

**ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT**

For

**BULLER DISTRICT COUNCIL
ELECTRONET DATABASE AND MERIDIAN
ENERGY**

NZBN: 9429041899960

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EXECUTIVE SUMMARY

This audit of the **Buller District Council (BDC) ElectroNet** 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.

This audit report includes all the unmetered streetlights recorded in the ElectroNet DUML database for BDC.

A field audit of a statistical sample of 71 items of load was undertaken, and no errors were found. The database is confirmed to be accurate.

Meridian reconciles this DUML load using the RPS profile. The daily unmetered kWh value recorded on the registry is multiplied by the days the ICP was connected during the reconciliation period to calculate the reconciliation submissions. The registry values are adjusted by Meridian based on the monthly wattage report provided by ElectroNet

This audit found two non-compliances and make no recommendations. The future risk rating of four indicates that the next audit be completed in 24 months. I have considered this in conjunction with Meridian's comments and recommend that the next audit be in 24 months.

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 data used for submission does not track changes at a daily basis and is provided as a snapshot.	Moderate	Low	2	Identified
Volume information accuracy	3.2	15.2 and 15.37B(c)	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						4	

Future risk rating	1-3	4-6	7-8	9-17	18-26	27+
Indicative audit frequency	36 months	24 months	18 months	12 months	6 months	3 months

RECOMMENDATIONS

Subject	Section	Description	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

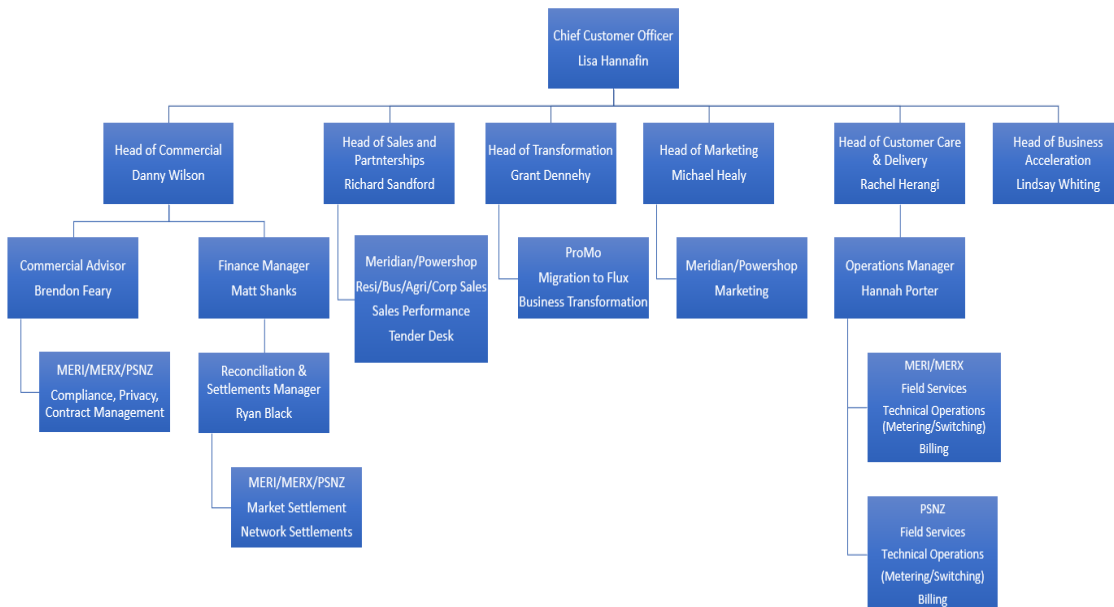
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

Audit commentary

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

1.2. Structure of Organisation

Meridian provided a copy of their organisational structure:



1.3. Persons involved in this audit

Auditor:

Name	Title
Rebecca Elliot	Lead Auditor
Claire Stanley	Supporting Auditor

Other personnel assisting in this audit were:

Name	Title	Company
Daniella Sollitt	GIS Technician	Electronet
Violet Petty	Asset Support Officer	ElectroNet
Chris Busson	GIS Administrator	ElectroNet
Amy Cooper	Compliance Officer	Meridian Energy

1.4. Hardware and Software

ElectroNet maintains streetlight information in the Arc GIS database. Their back up and restoration procedures are in accordance with normal industry protocols.

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	Database	Number of items of load	Database wattage (watts)
0000950010WPCE4	BDC RFN1102 SL AC	RFN1102	RPS	ElectroNet	143	4,663
0000950080WP303	BDC DOB0331 SL AC	DOB0331	RPS	ElectroNet	6	171
TOTAL					149	4,834

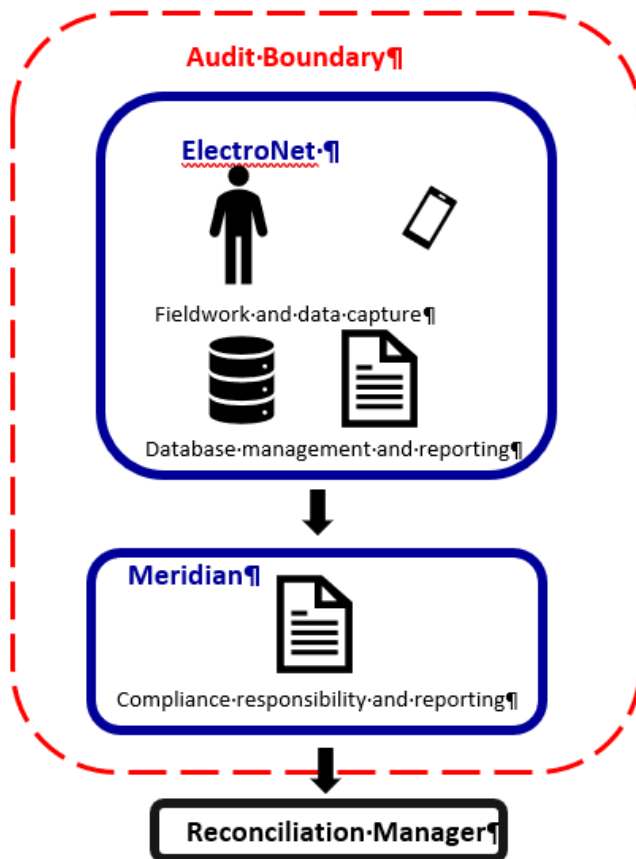
1.7. Authorisation Received

All information was provided directly by Meridian and ElectroNet.

1.8. Scope of Audit

This audit report includes all the unmetered streetlights recorded in the ElectroNet DUML database for BDC.

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

The field audit from the audit undertaken on 13 September 2021 of 71 items of load.

1.9. Summary of previous audit

Meridian provided a copy of the last audit report undertaken by Rebecca Elliot of Veritek Limited in November 2018. Compliance was confirmed.

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 the ElectroNet 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.

Audit commentary

Meridian reconciles this DUMML load using the RPS profile. The daily unmetered kWh value recorded on the registry is multiplied by the days the ICP was connected during the reconciliation period to calculate the reconciliation submissions. The registry values are adjusted by Meridian based on the monthly wattage report provided by ElectroNet. I checked the values being submitted and confirmed the calculations are correct.

The database was found to be accurate.

On 18 June 2019, the Electricity Authority issued a memo confirming that the code requirement to calculate the correct monthly load must:

- take into account when each item of load was physically installed or removed, and
- wash up volumes must take into account where historical corrections have been made to the DUMML load and volumes.

The current data used is a snapshot and this practice is non-compliant.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: 28-Nov-18 To: 16-Aug-21	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: Non Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as moderate, because they are sufficient to ensure that changes to the database are correctly recorded most of the time. The impact is assessed to be low due to the impact on submission.		
Actions taken to resolve the issue		Completion date	Remedial action status
			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Where we are made aware of material changes to lamp information in DUMML database that impact historical settlements, revisions are processed. We are considering the impact the provision and use of database changes at a daily level will have on our processes and tools.		In place Ongoing	

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 databases were checked to confirm an ICP is recorded for each item of load.

Audit commentary

An ICP number is recorded for each item of load.

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 databases were checked to confirm the location is recorded for all items of load.

Audit commentary

GPS coordinates are recorded for each item of load. Street addresses are also recorded for all but one item of load, which has GPS co-ordinates recorded.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

The DUML database must contain:

- *a description of load type for each item of load and any assumptions regarding the capacity*
- *the capacity of each item in watts.*

Audit observation

The database was checked to confirm that it contained a field for lamp type and wattage capacity and included any ballast or gear wattage.

Audit commentary

A light type description including the light wattage, and total wattage including ballast is recorded in the database for all items of load.

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 a statistical sample of 71 items of load was undertaken on 13 September 2021.

Audit commentary

The database matched the lamps found in the field; compliance is confirmed.

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 DUMML 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 databases was examined.

Audit commentary

The database tracks additions and removals as required by this clause.

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

The database has a complete and compliant audit trail.

Audit outcome

Compliant

3. ACCURACY OF DUMML 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 DUMML database is complete and accurate.

Audit observation

The DUMML Statistical Sampling Guideline was used to determine the database accuracy. The table below shows the survey plan.

Plan Item	Comments
Area of interest	BDC Electronet network DUMML lights region
Strata	The database contains items of load in BDC area connected to the Westpower Network. The processes for the management of all items of load are the same, and I decided to create one stratum for all lights.
Area units	I created a pivot table of the roads, and I used a random number generator in a spreadsheet to select a total of five sub-units.
Total items of load	71 items of load were checked.

Wattages were checked for alignment with the published standardised wattage table produced by the Electricity Authority, and the manufacturer's specifications or in the case of LED lights against the LED light specification.

The process to manage changes made in the field being updated in the database was examined.

Audit commentary

The field audit was undertaken on 13 September 2021 of 71 items of load and found 100% database accuracy for the sample checked. Compliance is confirmed.

Light description and capacity accuracy

The database was checked against the published standardised wattage table, and manufacturer's specifications where available.

As discussed in **section 2.4**, all lights have a lamp and gear wattage recorded. All wattages and ballasts were recorded correctly.

Change management process findings

The Arc GIS database used for submission is managed by ElectroNet, on behalf of Westpower. New connection, fault, and maintenance work is completed by ElectroNet, who update the GIS in the field using Arc GIS collector. ElectroNet office staff validate the data and post it to the database after the field devices are synchronised to the main database.

Most new connections relate to network extensions, new subdivisions are rare. When new subdivisions are created, Westpower ensures that the installation is compliant and provides approval for connection.

A process workflow in the Maximo system is used to manage all new connections and includes a step to update GIS information. Maximo tasks are normally allocated to a work group rather than individual, and key tasks are escalated within Maximo if not completed within specified timeframes. Tasks can be reassigned as necessary. Once the installation job is complete, a work task is created for the GIS team to check the Arc GIS database is up to date.

Festive lights

Festive lights are not used on the Buller DC network.

Private lights

ElectroNet is not aware of any unmetered private lights on the network.

Outage Patrols

There are no outage patrol processes in place. Lights are maintained across the District on a reactive basis.

BDC has completed the planned upgrade to LEDs.

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 RPS profile. The daily unmetered kWh value recorded on the registry is multiplied by the days the ICP was connected during the reconciliation period to calculate the reconciliation submissions. The registry values are adjusted by Meridian based on the monthly wattage report provided by ElectroNet. I checked the values being submitted and confirmed the calculations are correct.

The database was found to be accurate.

On 18 June 2019, the Electricity Authority issued a memo confirming that the code requirement to calculate the correct monthly load must:

- take into account when each item of load was physically installed or removed, and
- wash up volumes must take into account where historical corrections have been made to the DUML load and volumes.

The current data used is a snapshot and this practice is non-compliant.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c) From: 28-Nov-18 To: 16-Aug-21	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: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as moderate, because they are sufficient to ensure that changes to the database are correctly recorded most of the time. The impact is assessed to be low because only one item of load is affected.		
Actions taken to resolve the issue		Completion date	Remedial action status
			Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	
Where we are made aware of material changes to lamp information in DUMML database that impact historical settlements, revisions are processed. We are considering the impact the provision and use of database changes at a daily level will have on our processes and tools.		In place Ongoing	

CONCLUSION

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

This audit report includes all the unmetered streetlights recorded in the ElectroNet DUML database for BDC.

A field audit of a statistical sample of 71 items of load was undertaken, and no errors were found. The database is confirmed to be accurate.

Meridian reconciles this DUML load using the RPS profile. The daily unmetered kWh value recorded on the registry is multiplied by the days the ICP was connected during the reconciliation period to calculate the reconciliation submissions. The registry values are adjusted by Meridian based on the monthly wattage report provided by ElectroNet

This audit found two non-compliances and make no recommendations. The future risk rating of four indicates that the next audit be completed in 24 months. I have considered this in conjunction with Meridian's comments and recommend that the next audit be in 24 months.

PARTICIPANT RESPONSE

Meridian has reviewed this report and their comments are contained within the report.