

ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT



For

PAREMOREMO PRISON VILLAGE
AND MERIDIAN ENERGY
NZBN: 9429037696863

Prepared by: Brett Piskulic

Date audit commenced: 2 April 2024

Date audit report completed: 20 May 2024

Audit report due date: 01-Jun-24

TABLE OF CONTENTS

Executive summary	3
Audit summary	4
Non-compliances	4
Recommendations	4
Issues	4
1. Administrative	5
1.1. Exemptions from Obligations to Comply with Code	5
1.2. Structure of Organisation	5
1.3. Persons involved in this audit.....	6
1.4. Hardware and Software	6
1.5. Breaches or Breach Allegations.....	6
1.6. ICP Data	6
1.7. Authorisation Received	6
1.8. Scope of Audit	7
1.9. Summary of previous audit	8
1.10. Distributed unmetered load audits (Clause 16A.26 and 17.295F)	8
2. DUML database requirements	9
2.1. Deriving submission information (Clause 11(1) of Schedule 15.3)	9
2.2. ICP identifier and items of load (Clause 11(2)(a) and (aa) of Schedule 15.3)	9
2.3. Location of each item of load (Clause 11(2)(b) of Schedule 15.3)	10
2.4. Description and capacity of load (Clause 11(2)(c) and (d) of Schedule 15.3)	10
2.5. All load recorded in database (Clause 11(2A) of Schedule 15.3)	11
2.6. Tracking of load changes (Clause 11(3) of Schedule 15.3)	11
2.7. Audit trail (Clause 11(4) of Schedule 15.3).....	12
3. Accuracy of DUML database	13
3.1. Database accuracy (Clause 15.2 and 15.37B(b))	13
3.2. Volume information accuracy (Clause 15.2 and 15.37B(c))	14
Conclusion	15
Participant response	16

EXECUTIVE SUMMARY

This audit of the **Paremoremo Prison Village (Paremoremo)** Unmetered Streetlights 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.

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

Land Information New Zealand (LINZ) manages the maintenance of the Paremoremo streetlights. Downer is responsible for the maintenance at Paremoremo, and they engage contractors to undertake the maintenance work. It is expected that details of any changes made are reported to LINZ who provide updates to Meridian.

The field audit was undertaken of the entire Paremoremo spreadsheet, consisting of 37 items of load on 29 April 2024. The field audit found three of the 37 items of load have been changed to LED. As the changes resulted in a small difference in overall wattage the accuracy of the database was found to be within the allowable +/-5% threshold. I have repeated the recommendation from the last audit that the change management process is reviewed with the client to ensure future changes in the field are captured.

The submission was found to match the spreadsheet provided and the registry.

This audit confirmed compliance and makes one recommendation. The future risk rating of indicates that the next audit be completed in 36 months. I have considered this in conjunction with Meridian's comments and I agree with this recommendation.

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
Database accuracy	3.1	Liaise with client to ensure changes made in the field are recorded in the database.

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

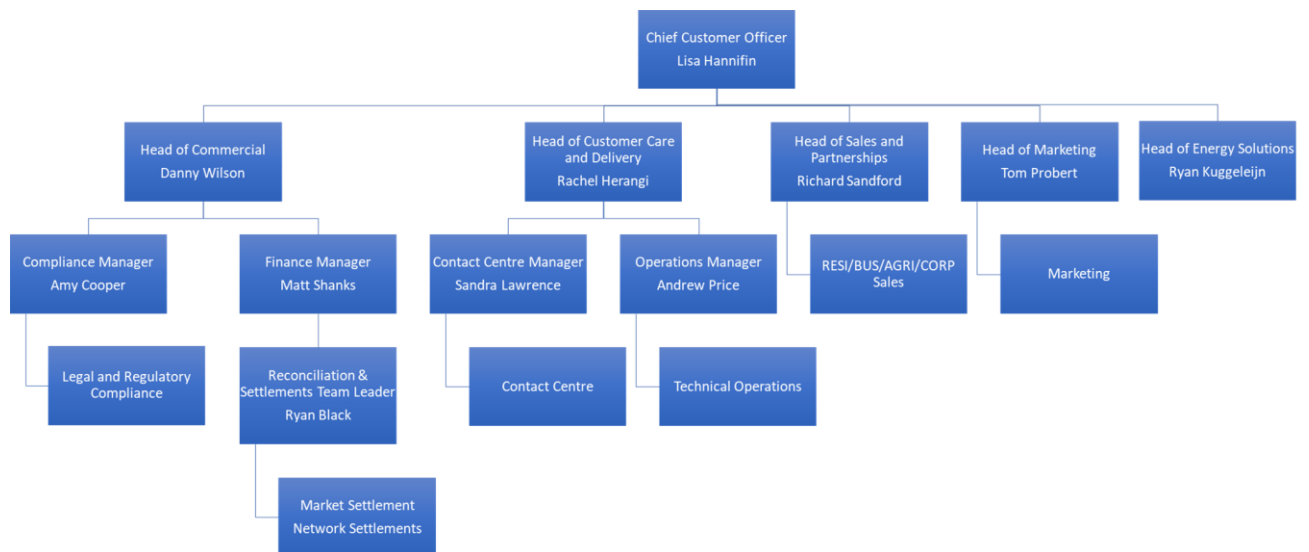
Section 11 of the Electricity Industry Act provides for the Electricity Authority to exempt any participant from compliance with all or any of the clauses.

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:

Name	Title	Company
Brett Piskulic	Auditor	Provera

Other personnel assisting in this audit were:

Name	Title	Company
Melanie Matthews	Quality and Compliance Advisor	Meridian Energy
Dale Thompson	CRS – Portfolio Manager Built Structures - Northland/Auckland/Waikato (Residential) Crown Property	Land Information New Zealand

1.4. Hardware and Software

The streetlight data for Paremoremo is held in an excel spreadsheet. This is backed up in accordance with standard industry procedures. Access to the spreadsheet is restricted by way of user log into the computer drive.

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)
0000100028UN5CB	STREETLIGHTS PRISON	ALB0331	UML	37	2,096
Total				37	2,096

1.7. Authorisation Received

All information was provided by Meridian and LINZ.

1.8. Scope of Audit

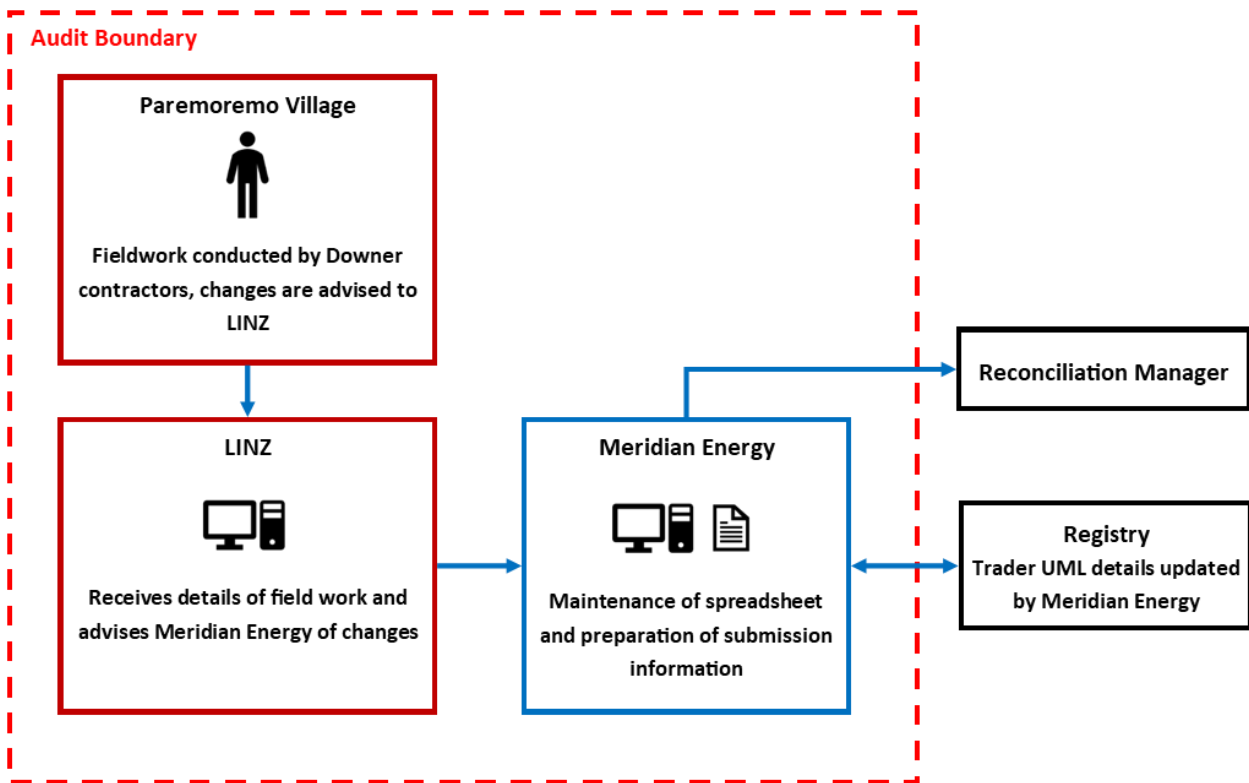
This audit of the Paremoremo Prison Village (Paremoremo) Unmetered Streetlights DUML database and processes was conducted at the request of Meridian Energy Limited (Meridian), in accordance with clause 15.37B. The purpose of this audit is to verify that the volume information is being calculated accurately,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

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

Land Information New Zealand (LINZ) manages the maintenance of the Paremoremo streetlights. Downer is responsible for the maintenance at Paremoremo, and they engage contractors to undertake the maintenance work. It is expected that details of any changes made are reported to LINZ who provide updates to Meridian.

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 the entire Paremoremo spreadsheet, consisting of all 37 items of load on 29 April 2024.

1.9. Summary of previous audit

I reviewed the last audit of the Paremoremo prison village streetlights undertaken by Rebecca Elliot of Veritek Limited in June 2021 in which no non-compliance was found and one recommendation was made. The current status of the recommendation is recorded in the table below:

Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
			Nil	

Table of Non-Compliance

Subject	Section	Recommendation	Status
Database accuracy	3.1	Liaise with client to ensure changes made in the field are recorded in the database.	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 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. 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 process and accuracy

Meridian reconciles this DUML load using the UML profile. The daily kWh figure recorded in the registry, which is derived from the spreadsheet is used for submission. I checked the accuracy of the submission information by multiplying the daily kWh by the number of hours in the month and comparing it to the figure in the registry for the month of March 2024. This confirmed the calculation methodology was correct.

Any changes made in the database that affect total wattage are updated on the registry for the same date, therefore changes will be tracked at a daily basis.

Database accuracy

The 100% field audit found that three of the 37 items of load had been changed from 50W Sodium Vapour lights to LED lights. The total wattage of the Sodium Vapour lights was 61W each and these have been replaced by 54W LED lights amounting to a total difference of 21W or 1% which is within the +/-5% allowable threshold.

I have recommended in **section 3.1** that the change management process is reviewed with the client to ensure future changes in the field are captured.

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 DUML database must contain:

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

Audit observation

The database was checked to confirm an ICP was recorded against each item of load.

Audit commentary

All items of load have an ICP recorded against them.

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 DUMML database must contain the location of each DUMML item.

Audit observation

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

Audit commentary

The database has a field for 'Asset Location – Summary' and 'Asset Location – Address', both of which are populated for all items. There are also GPS co-ordinates for each item.

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 DUMML 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 Lamp Type, Gear Wattage, Lamp Wattage and Total Wattage fields. These fields are populated for every item in the spreadsheet.

The accuracy of wattage and ballasts in the database is discussed in **section 3.1**.

Audit outcome

Compliant

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

Code reference

Clause 11(2A) of Schedule 15.3

Code related audit information

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

Audit observation

The field audit was undertaken of the entire database of all 37 items of load on 29 April 2024.

Audit commentary

Three lights were found to have been changed to LED lights during the audit period.

Address Number	Pole	Database Count	Field Count	Count differences	Wattage differences	Comments
11 The Oval LP OS #8		1	1	-	1	1 x 50W Sodium Vapour recorded in the database but 1x 54W LED located in the field.
3 Hitchcock Crescent LP OS #13		1	1	-	1	1 x 50W Sodium Vapour recorded in the database but 1x 54W LED located in the field.
3 Hitchcock Crescent LP OS #3		1	1	-	1	1 x 50W Sodium Vapour recorded in the database but 1x 54W LED located in the field.

There were no additional items of load found in the field. The database accuracy is discussed in **section 3.1**.

Audit outcome

Compliant

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

Code reference

Clause 11(3) of Schedule 15.3

Code related audit information

The DUML database must track additions and removals in a manner that allows the total load (in kW) to be retrospectively derived for any given day.

Audit observation

The process for tracking of changes in the database was examined.

Audit commentary

Changes are expected to be tracked in the database as required by this clause. There is a change log section in the database, but no changes have been recorded during the audit period.

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

Changes are expected to be tracked in the database as required by this clause. There is a change log section in the database, but no changes have been recorded during the audit period.

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

A 100% field audit was undertaken of the database.

Wattages for all items of load were checked against the published standardised wattage table produced by the Electricity Authority or the LED specifications.

Audit commentary

Database accuracy based on the field audit

The 100% field audit found that three of the 37 items of load had been changed from 50W Sodium Vapour lights to LED lights. The total wattage of the Sodium Vapour lights was 61W each and these have been replaced by 54W LED lights amounting to a total difference of 21W or 1% which is within the +/-5% allowable threshold. Compliance is confirmed.

Lamp description and capacity accuracy

Wattages for all items of load were checked against the published standardised wattage table produced by the Electricity Authority or the LED specifications and found to be correct.

Change Management

Land Information New Zealand (LINZ) manages the maintenance of the Paremoro streetlights. Downer is responsible for the maintenance at Paremoro, and they engage contractors to undertake the maintenance work. A six-monthly condition check of all lights is conducted, and outages are reported by residents. It is expected that details of any changes made are reported to LINZ who provide updates to Meridian.

As there were three unnotified changes to lights found in the field audit I have repeated the recommendation from the last audit that the change management process is reviewed with the client to ensure future changes in the field are captured.

Recommendation	Description	Audited party comment	Remedial action
Regarding: Clause 15.2 and 15.37B(b)	Liaise with client to ensure changes made in the field are recorded in the database.	Meridian Energy has advised the Paremoro Prison Village contact person/s, the email address for Meridian to advise of any changes and what information is required, so Meridian Energy can correct the database accordingly.	Identified

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 burn hours against the submitted figure to confirm accuracy.

Audit commentary

Submission process and accuracy

Meridian reconciles this DUML load using the UML profile. The daily kWh figure recorded in the registry, which is derived from the spreadsheet is used for submission. I checked the accuracy of the submission information by multiplying the daily kWh by the number of hours in the month and comparing it to the figure in the registry for the month of March 2024. This confirmed the calculation methodology was correct.

Any changes made in the database that affect total wattage are updated on the registry for the same date, therefore changes will be tracked at a daily basis.

Database accuracy

The 100% field audit found that three of the 37 items of load had been changed from 50W Sodium Vapour lights to LED lights. The total wattage of the Sodium Vapour lights was 61W each and these have been replaced by 54W LED lights amounting to a total difference of 21W or 1% which is within the +/-5% allowable threshold.

I have recommended in **section 3.1** that the change management process is reviewed with the client to ensure future changes in the field are captured.

Audit outcome

Compliant

CONCLUSION

Land Information New Zealand (LINZ) manages the maintenance of the Paremoremo streetlights. Downer is responsible for the maintenance at Paremoremo, and they engage contractors to undertake the maintenance work. It is expected that details of any changes made are reported to LINZ who provide updates to Meridian.

The field audit was undertaken of the entire Paremoremo spreadsheet, consisting of 37 items of load on 29th April 2024. The field audit found three of the 37 items of load have been changed to LED. As the changes resulted in a small difference in overall wattage the accuracy of the database was found to be within the allowable +/-5% threshold. I have repeated the recommendation from the last audit that the change management process is reviewed with the client to ensure future changes in the field are captured.

The submission was found to match the spreadsheet provided and the registry.

This audit confirmed compliance and makes one recommendation. The future risk rating of indicates that the next audit be completed in 36 months. I have considered this in conjunction with Meridian's comments and I agree with this recommendation.

PARTICIPANT RESPONSE

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