

ELECTRICITY INDUSTRY PARTICIPATION CODE  
DISTRIBUTED UNMETERED LOAD AUDIT REPORT



For

NAPIER CITY COUNCIL AND  
MANAWA ENERGY  
NZBN: 9429038917912

Prepared by: Rebecca Elliot

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Date audit report completed: 6 September 2024

Audit report due date: 10-Sep-24

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## EXECUTIVE SUMMARY

This audit of the **Napier City Council Unmetered Streetlights (NCC)** DUML database and processes was conducted at the request of **Manawa Energy Limited (Manawa)**, 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.

Napier CC switched to Manawa on 1 March 2024.

A RAMM database is managed by Pope Electrical on behalf of NCC, and monthly reporting is provided to Manawa. The database is remotely hosted by thinkproject New Zealand Ltd. Pope Electrical manage the field maintenance and produce the monthly wattage report.

The database accuracy level has improved during the audit period but is still outside of the allowable +/- 5% variance threshold. In absolute terms, total annual consumption is estimated to be 29,900 kWh lower than the DUML database indicates.

Corrections identified in the previous audits were reviewed and all have been corrected.

There are 121 private lights in the data that are not being reconciled. 111 of these are in rest homes, council flats or commercial premises and could be the responsibility of the owner of the customer network, depending on how they are connected. If they are connected to a customer network, then there is an issue with how these are recorded as they are not connected to Unison network so cannot be created as unmetered load and do not belong to the council. This has been raised as an issue in Unison's distributor audit but is not the responsibility of Manawa in relation to NCC.

As reported in the last audit, the remaining ten private lights belong to NCC but are being excluded from submission. These are still being investigated by NCC.

I have recommended that Manawa engage with NCC to review the new streetlight connection process.

This audit found six non-compliance and makes two recommendations. The future risk rating of 17 is a good improvement from the previous audit score of 33. This indicates that the next audit be completed in six months. I have considered this in conjunction with Manawa's comments, and I recommend the next audit be completed in nine months.

The matters raised are detailed below:

## 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	In absolute terms, total annual consumption is estimated to be 29,900 kWh lower than the DUML database indicates resulting in over submission to the market.  Ten lights incorrectly recorded as "PRIVATE" and excluded from submission resulting in a potential estimated under submission of 4,109 kWh.	Moderate	Medium	4	Investigating
ICP identifier and items of load	2.2	11(2)(a) and (aa) of Schedule 15.3	Ten lights incorrectly recorded as "PRIVATE" and excluded from submission resulting in a potential estimated under submission of 4,109 kWh.	Moderate	Low	2	Investigating
Description and capacity of load	2.4	11(2)(d) of Schedule 15.3	One item of load with no wattage recorded.	Strong	Low	1	Identified
All load recorded in database	2.5	11(2A) of Schedule 15.3	Five additional lights were found in the field of 399 items of load sampled.	Moderate	Low	2	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Database accuracy	3.1	15.2 and 15.37B(b)	In absolute terms, total annual consumption is estimated to be 29,900 kWh lower than the DUML database indicates resulting in over submission to the market.  No ICP for the WTU0331 NSP.  Ten lights incorrectly recorded as "PRIVATE" and excluded from submission resulting in a potential estimated under submission of 4,109 kWh.  One item of load with no wattage recorded.	Moderate	Medium	4	Investigating
Volume information accuracy	3.2	15.2 and 15.37B(c)	In absolute terms, total annual consumption is estimated to be 29,900 kWh lower than the DUML database indicates resulting in over submission to the market.  Ten lights incorrectly recorded as "PRIVATE" and excluded from submission resulting in a potential estimated under submission of 4,109 kWh.	Moderate	Medium	4	Investigating
Future Risk Rating						17	

<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

Subject	Section	Description
Database accuracy	3.1	Liaise with Unison to resolve the lack of ICP for NSP WTU0331.
		Review the new streetlight connection process and change management process for changes made in the field other than those made by Pope Electrical.

## 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

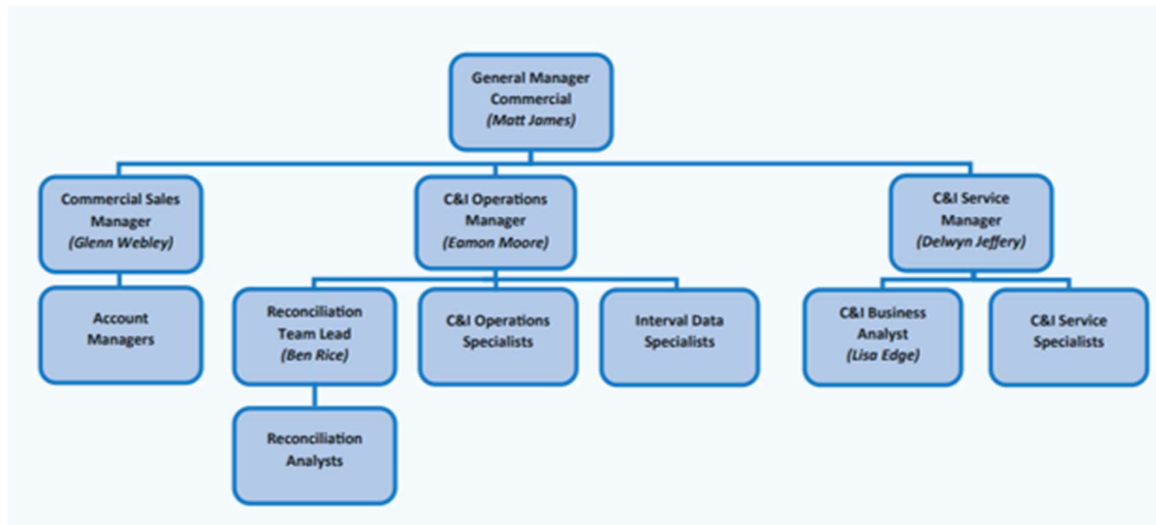
Section 11 of the Electricity Industry Act provides for the Electricity Authority to exempt any participant from compliance with all or any of the clauses.

#### Audit commentary

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

### 1.2. Structure of Organisation

Manawa provided the relevant organisational structure:



### 1.3. Persons involved in this audit

Auditor:

Name	Title	Company
Rebecca Elliot	Auditor	Veritek Ltd

Other personnel assisting in this audit were:

Name	Title	Company
Eamon Moore	C&I Operations Manager	Manawa Energy
Lisa Edge	Business Analysis	Manawa Energy
Sinead Mulholland	Commercial & Industrial Operations Specialist	Manawa Energy
Ronan Galvin		Pope Electrical

### 1.4. Hardware and Software

The SQL database used for the management of DUML is remotely hosted by thinkproject New Zealand Ltd. The database is commonly known as “RAMM” which stands for “Roading Asset and Maintenance Management”.

Access to the database is secure by way of password protection.

Systems used by the trader to calculate submissions are assessed as part of their reconciliation participant audits.

### 1.5. Breaches or Breach Allegations

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

### 1.6. ICP Data

The table below shows the ICP details for June 2024.

ICP Number	Description	NSP	Profile	Number of items of load	Database wattage (watts)
0000939920HB224	Marine Parade Lighting	RDF0331	STL	19	1,840
0000939921HBE61	Carriageway Lighting	RDF0331	STL	162	14,317
0000939923HBEE4	Amenity Lighting	RDF0331	STL	82	4,667
0000939906HBEFE	Road Lighting	RDF0331	STL	7,574	414,369
0000939908HBD65	Amenity Lighting	RDF0331	STL	1,102	75,709
Total				8,949	511,863



All ICPs have RDF0331 as the NSP, but there should be ICPs for WTU0331 as well. This is recorded as non-compliance in **section 3.1**.

### 1.7. Authorisation Received

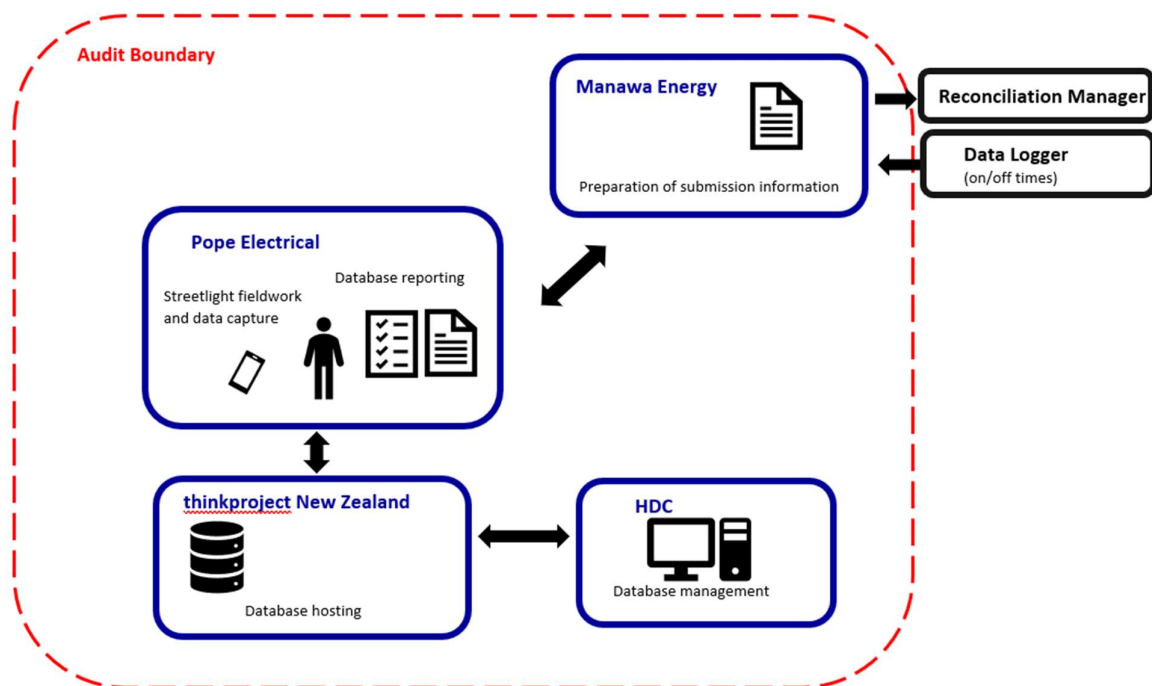
All information was provided directly by Manawa and Pope Electrical.

### 1.8. Scope of Audit

This audit of the Napier City Council Unmetered Streetlights (NCC) DUML database and processes was conducted at the request of Manawa Energy Limited (Manawa), 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.

The database is remotely hosted by thinkproject New Zealand Ltd. The fieldwork and asset data capture are conducted by Pope Electrical who update changes in the database using pocket RAMM and produce the monthly report. 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 diagram below shows the audit boundary for clarity.



A field audit was conducted of 399 items of load on 18 and 19 July 2024.

## 1.9. Summary of previous audit

I reviewed that last audit report undertaken by Steve Woods of Veritek Limited in March 2024. The current statuses of that audit's findings are shown in the tables below.

### Table of Non-Compliance

Subject	Section	Clause	Non-Compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	In absolute terms, total annual consumption is estimated to be 87,900 kWh lower than the DUML database indicates resulting in over submission to the market.  46 lights incorrectly recorded as "PRIVATE" and excluded from submission resulting in a potential estimated under submission of 20,403 kWh.	Still existing
ICP identifier and items of load	2.2	11(2)(a) and (aa) of Schedule 15.3	Ten items of load without an ICP which appear to be Council lights.  Six items of load with an ICP which appear to be private.	Still existing  Cleared
All load recorded in database	2.5	11(2A) of Schedule 15.3	Errors are still present from previous audits.  Four additional lights were found in the field of 400 items of load sampled.	Cleared  Still existing
Database accuracy	3.1	15.2 and 15.37B(b)	In absolute terms, total annual consumption is estimated to be 87,900 kWh lower than the DUML database indicates resulting in over submission to the market.  Incorrect ICP identifiers because they are against the pole not the light.  No ICPs for the WTU0331 NSP.  46 lights incorrectly recorded as "PRIVATE" and excluded from submission resulting in a potential estimated under submission of 20,403 kWh.  16 items of load with the incorrect ICP identifier recorded.	Still existing
Volume information accuracy	3.2	15.2 and 15.37B(c)	In absolute terms, total annual consumption is estimated to be 87,900 kWh lower than the DUML database indicates resulting in over submission to the market.  46 lights incorrectly recorded as "PRIVATE" and excluded from submission resulting in a potential estimated under submission of 20,403 kWh.	Still existing

## Table of Recommendations

Subject	Section	Recommendation	Status
Revisions	2.2	Conduct revisions for the previous 14 months for the private lights which had the ICP removed from the database extract by Power Solutions.	Will be checked in the next trader's RP audit
Database accuracy	3.1	Review the change management process to ensure that all changes are recorded in RAMM for the correct date.	Modified and repeated

### 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

Manawa have requested Veritek to undertake this streetlight audit.

#### Audit commentary

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

#### Audit outcome

Compliant

## 2. DUMML 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:*

- *DUMML 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

Manawa reconciles this DUMML load using the STL profile. The total volume submitted to the Reconciliation Manager is based on a monthly database report derived from RAMM and the “burn time” which is sourced from a data logger.

I checked the submission calculation provided by Manawa for March 2024 and found the calculation was correct.

I checked the volumes against the database extract provided and found a very minor difference in volumes due to a difference in the total light count. This is likely due to the timing difference between the date the of the database extract being drawn and the end of month report, so I have recorded compliance.

The database accuracy level has improved during the audit period but is still outside of the allowable +/- 5% variance threshold. In absolute terms, total annual consumption is estimated to be 29,900 kWh lower than the DUMML database indicates. This is recorded as non-compliance below.

As detailed in **section 2.2**, there are 121 private lights in the data that are not being reconciled. 111 of these are in rest homes, council flats or commercial premises and could be the responsibility of the owner of the customer network, depending on how they are connected. If they are connected to a customer network, then there is an issue with how these are recorded as they are not connected to Unison network so cannot be created as unmetered load and do not belong to the council. This has been raised as an issue in Unison’s distributor audit but is not the responsibility of Manawa in relation to NCC.

As reported in the last audit, the remaining ten private lights belong to NCC but are being excluded from submission. These are still being investigated by NCC. This will be resulting in an estimated under submission of 4,109 kWh per annum and is recorded as non-compliance below and in **sections 2.2, 3.1 and 3.2**.

Database reporting is provided and includes changes made at a daily level and therefore meets compliance with this code requirement.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3  From: 19-Feb-24 To: 31-Jul-24	In absolute terms, total annual consumption is estimated to be 29,900 kWh lower than the DUMML database indicates resulting in over submission to the market.  Ten lights incorrectly recorded as "PRIVATE" and excluded from submission resulting in a potential estimated under submission of 4,109 kWh.  Potential impact: Medium  Actual impact: Medium  Audit history: Multiple times  Controls: Moderate  Breach risk rating: 4		
Audit risk rating	Rationale for audit risk rating		
<b>Medium</b>	The controls are rated as moderate as the processes are generally robust, but there is room for improvement.  The impact on settlement and participants is assessed to be medium based on the estimated kWh.		
Actions taken to resolve the issue		Completion date	Remedial action status
Manawa is working with Napier CC's contractor, Pope electrical, to identify where the issues lie so that the accuracy of submission can be improved. An update of the data held in SLIM by Manawa has already been actioned to help with accuracy and we will continue to work with Pope to make further improvements.		01/03/2025	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Manawa has reached out to Napier CC directly to understand their new connection process (which is managed by the council and not their contractor) and how new assets are lived and included in the RAMM DB. Manawa will work with NCC to improve this process so that the accuracy of this DB is improved, and assets are being correctly recorded against the council's load.		01/03/2025	

## 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 DUMML database must contain:*

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

### Audit observation

The database was checked to confirm an ICP is recorded against each item of load.

### Audit commentary

All ICPs have RDF0331 as the NSP, but there should be ICPs for WTU0331 as well. This is recorded as non-compliance in **section 3.1**.

There are 121 private lights in the data that are not being reconciled. As reported in the last audit, 111 of these are in rest homes, council flats or commercial premises and could be the responsibility of the owner of the customer network, depending on how they are connected. If they are connected to a customer network, then there is an issue with how these are recorded as they are not connected to Unison network so cannot be created as unmetered load and do not belong to the council. This has been raised as an issue in Unison's distributor audit but is not the responsibility of Manawa in relation to NCC.

As reported in the last audit, the remaining ten private lights belong to NCC but are being excluded from submission. These are still being investigated by NCC. This will be resulting in an estimated under submission of 4,109 kWh per annum and is recorded as non-compliance below and in **sections 2.1, 3.1 and 3.2**.

The last audit identified six private lights that were incorrectly recorded against NCC but are private. These have been removed from the NCC database.

The accuracy of the ICPs allocated is discussed in **section 3.1**.

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.2 With: Clause 11(2)(a) and (aa) of schedule 15.3  From: 19-Feb-24 To: 31-Jul-24	Ten lights incorrectly recorded as "PRIVATE" and excluded from submission resulting in a potential estimated under submission of 4,109 kWh.  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>	The controls are rated as moderate as historic issues are being resolved.  The audit risk rating is low as the impact on reconciliation is small.		
Actions taken to resolve the issue		Completion date	Remedial action status
Manawa is working with Napier CC's contractor, Pope electrical, to identify where the issues lie so that the accuracy of submission can be improved. An update of the data held in SLIM by Manawa has already been actioned to help with accuracy and we will continue to work with Pope to make further improvements.		01/03/2025	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Manawa has reached out to Napier CC directly to understand their new connection process (which is managed by the council and not their contractor) and how new assets are lived and included in the RAMM DB. Manawa will work with NCC to improve this process so that the accuracy of this DB is improved, and assets are being correctly recorded against the council's load.		01/03/2025	

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 contains the nearest street address, displacement value and pole numbers and Global Positioning System (GPS) coordinates for the majority of items of load, and users in the office and field can view these locations on a mapping system.

There are 191 items of load that do not have GPS co-ordinates, but all have a road name and displacement value which enable these to be located.

### Audit outcome

Compliant

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

### Code reference

*Clauses 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 two records for wattage, firstly the lamp wattage and secondly the gear wattage, which represents ballast losses. Analysis of the database found one item of load with no wattage recorded. This has been passed to Pope Electrical to correct. This is recorded as non-compliance below and in **section 3.1**. This has such a minor effect on reconciliation that I have not recorded non-compliance in **sections 2.1** and **3.2**.

### Audit outcome

Non-compliant



Non-compliance	Description		
Audit Ref: 2.4 With: Clauses 11(2) (d) of schedule 15.3  From: 19-Feb-24 To: 31-Jul-24	One item of load with no wattage recorded.  Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	The controls are rated as strong as they will mitigate risk to an acceptable level. The audit risk rating is low as only one item of load was affected.		
Actions taken to resolve the issue		Completion date	Remedial action status
Manawa has raised this item with Pope electrical to resolve.		01/10/2024	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Strong controls exist with the contractor, so no further preventative actions will be taken, although Manawa will work with Napier CC to improve the accuracy of their new connection process which should also support accuracy of attributes recorded in the DB for new assets.		01/03/2025	

## 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 DUML for which it is responsible is recorded in this database.*

### Audit observation

A field audit was conducted of 399 items of load on 18 and 19 July 2024. The discrepancies found in the field are summarised below. A detailed report has been provided to Manawa and Pope Electrical.

### Audit commentary

Field discrepancies identified were:

Discrepancy	Quantity
Lights in the field not in the database	5
Lights in the database not in the field	4
Incorrect wattage	2

Five additional lights were found in the field. This is recorded as non-compliance.

The accuracy of the database is detailed in **section 3.1**.

**Audit outcome**

Non-compliant

Non-compliance	Description	
Audit Ref: 2.5 With: Clause 11(2A) of Schedule 15.3 From: 19-Feb-24 To: 31-Jul-24	Five additional lights were found in the field of 399 items of load sampled. Potential impact: Medium Actual impact: Low Audit history: Multiple times previously Controls: Moderate Breach risk rating: 2	
Audit risk rating	Rationale for audit risk rating	
<b>Low</b>	The controls are recorded as moderate as errors are being corrected but there is room for improvement in the management of new streetlight connections as detailed in <b>section 3.1</b> . The impact is assessed to be low based on number of additional lights found in the field in comparison to the overall number of lights checked.	
Actions taken to resolve the issue	Completion date	Remedial action status
Manawa is working with Napier CC's contractor, Pope electrical, to identify where the issues lie so that the accuracy of submission can be improved. An update of the data held in SLIM by Manawa has already been actioned to help with accuracy and we will continue to work with Pope to make further improvements.	01/03/2025	Investigating
Preventative actions taken to ensure no further issues will occur	Completion date	
Manawa has reached out to Napier CC directly to understand their new connection process (which is managed by the council and not their contractor) and how new assets are lived and included in the RAMM DB. Manawa will work with NCC to improve this process so that the accuracy of this DB is improved, and assets are being correctly recorded against the council's load.	01/03/2025	

## 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 database was examined.

### Audit commentary

The RAMM database functionality achieves compliance with the code.

### Audit outcome

Compliant

## 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 DUMML 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 RAMM database has a complete audit trail of all additions and changes to the database information.

### Audit outcome

Compliant

### 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

The DUML Statistical Sampling Guideline was used to determine the database accuracy. The table below shows the survey plan.

Plan Item	Comments
Area of interest	Napier City Council streetlights
Strata	The database contains items of load in the Napier City Council area. The processes for the management of items of load are the same, but I decided to place the items of load into four strata, as follows: <ul style="list-style-type: none"> <li>• A-EI,</li> <li>• Em-La,</li> <li>• Le-Pa, and</li> <li>• Pe-Y.</li> </ul>
Area units	I created a pivot table of the roads in each area, and I used a random number generator in a spreadsheet to select a total of 54 sub-units.
Total items of load	399 items of load were checked.

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

The change management process and timeliness of database updates was evaluated.

##### Audit commentary

##### Database accuracy based on the field audit

A field audit was conducted of a statistical sample of 399 items of load. The “database auditing tool” was used to analyse the results, which are shown in the table below.

Result	Percentage	Comments
The point estimate of R	98.6	Wattage from survey is lower than the database wattage by 4.0%
R <sub>L</sub>	92.6	With a 95% level of confidence, it can be concluded that the error could be between- 7.4% and +1.1%
R <sub>H</sub>	101.1	

These results were categorised in accordance with the “Distributed Unmetered Load Statistical Sampling Audit Guideline”, effective from 1 February 2019 and the table below shows that Scenario C (detailed below) applies.

The conclusion from Scenario C is that the variability of the sample results across the strata could mean that the true wattage (installed in the field) could be between 7.4% lower to 1.1% higher than the wattage recorded in the DUMML database. Non-compliance is recorded because the potential error is greater than 5.0%.

In absolute terms the installed capacity is estimated to be 7 kW lower than the database indicates.

There is a 95% level of confidence that the installed capacity is between 38 kW lower and six kW higher than the database.

In absolute terms, total annual consumption is estimated to be 29,900 kWh lower than the DUMML database indicates.

There is a 95% level of confidence that the annual consumption is between 162,100 kWh p.a. lower and 24,800 kWh p.a. higher than the database indicates.

Scenario	Description
<b>A - Good accuracy, good precision</b>	<p>This scenario applies if:</p> <ul style="list-style-type: none"> <li>(a) <math>R_H</math> is less than 1.05; and</li> <li>(b) <math>R_L</math> is greater than 0.95</li> </ul> <p>The conclusion from this scenario is that:</p> <ul style="list-style-type: none"> <li>(a) the best available estimate indicates that the database is accurate within +/- 5 %; and</li> <li>(b) this is the best outcome.</li> </ul>
<b>B - Poor accuracy, demonstrated with statistical significance</b>	<p>This scenario applies if:</p> <ul style="list-style-type: none"> <li>(a) the point estimate of <math>R</math> is less than 0.95 or greater than 1.05</li> <li>(b) as a result, either <math>R_L</math> is less than 0.95 or <math>R_H</math> is greater than 1.05.</li> </ul> <p>There is evidence to support this finding. In statistical terms, the inaccuracy is statistically significant at the 95% level</p>
<b>C - Poor precision</b>	<p>This scenario applies if:</p> <ul style="list-style-type: none"> <li>(a) the point estimate of <math>R</math> is between 0.95 and 1.05</li> <li>(b) <math>R_L</math> is less than 0.95 and/or <math>R_H</math> is greater than 1.05</li> </ul> <p>The conclusion from this scenario is that the best available estimate is not precise enough to conclude that the database is accurate within +/- 5 %</p>

### ICP Accuracy including private lights

There are 121 private lights in the data that are not being reconciled. 111 of these are in rest homes, council flats or commercial premises and could be the responsibility of the owner of the customer network, depending on how they are connected. If they are connected to a customer network, then there is an issue with how these are recorded as they are not connected to Unison network so cannot be created as unmetered load and do not belong to the council. This has been raised as an issue in Unison's distributor audit but is not the responsibility of Manawa in relation to NCC.

As reported in the last audit, the remaining ten private lights belong to NCC but are being excluded from submission. These are still being investigated by NCC. This will be resulting in an estimated under submission of 4,109 kWh per annum and is recorded as non-compliance below and in **sections 2.1, 2.2 and 3.2.**

The last audit identified six private lights that were incorrectly recorded against NCC but are private. These have been removed from the NCC database.

All ICPs have RDF0331 as the NSP, but there should be ICPs for WTU0331 as well. I recommend that Manawa liaise with Unison to resolve this. These are in the same balancing area so have no direct impact on reconciliation. This is recorded as non-compliance.

Description	Recommendation	Audited party comment	Remedial action
ICP	Liaise with Unison to resolve the lack of ICP for NSP WTU0331.	Manawa will reach out to Unison to discuss the addition of ICPs to WTU0331 and see if we can get a resolution to this issue.	Investigating

#### Wattage and ballast accuracy findings

The database contains two records for wattage, firstly the lamp wattage and secondly the gear wattage, which represents ballast losses. Analysis of the database found one item of load with no wattage recorded. This has been passed to Pope Electrical to correct. This is recorded as non-compliance below and in **section 2.4**. This has such a minor effect on reconciliation that I have not recorded non-compliance in **sections 2.1** and **3.2**.

#### Change management process findings

Pope Electrical conduct the field work and manage changes in the database. The field crew use pocket RAMM to update changes made in the field. Pope Electrical advised that other parties are making changes in the field that are not advised or known to them.

We were unable to meet with the council to discuss how the new connection process is managed within the Council. I recommend that Manawa work with NCC and Pope Electrical to review the new streetlight connection process and who else is working on the NCC lights and how these changes are to be captured.

Description	Recommendation	Audited party comment	Remedial action
Database Accuracy	Review the new streetlight connection process and change management process for changes made in the field other than those made by Pope Electrical.	Manawa has reached out to Napier CC directly to understand their new connection process and how new assets are livened and included in the RAMM DB. Manawa will work with NCC to improve this process so that the accuracy of this DB is improved, and assets are being correctly recorded against the council's load.	Investigating

Previous field audit discrepancies were checked and confirmed they have been corrected.

#### Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b)</p> <p>From: 19-Feb-24 To: 31-Jul-24</p>	<p>In absolute terms, total annual consumption is estimated to be 29,900 kWh lower than the DUMML database indicates resulting in over submission to the market.</p> <p>No ICP for the WTU0331 NSP.</p> <p>Ten lights incorrectly recorded as "PRIVATE" and excluded from submission resulting in a potential estimated under submission of 4,109 kWh.</p> <p>One item of load with no wattage recorded.</p> <p>Potential impact: Medium</p> <p>Actual impact: Medium</p> <p>Audit history: Four times previously</p> <p>Controls: Moderate</p> <p>Breach risk rating: 4</p>		
Audit risk rating	Rationale for audit risk rating		
<p><b>Medium</b></p>	<p>The controls are rated as moderate as historic corrections have been made and the processes managed by Pope Electrical are robust. There is room for improvement in relation to new streetlight connections as detailed in the recommendation above.</p> <p>The impact on settlement and participants is assessed to be medium based on the estimated kWh.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Manawa is working with Napier CC's contractor, Pope electrical, to identify where the issues lie so that the accuracy of submission can be improved. An update of the data held in SLIM by Manawa has already been actioned to help with accuracy and we will continue to work with Pope to make further improvements.</p>		<p>01/03/2025</p>	<p>Investigating</p>
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Manawa has reached out to Napier CC directly to understand their new connection process (which is managed by the council and not their contractor) and how new assets are lived and included in the RAMM DB. Manawa will work with NCC to improve this process so that the accuracy of this DB is improved, and assets are being correctly recorded against the council's load.</p>		<p>01/03/2025</p>	

### 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, and
- checking the database extract combined with the burn hours against the submitted figure to confirm accuracy.

#### Audit commentary

Manawa reconciles this DUML load using the STL profile. The total volume submitted to the Reconciliation Manager is based on a monthly database report derived from RAMM and the “burn time” which is sourced from a data logger.

I checked the submission calculation provided by Manawa for March 2024 and found the calculation was correct.

I checked the volumes against the database extract provided and found a very minor difference in volumes due to a difference in the total light count. This is likely due to the timing difference between the date the of the database extract being drawn and the end of month report, so I have recorded compliance.

The database accuracy level has improved during the audit period but is still outside of the allowable +/- 5% variance threshold. In absolute terms, total annual consumption is estimated to be 29,900 kWh lower than the DUML database indicates. This is recorded as non-compliance below.

As detailed in **section 2.2**, there are 121 private lights in the data that are not being reconciled. 111 of these are in rest homes, council flats or commercial premises and could be the responsibility of the owner of the customer network, depending on how they are connected. If they are connected to a customer network, then there is an issue with how these are recorded as they are not connected to Unison network so cannot be created as unmetered load and do not belong to the council. This has been raised as an issue in Unison’s distributor audit but is not the responsibility of Manawa in relation to NCC.

As reported in the last audit, the remaining ten private lights belong to NCC but are being excluded from submission. These are still being investigated by NCC. This will be resulting in an estimated under submission of 4,109 kWh per annum and is recorded as non-compliance below and in **sections 2.1, 2.2 and 3.1**.

Database reporting is provided and includes changes made at a daily level and therefore meets compliance with this code requirement.

#### Audit outcome

Non-compliant



Non-compliance	Description		
<p>Audit Ref: 3.2</p> <p>With: Clause 15.2 and 15.37B(c)</p> <p>From: 19-Feb-24</p> <p>To: 31-Jul-24</p>	<p>In absolute terms, total annual consumption is estimated to be 29,900 kWh lower than the DUMML database indicates resulting in over submission to the market.</p> <p>Ten lights incorrectly recorded as "PRIVATE" and excluded from submission resulting in a potential estimated under submission of 4,109 kWh.</p> <p>Potential impact: Medium</p> <p>Actual impact: Medium</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 4</p>		
Audit risk rating	Rationale for audit risk rating		
<p><b>Medium</b></p>	<p>The controls are rated as moderate as the processes are generally robust but there is room for improvement.</p> <p>The impact on settlement and participants is assessed to be medium based on the estimated kWh.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Manawa is working with Napier CC's contractor, Pope electrical, to identify where the issues lie so that the accuracy of submission can be improved. An update of the data held in SLIM by Manawa has already been actioned to help with accuracy and we will continue to work with Pope to make further improvements.</p>		<p>01/03/2025</p>	<p>Investigating</p>
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Manawa has reached out to Napier CC directly to understand their new connection process (which is managed by the council and not their contractor) and how new assets are lived and included in the RAMM DB. Manawa will work with NCC to improve this process so that the accuracy of this DB is improved, and assets are being correctly recorded against the council's load.</p>		<p>01/03/2025</p>	

## CONCLUSION

Napier CC switched to Manawa Energy on 1 March 2024.

A RAMM database is managed by Pope Electrical on behalf of NCC, and monthly reporting is provided to Manawa. The database is remotely hosted by thinkproject New Zealand Ltd. Pope Electrical manage the field maintenance and produce the monthly wattage report.

The database accuracy level has improved during the audit period but is still outside of the allowable +/- 5% variance threshold. In absolute terms, total annual consumption is estimated to be 29,900 kWh lower than the DUML database indicates.

Corrections identified in the previous audits were reviewed and all have been corrected.

There are 121 private lights in the data that are not being reconciled. 111 of these are in rest homes, council flats or commercial premises and could be the responsibility of the owner of the customer network, depending on how they are connected. If they are connected to a customer network, then there is an issue with how these are recorded as they are not connected to Unison network so cannot be created as unmetered load and do not belong to the council. This has been raised as an issue in Unison's distributor audit but is not the responsibility of Manawa in relation to NCC.

As reported in the last audit, the remaining ten private lights belong to NCC but are being excluded from submission. These are still being investigated by NCC.

I have recommended that Manawa engage with NCC to review the new streetlight connection process.

This audit found six non-compliance and makes two recommendations. The future risk rating of 17 is a good improvement from the previous audit score of 33. This indicates that the next audit be completed in six months. I have considered this in conjunction with Manawa's comments, and I recommend the next audit be completed in nine months.

## PARTICIPANT RESPONSE

Manawa, Veritek and Pope electrical had a constructive meeting in July to discuss the issues identified in this audit and figure out where improvements can be made, which was helpful. Off the back of this meeting Manawa completed an update of the historic data in SLIM to correct previous incorrect information that had been provided by Napier City Council at onboarding. Manawa will continue to work with Pope electrical to remedy the other historic issues identified in this audit.

Napier CC is a new customer which Manawa is working on building a closer relationship with. We will explore improvements, particularly in the new connection process, through a dedicated account manager for this relationship. We see potential improvements not only in the way the new connection process works but also in how the transfer of information happens between Napier CC and their contractor Pope.

To give Manawa and Napier CC enough time to identify and implement process changes we believe a 12-month audit timeframe is appropriate.