ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

VERITEK

For

NZTA SOUTH CANTEBURY AND MERIDIAN ENERGY LIMITED

Prepared by: Tara Gannon

Date audit commenced: 28 February 2020

Date audit report completed: 28 May 2020

Audit report due date: 1 June 2020

TABLE OF CONTENTS

EXECUTIVE SUMMARY

This audit of the **NZTA South Canterbury (ADC)** DUML database and processes was conducted at the request of **Meridian Energy Limited (Meridian)** in accordance with clause 15.37B. The purpose of this audit is to verify that the volume information is being calculated accurately, and that profiles have been correctly applied.

At the time of the previous audit in May 2019, the NZTA South Canterbury ICPs were supplied by Trustpower Limited. The ICPs switched to Meridian effective from 01/09/19.

A RAMM database is held by **Ashburton District Council (ADC)**, who is Meridian's customer. **Electricity Ashburton (EA Networks)** are responsible for new connections, fault, maintenance, and upgrade work, and maintain the database.

Meridian reconciles the DUML load for NZTA South Canterbury ICPs 0000033381EAF01 and 0000033382EA3C1 as NHH using the UNM profile. Wattages are derived from the trader daily unmetered kWh details on the registry. These are calculated using the wattage recorded in the registry trader unmetered load details (which is updated based on the database extracts received from ADC) and the on hours, which are set to 11.8 hours per day.

The audit was largely conducted in accordance with the audit guidelines for DUML audits version 1.1. A field audit was not undertaken due to the restrictions imposed by the Covid-19 lockdown. To determine database accuracy I compared the February 2020 database extract to the February 2019 database extract used to conduct the previous audit to identify any changes to lamp and gear details and checked a sample of those changes, and rechecked discrepancies identified in the 2019 audit.

I conclude that the database is likely to be accurate within ± 5% based on:

1. the level of accuracy found in the 2019 field audit, which was 100%,
2. the accuracy of database changes made during the audit period, which was 100% for all lights checked,
3. that corrections have been processed to include Methven Festival lights, which were found to be missing during the last audit, and
4. comparison of lamp and gear wattages to expected values, which did not identify any discrepancies.

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, and Meridian completes revision submissions where corrections are required. Meridian has not updated their processes to be consistent with the Authority's memo.

The future risk rating of four indicates that the next audit be completed in 24 months. I agree with this recommendation.

The matters raised are detailed below:

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Deriving submission information	2.1	11(1) of Schedule 15.3	The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot.	Moderate	Low	2	Investigating
Volume information accuracy	3.2	15.2 and 15.37B(c)	The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot.	Moderate	Low	2	Investigating
Future Risk Rating						4	

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.

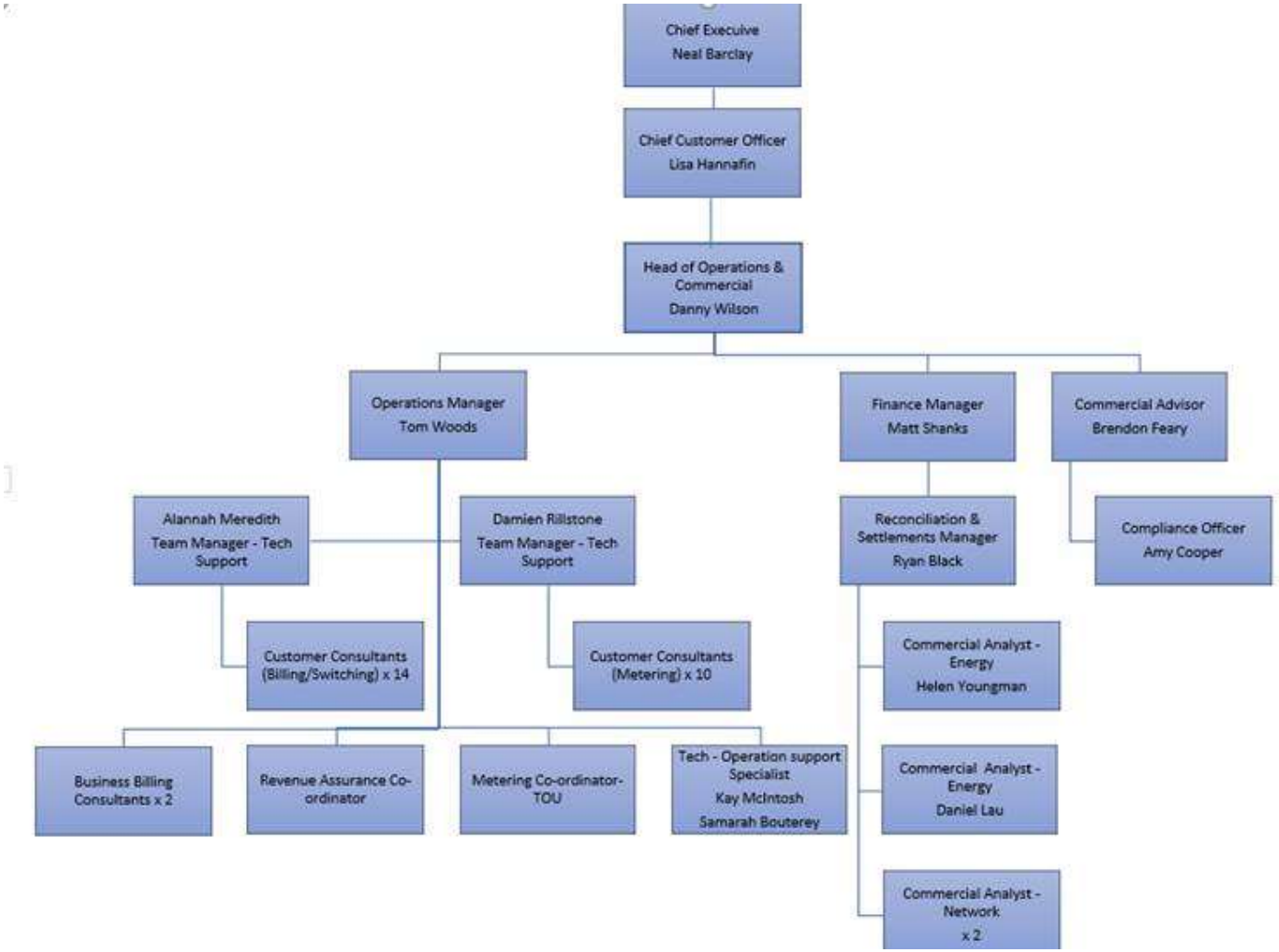
Audit observation

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

Audit commentary

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

1.2. Structure of Organisation



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
Deborah Barron	Asset Management Officer – Transportation	Ashburton District Council
Daniel Lau	Energy Data Analyst	Meridian Energy Limited
Amy Cooper	Compliance Officer	Meridian Energy Limited

1.4. Hardware and Software

The SQL database used for the management of DUML is remotely hosted by RAMM Software 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.

RAMM Software Limited 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.

Meridian's systems used in the process are discussed in their reconciliation participant audit report.

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)
0000033381EAF01	NZTA Streetlights Methven, Methven	ASB0661	UML	60	6,819
0000033382EA3C1	NZTA Streetlights Not Methven	ASB0661	UML	382	63,961
0000000000EAXXX	To track lights which are not livened			19	640

ICP Number	Description	NSP	Profile	Number of items of load	Database wattage (watts)
0000000000EAZZZ	To track lights with unknown owners			3	363
Total				3,651	228,982

The database also includes:

- metered lights connected to ICPs 0000017831EA1F0 and 0000024967EA2BF;
- a small number of lights connected to 0000029898EAE52 and 0000030904EAFEE, which are validly treated as standard unmetered load;
- 0000000000EAXXX which is used to track lights which are installed but not live; and
- 0000000000EAZZZ which is used to track lights with unknown owners, and is discussed further in **section 2.2**.

The metered and standard unmetered load ICPs are outside the scope of this audit.

1.7. Authorisation Received

All information was provided directly by Meridian or ADC.

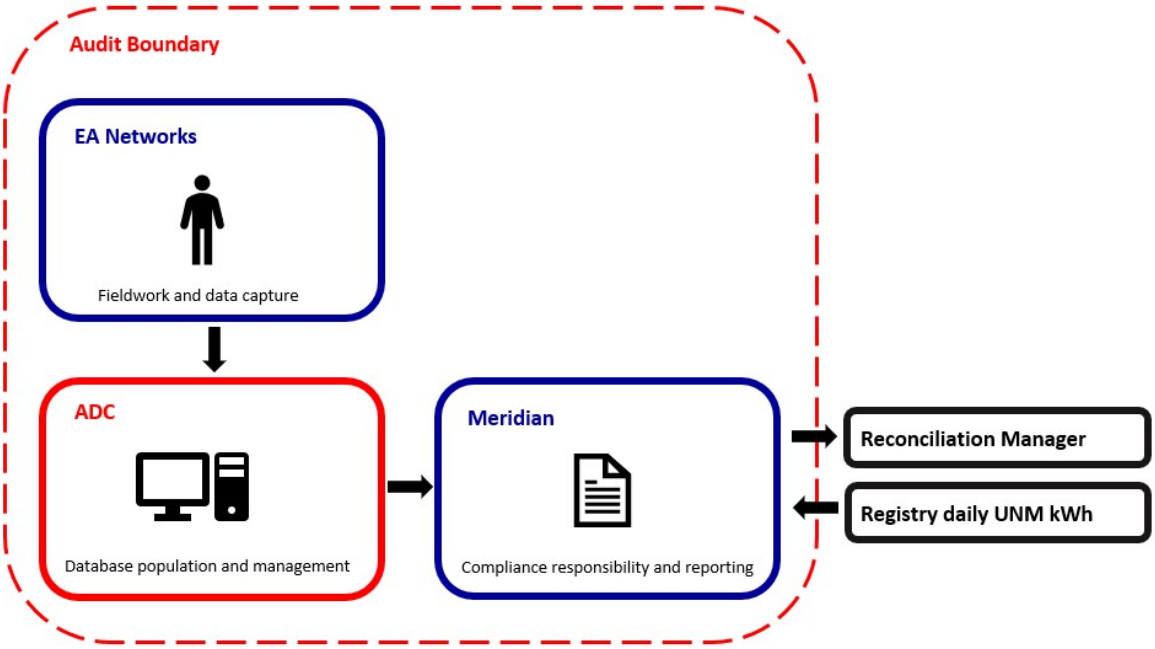
1.8. Scope of Audit

This audit of the NZTA South Canterbury DUML database and processes was conducted at the request of 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.

A RAMM database is held by ADC, who is Meridian's customer. EA Networks are responsible for new connections, fault, maintenance, and upgrade work, and maintain the database.

Meridian reconciles the DUML load for NZTA South Canterbury ICPs 0000033381EAF01 and 0000033382EA3C1 as NHH using the UNM profile. Wattages are derived from the trader daily unmetered kWh details on the registry. These are calculated using the wattage recorded in the registry trader unmetered load details (which is updated based on the database extracts received from ADC) and the on hours, which are set to 11.8 hours per day.

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 audit was largely conducted in accordance with the audit guidelines for DUML audits version 1.1. A field audit was not undertaken due to the restrictions imposed by the Covid-19 lockdown. To determine database accuracy I compared the February 2020 database extract to the February 2019 database extract used to conduct the previous audit to identify any changes to lamp and gear details and checked a sample of those changes, and rechecked discrepancies identified in the 2019 audit.

The following checks were conducted:

- the one light which had a wattage change without a light ID change was checked, and confirmed to be a valid correction,
- I checked for new poles to identify new connections, and none were found, and
- I identified six poles which had a light ID change and wattage change, indicating that a light change had occurred.

Discrepancies identified during the 2019 audit were re-checked, to determine whether they had been resolved.

1.9. Summary of previous audit

The previous audit for Trustpower Limited was undertaken by Tara Gannon of Veritek Limited in May 2019. The summary table below shows the statuses of the non-compliances and recommendation 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	The database contains some inaccurate data. An incorrect kW value was applied for the April 2019 submission for ICP0000033382EA3C1 resulting	Cleared Relates to previous retailer

Subject	Section	Clause	Non-compliance	Status
			in under reporting of 21.59 kWh.	
All load recorded in database	2.5	Clause 11(2A) of Schedule 15.3	Festive and decorative lights are not recorded in the database.	Cleared
Database accuracy	3.1	15.2 and 15.37B(b)	The database contains some inaccurate data.	Cleared
Volume information accuracy	3.2	15.2 and 15.37B(c)	The database contains some inaccurate data. An incorrect kW value was applied for the April 2019 submission for ICP 0000033382EA3C1 resulting in under reporting of 21.59 kWh.	Cleared Relates to previous retailer

Subject	Section	Description	Recommendation	Status
All load recorded in database	2.5	Festive lights	Confirm the wattages for festive and decorative lights, and update RAMM. Communicate on and off dates for festive and decorative lights to Trustpower.	Implemented

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

Submission for NZTA South Canterbury ICPs

Meridian reconciles the DUML load for NZTA South Canterbury ICPs 0000033381EAF01 and 0000033382EA3C1 as NHH using the UNM profile.

Wattages are derived from the trader daily unmetered kWh details recorded on the registry. These are calculated using the wattage recorded in the registry trader unmetered load details (which is updated based on the database extracts received from ADC) and the on hours, which are set to 11.8 hours per day.

I compared the RAMM extract provided for NZTA ICPs 0000033381EAF01 and 0000033382EA3C1 to the registry values used for submission, and found that they matched exactly and the calculation was correct.

Accuracy of the database information used for submission

The review of database accuracy in **section 3.1** found that the database is likely to be accurate within ± 5%. No sources of inaccuracy were identified.

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, and Meridian completes revision submissions where corrections are required. Meridian has not updated their processes to be consistent with the Authority's memo.

The database records light installation and replacement dates. ICP 0000000000EAXXX is used to track lights which are not livened, and once the lights become live they are moved to the correct ICP. ICP 0000000000EAXXX is correctly excluded from submission data.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: 28-Feb-20 To: 28-Feb-20	The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot. Potential impact: Medium Actual impact: Unknown Audit history: Twice Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate, because change dates are recorded accurately within the database itself, but the database extract provided is a snapshot. The impact is assessed to be low, because it is likely only part of a month's data will be affected where a change occurs.

Actions taken to resolve the issue	Completion date	Remedial action status
We are considering how we can redesign our processes to incorporate the calculation of volumes at a daily level rather than a monthly snapshot.	Ongoing	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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

The analysis found that all items of load had an ICP number recorded.

Three lights were assigned to ICP 0000000000EAZZZ, which is used to track lights with unknown owners and is not settled. The lights are associated with a tavern and a camping ground, and are not owned by NZTA. The affected lights are discussed further in the ADC 2020 DUML audit report.

The accuracy of ICP number assignment is discussed in **section 3.1**.

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 RAMM database contains house numbers, opposite house numbers, road names, road IDs, location numbers, and GPS coordinates.

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

Audit outcome

Compliant

2.4. Description and capacity of load (Clause 11(2)(c) and (d) of Schedule 15.3)

Code reference

Clause 11(2)(c) and (d) of Schedule 15.3

Code related audit information

The 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 make and model fields, wattages are recorded in the lamp wattage and gear wattage fields.

All items of load have a lamp model, lamp wattage and gear wattage populated. No items of load have invalid zero lamp or gear wattages.

The accuracy of the recorded wattages is discussed in **section 3.1**.

Audit outcome

Compliant

2.5. All load recorded in database (Clause 11(2A) of Schedule 15.3)

Code reference

Clause 11(2A) of Schedule 15.3

Code related audit information

The retailer must ensure that each item of DUML for which it is responsible is recorded in this database.

Audit observation

A field audit was not undertaken due to the restrictions imposed by the Covid-19 lockdown. I compared the February 2020 database extract to the February 2019 database extract used to conduct the previous audit, to identify any changes to lamp and gear details. The following checks were conducted:

- the one light which had a wattage change without a light ID change was checked, and confirmed to be a valid correction,
- I checked for new poles to identify new connections, and none were found, and
- I identified six poles which had a light ID change and wattage change, indicating that light change had occurred.

Field audit and data discrepancies identified during the 2019 audit were re-checked, to determine whether they had been resolved.

Audit commentary

Database change accuracy

I reviewed a sample of database changes, and found:

Database change type	Sample size	Findings
Corrections *Light details changes without a change to pole ID or light ID*	All	The gear wattage was updated to correct previously incorrect data.
Light changes and upgrades *Light details and ID changes without a change to pole ID*	All	Five light changes were identified: • one was an LED upgrade, which I confirmed was processed correctly, • three were additions of Methven Festival lights, and • two were additions of floodlights.
New installations *New light and pole IDs*	Nil	No new poles were identified.

Resolution of 2019 audit discrepancies

No discrepancies were identified during the 2019 NZTA Ashburton field audit.

The 2019 Ashburton DC audit found that Methven festival lights were connected to the streetlight circuits when operating, but were not recorded in RAMM. I checked the database and confirmed that the festival lights are now included, and the light notes contain information on when they are connected.

The lights are only included in the database extracts when connected. ADC's procedure notes list the lights and on/off dates and require the lights to be manually removed from the database extract when they are not connected. I reviewed Meridian's submission data for February 2020, the database extract

for February 2020, and the full database extract provided during the audit and confirmed that this process was operating as expected.

Conclusion

I conclude that the database is likely to be accurate within ± 5% based on:

1. the level of accuracy found in the 2019 field audit, which was 100%,
2. the accuracy of database changes made during the audit period, which was 100% for all lights checked,
3. that corrections have been processed to include Methven Festival lights, which were found to be missing during the last audit, and
4. comparison of lamp and gear wattages to expected values, which did not identify any discrepancies.

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 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 database has a complete audit trail.

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

Meridian's submissions are based on a monthly extract from the RAMM database for the ADC and NZTA North Canterbury ICPs.

A field audit was not undertaken due to the restrictions imposed by the Covid-19 lockdown. I compared the February 2020 database extract to the February 2019 database extract used to conduct the previous audit, to identify any changes to lamp and gear details. The following checks were conducted:

- the one light which had a wattage change without a light ID change was checked, and confirmed to be a valid correction,
- I checked for new poles to identify new connections, and none were found, and
- I identified six poles which had a light ID change and wattage change, indicating that light change had occurred.

Discrepancies identified during the 2019 audit were re-checked, to determine whether they had been resolved.

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

Database accuracy

I conclude that the database is likely to be accurate within ± 5% based on:

1. the level of accuracy found in the 2019 field audit, which was 100%,
2. the accuracy of database changes made during the audit period, which was 100% for all lights checked,
3. that corrections have been processed to include Methven Festival lights, which were found to be missing during the last audit, and
4. comparison of lamp and gear wattages to expected values, which did not identify any discrepancies.

Light description and capacity accuracy

As discussed in **section 2.4**, all items of load have a lamp model and lamp wattage populated, and no items of load had invalid zero lamp wattages.

No lights had invalid zero lamp or gear wattages. Lamp and gear wattages were compared to the expected values and no discrepancies were identified.

ICP number and owner accuracy

As discussed in **section 2.2**, the analysis found that all items of load had an ICP number recorded.

Three lights were assigned to ICP 0000000000EAZZZ, which is used to track lights with unknown owners and is not settled. The lights are associated with a tavern and a camping ground, and are not owned by NZTA. The affected lights are discussed further in the ADC 2020 DUML audit report.

The accuracy of ICP numbers was checked by comparing the ICP description, location, and light type for each item of load for consistency. I identified two street names where items of load were connected to more than one ICP. Each affected street was checked, and I confirmed that the ICP assignment was correct based on the ICP's description and location information. All ICPs in the database are connected to the same NSP.

Change management process findings

EA Networks are responsible for new connections, fault, maintenance, and upgrade work, and maintain the database.

No new connections were identified during the audit period. EA Networks completes the connection once it is approved by EA Networks, and updates RAMM. ICP 0000000000EAXXX is used to track lights which are not livened, and once the lights become live they are moved to the correct ICP. ICP 0000000000EAXXX is correctly excluded from submission data.

Outage patrols are conducted on an ad hoc basis when staff are working in an area at night. Outages are also reported by residents within the ADC region and work orders are raised with EA Networks as required.

The database records light installation and replacement dates.

Private lights

Three private lights are assigned to ICP 0000000000EAZZZ, which is used to track lights with unknown owners and is not settled by Meridian. There are no private NZTA lights.

Festival and festive lights

The 2019 audit found that Methven festival lights and other festive lights were connected to the streetlight circuits when operating, but were not recorded in RAMM. I checked the database and confirmed that the festival lights are now included, and the light notes contain information on when they are connected.

The lights are only included in the database extracts when connected. ADC's procedure notes list the lights and on/off dates and require the lights to be manually removed from the database extract when they are not connected. I reviewed Meridian's submission data for February 2020, the database extract for February 2020 and the full database extract provided during the audit and confirmed that this process was operating as expected.

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

Submission for NZTA South Canterbury ICPs

Meridian reconciles the DUML load for NZTA South Canterbury ICPs 0000033381EAF01 and 0000033382EA3C1 as NHH using the UNM profile. The correct profiles and submission types are recorded on the registry.

Wattages are derived from the trader daily unmetered kWh details recorded on the registry. These are calculated using the wattage recorded in the registry trader unmetered load details (which is updated based on the database extracts received from ADC) and the on hours, which are set to 11.8 hours per day.

I compared the RAMM extract provided for NZTA ICPs 0000033381EAF01 and 0000033382EA3C1 to the registry values used for submission, and found that they matched exactly and the calculation was correct.

Accuracy of the database information used for submission

The review of database accuracy in **section 3.1** found that the database is likely to be accurate within ± 5%. No sources of inaccuracy were identified.

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, and Meridian completes revision submissions where corrections are required. Meridian has not updated their processes to be consistent with the Authority's memo.

The database records light installation and replacement dates. ICP 0000000000EAXXX is used to track lights which are not livened, and once the lights become live they are moved to the correct ICP. ICP 0000000000EAXXX is correctly excluded from submission data.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c) From: 28-Feb-20 To: 28-Feb-20	The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot. Potential impact: Medium Actual impact: Unknown Audit history: Twice Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate, because change dates are recorded accurately within the database itself, but the database extract provided is a snapshot. The impact is assessed to be low, because it is likely only part of a month's data will be affected where a change occurs.

Actions taken to resolve the issue	Completion date	Remedial action status
We are considering how we can redesign our processes to incorporate the calculation of volumes at a daily level rather than a monthly snapshot.	Ongoing	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	

CONCLUSION

A RAMM database is held by ADC, who is Meridian's customer. EA Networks are responsible for new connections, fault, maintenance, and upgrade work, and maintain the database.

Meridian reconciles the DUML load for NZTA South Canterbury ICPs 0000033381EAF01 and 0000033382EA3C1 as NHH using the UNM profile. Wattages are derived from the trader daily unmetered kWh details on the registry. These are calculated using the wattage recorded in the registry trader unmetered load details (which is updated based on the database extracts received from ADC) and the on hours, which are set to 11.8 hours per day.

The audit was largely conducted in accordance with the audit guidelines for DUML audits version 1.1. A field audit was not undertaken due to the restrictions imposed by the Covid-19 lockdown. To determine database accuracy I compared the February 2020 database extract to the February 2019 database extract used to conduct the previous audit to identify any changes to lamp and gear details and checked a sample of those changes, and rechecked discrepancies identified in the 2019 audit.

I conclude that the database is likely to be accurate within ± 5% based on:

1. the level of accuracy found in the 2019 field audit, which was 100%,
2. the accuracy of database changes made during the audit period, which was 100% for all lights checked,
3. that corrections have been processed to include Methven Festival lights, which were found to be missing during the last audit, and
4. comparison of lamp and gear wattages to expected values, which did not identify any discrepancies.

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, and Meridian completes revision submissions where corrections are required. Meridian has not updated their processes to be consistent with the Authority's memo.

The future risk rating of four indicates that the next audit be completed in 24 months. I agree with this recommendation.

PARTICIPANT RESPONSE

Meridian has read the Authority's memo dated 18 June 2019 that clarifies the intent of the previously issued memo (Sept 2012) regarding the tracking of changes in the DUML database and how this should be considered when calculating monthly load.

This clarification has resulted in our current processes now being recorded as non-compliant where for the preceding 7 years they had been considered and recorded as compliant.

We are now considering how we may be able to redesign our processes to comply with this new information which has impacts for both the process for calculating settlement information and our billing information.

At this stage we are uncertain as to when a practical solution for this may be implemented but do understand the impact to settlement as a result of using a monthly snapshot is considered minor.