ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

VERITEK

For

THAMES COROMANDEL DISTRICT COUNCIL AND MERIDIAN ENERGY

Prepared by: Rebecca Elliot

Date audit commenced: 22 October 2019

Date audit report completed: 29 November 2019

Audit report due date: 01-Dec-19

TABLE OF CONTENTS

EXECUTIVE SUMMARY

This audit of the Thames Coromandel District Council Unmetered Streetlights (**TCDC)** DUML database and processes was conducted at the request of Meridian Energy (**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.

TCDC has switched retailers from Mercury NZ Limited to Meridian Energy to on 1/07/2019.

The statistical field audit undertaken as part of this audit found lights missing from the database. The DUML audit tool assessed the database to be between 100.2% to105.9% which is just outside the acceptable accuracy threshold of +/- 5%.

Power Solutions continue to manage the database on behalf of the TCDC. McKay Electrical have been appointed as the field contractor for the field work. TCDC are still working with Powerco to improve the new connections process.

I note the TCDC ICP is still recorded against the NZTA lights but as these items of load are being reconciled by Genesis against ICP 0001425637UN339. Genesis reconcile this load using the information for NZTA in the TCDC RAMM database. Given that TCDC are no longer responsible for these lights and are therefore no longer maintaining these lights in the database, Genesis are working with NZTA to find an alternate database source.

This audit found four non-compliances and makes one recommendation. The future risk rating of 16 indicates that the next audit be completed in six months. I have considered this in conjunction with Meridian's comments and recommend that the next audit be undertaken in 12 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	Database is not confirmed as accurate with a 95% level of confidence. 17 incorrect LED wattages resulting in a minor over submission of 354.49kWh per annum. The data used for submission does not track changes at a daily basis and is provided as a snapshot.	Moderate	Medium	4	Identified
All load recorded in the database	2.5	11(2A) of Schedule 15.3	Items of load are missing from the database.	Moderate	Medium	4	Identified
Database accuracy	3.1	15.2 and 15.37B(b)	Database is not confirmed as accurate with a 95% level of confidence. 31 incorrect ballasts are recorded in the RAMM database. 17 incorrect LED wattages resulting in a minor over submission of 354.49kWh per annum.	Moderate	Medium	4	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)	Database is not confirmed as accurate with a 95% level of confidence. 17 incorrect LED wattages resulting in a minor over submission of 354.49kWh per annum. The data used for submission does not track changes at a daily basis and is provided as a snapshot.	Moderate	Medium	4	Identified
Future Risk Rating						16	

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	Description	Action
Database Accuracy	3.1	LED light specifications to be provided for next audit to confirm the correct wattage is recorded in the database.	Identified

ISSUES

Subject	Section	Description	Issue
		Nil	

1. ADMINISTRATIVE

1.1. Exemptions from Obligations to Comply with Code

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

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

Audit observation

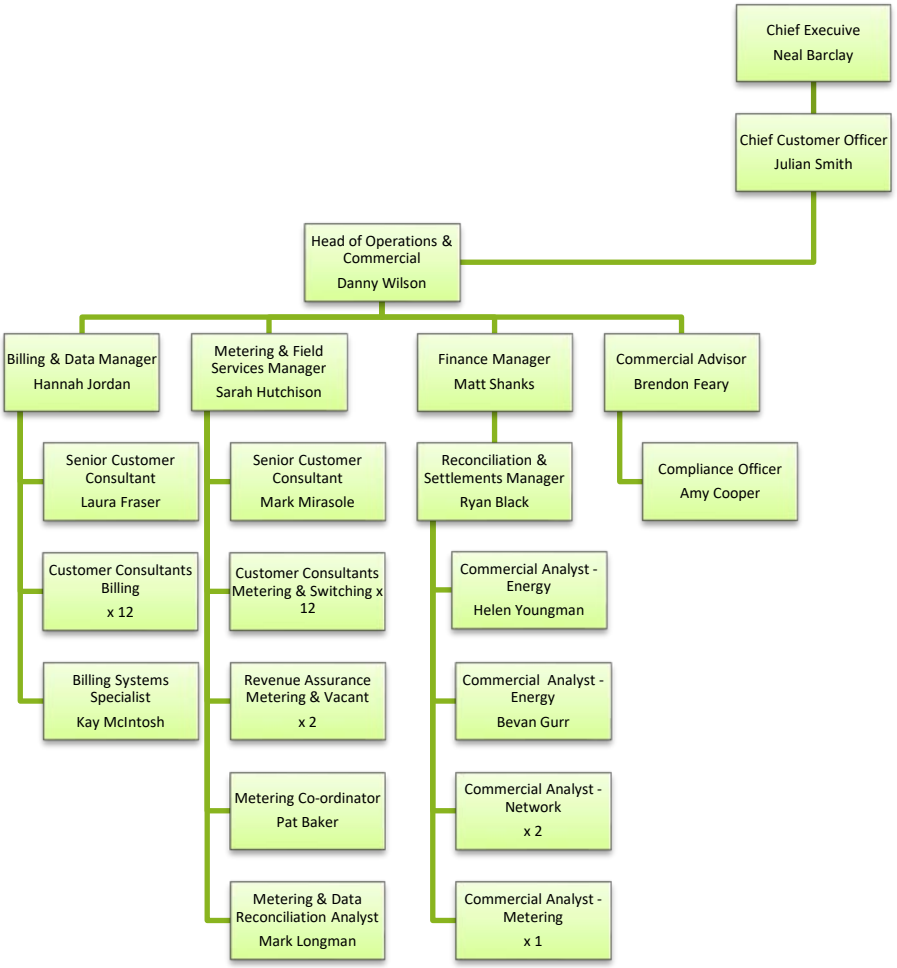
Section 11 of the Electricity Industry Act provides for the Electricity Authority to exempt any participant from compliance with all or any of the clauses.

Audit commentary

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

1.2. Structure of Organisation

Meridian provided a copy of their 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
Helen Youngman	Energy Data Analyst	Meridian Energy
Amy Cooper	Compliance Officer	Meridian Energy
Edwin de Beun	Projects Engineer	Power Solutions
Miriam Odlin	Electrical Engineer	Power Solutions

1.4. Hardware and Software

Section 1.8 records that Roading Asset and Maintenance Management database, commonly known as RAMM continues to be used the management of DUML. This is remotely hosted by RAMM Software 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)
0001425630UNEF3	Thames Coromandel District Council	KPU0661	DST	3,133	111,666

I note the TCDC ICP is still recorded against the NZTA lights but as these items of load are being reconciled by Genesis against ICP 0001425637UN339. I have excluded these from this audit.

1.7. Authorisation Received

All information was provided directly by Meridian or Power Solutions.

1.8. Scope of Audit

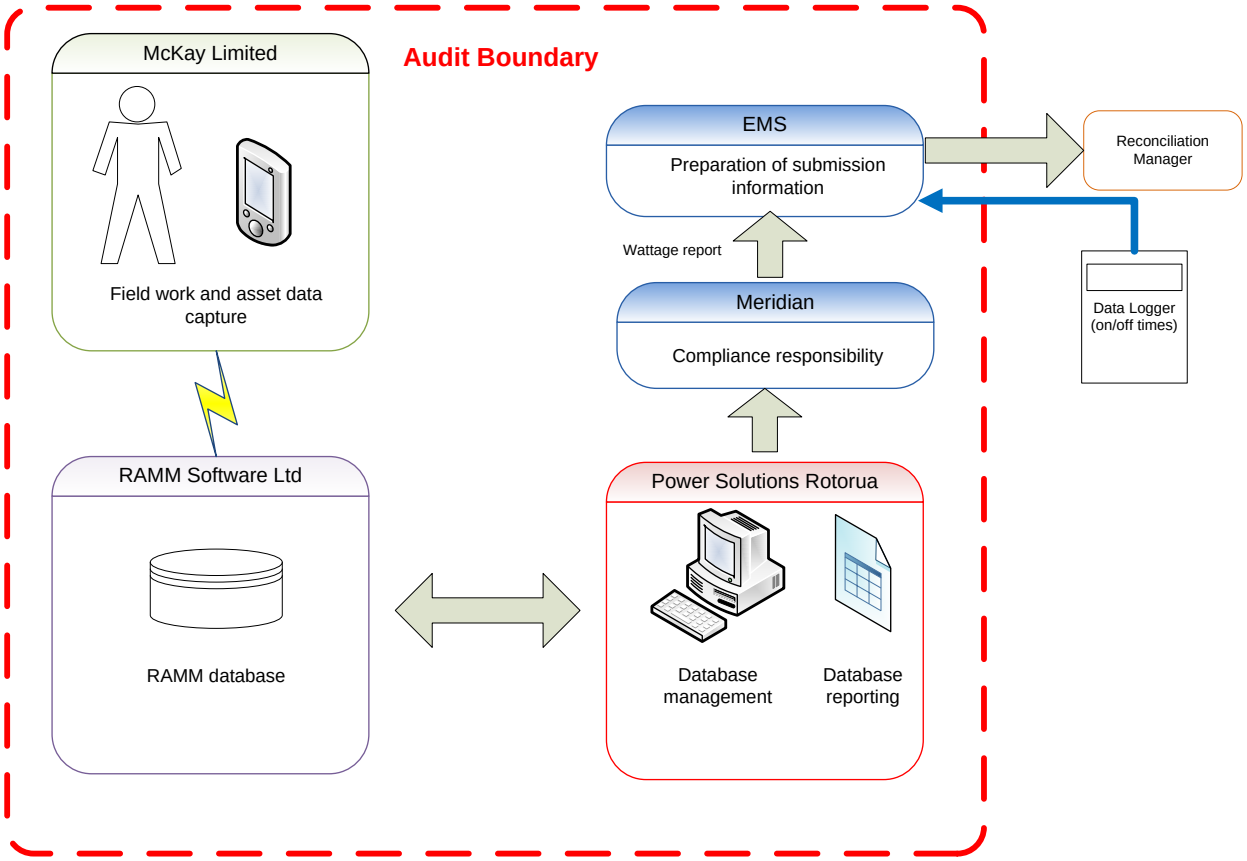
This audit of the Thames Coromandel District Council Unmetered Streetlights (**TCDC**) DUML database and processes was conducted at the request of Meridian Energy (**Meridian**), in accordance with clause 15.37B. The purpose of this audit is to verify that the volume information is being calculated accurately, and that profiles have been correctly applied.

The audit was conducted in accordance with the audit guidelines for DUML audits version 1.1.

TCDC has switched retailers from Mercury NZ Limited to Meridian Energy to on 1/07/2019.

The database is remotely hosted by RAMM Software Ltd and is managed by PSL, on behalf of TCDC, who is Meridian's customer. The fieldwork and asset data capture are conducted by McKay Electrical.

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 236 items of load on 2nd & 3rd November 2019.

1.9. Summary of previous audit

The last audit report was undertaken by Rebecca Elliot of Veritek Limited in November 2018. The current status of those audit's findings is detailed below:

Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	NZTA lighting volume excluded from submission resulting in an estimated under submission of 282,745 kWh per annum. The database accuracy is assessed to be 96.3% indicating potential over submission of 32,300 kWh per annum.	Cleared Still existing
Description and capacity of load	2.4	11(2)(c) & d) of Schedule 15.3	Four items of load with missing lamp details.	Cleared
All load recorded in the database	2.5	11(2A) of Schedule 15.3	Items of load are missing from the database.	Still existing
Database accuracy	3.1	15.2 and 15.37B(b)	The database accuracy is assessed to be 96.3% indicating potential over submission of 32,300 kWh per annum. The ballasts are not recorded correctly in the RAMM database.	Still existing Still existing
Volume information accuracy	3.2	15.2 and 15.37B(c)	The database accuracy is assessed to be 96.3% indicating potential over submission of 32,300 kWh per annum.	Still existing

Table of Recommendations

Subject	Section	Recommendation for Improvement	Status
Tracking of Load Change	2.6	Review new streetlight electrical connection process with council and Powerco.	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

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 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

Meridian reconciles this DUML load using the DST profile. 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.

I compared the RAMM database provided to the capacity information Meridian supplied to EMS for the month of September 2019 and found it matched.

The field audit against the database quantities found that the database is not confirmed as accurate with a 95% level of confidence as recorded in **section 3.1**.

The RAMM database includes the lamp wattages and ballasts, but the ballasts are added outside of the database to create the monthly wattage report. A small number of LED lights were found to have the incorrect wattage applied resulting in a minor over submission of 354.49kWh per annum. This is recorded as non-compliance. This is discussed 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 monthly report is provided as a snapshot and is created outside of RAMM. This practice is non-compliant. The database contains a "light install date". This is populated once the light has been electrically connected. When a wattage is changed or added in the database due to a physical change or a correction, only the record present at the time the report is run is recorded, not the historical information showing dates of changes.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: 01-Jul-19 To: 15-Nov-19	Database is not confirmed as accurate with a 95% level of confidence. 17 incorrect LED wattages resulting in a minor over submission of 354.49kWh per annum. The data used for submission does not track changes at a daily basis and is provided as a snapshot. Potential impact: Medium Actual impact: Medium Audit history: Three times previously Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are rated as moderate, because they are sufficient to ensure that changes to the database are correctly recorded most of the time. The impact is assessed to be medium based on the database inaccuracies found.

Actions taken to resolve the issue	Completion date	Remedial action status
Audit findings will be raised with the council and corrections requested where needed.	31 Dec 2019	Identified
Preventative actions taken to ensure no further issue will occur	**Completion date**	
We will confirm with the council their processes for managing changes to the database given the number of lights found that were not recorded.	01 April 2020	

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 the correct ICP was recorded against each item of load.

Audit commentary

An ICP is recorded for each item of load. I note the TCDC ICP is still recorded against the NZTA lights but as these items of load are being reconciled by Genesis against ICP 0001425637UN339. I have excluded these from this audit.

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 each item of load and users in the office and field can view these locations on a mapping system.

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 lamp type and wattage capacity and included any ballast or gear wattage and that each item of load had a value recorded in these fields.

Audit commentary

The database contains two records for wattage, firstly the lamp wattage and secondly the gear wattage, which represents ballast losses. The gear wattage is recorded in the database which meets the requirements of this clause.

The TCDC database has the lamp wattage recorded in both the lamp and gear wattage fields. All were populated. As discussed in **section 3.1**, the ballast in RAMM is not used for submission. The correct wattages are added in the monthly report. The correct ballasts are applied but this needs to be in the database. This is recorded as non-compliance 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 236 items of load on 2nd & 3rd November 2019.

Audit commentary

The field audit findings are detailed in the table below:

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
GIVEN GR	1	0	-1		No LED found in the field
JACARANDA DR	3	4	+1		1x additional LED found in the field
LILLIS LANE	2	3	+1		1x additional LED found in the field
MERCURY VIEW	1	2	+1		1x additional LED found in the field
TE ANA LANE	1	3	+2		2x additional LEDs found in the field
WAIOMU VALLEY RD	3	6	+3		3x additional LEDs found in the field
Grand Total	**236**	**243**	**9**		

The field audit found eight 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: 19-Nov-18 To: 15-Nov-19	Items of load are missing from the database. Potential impact: Medium Actual impact: Medium Audit history: Three times previously Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are rated as moderate, because they are sufficient to ensure that changes to the database are correctly recorded most of the time. The impact is assessed to be medium based on the database inaccuracies found.

Actions taken to resolve the issue	Completion date	Remedial action status
Audit findings will be raised with the council and corrections requested where needed.	31 Dec 2019	Identified
Preventative actions taken to ensure no further issue will occur	**Completion date**	
We will confirm with the council their processes for managing changes to the database given the number of lights found that were not recorded.	01 April 2020	

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 Meridian 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 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	Thames Coromandel region
Strata	The database contains items of load in Thames Coromandel peninsular. The area has two distinct sub-groups. Urban and Rural. The processes for the management of TCDC items of load are the same, but I decided to place the items of load into three strata, as follows: 1. A-H 2. I-P 3. Q-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 67 sub-units.
Total items of load	236 items of load were checked.

Wattages were checked for alignment with the published standardised wattage table produced by the Electricity Authority or LED light specifications where available against the DUML database.

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

Audit commentary

Field audit findings

A statistical sample of 236 items of load found that the field data was 104.8% of the database data for the sample checked.

Result	Percentage	Comments
The point estimate of R	102.2%	Wattage from survey is higher than the database wattage by 2.2%
R_L	100.2%	

R_H	105.6%	With a 95% level of confidence it can be concluded that the error could be between +0.2% and +5.6%

These results were categorised in accordance with the "Distributed Unmetered Load Statistical Sampling Audit Guideline", effective from 01/02/19 and the table below shows that Scenario C (detailed below) applies.

The conclusion from Scenario C is that the variability of the sample results across the strata means that the true wattage (installed in the field) could be between 0.2% to 5.6% higher than the wattage recorded in the DUML database. Non-compliance is recorded because the potential error is greater than 5.0%.

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 up to 6 kW higher than the database.

In absolute terms, total annual consumption is estimated to be 10,500 kWh higher than the DUML database indicates.

There is a 95% level of confidence that the annual consumption is between 1,100 kWh p.a. to 26,700 kWh p.a. higher than the database indicates.

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

Lamp description and capacity accuracy

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

- 15x 100W HPS lights with various ballasts applied instead of 14W;
- 7x 57W compact fluro lights with a ballast of 10W applied instead of 5W;
- 5x 60W Philips Cosmo Polis lights with a ballast of 10W applied instead of 6W; and
- 4x 70W HPS lights with a ballast of 12W applied instead of 13W.

The incorrect ballasts applied to the 31 items of load above is recorded as non-compliance below. The ballast in RAMM is not used for submission. The correct ballast wattages are added in the monthly report.

The check of LED wattages found that most lamp descriptions were sufficient to confirm the correct wattage. I recommend that the LED light specifications be provided for light specifications that could not be located to confirm the correct wattage for the next audit.

Recommendation	Description	Audited party comment	Remedial action
Database Accuracy	LED light specifications to be provided for next audit to confirm the correct wattage is recorded in the database.	We will recommend TCDC follow this up prior to their next audit.	Identified

The incorrect wattage appears to have been applied based on the LED light description in RAMM for:

- 9x "2 Module 28.5W, AEC 700mA 2 Module LED" with 37.5W applied instead of 28.5W.
- 4x "3 Module 56.5W LED, AEC 700mA 3 Module LED" with 58W applied instead of 56.5W.
- 4x "6 Module 105W LED, AEC 6 Module LED" with 106W applied instead of 105W.

I checked the wattages being applied outside of the database and these are the same as those recorded in the database. Therefore, this will be incorrect in the monthly wattage report and will result in a minor over submission of 354.49kWh per annum. This is recorded as non-compliance.

Change management process findings

McKay Electrical enters all field data via "Pocket RAMM" directly into RAMM Contractor. "As built" plans are also provided and PSL then conduct a field check to ensure the database has been populated accurately. The high level of accuracy found in the field audit confirms the process has robust controls.

The process for new connections was reviewed. As-built plans are provided to PSL. PSL then conduct a field check to ensure the database has been populated accurately. PSL are reliant on TCDC to advise of the connection dates for new or replaced items of load. TCDC are still working with Powerco to review the new connection process.

There are no festive lights used in the TCDC area.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: 19-Nov-18 To: 15-Nov-19	Database is not confirmed as accurate with a 95% level of confidence. 31 incorrect ballasts are recorded in the RAMM database. 17 incorrect LED wattages resulting in a minor over submission of 354.49kWh per annum. Potential impact: Medium Actual impact: Medium Audit history: Twice previously Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are rated as moderate, because they are sufficient to ensure that changes to the database are correctly recorded most of the time. The impact is assessed to be medium based on the database inaccuracies found.

Actions taken to resolve the issue	Completion date	Remedial action status
Audit findings will be raised with the council and corrections requested where needed.	31 Dec 2019	Identified
Preventative actions taken to ensure no further issue will occur	**Completion date**	
We will confirm with the council their processes for managing changes to the database given the number of lights found that were not recorded.	01 April 2020	

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

Meridian reconciles this DUML load using the DST profile. 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.

I compared the RAMM database provided to the capacity information Meridian supplied to EMS for the month of September 2019 and found it matched.

The field audit against the database quantities found that the database is not confirmed as accurate with a 95% level of confidence as recorded in **section 3.1**.

The RAMM database includes the lamp wattages and ballasts but the ballasts are added outside of the database to create the monthly wattage report. A small number of LED lights were found to have the incorrect wattage applied resulting in a minor over submission of 354.49kWh per annum. This is recorded as non-compliance and is discussed 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 monthly report is provided as a snapshot and is created outside of RAMM. This practice is non-compliant. The database contains a "light install date". This is populated once the light has been electrically connected. When a wattage is changed or added in the database due to a physical change or a correction, only the record present at the time the report is run is recorded, not the historical information showing dates of changes.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c) From: 01-Jul-19 To: 19-Nov-18	Database is not confirmed as accurate with a 95% level of confidence. 17 incorrect LED wattages resulting in a minor over submission of 354.49kWh per annum. The data used for submission does not track changes at a daily basis and is provided as a snapshot. Potential impact: Medium Actual impact: Medium Audit history: Three times previously Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**

Medium	The controls are rated as moderate, because they are sufficient to ensure that changes to the database are correctly recorded most of the time. The impact is assessed to be medium based on the database inaccuracies found.

Actions taken to resolve the issue	**Completion date**	**Remedial action status**
Audit findings will be raised with the council and corrections requested where needed.	31 Dec 2019	Identified
Preventative actions taken to ensure no further issue will occur	**Completion date**	
We will confirm with the council their processes for managing changes to the database given the number of lights found that were not recorded.	01 April 2020	

CONCLUSION

TCDC has switched retailers from Mercury NZ Limited to Meridian Energy to on 1/07/2019.

The statistical field audit undertaken as part of this audit found lights missing from the database. The DUML audit tool assessed the database to be between 100.2% to105.9% which is just outside the acceptable accuracy threshold of +/- 5%.

Power Solutions continue to manage the database on behalf of the TCDC. McKay Electrical have been appointed as the field contractor for the field work. TCDC are still working with Powerco to improve the new connections process.

I note the TCDC ICP is still recorded against the NZTA lights but as these items of load are being reconciled by Genesis against ICP 0001425637UN339. Genesis reconcile this load using the information for NZTA in the TCDC RAMM database. Given that TCDC are no longer responsible for these lights and are therefore no longer maintaining these lights in the database, Genesis are working with NZTA to find an alternate database source.

This audit found four non-compliances and makes one recommendation. The future risk rating of 16 indicates that the next audit be completed in six months. I have considered this in conjunction with Meridian's comments and recommend that the next audit be undertaken in 12 months.

PARTICIPANT RESPONSE