

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

For

**NORTHPOWER**

Prepared by: Ewa Glowacka

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## EXECUTIVE SUMMARY

This participant audit was performed at the request of Northpower to encompass the Authority's request for an audit, as required by clause 10.20, of Part 10, of the Electricity Industry Participation Code. The relevant clauses were audited as required by the Guidelines for Metering Equipment Provider v.2.0 issued by the Electricity Authority.

At the time of this audit the number of ICPs for which Northpower is recorded as being the MEP, was 8,552. Since the last audit Northpower lost 400 ICPs because their meters are being steadily replaced by meter assets managed by other MEPs on the request of traders.

We identified 3 non-compliances. Two of them relate to installations with expired certifications. Northpower's strategy is to replace all expired or expiring Category 1 meters with Metrix meters, who will become the MEP for these installations. Where a consumer refuses a smart meter, the meter is replaced with a certified Northpower meter. Northpower is actively managing this process themselves. It is being done in conjunction with traders and customers. Cat 2 and above meters will be displaced by AMS or re-certified.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. Table 1 of the Guidelines for Reconciliation Participant audit provides some guidance on this matter. The Future Risk Rating score is 9 which results in an indicative audit frequency of 18 months. Our recommendation is 12 months to give Northpower enough time to address the non-compliance of uncertified installations. The company has put in place effective processes to address non-compliances identified in the previous audits.

We thank Northpower's staff for their full and complete cooperation in this audit. Their response to any request for information or clarification was answered in a timely manner.

## AUDIT SUMMARY

### NON-COMPLIANCES

Subject	Section	Clause	Non Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Changes to registry records	4.10	3 of Schedule 11.4	4.3% of updated entries in the registry are uploaded later than 10BD	Strong	Low	1	Identified
Certification of installations	7.1	10.38(a)	Certification expired for 961 installations	Moderate	Medium	4	Identified
Interim certification	7.19	10 of Schedule 10.7	404 ICPs (status "active") and 147 ICPs (status "inactive") with expired interim certification	Moderate	Medium	4	Identified
Future Risk Rating						9	
Next audit date						18 months	

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

### RECOMMENDATIONS

Subject	Section	Description	Recommendation
			Nil

### ISSUES

Subject	Section	Description	Issue
			Nil



Name	Title	Company
Peter Smith	Retail Billing Accountant	Northpower Ltd
Elisabeth Smith	ICP/Meter Data Administrator	Northpower Ltd
Shane Ruxton	Commercial & Regulatory Manager	Northpower Ltd
Ewa Glowacka	Electricity Authority Approved Auditor	TEG & Associates Ltd

#### 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 fulfilment of the participant's 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

Northpower does not use agents for the functions covered by this audit.

##### Audit commentary

All functions are conducted by Northpower's staff.

#### 1.5. Hardware and Software

Gentrack Velocity is the main software application used for the MEP functions (ICP and meter asset management). Gentrack handles the registry interface and the updating of ICP information in the registry. There are also a number of databases (Access 2010) used for the management of discrepancies in the registry.

#### 1.6. Breaches or Breach Allegations

No breaches or alleged breaches were lodged since the last audit.

#### 1.7. ICP Data

Metering Category	Number of ICPs (2/7/19)	Number of ICPs (16/01/19)	Number of ICPs (16/03/18)
1	8,352	8,783	10,213
2	165	166	169
3	22	22	22
4	1	1	1

5	6	6	6
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### 1.8. Authorisation Received

A letter of authorisation was received from Northpower for the purposes of gathering information for this audit.

### 1.9. Scope of Audit

This participant audit was performed at the request of Northpower to encompass the Authority's request for an audit as required by clause 10.20, of Part 10, of the Electricity Industry Participation Code.

The audit was carried out on the Northpower premises at 28 Mount Pleasant Road, in Whangarei, on the 4/5 July 2019.

The audit covered the following functions:

- Process for changing a MEP
- Installation and modification of metering installations
- Metering records
- Maintenance of registry information
- Certification of metering installations
- Inspection of metering installations
- Process for handling faulty metering installations
- Access to and provision of raw meter data and metering installations

Northpower adopted the four-letter code of NPOW for a participant as a MEP. Northpower is both a Distributor and MEP under the Code with the participant code NPOW being used for both functions.

### 1.10. Summary of previous audit

The previous audit was conducted in January 2019 by Ewa Glowacka of TEG & Associates Ltd. The table below shows non-compliances identified during this audit:

Subject	Section	Clause	Non-Compliance	Comments
Changes to registry records	4.10	3 of Schedule 11.4	39.5% of updated entries in the registry are uploaded later than 10BD	Still exists
Cancellation of certification	6.4	20(2) of Schedule 10.7	Registry records were not updated to reflect cancelled certification for some installations	Cleared
Certification of installations	7.1	10.38(a)	Certification expired for 1,066 installations	Still exists
Interim certification	7.19	10 of Schedule 10.7	548 ICPs (status "active") and 145 ICPs (status "inactive") with expired interim certification	Still exists
Category 2 to 5 inspections	8.2	46(1) of Schedule 10.7	No inspection conducted for 7 category 3 metering installations and 112 category 2 metering installations	Cleared
Broken or removed	8.4	48(5) of	No remedy work was undertaken after	Cleared

seals		Schedule 10.7	installations with removed seals identified	
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## 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

Northpower provide the MEP services for metering installations of category 1 to 5.

All category 1 and 2 installations are manually read by meter reading companies employed by traders. Category 3, 4, and 5 metering installations and category 2 ICPs with TOU meters are read remotely by third parties on behalf of traders.

At some ICPs for which Northpower is the MEP, TOU meters are installed. They are read by Northpower using MV90. The HHR data is only used for Northpower's internal purposes.

#### Audit commentary

Northpower reads some HHR meters themselves therefore it allows them to identify any communication problems. If reported, any malfunctioning of this communication channel with the meters is investigated promptly and appropriate action taken.

The communication problems are usually caused by modem issues or poor cell phone coverage. A Metering Installation Certification Report issued by AccuCal specifies strength of signal at the time of installation certification. If necessary appropriate action is taken if a signal is not strong enough.

#### 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

Northpower is both a distributor and MEP. If the need arises the process used by them as a distributor is used for MEP related disputes.

#### Audit commentary

Since the last audit, there were a number of "disputes" between participants related to the population of meter data in the registry. All of them were resolved in good faith between parties.

#### 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

The registry LIS file dated 01/07/19 was analysed and we confirm the 4-letter code of NPOW is used as a participant identifier for those ICPs for which Northpower provides MEP services.

#### Audit commentary

Compliance confirmed by a review of the registry file.

#### 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

Northpower provides the MEP services for a number of HHR metering installations. They are read via GSM module or via landlines by third parties employed by traders. If any incompatibility was discovered between a communication network operator and equipment installed on site, it would be addressed promptly.

#### Audit commentary

Since the last audit, there were no installations for which any issues were discovered due to a lack of compatibility between equipment installed by Northpower and the communication network operator.

#### 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**

During this audit we reviewed activities conducted by Northpower to determine whether all practicable steps had been taken to provide accurate information.

#### **Audit commentary**

The processes has not changed since the last audit.

Every day the registry ACK files are checked for error messages and when identified they are fixed. Also, every day, meter data from prior to Part 10 which is sent to the registry by Gentrack is reversed. The uploaded meter information is technically correct, but it does not have any value, therefore it is removed. It is an on-going project to keep the registry data correct. It is described in detail in **section 4.10**.

Another issue which needs to be addressed is the situation where Northpower meters are replaced by Northpower as a contractor to another MEP. The ICP must have the meter details assigned in order for the billing function in Gentrack to be performed correctly. This means that details of the new meter (not owned by Northpower) are entered into Gentrack which automatically uploads to the registry as Northpower is technically still the MEP. If Northpower is no longer to be the MEP due to the third party meters now on site, this registry update must consequently be reversed (256 entries since Jan'19) to allow for a new MEP nomination and their upload of metering information.

There is an on-going project to compare data in Gentrack against data in the registry as described in **section 6.3**. Northpower strives to have the registry data as accurate as possible.

#### **Audit outcome**

Compliant

### 3. PROCESS FOR A CHANGE OF MEP

#### 3.1. Change of metering equipment provider (Clause 10.22)

##### Code reference

*Clause 10.22*

##### Code related audit information

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

*The 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

Northpower's policy is to be the MEP only for those ICPs where Northpower owned metering assets are installed.

##### Audit commentary

Northpower stated that this clause was not exercised.

##### Audit outcome

Compliant

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

##### Code reference

*Clause 2 of Schedule 11.4*

##### Code related audit information

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

##### Audit observation

Northpower provided the Event Listing file (EDA) for the period covering 16/01/19 – 01/07/19 and the PR-255 file for 01/07/19. We checked all records where Northpower became the MEP to evaluate the timeliness of updates.

##### Audit commentary

We examined the EDA file for all nominations in relation to this clause. We confirm that there were 7 MEP nominations which were all rejected.

##### 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

Northpower's metering assets are being replaced by smart meters owned by other MEPs. Northpower does not displace other MEPs assets.

##### Audit commentary

No MEPs have asked Northpower for metering records since the last audit.

##### Audit outcome

Compliant

### 3.4. Termination of MEP Responsibility (Clause 10.23)

##### Code reference

Clause 10.23

##### Code related audit information

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

*The MEP is responsible if it:*

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

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

*An MEPs obligations terminate only when;*

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

##### Audit observation

Metering records are kept either in Gentrack or electronically in the Document Management System. The records are kept indefinitely and are not purged after any set period.

#### **Audit commentary**

Compliance confirmed based on observation. The way in which Northpower stores records allows for quick access to all documents. It is convenient for the purposes of audit.

#### **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

Northpower is an approved Class B Test House. There is a set of wiring diagrams for typical NHH installations published on the Northpower website. These drawings are updated, when the need arises, by the Northpower ATH.

#### Audit commentary

The Metering Installation Certification Report used for category 1 installations has a field for the reference to the appropriate ATH wiring drawing. We sighted 10 reports and we confirm that a relevant meter diagram was referenced.

If Northpower decides to provide MEP services for category 3 HV or higher installation which is very unlikely, a conceptual design will be prepared by Northpower's staff, which is forwarded to AccuCal for consultation.

The company stated that there were no modifications to any installations, cat 2 and above. The number of installations for which Northpower provides MEP services is decreasing steadily. Any changes of meters are like for like therefore no changes to wiring diagrams.

#### Audit outcome

Compliant

### 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

Northpower uses two Test Houses: Northpower (Class B) for metering installations of category 1, 2 and 3 LV, for installations of category 3 HV and higher, AccuCal. AccuCal is an approved Test House, Class A

#### **Audit commentary**

Compliance confirmed based on information provided on the Electricity Authority's website.

#### **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**

Part of the certification for metering installations of category 3 HV and higher is to ensure that the maximum permitted error and uncertainty set out in Table 1 of Schedule 10.1 is not exceeded. The tests are conducted by AccuCal. The Certification of Compliance specifies testing and results for each installation. The certifications are reviewed by Northpower after being provided by AccuCal.

Northpower uses the selective component metering method to certify metering installations of category 1, 2 and 3 LV.

#### **Audit commentary**

Northpower installs meters class 1 as 1PH or class 1 or 2 as 3PH and CTs class 0.5S. The category 2 LV installation requirements under this method require meters to be class 2 or higher therefore class 1 meters meet this clause obligation. Northpower has not certified any category 2 metering installation since the last audit.

When any category 1 metering installations are recertified, Metrix meters are installed therefore Northpower cease to be the MEP. If a customer does not agree to have a smart meter installed, Northpower will install a legacy meter class 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**

We verified with Northpower whether they provide MEP services for installations where subtraction is used to determine submission information.

#### **Audit commentary**

No installations for which Northpower is responsible use subtraction to determine submission information.

#### **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**

The LIS file dated 01/07/19 was analysed to assess compliance.

#### **Audit commentary**

The LIS file was checked, and we confirm that all category 3 and higher installations have half-hour metering installed (22 ICPs).

#### **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**

Northpower is not responsible for any metering installation for a NSP. There are no plans to provide MEP services for such installations.

#### **Audit commentary**

This clause is not applicable. Compliance was not assessed.

#### **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

Northpower is not responsible for any metering installation for a point of connection to the grid.

##### Audit commentary

This clause is not applicable. Compliance was not assessed.

##### 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

Northpower provides MEP services mainly for category 1 metering installations (95.5% of ICPs for which they provide MEP services). For these installations there are wiring diagrams covering each of the typical installation types.

All half-hour metered installations are individually designed taking into consideration the physical and electrical characteristics of the proposed installation.

##### Audit commentary

Northpower is a distributor and employs people with a lot of engineering expertise. The company is also a certified class B Test House, which is audited regularly by the Authority's approved auditor. Any meter replacements or installation recertification is always like for like. Up to now there have been no complaints that any of their metering was not appropriate for the physical and electrical characteristics of the POC.

##### Audit outcome

Compliant

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

##### Code reference

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

### Code related audit information

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

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

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

### Audit observation

It was discussed during the audit.

### Audit commentary

As already mentioned in other parts of the report, Northpower stopped providing MEP services to any new connections. Northpower is in the process of replacing their non-certified meters with Metrix meters therefore Northpower will cease to be the MEP for such installations. It is up to Metrix to liaise with traders.

Northpower does not modify any installations. The only exception to this situation is when a customer refuses to have a smart meter installed. The replacement is always done in conjunction with the trader, replacing like for like. Northpower, being both the distributor and the MEP, does not face any challenges in meeting the distributor requirements.

### 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 manager of the registry metering records, or any change to the registry metering records, for each metering installation for which it is responsible at the ICP, no later than 10 business days following:*

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

### Audit observation

The EDA file for the period 16/01/19 to 01/07/19 was analysed to assess compliance.

### Audit commentary

Northpower uploaded 600 metering events to the registry, 313 were of the status "active", 30 metering events were replacements and 256 metering events were reversals. Out of 313 "active" updates, 15 (4.3%) transactions were later than 10 BD. 15 events were data fixes to achieve compliance with clause 11.2. Two reversals were done on requests from traders, Northpower did not need to oblige, from the Code point of view, but it was a good will gesture.

The reduction in the number of backdated entries is indicative of the number of Northpower meters steadily decreasing and also further improving the quality of data in the registry.

As described in the previous report, the way in which the Northpower Gentrack is setup leads to many data reversals (256 this time). When Northpower owned meters are replaced by Northpower as a contractor to another MEP, with meter assets owned by that other MEP, the meter replacement is recorded in Gentrack. As a result of this meter change occurring in Gentrack, a registry meter event for the Northpower meter asset being removed is updated to the registry effective the day prior to the meter change (removal event) and a meter event for the date of the change is also sent to the registry with the new meter data (install event). These metering events are sent to the registry because Northpower is still recorded as the MEP in the registry.

Once a new MEP is nominated, or the new MEP wants to update meter data into the registry to officially become the MEP, the Northpower metering entries must be reversed to allow the new MEP to upload their metering information. It is a well-controlled process, run every day.

Another reason for reversed entries is a “feature” of Gentrack that as soon as it “sees” any new update to metering data, it creates a file which is sent to the registry. Gentrack will then check for any earlier metering events that have not previously been sent to the registry and, if found, these are included in the same registry update file. The result is the inclusion in the registry update file of entries going back to 2013 (DePart 10 go-live) which have not been flagged by Gentrack as having previously been sent to the registry.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.10 With: 3 of Schedule 11.4 From: 24-Jan-19 To: 25-Jun-19	4.3% of updated entries in the registry are uploaded later than 10BD Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are recorded as strong. The results that Northpower wants to achieve lead to backdated entries. Audit risk rating is recorded as low because there is a minor, practically no, impact on settlement outcomes.		
Actions taken to resolve the issue		Completion date	Remedial action status

<p>Refer to Northpower's explanation on why these backdated Registry entries can, and will continue to, occur in the <i>Conclusion: Participants Comments</i> section at the end of this audit report.</p> <p>We are looking at implementing a process to investigate and record the reason for each metering data entry that is updated to the Registry outside the 10 business day limit provided for in the Code. This will allow us to focus on those areas where improvements can be made.</p> <p>Often the reason for the late Registry update is due to a third party contractor not providing the inspection and certification reports in a timely manner to allow the Registry metering data to be updated within the 10 business day Code requirement. With a severe shortage of adequately qualified personnel available in the market to complete metering related work, it is a challenge to enforce this deadline whilst retaining resources.</p>	On-going	Identified
<b>Preventative actions taken to ensure no further issues will occur</b>	<b>Completion date</b>	
	On-going	

#### 4.11. Metering Infrastructure (Clause 10.39(1))

##### Code reference

*Clause 10.39(1)*

##### Code related audit information

*The MEP must ensure that for each metering installation:*

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

##### Audit observation

Northpower MEP only installs non-AMI meters at installations where a customer refuses to have a smart meter. Northpower does not make any changes which effect the integrity of the metering infrastructure because any replacements are always like for like.

##### Audit commentary

Each installation is tested by an inspector and the results recorded on the Meter Installation Certification Report by the technician. If necessary, any faulty components are replaced. There were no complaints from customers or traders about components installed since the last audit.

##### Audit outcome

Compliant

#### 4.12. Decommissioning of an ICP (Clause 10.23A)

##### Code reference

Clause 10.23A

##### Code related audit information

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

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

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

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

##### Audit observation

The decommissioning process was reviewed to assess compliance.

##### Audit commentary

The request for decommissioning an installation usually comes from a customer or a trader. Northpower provided 8 examples of decommissioned installations. Whenever possible, Northpower records the final reading by recovering a meter and this reading is sent to the trader, but there are cases where it is not possible to obtain a removal reading because a meter has been removed previously by an unknown individual or the meter has been destroyed usually as the result of a fire.

##### 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

CTs installed within installations for which Northpower provides MEP services are used for metering purposes only.

### Audit commentary

Northpower stated that there have been no changes made to a CTs burden or compensation factor in the period covered by this audit . However, as mentioned in section 7.5, the recertification by AccuCal of the metering installation at ICP 0000549009NR4E5 identified that the VTs had errors outside of the stated class due to low secondary loading AccuCal installed the required loading resistors and completed the site 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

The meters used in metering installations of category 3 and higher have data storage devices integrated with the meter

### Audit commentary

If there is a need to change a data storage device software, ROM or firmware, an existing meter will be removed. A new meter will be installed, and the installation recertified.

Northpower confirmed that their policy is, apart from changes to the baud rate, if communications change from landline to cell phone, half-hour meters are never reprogramed in-situ but are replaced by newly certified meters by an authorised ATH.

### Audit outcome

Compliant

## 4.15. Temporary Electrical Connection (Clauses 10.29A)

### Code reference

*Clause 10.29A*

#### Code related audit information

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

#### Audit observation

Northpower is not responsible for such installations.

#### Audit commentary

This clause is not applicable. Compliance was not assessed.

#### Audit outcome

Not applicable

### 4.16. Temporary Electrical Connection (Clause 10.30A)

#### Code reference

*Clause 10.30A*

#### Code related audit information

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

#### Audit observation

Northpower is not responsible for such installations.

#### Audit commentary

This clause is not applicable. Compliance was not assessed.

#### Audit outcome

Not applicable

### 4.17. Temporary Electrical Connection (Clause 10.31A)

#### Code reference

*Clause 10.31A*

#### Code related audit information

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

#### Audit observation

The electrical connection of any installation on the Northpower network is always done by contractors approved to work on their network.

#### Audit commentary

In the period covered by this audit Northpower MEP never asked Northpower as a distributor to temporarily electrically connect an ICP.

#### Audit outcome

Compliant

## 5. METERING RECORDS

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

#### Code reference

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

#### Code related audit information

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

**Please note in bold font we specify the location of each record kept by Northpower as the MEP.** The location of records and how they are stored has not changed since the previous audit.

- a) The certification expiry date of each metering component in the metering installation - **Gentrack***
- b) All equipment used in relation to the metering installation, including serial numbers and details of the equipment's manufacturer - **Gentrack***
- c) The manufacturer's or (if different) most recent test certificate for each metering component in the metering installation – **Northpower ATH***
- d) The metering installation category and any metering installations certified at a lower category – **Gentrack (section 7.6)***
- e) All certification reports and calibration reports showing dates tested, tests carried out, and test results for all metering components in the metering installation – **Northpower ATH***

*The contractor who installed each metering component in the metering installation - **Metering Reports (Northpower Document Management System)***

*The certification sticker, or equivalent details, for each metering component that is certified under Schedule 10.8 in the metering installation:- **Gentrack - only the metering installation certification details and some details such as the serial number of meter for cat 1, for cat2 and higher also CT's details***

- f) Any variations or use of the 'alternate certification' process – **this process is not used***
- g) Seal identification information - **Northpower ATH***
- h) Any applicable compensation factors - **Gentrack***
- i) The owner of each metering component within the metering installation - **Gentrack***
- j) Any applications installed within each metering component – **no applications installed***
- k) The signed inspection report confirming that the metering installation complies with the requirements of Part 10. - – **scanned copies accessible via Document Management System***

#### Audit observation

The location of each element is shown above.

#### Audit commentary

The location of information in relation to each metering installations has not changed since the last audit.

Gentrack is Northpower's ICP and metering equipment database and this holds the data on which meters are installed at ICPs.

Northpower also holds scanned copies of paperwork and information conveyed electronically (emails, site visit photos, new connection application forms, physical disconnection/reconnection site visits, and metering related site visits). They are stored on a separate server.

#### 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

It was discussed during the audit whether any requests had been made for copies of inspection reports.

### Audit commentary

If Northpower is requested to provide a signed inspection report it will provide this to a participant as a scanned copy of the field report prepared by the Northpower inspector.

Since last year's audit, no trader has asked for an inspection report.

### 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

Northpower holds historic metering records in an electronic format by scanning the original paper records. For any new installations, or recertification, all documents are scanned.

### Audit commentary

Northpower confirmed that all scanned records will be kept indefinitely. It was confirmed during the audit.

### 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**

For metering installations of category 1 to 3 LV, Northpower ATH is used. AccuCal is used as the ATH for metering installations category 3 HV and above.

#### **Audit commentary**

There are no plans to change ATHs.

#### **Audit outcome**

Compliant

## 6. MAINTENANCE OF REGISTRY INFORMATION

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

#### Code reference

*Clause 1(1) of Schedule 11.4*

#### Code related audit information

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

#### Audit observation

The Event Listing file (EDA) dated for the period 16/01/19 to 01/07/19 was analysed to assess compliance with the above clause.

#### Audit commentary

We examined the EDA file for all nominations in relation to this clause. We confirm that there were 7 MEP nominations, all of them were rejected.

#### Audit outcome

Compliant

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

#### Code reference

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

#### Code related audit information

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

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

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

#### Audit observation

The LIS and PR255 files dated 01/07/19 provided by Northpower were analysed to assess compliance. For this analysis we used the Registry Data Analysis database provided by the Authority to assist the auditors in the assessment of compliance with clause 7 of Schedule 11.4.

#### Audit commentary

The results from the Registry Data Analysis database and previous audit are shown below:

Query	2017	2018	01/2019	07/2019
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Cat 2 with multiplier over 100	1 ICP (0000523418NR214) – Category 3 ICP certified as category 2 as noted elsewhere	The same	The same	The same
Cat 3 and above without HHR profile or HHR meter or HHR installation	no ICPs	no ICPs	no ICPs	no ICPs
Cat 1 over 15 years  Cat 2 over 10 years or over 15 if cert before 29/8/2013 Cat 3 over 10 years Cat 4 over 5 years Cat 5 over 3 years	ICP 0000511295NRC6F certified on 20/01/17, certification expires on 20/01/31. Incorrect information was input into Gentrack which then updated the Registry. Paperwork says that installation was certified for 14 years  No ICPs  Ditto  ditto	no ICPs	no ICPs	no ICPs
Invalid certification date	no ICPs	no ICPs	no ICPs	no ICPs
Cert Expiry date > Today	706 installations with expired certification. The breakdown is below: Cat 1 – 697 ICPs Cat 2 - 2 ICP Cat 3 – 5 ICPs Cat 4 – 1 ICP Cat 5 – 1 ICPs (291 ICPs reported in the last MEP audit report)	1,501 installations with expired certification. The breakdown is below: Cat 1 – 1,479 ICPs Cat 2 - 12 ICP Cat 3 – 7 ICPs Cat 4 – 1 ICP Cat 5 – 2 ICPs	1,066 installations with expired certification. The breakdown is below: Cat 1 – 1,027 ICPs Cat 2 - 31 ICP Cat 3 – 8 ICPs	961 installations with expired certification. The breakdown is below: Cat 1 – 871 ICPs Cat 2 - 76 ICP Cat 3 – 14 ICPs

<p>Compensation factor on Cat 1 Installation</p>	<p>44 ICPs. Correct as Northpower has a number of installations with a single-phase meter on a 3PH supply so a multiplier of 3 applies. Some of these installations will be upgraded when an advanced meter is installed where the services main configuration allows but the remaining installations cannot be changed to a conventional metering configuration.</p> <p>(47 ICPs reported in the last MEP audit report)</p>	<p>36 ICPs. There are installations with a single-phase meter on a 3PH supply so a multiplier of 3 applies. This is a result of historical practice used more than 20 years ago affecting some farm pumps that occurred due to several factors:</p> <ul style="list-style-type: none"> <li>• 3PH meters originally cost significantly more than equivalent 1PH meter</li> <li>• The pump load was very evenly balanced across the 3PH supply</li> <li>• In general, the usage by the pump ICP was low compared with other ICPs on the network</li> <li>• The location of the pump shed, and switchboard usually was quite remote, could be several overhead line spans, from the network feeder line making meter reader access difficult</li> </ul> <p>As a result of the above factors it was common practice to take a single-phase feed down the network connection pole, or nearest customer service line pole, to the meter box then continue the 3-phase supply to the pump location. This allowed the use of a relatively cheap meter for a low usage load which was placed in a more accessible position than the actual pump and</p>	<p>37 ICPs, the same setup as last year</p>	<p>35 ICPs</p>
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CT on Cat 1 Check component type of "C" on Cat 1	No ICPs	No ICPs	No ICPs	No ICPs
Export ICPs (load type of generation or both) Check that the registry has an "I" channel	4 ICPs	4 ICPs	2 ICPs	2 ICPs
HHR profile and submission type and meter or installation type is not HHR	no ICPs	no ICPs	no ICPs	no ICPs
ICP in LIS File but not in PR255	no ICPs	no ICPs	no ICPs	no ICPs
Any compensation factor that is not: 20,30,40,50,60,80,100,120,160,200,240,400	76 ICPs. A single-phase meter on a three-phase supply at a Category 1 installation will have a multiplier of "3".  Category 4 and 5 metering installations will generally have compensation factors exceeding 400.	67 ICPs. A single-phase meter on a three-phase supply at a Category 1 installation will have a multiplier of "3".  Category 4 and 5 metering installations will generally have compensation factors exceeding 400.	61 ICPs	57 ICPs
Over Cat 1 with No CTs	1 ICP (0000100001NR87B) Wairua Power Station. When Northpower tried to add the CT information for this ICP into the Registry it was discovered that the CT serial numbers matched those of another ICP. Gentrack will not allow duplicated serial numbers, and this is unlikely to occur in the "real world" so a site check will need to be made to confirm the correct CT serial numbers.	The same	no ICPs	no ICPs

Control device not populated. All CN, NC, D, N should have control device unless they are AMI	196 ICPs. By definition, an installation with a “loaded pilot” does not have a control device at the ICP because the pilot-wire supplies the entire load on the controlled supply. Loaded pilots are being progressively eliminated in conjunction with meter upgrades (217 ICPs reported in the last MEP audit report).	114 ICPs	98 ICPs	81 ICPs
Profile analysis Check period of availability and register content: CN without any other tariff	92 ICPs. It is quite possible within Northpower’s price plan options to have a controlled load meter with no uncontrolled meter. This is commonly used for non-urgent supplies such as irrigation or flood pumps.	39 ICPs	32 ICPs  9 ICPs are pumps, Northpower allows CN only  23 ICPs metered lighting	11 ICPs
Profile analysis Check period of availability and register content: Day and night = 24	61 ICPs. Valid. ICPs on price plan ND5 (Controlled Day/Night) where the total availability in any 24-hour period is 22 hours – Northpower can control up to 2 hours in any 24-hour period.  (69 ICPs reported in the last MEP audit report)	59 ICPs	7 ICPs  Interim certified ICP. Not changed from D/N to DC/NC as would need to be backdated (pumps)	6 ICPs
Profile analysis Check period of availability and register content: Day without Night	no ICPs	no ICPs	no ICPs	no ICPs
Profile analysis Check period of availability and register content: IN Register cannot be 24 or 0	no ICPs	no ICPs	no ICPs	no ICPs

Control device not populated - All "IN" register content should have control device	The only ICPs with an "IN" register content is on the "closed" DM4 price plan. Many of these ICPs use a "loaded pilot" for hot water control. By definition, an installation with a "loaded pilot" does not have a control device at the ICP because the pilot-wire supplies the entire load on the controlled supply. Loaded pilots are being progressively eliminated in conjunction with meter upgrades.		39 ICPs	36 ICPs
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The number of non-certified category 2 and 3 installations increased because the certification was cancelled in the registry because no inspections were conducted.

#### 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 5 business days following collection of data from the registry, the MEP must compare the information obtained from the registry with the MEP's own records.*

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

#### Audit observation

Northpower uses the database written by John Candy Consulting which allows them to meet the obligation described in this clause.

#### Audit commentary

The metering data comparison checks are done using the PR-255 and the LIS files downloaded from the registry on the 13<sup>th</sup> business day. Information in these registry files is compared against records kept in Gentrack. We reviewed the output from the database for the last two months.

Additional audit checks are done every day using other ACCESS databases to ensure that any errors in data updated to the Registry are corrected; this includes investigating any rejected entries in the Registry Acknowledgement files. As soon as any metering information is "touched" in Gentrack an automatic upload to the registry is produced; where required these entries are reversed to allow a new MEP to take responsibility for the metering at an ICP as described in **section 4.10**.

## Audit outcome

Compliant

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

#### Code reference

*Clause 20 of Schedule 10.7*

#### Code related audit information

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

- a) the metering installation is modified otherwise than under sub clause 19(3) or 19(6)*
- b) the metering installation is classed as outside the applicable accuracy tolerances set out in Table 1 of Schedule 10.1, defective or not fit for purpose under this Part or any audit*
- c) an ATH advises the metering equipment provider responsible for the metering installation of a reference standard or working standard used to certify the metering installation not being compliant with this Part at the time it was used to certify the metering installation, or the failure of a group of meters in the statistical sampling recertification process for the metering installation, or the failure of a certification test for the metering installation*
- d) the manufacturer of a metering component in the metering installation determines that the metering component does not comply with the standards to which the metering component was tested*
- e) an inspection of the metering installation, that is required under this Part, is not carried out in accordance with the relevant clauses of this Part*
- f) if the metering installation has been determined to be a lower category under clause 6 and the maximum current conveyed through the metering installation at any time exceeds the current rating of its metering installation category as set out in Table 1 of Schedule 10.1*
- g) the metering installation is certified under clause 14 and sufficient load is available for full certification testing and has not been retested under clause 14(4)*
- h) a control device in the metering installation certification is, and remains for a period of at least 10 business days, bridged out under clause 35(1)*
- i) the metering equipment provider responsible for the metering installation is advised by an ATH under clause 48(6)(b) that a seal has been removed or broken and the accuracy and continued integrity of the metering installation has been affected.*

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

#### Audit observation

During the audit we asked Northpower to show the evidence of their compliance with these sub-clauses.

#### Audit commentary

- (a) Installation modification – this is covered in **section 4.1** – no installations were modified in the period under audit
- (b) Accuracy tolerance – this is covered in **section 4.3**
- (e) Lack of inspection – this is covered in **section 8.2**.
- (f) Certification to a lower category – one ICP which is discussed in **section 7.6**

- (g) Insufficient load for full certification – this is discussed in **section 7.8**
- (h) Bridged out load control device – the process is described in **section 7.11**
- (i) Seal broken – the process is discussed in **section 8.4**.

Non-compliance was identified in the last audit because 9 metering installations of category 3 were not inspected and the registry records not updated to reflect that the certification is therefore cancelled. Northpower cancelled certification in the registry for those installations for which inspections were not carried out in accordance with the relevant clauses of the Code.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 11.8A*

#### **Code related audit information**

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

#### **Audit observation**

We reviewed the PR255 file dated 01/07/19 to assess compliance.

#### **Audit commentary**

We confirm that all information required by the Code is recorded in the registry for installations where Northpower provides MEP services.

#### **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

We analysed the PR-255 dated 01/07/19 to identify ICPs with expired certification.

#### Audit commentary

At the time of this audit Northpower has 557 previously certified ICPs with expired certification and 404 previously interim certified installations (category 1) that have now expired. The breakdown of 557 previously certified ICPs with expired certifications is:

- Cat1 – 467
- Cat 2 – 76
- Cat3 - 14

The number of category 2 and 3 metering installations for which certification has expired has increased since the last audit because Northpower cancelled certification in the registry for installations for which inspections were not carried out in accordance with the relevant clauses of the Code.

Northpower, as the MEP, uses its certified Class B Test House to maintain certification of metering installations (category 1, 2, and 3 LV). After certification of an installation is finalised, metering records are updated into Gentrack and the registry.

Metering installations of categories 3 HV to 5 are certified by AccuCal.

Maintenance is carried out as required for battery replacement or communications faults on TOU metered ICP meter installations.

The table below shows a summary of non-certified sites; this includes both previously certified ICPs (now with expired certification) and the interim certified ICPs. The table is based on alert files sent by the registry. The week starting end of May and beginning of June shows the increase in the number of non-certified category 2 and 3 metering installations caused by the cancellation of certification in the registry due to mid-life inspections not being completed.

Total Entries On-going Summary Of Movement In Alert File Counts										
ICPs With Both Expired & Interim Certification Where MEP = Northpower										
Alert File Date	4/07/2017	20/03/2018	22/01/2019	21/05/2019	28/05/2019	4/06/2019	11/06/2019	18/06/2019	25/06/2019	2/07/2019
Days Between		7	7	7	7	7	7	7	7	7
Meter Category		MEP Audit	MEP Audit							
1	1793	1479	1023	896	896	903	886	873	871	870
2	2	12	31	32	33	33	75	75	75	76
3	5	7	8	8	8	14	14	14	14	14
4	1	1	1							
5	1	2								
	1,802	1,501	1,063	936	937	950	975	962	960	960

## Audit outcome

### Non-compliant

Non-compliance	Description		
Audit Ref: 7.1 With: 10.38a  From: 16-Jan-19 To: 30-Jun-19	Certification expired for 961 installations  Potential impact: Medium  Actual impact: Low  Audit history: Multiple times  Controls: Moderate  Breach risk rating: 4		
Audit risk rating	Rationale for audit risk rating		
<b>Medium</b>	Controls are recorded as moderate because there is a plan in place, but the implementation is very slow. We assigned the audit risk rating as medium because the number of category 2 and 3 metering installations is steadily increasing, which could have an impact on settlement outcomes.		
Actions taken to resolve the issue		Completion date	Remedial action status

<ul style="list-style-type: none"><li>Northpower MEP has since 1 January 2019 taken</li></ul> <p>Where a consumer refuses to allow a smart meter to be installed, we are replacing the expired meter with a compliant legacy meter.</p> <p>In addition, we are working with AMS to displace Northpower as MEP and make the meters compliant at our expired Cat 2 and Cat 3 HHR meter sites.</p> <p>Since the early July audit visit we have further reduced the expired meters to 869. We have now replaced or made compliant 399 meters, or 38% of the expired meters we had at the start of the year. Unfortunately a further 233 meters have expired, making the net reduction year to date 177 meters.</p> <div><p>Connected/Expired Northpower Metering Installations</p><table border="1"><thead><tr><th>Category</th><th>Value</th></tr></thead><tbody><tr><td>1-Jan-19</td><td>1,046</td></tr><tr><td>Replaced or made compliant</td><td>-399</td></tr><tr><td>Disconnected</td><td>-15</td></tr><tr><td>Newly Expired</td><td>233</td></tr><tr><td>Reconnected</td><td>4</td></tr><tr><td>19-Aug-19</td><td>869</td></tr></tbody></table></div> <p>There are a further 32 ICPs where we have required the retailer to provide us access, but they have not yet done so.</p>	Category	Value	1-Jan-19	1,046	Replaced or made compliant	-399	Disconnected	-15	Newly Expired	233	Reconnected	4	19-Aug-19	869	On-going	Identified
Category	Value															
1-Jan-19	1,046															
Replaced or made compliant	-399															
Disconnected	-15															
Newly Expired	233															
Reconnected	4															
19-Aug-19	869															
<p><b>Preventative actions taken to ensure no further issues will occur</b></p>	<p><b>Completion date</b></p>															
<p>Having implemented processes, arrangements with Metrix, and employing administrative resource, Northpower is now focused on executing these arrangements efficiently to clear the backlog.</p> <p>We are also focusing on identifying further field resource to increase the rate at which metering installations are being made compliant, with an eye on upcoming volumes of meters which will be expiring in 2020. There is currently extremely limited resource available in the market which is appropriately qualified, which is hindering our ability to accelerate making meters compliant.</p>	On-going															

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

### Code reference

Clause 10.38(b) and clause 9 of Schedule 10.6

### Code related audit information

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

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

#### **Audit observation**

Northpower uses AccuCal as the ATH for installations of category 3 HV and above. Northpower itself holds the accreditation of Test House class B for installations of category 1, 2 and 3 LV. Both ATHs hold appropriate certification according to the Authority website.

#### **Audit commentary**

We checked certification records for three category 3 and above installations recertified by AccuCal. There were no category 2 and 3 LV installations recertified by Northpower ATH. We reviewed certification records for 10 category 1 metering installations.

#### **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**

We analysed the PR-255 to assess compliance.

#### **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**

Northpower does not provide the MEP services to local services metering installations in grid substations.

#### **Audit commentary**

This clause is not applicable. Compliance was not assessed.

#### **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**

It was discussed during the audit. Current transformers (CTs) used for revenue metering at ICP's, for which Northpower provides the MEP services, are used only for metering. Voltage transformers are commonly shared in big installations between metering and protection circuits as it is not practical to use separate VTs for metering and protection purposes. This clause makes provision for this multi-use of VTs.

#### **Audit commentary**

According to the process adopted by Northpower, if the need arises to change a protection relay, it is done by Northpower's staff, who will consult with the ATH who certified the metering installation. The change is always like for like; so, the impact is negligible. At the time of the next recertification of the metering installation, the measuring of the transformer burden is recalculated by the ATH.

Since the last audit the recertification on 31 March 2019 of the metering at 0000549009NR4E5 by AccuCal identified that the combined VT and CT errors were outside the required limits. AccuCal returned to the site on 6 May 2019 to install the VT loading as required.

There are 10 installations in which VT's are used for metering (Cat 3 HV, 4, and 5). In some cases, the VT's are part of the switchgear and it is not practical to have separate VT's solely for metering. In other cases, the VT's are exclusively for metering. There were no changes to this list since the last audit.

Site	ICP	Type of VT's	Comments
BRB0331 (Oil Refinery and Carter Holt LVL Plant)	0000546127NRA4F	Substation VT's	The substation VT's are used for metering and protection. An ATH is involved when changes are made to the revenue metering.
MPE1101 (Golden Bay Cement)	0000546038NR638	Separate Metering Units containing CT's and VT's	Metering units were installed 10 years ago to remove the revenue metering from the station VT's.
Wairua Power Station	0000100001NR87B	Separate Metering Unit containing CT's and VT's	Metering units were installed 10 years ago.
Fonterra Kauri	0000546037NR9E6	Substation VT's in indoor 33kV switchgear	Customer-owned switchgear so no control over what the site-owner does; installation is certified by ATH
Fonterra Maungaturoto	0000545312NR81F	VT's in indoor 11kV switchgear	Customer-owned switchgear so no control over what the site-owner does; installation is certified by ATH
Balance Agri-Nutrients Fertiliser works - 2 ICP's	0000500092NR2E3	VT's in indoor 3.3kV and 11kV switchgear	Customer-owned switchgear so no control over what the site-owner does; installation is certified by ATH
Northland Polytech	0000545360NRDC7	VT's in indoor 11kV switchgear	Exclusive to metering.
CHH Sawmill HV	0000553396NR17E	VT's in indoor 11kV switchgear	Exclusive to metering.
Marusumi Wood Chip Mill	0000546039NRA7D	VT's in indoor 11kV switchgear	Customer-owned switchgear so no control over what the site-owner does but unlikely that more equipment would be added; installation is certified by ATH

Northport Deep Water Port	0000549009NR4E5	VT's in indoor 11kV switchgear	Customer-owned switchgear so no control over what the site-owner does but unlikely that more equipment would be added. Currently uncertified by ATH due to problems arranging a shutdown as mentioned elsewhere in the report
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### Audit outcome

Compliant

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

### Code reference

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

### Code related audit information

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

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

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

*If a meter is certified in this manner:*

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

### Audit observation

As noted in the last audit report there is one metering installation of category 3, where legacy metering is installed which is certified as category 2. This ICP is an irrigation pump used occasionally (ICP 0000523418NR214).

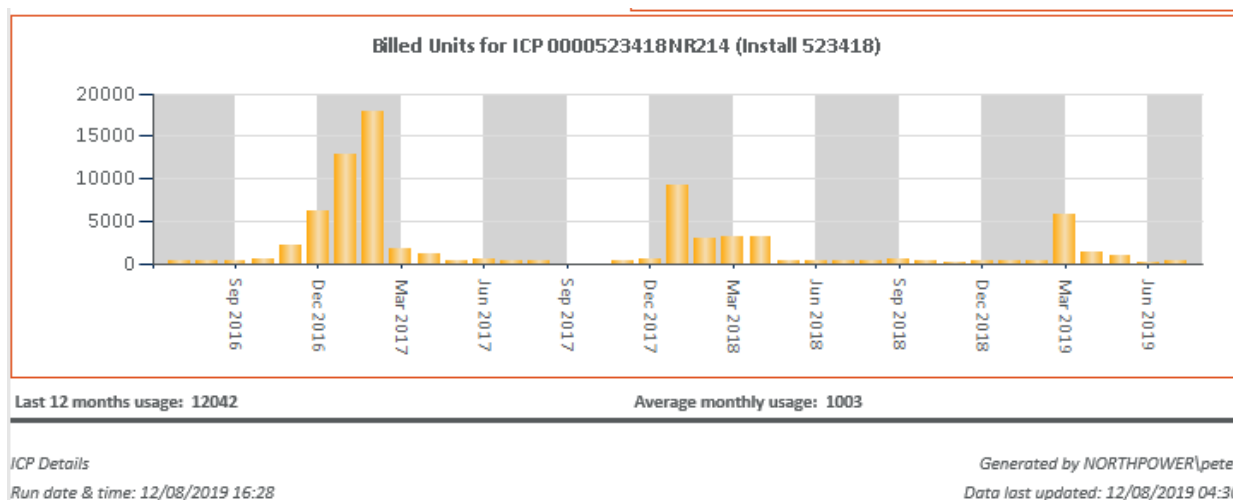
### Audit commentary

In the registry this ICP is listed as category 2 with a 160-compensation factor (800/5 CT).

According to Northpower's policy, a customer who requests to downgrade for the purpose of seeking lower line and electricity charges are required to have existing CT's replaced by CT's in the appropriate range (e.g. 500/5 or lower for cat 2) or conversion to whole-current metering by removal of the CTs for less than a 100A load requirement. At the same time, a customer's supply fuses are downgraded to

100A or lower. This customer, at ICP 0000523418NR214, does not wish to have half-hour metering installed because of the cost.

Nova Energy does not provide a special monthly report showing this ICP's consumption. Northpower as a distributor receives such metering data for line charge billing purposes which are used for the purposes of this section. The graph for this ICP is shown below:



Consumption continues to be very low and well below 0.5 GWh pa with only 12,042 kWh used in the past 12 months.

#### 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

Northpower does not provide MEP services for new installations. The company only re-certifies established installations. There is always sufficient load for testing.

#### Audit commentary

Northpower confirmed there were no situations when no sufficient load was present to complete testing.

In the last audit we identified one installation, 0000553396NR17E (CCH Sawmill; Super Mill) which was re-certified for 5 years on the 28/12/2018 by AccuCal on behalf of Northpower as MEP. No load test could be done at the time of the certification visit due to the plant being on reduced load for the

Christmas break. We confirm that load testing was conducted on 4/2/19 and the installation is fully certified.

#### **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**

If the test conducted under clause 14(4) demonstrates that the metering installation is not within the relevant maximum permitted error, the cause of the problem will be investigated. Northpower's policy is not to allow such sites to be certified until the problem is resolved.

#### **Audit commentary**

There were no examples of tests conducted showing that the metering installation is not within the relevant maximum permitted error.

#### **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 Authority, 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 Authority 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 Authority 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

It was discussed during the audit. Northpower stated that there are no installations for which they provide MEP services, which cannot comply with the requirements to certify a metering installation due to metering transformer access issues.

#### Audit commentary

In the last audit we identified one such installation (0000549009NR4E5) where the customer refused to allow the required shutdown for re-certification. The access issue was resolved between the two parties and the installation was successfully certified on 31/03/19.

#### Audit outcome

Compliant

### 7.10. Timekeeping Requirements (Clause 23 of Schedule 10.7)

#### Code reference

*Clause 23 of Schedule 10.7*

#### Code related audit information

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

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

#### Audit observation

Northpower does not have any meters which have the functionality to switch a meter register.

#### Audit commentary

This clause is not applicable. Compliance was not assessed.

#### 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, advise 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

The process used by Northpower was examined.

### Audit commentary

According to the process setup by Northpower, faultmen carry spare ripple receivers, therefore the faulty equipment is replaced at the time of the site visit to investigate the “no hot water” complaint.

In the rare occasions where a spare ripple relay is not available, the Northpower MEP staff are notified that a ripple relay was bridged out due to an after-hours fault callout. An internal SR is issued to Northpower Contracting for the faulty relay to be replaced.

Northpower commented that, since the last audit, there was no instance where a bridged out ripple receiver was replaced for installations for which Northpower provides MEP services. The number of installations for which Northpower provides MEP services decreases steadily.

### 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 3 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

The PR-255 file was analysed to assess compliance.

### Audit commentary

All control devices installed within metering installations for which Northpower is responsible are certified.

No traders notified Northpower of any installations where a control device could affect the accuracy or completeness of volumes for the purpose of Part 15.

### 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

In October 2015, Northpower completed its statistical sampling programme of several meter models at Category 1 metering installations which were previously interim certified. Further statistical sampling at interim certified ICP was deemed to be uneconomic due to the low numbers of the remaining meter models at these ICPs.

#### **Audit commentary**

Northpower has not conducted any statistical sampling during the period covered by this audit.

#### **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 update the compensation factor recorded in the registry in accordance with Part 11.*

#### **Audit observation**

Northpower does not have such installations

#### **Audit commentary**

This clause is not applicable. Compliance was not assessed.

#### **Audit outcome**

Not applicable

### **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**

Most Northpower owned NHH meters being installed at installations during re-certification are meters returned from the field. These meters have been tested as required under the Code by Northpower's Class B Test House before re-use.

Northpower owned meters are not being installed at any newly connected ICPs. Metering at these ICPs is the responsibility of MEPs other than Northpower.

#### **Audit commentary**

Certificates of meters installed as a part of metering on installations of category 1 and 2 are held by Northpower ATH.

Northpower's strategy is to re-certify all non-TOU metering installations (expired certification) with Metrix advanced meters where possible, when this occurs Metrix will become the MEP. Northpower is actively managing this process themselves.

#### **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**

Each measuring transformer installed on installations for which Northpower provides MEP services are certified. CTs for category 3 and above are individually tested by AccuCal as a part of installation certification.

#### **Audit commentary**

Since the last audit, AccuCal certified the following ICPs; 0000549009NR4E5 and 0000546039NRA7D, and 0000100001NR87B. We viewed the CT's certification for these three 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**

Northpower does not have such installation where a separate data storage device is installed.

#### **Audit commentary**

Compliance confirmed based on a verbal statement from the company.

#### **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 given notice 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 clauses 10.43 to 10.48.*

### Audit observation

Northpower understands clause 7 and, if it occurs, will take appropriate action.

### Audit commentary

We checked the AccuCal (ATH) and Northpower ATH certification on the Authority web site to confirm compliance.

### 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

We checked the PR255 file dated 01/07/19 to see if there are any ICPs with interim certification recorded.

### Audit commentary

We identified 404 ICPs (status "active") and 147 ICPs (status "inactive") with previously interim certified metering installations that had not been re-certified.

As part of the on-going project to re-certify expired or expiring metering installations Northpower has visited, at least once, 181 installations where the visits did not result in installations being re-certified. The table below shows a breakdown of reasons for failed certification site visits:

Reason	Number of ICPs
Asbestos	84
Access	60
Safety	25
Refusal	15
Work Required	7
Downgrade	8
Investigation	1
Total	200

Note: Some installations were visited more than once.

### Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 7.19</p> <p>With: 18 of Schedule 10.7</p> <p>From: 16-Jan-19</p> <p>To: 30-Jun-19</p>	<p>404 ICPs (status “active”) and 147 ICPs (status “inactive”) with expired interim certification</p> <p>Potential impact: Medium</p> <p>Actual impact: Medium</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 4</p>		
Audit risk rating	Rationale for audit risk rating		
<b>Medium</b>	<p>Controls are recorded as moderate because certification has been expired for a number of years for 404 installations. Northpower is proactively managing the replacement project in partnership with Metrix. The impact on settlement outcomes is recorded as medium because of the increased likelihood of inaccuracy of metering installations.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Meters with expired interim certification are being actively replaced or displaced using the process discussed in our response to Audit Ref 7.1, and the interim certified ICPs identified as non-compliant in that audit finding.		31/12/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
These non-compliances are being actively managed as discussed under Audit Ref 7.1		31/12/2020	

## 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 2 months prior to first date on which the inspections are to be carried out, for approval (and promptly provide any other information the Authority may request).*

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

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

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

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

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

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

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

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

#### Audit observation

Northpower has in place a statistical sampling inspection regime for category 1 metering installations as per the Code requirements.

#### Audit commentary

In the year 2018, 150 ICPs were selected and 125 of them were inspected (the required sample size was 125 ICPs). After inspections are finished, Northpower MEP analyses the results of the inspections in

accordance with the requirements of clauses 45(8)(ii) and clause 45(8)(b)(ii) of Schedule 10.7. The report for the inspection of category 1 metering installations was provided to the Authority.

Northpower has already selected 150 ICPs for the 2019 inspections. They will be done in conjunction with re-certification visits in the area.

#### **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**

It was discussed during the audit, it was identified as non-compliance in the previous audit.

#### **Audit commentary**

Inspections were not done for reasons identified in the last report. Northpower cancelled certification for the installations for which inspections were not done. At the time of this audit, inspections for certified installations were up to date or certification has been cancelled.

Northpower presented the plan for this year's installations which need to be inspected. Mass market installations will be inspected by Northpower, installations category 3 and higher, will be inspected by AccuCal.

#### **Audit outcome**

Compliant

### **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**

The process was reviewed.

### Audit commentary

When the inspections are conducted by AccuCal for installations of category 3 HV and higher, Northpower compares the information on the report supplied with its own records and the registry is updated as required.

### Audit outcome

Compliant

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

### Code reference

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

### Code related audit information

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

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

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

*The MEP must make the above arrangements within*

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

### Audit observation

It was discussed during the audit. During the last audit non-compliance was identified because Northpower did not have a process in place for a situation when during the annual inspections, installations with missing seals were found. Previously no action was taken.

### Audit commentary

Northpower setup a new process which was communicated via email to the Northpower Contracting division and all external contractors. The email read:

*If you or your teams become aware of or organise for a meter or relay to be bridged or for a seal to be cut, irrespective of the MEP, can you please let us know at [metering@northpower.com](mailto:metering@northpower.com) so that we can ensure the seals are replaced or bridge removed (as this is both an audit action item and a revenue risk). Can you please cascade to your teams as appropriate.*

Northpower confirmed that, since the last audit, there have been no instances where an installation for which they provide MEP services was identified as having missing seals.

### 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

The MEP may be advised by customers, or by traders, of all types of faulty installation complaints. Traders send through a request to Northpower MEP asking for a site visit. Once the request is received, an inspector or a faultman makes a site visit to investigate and remedy any issues he may find. Once the job is complete the trader is notified, and all relevant information is emailed.

If an installation of category 3 HV and higher is reported faulty, Northpower MEP will ask AccuCal to investigate.

#### Audit commentary

If a meter needs to be changed, Northpower will try to install a Metrix meter in conjunction with a customer and trader. Northpower provided 2 examples of faulty meters and one faulty ripple relay. Faulty meters were replaced by Metrix meters. For one ICP Metrix accepted the MEP nomination but has not uploaded metering data at the time of the audit.

#### 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 5 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**

The process for dealing with faulty installations was described in **section 9.1**.

#### **Audit commentary**

Faulty installations up to cat 3 LV will be dealt with by Northpower. AccuCal will attend cat 3 HV and above.

If testing of faulty equipment is requested, it will be done by an external test house.

A Metering Report is always filed showing all details of the fault and how it was remedied.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause10.46(2)*

#### **Code related audit information**

*Within 3 business days of receiving the statement from the ATH, the MEP must provide copies of the statement to:*

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

#### **Audit observation**

Northpower confirmed and gave two examples of faulty installations where meters were replaced. A Statement of situation in the form of a Metering Report was written and provided to the relevant parties.

#### **Audit commentary**

Northpower confirmed that there were no faulty installations of category 2 and above.

#### **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

NHH meters (legacy) are read manually by meter reading companies appointed by the traders. Northpower does not have access to NHH raw meter data.

Northpower owns the TOU meters at a number of ICPs. Any meter reads made by Northpower are only for the distributor's internal purposes for reconciliation, network management, or direct billing of network charges to six end use customers.

The traders have a contract with meter reading companies such as AMCI and EMS for the provision of HHR data from these meters. For these HHR installations Northpower provides the meter set-up details and access passwords required to read the meter.

#### Audit commentary

Northpower have raw data for HHR meters but it is only used for internal processes. The raw meter data is never disclosed to any trader or a customer.

#### 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

Northpower, as the MEP, does not have access to raw NHH meter data. Only traders or their agents have access to it.

#### **Audit commentary**

Northpower reads HHR meters owned by Northpower for their own internal use and they are never disclosed to third parties.

#### **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**

Since the last audit, Northpower was not asked by parties listed in this clause to have access to components in metering installations.

#### **Audit commentary**

Northpower will use its best endeavours to arrange access to a metering installation if requested. It will be solely dependent on the customer's availability or health and safety concerns due to the nature of the customer's business that determines if access is granted and within what time frame.

#### **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**

## Audit observation

As described in **section 10.3**, Northpower confirmed that it will use its best endeavours to provide physical access to an installation if requested. Northpower will provide any codes, keys, or other means to enable another party to obtain physical access to all metering components in a metering installation if it is necessary and Northpower is in a position to do so.

## Audit commentary

The company was not approached with any requests for urgent access to any metering installation during the period covered by this audit.

## Audit outcome

Compliant

## 10.5. Electronic Interrogation of Metering Installations (Clause 8(2), 8(3), 8(5) and 8(6) of Schedule 10.6)

### Code reference

*Clause 8(2), 8(3), 8(5) and 8(6) of Schedule 10.6*

### Code related audit information

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

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

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

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

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

*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

Northpower does not read meters via their back office.

#### **Audit commentary**

This clause is not applicable. Compliance was not assessed.

#### **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**

Northpower does not read meters via their back office.

#### **Audit commentary**

This clause is not applicable. Compliance was not assessed.

#### **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**

Northpower does not read meters via their back office.

#### **Audit commentary**

This clause is not applicable. Compliance was not assessed.

#### **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**

Northpower does not read meters via their back office.

#### **Audit commentary**

This clause is not applicable. Compliance was not assessed.

#### **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**

Northpower does not read meters via their back office.

#### **Audit commentary**

This clause is not applicable. Compliance was not assessed.

#### **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**

Northpower does not read meters via their back office.

**Audit commentary**

This clause is not applicable. Compliance was not assessed.

**Audit outcome**

Not applicable

## CONCLUSION

### PARTICIPANT RESPONSE

#### ***Section 4.10 Non-compliance (Registry Entries Outside 10 Business Days):***

There are multiple reasons for this issue occurring, some are related to how the Gentrack software triggers metering events to be sent to the Registry while others are related to changes to the “business as usual” metering field work management that were implemented at Northpower during 2019.

##### **A. Entries Outside 10 Business Days and Reversal Entries:**

Gentrack is the ICP and Meter “master database” at Northpower; this software also manages the interface with the Registry for updating changes to data made by Northpower along with the downloading and processing of the Registry Notification Files. Where any Registry related data (ICP or Meter) is changed in Gentrack an update to the Registry will be automatically triggered – these update processes were thoroughly tested during the Gentrack software implementation prior to and during the revised Part 10 introduction.

Any change to the metering data held in Gentrack which is also held in the Registry, for instance recording a meter reading taken during a disconnection or reconnection, will automatically trigger an update to the Registry. We have introduced an additional task into our daily “MM-010 File Investigation” process whereby any of these Registry updates that we identify as not adding value or being required under the Code will be reversed from the Registry.

In addition, a change to a Gentrack meter data field which automatically triggers a Registry update will also cause Gentrack to search through previous metering data for the ICP to identify any meter data entries that have not previously been sent to the Registry. In many cases there are entries from pre-Part 10 or the period around the Part 10 implementation, where the Registry was populated outside the Gentrack normal processes, which are flagged as not yet sent to the Registry. These meter data updates, which can be dated from several years back, are then sent to the Registry. As these data updates add little value to the Registry in most cases they will be reversed as part of our daily “MM-010 File Investigation” process.

This process results in two entries which are outside the 10 business day code requirement; the initial update created automatically by Gentrack and the reversal of this entry made by Northpower staff the following working day.

##### **B. Reversal Entries:**

When the revised Part 10 of the Code was implemented in August 2013 Northpower owned the majority of meter assets installed at ICPs on our network and became the MEP by default. Over the past few years the Northpower owned meter assets at ICPs on our network have been steadily replaced with meter assets owned by other MEPs.

In addition, to help better meet the Code requirements relating to expired metering installation certification, Northpower has started to use third party contractors along with Northpower Contracting staff to complete the certification field work. Wherever possible these field staff will install advanced meters owned by Metrix as part of the recertification process.

Note that Northpower does not wish to retain the MEP responsibility at those ICPs where the new or replacement meter assets are not Northpower owned.

Northpower remains the MEP at an ICP in the Registry until the new MEP updates their meter data into the Registry. As Northpower holds meter data against all ICPs in Gentrack, no matter who owns the meter assets for line charge billing purposes, any meter data changes will be

automatically updated into the Registry for ICPs where Northpower is recorded in the Registry as the MEP. This Registry update will include those ICPs with third party owned advanced meter assets if Northpower still shows as the MEP in the Registry.

It is not currently possible for a trader to nominate a new MEP effective on the same date that the current MEP has a metering event in the Registry. In addition, a new MEP who has previously accepted a nomination, cannot update their meter data into the Registry if the current MEP's latest metering event has the same effective date in the Registry.

Due to this, Northpower has implemented a daily process where all Registry meter event updates (MM-010 File) are investigated and any entries relating to meter assets owned by a party other than Northpower are reversed. This clears the meter data from the Registry to allow a trader to nominate a new MEP, or a new MEP to update their meter asset data where they have previously accepted a nomination, with an event date matching the meter asset installation date.

Unfortunately, this process has four adverse outcomes: -

- 1) There is an increase in reversal events going to the Registry to allow the new MEP to be nominated or, if a prior nomination has been accepted, the new MEP to update their metering data into the Registry.
- 2) The Registry meter data for the affected ICPs does not match the physical meter assets currently installed at the ICP until the new MEP has updated their meter data into the Registry.
- 3) Northpower is in breach of Part 11 Schedule 11.4 Clause 3:

***Metering equipment provider to advise registry manager of changes to registry metering records***

***A metering equipment provider must advise the registry manager 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.***

This breach is due to Northpower still showing as the MEP in the registry, but we have not updated the meter change into the Registry by virtue of the daily "reversal" process.

- 4) The comparison of meter data between Gentrack and the Registry is made more complex and time-consuming as the reversal of meter entries in the Registry to allow the MEP nomination/switch process creates multiple data matching "exceptions".

To help reduce the amount of time the meter records in the Registry are incorrect (don't match the physical metering installed at the ICP), the Northpower process includes a fortnightly email to the new MEP(s) with a list of ICPs that need meter data updated into the Registry.

C. Entries Outside 10 Business Days:

The requirement to send "historical" dated metering events is included in Part 11 Clause 11.2 of the Code:

***Requirement to provide complete and accurate information***

***(1) A participant must take all practicable steps to ensure that information that the participant is required to provide to any person under this Part is—***

- (a) complete and accurate; and***
- (b) not misleading or deceptive; and***
- (c) not likely to mislead or deceive.***

*(2) If a **participant** becomes aware that the information the **participant** provided under this Part does not comply with subclause (1)(a) to (c), even if the **participant** has taken all practicable steps to ensure that the information complies, the **participant** must, as soon as practicable, provide such further information as is necessary to ensure that the information complies with subclause (1)(a) to (c).*

Part of the MEP audit seeks assurance that Northpower has processes in place to compare the Registry data with our in-house databases with a resulting investigation and correction of any data differences. By its very nature this comparison process will result in backdated entries to the Registry, either new active entries or reversal/replacement entries.

D. Entries Outside 10 Business Days:

As mentioned in (A) above Northpower has started, in the second quarter of 2019, to use third party contractors to help increase the volume of meter replacements or displacements, to address the number of expired metering installations. One issue we have encountered is delays in the third party contractors supplying the completed metering installation certification reports back to Northpower. This has caused a subsequent delay in the update of metering data into Gentrack and hence to the Registry. There is currently a lack of qualified technicians available in the market to complete metering compliance work, making it challenging to enforce EA timeframes and retain resource which is required to address expired meter compliance.

To better understand the reasons, and quantity, of both reversed and “late update” metering data entries Northpower is looking at implementing a process to record and investigate the reason for each such entry. This new process will allow us to focus on those areas where improvements can be made in internal data management processes and will help monitor/improve the performance of the outside contractors we are using for meter work.

**Section 7.1 and 7.19 Expired Certification:**

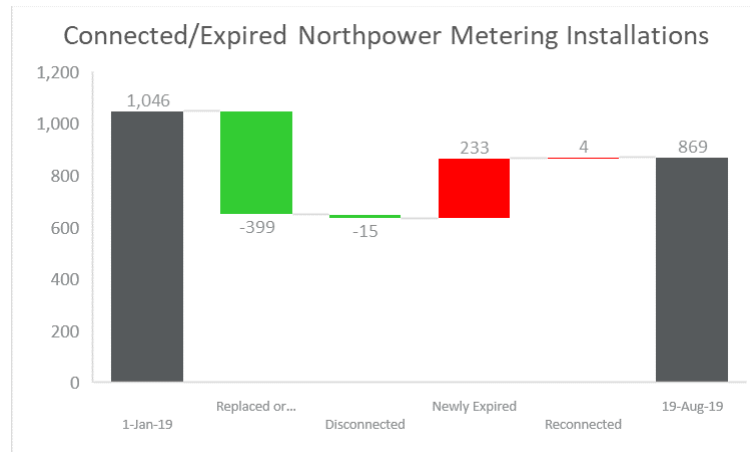
Northpower MEP has since 1 January 2019 taken significant steps to address non-certified metering installations including:

- Employing a dedicated staff member to liaise with consumers, schedule field staff, problem-solve as challenges are identified, and manage each individual ICP through until made compliant.
- Implement a CRM to track the status and progress on each individual non-compliant ICP, including all contact with consumers, sub-contractors and retailers.
- We have become a direct contractor to Metrix, enabling us to employ sub-contractors to displace expired Northpower meters with Metrix meters, and to manage the process end to end including liaising with consumers and retailers to make appointments and resolve issues.

Where a consumer refuses to allow a smart meter to be installed, we are replacing the expired meter with a compliant legacy meter.

In addition, we are working with AMS to displace Northpower as MEP and make the meters compliant at our expired Cat 2 and Cat 3 HHR meter sites.

Since the early July audit visit we have further reduced the expired meters to 869. We have now replaced or made compliant 399 meters, or 38% of the expired meters we had at the start of the year. Unfortunately a further 233 meters have expired, making the net reduction year to date 177 meters.



There are a further 32 ICPs where we have required the Retailer to provide us access, but they have not yet done so.

on upcoming volumes of meters which will be expiring in 2020. There is currently extremely limited resource available in the market which is appropriately qualified, which is hindering our ability to accelerate making meters compliant.