ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

VERITEK

For

LA POINTE ESTATE
AND MERIDIAN ENERGY LIMITED

Prepared by: Rebecca Elliot

Date audit commenced: 1 October 2020

Date audit report completed: 24 November 2020

Audit report due date: 01-Dec-20

TABLE OF CONTENTS

EXECUTIVE SUMMARY

This audit of the La Pointe Estate 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.

A spreadsheet is managed by Meridian on behalf of La Pointe Estate in relation to this load. La Pointe Estate provide updates to Northpower of any alterations. Northpower passes this information on to Meridian who update the database.

The field audit was undertaken of the entire La Pointe Estate spreadsheet, consisting of 72 items of load on 1st October 2020.

The audit found four non-compliances, the main contributor to the non-compliances relates to inaccuracies in the database. The field audit found that 14 lights have been replaced with LEDs and the database has not been updated to reflect this. The database inaccuracies will result in the database wattage being 121.59% of the actual wattage resulting an estimated annual over submission of 3,981kWh (based on annual burn hours of 4,271 as is detailed in the DUML database auditing tool).

I have made a recommendation that the lamp descriptions in the database are reviewed and updated to ensure that they contain enough detail to distinguish between the LED lamp types and confirm that the correct wattage has been applied.

The future risk rating of seven indicates that the next audit be completed in 18 months and I have considered this in conjunction with Meridian's comments and agree that the next audit be in 18 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	The database wattage is 121.59% of the actual wattage resulting an estimated annual over submission of 3,981kWh. The data used for submission does not track changes at a daily basis and is provided as a snapshot.	Moderate	Low	2	Identified
All load recorded in database	2.5	11(2A) of Schedule 15.3	The field audit found two additional 70W HPS that were not recorded in the database.	Strong	Low	1	Identified
Database accuracy	3.1	15.2 and 15.37B(b)	The database wattage is 121.59% of the actual wattage resulting an estimated annual over submission of 3,981kWh.	Moderate	Low	2	Identified
Volume information accuracy	3.2	15.2 and 15.37B(c)	The database wattage is 121.59% of the actual wattage resulting an estimated annual over submission of 3,981kWh. The data used for submission does not track changes at a daily basis and is provided as a snapshot.	Moderate	Low	2	Identified
					Future Risk Rating	**7**	

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	Recommendation
Database accuracy	3.1	Clause 15.2 and 15.37B(b)	Review and update database with lamp descriptions to ensure that they contain enough detail to distinguish between the LED lamp types and confirm that the correct wattage has been applied.

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

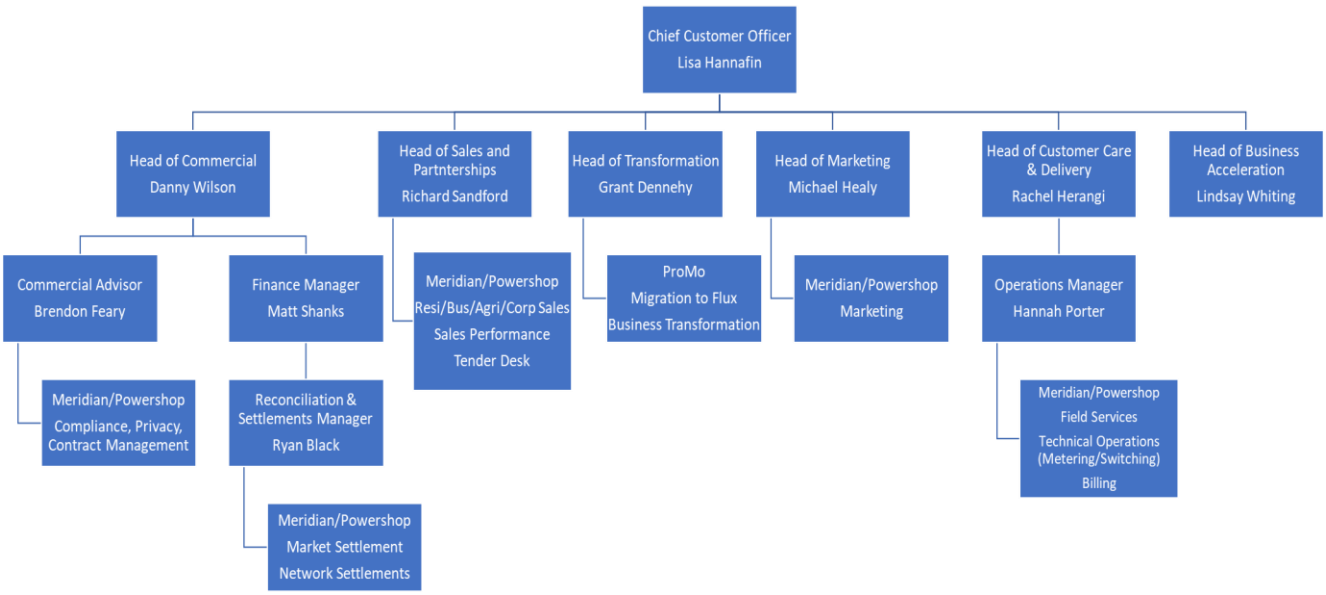
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

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

Auditors:

Name	Title
Rebecca Elliot	Lead Auditor
Brett Piskulic	Supporting Auditor

Other personnel assisting in this audit were:

Name	Title	Company
Amy Cooper	Compliance Officer	Meridian Energy

1.4. Hardware and Software

Meridian do not use a generic database and keep an excel spreadsheet of the La Pointe Estate assets.

Meridian confirmed that the database back-up is in accordance with standard industry procedures. Access to the spreadsheets 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	Profile	Number of items of load	Database wattage (watts)
0000553532NRE6D	Streetlights; Private Unmetered	RPS	72	5,248

1.7. Authorisation Received

All information was provided directly by Meridian.

1.8. Scope of Audit

This audit of the La Pointe Estate 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, which became effective on 1 June 2017.

A spreadsheet is managed by Meridian on behalf of La Pointe Estate in relation to this load.

La Pointe Estate provide updates to Northpower of any alterations. Northpower passes this information on to Meridian who update the database.

The scope of the audit encompasses the collection, security and accuracy of the data, including the preparation of submission information.

The field audit was undertaken of the entire La Pointe Estate spreadsheet, consisting of 72 items of load on 1st October 2020.

1.9. Summary of previous audit

The previous audit of this database was undertaken by Rebecca Elliot of Veritek Limited in November 2018. The summary table below shows the statuses of the non-compliances raised in the previous audit. No recommendations were made.

Subject	Section	Clause	Non-compliance	Status
DUML Audit	1.10	17.295F of part 17	Audit not completed within 12 months of Part 16A coming into effect.	Cleared
Deriving submission information	2.1	11(1) of Schedule 15.3	Net over submission of an estimated 1,696 kWh per annum.	Still existing
Database accuracy	3.1	15.2 and 15.37B(b)	Two additional lights are recorded on the database. Wattage recorded incorrectly for one light.	Still existing
Volume information accuracy	3.2	15.2 and 15.37B(c)	Over submission of an estimated 1,696 kWh per annum.	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.

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 RPS profile. Burn hours are based on 12 hours per day.

A spreadsheet is managed by Meridian on behalf of La Pointe Estate in relation to this load.

The information on the Registry matches to the values in the spreadsheet. I checked the submission calculation provided by Meridian against the data extract, and Registry, and it matches exactly.

The field audit found two additional 70W HPS that were not recorded in the database. There was one 100W HPS light in the database that was not in the field and 14 lights recorded in the database as HPS which had been replaced with LED lights. These discrepancies will result in the database wattage being 121.59% of the actual wattage resulting an estimated annual over submission of 3,981kWh (based on annual burn hours of 4,271 as is detailed in the DUML database auditing tool). This is recorded as non-compliance and discussed in sections **3.1** and **3.2**.

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 process of using a database snapshot does not meet the code requirements. This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 Clause 11(1) of Schedule 15.3 From: unknown To: 01-Oct-20	The database wattage is 121.59% of the actual wattage resulting an estimated annual over submission of 3,981kWh. The data used for submission does not track changes at a daily basis and is provided as a snapshot. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate, as they are sufficient to mitigate the risk most of the time, but there is room for improvement. The impact is assessed to be low, based on the kWh differences described above.

Actions taken to resolve the issue	Completion date	Remedial action status
We are confirming the details of lamp changes that have not been reported to us with Northpower and the customer. The database will be amended and submissions revised as required. Revisions will take into account changes at a daily basis if this information is available.	31 Dec 2020 31 Dec 2020	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We will reconfirm the change management process with relevant parties	31 Jan 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

All items of load have an ICP recorded against them.

Audit outcome

Compliant

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

Code reference

Clause 11(2)(b) of Schedule 15.3

Code related audit information

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

Audit observation

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

Audit commentary

The database contains fields for the street address.

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 a Lamp Description, Model, Gear Wattage and Lamp Wattage. These fields are populated for every item in the spreadsheet. The accuracy of the lamp description, capacity and ballasts recorded 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 all 72 items of load on 1st October 2020.

Audit commentary

The discrepancies found during the field audit findings are detailed in the table below:

Address	Database Count	Field Count	Count differences	Wattage differences	Comments
Barbados Way	23	23		3	2 x 26W LEDs recorded as 2 x 70W HPS in database. 1 x 70W HPS recorded as 100W HPS in database.
Cayman Court	2	2		1	1 x 26W LED lamp recorded as 70W HPS in database.
Hoihere Drive	6	6		2	2 x 26W LEDs recorded as 2 x 70W HPS in database.
Key West Drive	26	27	+2, -1	9	5 x 26W LEDs recorded as 5 x 100W HPS in database. 4 x 26W LED lamps recorded as 4 x 70W HPS in database. 2 x additional 70W HPS installed in field. 1 x 100W HPS not installed in field.
GRAND TOTAL	**72**	**73**	**3**	**15**	

This clause relates to lights in the field that are not recorded in the database. The field audit found two additional 70W HPS that were not recorded in the database. This would result in an annual under submission of 708kWh (based on annual burn hours of 4,271 as is detailed in the DUML database auditing tool). There was one 100W HPS light in the database that was not in the field and 15 lights with incorrect lamp types and wattages, these are recorded as an inaccuracy in the database in **section 3.1**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.5 With: Clause 11(2A) of Schedule 15.3 From: unknown To: 01-Oct-20	The field audit found two additional 70W HPS that were not recorded in the database. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**

Low	The controls are rated as strong, because they are sufficient to ensure that the database is accurate most of the time. The impact is assessed to be low, based on the kWh differences described above.

Actions taken to resolve the issue	Completion date	Remedial action status
We are confirming the details of lamp changes that have not been reported to us with Northpower and the customer.	31 Dec 2020	Identified
The database will be amended and submissions revised as required. Revisions will take into account changes at a daily basis if this information is available.	31 Dec 2020	
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We will reconfirm the change management process with relevant parties	31 Jan 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 spreadsheet contains a tab which records changes that are made in the field. There have been no changes made to the database since December 2019. 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 spreadsheet contains a tab which records changes that are made in the field. There have been no changes made to the database since December 2019.

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 were checked for alignment with the published standardised wattage table produced by the Electricity Authority.

Audit commentary

Field audit findings

The discrepancies found during the field audit findings are detailed in the table below:

Address	Database Count	Field Count	Count differences	Wattage differences	Comments
Barbados Way	23	23		3	2 x 26W LEDs recorded as 2 x 70W HPS in database. 1 x 70W HPS recorded as 100W HPS in database.
Cayman Court	2	2		1	1 x 26W LED lamp recorded as 70W HPS in database.
Hoihere Drive	6	6		2	2 x 26W LEDs recorded as 2 x 70W HPS in database.
Key West Drive	26	27	+2, -1	9	5 x 26W LEDs recorded as 5 x 100W HPS in database. 4 x 26W LED lamps recorded as 4 x 70W HPS in database. 2 x additional 70W HPS installed in field. 1 x 100W HPS not installed in field.
GRAND TOTAL	**72**	**73**	**3**	**15**	

The field audit found two additional 70W HPS that were not recorded in the database. There was one 100W HPS light in the database that was not in the field and 14 lights recorded in the database as HPS which had been replaced with LED lights. These discrepancies will result in the database wattage being 121.59% of the actual wattage resulting an estimated annual over submission of 3,981kWh (based on annual burn hours of 4,271 as is detailed in the DUML database auditing tool). This is recorded as non-compliance below.

Light description and capacity accuracy

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

There are two different types of LED lights (see photos below) installed these are recorded in the database with a lamp type of "26W LED STREETLIGHT". There is not sufficient information to distinguish between the two types of lights LED lights. I recommend that the lamp descriptions are reviewed and updated to ensure that they contain enough detail to distinguish between the LED lamp types and confirm that the correct wattage has been applied.

Recommendation	Description	Audited party comment	Remedial action
Database Accuracy	Review and update database with lamp descriptions to ensure that they contain enough detail to distinguish between the LED lamp types and confirm that the correct wattage has been applied.	We will attempt to obtain information from the customer to confirm the 2 different LED lamp types and their wattages.	Identified

Change management process findings

La Pointe Estate maintain the streetlights and advise Northpower of any alterations. Northpower passes this information on to Meridian who update the database. I checked an email trail between Meridian and Northpower which detailed this process.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: unknown To: 01-Oct-20	The database wattage is 121.59% of the actual wattage resulting an estimated annual over submission of 3,981kWh. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate, as they are sufficient to mitigate the risk most of the time, but there is room for improvement. The impact is assessed to be low, based on the kWh differences described above.

Actions taken to resolve the issue	Completion date	Remedial action status
We are confirming the details of lamp changes that have not been reported to us with Northpower and the customer.	31 Dec 2020	Identified
The database will be amended and submissions revised as required. Revisions will take into account changes at a daily basis if this information is available.	31 Dec 2020	
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We will reconfirm the change management process with relevant parties	31 Jan 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

I checked the submission calculation provided by Meridian and found it matched to the spreadsheet provided and also to the Registry.

The field audit found two additional 70W HPS that were not recorded in the database. There was one 100W HPS light in the database that was not in the field and 14 lights recorded in the database as HPS which had been replaced with LED lights. These discrepancies will result in the database wattage being 121.59% of the actual wattage resulting an estimated annual over submission of 3,981kWh (based on annual burn hours of 4,271 as is detailed in the DUML database auditing tool). This is recorded as non-compliance below.

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 process of using a database snapshot does not meet the code requirements. This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.2 Clause 15.2 and 15.37B(c) From: unknown To: 01-Oct-20	The database wattage is 121.59% of the actual wattage resulting an estimated annual over submission of 3,981kWh. The data used for submission does not track changes at a daily basis and is provided as a snapshot. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate, as they are sufficient to mitigate the risk most of the time, but there is room for improvement. The impact is assessed to be low, based on the kWh differences described above.

Actions taken to resolve the issue	Completion date	Remedial action status
We are confirming the details of lamp changes that have not been reported to us with Northpower and the customer.	31 Dec 2020	Identified
The database will be amended and submissions revised as required. Revisions will take into account changes at a daily basis if this information is available.	31 Dec 2020	
Preventative actions taken to ensure no further issues will occur	**Completion date**	
We will reconfirm the change management process with relevant parties	31 Jan 2020	

CONCLUSION

A spreadsheet is managed by Meridian on behalf of La Pointe Estate in relation to this load. La Pointe Estate provide updates to Northpower of any alterations. Northpower passes this information on to Meridian who update the database.

The field audit was undertaken of the entire La Pointe Estate spreadsheet, consisting of 72 items of load on 1st October 2020.

The audit found four non-compliances, the main contributor to the non-compliances relates to inaccuracies in the database. The field audit found that 14 lights have been replaced with LEDs and the database has not been updated to reflect this. The database inaccuracies will result in the database wattage being 121.59% of the actual wattage resulting an estimated annual over submission of 3,981kWh (based on annual burn hours of 4,271 as is detailed in the DUML database auditing tool).

I have made a recommendation that the lamp descriptions in the database are reviewed and updated to ensure that they contain enough detail to distinguish between the LED lamp types and confirm that the correct wattage has been applied.

The future risk rating of seven indicates that the next audit be completed in 18 months and I have considered this in conjunction with Meridian's comments and agree that the next audit be in 18 months.

PARTICIPANT RESPONSE