ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

VERITEK

For

CARTERTON DISTRICT COUNCIL AND MERCURY ENERGY LIMITED

NZBN: 9429037705305

Prepared by: Tara Gannon

Date audit commenced: 8 March 2023

Date audit report completed: 21 May 2023

Audit report due date: 1 June 2023

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EXECUTIVE SUMMARY

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

A RAMM database is held by CDC. **Power Services Wairarapa (PSW)** are responsible for all field work including new connections, removals, repairs, and maintenance. Fulton Hogan inspect the work completed by PSW and provide support as necessary. PSW update RAMM using a PC at Fulton Hogan's office in Masterton, because they do not have access to update RAMM remotely. PSW normally enters the data into RAMM soon after the changes occur, and applies the date of the change. The field audit of a statistical sample of 102 items of load making up 11% of the database found 100% accuracy.

Mercury reconciles the CDC DUML load using the HHR profile in accordance with exemption 233. This exemption expires on 31 October 2023, and Mercury is planning to request an extension and if that is unsuccessful will apply for a new profile. Wattages are derived from the monthly database extracts provided by CDC, and on and off times are derived from data logger information.

Mercury is able to produce submissions with different kW values for different days (including to account for festive lights when connected) and produces revision submissions where required. The monthly report is provided as a snapshot reflecting the current details for each light on the day the report is generated, but CDC supplies dates that festive lights are connected, so that they can be correctly included in submission data for the days they are connected. For any other lights which have changes during a month, only the current value when the extract is run is provided in the extract and included in submissions.

As recorded in the previous audit, Waka Kotahi lights in the Carterton district have historically been submitted by both Waka Kotahi's trader and Mercury Energy resulting in estimated annual over submission of 56,394 kWh per annum. I confirmed that the Waka Kotahi lights were excluded from submission information for January 2023. The previous audit found that the September 2022 submission data included 4,950 kWh for Waka Kotahi lights, and review of the latest revision submission confirmed that there had been no change to the volume reported. The Waka Kotahi lights need to be excluded from CDC revision submissions from June 2021 onwards, and corrected revision submissions need to be provided.

Two non-compliances were identified relating to over submission for Waka Kotahi lights, and the database extract being provided as a monthly snapshot. No recommendations were made. The future risk rating of 18 indicates that the next audit be completed in six months. I have considered this in conjunction with Mercury's comments and recommend that the next audit be completed in 12 months because:

- the Waka Kotahi lights have been excluded from submission information from at least January 2023, and Mercury will complete revision submissions to remove these lights from earlier submissions, and
- the database was found to be accurate during the database accuracy review and field audit.

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	Waka Kotahi lights in the Carterton district have historically been submitted by both Waka Kotahi's trader and Mercury Energy resulting in estimated annual over submission of 56,394 kWh per annum. The Waka Kotahi lights need to be excluded from revision submissions from June 2021 onwards, and corrected revision submissions need to be provided. The monthly database extract is provided as a snapshot.	Weak	High	9	Identified
Volume information accuracy	3.2	15.2 and 15.37B(c)	Waka Kotahi lights in the Carterton district have historically been submitted by both Waka Kotahi's trader and Mercury Energy resulting in estimated annual over submission of 56,394 kWh per annum. The Waka Kotahi lights need to be excluded from revision submissions from June 2021 onwards, and corrected revision submissions need to be provided. The monthly database extract is provided as a snapshot.	Weak	High	9	Identified
Future Risk Rating						18	

Future risk rating	0	1-4	5-8	9-15	16-18	19+
Indicative audit frequency	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

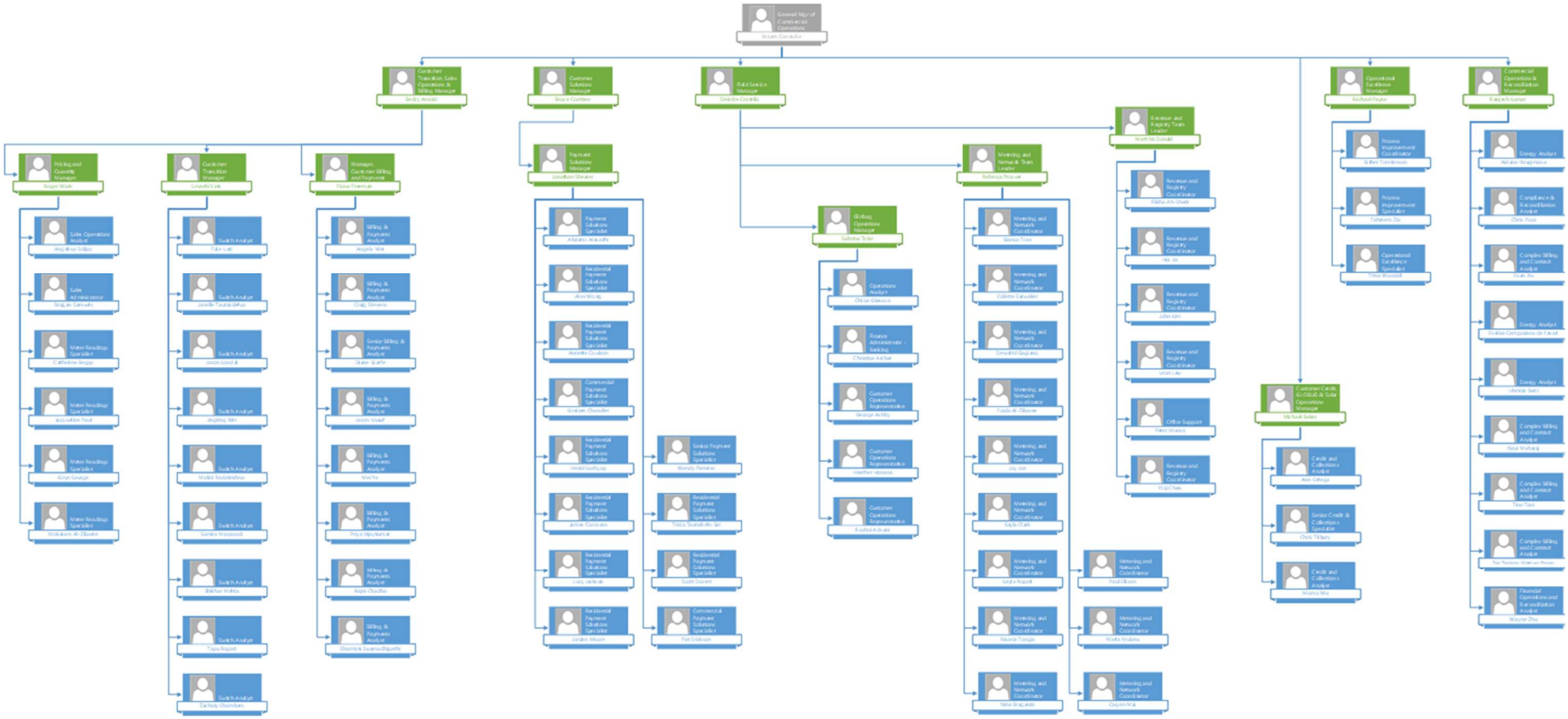
Current code exemptions were reviewed on the Electricity Authority website.

Audit commentary

Mercury has been granted exemption No. 233. This allows them to provide half-hour ("HHR") submission information instead of non-half-hour ("NHH") submission information for distributed unmetered load ("DUML"). This exemption expires on 31 October 2023, and Mercury is planning to request an extension and if that is unsuccessful will apply for a new profile.

1.2. Structure of Organisation

Mercury provided their current organisational structure:



1.3. Persons involved in this audit

Auditor:

Tara Gannon

Veritek Limited

Electricity Authority Approved Auditor

Other personnel assisting in this audit were:

Name	Title	Company
Chris Posa	Compliance Reconciliation Analyst	Mercury Energy
Rajneel Mali	Roading Asset Coordinator	Ruamahanga Roads - A joint roading venture with Carterton and South Wairarapa District Councils

1.4. Hardware and Software

RAMM

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

Thinkproject New Zealand Ltd backs up the database and assists with disaster recovery as part of their hosting service. Nightly backups are performed. As a minimum, daily backups are retained for the previous five working days, weekly backups are retained for the previous four weeks, and monthly backups are retained for the previous six months.

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

Mercury systems

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)
0020903000WRADA	CDC Streetlights MST0331	MST0331	HHR	657	28,687
Blank	-	-	-	4	0
Total				661	28,687

Blank ICP numbers

Four items of load owned by Amenity and Accessway on Main Road Urban North (pole IDs 809-812) have a blank ICP number and blank lamp make, lamp wattage and gear wattage. CDC confirmed that these were under verandah lights attached to a building and were disconnected following a fire on 7 October 2021. The building has since been demolished. The lights were left in the database in case a rebuild occurred and lights were reinstalled, but CDC now intends to remove these from the database completely.

1.7. Authorisation Received

All information was provided directly by Mercury and CDC.

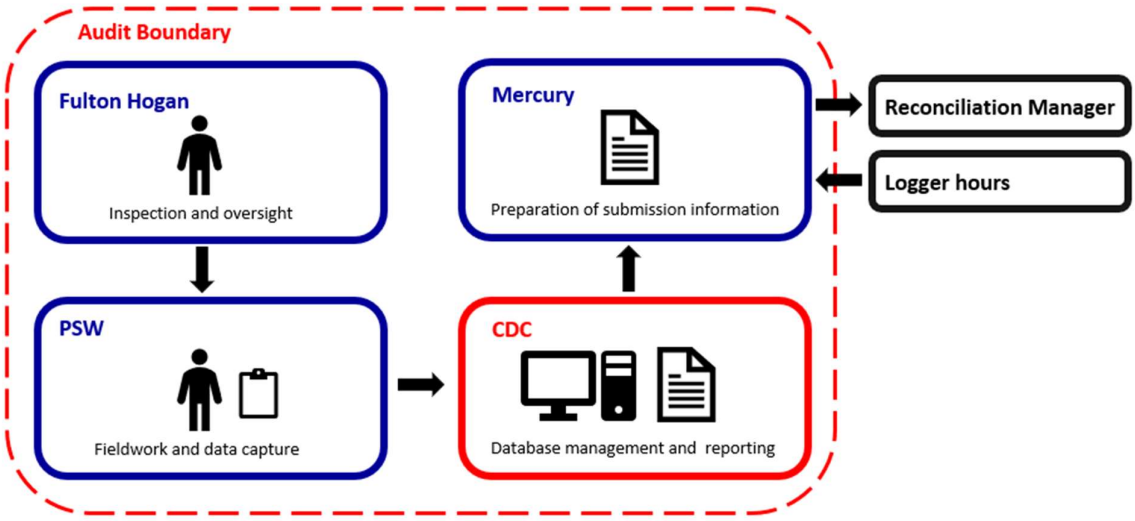
1.8. Scope of Audit

This audit of the CDC DUML database and processes was conducted at the request of 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.

A RAMM database is held by CDC. PSW are responsible for all field work including new connections, removals, repairs, and maintenance. Fulton Hogan inspect the work completed by PSW and provide support as necessary. PSW update RAMM using a PC at Fulton Hogan's office in Masterton, because they do not have access to update RAMM remotely. PSW normally enters the data into RAMM soon after the changes occur.

Mercury reconciles this DUML load using the HHR profile in accordance with exemption 233. This exemption expires on 31 October 2023, and Mercury is planning to request an extension and if that is unsuccessful will apply for a new profile. CDC provides a monthly report from the database to Mercury, which is used to determine wattages. On hours are derived using data logger information.

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 102 items of load on 29 April 2023.

1.9. Summary of previous audit

The previous audit of this database was undertaken by Bernie Cross of Veritek Limited in November 2022. The summary table below shows the statuses of the non-compliances raised in the previous audit. Further comment is made in the relevant sections of this report.

Subject	Section	Clause	Non-compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	Database assessed as having poor precision therefore the potential error is greater than 5.0% resulting in an estimated over submission of 2,200 kWh per annum. Mercury's calculation of submission volumes includes Waka Kotahi lights that are also included in the Waka Kotahi Lower North Island DUML database resulting in an over submission of 4,950 kWh for September 2022 and an assessed annual over submission of 56,394 kWh. The database contains some inaccurate data. • 31 items of load do not have an ICP number recorded; the impact is accessed as 3.234 kWh per annum using an annual hours value of 4,271 hours, and • five lights have a blank lamp model with a zero lamp and blank gear wattage recorded. The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot.	Still existing Still existing for some months Cleared Cleared Still existing
ICP identifier and items of load	2.2	11(2)(a) and (aa) of Schedule 15.3	31 items of load do not have an ICP number recorded.	Cleared
Description and capacity of load	2.4	11(2)(c) and (d) of Schedule 15.3	Five items of load with a blank ICP number have no lamp model, lamp wattage or gear wattage recorded in the database.	Cleared

Subject	Section	Clause	Non-compliance	Status
All load recorded in database	2.5	11(2A) of Schedule 15.3	Seven items of load not recorded in the database of the sample of 146 items of load checked.	Cleared.
Audit trail	2.7	11(4) of Schedule 15.3	Where manual changes to the database extract occur to populate missing information or make updates to wattage values, an audit trail is not created.	Cleared
Database accuracy	3.1	15.2 and 15.37B(b)	Database assessed as having poor precision therefore the potential error is greater than 5.0% resulting in an estimated over submission of 2,200 kWh per annum. Mercury's calculation of submission volumes includes Waka Kotahi lights that are also included in the Waka Kotahi Lower North Island DUML database resulting in an over submission of 4,950 kWh for September 2022 and an assessed annual over submission of 56,394 kWh. The database contains some inaccurate data. • 31 items of load do not have an ICP number recorded; the impact is accessed as 3,234 kWh per annum using an annual hours value of 4,271 hours, and • five lights have a blank lamp model with a zero lamp and blank gear wattage recorded. The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot.	Still existing Still existing for some months Cleared Cleared Still existing
Volume information accuracy	3.2	15.2 and 15.37B(c)	Database assessed as having poor precision therefore the potential error is greater than 5.0% resulting in an estimated over submission of 2,200 kWh per annum. Mercury's calculation of submission volumes includes Waka Kotahi lights that are also included in the Waka Kotahi Lower North Island DUML database resulting in an over submission of 4,950 kWh for September 2022 and an assessed annual over submission of 56,394 kWh. The database contains some inaccurate data. • 31 items of load do not have an ICP number recorded; the impact is accessed as 3,234 kWh per annum using an annual hours value of 4,271 hours, and • five lights have a blank lamp model with a zero lamp and blank gear wattage recorded. The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot.	Still existing Still existing for some months Cleared Cleared Still existing

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

Code reference

Clause 16A.26 and 17.295F

Code related audit information

Retailers must ensure that DUML database audits are completed:

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

Audit observation

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 in accordance with exemption 233. Wattages are derived from an extract provided each month by CDC. On and off times are derived from a data logger.

I reviewed the submission information and confirmed that the calculation methodology was correct, and that wattages are based on the database extract totals and on hours are based on data logger information.

The kW applied for January 2023 were estimated because a database extract was not received in time for the initial submission. I confirmed that a database extract was received after the initial submission and was used to calculate revised kWh to be washed up. The revised submission information included the correct daily kWh for each day, taking into account whether festive lights were connected.

As recorded in the previous audit, Waka Kotahi lights in the Carterton district have historically been submitted by both Waka Kotahi's trader and Mercury Energy resulting in estimated annual over submission of 56,394 kWh per annum. I confirmed that the Waka Kotahi lights were excluded from submission information for January 2023. The previous audit found that the September 2022 submission data included 4,950 kWh for Waka Kotahi lights, and review of the latest revision submission confirmed that there had been no change to the volume reported. The Waka Kotahi lights need to be excluded from revision submissions from June 2021 onwards, and corrected revision submissions need to be provided.

No volume inaccuracy was identified in the database.

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.

Mercury is able to produce submissions with different kW values for different days (including to account for festive lights when connected) and produces revision submissions where required. The monthly report is provided as a snapshot reflecting the current details for each light on the day the report is generated, but CDC supplies dates that festive lights are connected, so that they can be correctly included in submission data for the days they are connected. For any other lights which have changes during a month, only the current value when the extract is run is provided in the extract and included in submissions.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: 01-Jun-21 To: 29-Apr-23	Waka Kotahi lights in the Carterton district have historically been submitted by both Waka Kotahi's trader and Mercury Energy resulting in estimated annual over submission of 56,394 kWh per annum. The Waka Kotahi lights need to be excluded from revision submissions from June 2021 onwards, and corrected revision submissions need to be provided. The monthly database extract is provided as a snapshot. Potential impact: High Actual impact: High Audit history: Three times Controls: Moderate Breach risk rating: 6
Audit risk rating	**Rationale for audit risk rating**
High	Controls are rated as weak because although submission information from at least January 2023 excludes the Waka Kotahi lights, these lights have been included in historic submissions after removal to a separate database and revisions have not been provided. The impact is assessed to be high because of the inclusion in the submission volumes of Waka Kotahi lights resulting in double submission of this load.

Actions taken to resolve the issue	Completion date	Remedial action status
The data received since January 2023 has excluded the Waka Kotahi lights, we will liaise with Carterton DC to receive amended data for the period prior to that so that we can wash up.	July 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above.	N/A	

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 connected items of load that CDC is responsible for have a valid ICP number recorded in the database.

Four items of load owned by Amenity and Accessway on Main Road Urban North (pole IDs 809-812) have a blank ICP number and blank lamp make, lamp wattage and gear wattage. CDC confirmed that these were under verandah lights attached to a building and were disconnected following a fire on 7 October 2021. The building has since been demolished. The lights were left in the database in case a rebuild occurred and lights were reinstalled, but CDC now intends to remove these from the database completely.

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 fields for the road name, displacement, pole number and GPS coordinates. The items of load without GPS coordinates have a road name and displacement recorded and are locatable. No inaccurate addresses were identified.

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 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 light type and wattage capacity,
- wattage capacities include any ballast or gear wattage, and

- each item of load has a light type, light wattage, and gear wattage recorded.

Audit commentary

A description of each light is recorded in the lamp model field, and wattages are recorded in the lamp wattage and gear wattage fields.

All items of load connected to DUML ICP 0020903000WRADA have a valid lamp and gear model description, and a non zero lamp wattage and a valid gear wattage.

As discussed in **section 2.2**, four disconnected and demolished items of load owned by Amenity and Accessway on Main Road Urban North (pole IDs 809-812) have a blank lamp make, lamp wattage and gear wattage. CDC intends to remove these from the database completely.

No inaccurate lamp information was identified.

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 102 items of load on 29 April 2023. The sample was selected from two strata, as follows:

- road names A to Main Road Rural, and
- road names Main Road Urban to Z.

Audit commentary

The field audit of a statistical sample of 102 items of load making up 11% of the database found 100% accuracy.

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

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

Audit observation

The database was checked for audit trails.

Audit commentary

The database has a complete audit trail for when lights are added or replaced.

The previous audit recorded that manual changes were made to the RAMM extract to add missing ICP numbers and correct lamp wattage information. The missing and incorrect information has now been updated in RAMM and the raw data is not amended before being sent.

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

Mercury's submissions are based on a monthly extract from the RAMM database. A database extract was provided in April 2023, 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	Carterton DC streetlights
Strata	The database contains 657 items of load in the Carterton DC region. The management process is the same for all lights. I created two strata: • road names A to Main Road Rural, and • road names Main Road Urban to Z.
Area units	I created a pivot table of the roads, and I used a random number generator in a spreadsheet to select a total of 13 sub-units.
Total items of load	102 items of load were checked, making up 11% of the database wattage.

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

The field audit of a statistical sample of 102 items of load making up 11% of the database found 100% accuracy.

Light description and capacity accuracy

As discussed in **section 2.4**, all items of load connected to DUML ICP 0020903000WRADA have a valid lamp and gear model description, and a non-zero lamp wattage and a valid gear wattage.

Four disconnected and demolished items of load owned by Amenity and Accessway on Main Road Urban North (pole IDs 809-812) have a blank lamp make, lamp wattage and gear wattage. CDC intends to remove these from the database completely.

Lamp and gear wattages for all other lamps were compared to the expected values for ICP 0020903000WRADA, and no exceptions were identified.

ICP number accuracy

All DUML load is connected to ICP 0020903000WRADA. Four disconnected and demolished items of load owned by Amenity and Accessway on Main Road Urban North (pole IDs 809-812) have a blank lamp ICP number, and CDC intends to remove these from the database completely.

Address location accuracy

As discussed in **section 2.3**, all lights have an address recorded, and I did not identify any inaccurate addresses.

Change management process findings

PSW are responsible for all field work including new connections, removals, repairs, and maintenance. Fulton Hogan inspect the work completed by PSW and provide support as necessary. PSW update RAMM using a PC at Fulton Hogan's office in Masterton, because they do not have access to update RAMM remotely.

For new connections, CDC is only responsible once the subdivision is "vested" in council. Developers install the lights and provide "as built" plans and request a section 224 subdivision certification. Once the roading team receives the light details as part of this process they are updated in RAMM. The roading team has asked developers not to liven the lights until this process is complete, and staff periodically check pending new connections at night to determine whether they have been connected early. Most new subdivisions in the region are rural and do not have streetlights, and it is estimated that two or three new subdivisions are connected per annum.

516 (79.8%) of the 657 lights recorded against the DUML ICP are LEDs. The other 141 lights are made up of 98 fluorescent, high pressure sodium, or metal halide lights for amenities, parks, or community housing and 43 high pressure sodium, or metal halide lights for roading.

Outage patrols are conducted every four months by Fulton Hogan. Outages are also reported by residents within the CDC region and work orders are raised with PSW as required.

Festive lights

11 festive lights are recorded in the database against ICP 0020903000WRADA. They are attached to existing streetlight poles each festive season on instruction from the CDC parks team. They are switched on and off by PSW, and the festive light wattages, connection and disconnection dates are added to the database extract provided to Mercury during months where the festive lights are connected.

Private lights

To the best of CDC's knowledge, all unmetered streetlights are recorded in the database. Some lights recorded in the database are owned by private organisations such as Salvation Army housing and are included in extracts and submissions.

Audit outcome

Compliant

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 on hours against the submitted figure to confirm accuracy.

Audit commentary

Mercury reconciles this DUML load using the HHR profile in accordance with exemption 233, and the correct profiles are recorded on the registry. Wattages are derived from an extract provided each month by CDC. On and off times are derived from a data logger.

I reviewed the submission information and confirmed that the calculation methodology was correct, and that wattages are based on the database extract totals and on hours are based on data logger information.

The kW applied for January 2023 were estimated because a database extract was not received in time for the initial submission. I confirmed that a database extract was received after the initial submission and was used to calculate revised kWh to be washed up. The revised submission information included the correct daily kWh for each day, taking into account whether festive lights were connected.

As recorded in the previous audit, Waka Kotahi lights in the Carterton district have historically been submitted by both Waka Kotahi's trader and Mercury Energy resulting in estimated annual over submission of 56,394 kWh per annum. I confirmed that the Waka Kotahi lights were excluded from submission information for January 2023. The previous audit found that the September 2022 submission data included 4,950 kWh for Waka Kotahi lights, and review of the latest revision submission confirmed that there had been no change to the volume reported. The Waka Kotahi lights need to be excluded from revision submissions from June 2021 onwards, and corrected revision submissions need to be provided.

No volume inaccuracy was identified in the database.

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.

Mercury is able to produce submissions with different kW values for different days (including to account for festive lights when connected) and produces revision submissions where required. The monthly report is provided as a snapshot reflecting the current details for each light on the day the report is generated, but CDC supplies dates that festive lights are connected, so that they can be correctly included in submission data for the days they are connected. For any other lights which have changes during a month, only the current value when the extract is run is provided in the extract and included in submissions.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c) From: 01-Jun-21 To: 29-Apr-23	Waka Kotahi lights in the Carterton district have historically been submitted by both Waka Kotahi's trader and Mercury Energy resulting in estimated annual over submission of 56,394 kWh per annum. The Waka Kotahi lights need to be excluded from revision submissions from June 2021 onwards, and corrected revision submissions need to be provided. The monthly database extract is provided as a snapshot. Potential impact: High Actual impact: High Audit history: Three times Controls: Weak Breach risk rating: 9
Audit risk rating	**Rationale for audit risk rating**
High	Controls are rated as weak because although submission information from at least January 2023 excludes the Waka Kotahi lights, these lights have been included in historic submissions after removal to a separate database and revisions have not been provided. The impact is assessed to be high because of the inclusion in the submission volumes of Waka Kotahi lights resulting in double submission of this load.

Actions taken to resolve the issue	Completion date	Remedial action status
The data received since January 2023 has excluded the Waka Kotahi lights, we will liaise with Carterton DC to receive amended data for the period prior to that so that we can wash up.	July 2023	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As above.	N/A	

CONCLUSION

The field audit of a statistical sample of 102 items of load making up 11% of the database found 100% accuracy.

Mercury reconciles the CDC DUML load using the HHR profile in accordance with exemption 233. Mercury is able to produce submissions with different kW values for different days (including to account for festive lights when connected) and produces revision submissions where required. The monthly report is provided as a snapshot reflecting the current details for each light on the day the report is generated, but CDC supplies dates that festive lights are connected, so that they can be correctly included in submission data for the days they are connected. For any other lights which have changes during a month, only the current value when the extract is run is provided in the extract and included in submissions.

As recorded in the previous audit, Waka Kotahi lights in the Carterton district are being submitted by both Waka Kotahi's trader and Mercury Energy resulting in estimated annual over submission of 56,394 kWh per annum. I confirmed that the Waka Kotahi lights were excluded from submission information for January 2023. The previous audit found that the September 2022 submission data included 4,950 kWh for Waka Kotahi lights, and review of the latest revision submission confirmed that there had been no change to the volume reported. The Waka Kotahi lights need to be excluded from revision submissions from June 2021 onwards, and corrected revision submissions need to be provided.

Two non-compliances were identified relating to over submission for Waka Kotahi lights, and the database extract being provided as a monthly snapshot. No recommendations were made. The future risk rating of 18 indicates that the next audit be completed in six months. I have considered this in conjunction with Mercury's comments and recommend that the next audit be completed in 12 months because:

- the Waka Kotahi lights have been excluded from submission information from at least January 2023, and Mercury will complete revision submissions to remove these lights from earlier submissions, and
- the database was found to be accurate during the database accuracy review and field audit.

PARTICIPANT RESPONSE

Mercury has reviewed this report and their comments are contained within its body.