

**ELECTRICITY INDUSTRY PARTICIPATION CODE  
DISTRIBUTED UNMETERED LOAD AUDIT REPORT**

For

**HURUNUI DISTRICT COUNCIL  
AND MERIDIAN ENERGY  
NZBN: 9429037696863**

Prepared by: Steve Woods

Date audit commenced: 31 March 2022

Date audit report completed: 26 April 2022

Audit report due date: 28 May 2022

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## EXECUTIVE SUMMARY

This audit of the **Hurunui District Council (HDC)** DUMML database and processes was conducted at the request of **Meridian Energy Limited (Meridian)**, 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 DUMML audits version 1.1.

The database is remotely hosted by thinkproject New Zealand Ltd . The field work and asset data capture is conducted by Power Jointing Limited using Pocket RAMM. A monthly report from RAMM is provided to Meridian to calculate the kW value.

Meridian reconciles this DUMML load using the DST profile. Submissions are based on the database information, with on and off times derived from data logger information.

I compared the database provided to the capacity information Meridian supplied to EMS for the month of March 2022 and I confirm the submission is accurate.

The field audit was undertaken of a statistical sample of 131 items of load on 8<sup>th</sup> April 2022. The field audit confirmed that the database accuracy is within the allowable +/-5% threshold.

This audit found five non-compliances. The future risk rating of six indicates that the next audit be completed in 18 months. I have considered this in conjunction with Meridian's comments and recommend that the next audit be in 18 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	<p>The data used for submission does not track changes at a daily basis and is provided as a snapshot.</p> <p>One item of load has the incorrect wattage applied in the DUML database which would result in the minor under submission of 4.27 kWh per annum.</p> <p>Two items of load do not have wattage recorded which would result in an estimated under submission of 282 kWh per annum.</p>	Strong	Low	1	Identified
Description and capacity of load	2.4	11(2)(c) (d) of Schedule 15.3	Lamp make and model is not recorded for two lamps.	Strong	Low	1	Identified
All load recorded in database	2.5	11(2A) of Schedule 15.3	Two additional lights found in the field.	Moderate	Low	2	Identified
Database accuracy	3.1	15.2 and 15.37B(b)	<p>One item of load has the incorrect wattage applied in the DUML database which would result in the minor under submission of 4.27 kWh per annum.</p> <p>Two items of load do not have wattage recorded which would result in an estimated under submission of 282 kWh per annum.</p>	Strong	Low	1	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Volume information accuracy	3.2	15.2 and 15.37B(c)	<p>The data used for submission does not track changes at a daily basis and is provided as a snapshot.</p> <p>One item of load has the incorrect wattage applied in the DUML database which would result in the minor under submission of 4.27 kWh per annum.</p> <p>Two items of load do not have wattage recorded which would result in an estimated under submission of 282 kWh per annum</p>	Strong	Low	1	Identified
Future Risk Rating						6	

<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	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

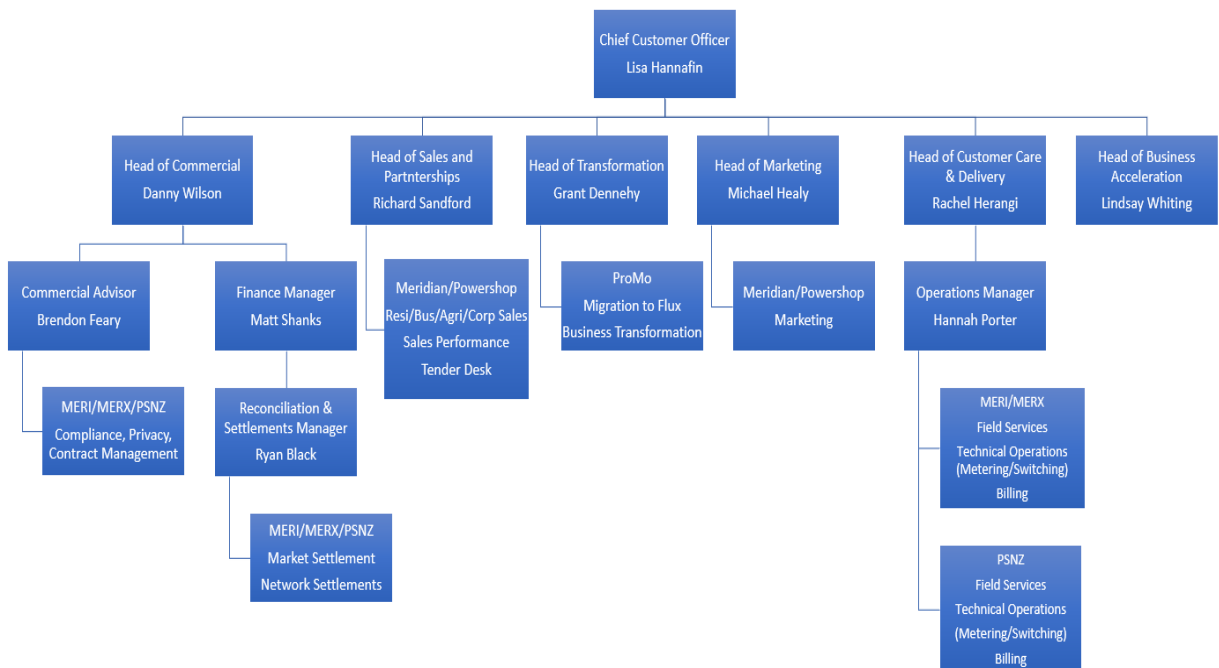
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

#### Audit commentary

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

### 1.2. Structure of Organisation

Meridian provided the relevant organisational structure:



### 1.3. Persons involved in this audit

Auditors:

Name	Title	Company
Steve Wood	Auditor	Veritek
Claire Stanley	Supporting Auditor	Veritek

Other personnel assisting in this audit were:

Name	Title	Company
Kait Murray	Technical Assistant - Roading	Hurunui District Council
Amy Cooper	Compliance Officer	Meridian Energy
Daniel Lau	Energy Data Analyst	Meridian 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 and their agent 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)
0000366311MP08B	HURUNUI DISTRICT COUNCIL-WRP0331	WPR0331	DST	483	21,479
0000366312MPC4B	HURUNUI DISTRICT COUNCIL-CUL0331	CUL0331	DST	479	23,724
0000366313MP00E	HURUNUI DISTRICT COUNCIL-WRP0661	WPR0661	DST	119	3,593
0000700980MP704	STREETLIGHTS ASY0111 HDC	ASY0111	DST	8	368
Total				1,089	49,164

## 1.7. Authorisation Received

All information was provided directly by Meridian and HDC.

## 1.8. Scope of Audit

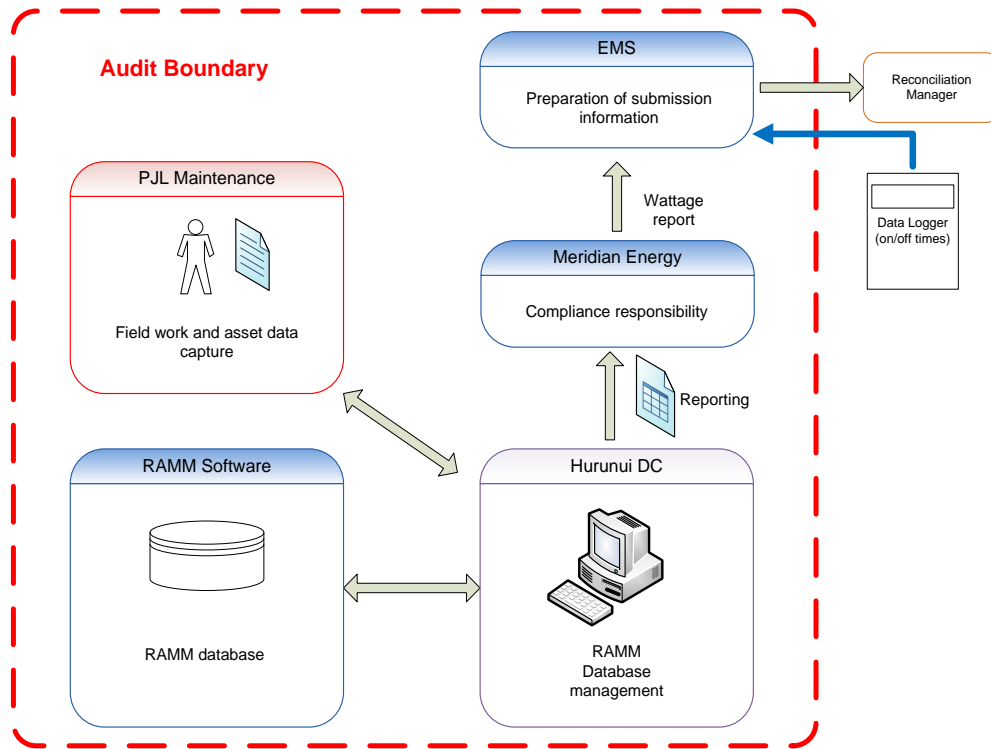
This audit of the Hurunui District Council (HDC) DUML database and processes was conducted at the request of Meridian Energy Limited (Meridian), in accordance with clause 15.37B. The purpose of this audit is to verify that the volume information is being calculated accurately, and that profiles have 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 HDC, who is Meridian's customer. Reporting is provided by HDC to Meridian on a monthly basis. The fieldwork and asset data capture are conducted by Power Jointing Limited. 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 131 items of load on 8 April 2022.

### 1.9. Summary of previous audit

The previous audit was completed in April 2021 by Steve Woods of Veritek Limited. This audit found four non-compliances and one recommendation was made. The current statuses of the audit findings are detailed below:

#### Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	Total annual consumption is estimated to be 3,000 kWh higher than the DUML database indicates  The data used for submission does not track changes at a daily basis and is provided as a snapshot.  Two items of load have the incorrect wattage applied in the DUML database which would result in under submission of 8.54 kWh per annum.	Cleared  Still existing  Still existing for one lamp
All load recorded in database	2.5	11(2A) and (d) of Schedule 15.3	Two additional lights found in the field.	Still existing for different lamps

Subject	Section	Clause	Non-compliance	Status
Database accuracy	3.1	15.2 and 15.37B(b)	In absolute terms, total annual consumption is estimated to be 3,000 kWh higher than the DUML database indicates.  Two items of load have the incorrect wattage applied in the DUML database which would result in under submission of 8.54 kWh per annum.	Cleared  Still existing for one lamp
Volume information accuracy	3.2	15.2 and 15.37B(c)	Total annual consumption is estimated to be 3,000 kWh higher than the DUML database indicates  The data used for submission does not track changes at a daily basis and is provided as a snapshot.  Two items of load have the incorrect wattage applied in the DUML database which would result in under submission of 8.54 kWh per annum.	Cleared  Still existing  Still existing for one lamp

#### Table of recommendations

Subject	Section	Recommendation	Status
Location of items of load	2.3	Update road names for some items of load from Lochiel Drive and Woodbank Road to Ewen Drive, Percival Close, William Jones Place.	Cleared

#### 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

Meridian 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. 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.

#### Audit commentary

Meridian reconciles this DUML load using the DST profile. I compared the database provided to the capacity information Meridian supplied to EMS for the month of March 2022 and I confirm the submission is accurate.

The on and off times are derived from a data logger read by EMS and are used to create a shape file. Meridian supplies EMS with the capacity information and EMS calculates the kWh figure for each ICP and includes this in the relevant AV080 file. This process was audited during Meridian's reconciliation participant audit and EMS' agent audit. Compliance was confirmed for both parties.

The field audit confirmed that the database accuracy is within the allowable +/-5% threshold.

The database has minor inaccuracies resulting in an under submission of 282k kWh per annum. This is detailed in **section 3.1**.

One item of load has the incorrect wattage applied in the DUML database resulting in an estimated minor under submission of 4.27 kWh per annum. This is detailed in **section 3.1**.

On 18 June 2019, the Electricity Authority issued a memo confirming that the code requirement to calculate the correct monthly load must:

- take into account when each item of load was physically installed or removed, and
- wash up volumes must take into account where historical corrections have been made to the DUML load and volumes.

The current data used is a snapshot and this practice is non-compliant.

#### Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3</p> <p>From: 23-Apr-21 To: 31-Mar-22</p>	<p>The data used for submission does not track changes at a daily basis and is provided as a snapshot.</p> <p>One item of load has the incorrect wattage applied in the DUML database which would result in the minor under submission of 4.27 kWh per annum.</p> <p>Two items of load do not have wattage recorded which would result in an estimated under submission of 282 kWh per annum.</p> <p>Potential impact: Low Actual impact: Low Audit history: Twice Controls: Strong Breach risk rating: 1</p>		
Audit risk rating	Rationale for audit risk rating		
<p><b>Low</b></p>	<p>Controls are rated as strong, the small number of exceptions indicated that controls are sufficient to ensure that all lamps are recorded in the database most of the time.</p> <p>The impact is assessed to be low as there are very few changes made to this database.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>We are considering how we can redesign our processes to incorporate the calculation of volumes at a daily level rather than a monthly snapshot.</p> <p>Meridian has advised Hurunui District Council of the inaccuracies and have requested for them to be corrected.</p>		<p>Ongoing</p> <p>28/07/2022</p>	<p>Identified</p>
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Meridian will continue to follow up with Hurunui District Council to complete the required corrections and to maintain the install updates and changes to the database.</p>		<p>28/07/2022</p>	

## 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 an ICP was recorded against each item of load.

#### **Audit commentary**

An ICP is recorded for all items of load.

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

Seven items of load do not have GPS co-ordinates recorded, however there is sufficient information recorded in the address field to be able to locate these lamps.

#### **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 database contains fields to record the lamp make and model. Analysis of the database found a small number of errors, as follows:

Quantity	Finding
2	Missing lamp model and lamp wattage

The accuracy of lamp descriptions, wattages and ballasts is recorded in **section 3.1**.

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.4 With: Clause 11(2)(c) and (d) of Schedule 15.3 From: 18- Mar -20 To: 24-Mar-22	Lamp make and model is not recorded for two lamps. 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>	Controls are rated as strong, the small number of exceptions indicated that controls are sufficient to ensure that all lamps are recorded in the database most of the time. 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
Meridian has advised Hurunui District Council of the inaccuracies and have requested for them to be corrected.		28/07/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Meridian will continue to follow up with Hurunui District Council to complete the required corrections and to maintain the install updates and changes to the database.		28/07/2022	

### 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 131 lights on 8<sup>th</sup> April 2022 using the statistical sampling methodology.

### Audit commentary

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

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
CHALET CRES	9	9		2	1 x 52W LED recorded in the database but 1 x 45W LED located in the field. 1 x 100W HPS recorded in the database but 1 x 45W LED located in the field.
CLIFFORD PL	8	8		7	7 x 22.3W LED recorded in the database but 7 x 28W LED located in the field.
COURAGE RD	10	11	+1	1	1 x 100W HPS recorded in the database but 1 x 52W LED located in the field. 1 additional 52W LED not recorded in the database but 1 x 52W LED located in the field.
JOHNSON AVE	3	4	+1	1	1 x 22.3W LED recorded in the database but 1 x 28W LED located in the field. 1 x 28W LED not recorded in the database but 1 x 28W LED located in the field.
KOWAI PL	2	2		2	2 x 22.3W LED recorded in the database but 2 x 28W LED located in the field.
LAWCOCKS RD	3	3		1	1 x 22.3W LED recorded in the database but 1 x 28W LED located in the field.
WOODBANK RD	16	16		3	2 x 52W LED recorded in the database but 2 x 67W LED located in the field. 1 x 100W HPS recorded in the database but 1 x 67W LED located in the field.

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
<b>Total</b>	<b>1089</b>	<b>1091</b>	<b>+2</b>	<b>17</b>	

The field audit found two more lamps in the field than were recorded in the database. This is recorded as non-compliance below.

The database accuracy is discussed in **section 3.1**.

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.5 With: Clause 11(2A) of Schedule 15.3 From: 23-Apr-21 To: 31-Mar-22	Two additional lights found in the field. Potential impact: Low 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 rated as moderate as the processes in place will ensure that the data is recorded correctly most of the time. The impact is assessed to be low due to the small number of additional lights found in the field in relation to the overall count of the items of load.		
Actions taken to resolve the issue		Completion date	Remedial action status
Meridian has advised Hurunui District Council of the inaccuracies and have requested for them to be corrected.		28/07/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Meridian will continue to follow up with Hurunui District Council to complete the required corrections and to maintain the install updates and changes to the database.		28/07/2022	

## 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

A database extract was provided, and I assessed the accuracy of this by using the DUML Statistical Sampling Guideline. The table below shows the survey plan.

Plan Item	Comments
Area of interest	Hurunui DC region
Strata	The database contains items of load in Hurunui, excluding NZTA. The area has three distinct sub regions, split by NSP. The processes for the management of Hurunui DC items of load are the same, but I decided to place the items of load into three strata, as follows: <ol style="list-style-type: none"> <li>1. HDC A-CL</li> <li>2. HDC CO-LU</li> <li>3. HDC LY- Z</li> </ol>
Area units	I created a pivot table of the roads in each, and I used a random number generator in a spreadsheet to select a total of 29 sub-units (roads).
Total items of load	131 items of load were checked.

Wattages were checked for alignment with the published standardised wattage table produced by the Electricity Authority against the database or in the case of LED lights against the LED light specification.

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

##### Audit commentary

##### Field Audit Findings

A field audit was conducted of a statistical sample of 131 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	99.3	Wattage from survey is lower than the database wattage by 0.7%
R <sub>L</sub>	95.8	With a 95% level of confidence, it can be concluded that the error could be between -4.2% and 1.7%
R <sub>H</sub>	101.7	

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 A (detailed below) applies, and the best available estimate indicates that the database is accurate within  $\pm 5.0\%$ .

There is a 95% level of confidence that the installed capacity is between 2 kW lower to 1 kW higher than the database.

In absolute terms, total annual consumption is estimated to be 1,400 kWh lower than the DUML database indicates.

There is a 95% level of confidence that the annual consumption is between 8,800 kWh p.a. lower to 36,000 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 <math>\pm 5\%</math>; 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 <math>\pm 5\%</math></p>

### Lamp description and capacity accuracy

I checked the wattages being applied in the database and found the following errors:

As detailed in **section 2.4**:

Quantity	Finding
2	Missing lamp wattage and lamp model

If it is assumed that these lights are 33W LED, then under submission of 282kWh p.a. is estimated (based on 4271 hours per annum).

I also found that one lamp had a discrepancy when compared to the standardised wattage table. This is detailed in the table below:

Lamp Type	Database Total Lamp Wattage	EA Standardised Total Wattage	Variance	Database Quantity	Estimated Annual kWh effect on consumption
125W Mercury Vapour	137	136	+1	1	4.27

The incorrect capacities will be resulting in an estimated minor under submission of 4.27 kWh per annum (based on annual burn hours of 4,271 as is detailed in the DUMML database auditing tool).

**Change management process findings**

The field contractor is Power Jointing Limited, and they are responsible for the Network maintenance. Power Jointing Limited are issued a Service Request for reactive work and complete a regular maintenance programme. Pocket Ramm is used in the field, and this updates the RAMM database directly with any changes.

As the majority of lights are now LED, outage patrols are no longer undertaken.

Mainpower receive the application for a new connection. For all new connections, an “as built” is required to be submitted to council before connection can occur. These are added to RAMM. Mainpower advise HDC when lights are vested, all information is updated in RAMM, Power Jointing Limited will collect any additional information required and update RAMM.

Power Jointing Limited and HDC are working with Mainpower to review the current new connection process to ensure timeless and accuracy.

**Festive Lights**

HDC confirmed with Mainpower that there are no festive lights installed.

**Audit outcome**

Non-compliant

Non-compliance	Description		
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b)  From: 23-Apr-21 To: 31-Mar-22	One item of load has the incorrect wattage applied in the DUMML database which would result in the minor under submission of 4.27 kWh per annum.  Two items of load do not have wattage recorded which would result in an estimated under submission of 282 kWh per annum.  Potential impact: Medium  Actual impact: Low  Audit history: Once  Controls: Strong  Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	The controls are recorded as strong because they mitigate risk to an acceptable level.  The impact is assessed to be low, based on the kWh differences described above.		
Actions taken to resolve the issue		Completion date	Remedial action status
Meridian has advised Hurunui District Council of the inaccuracies and have requested for them to be corrected.		28/07/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Meridian will continue to follow up with Hurunui District Council to complete the required corrections and to maintain the install updates and changes to the database.		28/07/2022	

### 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 DUMML is being calculated accurately*
- *profiles for DUMML 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 all ICPs have 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**

Meridian reconciles this DUML load using the DST profile. I compared the database provided to the capacity information Meridian supplied to EMS for the month of March 2022 and I confirm the submission is accurate.

The on and off times are derived from a data logger read by EMS and are used to create a shape file. Meridian supplies EMS with the capacity information and EMS calculates the kWh figure for each ICP and includes this in the relevant AV080 file. This process was audited during Meridian's reconciliation participant audit and EMS' agent audit. Compliance was confirmed for both parties.

The field audit confirmed that the database accuracy is within the allowable +/-5% threshold.

On 18 June 2019, the Electricity Authority issued a memo confirming that the code requirement to calculate the correct monthly load must:

- take into account when each item of load was physically installed or removed, and
- wash up volumes must take into account where historical corrections have been made to the DUML load and volumes.

The current data used is a snapshot and this practice is non-compliant.

### **Audit outcome**

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c)</p> <p>From: 23-Apr-21 To: 31-Mar-22</p>	<p>The data used for submission does not track changes at a daily basis and is provided as a snapshot.</p> <p>One item of load has the incorrect wattage applied in the DUML database which would result in the minor under submission of 4.27 kWh per annum.</p> <p>Two items of load do not have wattage recorded which would result in an estimated under submission of 282 kWh per annum.</p> <p>Potential impact: Low Actual impact: Low Audit history: Twice Controls: Strong Breach risk rating: 1</p>		
Audit risk rating	Rationale for audit risk rating		
<p><b>Low</b></p>	<p>Controls are rated as strong, the small number of exceptions indicated that controls are sufficient to ensure that all lamps are recorded in the database most of the time.</p> <p>The impact is assessed to be low as there are very few changes made to this database.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>We are considering how we can redesign our processes to incorporate the calculation of volumes at a daily level rather than a monthly snapshot.</p> <p>Meridian has advised Hurunui District Council of the inaccuracies and have requested for them to be corrected.</p>		<p>Ongoing</p> <p>28/07/2022</p>	<p>Identified</p>
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Meridian will continue to follow up with Hurunui District Council to complete the required corrections and to maintain the install updates and changes to the database.</p>		<p>28/07/2022</p>	

## CONCLUSION

The database is remotely hosted by thinkproject New Zealand Ltd . The field work and asset data capture is conducted by Power Jointing Limited using Pocket RAMM. A monthly report from RAMM is provided to Meridian to calculate the kW value.

Meridian reconciles this DUML load using the DST profile. Submissions are based on the database information, with on and off times derived from data logger information.

I compared the database provided to the capacity information Meridian supplied to EMS for the month of March 2022 and I confirm the submission is accurate.

The field audit was undertaken of a statistical sample of 131 items of load on 8<sup>th</sup> April 2022. The field audit confirmed that the database accuracy is within the allowable +/-5% threshold.

This audit found five non-compliances. The future risk rating of six indicates that the next audit be completed in 18 months. I have considered this in conjunction with Meridian's comments and recommend that the next audit be in 18 months.



## PARTICIPANT RESPONSE

Meridian has reviewed this report and their comments are contained within the report.