

ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT



For

ROTORUA LAKES COUNCIL AND MERCURY
NZ LTD NZBN: 9429037705305

Prepared by: Rebecca Elliot

Date audit commenced: 9 July 2024

Date audit report completed: 15 August 2024

Audit report due date: 20 August 2024

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EXECUTIVE SUMMARY

This audit of the **Rotorua Lakes Council Unmetered Streetlights (RLC)** DUML database and processes was conducted at the request of **Mercury Energy Limited (Mercury)**, 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 RLC DUML volume is reconciled as HHR. Mercury had an exemption to use the HHR profile for submission. This has now expired, and non-compliance is recorded in **sections 2.1** and **3.2**. The installations consist of an approved and certified data logger (to record on and off times) and a database from which the volume is derived.

The field audit confirmed that the database is within the allowable +/-% threshold. The database has a high level of accuracy and the processes in place to manage it are generally robust.

On 18 June 2019, the Electricity Authority issued a memo clarifying the memo of 2012 that stated that a monthly snapshot was sufficient to calculate submission from, and confirmed 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 monthly report is provided as a snapshot and is non-compliant.

Four non-compliances were identified, and no recommendations were raised. The future risk rating of seven indicates that the next audit be completed in 18 months. I have considered this in conjunction with Mercury's comments and the database high level of accuracy and recommend that the next audit is in 24 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 | HHR profile used without an exemption. 40 items of load reconciled against a different ICP from that recorded in the database. The monthly wattage report is used as a snapshot and does not take into account changes made during the month. | Moderate | Low | 2 | Identified |
| Location of each item of load | 2.3 | 11(2)(b) of Schedule 15.3 | Two items of load with insufficient location details recorded. | Strong | Low | 1 | Identified |
| Database accuracy | 3.1 | 15.2 and 15.37B(b) | Discrepancies from the previous audit not corrected. | Moderate | Low | 2 | Identified |
| Volume information accuracy | 3.2 | 15.2 and 15.37B(c) | HHR profile used without an exemption. 40 items of load reconciled against a different ICP from that recorded in the database. The monthly wattage report is used as a snapshot and does not take into account changes made during the month. | Moderate | Low | 2 | Identified |
| Future Risk Rating | | | | | | 7 | |

| | | | | | | |
|-----------------------------------|-----------|-----------|-----------|-----------|----------|----------|
| Future risk rating | 1-3 | 4-6 | 7-8 | 9-17 | 18-26 | 27+ |
| Indicative audit frequency | 36 months | 24 months | 18 months | 12 months | 6 months | 3 months |

RECOMMENDATIONS

| Subject | Section | Description | Action |
|---------|---------|-------------|--------|
| | | 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

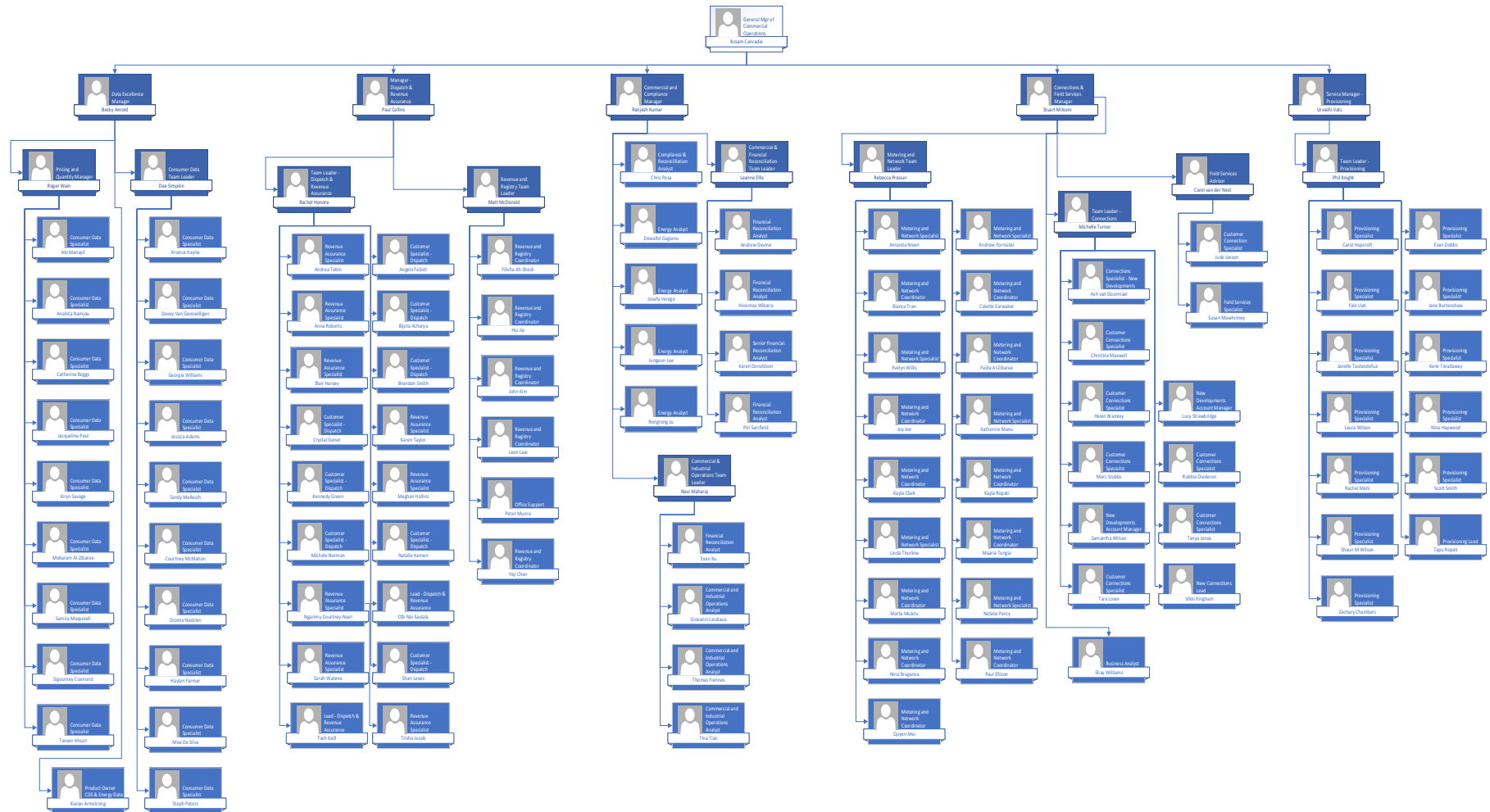
Section 11 of the Electricity Industry Act provides for the Electricity Authority to exempt any participant from compliance with all or any of the clauses.

Audit commentary

Mercury had an exemption to use the HHR profile for submission. This has now expired, and non-compliance is recorded in **sections 2.1** and **3.2** for the use of the HHR profile without an exemption.

1.2. Structure of Organisation

Mercury provided their current organisational structure:



1.3. Persons involved in this audit

Auditor:

Rebecca Elliot

Veritek Limited

Electricity Authority Approved Auditor

Other personnel assisting in this audit were:

| Name | Title | Company |
|---------------|--|------------------|
| Chris Posa | Compliance Reconciliation Analyst | Mercury NZ Ltd |
| Sarah Dark | Business Development Manager – Large Commercial | Mercury NZ Ltd |
| Jon Stevens | Projects Engineer | Power Solutions |
| Darryl Robson | Manager - <i>Transport Infrastructure Networks</i> | Rotorua Lakes DC |
| Reece Webber | Engineering Cadet | Rotorua Lakes DC |

1.4. Hardware and Software

Section 1.8 records that Roothing Asset and Maintenance Management database, commonly known as RAMM continues to be used the management of DUML. This is remotely hosted by thinkproject NZ Ltd. The specific module used for DUML is called “SLIMM” which stands for “Streetlighting Inventory Maintenance Management”.

Power Solutions confirmed that the database back-up is in accordance with standard industry procedures. Access to the database is secure by way of password protection.

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) |
|-----------------|------------------------------|---------|---------|-------------------------|--------------------------|
| 0000043653HR7F7 | STREETLIGHTING | ROT0331 | HHR | 1,562 | 62,315 |
| 0000043654HRA3D | Parks and Amenities | ROT0331 | HHR | 246 | 18,363 |
| 0000043656HRAB8 | STREETLIGHTING | OWH0111 | HHR | 758 | 22,433 |
| 0000043658HR923 | AMENITY P & R EASTSIDE | OWH0111 | HHR | 26 | 1,326 |
| 0000043660HRCCF | STREETLIGHTING - GXP TRK0111 | TRK0111 | HHR | 436 | 13,093 |
| 0000043661HR08A | AMENITY P & R NORTH | TRK0111 | HHR | 10 | 694 |
| 0000043663HR00F | STREETLIGHTING | WRK0331 | HHR | 14 | 708 |
| 0001264717UNC3A | STREETLIGHTING | ROT0111 | HHR | 2,359 | 97741 |
| 0001264718UN3E4 | AMENITY P & R ROTORUA | ROT0111 | HHR | 430 | 35,885 |
| TOTAL | | | | 5,842 | 25,2576 |

The Waka Kotahi lights are outside of the scope of this audit as they are no longer being reconciled by RLC. These are now reconciled by Waka Kotahi directly.

1.7. Authorisation Received

All information was provided directly by Mercury, RLC or Power Solutions.

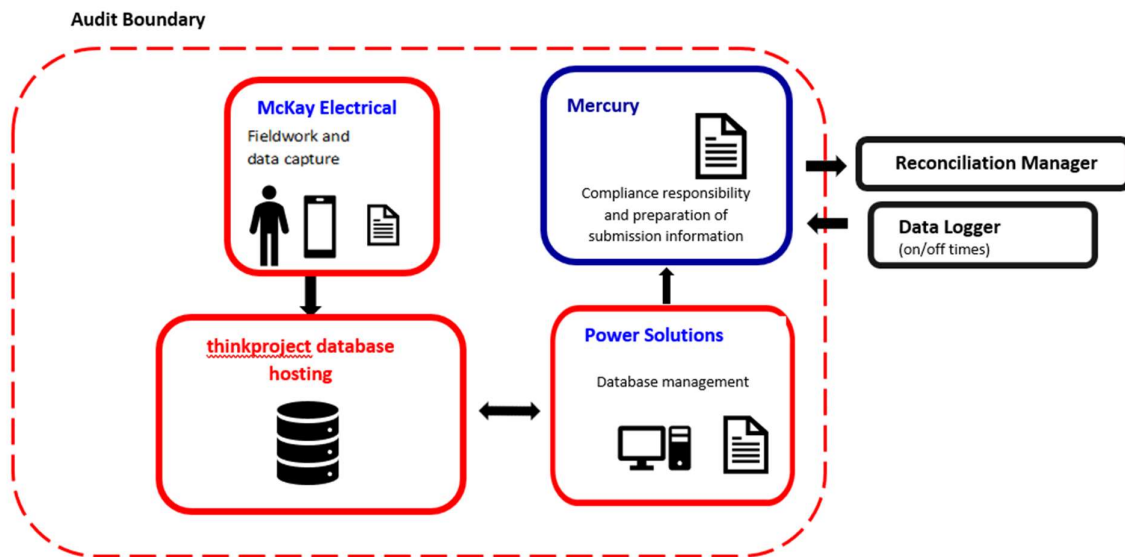
1.8. Scope of Audit

This audit of the Rotorua Lakes District Council Unmetered Streetlights (**RLC**) DUML database and processes was conducted at the request of Mercury Energy Limited (**Mercury**), 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 NZ Ltd. The field contracts are managed by WSP. McKay Electrical carry out the maintenance field work. LED lights are being installed in new areas and as a result of maintenance. The field work is captured using Pocket RAMM. Power Solutions manage the database reporting on behalf of the RLC and they provide reporting to Mercury on a monthly basis.

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 at the time of the site audit.



The field audit was undertaken of a statistical sample of 304 items of load on 29 July 2024.

1.9. Summary of previous audit

The last audit report undertaken by Steve Woods of Veritek Limited in February 2023 was reviewed. This found five non-compliances and made no recommendations. The current status compliance against the relevant clause identified in that audit are detailed below:

Table of Non-Compliance

| Subject | Section | Clause | Non-compliance | Status |
|---------------------------------|---------|---------------------------|--|----------------|
| Deriving submission information | 2.1 | 11(1) of Schedule 15.3 | The field audit identified potential under submission of 2,400 kWh per annum due to 16 discrepancies. | Cleared |
| | | | Mercury uses a snapshot at the end of the month for submission purposes, which does not cater for the actual installation or change dates. | Still existing |
| | | | Over submission of 1,691 kWh due to festive lighting being in the database all year. | Cleared |
| Location of each item of load | 2.3 | 11(2)(b) of Schedule 15.3 | One item of load with insufficient location details recorded. | Still existing |
| All load recorded in database | 2.5 | 11(2A) of Schedule 15.3 | Six additional items of load found in the field. | Cleared |

| Subject | Section | Clause | Non-compliance | Status |
|-----------------------------|---------|--------------------|--|---|
| Database accuracy | 3.1 | 15.2 and 15.37B(b) | <p>The field audit identified potential under submission of 2,400 kWh per annum due to 16 discrepancies.</p> <p>Discrepancies from the previous audit not corrected.</p> <p>Over submission of 1,691 kWh due to festive lighting being in the database all year.</p> | <p>Cleared</p> <p>Still existing</p> <p>Cleared</p> |
| Volume information accuracy | 3.2 | 15.2 and 15.37B(c) | <p>The field audit identified potential under submission of 2,400 kWh per annum due to 16 discrepancies.</p> <p>Mercury uses a snapshot at the end of the month for submission purposes, which does not cater for the actual installation or change dates.</p> <p>Over submission of 1,691 kWh due to festive lighting being in the database all year.</p> | <p>Cleared</p> <p>Still existing</p> <p>Cleared</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

Mercury 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 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

Mercury reconciles this DUML load using the HHR profile. Mercury used exemption 233 that allowed them to provide non-half-hour (“NHH”) submission information instead of half-hour (“HHR”) submission information for distributed unmetered load (“DUML”). This exemption expired on 31 October 2023 and Mercury is in the process for applying for a new exemption. The use of the HHR profile is recorded as non-compliance.

I reviewed the submission information for June 2024 and confirmed that it the calculation methodology was correct. The logger information was correctly applied.

I found some light count differences between the monthly wattage report and the database extract:

| ICP | Lamp count database extract | Lamp count monthly wattage report | Difference |
|-----------------------|-----------------------------|-----------------------------------|------------|
| 0000043653HR7F7 | 1564 | 1,541 | 23 |
| 0000043654HRA3D | 246 | 269 | -23 |
| 0000043656HRAB8 | 758 | 757 | 1 |
| 0000043658HR923 | 26 | 27 | -1 |
| 0001264717UNC3A | 2357 | 2,341 | 16 |
| 0001264718UN3E4 | 430 | 446 | -16 |
| Database total | 5,841 | 5,841 | 0 |

The 40 items of load are due to two lights being on the same pole belonging to two different parts of the council. The ICP is applied at pole level in RAMM and not light level. To ensure the correct part of council is billed, the lights are manually separated in the monthly wattage report. This is technically non-compliant and has no impact on reconciliation

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

On 18 June 2019, the Electricity Authority issued a memo clarifying the memo of 2012 that stated that a monthly snapshot was sufficient to calculate submission from, and confirmed 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 monthly report includes all changes made during a month. Mercury is working to determine how this information will be used to calculate wattage at a daily level but has not yet updated their processes to be compliant with the Authority's memo.

Audit outcome

Non-compliant

| Non-compliance | Description | | |
|---|---|------------------------------|------------------------|
| <p>Audit Ref: 2.1</p> <p>With: Clause 11(1) of Schedule 15.3</p> <p>From: 22-Dec-22</p> <p>To: 30-Jun-24</p> | <p>HHR profile used without an exemption.</p> <p>40 items of load reconciled against a different ICP from that recorded in the database.</p> <p>The monthly wattage report is used as a snapshot and does not take into account changes made during the month.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p> | | |
| Audit risk rating | Rationale for audit risk rating | | |
| <p>Low</p> | <p>The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement.</p> <p>The audit risk rating is assessed as low as the issues raised have only a minor effect on reconciliation.</p> | | |
| Actions taken to resolve the issue | | Completion date | Remedial action status |
| <p>We are in the process of drafting applications for DUML profiles that allow us to submit as HHR, we will submit to the EA as soon as possible.</p> <p>Power Solutions, who manage the database for RLDC, notes that “The 40 lights are recorded against the correct ICP in the wattage report. These lights are ones where we have 2 lights on a single pole, each with a different owner, in this case parks and council road lighting. As ever with RAMM, we can’t record 2 different ICP numbers on the pole record, so we must manually separate these and allocate the wattage to the correct ICP based on the light owner.”</p> <p>We are focusing on resolving the ‘snapshot’ issue in general and are having internal discussions before liaising with customers to provide any direction.</p> | | <p>August/September 2024</p> | <p>Identified</p> |
| Preventative actions taken to ensure no further issues will occur | | Completion date | |
| <p>We are focused on resolving DUML non-compliances.</p> | | <p>Ongoing</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

All items of load have an ICP recorded.

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 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, pole numbers and Global Positioning System (GPS) coordinates for all but two items of load. These both have a road name but no street number or RPS from the end of the road. These have been passed to RLC to update. This is recorded as non-compliance.

Audit outcome

Non-compliant

| Non-compliance | Description | | |
|---|--|-----------------------|------------------------|
| Audit Ref: 2.3 With: 11(2)(b) of schedule 15.3 From: 22-Dec-22 To: 30-Jun-24 | Two items of load with insufficient location details recorded. Potential impact: Low Actual impact: None Audit history: Three times previously Controls: Strong Breach risk rating: 1 | | |
| Audit risk rating | Rationale for audit risk rating | | |
| Low | The controls are rated as strong as processes in place mitigate this risk to an acceptable level. The audit risk rating is low this affected only two items of load and has no direct impact on reconciliation. | | |
| Actions taken to resolve the issue | | Completion date | Remedial action status |
| RLDC and Power Solutions are aware and will be making the necessary corrections. | | August/September 2024 | Identified |
| Preventative actions taken to ensure no further issues will occur | | Completion date | |
| We will continue to liaise with RLDC and Power Solutions to ensure database accuracy. | | Ongoing | |

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 DUML 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 fields for wattage, firstly the manufacturers rated wattage and secondly the "ballast wattage". All items of load had values populated. The accuracy of these 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 304 items of load on 29 July 2024.

Audit commentary

The field audit discrepancies are detailed in the table below. The detailed results were provided in a spreadsheet.

| Discrepancy | Quantity |
|--|----------|
| Additional lights in the field not in the database | 0 |
| Lights in the database not in the field | 0 |
| Incorrect wattage | 6 |

No additional lights were found in the field. The accuracy of the database is discussed in **section 3.1**.

Audit outcome

Compliant

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

Code reference

Clause 11(3) of schedule 15.3

Code related audit information

The DUML 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 database functionality achieves compliance with the code.

The change management process and the compliance of the database reporting provided to Mercury is detailed in **sections 3.1** and **3.2**.

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 | Rotorua Lakes region |
| Strata | The database contains items of load in Rotorua Lakes area excluding the Waka Kotahi lights. The processes for the management of RLC items of load are the same, but I decided to place the items of load into three strata, as follows: <ul style="list-style-type: none"> • road names A-G, • road names H-O, and • road names P-Y. |
| 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 71 subunits. |
| Total items of load | 304 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 304 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 | 99.2 | Wattage from survey is 0.1% higher than that recorded in the database |
| R _L | 97.9 | With a 95% level of confidence, it can be concluded that the error could be between -0.1% and -2.1% |
| R _H | 99.9 | |

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 A (detailed below) applies.

The conclusion from Scenario A is that the variability of the sample results across the strata means that the true wattage (installed in the field) could be between 0.1% and 2.1% lower than the wattage recorded in the DUML database. Compliance is confirmed as the database is within the +/-5% threshold.

In absolute terms the installed capacity is estimated to be 2.0 kW higher than the database indicates.

There is a 95% level of confidence that the installed capacity is between 6 kW and 27 kW lower than the database.

In absolute terms, total annual consumption is estimated to be 8,300 kWh higher than the DUML database indicates.

| Scenario | Description |
|--|---|
| A - Good accuracy, good precision | <p>This scenario applies if:</p> <p>(a) R_H is less than 1.05; and</p> <p>(b) R_L is greater than 0.95</p> <p>The conclusion from this scenario is that:</p> <p>(a) the best available estimate indicates that the database is accurate within +/- 5 %; and</p> <p>(b) this is the best outcome.</p> |
| B - Poor accuracy, demonstrated with statistical significance | <p>This scenario applies if:</p> <p>(a) the point estimate of R is less than 0.95 or greater than 1.05</p> <p>(b) as a result, either R_L is less than 0.95 or R_H is greater than 1.05.</p> <p>There is evidence to support this finding. In statistical terms, the inaccuracy is statistically significant at the 95% level</p> |
| C - Poor precision | <p>This scenario applies if:</p> <p>(a) the point estimate of R is between 0.95 and 1.05</p> <p>(b) R_L is less than 0.95 and/or R_H is greater than 1.05</p> <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> |

Previous audit results

I checked the database to confirm that the discrepancies from the previous two audits have been corrected:

- eight of the 14 discrepancies found in 2022 belong to Waka Kotahi and are no longer in the scope of this audit; of the remaining six discrepancies, four are still to be corrected,
- five of the 16 discrepancies found in 2023 belong to Waka Kotahi and are no longer in the scope of this audit; of the remaining 11 discrepancies recorded:
 - three were confirmed not to be part of the RLC load and are connected to the building supply,
 - four have been corrected, and
 - four are still to be corrected.

These have been provided to Mercury and RLC to correct.

Light description and capacity accuracy

These were checked and found all lights descriptions, wattages and ballasts to be correct. There were a small number of lights that would benefit from more detailed descriptions.

Change Management

New lamp connections are captured in RAMM as soon as the “as-builts” are received by the council. RLC liaises with Unison to liven the lights. Livening dates are being provided and these are captured in the database. Whilst dates are recorded in the database, Mercury uses a snapshot at the end of the month for submission purposes. This is recorded as non-compliance in **sections 2.1** and **3.2**.

Outage patrols occur on a rolling weekly basis and part of this process is to check the accuracy of the database. This is effectively a “rolling” database audit.

The processes were reviewed for ensuring that changes in the field are notified through to Power Solutions. All field data is entered directly into a PDA that then automatically populates the database. WSP carry out a 10% spot audit to confirm claims for work done are correctly carried out and all the relevant information is captured.

The database contains 16 festive lights. These are only recorded when they are connected.

Audit outcome

Non-compliant

| Non-compliance | Description | |
|---|---|------------------------|
| Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: 22-Dec-22 To: 30-Jun-24 | Discrepancies from the previous audit not corrected. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2 | |
| Audit risk rating | Rationale for audit risk rating | |
| Low | The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement is minor; therefore, the audit risk rating is low. | |
| Actions taken to resolve the issue | Completion date | Remedial action status |
| RLDC and Power Solutions are aware and will be making the necessary corrections. | August/September 2024 | Identified |
| Preventative actions taken to ensure no further issues will occur | Completion date | |
| We will continue to liaise with RLDC and Power Solutions to ensure database accuracy. | Ongoing | |

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

Mercury reconciles this DUML load using the HHR profile. Mercury used exemption 233 that allowed them to provide non-half-hour (“NHH”) submission information instead of half-hour (“HHR”) submission information for distributed unmetered load (“DUML”). This exemption expired on 31 October 2023 and Mercury is in the process for applying for a new exemption. The use of the HHR profile is recorded as non-compliance.

I reviewed the submission information for June 2024 and confirmed that it the calculation methodology was correct. The logger information was correctly applied.

I found some light count differences between the monthly wattage report and the database extract:

| ICP | Lamp count database extract | Lamp count monthly wattage report | Difference |
|-----------------------|-----------------------------|-----------------------------------|------------|
| 0000043653HR7F7 | 1564 | 1,541 | 23 |
| 0000043654HRA3D | 246 | 269 | -23 |
| 0000043656HRAB8 | 758 | 757 | 1 |
| 0000043658HR923 | 26 | 27 | -1 |
| 0001264717UNC3A | 2357 | 2,341 | 16 |
| 0001264718UN3E4 | 430 | 446 | -16 |
| Database total | 5,841 | 5,841 | 0 |

The 40 items of load are due to two lights being on the same pole belonging to two different parts of the council. The ICP is applied at pole level in RAMM and not light level. To ensure the correct part of council is billed, the lights are manually separated in the monthly wattage report. This is technically non-compliant and has no impact on reconciliation

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

On 18 June 2019, the Electricity Authority issued a memo clarifying the memo of 2012 that stated that a monthly snapshot was sufficient to calculate submission from, and confirmed 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 monthly report includes all changes made during a month. Mercury is working to determine how this information will be used to calculate wattage at a daily level but has not yet updated their processes to be compliant with the Authority's memo.

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: 22-Dec-22</p> <p>To: 30-Jun-24</p> | <p>HHR profile used without an exemption.</p> <p>40 items of load reconciled against a different ICP from that recorded in the database.</p> <p>The monthly wattage report is used as a snapshot and does not take into account changes made during the month.</p> <p>Potential impact: Medium</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p> | | |
| Audit risk rating | Rationale for audit risk rating | | |
| <p>Low</p> | <p>The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement.</p> <p>The audit risk rating is assessed as low as the issues raised have only a minor effect on reconciliation.</p> | | |
| Actions taken to resolve the issue | | Completion date | Remedial action status |
| <p>We are in the process of drafting applications for DUML profiles that allow us to submit as HHR, we will submit to the EA as soon as possible.</p> <p>Power Solutions, who manage the database for RLDC, notes that “The 40 lights are recorded against the correct ICP in the wattage report. These lights are ones where we have 2 lights on a single pole, each with a different owner, in this case parks and council road lighting. As ever with RAMM, we can’t record 2 different ICP numbers on the pole record, so we must manually separate these and allocate the wattage to the correct ICP based on the light owner.”</p> <p>We are focusing on resolving the ‘snapshot’ issue in general and are having internal discussions before liaising with customers to provide any direction.</p> | | <p>August/September 2024</p> | <p>Identified</p> |
| Preventative actions taken to ensure no further issues will occur | | Completion date | |
| <p>We are focused on resolving DUML non-compliances.</p> | | <p>Ongoing</p> | |

CONCLUSION

The RLC DUML volume is reconciled as HHR. Mercury had an exemption to use the HHR profile for submission. This has now expired, and non-compliance is recorded in **sections 2.1** and **3.2**. The installations consist of an approved and certified data logger (to record on and off times) and a database from which the volume is derived.

The field audit confirmed that the database is within the allowable +/-% threshold. The database has a high level of accuracy and the processes in place to manage it are generally robust.

On 18 June 2019, the Electricity Authority issued a memo clarifying the memo of 2012 that stated that a monthly snapshot was sufficient to calculate submission from, and confirmed 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 monthly report is provided as a snapshot and is non-compliant.

Four non-compliances were identified, and no recommendations were raised. The future risk rating of seven indicates that the next audit be completed in 18 months. I have considered this in conjunction with Mercury's comments and the database high level of accuracy and recommend that the next audit is in 24 months.

PARTICIPANT RESPONSE

Thank you to Rebecca for her work and support on this audit.