 10 degrees as all the BRS installations are within buildings where the temperature during the load run will not be more than 10 degrees off from the Hioki calibration		load run Uncertainties			Source	Varh %	Wh %	Hioki calibration (Power)	0.26	0.26	Clamp Calibration Uncertainty	0.13	0.13	Clamp Position	0.39	0.39	Temperature Variation For 10 degrees variation	0.3	0.3				Total	0.5715	0.5715	Completed	Identified
load run Uncertainties																											
Source	Varh %	Wh %																									
Hioki calibration (Power)	0.26	0.26																									
Clamp Calibration Uncertainty	0.13	0.13																									
Clamp Position	0.39	0.39																									
Temperature Variation For 10 degrees variation	0.3	0.3																									
Total	0.5715	0.5715																									
Preventative actions taken to ensure no further issues will occur		Completion date																									
The new uncertainty calculation will be use going forward this will ensure that these uncertainties will be used. The original uncertainty calculation was based on conservative estimates of the uncertainties, therefore these uncertainties based on calibration reports and specifications calculate a virtually identical uncertainty. It should also be noted that metering equipment tends to run warmer than the ambient temperature.		Completed																									

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

Code reference

Clause 4(2)(a) of Schedule 10.7

Code related audit information

For metering installations for ICPs that are not also NSPs, the MEP must ensure that the metering installation does not use subtraction to determine submission information used for the purposes of Part 15.

Audit observation

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

Audit commentary

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

Audit outcome

Not applicable

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

Code reference

Clause 4(2)(b) of Schedule 10.7

Code related audit information

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

Audit observation

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

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 4(3) of Schedule 10.7

Code related audit information

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

Audit observation

I checked if Broadspectrum is responsible for any NSP metering.

Audit commentary

Broadspectrum is not responsible for any NSP metering.

Audit outcome

Not applicable

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

Code reference

Clause 10.26(10)

Code related audit information

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

Audit observation

I checked if Broadspectrum is responsible for any GXP metering by reviewing the NSP Mapping Table.

Audit commentary

Broadspectrum is not responsible for any grid metering.

Audit outcome

Not applicable

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

Code reference

Clause 4(4) of Schedule 10.7

Code related audit information

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

Audit observation

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

Audit commentary

The certification record contains a field in relation to this clause and the technician is required to confirm that installations are compliant and safe.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

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

Audit observation

I checked whether appropriate consultation had occurred.

Audit commentary

Five new connections occurred during the audit period, but liaison did not occur with the four relevant distributors and the two traders.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.9 With: Clauses 10.34(2), (2A) and (3) From: 27-May-14 To: 28-Nov-18	Liaison has not occurred with traders and distributors for newly installed metering installations. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as weak because there is not a distinct process in place for this. There is unlikely to be any impact, because none of the parties have requested any changes to design, therefore the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
This relates back to the fact that we have not had a person fulfilling the MEP role, when this person takes on the role. These issues will be resolved.			Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
As part of this whole process of getting the MEP function back up to speed procedures will need to be updated.	Ongoing	

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

Code reference

Clause 3 of Schedule 11.4

Code related audit information

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

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

Audit observation

I checked the event detail report for the period 01/01/15 to 31/10/18 to evaluate the timeliness of registry updates.

Audit commentary

The table below shows that three of five new connections were updated late and most of the updates and corrections were updated late. Three of the four new connection updates had the incorrect event date, so I measured compliance from the certification date to the input date.

Event	Audit Year	Total ICPs	ICPs Notified Within 10 Days	ICPs Notified Greater Than 10 Days	Average Notification Days	Percentage Compliant
New connection	2018	4	1	3	83.5	25%
Update	2018	125	12	113	563	9.6%

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.10 With: Clause 3 of Schedule 11.4 From: 26-Nov-14 To: 28-Nov-18	Most records updated on the registry later than 10 business days. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 3

Audit risk rating	Rationale for audit risk rating		
Low	<p>I have recorded the controls as weak in this area because they don't seem to be sufficient to minimise late updates.</p> <p>The impact on participants, customers or settlement is likely to be minor, therefore the audit risk rating is low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
This relates back to the fact that we have not had a person fulfilling the MEP role, when this person takes on the role. These issues will be resolved.		28/2/2019 Plus Training	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
As part of this whole process of getting the MEP function back up to speed procedures will need to be updated.		ongoing	

4.11. Metering Infrastructure (Clause 10.39(1))

Code reference

Clause 10.39(1)

Code related audit information

The MEP must ensure that for each metering installation:

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

Audit observation

Broadspectrum does not operate a data collection system. I checked whether their installations met the requirements of this clause.

Audit commentary

The type test reports, design reports and certification reports confirm that the infrastructure will operate in a compliant manner.

Audit outcome

Compliant

4.12. Responsibility for Metering at ICP (Clause 11.18B(3))

Code reference

Clause 11.18B(3)

Code related audit information

If an ICP is to be decommissioned, the MEP who is responsible for each metering installation for the ICP must:

- advise the trader no later than three business days prior to decommissioning that the trader must, as part of the decommissioning, carry out a final interrogation; or*
- if the MEP is responsible for the interrogation of the metering installation, arrange for a final interrogation to take place.*

Audit observation

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

Audit commentary

There were three ICPs decommissioned where Broadspectrum is the MEP during the audit period. Broadspectrum's process is to obtain the data on behalf of the trader when the metering is removed.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

Audit observation

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

Audit commentary

There have not been any examples of burden changes occurring during the audit period except at the time of recertification.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

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

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

Audit observation

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

Audit commentary

There were no firmware changes conducted during the audit period.

Audit outcome

Compliant

4.15. Temporary Energisation (Clause 10.28(6))

Code reference

Clause 10.28(6)

Code related audit information

An MEP must not request the temporary energisation of a new POC unless authorised to do so by the reconciliation participant responsible for that POC and has an arrangement with that reconciliation participant to provide metering services.

Audit observation

I checked whether there were any examples of temporary energisation for the purposes of testing.

Audit commentary

I checked whether there were any examples of temporary energisation for the purposes of testing. None were identified.

Audit outcome

Not applicable

5. METERING RECORDS

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

Code reference

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

Code related audit information

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

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

Audit observation

I checked certification records for 30 metering installations to evaluate compliance with this clause. I also checked all relevant inspection records.

Audit commentary

All certification records were complete and accurate, and the inspection process did not identify any information related issues.

Inspection reports are now signed, which clears the non-compliance from the previous audit.

Audit outcome

Compliant

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

Code reference

Clause 4(2) of Schedule 10.6

Code related audit information

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

Audit observation

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

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 4(3) of Schedule 10.6

Code related audit information

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

Audit observation

I checked old metering records to confirm compliance.

Audit commentary

Broadspectrum keeps records indefinitely. I confirmed this by checking some records more than four years old.

Audit outcome

Compliant

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

Code reference

Clause 6 Schedule 10.6

Code related audit information

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

Audit observation

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

Audit commentary

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

Audit outcome

Not applicable

6. MAINTENANCE OF REGISTRY INFORMATION

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

Code reference

Clause 1(1) of Schedule 11.4

Code related audit information

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

Audit observation

I checked the event detail report for the period 01/01/15 to 31/10/18 to confirm whether all responses were within 10 business days.

Audit commentary

There were no examples of Broadspectrum becoming the MEP for existing ICPs. There were four new connections and the acceptance was late for two.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.1 With: Clause 1(1) of Schedule 11.4 From: 22-Dec-14 To: 12-Jun-15	2 of 4 acceptances later than 10 business days. Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	The controls do not appear to be sufficiently strong to minimise or eliminate late updates. The impact is minor; therefore the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
This relates back to the fact that we have not had a person fulfilling the MEP role, when this person takes on the role. These issues will be resolved.		28/2/2019 Plus Training	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Training of the new person taking on the MEP role		28/2/2019 Plus Training	

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

Code reference

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

Code related audit information

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

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

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

Audit observation

I checked the list file for 100% of records to identify discrepancies.

Audit commentary

Analysis of the list file and an event detail report for all BROADSPECTRUM ICPs found a small number of issues. The table below shows the issues found.

Quantity 2018	Issue
2	Incorrect maximum interrogation cycle
17	Incorrect certification dates
4	Incorrect certification expiry dates
2	Incorrect metering category

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.2 With: Clause 7 (1), (2) and (3) of Schedule 11.4 From: 26-Nov-15 To: 28-Nov-18	Incorrect registry information Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 3
Audit risk rating	Rationale for audit risk rating

Low	The controls do not appear to be strong enough to minimise the incorrect registry updates, particularly certification and expiry dates, which drive the next inspection and certification events. Some incorrect dates can lead to installations not being inspected or certified, therefore the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
This relates back to the fact that we have not had a person fulfilling the MEP role, when this person takes on the role. These issues will be resolved.		ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
The reinstatement of the monthly registry checking		ongoing	

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

Code reference

Clause 6 of Schedule 11.4

Code related audit information

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

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

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

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

Audit observation

I checked the validation processes to confirm compliance.

Audit commentary

Broadspectrum does not have a database actively used for recording metering information, therefore there is no validation conducted.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.3 With: Clause 6 of Schedule 11.4 From: 26-Nov-14 To: 29-Nov-18	Registry validation not conducted. Potential impact: Low Actual impact: Low Audit history: Twice Controls: None Breach risk rating: 5		
Audit risk rating	Rationale for audit risk rating		
Low	A process is not in place to validate registry data. The impact is minor, therefore the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
When the person who previously took on the MEP role left the organization the process that was set up to perform this function was not fully documented, this will now be revisited and reviewed when a new person is allocated the MEP role. We do record our metering information in a Lotus Noted database, but for various reasons it was not possible to set this up for the Registry checking. In the interim we are intending to do a check of the sites we are the allocated MEP for and record the calibration dates and inspection dates to identify exactly where we are at.		28/2/2019 Plus Training	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
The allocation of someone to the MEP role and the use of reminders.		28/2/2019 Plus Training	

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

Code reference

Clause 20 of Schedule 10.7

Code related audit information

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

- the metering installation is modified otherwise than under sub clause 19(3) or 19(6)
- the metering installation is classed as outside the applicable accuracy tolerances set out in Table 1 of Schedule 10.1, defective or not fit for purpose under this Part or any audit
- an ATH advises the metering equipment provider responsible for the metering installation of a reference standard or working standard used to certify the metering installation not being compliant with this Part at the time it was used to certify the metering installation, or the failure

- of a group of meters in the statistical sampling recertification process for the metering installation, or the failure of a certification test for the metering installation*
- d) the manufacturer of a metering component in the metering installation determines that the metering component does not comply with the standards to which the metering component was tested*
 - e) an inspection of the metering installation, that is required under this Part, is not carried out in accordance with the relevant clauses of this Part*
 - f) if the metering installation has been determined to be a lower category under clause 6 and the maximum current conveyed through the metering installation at any time exceeds the current rating of its metering installation category as set out in Table 1 of Schedule 10.1*
 - g) the metering installation is certified under clause 14 and sufficient load is available for full certification testing and has not been retested under clause 14(4)*
 - h) a control device in the metering installation certification is, and remains for a period of at least 10 business days, bridged out under clause 35(1)*
 - i) the metering equipment provider responsible for the metering installation is advised by an ATH under clause 48(6)(b) that a seal has been removed or broken and the accuracy and continued integrity of the metering installation has been affected.*

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

Audit observation

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

Audit commentary

During the audit period, some inspections were not conducted within the required window. Certification is cancelled from the last date of the inspection window, but the registry has not been updated. The table on the next page shows all ICPs where inspections were due during the audit period, excluding those where certification has already expired. The table shows that none of the relevant ICPs had their inspection conducted during the inspection window. Some metering installations were recertified but the registry was not updated. This is recorded as non-compliance in **section 6.2**. Certification is cancelled for 27 metering installations and the registry is not updated with the expiry date.

During previous audits, there were some ICPs certified as a lower category where monitoring was not conducted. The ICPs are as follows:

- 0868731447LC855 – this now has ACCM as the MEP
- 0000890104TU8B6 – has been recertified as Category 3
- 0800210069LC5C8 – Broadspectrum confirmed this has protection rated at less than 500A

ICP	Install No	Category	Certification date	Expiry date	Inspection earliest date	Inspection date and comments	Inspection latest date
0000004142DE14D	1	3	30/07/2011	3/11/2020	30/04/2016	15/01/2016, inspection conducted early	30/10/2016
0000007033EP933	1	3	1/06/2012	27/10/2021	1/03/2017	No inspection conducted	1/09/2017
0000100255UN5CA	1	3	22/10/2010	22/10/2020	22/07/2015	Recertified on 18/5/18 but registry not updated	22/01/2016
0000159078UN217	1	1	2/04/2007	27/02/2022	2/10/2016	No inspection conducted	2/10/2017
0000380994TU878	2	4	16/06/2014	3/07/2019	16/09/2016	No inspection conducted	16/03/2017
0000380994TU878	3	4	17/06/2014	4/06/2019	17/09/2016	No inspection conducted	17/03/2017
0000380994TU878	5	4	17/06/2014	3/07/2019	17/09/2016	No inspection conducted	17/03/2017
0000380994TU878	6	4	17/06/2014	3/07/2019	17/09/2016	No inspection conducted	17/03/2017
0000380994TU878	7	4	16/06/2014	3/07/2019	16/09/2016	No inspection conducted	16/03/2017
0000589585UNDB0	1	5	18/01/2016	18/01/2019	18/06/2017	No inspection conducted	18/08/2017
0000589585UNDB0	2	5	18/01/2016	18/01/2019	18/06/2017	No inspection conducted	18/08/2017
0000806300WA738	1	5	20/06/2016	21/01/2019	20/11/2017	No inspection conducted	20/01/2018
0000806300WA738	2	5	10/06/2016	21/01/2019	10/11/2017	No inspection conducted	10/01/2018
0001905982WA8C8	1	1	2/02/2007	27/02/2022	2/08/2016	09/09/2015, inspection conducted early	2/08/2017
0007148097RN909	1	3	8/11/2012	8/11/2022	8/08/2017	No inspection conducted	8/02/2018
0007151491RN0C6	1	3	15/05/2013	15/08/2022	15/02/2018	No inspection conducted	15/08/2018
0007151493RN043	1	3	15/05/2013	15/08/2022	15/02/2018	No inspection conducted	15/08/2018
0009803940AL7F0	1	5	8/02/2017	8/02/2020	8/07/2018	No inspection conducted	8/09/2018
0009803940AL7F0	2	5	1/03/2017	1/03/2020	1/08/2018	No inspection conducted	1/10/2018
0009999011ML76F	1	3	20/01/2011	30/06/2020	20/10/2015	No inspection record located	20/04/2016
0009999012MLBAF	1	3	20/01/2011	30/06/2020	20/10/2015	No inspection record located	20/04/2016
0009999013ML7EA	1	3	20/01/2011	30/06/2020	20/10/2015	No inspection record located	20/04/2016
0009999014MLA20	1	3	20/01/2011	30/06/2020	20/10/2015	No inspection record located	20/04/2016
0800001060LCA00	1	3	16/06/2011	9/11/2020	16/03/2016	Recertified on 05/08/15, registry not updated	16/09/2016
0800071069LCEE8	1	3	10/04/2012	11/07/2021	10/01/2017	No inspection conducted	10/07/2017
0800239067LC33E	1	3	23/09/2012	15/05/2022	23/06/2017	No inspection conducted	23/12/2017

0800616065LCAA9	1	3	19/03/2012	15/09/2021	19/12/2016	17/12/2015, inspection conducted early	19/06/2017
0800616065LCAA9	2	3	19/03/2012	13/07/2021	19/12/2016	17/12/2015, inspection conducted early	19/06/2017
0836896378LC16B	1	4	21/02/2015	21/02/2019	21/05/2017	Recently recertified but no cert from ACCL yet	21/11/2017
0836896378LC16B	2	4	21/02/2015	21/02/2019	21/05/2017	Recently recertified but no cert from ACCL yet	21/11/2017
0836896378LC16B	3	4	21/02/2015	21/02/2019	21/05/2017	Recently recertified but no cert from ACCL yet	21/11/2017
1001152729CK833	1	4	27/06/2014	23/06/2022	27/09/2016	07/07/2017, inspection conducted late	27/03/2017
1001262783LC14C	1	5	6/05/2014	21/07/2020	6/10/2015	Recertified 21/07/17, registry not updated	6/12/2015
1001262783LC14C	2	5	6/05/2014	21/07/2020	6/10/2015	Recertified 21/07/17, registry not updated	6/12/2015

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

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

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

The memo also states:

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

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

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

Analysis of the certification records for eight Category 2 metering installations found that ICPs 0000100345UN663, 0000190598WA1D4, 0000469472UN078 and 0800219066LC6B6 had been certified with burden lower than the lowest test point, without a Class A ATH confirming that the measuring transformers will not be adversely affected. Therefore, in accordance with the Authority's memo, these metering installations are not considered "fit for purpose". This means certification is cancelled.

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 6.4</p> <p>With: Clause 20 of Schedule 10.7</p> <p>From: 26-Nov-14</p> <p>To: 29-Nov-18</p>	<p>Certification cancelled, and registry not updated for:</p> <ul style="list-style-type: none"> 27 installations without inspections within the window four installations with low burden. <p>Potential impact: Medium</p> <p>Actual impact: Medium</p> <p>Audit history: Twice</p> <p>Controls: None</p> <p>Breach risk rating: 8</p>
Audit risk rating	Rationale for audit risk rating

Medium	There is no process in place to identify ICPs where certification is cancelled. The impact on settlement and participants could be moderate; therefore, the audit risk rating is medium.		
Actions taken to resolve the issue		Completion date	Remedial action status
While I acknowledge that we have issues in getting the inspections completed due to our lack of focus on the MEP part of our business.		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Allocate the MEP role		28/2/2019 Plus Training	

6.5. Registry Metering Records (Clause 11.8A)

Code reference

Clause 11.8A

Code related audit information

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

Audit observation

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

Audit commentary

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

Audit outcome

Compliant

7. CERTIFICATION OF METERING INSTALLATIONS

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

Code reference

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

Code related audit information

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

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

Audit observation

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

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

Audit commentary

At the time of the audit there were 27 installations with expired certification. Broadspectrum has reporting in place to identify ICPs due for recertification but the timeframes are not being achieved. The list below shows those installations with expired certification.

ICP	Install No	Highest Meter cat	Cert Date	Cert Exp date
0000036598HR056	1	5	19/09/2015	24/07/2018
0000100431UND36	1	3	16/01/2015	21/11/2016
0000103286TRC70	1	2	12/02/2014	13/10/2018
0000103396TRFD9	1	3	9/06/2008	25/02/2018
0000103443UNA0E	1	2	23/10/2009	11/12/2017
0000156978TR8A6	1	4	3/03/2016	3/07/2018
0000380994TU878	1	4	18/06/2014	3/07/2018
0000380994TU878	4	4	18/06/2014	3/07/2018
0000545742TU049	1	3	18/01/2010	16/06/2018

0000890104TU8B6	1	3	5/09/2014	18/06/2018
0001000641UN0B9	1	3	2/02/2014	17/05/2017
0005934354RN61F	1	3	19/06/2009	2/04/2017
0006726143RN103	1	4	10/01/2014	10/01/2018
0007134502RNF9D	1	4	5/11/2012	1/06/2017
0007134503RN3D8	1	4	21/01/2014	30/04/2018
0007159999RNADA	1	5	1/05/2015	1/05/2018
0007160000RNF9E	1	5	1/05/2015	1/05/2018
0010327292EL841	1	2	19/08/2008	31/07/2018
0084040035WED39	1	4	24/04/2013	24/04/2017
0084040077WEF19	1	3	20/04/2002	24/10/2017
0116434031LC65E	1	2	12/08/2009	12/06/2017
0137841035LCBAC	1	3	15/10/2011	30/04/2018
0331741032LCBAA	1	2	12/08/2009	27/12/2017
0445226048LCEB9	1	2	17/08/2009	27/12/2017
0800082060LC7C5	1	2	14/08/2009	31/01/2018
0800210069LC5C8	1	2	13/08/2009	24/01/2018
0800557069LCF36	1	3	11/04/2012	11/08/2018

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 7.1</p> <p>With: Clause 10.38 (a), clause 1 and clause 15 of Schedule 10.7</p> <p>From: 21-Nov-16</p> <p>To: 29-Nov-18</p>	<p>Certification expired for 27 metering installations.</p> <p>Potential impact: High</p> <p>Actual impact: Medium</p> <p>Audit history: Twice</p> <p>Controls: Weak</p> <p>Breach risk rating: 6</p>

Audit risk rating	Rationale for audit risk rating		
Medium	<p>Whilst reporting is in place, the controls are recorded as weak with regard to ensuring recertification is conducted prior to expiry.</p> <p>The impact on settlement or participants unknown, but these are all higher category ICPs and if any are recording inaccurately the impact will be at least moderate, therefore the audit risk rating is recorded as medium. There is an increased likelihood of failure or inaccuracy for metering installations with expired certification.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
As stated the expired certification had been identified, but due to resourcing issues in the BRS ATH we have attempted to use other ATH's with very limited success. Some sites were visited and rectified but the time frames were extended and little or no paperwork was received.		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Allocate the MEP role and continue using our own and other ATH's in an attempt to resolve this situation.		Ongoing	

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

Code reference

Clause 10.38(b) and clause 9 of Schedule 10.6

Code related audit information

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

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

Audit observation

I checked the certification records for 30 metering installations to confirm compliance. Broadspectrum has shown that their processes include all tests and the reports confirm tests are completed.

Audit commentary

All certification activities have been conducted by Broadspectrum ATH. The most recent audit report confirms the appropriate testing is conducted.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

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

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

All other installations must measure and separately record:

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

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

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

Audit observation

All relevant metering is compliant with this clause.

Audit commentary

All relevant metering is compliant with this clause.

Audit outcome

Compliant

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

Code reference

Clause 10.37(2)(b)

Code related audit information

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

Audit observation

This clause relates to Transpower as an MEP.

Audit commentary

This clause relates to Transpower as an MEP.

Audit outcome

Not applicable

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

Code reference

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

Code related audit information

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

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

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

Audit observation

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

Audit commentary

There are no examples of burden changes having occurred.

Audit outcome

Not applicable

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

Code reference

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

Code related audit information

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

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

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

If a meter is certified in this manner:

- the MEP must, each month, obtain a report from the participant interrogating the metering installation, which details the maximum current from raw meter data from the metering*

installation by either calculation from the kVA by trading period, if available, or from a maximum current indicator if fitted in the metering installation conveyed through the point of connection for the prior month; and

- *if the MEP does not receive a report, or the report demonstrates that the maximum current conveyed through the POC was higher than permitted for the metering installation category it is certified for, then the certification for the metering installation is automatically cancelled.*

Audit observation

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

Audit commentary

Broadspectrum has one ICP certified as Category 2 with a CT primary rating above 500A. This ICP has protection lower than 500A, which achieves compliance.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

Audit observation

I checked if there were any examples of Insufficient load certifications

Audit commentary

Broadspectrum does not allow certification in accordance with this clause. Load banks are required to be used to increase the load to conduct testing.

Audit outcome

Compliant

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

Code reference

Clause 14(6) of Schedule 10.7

Code related audit information

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

- *the metering installation certification is automatically revoked:*
- *the certifying ATH must advise the MEP of the cancellation within 1 business day:*
- *the MEP must follow the procedure for handling faulty metering installations (clause 10.43 - 10.48).*

Audit observation

Broadspectrum does not allow certification in accordance with this clause. Load banks are required to be used to increase the load to conduct testing.

Audit commentary

Broadspectrum does not allow certification in accordance with this clause. Load banks are required to be used to increase the load to conduct testing.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

- *advise the market administrator, by no later than 10 business days after the date of certification of the metering installation, of the details in clause 32(2)(a) of Schedule 10.7*
- *respond, within 5 business days, to any requests from the market administrator for additional information*
- *ensure that all of the details are recorded in the metering installation certification report*
- *take all steps to ensure that the metering installation is certified before the certification expiry date.*

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

Audit observation

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

Audit commentary

Alternative certification has not been applied to any metering installations.

Audit outcome

Not applicable

7.10. Timekeeping Requirements (Clause 23 of Schedule 10.7)

Code reference

Clause 23 of Schedule 10.7

Code related audit information

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

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

Audit observation

I asked Broadspectrum whether there were any metering installations with timeclocks.

Audit commentary

Broadspectrum confirmed there are no metering installations with timeclocks.

Audit outcome

Not applicable

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

Code reference

Clause 35 of Schedule 10.7

Code related audit information

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

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

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

Audit observation

Broadspectrum does not have any installations with control devices.

Audit commentary

Broadspectrum does not have any installations with control devices.

Audit outcome

Not applicable

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

Code reference

Clause 34(5) of Schedule 10.7

Code related audit information

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

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

Audit observation

Broadspectrum does not have any installations with control devices.

Audit commentary

Broadspectrum does not have any installations with control devices.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

Audit observation

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

Audit commentary

Broadspectrum has not conducted any statistical sampling during the audit period.

Audit outcome

Not applicable

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

Code reference

Clause 24(3) of Schedule 10.7

Code related audit information

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

In all other cases the MEP must advise the registry of the compensation factor.

Audit observation

I checked the records for 30 CT metered metering installations to confirm that compensation factors were correctly recorded.

Audit commentary

Compensation factors have been updated accurately on the registry. In all cases, compensation factors are programmed into the meters.

Audit outcome

Compliant

7.15. Metering Installations Incorporating a Meter (Clause 26(1) of Schedule 10.7)

Code reference

Clause 26(1) of Schedule 10.7

Code related audit information

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

Audit observation

I checked the certification records for 30 metering installations to confirm compliance.

Audit commentary

Meters were certified for all 30 installations.

Audit outcome

Compliant

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

Code reference

Clause 28(1) of Schedule 10.7

Code related audit information

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

Audit observation

I checked the certification records for 30 metering installations to confirm compliance.

Audit commentary

Measuring transformers were certified for all 30 installations.

Audit outcome

Compliant

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

Code reference

Clause 36(1) of Schedule 10.7

Code related audit information

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

Audit observation

I checked the certification records for 30 metering installations to confirm compliance.

Audit commentary

The 30 certification records that I checked confirmed that data storage devices are being correctly certified.

Audit outcome

Compliant

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

Code reference

Clause 7 (3) Schedule 10.3

Code related audit information

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

Audit observation

I checked the ATH register to confirm compliance.

Audit commentary

All relevant ATHs have appropriate approval.

Audit outcome

Compliant

7.19. Interim Certification (Clause 18 of Schedule 10.7)

Code reference

Clause 18 of Schedule 10.7

Code related audit information

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

Audit observation

I checked the registry records (PR255) to identify any ICPs with interim certification recorded.

Audit commentary

There are no interim certified metering installations.

Audit outcome

Not applicable

8. INSPECTION OF METERING INSTALLATIONS

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

Code reference

Clause 45 of Schedule 10.7

Code related audit information

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

- *have been inspected by an ATH within 120 months from the date of the metering installation's most recent certification or*
- *for each 12-month period, commencing 1 January and ending 31 December, a sample of the category 1 metering installations selected under clause 45(2) of Schedule 10.7 has been inspected by an ATH.*

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

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

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

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

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

- *comply with clause 10.43*
- *arrange for an ATH to recertify the metering installation if the metering is found to be inaccurate under Table 1 of Schedule 10.1, or defective or not fit for purpose.*

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

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

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

Audit observation

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

Audit commentary

Sample inspections have not been conducted.

Audit outcome

Compliant

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

Code reference

Clause 46(1) of Schedule 10.7

Code related audit information

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

- 120 months for Category 2
- 60 months for Category 3
- 30 months for Category 4
- 18 months for Category 5.

Audit observation

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

Audit commentary

As recorded in **section 6.4**, none of the inspections due have been conducted, leading to cancellation of certification.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 8.2 With: Clause 46(1) of schedule 10.7 From: 22-Jul-15 To: 29-Nov-18	Inspections not conducted within the allowable window for 27 installations. Potential impact: Medium Actual impact: Medium Audit history: Twice Controls: None Breach risk rating: 8
Audit risk rating	Rationale for audit risk rating
Medium	There is no process in place to ensure inspections are conducted within the inspection window. The impact is unknown but there is a moderate risk that issues could be present and not identified, therefore the audit risk rating is recorded as medium.
Actions taken to resolve the issue	
Completion date	Remedial action status

Allocation of someone to the MEP role and reinstatement of a system to identify when inspections are due, the existing system is currently broken as Broadspectrum is trying to replace our aging Lotus Notes system which is now not fully functional.	28/2/2019 Plus Training	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
Reinstatement of a system to identify when inspections are due with reminders.	Ongoing	

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

Code reference

Clause 44(5) of Schedule 10.7

Code related audit information

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

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

Audit observation

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

Audit commentary

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

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

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

The MEP must make the above arrangements within

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

Audit observation

I checked for examples of notification of missing seals.

Audit commentary

Broadspectrum has a documented process in place for the management of seals and any subsequent investigation and reporting. There were no examples found during the audit period, which is an expected result given that most installations are located in secure areas.

Audit outcome

Compliant

9. PROCESS FOR HANDLING FAULTY METERING INSTALLATIONS

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

Code reference

Clause 10.43(4) and (5)

Code related audit information

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

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

Audit observation

Broadspectrum has a process which is compliant with the Code. There were no recent examples.

Audit commentary

Broadspectrum has a process which is compliant with the Code. There were no recent examples.

Audit outcome

Compliant

9.2. Testing of Faulty Metering Installations (Clause 10.44)

Code reference

Clause 10.44

Code related audit information

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

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

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

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

Audit observation

Broadspectrum has a process which is compliant with the Code. There were no recent examples.

Audit commentary

Broadspectrum has a process which is compliant with the Code. There were no recent examples.

Audit outcome

Compliant

9.3. Statement of Situation (Clause10.46(2))

Code reference

Clause10.46(2)

Code related audit information

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

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

Audit observation

Broadspectrum has a process which is compliant with the Code. There were no recent examples.

Audit commentary

Broadspectrum has a process which is compliant with the Code. There were no recent examples.

Audit outcome

Compliant

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

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

Code reference

Clause 1 of Schedule 10.6

Code related audit information

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

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

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

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

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

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

Audit observation

Broadspectrum does not have a data collection system, but they will assist with access to Raw meter data if possible.

Audit commentary

Broadspectrum does not have a data collection system, but they will assist with access to Raw meter data if possible.

Audit outcome

Compliant

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

Code reference

Clause 2 of Schedule 10.6

Code related audit information

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

Audit observation

Broadspectrum does not have a data collection system, but they will assist with access to Raw meter data if possible.

Audit commentary

Broadspectrum does not have a data collection system, but they will assist with access to Raw meter data if possible.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

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

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

Audit observation

Access will be provided as required. No requests have been made.

Audit commentary

Access will be provided as required. No requests have been made.

Audit outcome

Compliant

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

Code reference

Clause 3(5) of Schedule 10.6

Code related audit information

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

Audit observation

Access will be provided as required. No requests have been made.

Audit commentary

Access will be provided as required. No requests have been made.

Audit outcome

Compliant

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

Code reference

Clause 8 of Schedule 10.6

Code related audit information

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

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

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

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

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

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

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

When raw meter data can only be obtained from an MEP's back office, the MEP must, when interrogating a metering installation, download the event log, check the event log for evidence of malfunctioning or tampering, and if this is detected, carry out the appropriate requirements of Part 10.

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

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

in a form that is accessible to authorised personnel.

Audit observation

Broadspectrum does not have a data collection system.

Audit commentary

Broadspectrum does not have a data collection system.

Audit outcome

Not applicable

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

Code reference

Clause 10.15(2)

Code related audit information

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

Audit observation

Broadspectrum does not have a data collection system.

Audit commentary

Broadspectrum does not have a data collection system.

Audit outcome

Not applicable

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

Code reference

Clause 8(4) of Schedule 10.6

Code related audit information

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

Audit observation

Broadspectrum does not have a data collection system.

Audit commentary

Broadspectrum does not have a data collection system.

Audit outcome

Not applicable

10.8. Event Logs (Clause 8(7) of Schedule 10.6)

Code reference

Clause 8(7) of Schedule 10.6

Code related audit information

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

- a) *ensure an interrogation log is generated*
- b) *review the event log and:*
 - i. *take appropriate action*
 - ii. *pass the relevant entries to the reconciliation participant.*
- c) *ensure the log forms part of an audit trail which includes:*
 - i. *the date and*

- ii. *time of the interrogation*
- iii. *operator (where available)*
- iv. *unique ID of the data storage device*
- v. *any clock errors outside specified limits*
- vi. *method of interrogation*
- vii. *identifier of the reading device used (if applicable).*

Audit observation

Broadspectrum does not have a data collection system.

Audit commentary

Broadspectrum does not have a data collection system.

Audit outcome

Not applicable

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

Code reference

Clause 8(9) of Schedule 10.6

Code related audit information

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

Audit observation

Broadspectrum does not have a data collection system.

Audit commentary

Broadspectrum does not have a data collection system.

Audit outcome

Not applicable

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

Code reference

Clause 10.48(2),(3)

Code related audit information

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

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

Audit observation

Broadspectrum does not have a data collection system.

Audit commentary

Broadspectrum does not have a data collection system.

Audit outcome

Not applicable

CONCLUSION

Broadspectrum is the MEP for 97 HHR ICPs. They do not operate a data collection system and they do not have any mass market ICPs. Broadspectrum is also an Approved Test House (ATH). The ATH function was not audited, although there is an overlap between the two operations.

The controls require strengthening in many of the areas relevant to the MEP function. 13 non-compliances were identified. The major issues are as follows:

- 27 ICPs had expired certification;
- 27 ICPs have cancelled certification because inspections were not conducted;
- four ICPs have cancelled certification because low burden was not addressed;
- uncertainty calculations are not conducted in accordance with the Code; and
- some registry errors exist, and registry validation is not conducted.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The table below provides some guidance on this matter and recommends an audit frequency of three months. This timeframe may not provide enough time to allow recertification to occur at the 58 installations with expired or cancelled certification. I therefore recommend the next audit is conducted in six months.

PARTICIPANT RESPONSE

All the issues that have been identified during this audit can mostly be boiled down to the simple fact that we do not have anyone looking after the MEP role. I intend to resolve this by the end of February 2019. This has meant that some checking of paperwork and the registry has not been completed. Also the companies Lotus Notes database is only partially operational and is not issuing the calibration expiry and inspection due warnings that we were previously getting. All this has added up to the issues that we now have.

The tentative plan to resolve these issues is:-

- Allocate the MEP role.
- Do a check of all installations and update records as required.
- Identify installations where inspections have been missed and certification may have expired or been cancelled
- Complete an inspection on these installations and recertify where possible.
- From the inspections identify other work that needs to be completed for full certification
- Complete the work on a site by site basis and recertify
- Update the registry on a site by site basis as the work is completed.
- Restart the Registry cross checking process

The completion time for this could be extended if the inspections identify that CT or VT calibrations are required on any of the Cat 3,4 and 5 installations as access to these installations is likely to be limited.

Question related to 6.4:-

Is low burden an issue when certifying CT's using the comparative method? As I would think that any errors of the CT due to the low burden is taken into account by using the comparative method. Therefore the installations error and uncertainty is measured during the certification process.