

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

For



WEL NETWORKS

Prepared by: Brett Piskulic – Veritek Limited

Date audit commenced: 16 November 2017

Date audit report completed: 11 December 2017

Audit report due date: 15-Dec-17

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EXECUTIVE SUMMARY

WEL Networks (WEL) is a Metering Equipment Provider (MEP) and is required to undergo an audit by 15/12/17, in accordance with clause 1(1)(b) of schedule 10.5.

Three non-compliances are recorded and two recommendations are made. The main issue is that certification was not cancelled for two installations where the meters had been bridged.

Two recommendations are made regarding the clarity of certification records and a suggestion to strengthen the controls around non-communicating AMI installations.

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 24 months. I therefore recommend a 24 month period.

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Design Reports	4.1	2 of schedule 10.7	Design report not obtained for ICP 0000028095WE4C2.	Strong	Low	1	Cleared
MEP response	6.1	1(1) of Schedule 11.4	1 late MN file.	Strong	Low	1	Cleared
Cancellation of certification	6.4	6 of Schedule 11.4	Certification of two installations with bridged meters not cancelled.	Moderate	Low	2	Cleared
Future Risk Rating						4	
Indicative Audit Frequency						24 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
Accuracy of records	5.1	Clause 4(1)(a) and (b) of Schedule 10.	Require ATHs to provide certification records with better clarity.
Electronic interrogation	10.5	Clause 8 of Schedule 10.6	WEL to consider the memo issued by the Authority on 26 July 2017 and a report is run regularly and ICPs are changed to AMI non-communicating within an appropriate timeframe.

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

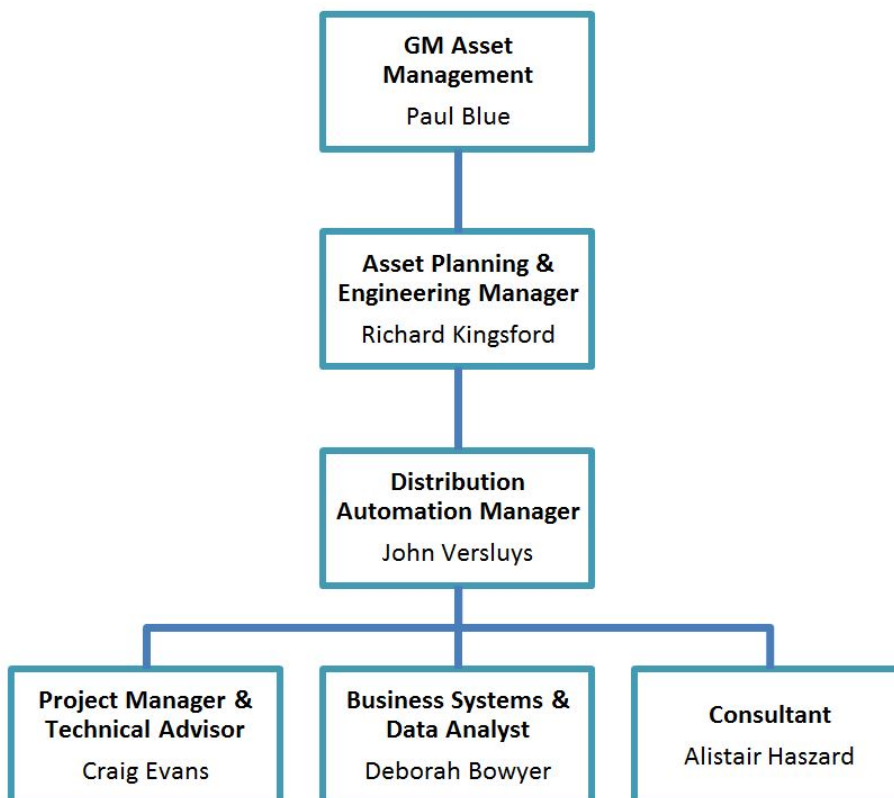
I checked the Electricity Authority website and I confirm there are no exemptions in place.

Audit commentary

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

1.2. Structure of Organisation

WEL Networks MEP Structure:



1.3. Persons involved in this audit

Auditor: Brett Piskulic

Supporting Auditor: Steve Woods

Veritek Limited

Electricity Authority Approved Auditors

WEL personnel assisting in this audit were:

Name	Title
John Versluys	Distribution Automation Manager
Craig Evans	Project Manager & Technical Advisor
Alastair Hazard	Consultant
Deborah Bowyer	Business Systems & Data Analyst

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 contractors 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

WEL 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

WEL 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

WEL MEP data is held in the Meter Data Warehouse and Meter Database Orion, which is subject to backup arrangements in accordance with standard industry protocols.

1.6. Breaches or Breach Allegations

WEL confirmed there have been no breach allegations during the audit period.

1.7. ICP Data

Metering Category	Number of ICPs
1	510
2	1
3	2

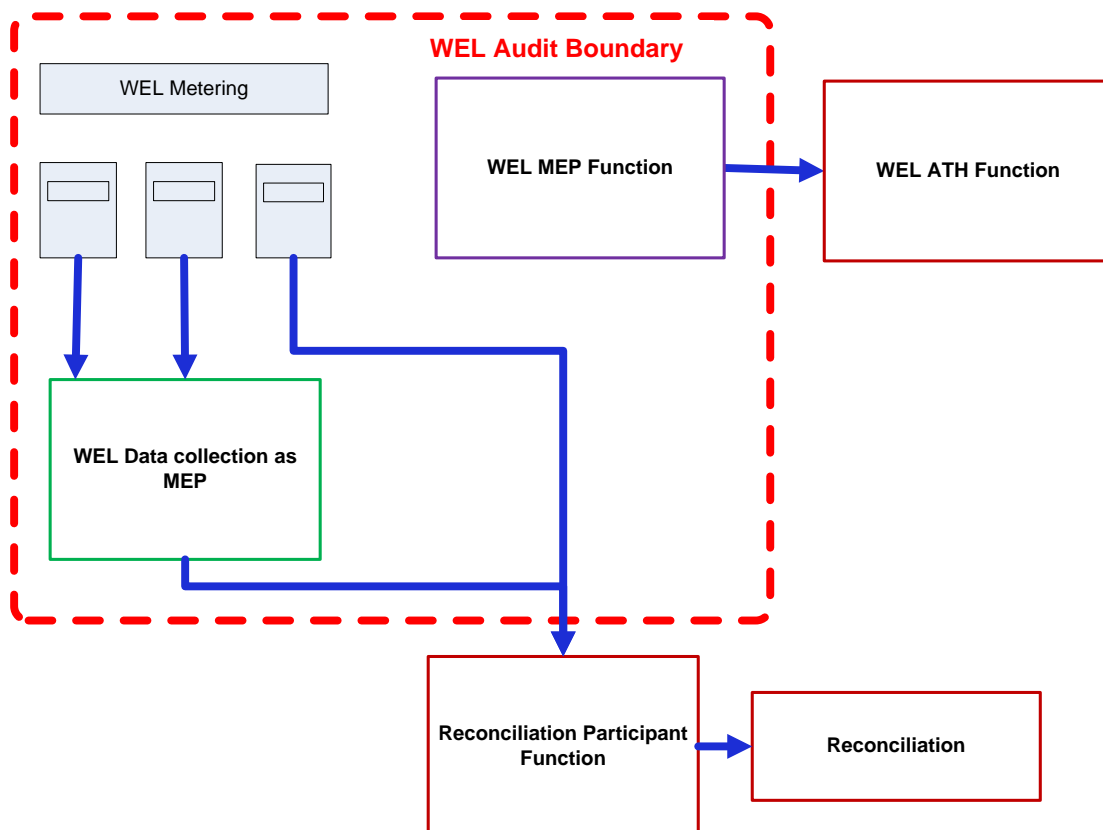
1.8. Authorisation Received

A letter of authorisation was not required or requested.

1.9. Scope of Audit

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

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



1.10. Summary of previous audit

The previous audit was conducted in August 2016 by Steve Woods of Veritek Limited. The table below shows that most of the issues have been cleared.

Table of Non Compliance

Subject	Section	Clause	Non compliance	Status
Registry updates	3.3	2 of schedule 11.4	One late registry update.	Cleared
Design of metering installations	4.3.1	2 & 4(1) of schedule 10.7	Design report not obtained for ICP 0000022125WE134. It is unclear whether the error of the installation is within the maximum allowable in Table 1 of Schedule 10.1.	Cleared for this ICP
Metering records	5.1	4(1)(a) and (b)(i) & (v) of schedule 10.6	Certification records for one ICP inaccurate and incomplete.	Cleared
Changes to registry records	6.2	3 of schedule 11.4	Two late registry updates.	Identified
Certification of components	7.17	26(1) of schedule 10.7	Data storage devices not certified for one metering installation.	Cleared

Table of Recommendations

Subject	Section	Clause	Recommendation for improvement	Status
Meter certification	7.15	Clause (1)(1)(d)(ii) & 5(1)(b)(v) of schedule 10.8	Develop a type test report checklist.	Cleared

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

The Code places responsibility for maintaining the services access interface on the MEP, and places responsibility for determining and recording it with ATHs. I checked the certification records for all relevant ATHs.

Audit commentary

I checked 24 certification records and found the services access interface was recorded correctly by the ATHs.

Audit outcome

Compliant

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

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

Audit outcome

Not applicable

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

WEL uses the WASN identifier in all cases.

Audit outcome

Compliant

2.4. Communication Equipment Compatibility (Clause 40 Schedule 10.7)

Code reference

Clause 40 Schedule 10.7

Code related audit information

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

Audit observation

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

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 11.2 and Clause 10.6

Code related audit information

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

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

Audit observation

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 WEL has taken all practicable steps to ensure that information is complete and accurate.

Audit outcome

Compliant

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 WEL had sent or received any invoices.

Audit commentary

WEL 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

I checked the event detail for the period 01/01/17 to 13/10/17 for all records where WEL became the MEP to evaluate the timeliness of updates.

Audit commentary

I examined an event detail report for 68 switches in relation to this clause. All of these updates were completed within 15 days.

Audit outcome

Compliant

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 WEL to confirm whether there had been any requests from other MEPs.

Audit commentary

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

Audit outcome

Not applicable

3.4. Termination of MEP Responsibility (Clause 10.23)

Code reference

Clause 10.23

Code related audit information

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

The MEP is responsible if it:

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

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

An MEPs obligations terminate only when;

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

Audit observation

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

Audit commentary

WEL 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 the records for ICP 0001312595WE4A6 where WEL ceased to be the MEP on 7/06/2016 and for ICP 0000126560WE033 which was decommissioned 6/6/2014 and confirmed records are 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

WEL has engaged the WEL and Wells ATHs for certification activities. I have checked design reports for this work provided by both WEL and the ATHs.

Audit commentary

WEL has provided design reports which are used by WEL ATH. I have checked the design reports and confirm they include all of the requirements noted above and they were prepared by a person with the appropriate level of skills, expertise, experience and qualifications. I checked the certification reports for 23 installations completed by the WEL ATH and confirmed that they referenced a design report.

I checked a Cat 3 installation, ICP 0000028095WE4C2, certified by the Wells ATH. In this case there was no design report reference in the metering installation certification report. Therefore, compliance is not achieved with the requirement to “...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.”

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.1 With: Clause 2 of schedule 10.7 From: 28-Jun-17 To: 16-Nov-17	Design report not obtained for ICP 0000028095WE4C2. Potential impact: Medium Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	Rationale for audit risk rating

Low	Controls are recorded as strong because processes are in place to ensure that correct design reports are used. The impact on other participants is minor; therefore the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
A corrected version of WELs ATH certification with the design report was obtained at the time of the audit.		9/11/2017	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	
As per the issue in 5.1 we will create a 1 page check list template for these CAT2/CAT3 installations that provide a summary of key certification data elements.		15/1/2018	

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 WEL has used the WEL and Wells ATHs.

Audit commentary

I have checked the Authority's website and confirm that the WEL and Wells ATHs have current and appropriate scope of approvals.

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 WEL to ensure compliance with the design and with the error thresholds stipulated in Table 1. I also checked the certification records for 24 metering installations.

Audit commentary

The WEL ATH process requires the design report to be recorded on the metering installation certification report, the 23 reports I checked included a reference to the design report.

Design report reference was not included in the Wells ATH certification report, this is recorded as non-compliance in section 4.1.

Audit outcome

Compliant

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

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 4(2)(b) of Schedule 10.7

Code related audit information

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

Audit observation

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

Audit commentary

I checked WEL's list file and I confirm that there are two category 3 metering installations, both of which 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 WEL is responsible for any NSP metering.

Audit commentary

WEL is not the MEP 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

WEL is not responsible for any grid metering.

Audit commentary

WEL 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 WEL 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

WEL has provided copies of the design reports to all distributors and traders in order to achieve compliance with this requirement.

Audit commentary

WEL has sought agreement from Meridian Energy, Wise and Simply Energy, the traders that they provide MEP services to. WEL is the MEP and Distributor in all instances and have therefore approved the design for metering installations.

Audit outcome

Compliant

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

Code reference

Clause 3 of Schedule 11.4

Code related audit information

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

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

Audit observation

I checked the event detail report for the period 01/01/17 to 13/10/17 to evaluate the timeliness of registry updates.

Audit commentary

There were three new connections which were updated within 10 business days.

There were three ICPs where the registry was corrected and the timeframe appeared to be greater than 10 business days. This was caused by the inadvertent use of the original event date rather than an updated date. The updates were actually conducted within 10 business days of the event. WEL intends to correct the event date on the registry.

Audit outcome

Compliant

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

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

Audit commentary

WEL has the Silverspring data collection system for Category 1 to 3 metering installations and this is considered “metering infrastructure”. This system operates as intended and is compatible with all metering components it interrogates.

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

Audit commentary

WEL has provided a letter to all traders advising them of their responsibilities under this clause.

There were no ICPs decommissioned where WEL is the MEP during the audit period.

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 WEL whether they had approved any burden changes during the audit period.

Audit commentary

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

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

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

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

Audit observation

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

Audit commentary

WEL has not conducted any updates during the audit period.

Audit outcome

Compliant

4.15. Temporary Energization (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 asked WEL if there had been any examples of temporary energisation.

Audit commentary

There were no examples of temporary energisation.

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 24 metering installations to evaluate compliance with this clause.

Audit commentary

I checked WEL's records and I confirm that all of the records listed above are available for all installations

One of the records was difficult to read and some of the critical fields were difficult to identify. I recommend WEL requires ATHs to include the following information clearly on the first page of certification records:

1. ICP
2. metering installation certification date
3. metering installation certification expiry date
4. energisation date (if known and if the ATH is also the energisation agent)
5. metering Category
6. certification type (selected component, comparative, fully calibrated, alternative, low load, lower category).

Recommendation	Description	Audited party comment	Remedial action
Clause 4(1)(a) and (b) of Schedule 10.6	Require ATHs to provide certification records with better clarity.	We agree with this recommendation and we will create a template (as per item 4.1) which will either be used by WEL or the ATH used by WEL. The template will in addition to the list above include an item for the design report.	Identified

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 WEL whether any requests had been made for copies of inspection reports.

Audit commentary

WEL has not been requested to supply any inspection reports.

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 a directory of metering records from 2014 to confirm compliance.

Audit commentary

WEL keeps records indefinitely. I checked an example of an installation ICP 0000126560WE033, that had been decommissioned on 6/6/2014, and confirmed that records are still available.

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

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

Audit commentary

WEL 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 01/01/17 to 13/10/17 to confirm whether all responses were within 10 business days.

Audit commentary

I found that there was one MN file out of 68 sent late for ICP 0000040881WE030.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.1 With: Clause 1(1) of Schedule 11.4 From: 01-Dec-16 To: 31-Aug-17	1 late MN file. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	I have recorded the controls as strong because WEL has good monitoring in place for this. There is a minor impact on other participants; therefore the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
No action available to remedy after the fact.			Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	

<p>The circumstances that gave rise to this non-compliance aren't clear given the lapse in time. WEL were nominated on the 17/10/16 and we accepted on the 13/2/17 with an effective date back to the nomination. The actual meter was installed on the 15/3/17 and data supplied soon after. The problem was in that the actual acceptance was made much later than it should have been.</p> <p>In order to avoid this situation we have completely changed the order in which the process works. We now do the metering change (after informal arrangement with the retailer), get the retailer to nominate us and then accept with effective date of the installation. This process has worked well over the last six months.</p>	1/8/2017	
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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 traders 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 WEL ICPs found no issues.

Audit outcome

Compliant

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 conducted a walkthrough of the validation processes to confirm compliance. I checked all records in the event detail report to confirm whether the timeliness requirements were being met.

Audit commentary

WEL conducts a complete validation on the 13th and 26th of each month in accordance with this clause and any errors are updated within five business days. I viewed a discrepancy report from 13/11/2017 to confirm this.

Audit outcome

Compliant

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

Code reference

Clause 20 of Schedule 10.7

Code related audit information

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

- 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*
- 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*
- 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*
- 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*
- 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)*
- 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

I found two cases where category 1 meters had been bridged by the retailer without WEL's knowledge. The ICPs are 0000522023WE46C & 0006412924WEA76. This is deemed as a modification of the installation which has rendered the installation inaccurate. A technician was sent to site, the bridges were removed but the installations were not recertified. Due to the modification, certification should have been, but was not automatically cancelled. This is also non-compliance with Clause 10.12 (interference with the metering installation) for the retailer.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.4 With: Clause 6 of Schedule 11.4 From: 20-Mar-17 To: 12-Oct-17	Certification not cancelled and registry not updated for two category 1 installations with bridged meters. Potential impact: Medium Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	I have recorded the controls as moderate in this area. The bridging was done by another participant without WEL's knowledge so the non-compliance relates to WEL not updating the registry rather than the bridging itself. The issues found have a minor impact on other participants and on settlement. The audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Our service provider was sent out to recertify the sites after the audit and these were promptly provided.		13/11/2017	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	

<p>The situation has arisen because of the actions taken by other parties outside of our control. As a result :</p> <ul style="list-style-type: none"> • We have advised traders that they are not following correct process and should not tamper with our meters. • When advised that a meter has been bridged we will cancel the certification on the registry (set expiry date). • On removal of bridge on our direction or by other parties' action, we will ensure the site is recertified. 	10/11/2017	
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6.5. Registry Metering Records (Clause 11.8A)

Code reference

Clause 11.8A

Code related audit information

The MEP must provide the registry 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 WEL 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 WEL 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
- I checked ICPs where certification was cancelled to ensure the registry was updated accordingly.

Audit commentary

WEL has a database which includes certification expiry dates. This database showed that all metering installations had current certification at the time of the audit. WEL does not have any interim certified metering installations.

Audit outcome

Compliant

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 24 metering installations to confirm compliance. ATHs have shown that their processes include all tests, and reports confirm tests are completed

Audit commentary

Certification activities have been conducted by WEL using the WEL and Wells ATHs. The most recent audit reports for all ATHs confirm the appropriate testing is conducted. The 24 certification records all included confirmation that the required tests had been completed.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

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

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

All other installations must measure and separately record:

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

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

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

Audit observation

All relevant metering is compliant with this clause.

Audit commentary

WEL has some metering installations above Category 1 and they record energy in accordance 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 WEL 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

There are no examples of certification at a lower category.

Audit commentary

There are no examples of certification at a lower category.

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

There are no examples of insufficient load certifications.

Audit outcome

Not applicable

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

There are no examples of insufficient load certifications.

Audit commentary

There are no examples of insufficient load certifications.

Audit outcome

Not applicable

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 two seconds per day over a period of 12 months*
- b) is monitored and corrected at least once every 12 months.*

Audit observation

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

Audit commentary

WEL confirmed there are no metering installations which have timeclocks.

Audit outcome

Compliant

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

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

Audit commentary

WEL is not aware of any control devices which have been bridged out. If any are bridged out they will notify as required by this clause.

Audit outcome

Compliant

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

Code reference

Clause 34(5) of Schedule 10.7

Code related audit information

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

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

Audit observation

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

Audit commentary

WEL has not received notification from ATHs in accordance with this clause. WEL is also a distributor and is not aware of any areas with poor propagation of control signals.

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

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

Audit outcome

Compliant

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

Code reference

Clause 24(3) of Schedule 10.7

Code related audit information

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

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

Audit observation

I checked the records for all Category 2 and 3 metering installations to confirm that compensation factors were correctly recorded on the registry.

Audit commentary

Compensation factors have been updated accurately on the registry. Checking the records for three ICPs confirmed this.

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 24 metering installations to confirm compliance.

Audit commentary

Meters were certified for all 24 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 the one category 3 metering installation completed to confirm compliance.

Audit commentary

Measuring transformers were certified for this installation.

Audit outcome

Compliant

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

Code reference

Clause 36(1) of Schedule 10.7

Code related audit information

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

Audit observation

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

Audit commentary

The 24 certification records that I checked confirmed that the data storage devices are being correctly certified.

Audit outcome

Compliant

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

Code reference

Clause 7 (3) Schedule 10.3

Code related audit information

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

Audit observation

I checked the ATH register to confirm compliance.

Audit commentary

The WEL and Wells 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

WEL did not have any interim certified metering installations.

Audit outcome

Compliant

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 to determine whether WEL was required to conduct any inspections during the audit period.

Audit commentary

WEL was not required to conduct any inspections during the audit period.

Audit outcome

Not applicable

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. There were no category 2+ installations due for inspection.

Audit commentary

I checked the registry information to confirm which ICPs were due for inspection. There were no category 2+ installations due for inspection.

Audit outcome

Not applicable

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

There were no inspections completed during the audit period.

Audit commentary

There were no inspections completed during the audit period.

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 if there were any examples of notification of missing seals.

Audit commentary

WEL advised that there no examples of notification of missing seals.

WEL has a documented process in place for the management of seals and any subsequent investigation and reporting.

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

I checked an example where WEL had become aware of a faulty metering installation.

Audit commentary

WEL has a documented process in place for the management of faulty metering installations and any subsequent investigation and reporting.

I checked an example where a meter had been remotely disconnected (ICP 0000522023WE46C). The customer then switched to a new retailer who subsequently arranged for a contractor to bridge the meter. (see section 6.4 also re this ICP) In this case the meter reported events related to tamper, line side voltage and reverse energy due to the second element being fed in reverse through the main element. In this case the affected participants were advised within the required timeframes.

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

I checked for examples where WEL had become aware of faulty metering installations which required testing.

Audit commentary

There were no examples where testing was required.

WEL has a documented process in place for the management of faulty metering installations, and any subsequent investigation and reporting.

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

There were no examples of statements of situation being required.

Audit commentary

There were no examples of statements of situation being required.

Audit outcome

Not applicable

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

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

Audit commentary

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

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

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

Audit commentary

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

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

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

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

Audit observation

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

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 3(5) of Schedule 10.6

Code related audit information

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

Audit observation

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

Audit commentary

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

Audit outcome

Compliant

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

Code reference

Clause 8 of Schedule 10.6

Code related audit information

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

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

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

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

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

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

I requested reporting on interrogation cycle to confirm compliance.

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

Audit commentary

Interval data is collected every six hours. Register data is collected daily and the devices have a storage capacity of more than 365 days.

Whilst there are no examples of the maximum interrogation cycle being exceeded, there is no report for identifying any meters over 365 days run regularly. I recommend that WEL consider the memo issued by the Authority on 26/07/2017 and a report is run regularly and ICPs are changed to AMI non-communicating within an appropriate timeframe.

Audit outcome

Compliant

Recommendation	Description	Audited party comment	Remedial action
Clause 8 of Schedule 10.6	WEL to consider the memo issued by the Authority on 26 July 2017, and a report is run regularly and ICPs are changed to AMI non-communicating within an appropriate timeframe.	WEL has put in place a mechanism to automatically update the AMI flags in the registry for WASN meters based on the meter communication status. At present comms needs to be failed for 20 days before AMI is set to N.	Identified

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

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

Audit commentary

All data is provided to reconciliation participants via secure FTP, and password security is in place to prevent unauthorised access.

Audit outcome

Compliant

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

Code reference

Clause 8(4) of Schedule 10.6

Code related audit information

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

Audit observation

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

Audit commentary

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

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

During interrogation the system time is compared to the meter time. The setting for adjustment is 18 seconds. Any clock errors between 10 seconds and 20 minutes are automatically synchronised and a report is sent to retailers with the details. If a clock error over 20 minutes occurs, the matter is referred to Silverspring for their action, which may involve a manual time synchronisation. This normally only occurs with some new meters which may have time drift while sitting in stock. WEL provided examples of clock synchronisation and other events which were sent to retailers.

Audit outcome

Compliant

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

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

Audit commentary

WEL downloads the event log as required by this clause. All critical events are evaluated and appropriate action is taken. The snapshot below shows an extract of events from the most recent report. Compliance is achieved with the requirement to take appropriate action where problems may affect the operation or accuracy of the metering installation and WEL passes relevant event log entries to the reconciliation participant in all cases.

3	LGIEC_PHASE_C_MAINS_VOLT_LOSS	1	LG IEC Phase C mains voltage loss
13	LGIEC_FAILED_PASSWORD_ON_LOGIN	1	LG IEC Failed password on login
17	LGIEC_PHASE_C_MAINS_VOLT_REST	1	NULL
19	LGIEC_PHASE_A_MAINS_VOLT_LOSS	1	LG IEC Phase A mains voltage loss
23	C1219_PRIMARY_POWER_UP	1	C1219 Primary Power Up
24	LGIEC_PHASE_B_MAINS_VOLT_REST	1	NULL
26	C1219_TBL3_TAMPER_DETECTED	1	C1219 Table 3 Tamper Detected
27	NIC_METER_TIME_SYNC	1	NULL
28	LGIEC_PHASE_B_MAINS_VOLT_LOSS	1	LG IEC Phase B mains voltage loss
29	C1219_TIME_CHANGED_CODE_4	1	NULL
30	C1219_PRIMARY_POWER_DOWN	1	C1219 Primary Power Down
31	C1219_TIME_CHANGED_CODE_3	1	NULL
32	LGIEC_PHASE_A_MAINS_VOLT_REST	1	NULL
35	C1219_TAMPER_ATTEMPT	1	C1219 Tamper attempt detected

WEL also monitors installations for the situation where unexpected generation is recorded. Several installations have been found where embedded generation was installed without permission from WEL.

Audit outcome

Compliant

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

Code reference

Clause 8(9) of Schedule 10.6

Code related audit information

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

Audit observation

I conducted a walkthrough of the sumcheck process and I checked the most recent reporting.

Audit commentary

WEL has a process where the midnight reads are compared with HHR data. If there is a difference then a report is generated and an investigation occurs. The threshold is set at 1 Kwh.

Audit outcome

Compliant

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

Code reference

Clause 10.48(2),(3)

Code related audit information

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

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

Audit observation

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

Audit commentary

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

Audit outcome

Not applicable

CONCLUSION

Three non-compliances are recorded and two recommendations are made. The main issue is that certification was not cancelled for two installations where the meters had been bridged.

Two recommendations are made regarding the clarity of certification records and a suggestion to strengthen the controls around non-communicating AMI installations.

PARTICIPANT RESPONSE