

# **Electricity Industry Participation Code Reconciliation Participant Audit Report**

**For**

**Nga Awa Purua Joint Venture (NAPJ)**

**Prepared by Rebecca Elliot and Tara Gannon  
Veritek Ltd**

**Date of Audit:** 26/06/17-29/06/17

**Date Audit Report Complete:** 02/08/17

**Date Audit Report Due:** 28/08/17

## Executive Summary

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of Nga Awa Purua Joint Venture (**NAPJ**), to support their application for renewal of certification in accordance with clauses 5 and 7 of schedule 15.1.

The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits version 7.1.

Nga Awa Purua Joint Venture (NAPJ) is a generator and is responsible for submitting generation information to the reconciliation manager. NAPJ is therefore a certified reconciliation participant. NAPJ uses AMS to collect the HHR data, and Mercury NZ Limited (Mercury) conducts the submission activities.

NAPJ's compliance is reliant on the compliance of AMS and Mercury, as agents. Their audit reports record compliance in relation to the activities performed on behalf of NAPJ.

The matters raised are shown in the tables below:

### Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Breach Risk Rating	Audit History	Controls	Remedial Action
			Nil				
Breach Risk Rating Score							
Indicative Next Audit Frequency							36 months

### Table of Recommendations

Subject	Section	Clause	Recommendation for Improvement	Remedial Action
			Nil	

## Persons Involved in This Audit:

Auditor:

**Rebecca Elliot**  
**Veritek Limited**  
**Electricity Authority Approved Auditor**

**Tara Gannon**  
**Veritek Limited**  
**Electricity Authority Approved Auditor**

Personnel assisting in this audit were:

<b>Name</b>	<b>Title</b>	<b>Company</b>
Anurag Sharda	Energy Analyst	Mercury Energy
Chris Posa	Compliance and Process Improvement Coordinator	Mercury Energy
Ranjesh Kumar	Pricing Operations and Energy Services Manager	Mercury Energy

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## 1. Administrative

### 1.1 Summary of Previous Audit

NAPJ provided a copy of the last audit, conducted in August 2016 by Rebecca Elliot of Veritek Limited. No non-compliances or recommendations were recorded.

### 1.2 Scope of Audit

NAPJ is a generator and is responsible for submitting generation information to the reconciliation manager. NAPJ is a certified reconciliation participant. NAPJ uses AMS to collect HHR data, and Mercury conducts the submission activities.

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of NAPJ, to support their renewal of certification in accordance with clauses 5 and 7 of schedule 15.1.

The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits V6.2. The report includes only the report sections relevant to NAPJ's activities. The scope of the audit is shown in the table below:

Tasks Requiring Certification Under Clause 15.38(1) of Part 15	Agents Involved in Performance of Tasks
(b) Gathering and storing raw meter data	AMS
(c)(i) Creation and management of HHR volume information	Mercury
(e) Provision of submission information for reconciliation	Mercury

The audit reports for the parties mentioned above are attached as appendices.

### 1.3 Exemptions from obligations to comply with code (Section 11 of Electricity Industry Act 2010)

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.

NAPJ confirms there are no exemptions in place that are relevant to the scope of this audit.

### 1.4 Use of agents (Clause 15.34 of Part 15)

Agents, who are listed in Section 1.2, perform all of NAPJ's responsibilities.

### 1.5 Breaches or Breach Allegations

NAPJ has not had any breach allegations recorded by the Electricity Authority, which are relevant to this audit.

## 2. Operational infrastructure

### 2.1 Relevant information (Clause 10.6, 11.2, 15.2)

*A participant must take all practicable steps to ensure that information that the participant is required to provide to any person under Part 15 is:*

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

*If the participant becomes aware that in providing information under this Part, the participant has not complied with that obligation, the participant must, as soon as practicable, provide such further information as is necessary to ensure that the participant does comply.*

#### **Audit Observation**

The process to find and correct incorrect information was examined.

#### **Audit Commentary**

These matters are handled if and when they arise. Validation processes are described in section 4.2. If these validation processes, or monitoring by the generation team, reveal any incomplete, inaccurate, or misleading information a correction will be processed. There were no examples of corrections during the audit period. Compliance is confirmed.

### 2.2 Provision of information (Clause 15.35)

*If an obligation exists to provide information in accordance with Part 15, a participant must deliver that information to the required person within the timeframe specified in the Code, or, in the absence of any such timeframe, within any timeframe notified by the Authority. Such information must be delivered in the format determined from time to time by the Authority.*

#### **Audit Observation**

Processes to provide information were reviewed and observed throughout the audit.

#### **Audit Commentary**

No issues were noted in relation to provision of information. Compliance is confirmed.

## 2.3 Data transmission (Clause 20 Schedule 15.2)

*Transmissions and transfers of data related to metering information between reconciliation participants or their agents, for the purposes of the Code, must be carried out electronically using systems that ensure the security and integrity of the data transmitted and received.*

### **Audit Observation**

Mercury receives volumes for NAPJ via SFTP, and imports them into SAP. I reviewed the method to receive volume information, and traced a sample of volumes for five days from the source files to SAP.

### **Audit Commentary**

HHR data is transferred via SFTP and automatically imported into SAP. This method ensures the security and integrity of the data. I saw evidence that the data transfers are via SFTP.

I traced a typical sample of volumes for five days from the source files to SAP. Data matched in all cases.

Compliance is confirmed.

## 2.4 Audit trails (Clause 21 Schedule 15.2)

*Each reconciliation participant must ensure that a complete audit trail exists for all data gathering, validation, and processing functions of the reconciliation participant.*

*The audit trail must include details of information:*

- *provided to and received from the registry*
- *provided to and received from the reconciliation manager*
- *provided and received from other reconciliation participants and their agents.*

*The logs must include (at a minimum) the following:*

- *an activity identifier (clause 21(4)(a))*
- *the date and time of the activity (clause 21(4)(b))*
- *the operator identifier (clause 21(4)(c)).*

### **Audit Observation**

Mercury processes NAPJ data and produces submissions. The audit trails for all data gathering, validation and processing functions were reviewed as part of Mercury's audit.

### **Audit Commentary**

The logs for the following activities were reviewed.

- **Volume information:** a compliant audit trail is available for all volume information within SAP.
- **Reconciliation reports:** a compliant audit trail is recorded within the allocation portal.

Compliance is confirmed.



### 3. Gathering raw meter data

#### 3.1 Responsibility for metering at GIP (Clause 10.26 (6), (7) and (8))

*An asset owner must, for each GIP that connects to the grid, ensure that there is one or more certified metering installations for the GIP.*

##### **Audit Observation**

The NSP table was reviewed to confirm the GIPs which NAPJ is responsible for, and the certification expiry date for those GIPs.

##### **Audit Commentary**

NAPJ is responsible for the GIP shown in the table below.

Responsible party	Description	NSP	MEP	Reconciliation Type	Certification expiry date (NSP table)
NAPJ	Nga Awa Purua	NAP2201NAPJGG	MRPL	GG	29/10/17

Certification is current for the metering installation. There have not been any modifications during the audit period that would require notification to other parties. Compliance is confirmed.

#### 3.2 Collection of information by certified reconciliation participant (Clause 2 Schedule 15.2)

*A reconciliation participant must obtain raw meter data used to determine volume information from the services access interface. Except when only the Metering Equipment Provider can electronically interrogate a metering installation for which it is responsible and they have an arrangement with the reconciliation participant which prevents them from interrogating the metering installation themselves.*

##### **Audit Observation**

Information used to determine volume information is provided by AMS, and as an agent to NAPJ.

The data collection process was examined. I traced a sample of volumes for five days from the source files to SAP.

##### **Audit Commentary**

Information used to determine volume information is provided by AMS, and as an agent to NAPJ. I traced a typical sample of volumes for five days from the source files to SAP. Data matched in all cases.

Compliance is confirmed.

## **4. Creating and managing (including validating, estimating, storing, correcting and archiving) volume information**

### **4.1 Correction of HHR metering information (Clause 19(2) Schedule 15.2)**

*If errors are detected during validation of half hour metering information the correction must be as follows:*

*- if a check meter or data storage device is installed at the metering installation, data from this source may be substituted*

*- in the absence of any check meter or data storage device, data may be substituted from another period if the total of all substituted intervals matches the total consumption recorded on the meter, if available, and the pattern of consumption is considered materially similar to the period in error.*

#### **Audit Observation**

Mercury is responsible for completing corrections to generation data if required. There have been no corrections to generation data during the audit period.

#### **Audit Commentary**

In the event that a correction is required, Mercury would rely on advice from the generation team and the best information available. Compliant audit trail processes exist within SAP where data is corrected.

Compliance is confirmed.

### **4.2 Electronic meter readings and estimated readings (Clause 17 Schedule 15.2)**

*Each validity check of electronically interrogated meter readings and estimate readings must be at a frequency that will allow a further interrogation of the data storage device before the data is overwritten within the data storage device and before this data can be used for any purpose under the Code.*

*Each validity check of a meter reading obtained by electronic interrogation or an estimated reading must include:*

*17(4)(a) - checks for missing data*

*17(4)(b) - checks for invalid dates and times*

*17(4)(c) - checks of unexpected 0 values*

*17(4)(d) - comparison with expected or previous flow patterns*

*17(4)(e) - comparisons of meter readings with data on any data storage device registers that are available*

*17(4)(f) - a review of meter and data storage device event list. Any event that could have affected the integrity of metering data must be investigated.*

#### **Audit Observation**

Mercury validates the data received for NAPJ.

### **Audit Commentary**

Reads are received via SFTP. They are imported into SAP automatically, and validated. I observed the validation process and noted that checks include:

- a master data check to ensure data is for the correct NSP and meter
- checks for missing data
- checks for invalid dates and times
- checks of unexpected zero values
- comparison with expected or previous flow patterns (these can be viewed graphically)
- negative values.

Prior to submission to the reconciliation manager check meter and SCADA data is compared to the latest data in SAP. I observed this process for May 2017, and noted no issues were identified. Where any data discrepancies are identified they are investigated.

No event logs are provided. A web based system provides information on any outages or issues, and was viewed during the audit. Generation staff monitor metered consumption, and notify the energy services team if they become aware of any issues.

Compliance is confirmed.

## **5. Provision of metering information to the pricing manager in accordance with subpart 4 of Part 13 (clause 15.38(1)(f))**

### **5.1 Generators to provide HHR metering information (Clause 13.136)**

*The generator (and/or embedded generator) must provide to the pricing manager and the grid owner connected to the local network in which the embedded generator is located, half hour metering information in accordance with clause 13.138 in relation to generating plant that is subject to a dispatch instruction:*

- *that injects electricity directly into a local network; or*
- *if the meter configuration is such that the electricity flows into a local network without first passing through a grid injection point or grid exit point metering installation.*

### **Audit Observation**

No information is provided to the pricing manager in accordance with this clause.

## 5.2 Unoffered & intermittent generation provision of metering information (Clause 13.137)

*Each generator must provide the pricing manager and the relevant grid owner half-hour metering information for:*

*- any unoffered generation from a generating station with a point of connection to the grid*

*13.137(1)(a)*

*- any electricity supplied from an intermittent generating station with a point of connection to the grid*

*13.137(1)(b)*

*The generator must provide the pricing manager and the relevant grid owner with the half-hour metering information required under this clause in accordance with the requirements of Part 15 for the collection of that generator's volume information (clause 13.137(2))*

*If such half-hour metering information is not available, the generator must provide the pricing manager and the relevant grid owner a reasonable estimate of such data (clause 13.137(3)).*

### **Audit Observation**

No information is provided to the pricing manager in accordance with this clause. No estimates or corrections have been made.

## 5.3 Loss adjustment of HHR metering information (Clause 13.138)

*The generator must provide the information required by clauses 13.136 and 13.137,*

*13.138(1)(a) - adjusted for losses (if any) relative to the grid injection point or, for embedded generators the grid exit point, at which it offered the electricity*

*13.138(1)(b) - in the manner and form that the pricing manager stipulates*

*13.138(1)(c) - by 0500 hours on a trading day for each trading period of the previous trading day.*

*The generator must provide the half-hour metering information required under this clause in accordance with the requirements of Part 15 for the collection of the generator's volume information.*

### **Audit Observation**

No information is provided to the pricing manager in accordance with this clause.

## 5.4 Notification of the provision of HHR metering information (Clause 13.140)

*If the generator provides half-hourly metering information to the pricing manager or a grid owner under clauses 13.136 to 13.138, or 13.138A, it must also, by 0500 hours of that day, advise the relevant grid owner.*

### **Audit Observation**

No information is provided to the pricing manager or grid owner in accordance with this clause.

## 6. Submission computation

### 6.1 Grid connected generation (Clause 15.11)

*The participant (if a grid connected generator) must deliver to the reconciliation manager for each of its points of connection, the following:*

- *submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period (clause 15.11(a))*
- *revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period (clause 15.11(b)).*

#### **Audit Observation**

The process to create AV130 (NSP volume information) was reviewed.

Data for a sample of five days for NAP2201 was traced from the meter data received through to the AV130 submission files.

A sample of five submissions were checked for timeliness on the allocation portal.

#### **Audit Commentary**

Mercury creates AV130 submissions for grid connected generation. Data is reviewed prior to submission using the Generation Trender Reconciliation Tool. The tool compares meter data, SCADA data and the latest data from SAP. If data values are not within predefined error limits, further investigation is completed.

Data for a sample of five days was traced from the meter data received through to the AV130 submission files; all values matched.

The five initial submissions reviewed were submitted on time. Revision submissions are not provided, unless the data has changed. Mercury confirmed that there had been no changes since the data was originally submitted.

Compliance is confirmed.

### 6.2 Accuracy of submission information (Clause 15.12)

*If the reconciliation participant has submitted information and then subsequently obtained more accurate information, the participant must provide the most accurate information available to the reconciliation manager or participant, as the case may be, at the next available opportunity for submission (in accordance with clauses 15.20A, 15.27, and 15.28).*

#### **Audit Observation**

Mercury is responsible for providing revision submissions for NAPJ data.

**Audit Commentary**

As explained in section 6.1 above, revised data is not submitted unless there has been a correction since the original submission. Compliance is confirmed.

## Conclusions

Nga Awa Purua Joint Venture (NAPJ) is a generator and is responsible for submitting generation information to the reconciliation manager. NAPJ is therefore a certified reconciliation participant. NAPJ uses AMS to collect the HHR data, and Mercury conducts the submission activities.

NAPJ's compliance is reliant on the compliance of AMS and Mercury, as agents. Their audit reports record compliance in relation to the activities performed on behalf of NAPJ.

The matters raised are shown in the tables below:

### Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Breach Risk Rating	Audit History	Controls	Remedial Action
			Nil				
Breach Risk Rating Score							0
Indicative Next Audit Frequency							36 months

### Table of Recommendations

Subject	Section	Clause	Recommendation for Improvement	Remedial Action
			Nil	

# Agent's Audit Reports

Mercury NZ Limited