

ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT



For

RNZAF WOODBOURNE
AND MERIDIAN ENERGY
NZBN 9429037696863

Prepared by: Tara Gannon

Date audit commenced: 14 August 2023

Date audit report completed: 20 September 2023

Audit report due date: 1 December 2023

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EXECUTIVE SUMMARY

This audit of the **RNZAF Woodbourne (Woodbourne)** 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. The scope of the audit encompasses the collection, security, and accuracy of the data, including the preparation of submission information.

The Info EAM database is managed by **Marlborough Lines** on behalf of RNZAF Woodbourne. Marlborough Lines is responsible for the installation, maintenance, and removal of streetlighting for RNZAF Woodbourne's housing. Data is collected from the field using an iPad for most new connections, and paper based forms for maintenance and new connections in remote areas. iPad information is saved to OneDrive and paper based forms are returned following weekly maintenance. The Customer Works Design Estimator updates Info EAM as soon as possible once the information is received, and applies the date that the field work was completed.

EMS produces DUML submission information as Meridian's agent using the DST profile. Submission is based on a monthly database report derived from the Marlborough Lines EAM database extract which includes the nominal lamp wattage, and circuit wattage including ballast. Supporting information on any changes to the database during the month is provided, allowing Meridian to accurately determine the daily load. On hours are derived from data logger information.

The full field audit found the database was accurate within the $\pm 5\%$ threshold, and no volume inaccuracies were identified during review of the database.

The audit found full compliance and makes no recommendations, and the non-compliances and recommendation from the previous audit have been cleared. I recommend that the next audit is completed in 36 months on 1 December 2026.

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Nil				
Future Risk Rating						0	

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

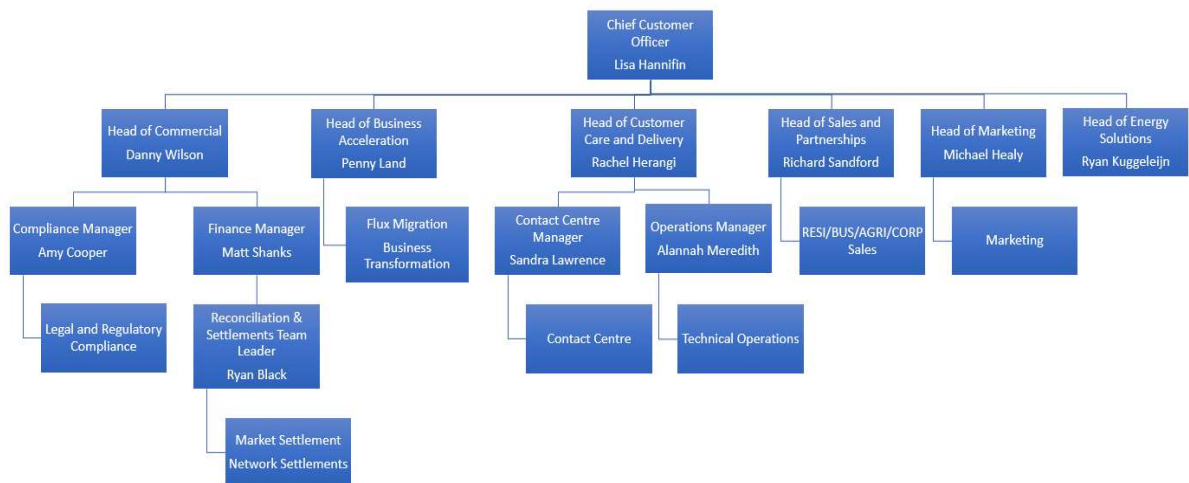
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

Audit commentary

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

1.2. Structure of Organisation

Meridian provided a copy of their organisational structure.



1.3. Persons involved in this audit

Auditor:

Name	Role	Company
Tara Gannon	Auditor	Provera

Other personnel assisting in this audit were:

Name	Title	Company
Jason Null	Contracts	Marlborough Lines
Melanie Matthews	Quality and Compliance Advisor	Meridian Energy
Melissa Sinclair	Billing Analyst	Marlborough Lines
Tracy Roughan	Customer Works Design Estimator	Marlborough Lines

1.4. Hardware and Software

Info EAM

The Info EAM database is used for the management of DUML and is managed by Marlborough Lines. The database is backed up, and access to the database is restricted using a login and password.

Meridian systems

Systems used by the trader are assessed as part of their reconciliation participant audit.

EMS

Systems used by EMS to calculate submission information are assessed as part of their agent audit.

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)
0004450017ML9D6	STREETLIGHTS UNMETERED STREETLIGHTING	BLN0331	DST	48	3,199

1.7. Authorisation Received

All information was provided directly by Meridian and Marlborough Lines.

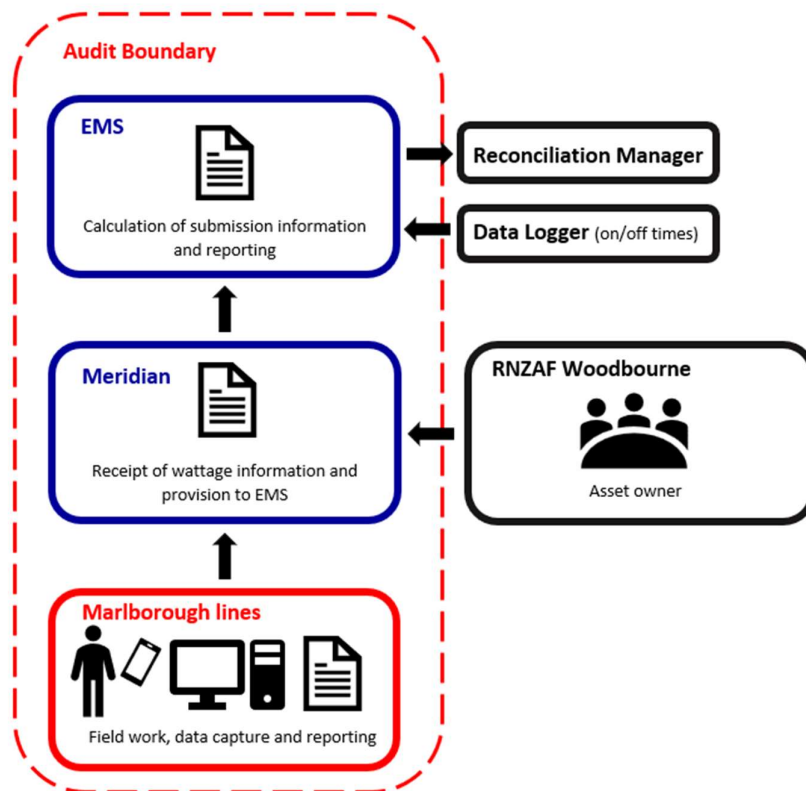
1.8. Scope of Audit

This audit of the RNAZF Woodbourne database and Marlborough Lines 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.

The Info EAM database is managed by Marlborough Lines on behalf of RNAZF Woodbourne. Marlborough Lines is responsible for the installation, maintenance, and removal of streetlighting for RNAZF Woodbourne's housing. Data is collected from the field using an iPad for most new connections, and paper based forms for maintenance and new connections in remote areas. iPad information is saved to OneDrive and paper based forms are returned following weekly maintenance. The Customer Works Design Estimator updates Info EAM as soon as possible once the information is received, and applies the date that the field work was completed.

EMS produces DUML submission information as Meridian's agent using the DST profile. Submission is based on a monthly database report derived from the Marlborough Lines EAM database extract which includes the nominal lamp wattage, and circuit wattage including ballast. Supporting information on any changes to the database during the month is provided, allowing Meridian to accurately determine the daily load. On hours are derived from data logger information.

The diagram below shows the audit boundary for clarity.



A field audit of the whole database was carried out on 14 August 2023.

1.9. Summary of previous audit

The previous audit of this database was undertaken by Steve Woods of Veritek Limited in September 2021. The summary table below shows the statuses of the non-compliances and recommendations 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 monthly wattage report provided does not track changes on a daily basis and is provided as a snapshot.	Cleared. Supporting information is provided listing any changes to the database during the month, so that Meridian can calculate the daily load.
Tracking of load change	2.6	11(3) of Schedule 15.3	Changes not tracked.	Cleared. Changes are tracked at a daily level.
Audit trails	2.7	11(4) of Schedule 15.3	Audit trail not visible.	Cleared. A compliant audit trail is present.
Volume information accuracy	3.2	15.2 and 15.37B(c)	The monthly wattage report provided does not track changes on a daily basis and is provided as a snapshot.	Cleared. Supporting information is provided listing any changes to the database during the month, so that Meridian can calculate the daily load.

Subject	Section	Recommendation	Status
Database accuracy	3.1	Apply wattage values from within the database.	Cleared. The database circuit wattages are used for submission.

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 Provera 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. DUMML 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:

- *DUMML 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 DUMML load using the DST profile. Submission is based on:

- a monthly database report derived from the Marlborough Lines EAM database with supporting information on any changes to the database during the month is provided, allowing Meridian to accurately determine the daily load, and
- on hours sourced from a data logger.

Meridian supplies EMS with the capacity information and EMS calculates the kWh figure for the ICP and includes this in the relevant AV080 file. This process was audited during Meridian's reconciliation participant audit and the EMS agent audit. The capacities supplied to EMS for July 2023 were checked and confirmed to be correct.

The full field audit found the database was accurate within the $\pm 5\%$ threshold, and no volume inaccuracies were identified during review of the database.

Audit outcome

Compliant

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 DUMML database must contain:

- *each ICP identifier for which the retailer is responsible for the DUMML,*
- *the items of load associated with the ICP identifier.*

Audit observation

The database was checked to confirm that an ICP is recorded for each item of load.

Audit commentary

All items of load have an ICP recorded.

Audit outcome

Compliant

2.3. Location of each item of load (Clause 11(2)(b) of Schedule 15.3)

Code reference

Clause 11(2)(b) of Schedule 15.3

Code related audit information

The DUML database must contain the location of each DUML item.

Audit observation

The database was checked to confirm the location is recorded for all items of load.

Audit commentary

The database contains the nearest street address for each item of load, GPS locations are also recorded for all items of load.

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 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 fields for fitting type and lamp type in addition to a nominal lamp wattage and circuit wattage fields and all were populated for each item of load.

There were no missing fitting or lamp types, and no missing or invalid zero lamp or gear wattages. The recorded wattages were found to be accurate 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 of all items of load was undertaken on 14 August 2023.

Audit commentary

The following exceptions were identified, and were checked and updated in Info EAM by Marlborough Lines as soon as practicable after being advised of the differences.

Address	Database Count	Field Count	Count differences	Wattage differences	Comments
Caldwell Road	19	19	-	1	Asset SLRNZAF19 is recorded in the database as fluoro tube 20W x 2 but is a SON 70W.
Woodward Street	12	12	-	1	Asset SLRNZAF41 is recorded in the database as fluoro tube 20W x 2 but is a SON 70W.
Total	48	48	-	2	

Compliance is confirmed for this section as there were no additional lights identified in the field.

The field wattage was 102.2% of the database wattage, and the database is considered to be accurate within the $\pm 5\%$ threshold and compliance is recorded in **section 3.1**. Following the corrections to the two lights with differences, the database is 100% accurate.

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

Change and installation dates are recorded in the Info EAM database. The correct date is determined from paperwork returned from the field.

Changes are able to be tracked at a daily level, and Marlborough Lines provides daily kW values to Meridian for submission.

Audit outcome

Compliant

2.7. Audit trail (Clause 11(4) of Schedule 15.3)

Code reference

Clause 11(4) of Schedule 15.3

Code related audit information

The DUMML database must incorporate an audit trail of all additions and changes that identify:

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

Audit observation

The database was checked for audit trails.

Audit commentary

Full audit trails are recorded in Info EAM.

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 database. A database extract was provided for 20 July 2023, and I completed a field audit for all lights in the database.

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 based on the field audit

The full field audit found two SON 70W lights were recorded as fluoro tube 20W x 2 in the database. The exceptions were checked and updated in Info EAM by Marlborough Lines as soon as practicable after being advised of the differences.

The field wattage was 102.2% of the database wattage, and the database is considered to be accurate within the $\pm 5\%$ threshold and compliance is recorded. Following the corrections to the two lights with differences, the database is 100% accurate.

Lamp description and capacity accuracy

There were no missing fitting or lamp types, and no missing or invalid zero lamp or gear wattages. The recorded wattages were found to be consistent with the expected values.

Change management process findings

There have been no new connections made during the audit period, and no new connections are expected.

Marlborough Lines is responsible for the installation, maintenance, and removal of streetlighting in the MDC region. Data is collected from the field using an iPad for most new connections, and paper based forms for maintenance and new connections in remote areas. iPad information is saved to OneDrive and paper based forms are returned following weekly maintenance. The Customer Works Design Estimator updates Info EAM as soon as possible once the information is received, and applies the date that the field work was completed.

Marlborough Lines is responsible for the installation, maintenance, and removal of streetlighting for RNZAF Woodbourne's housing. Data is collected from the field using an iPad for most new connections, and paper based forms for maintenance and new connections in remote areas. iPad information is saved to OneDrive and paper based forms are returned following weekly maintenance. The Customer Works Design Estimator updates Info EAM as soon as possible once the information is received, and applies the date that the field work was completed.

There are no festive lights are connected into the unmetered circuits, and all of the lights in the database are privately owned by RNZAF Woodbourne.

14 of the 48 lights in the database have been upgraded to LED. The remaining lights will be replaced with LEDs as they fail. There are no plans to use dimming.

Outage patrols are not completed, and Marlborough Lines uses the faults process to identify any light outages.

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 all ICPs have the correct profile and submission flag, and
- checking the database extract combined with the burn hours against the submitted figure to confirm accuracy.

Audit commentary

Meridian reconciles this DUML load using the DST profile, and the correct profile and submission type are recorded on the registry.

Submission is based on:

- a monthly database report derived from the Marlborough Lines EAM database with supporting information on any changes to the database during the month is provided, allowing Meridian to accurately determine the daily load, and
- on hours sourced from a data logger.

Meridian supplies EMS with the capacity information and EMS calculates the kWh figure for the ICP and includes this in the relevant AV080 file. This process was audited during Meridian's reconciliation participant audit and the EMS agent audit. The capacities supplied to EMS for July 2023 were checked and confirmed to be correct.

The full field audit found the database was accurate within the $\pm 5\%$ threshold, and no volume inaccuracies were identified during review of the database.

Audit outcome

Compliant

CONCLUSION

The full field audit found the database was accurate within the $\pm 5\%$ threshold, and no volume inaccuracies were identified during review of the database.

The audit found full compliance and makes no recommendations, and the non-compliances and recommendation from the previous audit have been cleared. I recommend that the next audit is completed in 36 months on 1 December 2026.

PARTICIPANT RESPONSE

Meridian has reviewed this report and did not wish to make any comments.