

ELECTRICITY INDUSTRY PARTICIPATION CODE  
DISTRIBUTED UNMETERED LOAD AUDIT REPORT



For

MACKENZIE DISTRICT COUNCIL AND  
MANAWA ENERGY LIMITED  
NZBN: 9429038917912

Prepared by: Brett Piskulic

Date audit commenced: 24 April 2024

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Audit report due date: 21 July 2024

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## EXECUTIVE SUMMARY

This audit of the **Mackenzie District Council (MDC)** 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 scope of the audit encompasses the collection, security, and accuracy of the data, including the preparation of submission information.

This is the first audit since Manawa became the retailer for three of the five ICPs in the MDC DUML database on 1 March 2024. The remaining two ICPs for streetlights on the Mountain Power embedded network are the responsibility of Genesis Energy and are included in a separate audit.

Manawa reconciles the DUML load using the STL profile based on a monthly database report from the MDC RAMM database.

As recorded in the last audit the processes for recording changes and additions had lapsed and many changes had not been recorded in the database. 104 wattage differences and one missing lamp were found during the field audit for a sample of 171 items of load conducted on 12 June 2024, which equates to a 61.4% error rate. MDC is currently reviewing its processes for receiving change information and updating the database. As part of the review, it is planned that changes will be recorded in the field by Alpine Energy using mobile RAMM. Checks will be put in place to ensure that all changes identified in monthly invoicing have been recorded in RAMM before payment is approved. MDC is planning to have a full field audit of all items of load conducted to correct all incorrect information and is working with Fulton Hogan and Alpine Energy to retrieve any records of changes made that have not previously been provided or updated in RAMM.

The audit found four non-compliances and makes no recommendations. The future risk rating of 28 indicates that the next audit be completed in three months. I have considered this in conjunction with Manawa's comments and recommend that the next audit be in 12 months to allow time for planned improvements in the management of the database to be implemented.

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	The field audit found that the database is not confirmed as accurate within +/- 5%. In absolute terms, total annual consumption is estimated to be 78,800 kWh lower than the DUML database indicates.  Festive lights not added to database when connected.	Weak	High	9	Identified
All load recorded in the database	2.5	Clauses 11(2A) of Schedule 15.3	Festive lights not added to database when connected.	Strong	Low	1	Identified
Database accuracy	3.1	15.2 and 15.37B(b)	The field audit found that the database is not confirmed as accurate within +/- 5%. In absolute terms, total annual consumption is estimated to be 78,800 kWh lower than the DUML database indicates.  Festive lights not added to database when connected.	Weak	High	9	Identified
Volume information accuracy	3.2	15.2 and 15.37B(c)	The field audit found that the database is not confirmed as accurate within +/- 5%. In absolute terms, total annual consumption is estimated to be 78,800 kWh lower than the DUML database indicates.  Festive lights not added to database when connected.	Weak	High	9	Identified
<b>Future Risk Rating</b>						<b>28</b>	

<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	Recommendation
		Nil	

## 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

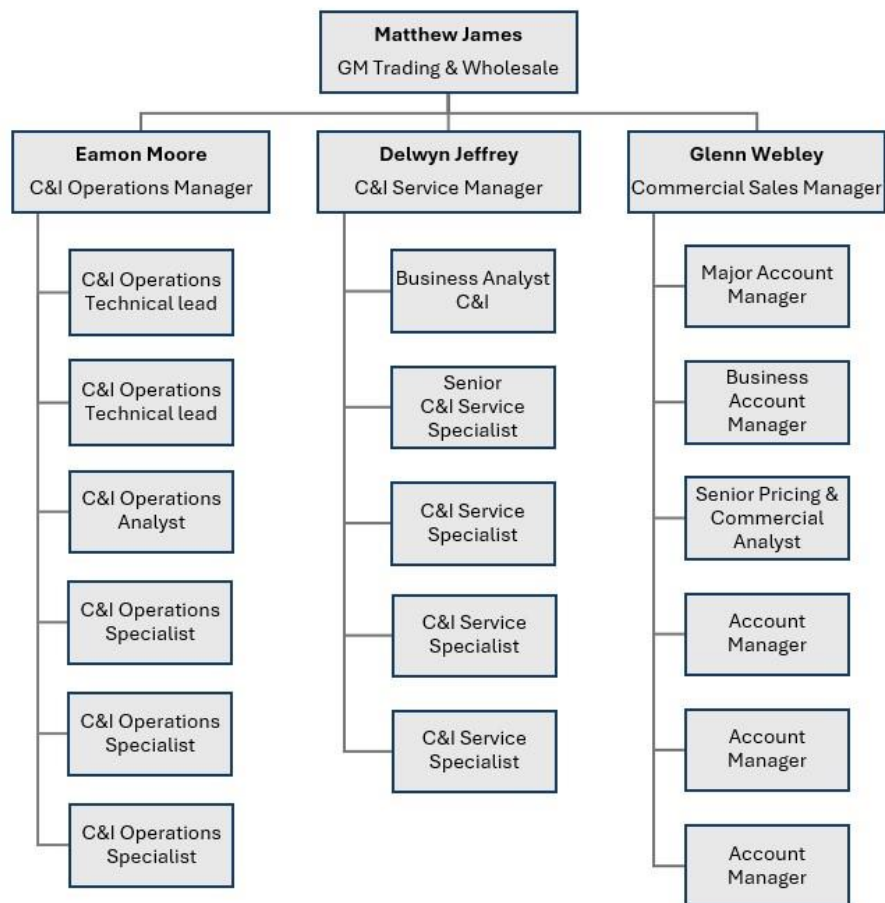
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

#### Audit commentary

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

### 1.2. Structure of Organisation

Manawa provided a copy of their organisational structure:



### 1.3. Persons involved in this audit

Auditor:

Name	Company	Role
Brett Piskulic	Provera	Auditor

Other personnel assisting in this audit were:

Name	Title	Company
Jess Maaka	Administration Support Officer - Roading	Mackenzie DC
Jordan King	Roading Manager	Mackenzie DC
Eamon Moore	C&I Operations Manager	Manawa Energy

### 1.4. Hardware and Software

The SQL database used for the management of DUML is remotely hosted by thinkproject New Zealand Limited. The database is commonly known as "RAMM" which stands for "Road Assessment and Maintenance Management". The specific data used for DUML is held in the Streetlight tables. thinkproject New Zealand Limited backs up the database and assists with disaster recovery as part of their hosting service.

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

ICP Number	Description	NSP	Profile	Number of items of load	Database wattage (watts)
000000007ALB68	Streetlighting	TKA0331	GXP STL	374	17,193
000000008AL4B6	Streetlighting	TWZ0331	STL	477	21,862
000000003ALA62	Streetlighting	ABY0111	STL	211	21,137

Total	1,062	60,192
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### 1.7. Authorisation Received

All information was provided directly by Manawa and Mackenzie District Council.

### 1.8. Scope of Audit

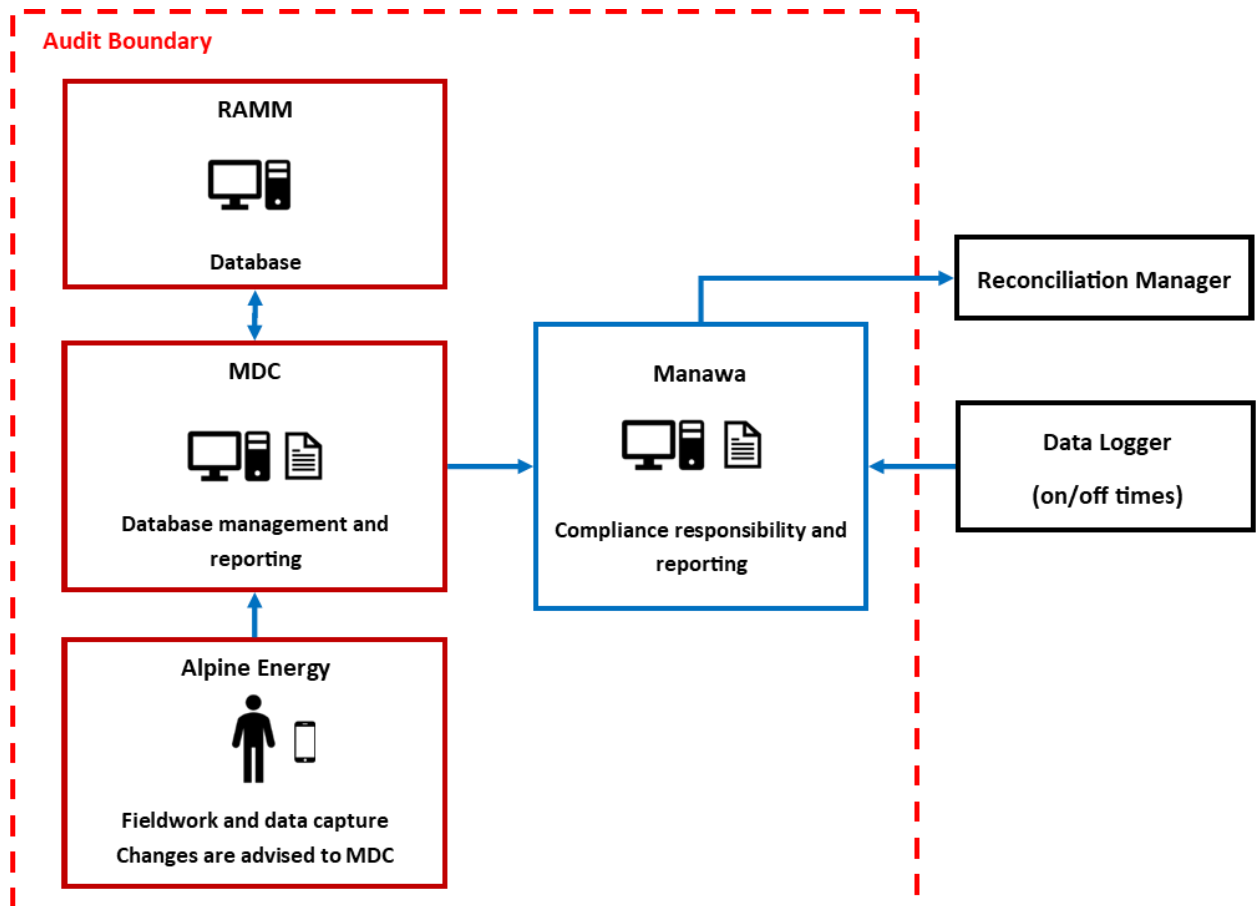
This audit of the Mackenzie District Council (MDC) DUML database and processes was conducted at the request of Manawa in accordance with clause 15.37B. The purpose of this audit is to verify that the volume information is being calculated accurately, and that profiles have been correctly applied.

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 and is managed by MDC, who is Manawa’s customer. The fieldwork is conducted by Alpine Energy who are expected to provide details of any changes to MDC in order for the database to be updated.

Manawa reconciles the DUML load using the STL profile based on a monthly database report from the MDC RAMM database. Manawa became the retailer for three of the five ICPs in the MDC DUML database on 1 March 2024. The remaining two ICPs for streetlights on the Mountain Power embedded network are the responsibility of Genesis Energy and are included in a separate audit.

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.





The field audit was undertaken of a statistical sample of 171 items of load on 12 June 2024.

### 1.9. Summary of previous audit

The previous audit was completed for Genesis (including all five ICPs in the MDC database) in October 2023 by Tara Gannon of Provera. Five non-compliances were identified. The current statuses of the non-compliances are described below.

#### Table of Non-compliances

Subject	Section	Clause	Non-compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	<p>The field audit found that the database is not confirmed as accurate within +/- 5%. In absolute terms, total annual consumption is estimated to be 12,700 kWh higher than the DUML database indicates. Changes made in the field during the audit period have not been updated in the database.</p> <p>Nine items of load do not have an ICP number or wattage recorded resulting in an estimated under submission of 1,461 kWh per annum.</p> <p>One item of load with no gear wattage recorded resulting in an estimated under submission of 692 kWh per annum.</p> <p>Monthly reporting is not being provided to Genesis, submission is based on a historical snapshot and does not consider changes or adjustments.</p>	<p>Still existing for database inaccuracy</p> <p>Cleared for missing ICP number, missing gear wattage and reporting of changes to a daily level.</p>
ICP identifier and items of load	2.2	Clause 11(2)(a) and (aa) of Schedule 15.3	Nine items do not have an ICP number recorded resulting in an estimated under submission of 1,461 kWh per annum.	Cleared
Description and capacity of load	2.4	Clause 11(2)(c) and (d) of Schedule 15.3	Nine items have no wattage recorded resulting in an estimated under submission of 1,461 kWh per annum	Cleared
All load recorded in the database	2.5	Clauses 11(2A) of Schedule 15.3	Seven additional lamps identified in the field of 164 items of load sampled.	Cleared

Subject	Section	Clause	Non-compliance	Status
Database accuracy	3.1	15.2 and 15.37B(b)	<p>The field audit found that the database is not confirmed as accurate within +/- 5%. In absolute terms, total annual consumption is estimated to be 12,700 kWh higher than the DUML database indicates. Changes made in the field during the audit period have not been updated in the database.</p> <p>Nine items of load do not have an ICP number or wattage recorded resulting in an estimated under submission of 1,461 kWh per annum.</p> <p>One item of load with no gear wattage recorded resulting in an estimated under submission of 692 kWh per annum.</p>	<p>Still existing for database inaccuracy.</p> <p>Cleared for missing ICP number, missing gear wattage and reporting of changes to a daily level.</p>
Volume information accuracy	3.2	15.2 and 15.37B(c)	<p>The field audit found that the database is not confirmed as accurate within +/- 5%. In absolute terms, total annual consumption is estimated to be 12,700 kWh higher than the DUML database indicates. Changes made in the field during the audit period have not been updated in the database.</p> <p>Nine items of load do not have an ICP number or wattage recorded resulting in an estimated under submission of 1,461 kWh per annum.</p> <p>One item of load with no gear wattage recorded resulting in an estimated under submission of 692 kWh per annum.</p> <p>Monthly reporting is not being provided to Genesis, submission is based on a historical snapshot and does not consider changes or adjustments.</p>	<p>Still existing for database inaccuracy</p> <p>Cleared for missing ICP number, missing gear wattage and reporting of changes to a daily level.</p>

## 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 Provera to undertake this streetlight 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

##### Submission process and accuracy

Manawa reconciles this DUML load as NHH using the STL profile, and on hours are derived using data logger information for all three ICPs.

The total volume submitted to the Reconciliation Manager is based on a monthly database report from the MDC RAMM database and the “burn time” which is sourced from data loggers. The methodology is compliant.

I checked the submission data for May 2024 for the three ICPs in the MDC database for which Manawa is the retailer using the value submitted by Manawa and the database information, and confirmed the calculation for May 2024 was correct.

The monthly extract that is provided to Manawa contains additional information detailing any changes made through the month, including the date the changes were made and the wattage before and after the change. This information is used by Manawa to account for changes on a daily basis.

##### Database accuracy

Examination of the database found:

Issue	Estimated volume information impact (annual kWh)
The database is not confirmed as accurate with a 95% level of confidence as recorded in <b>section 3.1</b>	Over submission of 78,800 kWh p.a.
Festive lights not added to database when connected as recorded in <b>sections 2.5 and 3.1</b>	The wattage of these lights is to be confirmed.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3  From: 27-May-24 To: 12-Jun-24	<p>The field audit found that the database is not confirmed as accurate within +/- 5%. In absolute terms, total annual consumption is estimated to be 78,80 kWh lower than the DUML database indicates.</p> <p>Festive lights not added to database when connected.</p> <p>Potential impact: High</p> <p>Actual impact: High</p> <p>Audit history: Twice</p> <p>Controls: Weak</p> <p>Breach risk rating: 9</p>		
Audit risk rating	Rationale for audit risk rating		
High	<p>The controls are recorded as weak as a high number of discrepancies were identified in the field audit due to changes made in the field not being recorded in the database.</p> <p>The impact on settlement and participants is high; therefore, the audit risk rating is high.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Mackenzie have identified a breakdown in communication between the Alpine network and their contractor Netcom around the process for updating the database (DB) with changes and additions. The issues have been identified by the customer and a piece of work has begun to rectify the discrepancies.		01/10/2024	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Alongside the remediation work to fix the historic inaccuracies in the DB, Mackenzie is also introducing a new process where the contractor will update the RAMM DB directly when a job is complete, Mackenzie will then reconcile the invoice provided for the work completed against the DB to confirm that the correct process has been followed and the DB has been updated.		01/12/2024	

## 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 whether an ICP is recorded for each item of load.

### **Audit commentary**

All items of load have an ICP recorded against them.

### **Audit 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 DUMML database must contain the location of each DUMML item.*

### **Audit observation**

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

### **Audit commentary**

The database contains house numbers, road names, offset, side (of road), location (in metres), and GPS coordinates.

All items of load have GPS coordinates recorded and are locatable.

### **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 all items of load were recorded.

### **Audit commentary**

The extract provided has fields for lamp type, gear wattage, lamp wattage and total wattage and all were populated.

The accuracy of the recorded wattages 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 DUML for which it is responsible is recorded in this database.

### Audit observation

The field audit was undertaken of a statistical sample of 171 items of load on 12 June 2024.

### Audit commentary

The field audit discrepancies found are detailed in the table below.

Street	Database Count	Field Count	Count differences	Wattage differences	Comments
GRAY STREET	7	7	-	7	5 x 30Wx2 Fluro, 1 x 100W HPS and 1 x 70W HPS recorded in database, 7 x 22W LED found in field.
ARGYLE STREET	1	1	-	1	1 x 30Wx2 Fluro recorded in database. 1 x 22W LED found in field.
RIDDLE STREET	5	5	-	3	4 x 150W HPS and 1 x 70W HPS recorded in database. 3 x 22W LED, 1 x 70W HPS and 1 x 150W HPS found in field.
HAMILTON STREET	3	3	-	3	3 x 30Wx2 Fluro recorded in database. 3 x 22W LED found in field.
ALLOWAY STREET	10	10	-	8	8 x 70W HPS, 1 x 35W LPS and 1 x 150W HPS recorded in database. 8 x 22W LED, 1 x 70W HPS and 1 x 150W HPS found in field.
HAMILTON DRIVE	25	25	-	25	17 x 35W LPS Bollard, 3 x 35W LPS and 5 x 55W LPS recorded in database. 17 x 38W LED Bollard, 7 x 22W LED and 1 x 16W LED found in field.
BURNETT PLACE	2	2	-	2	1 x 35W LPS and 1 x 55W LPS recorded in database. 2 x 22W LED found in field.
BARBARA HAY STREET	2	2	-	2	2 x 55W LPS recorded in database. 2 x 22W LED found in field.
AORANGI CRESCENT	10	10	-	2	8 x 17W LED, 1 x 35W LPS Bollard and 1 x 26W CFL recorded in database. 8 x 17W LED, 1 x 38W LED Bollard and 1 x 22W LED found in field.
SAMS PLACE	8	7	-1	7	8 x 35W LPS recorded in database. 7 x 38W LED Bollard found in field.
CAIRNS AVENUE	14	14	-	14	14 x 35W LPS recorded in database. 14 x 38W LED Bollard found in field.
DOBSON PLACE	1	1	-	1	1 x 35W LPS recorded in database. 1 x 22W LED found in field.
HUXLEY PLACE	1	1	-	1	1 x 35W LPS recorded in database. 1 x 22W LED found in field.
HUNTER CRESCENT	6	6	-	5	5 x 35W LPS and 1 x 17W LED recorded in database. 5 x 22W LED and 1 x 17W LED found in field.

Street	Database Count	Field Count	Count differences	Wattage differences	Comments
CASS CRESCENT	8	8	-	6	6 x 35W LPS and 2 x 17W LED recorded in database. 6 x 22W LED and 2 x 17W LED found in field.
SEFTON STREET	12	12	-	10	11 x 35W LPS and 1 x 17W LED recorded in database. 1x 35W LPS, 10 x 22W LED and 1 x 17W LED found in field.
HOPKINS ROAD	7	7	-	7	7 x 35W LPS recorded in database. 7 x 22W LED found in field.
<b>Total</b>	<b>171</b>	<b>170</b>	<b>-1</b>	<b>104</b>	

The field audit did not find any items of load that were not recorded in the database, compliance is recorded in this section. The database accuracy is discussed in **section 3.1**.

### Festive lights

MDC advised that there are festive lights in the form of Christmas tree lights in Twizel which are connected annually over the Christmas period. These lights had not been added to the database in previous years but MDC plans for these to be added to RAMM for the period they are connected in future. The wattage of these lights is to be confirmed.

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.5 With: Clauses 11(2A) of Schedule 15.3  From: 27-May-24 To: 12-Jun-24	Festive lights not added to database when connected.  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 MDC has identified the need for the festive lights to be added to the database in future.  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
MDC to update RAMM with the festive light install & removal each year.		N/A	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	



<p>Mackenzie is introducing a new process where the contractor will update the RAMM DB directly when a job is complete, Mackenzie will then reconcile the invoice provided for the work completed against the DB to confirm that the correct process has been followed and the DB has been updated.</p>	<p>01/12/2024</p>	
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**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**

RAMM records audit trail information of changes made.

**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	Mackenzie DC region
Strata	The database contains 1,062 items of load in the Mackenzie region. The processes for the management of all items of load are the same, and strata were created for each of the three ICPs.
Area units	I created a pivot table of the roads in each stratum and used a random number generator in a spreadsheet to select a total of 21 sub-units making up approximately 10% of the entire database wattage.
Total items of load	171 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.

##### Audit commentary

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

A field audit was conducted of a statistical sample of 171 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	69.4	Wattage from survey is lower than the database wattage by 30.6%.
R <sub>L</sub>	54.2	With a 95% level of confidence, it can be concluded that the error could be between 17% and 45.8% lower than the database.
R <sub>H</sub>	83	

These results were categorised in accordance with the “Distributed Unmetered Load Statistical Sampling Audit Guideline”, effective from 1 February 2019. The table below shows that Scenario B (detailed below) applies, and the best available estimate indicates that the database is not accurate within  $\pm 5.0\%$ .

In absolute terms the installed capacity is estimated to be 18 kW lower than the database.

There is a 95% level of confidence that the installed capacity is between 10 kW to 28 kW lower than the database.

In absolute terms, total annual consumption is estimated to be 78,800 kWh lower than the DUML database indicates.

There is a 95% level of confidence that the annual consumption is between 43,600 kWh p.a. to 117,800 kWh p.a. lower than the database indicates.

Scenario	Description
<b>A - Good accuracy, good precision</b>	This scenario applies if: (a) $R_H$ is less than 1.05; and (b) $R_L$ is greater than 0.95  The conclusion from this scenario is that: (a) the best available estimate indicates that the database is accurate within +/- 5 %; and (b) this is the best outcome.
<b>B - Poor accuracy, demonstrated with statistical significance</b>	This scenario applies if: (a) the point estimate of R is less than 0.95 or greater than 1.05 (b) as a result, either $R_L$ is less than 0.95 or $R_H$ is greater than 1.05.  There is evidence to support this finding. In statistical terms, the inaccuracy is statistically significant at the 95% level.
<b>C - Poor precision</b>	This scenario applies if: (a) the point estimate of R is between 0.95 and 1.05 (b) $R_L$ is less than 0.95 and/or $R_H$ is greater than 1.05  The conclusion from this scenario is that the best available estimate is not precise enough to conclude that the database is accurate within +/- 5 %.

#### Lamp description and capacity accuracy

The database was checked against the published standardised wattage table, and manufacturer's specifications where available. All wattages and ballasts were recorded correctly.

#### Change management process findings

New connection, fault, and maintenance work is completed by Alpine Energy and changes are expected to be reported monthly to the roading contractor Fulton Hogan and MDC. As recorded in the last audit the processes for recording changes and additions had lapsed and a high number of changes had not been recorded in the database. This was confirmed by the high number of discrepancies identified in this field audit. MDC is currently reviewing its processes for receiving information from Alpine Energy and updating and maintaining the database. As part of the review, it is planned that changes will be recorded in the field by Alpine Energy using mobile RAMM. Checks will be put in place to ensure that all changes identified in monthly invoicing have been recorded in RAMM before payment is approved. MDC is planning to have a full field audit of all items of load conducted to correct all incorrect information and is working with Fulton Hogan and Alpine Energy to retrieve any records of changes made that have not previously been provided or updated in RAMM.

#### Private lights

No private lights are recorded in the database.

## Festive lights

MDC advised that there are festive lights in the form of Christmas tree lights in Twizel which are connected annually over the Christmas period. These lights had not been added to the database in previous years but MDC plans for these to be added to RAMM for the period they are connected in future. The wattage of these lights is to be confirmed.

## Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b)  From: 27-May-24 To: 12-Jun-24</p>	<p>The field audit found that the database is not confirmed as accurate within +/- 5%. In absolute terms, total annual consumption is estimated to be 78,800 kWh lower than the DUML database indicates.</p> <p>Festive lights not added to database when connected.</p> <p>Potential impact: High Actual impact: High Audit history: Three times Controls: Weak Breach risk rating: 9</p>		
Audit risk rating	Rationale for audit risk rating		
<p><b>High</b></p>	<p>The controls are recorded as weak as a high number of discrepancies were identified in the field audit due to changes made in the field not being recorded in the database.</p> <p>The impact on settlement and participants is high; therefore, the audit risk rating is high.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Mackenzie have identified a breakdown in communication between the Alpine network and their contractor Netcom around the process for updating the database (DB) with changes and additions. The issues have been identified by the customer and a piece of work has begun to rectify the discrepancies.</p>		<p>01/10/2024</p>	<p>Identified</p>
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Alongside the remediation work to fix the historic inaccuracies in the DB, Mackenzie is also introducing a new process where the contractor will update the RAMM DB directly when a job is complete, Mackenzie will then reconcile the invoice provided for the work completed against the DB to confirm that the correct process has been followed and the DB has been updated.</p>		<p>01/12/2024</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

##### Submission process and accuracy

Manawa reconciles this DUML load as NHH using the STL profile, and on hours are derived using data logger information for all three ICPs.

The total volume submitted to the Reconciliation Manager is based on a monthly database report from the MDC RAMM database and the “burn time” which is sourced from data loggers. The methodology is compliant.

I checked the submission data for May 2024 for the three ICPs in the MDC database for which Manawa is the retailer using the value submitted by Manawa and the database information, and confirmed the calculation for May 2024 was correct.

The monthly extract that is provided to Manawa contains additional information detailing any changes made through the month, including the date the changes were made and the wattage before and after the change. This information is used by Manawa to account for changes on a daily basis.

##### Database accuracy

Examination of the database found:

Issue	Estimated volume information impact (annual kWh)
The database is not confirmed as accurate with a 95% level of confidence as recorded in <b>section 3.1</b>	Over submission of 78,800 kWh p.a.
Festive lights not added to database when connected as recorded in <b>sections 2.5 and 3.1</b>	The wattage of these lights is to be confirmed.

#### Audit outcome

Non-compliant

Non-compliance	Description
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<p>Audit Ref: 3.2 With: Clauses 15.2 and 15.37B(c)</p> <p>From: 27-May-24 To: 12-Jun-24</p>	<p>The field audit found that the database is not confirmed as accurate within +/- 5%. In absolute terms, total annual consumption is estimated to be 78,80 kWh lower than the DUMML database indicates.</p> <p>Festive lights not added to database when connected.</p> <p>Potential impact: High Actual impact: High Audit history: Twice</p> <p>Controls: Weak Breach risk rating: 9</p>		
<b>Audit risk rating</b>	<b>Rationale for audit risk rating</b>		
<p><b>High</b></p>	<p>The controls are recorded as weak as a high number of discrepancies were identified in the field audit due to changes made in the field not being recorded in the database.</p> <p>The impact on settlement and participants is high; therefore, the audit risk rating is high.</p>		
<b>Actions taken to resolve the issue</b>		<b>Completion date</b>	<b>Remedial action status</b>
<p>Mackenzie have identified a breakdown in communication between the Alpine network and their contractor Netcom around the process for updating the database (DB) with changes and additions. The issues have been identified by the customer and a piece of work has begun to rectify the discrepancies.</p>		01/10/2024	Identified
<b>Preventative actions taken to ensure no further issues will occur</b>		<b>Completion date</b>	
<p>Alongside the remediation work to fix the historic inaccuracies in the DB, Mackenzie is also introducing a new process where the contractor will update the RAMM DB directly when a job is complete, Mackenzie will then reconcile the invoice provided for the work completed against the DB to confirm that the correct process has been followed and the DB has been updated.</p>		01/12/2024	

## CONCLUSION

The audit was conducted in accordance with the audit guidelines for DUML audits version 1.1. The scope of the audit encompasses the collection, security, and accuracy of the data, including the preparation of submission information.

This is the first audit since Manawa became the retailer for three of the five ICPs in the MDC DUML database on 1 March 2024. The remaining two ICPs for streetlights on the Mountain Power embedded network are the responsibility of Genesis Energy and are included in a separate audit.

Manawa reconciles the DUML load using the STL profile based on a monthly database report from the MDC RAMM database.

As recorded in the last audit the processes for recording changes and additions had lapsed and many changes had not been recorded in the database. 104 wattage differences and one missing lamp were found during the field audit for a sample of 171 items of load conducted on 12 June 2024, which equates to a 61.4% error rate. MDC is currently reviewing its processes for receiving change information and updating the database. As part of the review, it is planned that changes will be recorded in the field by Alpine Energy using mobile RAMM. Checks will be put in place to ensure that all changes identified in monthly invoicing have been recorded in RAMM before payment is approved. MDC is planning to have a full field audit of all items of load conducted to correct all incorrect information and is working with Fulton Hogan and Alpine Energy to retrieve any records of changes made that have not previously been provided or updated in RAMM.

The audit found four non-compliances and makes no recommendations. The future risk rating of 28 indicates that the next audit be completed in three months. I have considered this in conjunction with Manawa's comments and recommend that the next audit be in 12 months to allow time for planned improvements in the management of the database to be implemented.

## PARTICIPANT RESPONSE

Manawa, Mackenzie DC and Provera have recently had a constructive meeting to discuss the issues outlined in this audit, MDC had already been proactive in identifying the issues with this DUML DB and are working through this with their contractor already. MDC is currently working through the DB discrepancies and communicating any large changes to Manawa each month.

The suggested improvements by MDC in the DB maintenance process are a good step in the right direction; they will be rolling out training to their contractor over the coming months and have already identified a control on their end to check that the contractor is following the correct process monthly by reconciling the invoice for work completed with the DB.

MDC's engagement, and the work they have already undertaken proactively on these issues, gives Manawa confidence that together we can improve the accuracy of this DB; however, the indicative frequency of 3-months does not allow enough time between now and the next audit to make meaningful change. Manawa requests a 12-month audit period to allow the customer and us enough time to implement the suggested improvements.