

ELECTRICITY INDUSTRY PARTICIPATION CODE  
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

The logo for Veritek, featuring the word "VERITEK" in a blue serif font. A vertical blue line is positioned to the left of the text, and a horizontal blue line is positioned below the text, intersecting at the letter 'V'.

For

TE KAUWHATA RETIREMENT TRUST  
BOARD AND GENESIS ENERGY

Prepared by: Steve Woods

Date audit commenced: 23 November 2022

Date audit report completed: 30 November 2022

Audit report due date: 01-Dec-22

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## EXECUTIVE SUMMARY

This audit of the Te Kauwhata Retirement Trust Board (**Aparangi**) Unmetered Streetlights DUML database and processes was conducted at the request of Genesis Energy Limited (**Genesis**), in accordance with clause 15.37B. The purpose of this audit is to verify that the volume information is being calculated accurately, and that profiles have been correctly applied.

The audit was conducted in accordance with the audit guidelines for DUML audits version 1.1.

Genesis have developed a spreadsheet to track the items of load at Te Kauwhata Retirement Trust Board. This information is matched to the values held on the registry which in turn is used for submission.

The information on the Registry does not match the values in the spreadsheet, because the spreadsheet was updated on 18/11/22, but the updated values have not been transferred to the registry. The field audit confirmed the updated values are still not correct. The table below shows the discrepancies.

Registry daily kWh	Spreadsheet daily kWh	Correct daily kWh	Annual over submission
26.52	25.54	22.27	1,552

The 100% field audit found five discrepancies. Five 70 watt HPS lamps have been changed to 27 watt LED. This is a discrepancy of 19% and results in over submission of 1,552 kWh per annum. Three of these errors were present during the last audit, therefore revisions cannot account for the entire period of inaccuracy.

This audit found five non-compliances and no recommendations are made. The future risk rating of 15 indicates that the next audit be completed in 12 months. I have considered this in conjunction with the responses from Genesis and the minor impact of the non-compliances found and recommend that the next audit be in 24 months, which also reflects that three of the non-compliances have been cleared.

## AUDIT SUMMARY

### NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Deriving submission information	2.1	11(1) of Schedule 15.3	Five discrepancies were identified resulting in over submission by 1,552 kWh per annum	Weak	Low	3	Cleared
Tracking of load changes	2.6	11(3) of Schedule 15.3	Changes to the spreadsheet do not show the date wattages are changed	Weak	Low	3	Identified
Audit trails	2.7	11(4) of Schedule 15.3	Changes to the spreadsheet do not show the date wattages are changed	Weak	Low	3	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Database accuracy	3.1	15.2 and 15.37B(b)	Five discrepancies were identified resulting in over submission by 1,552 kWh per annum	Weak	Low	3	Cleared
Volume information accuracy	3.2	15.2 and 15.37B(c)	Five discrepancies were identified resulting in over submission by 1,552 kWh per annum	Weak	Low	3	Cleared
Future Risk Rating						15	

<b>Future risk rating</b>	0	1-4	5-8	9-15	16-18	19+
<b>Indicative audit frequency</b>	36 months	24 months	18 months	12 months	6 months	3 months

## RECOMMENDATIONS

## ISSUES

Subject	Section	Description	Issue
		Nil	

## 1. ADMINISTRATIVE

### 1.1. Exemptions from Obligations to Comply with Code

#### 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

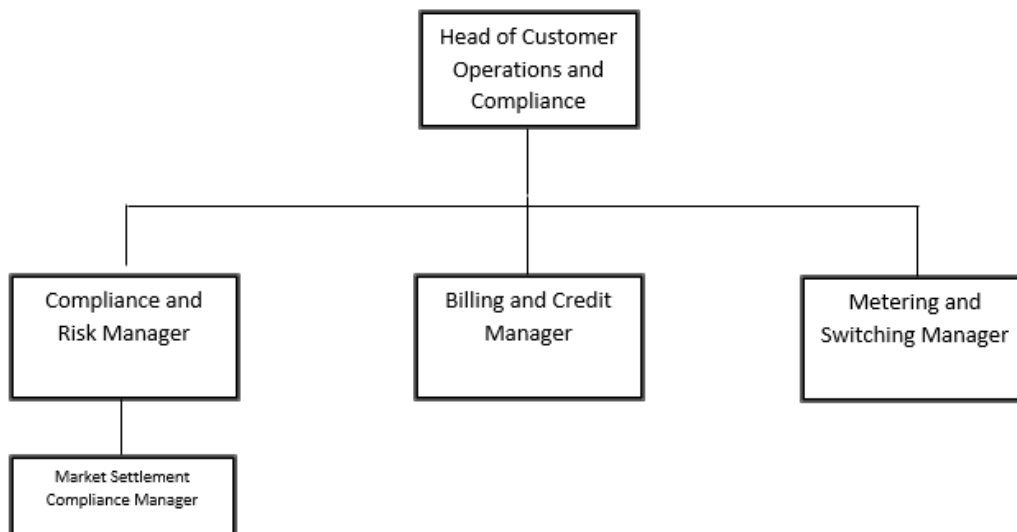
Section 11 of the Electricity Industry Act provides for the Electricity Authority to exempt any participant from compliance with all or any of the clauses.

#### Audit commentary

There are no exemptions in place relevant to the scope of this audit.

### 1.2. Structure of Organisation

Genesis provided a copy of their organisational structure:



### 1.3. Persons involved in this audit

Auditor:

Name	Title
Steve Woods	Lead Auditor

Other personnel assisting in this audit were:

Name	Title	Company
Nirav Teli	DUML Data and Stakeholder Lead	Genesis Energy

### 1.4. Hardware and Software

An excel spreadsheet has been constructed to track the items of load at the Te Kauwhata Retirement Trust Board. The UML figure from this is recorded in the registry and is used to derive submission.

The spreadsheet is password protected and access to the directory where the spreadsheet is saved is restricted by way of user permissions. Genesis confirmed that this directory is backed up as part of the BAU processes in place.

### 1.5. Breaches or Breach Allegations

There are no breach allegations relevant to the scope of this audit.

### 1.6. ICP Data

ICP Number	Description	NSP	Number of items of load	Database wattage (watts)
0000011100WE2E2	UNM Streetlights	HLY0331	30	2210
<b>Total</b>			<b>30</b>	<b>2210</b>

### 1.7. Authorisation Received

All information was provided directly by Genesis.

## 1.8. Scope of Audit

This audit of the Te Kauwhata Retirement Trust Board (Aparangi) Unmetered Streetlights DUML database and processes was conducted at the request of Genesis Energy Limited (Genesis), in accordance with clause 15.37B. The purpose of this audit is to verify that the volume information is being calculated accurately, and that profiles have been correctly applied.

The audit was conducted in accordance with the audit guidelines for DUML audits version 1.1.

Genesis have developed a spreadsheet to track the items of load at Aparangi. This information is matched to the values held on the registry which in turn is used for submission.

The village uses their own contractor for the maintenance of these lights. Any new light connections will be managed in conjunction with Genesis although this is not expected.

The scope of the audit encompasses the collection, security and accuracy of the data, including the preparation of submission information based on the database reporting.

The field audit was undertaken of the entire Aparangi spreadsheet, consisting of 30 items of load on 23/11/22.

## 1.9. Summary of previous audit

The previous audit was conducted in 2021 by Steve Woods of Veritek Limited. One issue was identified, which was recorded in three sections. The errors from the last audit had not been updated and further discrepancies were identified during this audit also.

Subject	Section	Clause	Non-Compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	Four discrepancies identified resulting in over submission by 832 kWh per annum.	Still existing
Database accuracy	3.1	15.2 and 15.37B(b)	Four discrepancies identified resulting in over submission by 832 kWh per annum	Still existing
Volume information accuracy	3.2	15.2 and 15.37B(c)	Four discrepancies identified resulting in over submission by 832 kWh per annum	Still existing

## 1.10. Distributed unmetered load audits (Clause 16A.26 and 17.295F)

### Code reference

*Clause 16A.26 and 17.295F*

### Code related audit information

*Retailers must ensure that DUML database audits are completed:*

- 1. by 1 June 2018 (for DUML that existed prior to 1 June 2017)*
- 2. within three months of submission to the reconciliation manager (for new DUML)*
- 3. within the timeframe specified by the Authority for DUML that has been audited since 1 June 2017.*

**Audit observation**

Genesis has requested Veritek to undertake this street lighting audit.

**Audit commentary**

This audit report confirms that the requirement to conduct an audit has been met for this database within the required timeframe.

**Audit outcome**

Compliant



## 2. DUML DATABASE REQUIREMENTS

### 2.1. Deriving submission information (Clause 11(1) of Schedule 15.3)

#### Code reference

Clause 11(1) of Schedule 15.3

#### Code related audit information

The retailer must ensure the:

- DUML database is up to date
- methodology for deriving submission information complies with Schedule 15.5.

#### Audit observation

The process for calculation of consumption was examined and the application of profiles was checked. The database was checked for accuracy.

#### Audit commentary

Genesis reconciles this DUML load using the UNM profile.

Genesis have created a spreadsheet in conjunction with the Te Kauwhata Retirement Trust Board to track all of the lamps in the village.

The information on the Registry does not match the values in the spreadsheet, because the spreadsheet was updated on 18/11/22, but the updated values have not been transferred to the registry. The field audit confirmed the updated values are still not correct. The table below shows the discrepancies.

Registry daily kWh	Spreadsheet daily kWh	Correct daily kWh	Annual over submission
26.52	25.54	22.27	1,552

The 100% field audit found five discrepancies. Five 70 watt HPS lamps have been changed to 27 watt LED. This is a discrepancy of 19% and results in over submission of 1,552 kWh per annum. Three of these errors were present during the last audit, therefore revisions cannot account for the entire period of inaccuracy.

#### Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: Unknown To: 27-Nov-22	Five discrepancies were identified resulting in over submission by 1,552 kWh per annum. Potential impact: Low Actual impact: Low Audit history: Once Controls: Weak Breach risk rating: 3
<b>Audit risk rating</b>	<b>Rationale for audit risk rating</b>

<b>Low</b>	The controls are recorded as weak because it appears the process for notifying of changes and correcting errors from earlier audits is not operating as expected. The impact on settlement and participants is minor; therefore the audit risk rating is low.		
<b>Actions taken to resolve the issue</b>		<b>Completion date</b>	<b>Remedial action status</b>
Genesis has discussed auditor’s findings with Aparangi Village. They have agreed with the findings and updated dataset for all five lamps accordingly. (Updated dataset attached for reference) An update has been sent to the registry to correct the daily kWh based on the updated dataset received.		30/11/2022	Cleared
<b>Preventative actions taken to ensure no further issues will occur</b>		<b>Completion date</b>	
Genesis will continue to work with Aparangi Village to have the dataset updated.		30/11/2022	

## 2.2. ICP identifier and items of load (Clause 11(2)(a) and (aa) of Schedule 15.3)

### Code reference

*Clause 11(2)(a) and (aa) of Schedule 15.3*

### Code related audit information

*The DUML database must contain:*

- *each ICP identifier for which the retailer is responsible for the DUML*
- *the items of load associated with the ICP identifier.*

### Audit observation

The database was checked to confirm the correct ICP was recorded against each item of load.

### Audit commentary

All items of load have an ICP recorded against them.

### outcome

Compliant

## 2.3. Location of each item of load (Clause 11(2)(b) of Schedule 15.3)

### Code reference

*Clause 11(2)(b) of Schedule 15.3*

### Code related audit information

*The DUML database must contain the location of each DUML item.*

### Audit observation

The database was checked to confirm the location is recorded for all items of load.

### **Audit commentary**

The database has a field for 'Asset Location – Summary' and 'Asset Location – Address', both of which are populated for all items. There are also GPS co-ordinates for each item.

### **Audit outcome**

Compliant

## **2.4. Description and capacity of load (Clause 11(2)(c) and (d) of Schedule 15.3)**

### **Code reference**

*Clause 11(2)(c) and (d) of Schedule 15.3*

### **Code related audit information**

*The DUMML database must contain:*

- *a description of load type for each item of load and any assumptions regarding the capacity*
- *the capacity of each item in watts.*

### **Audit observation**

The database was checked to confirm that it contained a field for lamp type and wattage capacity and included any ballast or gear wattage and that each item of load had a value recorded in these fields.

### **Audit commentary**

The database contains a Lamp Description, Model, Gear Wattage and Lamp Wattage. These fields are populated for every item in the spreadsheet.

The accuracy of wattage and ballasts in the database is discussed in **section 3.1**.

### **Audit outcome**

Compliant

## **2.5. All load recorded in database (Clause 11(2A) of Schedule 15.3)**

### **Code reference**

*Clause 11(2A) of Schedule 15.3*

### **Code related audit information**

*The retailer must ensure that each item of DUMML for which it is responsible is recorded in this database.*

### **Audit observation**

The field audit was undertaken of the entire database of 30 items of load.

### **Audit commentary**

No additional lights were found.

### **Audit outcome**

Compliant

## 2.6. Tracking of load changes (Clause 11(3) of Schedule 15.3)

### Code reference

Clause 11(3) of Schedule 15.3

### Code related audit information

The DUMML database must track additions and removals in a manner that allows the total load (in kW) to be retrospectively derived for any given day.

### Audit observation

The process for tracking of changes in the spreadsheets was examined.

### Audit commentary

The spreadsheet has an install date and a removal date, but it does not have a date for wattage changes, therefore it is not known when the wattage changes occurred.

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.6 With: Clause 11(3) of Schedule 15.3 From: 01-Jun-21 To: 27-Nov-22	Changes to the spreadsheet do not show the date wattages are changed. Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	There are no controls to enable the changes to the spreadsheet to be tracked. New and removed lights can be tracked. The impact on settlement and participants is minor; therefore the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis has discussed the importance of tracking of change with Aparangi village. Aparangi Village have advised the HPS lamps will be replaced with LED as and when they fail. They will be keeping a track of change and will update database and inform Genesis.		29/11/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis will continue to work with Aparangi Village to have the dataset updated.		29/11/2022	

## 2.7. Audit trail (Clause 11(4) of Schedule 15.3)

### Code reference

Clause 11(4) of Schedule 15.3

### Code related audit information

The DUML database must incorporate an audit trail of all additions and changes that identify:

- the before and after values for changes
- the date and time of the change or addition
- the person who made the addition or change to the database.

### Audit observation

The database was checked for audit trails.

### Audit commentary

The spreadsheet has an install date and a removal date, but it does not have a date for wattage changes, therefore it is not known when the wattage changes occurred.

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.7 With: Clause 11(4) of Schedule 15.3  From: 01-Jun-21 To: 27-Nov-22	Changes to the spreadsheet do not show the date wattages are changed.  Potential impact: Low  Actual impact: Low  Audit history: None  Controls: Weak  Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	There are no controls to enable the changes to the spreadsheet to be tracked. New and removed lights can be tracked.  The impact on settlement and participants is minor; therefore the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis has discussed the importance of tracking of change with Aparangi village. Aparangi Village have advised the HPS lamps will be replaced with LED as and when they fail. They will be keeping a track of change and will update database and inform Genesis.		29/11/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis will continue to work with Aparangi Village to have the dataset updated.		29/11/2022	

### 3. ACCURACY OF DUML DATABASE

#### 3.1. Database accuracy (Clause 15.2 and 15.37B(b))

##### Code reference

Clause 15.2 and 15.37B(b)

##### Code related audit information

Audit must verify that the information recorded in the retailer's DUML database is complete and accurate.

##### Audit observation

A 100% field audit was undertaken of the database.

Wattages were checked for alignment with the published standardised wattage table produced by the Electricity Authority.

##### Audit commentary

The information on the Registry does not match the values in the spreadsheet, because the spreadsheet was updated on 18/11/22, but the updated values have not been transferred to the registry. The field audit confirmed the updated values are still not correct. The table below shows the discrepancies.

Registry daily kWh	Spreadsheet daily kWh	Correct daily kWh	Annual over submission
26.52	25.54	22.27	1,552

The 100% field audit found five discrepancies. Five 70 watt HPS lamps have been changed to 27 watt LED. This is a discrepancy of 19% and results in over submission of 1,552 kWh per annum. Three of these errors were present during the last audit, therefore revisions cannot account for the entire period of inaccuracy.

Wattages for all items of load were checked against the published standardised wattage table produced by the Electricity Authority and found to be correct.

##### Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b)  From: 01-Jun-21 To: 27-Nov-22	Five discrepancies were identified resulting in over submission by 1,552 kWh per annum. Potential impact: Low Actual impact: Low Audit history: Once Controls: Weak Breach risk rating: 3
Audit risk rating	Rationale for audit risk rating
<b>Low</b>	The controls are recorded as weak because it appears the process for notifying of changes and correcting errors from earlier audits is not operating as expected.  The impact on settlement and participants is minor; therefore the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis has discussed auditors findings with Aparangi Village. They have agreed with the findings and updated dataset for all five lamps accordingly. (Updated dataset attached for reference)	29/11/2022	Cleared
Preventative actions taken to ensure no further issues will occur	Completion date	
Genesis will continue to work with Aparangi Village to have the dataset updated.	29/11/2022	

### 3.2. Volume information accuracy (Clause 15.2 and 15.37B(c))

#### Code reference

Clause 15.2 and 15.37B(c)

#### Code related audit information

The audit must verify that:

- volume information for the DUML is being calculated accurately
- profiles for DUML have been correctly applied.

#### Audit observation

The submission was checked for accuracy for the month the database extract was supplied. This included:

- checking the registry to confirm that the ICP has the correct profile and submission flag
- checking the database extract combined with the burn hours against the submitted figure to confirm accuracy.

#### Audit commentary

Genesis reconciles this DUML load using the UNM profile.

Genesis have created a spreadsheet in conjunction with the Te Kauwhata Retirement Trust Board to track all of the lamps in the village.

The information on the Registry does not match the values in the spreadsheet, because the spreadsheet was updated on 18/11/22, but the updated values have not been transferred to the registry. The field audit confirmed the updated values are still not correct. The table below shows the discrepancies.

Registry daily kWh	Spreadsheet daily kWh	Correct daily kWh	Annual over submission
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The 100% field audit found five discrepancies. Five 70 watt HPS lamps have been changed to 27 watt LED. This is a discrepancy of 19% and results in over submission of 1,552 kWh per annum. Three of these errors were present during the last audit, therefore revisions cannot account for the entire period of inaccuracy.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c)  From: 01-Jun-21 To: 27-Nov-22	Five discrepancies were identified resulting in over submission by 1,552 kWh per annum. Potential impact: Low Actual impact: Low Audit history: Once Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	The controls are recorded as weak because it appears the process for notifying of changes and correcting errors from earlier audits is not operating as expected.  The impact on settlement and participants is minor; therefore the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis has discussed auditors findings with Aparangi Village. They have agreed with the findings and updated dataset for all five lamps accordingly. (Updated dataset attached for reference)		29/11/2022	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	Cleared
Genesis will continue to work with Aparangi Village to have the dataset updated.		29/11/2022	



## CONCLUSION

Genesis have developed a spreadsheet to track the items of load at Te Kauwhata Retirement Trust Board. This information is matched to the values held on the registry which in turn is used for submission.

The information on the Registry does not match the values in the spreadsheet, because the spreadsheet was updated on 18/11/22, but the updated values have not been transferred to the registry. The field audit confirmed the updated values are still not correct. The table below shows the discrepancies.

Registry daily kWh	Spreadsheet daily kWh	Correct daily kWh	Annual over submission
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The 100% field audit found five discrepancies. Five 70 watt HPS lamps have been changed to 27 watt LED. This is a discrepancy of 19% and results in over submission of 1,552 kWh per annum. Three of these errors were present during the last audit, therefore revisions cannot account for the entire period of inaccuracy.

This audit found five non-compliances and no recommendations are made. The future risk rating of 15 indicates that the next audit be completed in 12 months. I have considered this in conjunction with the responses from Genesis and the minor impact of the non-compliances found and recommend that the next audit be in 24 months, which also reflects that three of the non-compliances have been cleared.

## PARTICIPANT RESPONSE

Genesis continues to build on their relationship with Aparangi Village. Genesis has reviewed the auditors finding and have advised Aparangi Village of requirement of visibility of tracking of change within their data base and are working with them to incorporate this in the dataset. Genesis has received the updated dataset and have sent an update to the registry to correct daily kWh.