

**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 the audit the number of ICPs with the status "active", for which Northpower is recorded as being the MEP, was 10,411. Since the last audit Northpower lost 1,635 ICPs because their meters are being steadily replaced by meter assets managed by other MEPs on the request of traders.

The compliance of the quality of data in the registry has improved, it is an on-going project for Northpower.

The audit found 7 non-compliances. The level of compliance has improved in the following areas:

- Monthly comparison of Northpower's records with the registry – clause 6 of Schedule 11
- Lower percentage (12.8%) of late uploads of metering data to the registry

The main issues identified during this audit are:

- Increased number of category 2 metering installations, and above, with expired certification
- No improvement in compliance of conducting inspections
- No updates of registry records of installations with cancelled certification

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 x which results in an indicative audit frequency of 3 months. Our recommendation is 6 months to give Northpower enough time to address non-compliance of uncertified installations. As it was described in the body of this report, there is an agreement between Northpower and Metrix to address it.

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 and each time in depth, supporting evidence was provided.

## AUDIT SUMMARY

### NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Changes to metering records	4.10	3 of Schedule 11.4	12.8% updates entries in registry are uploaded later than 10BD	Moderate	Low	2	Identified
Provision of registry information	6.2	7(1) of Schedule 11.4	CTs for 0000100001NR87B are not recorded in the registry nor is VT information for 3 ICPs	Moderate	Low	2	Identified
Cancellation of certification	6.4	20(2) of Schedule 10.7	Registry records were not updated to reflect cancelled certification for nine installations cat 3 and one category 5 for which no inspections were conducted	Weak	Low	3	Identified
Registry Metering Records	6.5	11.18A	Not all metering records are loaded into the registry per Table 1 of Schedule 11.4.	Strong	Low	1	Identified
Certification of installations	7.1	10.38(a)	Certification expired for 651 installations, 629 installations category 1 and 22 higher categories	Weak	Medium	6	Identified
Interim Certification	7.19	18 of Schedule 10.7	842 ICPs with expired interim certification	Weak	Medium	6	Identified
Category 2 to 5 inspections	8.2	46(1) of Schedule 10.7	No inspection conducted for 12 category 2 installations, one category 5 installation and nine category 3 installations	Weak	Medium	6	Identified
Future Risk Rating						26	

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

## 1. ADMINISTRATIVE

### 1.1. Exemptions from obligations to comply with Code (Section 11)

#### Code reference

*Section 11 of Electricity Industry Act 2010.*

#### Code related audit information

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

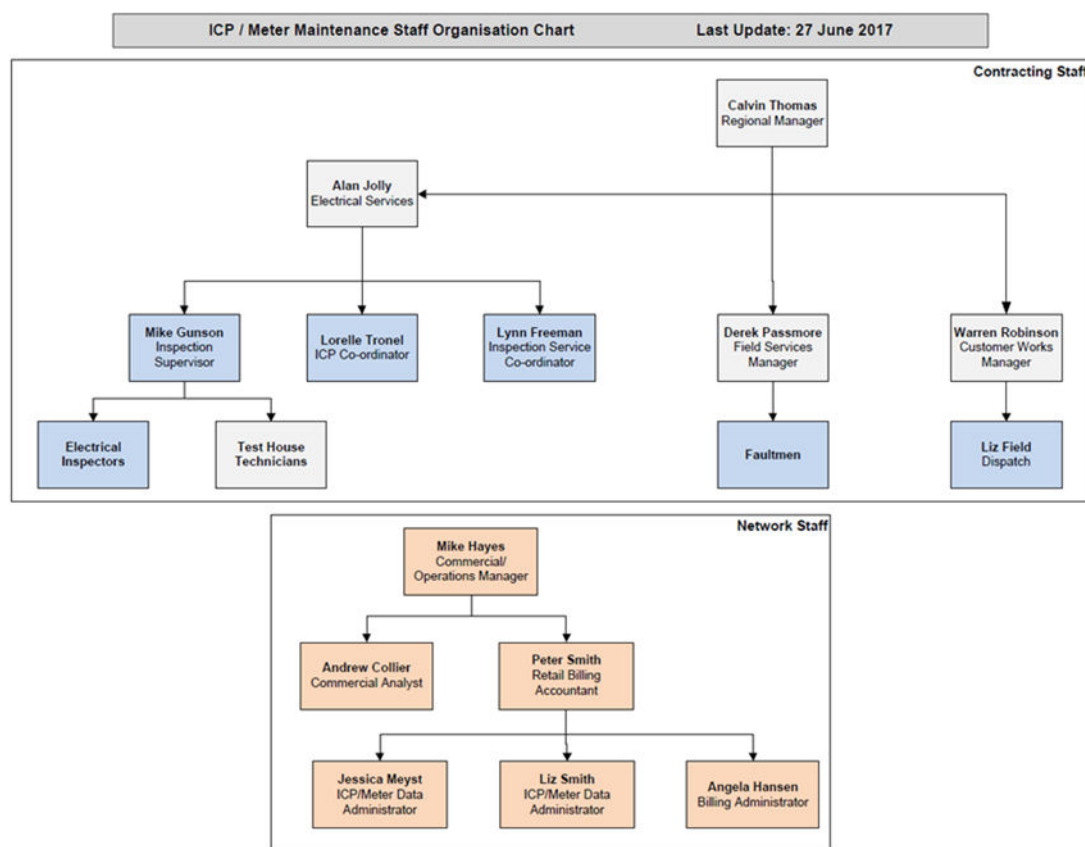
#### Audit observation

Northpower does not have any exemptions granted to exempt them from compliance with all or any of the clauses.

#### Audit commentary

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

### 1.2. Structure of Organisation



### 1.3. Persons involved in this audit



Name	Title	Company
Peter Smith	Retail Billing Accountant	Northpower Ltd
Elizabeth Smith	Network Administrator	Northpower Ltd
Mike Hayes	Network Commercial and Operations 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

This clause is not applicable.

#### 1.5. Hardware and Software

Gentrack Velocity is still 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 registry data discrepancy management.

#### 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
1	10,213
2	169
3	22
4	1

5	6
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## 1.8. Authorisation Received

A letter of authorisation was received from 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 20/21 March 2018.

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 of 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. In this document Northpower and NPOW will be used interchangeably. 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 August 2017 by Ewa Glowacka of TEG & Associates Ltd. The table below shows non-compliances identified during this audit:

Subject	Section	Clause	Non-Compliance	Comment
Participant to provide accurate information	2.1	11.2 and 10.6	Information in registry is missing for VTs and CTs. Date of expired metering certification is not updated.	Still exists
Changes to registry information	4.10	3 of Schedule 11.4	34% update entries in registry are uploaded later than 10BD	Still exists
Provision of registry information	6.2	7(1) of Schedule 11.4	For ICP 0000523418NR21 information not correct, for 0000100001NR87B no CTs information and for 10 ICPs no VTs information uploaded into the registry	Still exists
Correction of errors	6.3	6 of	No correction of error conducted	Cleared

in the registry		Schedule 11.4	according to process specified by clause 6 of Schedule 11.4	
Cancellation of certification	6.4	20(2) of Schedule 10.7	10 installations did not have inspections; registry records of expired certification date were not updated.	Still exists
Registry metering records	6.5	11.8A	Not all metering records loaded to the registry as per Table 1 of Schedule 11.4	Still exists
Certification of installations	7.1	10.38(a)	Certification expired for 706 installations, 697 installations category 1 and 9 higher categories	Still exists
Category 2 to 5 inspections	8.2	46(1) of Schedule 10.	No inspection conducted for 1 ICP category 5 and 9 category 3 installations	Still exists

## 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 (register reads) by meter reading companies employed by traders.

Category 3, 4, and 5 metering installations and category 2 ICP's with TOU meters are read remotely by third parties via landline or cellular network. Northpower owns half-hour meters at some ICPs, which are read weekly via MV90 by Northpower. The exception is the Marsden Point Refinery meters which are read daily. HHR data downloaded is only used for Northpower's internal purposes.

#### Audit commentary

The fact that Northpower reads some HHR meters themselves allows them to identify any communication problems, if they occur, and address them. If reported, any malfunctioning of this communication channel with the meters is investigated promptly by Northpower and appropriate action taken. A service request is issued, and a technician is sent on site to investigate.

It is the same process which is used when a participant advises of a stopped or faulty meter.

The communication problems are usually caused by modem issues or poor cell phone coverage. Landlines used for reading meters are owned either by customers or the trader. A Metering Installation Certification Report issued by AccuCal specifies strength of signal at the time of installation certification, which allows them to take appropriate action if a signal is weak e.g. installing a longer aerial.

#### 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

Since the last audit, there were a number of "disputes" between participants related to the population of meter data in the registry, especially for the reversal of meter data in the registry due to late MEP nominations or new MEPs not populating their meter data into the registry. This relates mainly to ICPs

where Northpower's meters were replaced by AMS owned meter assets. All "disputes" were resolved amicably via email.

#### **Audit commentary**

Northpower has a process in place for dispute resolution because it is also a distributor. If the need arises the same process is adopted for MEP related disputes.

#### **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 16/3/18 was analysed and we confirm the 4-letter code of NPOW is used as a participant identifier for those ICPs where Northpower has accepted the MEP responsibilities. It is the same 4-letter code which is used by them as a distributor.

#### **Audit commentary**

Compliance confirmed by a review of 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.

NHH installations are read by metering companies on behalf of traders.

#### **Audit commentary**

There were no installations for which any issues were discovered due to 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

Northpower put stringent processes in place to assure that information provided to the registry is complete and accurate. Every day the registry NOT files are checked for error messages and when identified they are fixed. Also, every day, data which is sent to the registry by Gentrack is reversed for correction prior to Part 10. The Information is correct, but it does not have any value, therefore it is removed. Northpower commented that this affects about 40 ICPs daily.

### Audit commentary

It is an on-going project to keep the registry data correct. Part of this project is also dealing with the replacement of Northpower assets by other MEPs. When their meter is replaced, Gentrack uploads the updated details of the AMS meter to the registry which is consequently reversed to allow a new MEP nomination and upload of metering information.

There is on-going project to compare data in Gentrack against data in the registry. 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 has not exercised this clause yet although there is an on-going displacement of Northpower's meters at category 1 metering sites, where smart meters are being installed by other MEPs.

##### 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 01/07/17 – 28/02/18 and the EDA file for 16/03/18. We checked all records where Northpower became the MEP to evaluate timeliness of updates.

##### Audit commentary

The only traders, who nominate Northpower as the MEP are Mercury Energy, Trustpower and small traders. In total, Northpower received 109 MEP nominations since the last audit. As of 1/4/18, Northpower does not accept nominations for builders' temp, which later on are replaced by AMS. It will reduce the number of nominations in the future.

We examined the EDA file for 40 nominations in relation to this clause. We confirm that in all instances metering records were downloaded within 15 BD. In most cases metering data is uploaded the same or the following day.

#### **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**

No MEP's have asked Northpower for metering records since the last audit. Northpower's metering assets are being replaced by smart meters owned other MEPs.

#### **Audit commentary**

Compliance confirmed based a verbal statement from Northpower.

#### **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 in the Document Management System (electronic version). The records are kept indefinitely and are not purged after any set period.

#### **Audit commentary**

The way in which Northpower stores records allows for quick access to all documents via Gentrack and the Document Management System. It is very convenient for the purposes of audit as it is so easy to follow chosen ICPs. Compliance confirmed based on observation.

#### **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 configuration of HHR metered installations of category 2 and above are designed individually. Once a decision is made to modify an existing category 3 HV or higher installation, a conceptual design is 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, since the last audit.

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.

#### 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. Northpower's certification as an ATH will

expire on 1/11/18. The company is in the process of going through an external audit to renew their certification.

AccuCal is an approved Test House, Class A as listed on the Electricity Authority website.

#### **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**

All installations for which Northpower provides the MEP functions are certified by approved test houses – NPOW and ACCL.

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. The accuracy tolerance of category 1 installations is determined by the meter, the only metering component installed. This means that if the installed meter is class 2 or higher, an installation will meet the accuracy tolerance as specified in Table 1 of Schedule 10.1. 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.

#### **Audit commentary**

The Certification of Compliance specifies testing and results for each installation. We discussed the process and the Test and Calibration documents for 2 installations were presented by Northpower.

#### **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 if 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 16/3/18 was analysed to confirm compliance with this clause.

#### **Audit commentary**

The LIS file was checked, and we confirm that all category 3 and higher installations have half-hour metering installed (29 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 service for such installations. There is no process in place.

#### **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. There are no plans to provide MEP service for such installations. There is no process in place.

#### **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 (98.1%) of ICPs on the Northpower network. For these installations there are wiring diagrams covering each of the typical installation types; these wiring diagrams are published on Northpower's web site and are available to the public. Any installations for which a standard wiring drawing can't be used are discussed with staff from Northpower's ATH.

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.

#### **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

Northpower is a distributor and a MEP with a Contracting Division. The Contracting Division installs meters for several MEPs including Northpower (NPOW), AMS, and MTRX.

## Audit commentary

Staff from all Northpower divisions are located on the same premises in Whangarei therefore a consultation and coordination process between MEP and a distributor is easily achieved. Northpower provides MEP services only on its own network. Any MEP nominations for metering installation outside of Northpower network are rejected.

Any metering installed is requested by traders, who generally specify in their SRs, the meter requirements for each installation.

## 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 a metering installation for which it is responsible, no later than 10 business days following:*

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

## Audit observation

The EDA file for period 01/07/17 to 28/02/18 was analysed to assess compliance.

Northpower uploaded 2,409 metering files to the registry, 673 were of the status "active", 86 uploads were replacements and 1,649 uploads were reversals. Out of 673 "active" updates, 86 (12.8%) transactions were later than 10 BD. The last audit identified 34% of backdated transactions. It indicates that number of information which needs to be reversed is decreasing.

When Northpower owned meters are replaced by meter assets owned by another MEP, the meter replacement is processed in Gentrack due to the way Northpower has set-up Gentrack. As a result of this meter change occurring, Gentrack will often create a Registry meter event for the Northpower meter asset being removed which is updated to the Registry effective the day prior to the new MEP's metering event.

#### Audit commentary

The way in which Gentrack is designed is that as soon as it "sees" any updates to data, it creates a file which is sent to the registry. Entries where Gentrack sends meter data entries, going back to 2013 (Part 10 go-live), have not been flagged by Gentrack as having previously been sent to the Registry. This group of entries is occurring due to the manual (outside Gentrack) process used to populate the Registry from when Part 10 went live. Every day Northpower screens data uploaded to the registry and reverses non relevant entries. This is the explanation for why there are so many reversed entries in the registry.

Northpower is in the process of cleaning-up the CT's information in the registry, checking registry data, comparing with Gentrack. Once it is done VT's will be checked. This process results in some backdated entries but Northpower view is that it is necessary to achieve high accuracy of data.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.10 With: 3 of Schedule 11.4  From: 01-Jul-17 To: 28-Feb-18	12.8% updates entries in registry are uploaded later than 10BD Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are recorded as moderate. The results that Northpower want to achieve lead to backdated entries. It has to be noted that the number of backdated entries is getting smaller. Audit risk rating is recorded as low because there is a minor, practically none impact on settlement outcomes		
Actions taken to resolve the issue		Completion date	Remedial action status
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		On-going	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
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		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 for which it provides the MEP's services. Due to the familiarity with this metering technology, Northpower does not have any challenges which effect the integrity of the metering infrastructure.

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 commentary

Compliance was confirmed based on a review of the Metering Installation Certification report and the fact that there were no complaints from traders and customers.

##### Audit outcome

Compliant

#### 4.12. Decommissioning of an ICP (Clause 11.18B (3))

##### Code reference

*Clause 11.18B (3)*

##### Code related audit information

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

- *advise the trader no later than 3 business days prior to decommissioning that the trader must, as part of the decommissioning, carry out a final interrogation; or*
- *if the MEP is responsible for the interrogation of the metering installation, arrange for a final interrogation to take place.*

##### Audit observation

The request for decommissioning an installation usually comes from a customer or a trader.

Northpower provided 10 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, such as when an ICP has been destroyed by fire.



ICP	Date of decommissioning	Final read
0000500093NREA6	10/01/17	meter was removed by no NPOW
0000519945NRF23	7/11/17	22801, 19339,28351
0000529440NR648	31/10/17	destroyed in fire, meter box destroyed
0000536974NR433	20/11/17	73182
0000537053NRC05	20/12/17	34378
0000540810NRCB4	30/01/18	2;290;819;486
0000552932NR3C1	29/09/17	removed with zero reading
0000565560NR20C	20/07/17	004734
0000567449NRB4C	14/12/17	BTS. Box was gone with a meter
0000567646NRE95	12/01/18	could not be found

#### Audit commentary

When an installation is physically decommissioned, meter data is not removed from the registry. The removal date and the final read are not updated to the registry as Gentrack does not provide this functionality (removing meter data or updating removal reads) due to the Part 10 Registry functional specification marking this as “optional” data for updates to the Registry.

#### 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.

##### Audit commentary

According to the process adopted by Northpower, any change to the burden or compensation factor of CTs in a metering installation, it is always discussed with the ATH, which certified the installation.

Northpower stated that there have been no changes made to a CTs burden or compensation factor in the period covered by this audit. It is important to note that number of installations for which Northpower provides MEP services is steadily decreasing.

##### 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

It was discussed during the audit. The meters used in metering installations of category 3 and higher have data storage devices integrated with the meter therefore, if there is a need to change a data storage device software, ROM or firmware, an existing meter will be removed, and a new meter installed.

##### Audit commentary

Northpower stated that, as a principle, apart from changes to baud rate, if communications change from landline to cell phone, half-hour meters are never reprogrammed in-situ but are replaced by newly certified meters by 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. There are no plans to provide MEP service for such installations. There is no process in place.

#### 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 installation. There are no plans to provide MEP service for such installations. There is no process in place.

#### 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

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

#### Audit observation

The electrical connection of any installation on the Northpower network is always done by Northpower Contracting staff.

#### Audit commentary

Northpower has very good control of the electrical connection process because as the nominated MEP it always uses Northpower Contracting staff to connect a new installation to its network. This part of their MEP responsibility is never done by contractors.

#### 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.

- i. the certification expiry date of each metering installation – **Gentrack**
- ii. all equipment used in relation to the metering installation, including serial numbers – **Gentrack**  
*all equipment is owned by Northpower (meters, load control relays, CTs, some VTs) where Northpower is the MEP. If a meter does not belong to Northpower but the CTs are owned by Northpower, a new MEP is asked to buy the existing CTs or install their own. Northpower does not lease CTs to other parties. Northpower's policy as a distributor is to request that their Load Control Devices are always left on a metering installation regardless of what type of meter is installed.*
- iii. the manufacturer's or (if different) most recent test certificate for each metering component in the metering installation - **Northpower ATH**
- iv. the metering installation category and any metering installations certified at a lower category – **Gentrack (Northpower MEP) (1 ICP certified at a lower category, section 7.6)**
- v. all certification reports and calibration reports showing dates tested, tests carried out, and test results for all metering components in the metering installation – **records are held by Northpower ATH**
- vi. the contractor who installed each metering component in the metering installation – **Metering Reports (Northpower Document Management System)**
- vii. the certification sticker, or equivalent details, for each metering component that is certified under Schedule 10.8 in the metering installation: **Gentrack (Northpower MEP) - 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**
- viii. any variations or use of the 'alternate certification' process – **alternate certification process is not used**
- ix. seal identification information – use pliers, each installer has own number - **Northpower Test House (scanned)**
- x. any applicable compensation factors – **Gentrack**
- xi. the owner of each metering component within the metering installation – **Gentrack**
- xii. any applications installed within each metering component -
- xiii. 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

### Audit commentary

Gentrack is Northpower's ICP and metering equipment database and this holds the data on which meters are installed at ICPs. Northpower holds scanned copies of paperwork relating to an ICP and its metering on a separate server as this document store is not part of Gentrack. This scanned paperwork includes emails, site visit photos, new connection application forms, physical disconnection/reconnection site visits, and metering related site visits. Meter information relating to meter tests and calibration is also held by the Northpower Class B ATH. The way in which metering records and related information are stored assures easy access to information.

### 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

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 commentary

Compliance confirmed based on a review of the business process used by Northpower.

### 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. All scanned records will be kept indefinitely.

### Audit commentary

Compliance confirmed on observation during the audit when checking historic information. It was quite evident that all records are kept indefinitely.

#### **Audit outcome**

Compliant

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

##### **Code reference**

*Clause 6 Schedule 10.6*

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

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

##### **Audit observation**

For metering installations of category 3 HV and above, AccuCal is used as ATH and there is no plan to change it.

##### **Audit commentary**

On 1 November 2018 Northpower ATH certification will expire. At the time of this audit, Northpower was working with the EA auditor to finalise an ATH audit report is due May'18.

#### **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 company's policy is to provide the MEP function only for installations where their own metering assets are installed. Any nominations for installations where third party owned meter assets are installed are rejected. Part of the daily process is to check MEP nominations received via the registry and to decide whether they are to be accepted or not.

Overall Northpower accepted 109 nominations from MEEN, TRUS, and small traders. The Event Listing file (EDA) dated for the period 01/07/17 to 28/2/18 was analysed to validate compliance with the above clause.

#### Audit commentary

We checked input dates of trader files and MN files for 40 randomly chosen ICPs and we confirm that the MEP nominations were accepted by Northpower the same or following business day of the MEP nomination being received from the registry. It is a daily process, first activity in the morning, to check the registry notification from the registry. It is a manual process to evaluate if a nomination is accepted or not. It is a good, robust process.

Metering information was usually sent to the Registry on the same business day or following business day to the MEP nomination being accepted, where the metering had been installed at the ICP prior to the MEP nomination.

#### 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 16/3/18 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. The results for this and previous audit are shown below:

Query	2017	2018
Cat 2 with multiplier over 100	1 ICP(0000523418NR214) – Category 3 ICP certified as category 2 as noted elsewhere in section 7.6	The same
Cat 3 and above without HHR profile or HHR meter or HHR installation	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
Invalid certification date	no ICPs	no ICPs
Cert Expiry date > Today	706 installations 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 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



Compensation factor on Cat 1 Installation	<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 service 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 fuse board.</p>
CT on Cat 1 Check component type of "C" on Cat 1	No ICPs	No ICPs
Export ICPs (load type of generation or both) Check that the registry has an "I" channel	4 ICPs	4 ICPs
HHR profile and submission type and meter or installation type is not HHR	no ICPs	no ICPs
ICP in LIS File but not in PR255	no ICPs	no ICPs
Any compensation factor that is not: 20,30,40,50,60,80,100,120,160,200,240,400	<p>76 ICPs. A single-phase meter on a three-phase supply at a Category 1 installation will have a multiplier of "3".</p> <p>Category 4 and 5 metering installations will generally have compensation factors exceeding 400.</p>	<p>67 ICPs. A single-phase meter on a three-phase supply at a Category 1 installation will have a multiplier of "3".</p> <p>Category 4 and 5 metering installations will generally have compensation factors exceeding 400.</p>

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
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
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
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
Profile analysis Check period of availability and register content: Day without Night	no ICPs	no ICPs
Profile analysis Check period of availability and register content: IN Register cannot be 24 or 0	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.	
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#### Audit commentary

For ICP 0000100001NR87B (Power Station) there is no CT information in the Registry. Northpower attempted to load the CT information into Gentrack (and then to the Registry) however it was found that the CT serial numbers on the AccuCal certification report were duplicates of the CT serial numbers at another ICP. Gentrack will not allow duplicate serial numbers, and this situation is unlikely to occur in the real world. In section 7.5 we identified that for 3 ICPs, VT information was not recorded in the registry.

Northpower located records of missing VTs information in the registry and is working towards uploading them to the registry by the time this audit report is finalised.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.2 With: 7(1) of Schedule 11.4  From: 01-Jul-17 To: 28-Feb-18	CTs for 0000100001NR87B are not recorded in the registry and VTs information for 3 ICPs  Potential impact: Low  Actual impact: Low  Audit history: Multiple times  Controls: Moderate  Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are recorded as moderate un this area this non-compliance was identified already a few times. The impact on settlement outcome is none therefore audit risk rating is recorded as low.		
Actions taken to resolve the issue		Completion date	Remedial action status
All CT and VT records are now in the Registry for any affected ICPs		4/5/2018	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
All CT and VT records are now in the Registry for any affected ICPs	4/5/2018	

### 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

The last audit identified non-compliance with this clause.

Northpower commissioned the database written by John Candy Consulting which allows them to meet the obligation described in this clause. The checks are done using the PR-255 and the LIS files downloaded from the registry on the 13<sup>th</sup> business day. Information is compared against records kept in Gentrack. The first time the process was run was in 19 March 2018.

#### Audit commentary

The monthly comparison done as per this clause requirement is additional to daily checks done by Northpower. Every single day, Northpower reverses entries uploaded to the registry by Gentrack, which as soon as any information is "touched" it sends a notification to the registry. Some of these updates are not necessary and some of them relate to events prior to the introduction of Part 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**

We asked Northpower to show us examples of all the points listed above.

- (a) Installation modification – this was discussed with the Commercial Manager and is covered in section 4.1 – no installations were modified to his knowledge
- (b) Accuracy tolerance – this is covered in section 4.3 – Northpower uses the selective component metering method to certify metering installations of category 1, 2 and 3 LV. Higher category metering installations are certified by AccuCal. Business practise is that if the accuracy tolerance during installation testing is not met, an installation is not certified. If necessary, not up to standard equipment will be replaced.
- (e) Lack of inspection - 9 Installations of category 3 and 1 installation of category 5 did not have an inspection. This was identified and is described in detail in section 8.2. The registry records were not updated
- (f) Certification to a lower category – one ICP is discussed in section 7.6
- (g) Insufficient load for full certification – this is discussed in section 7.8, no sufficient load, no certification
- (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. When discovered, SR is issued and a meter re-sealed.

#### **Audit commentary**

Non-compliance identified because 9 metering installations of category 3 were not inspected and the registry records not updated to reflect it. It was identified as non-compliance in the previous audit.

## Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.4 With: 20(2) of Schedule 10.7  From: 01-Jul-17 To: 28-Feb-18	Registry records were not updated to reflect cancelled certification for nine installations cat 3 and one category 5 for which no inspections were conducted  Potential impact: Medium  Actual impact: Low  Audit history: Once previously  Controls: Weak  Breach risk rating: 4		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are recorded as weak for this clause. This non-compliance is linked to section 8.2. The impact on settlement outcomes is recorded as minor and audit risk rating as low. It is a concern that this non-compliance has been identified before and no action was taken to address it.		
Actions taken to resolve the issue		Completion date	Remedial action status
Northpower has coordinated with AccuCal to schedule the recertification of Cat 3 to 5 HV metering installations during 2018. These have to be coordinated with planned shutdowns at the sites such as the off-season maintenance periods at the dairy factory sites.		31/12/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Northpower will liaise with AccuCal late in each calendar year to schedule the inspections and certifications for the following year.		Early December for the following year's work.	

## 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**

As described in section 6.2 VTs and CTs are not loaded for some ICPs.

**Audit commentary**

Non-compliance identified based on review of the registry records.

**Audit outcome**

Non-compliant

Non-compliance	Description		
Audit Ref: 6.5 With: 11.18A  From: 01-Jul-17 To: 28-Feb-18	Not all metering records are loaded into the registry as per Table 1 of Schedule 11.4.  Potential impact: Low  Actual impact: Low  Audit history: Multiply times  Controls: Strong  Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls for this clause are recorded as strong. Northpower process to keep information complete in the registry complete and accurate is good. The fact that info for VTs at 3 ICPs and CTs at 1 ICP are not in the registry do not impact settlement outcomes. Audit risk rating is recorded as low.		
Actions taken to resolve the issue		Completion date	Remedial action status
All CT and VT records are now in the Registry for any affected ICPs		4/5/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
All CT and VT records are now in the Registry for any affected ICPs		4/5/2018	



## 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 PR-255 dated 16/3/18 to assess compliance.

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. The ICP meter installation certification records are kept as scanned copies.

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

Below there is a list of installations category 2 and above for which certification expired. The number of uncertified installations has increased by 13 since the last audit.

ICP	Meter category	Cert Expire date
0000512170NRA79	2	02/02/2018
0000512171NR63C	2	22/01/2018
0000512172NRAFC	2	13/01/2018
0000519079NR2CC	2	29/01/2018
0000520682NR785	3	05/08/2017
0000529180NR4A2	2	16/01/2017
0000530364NR154	3	27/01/2016
0000531924NR85B	2	05/01/2018
0000537821NR9D0	2	18/02/2018
0000540220NR146	2	14/02/2018
0000545301NRE72	2	21/05/2016

0000545314NR990	2	11/03/2018
0000545317NR550	3	31/05/2017
0000546038NR638	5	21/05/2016
0000546127NRA4F	5	16/12/2017
0000549009NR4E5	3	28/06/2013
0000550254NRDF0	2	21/10/2017
0000553396NR17E	4	01/08/2015
0000553602NRA96	3	31/07/2017
0000557278NR7DB	3	04/09/2017
0000500092NR2E3	3	13/06/2017
0000509859NR775	2	30/01/2018

Northpower was hoping that, by now, all non-certified metering installations will be replaced as a part roll-out of AMS. Unfortunately, it has not happened.

Currently Northpower is working with Metrix to use their meters to certify the uncertified/expired/expiring installations. The action plan is under negotiation, the company provided an update as of 21/3/18. The plan is in place, but the implementation is not going as smoothly as Northpower had hoped, it is a slow progress to address non-compliance.

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

#### Audit commentary

As we described in the last audit, BTS used to be certified for one year only; before their certification expires an inspector should go on site to check if the connection is still used as a BTS. It is one of the reasons why many installations certification has expired before it was changed to a permanent connection. Northpower decided to change their policy and introduce 2 yearly site checks for recertification for BTS. It should have positively influence on level of non-compliance.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 7.1 With:  From: 01-Jul-17 To: 28-Feb-18	Certification expired for 651 installations, 629 installations category 1 and 22 higher categories Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 6		
Audit risk rating	Rationale for audit risk rating		
Medium	Controls are recorded as weak because there is a plan in place, but the implementation is very slow. Northpower is still in favour of their meters being replaced by other MEPs but so far this approach does not give the best results. We assigned audit risk rating as medium because the number of category 2 metering installations is steadily increasing, which could have an impact on settlement outcomes.		
Actions taken to resolve the issue		Completion date	Remedial action status
Northpower has engaged with Metrix to install Metrix-owned advanced meters at ICP's with expired certification and with certifications expiring in 2018, subject to retailers agreeing to nominate Metrix as MEP. A weekly analysis of the Registry Alert File is completed to help monitor the progress of this meter deployment. Refer to further comments in the <i>Conclusion: Participants Comments</i> section at the end of this audit report.		31/12/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
As above		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. AccuCal, according to the Electricity Authority's website, holds the certification of Test House, class A, which is sufficient to certify metering installations of category 3 and higher. Northpower itself holds the accreditation of Test House class B for installations of category 1, 2 and 3 LV.

#### Audit commentary

Compliance confirmed based on a review of ATH certification for AccuCal.

#### 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 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 functionality to local services metering installations in grid substations. There are no plans to provide such service in the future.

#### 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

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. Clause 30(1) of Schedule 10.7 makes provision for this multi-use of VTs therefore Northpower is compliant.

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. Northpower confirmed that since the last audit no protection relays were changed.

#### Audit commentary

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. The following table shows more details. It is the same list which was included in the previous audit report.

Site	Type of VT's	Comments
BRB0331 (Oil Refinery and Carter Holt LVL Plant) - 2 ICP's	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)	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	Separate Metering Unit containing CT's and VT's	Metering units were installed 10 years ago.
Fonterra Kauri	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	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	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	VT's in indoor 11kV switchgear	Exclusive to metering.
CHH Sawmill HV	VT's in indoor 11kV switchgear	Exclusive to metering.
Marusumi Wood Chip Mill	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	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

#### 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

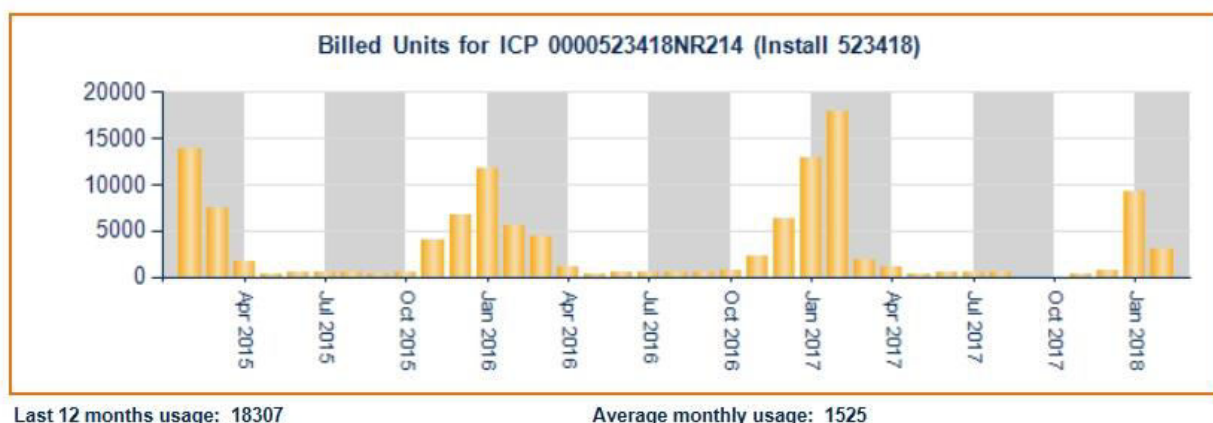
Northpower does not allow paper downgrades according to their policy. Customers who request downgrades for the purpose of seeking lower line and electricity charges are required to have existing CT's replaced by CT's in the appropriate range (e.g. 500/5 or lower for cat 2) or conversion to whole-current 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.

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

#### Audit commentary

The customer does not wish to have half-hour metering because of the cost.

Northpower does not receive a special report from Mercury for the ICP but the consumption data supplied to Northpower (the distributor) for line charge billing purposes can be used for the purposes of this section. This consumption data is graphed on the Northpower Intranet Premise Enquiries page for the ICP – the graph for this particular ICP is shown below. Consumption continues to be very low and well below 0.5 GWh pa.



#### 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

Since the last audit in November there were no metering installations for which there was insufficient load for certification tests where Northpower was the MEP. For installations of category 1 and 2, installers use a portable load to certify the installation if no actual load is present therefore there is always sufficient load for testing.

##### Audit commentary

Since the last audit in November there were no metering installations for which there was insufficient load for certification tests where Northpower was the MEP.

For HHR installations the following process is in place (Northpower provides MEP services), a load would be monitored from the Northpower office via MV90, so it can be reviewed regularly and there is also a reminder set-up in Gentrack.

##### 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

Compliance confirmed based on a review of the process.

#### 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

There is one ICP for which re-certification is delayed because of an access issue by the customer who will not allow the site to be shut down. It is the same ICP which was noted in the previous audit.

ICP	Owner	Name of property	Expire date
0000549009NR4E5	Northport Ltd	Deep Water Port at Marsden Point (11kV)	28/06/13

#### Audit commentary

It was discussed with Northpower during the audit and the company presented a letter dated 5/5/18 from Northport in which the company assures that they are actively working towards a business based solution with regards to managing the required power outage.

#### 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

This clause is not applicable because 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 is as follows:

- The office is notified that a ripple relay was bridged out at night
- An internal Service Request is issued for the faulty relay to be replaced.

The after-hours faultman and all day faultman carry spare relays in their vehicles. On rare occasions, ripple relays are bridged out by a faultman after hours when the customer has no hot water.

#### Audit commentary

Northpower commented that since the last audit, there were no instances where ripple receivers were replaced for installations for which Northpower provides MEP services.

#### 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

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 commentary

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

#### 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 meter models at Category 1 metering installations which were previously interim certified.

#### Audit commentary

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

#### Audit outcome

Compliant

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

#### Code reference

*Clause 24(3) of Schedule 10.7*

#### Code related audit information

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

*In all other cases the MEP must update the compensation factor recorded in the registry in accordance with Part 11.*

#### **Audit observation**

Northpower does not have such installations

#### **Audit commentary**

Compliance confirmed based on a verbal assurance by Northpower.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 26(1) of Schedule 10.7*

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

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

#### **Audit observation**

All NHH meters installed at installations are meters returned from the field. They were removed by other MEPs on traders' request. No new meters were purchased since the last audit.

#### **Audit commentary**

Certificates of meters installed as a part of metering on installations of category 1 and 2 are held by Northpower ATH. Meters for category 3 and above are individually tested by AccuCal as a part of certification.

#### **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 cat 3 and above are individually tested by AccuCal as a part of installation certification.

#### **Audit commentary**

We sighted CT's certification for five 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

Audit it was noted that the PSI logger is installed at ICP 0000545550NRC39. Northpower commented that this PSI logger is not operational anymore.

##### 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

I checked the ATH (AccuCal) register 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 LIS file dated 16/03/18 to see if there are any ICPs with interim certification recorded.

##### Audit commentary

We identified 842 previously interim certified installations with expired certification.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 7.19 With: 18 of Schedule 10.7 From: 01-Jul-17 To: 28-Feb-18	842 ICPs with expired interim certification Potential impact: Medium Actual impact: Medium Audit history: multiple times Controls: Weak Breach risk rating: 6		
Audit risk rating	Rationale for audit risk rating		
<b>Medium</b>	Controls are recorded as weak because certification has been expired for a number of years for 842 installations. The impact on settlement outcomes is recorded as medium because of the increased likelihood of inaccuracy of metering installations.		
Actions taken to resolve the issue		Completion date	Remedial action status
Northpower has engaged with Metrix to install Metrix-owned advanced meters at ICP's with interim certification, subject to agreement with retailers to nominate Metrix as MEP. A weekly analysis of the Registry Alert File is completed to help monitor the progress of this meter deployment. Refer to further comments in the <i>Conclusion: Participants Comments</i> section at the end of this audit report.		31/12/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
No additional ICP's with interim certification can be created.		On-going	

## 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 2017, 240 ICPs were selected, 203 of them were inspected. After inspections are finished, Northpower MEP analysed 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 of inspection category 1 metering installations for the calendar year 2017 was filed with the Authority.

### 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

According to the process adopted by Northpower, Installations of category 2 are not inspected; instead they are re-certified every 120 months. Unfortunately, this process is not carried out. Analysis of PR-255 showed that the certification for 12 category 2 metering installations expired.

Using the PR255 files we calculated a date of inspection for installations category 3 and above.

Not all metering installations of category 3 and higher were inspected as per the Code requirement. The table below shows a summary:

ICP	Category	Certification date	Certification expire	Inspection due	Inspection	Site
0000527385NRB2A	3	27/02/12	7/04/21	27/02/17	Inspection pending in conjunction with comms check	Kaihu Valley
0000541335NRE00	3	27/07/10	9/09/18	27/07/15	Not inspected since recertification is due soon	WDC Okara
0000541377NRC20	3	30/06/10	19/08/18	30/06/15	Not inspected since recertification is due soon	Nth Events
0000545312NR81F	5	21/04/15	1/12/17	21/10/16	Recently recertified by Class A ATH - paperwork being processed	Font MTO
0000545341NRCD7	3	14/02/12	6/07/21	12/02/17	Inspection to be arranged by Northpower ATH	WDC Cut
0000546127NRA4F	5	4/02/16	16/12/17	4/02/17	Inspection by Class A ATH when supplies 3 + 4 are recert in next maintenance period	NZR
0000548351NRC5A	3	3/05/12	7/02/22	3/05/17	Inspection to be arranged by Northpower ATH	Atlas BRY
0000548751NR05B	3	1/03/12	22/06/20	1/03/17	Inspection to be arranged by Northpower ATH	CHH Supply 3
0000549265NR20C	3	7/05/12	7/02/22	2/06/17	15/05/2015 in conjunction with comms fault	Win Agg 2
0000557260NRF62	3	20/02/09	20/02/19	20/02/14	Inspection to be arranged by Northpower ATH	NZP
0000557601NR0D6	3	18/02/09	25/11/19	18/02/14	Not inspected since recertification is due soon	Court 2

### Audit commentary



The analysis of PR-255 showed that the certification for 12 category 2 metering installations expired. According to Northpower's policy not to conduct inspections but to recertify it, the result is that 12 installations were neither inspected or recertified.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 8.2 With: 46(1) of Schedule 10.7  From: 01-Jul-17 To: 28-Feb-18	No inspection conducted for 12 category 2 installations, one category five installation and nine category 3 installations  Potential impact: Medium  Actual impact: Low  Audit history: Twice previously  Controls: Weak  Breach risk rating: 6		
Audit risk rating	Rationale for audit risk rating		
<b>Medium</b>	Controls are recorded as weak because this non-compliance was identified already a few times. Northpower assured us that they are in contact with AccuCal asking them to conduct inspections, but it was the number of installations not meeting compliance is increasing. Northpower does not follow its process for metering installations category 2. The impact on settlement outcomes is minor but it potentially can increase. Audit risk rating is recorded as medium as it should be addresses with next 6-12 months.		
Actions taken to resolve the issue		Completion date	Remedial action status
Northpower has been concentrating resources to address the Category 1 and Category 5 expired ICPs		31/12/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Inspections of Category 2 installations are only required for those originally certified for 15 years. Newly certified Category 2 installations can only be certified for 10 years which is the same as the inspection period.		Not applicable	

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

#### Code reference

*Clause 44(5) of Schedule 10.7*

#### Code related audit information

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

- undertake a comparison of the information received with its own records
- investigate and correct any discrepancies

- *update the metering records in the registry.*

#### **Audit observation**

The process has not changed since the last audit. When the inspections are conducted by AccuCal for installations of category 3 HV and higher on Northpower's request, Northpower compares the information on the report supplied with its own records and the registry is updated as required.

#### **Audit commentary**

Compliance confirmed based on a verbal assurance by Northpower.

#### **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**

According to the process adopted by Northpower, if inspectors find broken seals at category 1 or 2 metering installations they will check the installation for signs of tampering and if none are identified the missing seals are replaced. This task is completed under the authority of the Northpower ATH.

#### **Audit commentary**

The company commented that on some occasions metering installations of category 3 or higher sometimes have a broken seal on the CT chamber. In most cases it is due to site electricians needing access to the CT chamber. In such cases Northpower's inspectors will follow the same process as for a faulty installation.

#### **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

Northpower's' Contracting Division is advised by customers or by traders of all types of faulty installation complaints such as noisy meters, noisy relays, fast meters, and meters not working.

The process adopted by Northpower is described below, it has not changed since the last audit.

Traders send through a service request (SR) to Northpower Contracting asking for a site visit. Once the SR is received, an inspector or a faultman makes a site visit to investigate and remedy any issues he may find. The SR is closed, as per the individual trader's agreed process, once the site visit has been completed. The information provided to a trader will include any information relevant to the fault that the inspector discovered.

#### Audit commentary

Any changes to the meter installation, for which Northpower provides MEP services, to remedy a fault are updated into Gentrack and uploaded to the registry overnight. Compliance confirmed based on a review of the process.

#### 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**

Once Northpower receives the SR from the trader, an inspector makes a site visit to investigate and remedy any issues, if possible, he may find. The SR is closed once the site visit has been completed and any relevant information is returned to the trader who raised the service request. A trader receives the Inspection Report (scanned) will include any information relevant to the fault that the inspector discovered plus photos.

If an installation of category 3 HV and higher is reported faulty, Northpower asks AccuCal to investigate. Once their investigation is complete Northpower is advised of their findings. Mike Hayes (Network Commercial and Operations Manager) completes a “statement of situation” in cooperation with AccuCal.

#### **Audit commentary**

Previously Northpower used to test faulty NHH meters but it is not the case anymore because a test bench lost certification. In such situation another ATH will conduct meter testing.

We found the process used by Northpower compliant.

#### **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 that there were no instances, since the last audit, where a half-hour installation was faulty and inaccuracies in raw data were discovered as a result.

#### **Audit commentary**

In a situation where any HHR installation is reported being faulty, AccuCal is asked to investigate and provide a statement of situation. A statement of situation will be provided to the trader.

#### **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

Northpower owns the HHR meters at a number of ICPs. They can read these meters using MV90 software. These reads are only used for the internal distributor purposes of reconciliation or direct billing of network charges to the end use customer.

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 to the companies nominated by the retailer who supplies electricity to a customer at the ICP.

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

#### Audit commentary

Northpower have raw data for HHR meters but it is used only for internal processes. They are never disclosed to any trader or a customer. Northpower does not have access to raw meter data of NHH ICPs.

#### 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 have access to it or their agents. Northpower reads HHR meters owned by Northpower for their own internal use.

### Audit commentary

Northpower do not have access to NHH raw meter data. Meter data for HHR ICPs is used only internally and 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

It was discussed with the company during this audit. As described in the previous section, Northpower confirmed that it will use its best endeavours to provide physical access to an installation if requested.

### Audit commentary

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. The company was not approached with any requests for urgent access to any metering installation during the period covered by the 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. There are no plans to provide such service. In fact, number of installations for which MEP services are provided are steadily decreasing.

**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. There are no plans to provide such service.

**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. There are no plans to provide such service.

**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. There are no plans to provide such service.

#### 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. There are no plans to provide such service.

#### 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. There are no plans to provide such service.

#### **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 on-going data clean-up activities by Northpower.

- A. 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 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 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 being required will be reversed from the Registry.

In addition, a change to a Gentrack meter data field which 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.

- B. 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. 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.

These third party meter asset replacements have been completed by a mix of Northpower Contracting and third party contractors working for various Test Houses.

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 the MEP. This Registry update will include those ICPs with third party owned meter assets if Northpower still shows as the MEP in the Registry.

Due to a design flaw with the Registry MEP functionality it is not 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 Registry design flaw 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 three adverse outcomes: -

- 1) The Registry meter data for the affected ICPs does not match the physical meter assets currently installed at the ICP.
- 2) 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.

- 3) 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. The functionality for sending “historical” dated metering events was incorporated into the Gentrack Part 10 software to manage the requirements of Part 11 Clause 11.2:

***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.

### **Section 7.1 Expired Certification:**

On the basis of the timeframes given by the retailers for the retailer-led deployment programmes to replace Northpower owned legacy meters with advanced meters owned by AMS and Metrix, Northpower understood that 100% of Northpower-owned category 1 & 2 metering installations would

have been displaced by the end of the 2017 calendar year. Effectively Northpower would no longer retain MEP responsibility for any category 1 and category 2 metering installations.

For reasons completely outside Northpower's control, this has not occurred and so Northpower is now faced with "playing catch-up" with metering installations for which Northpower remains the MEP. It makes no economic sense for Northpower to install legacy meters (owned by Northpower) at these expired certification metering installations when all retailers have indicated they wish to move to advanced meters. Northpower also does not wish to retain the MEP responsibility at ICPs where non-Northpower metering assets are installed.

To advance the metering installation certification project, Northpower has engaged with Metrix to install Metrix-owned advanced meters at ICP's with expired certification or with certifications expiring in 2018. This solution is subject to those retailers with ICPs where the metering installation certification has expired agreeing to nominate Metrix as MEP prior to the metering installation certification work commencing. Unfortunately some retailers, including one major retailer, have indicated that they do not want Metrix advanced meters installed at uncertified ICPs they supply.

As Metrix wants to retain control of the metering installation recertification project with regards to the initial selection of ICPs to be placed with their contractors, and arranging contact with the customer, progress towards reducing the number of expired certification ICPs has been slower than Northpower had hoped.

