

ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

VERITEK

For

BULLER DISTRICT COUNCIL
RAMM DATABASE
AND MERIDIAN ENERGY
NZBN: 9429037696863

Prepared by: Steve Woods

Date audit commenced: 3 October 2022

Date audit report completed: 17 October 2022

Audit report due date: 01-Dec-22

TABLE OF CONTENTS

Executive summary	3
Audit summary	4
Non-compliances	4
Recommendations	5
Issues	5
1. Administrative	6
1.1. Exemptions from Obligations to Comply with Code	6
1.2. Structure of Organisation	6
1.3. Persons involved in this audit.....	7
1.4. Hardware and Software	7
1.5. Breaches or Breach Allegations.....	7
1.6. ICP Data	7
1.7. Authorisation Received	7
1.8. Scope of Audit	8
1.9. Summary of previous audit	9
1.10. Distributed unmetered load audits (Clause 16A.26 and 17.295F)	9
2. DUML database requirements	10
2.1. Deriving submission information (Clause 11(1) of Schedule 15.3)	10
2.2. ICP identifier and items of load (Clause 11(2)(a) and (aa) of Schedule 15.3)	11
2.3. Location of each item of load (Clause 11(2)(b) of Schedule 15.3)	12
2.4. Description and capacity of load (Clause 11(2)(c) and (d) of Schedule 15.3)	12
2.5. All load recorded in database (Clause 11(2A) of Schedule 15.3)	13 <u>14</u>
2.6. Tracking of load changes (Clause 11(3) of Schedule 15.3)	15 <u>14</u>
2.7. Audit trail (Clause 11(4) of Schedule 15.3).....	16 <u>15</u>
3. Accuracy of DUML database	17 <u>16</u>
3.1. Database accuracy (Clause 15.2 and 15.37B(b))	17 <u>16</u>
3.2. Volume information accuracy (Clause 15.2 and 15.37B(c))	19 <u>17</u>
Conclusion	21 <u>20</u>
Participant response	22 <u>21</u>

EXECUTIVE SUMMARY

This audit of the **Buller District Council (BDC)** DUML, Buller Electricity's RAMM 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 BDC RAMM database across the Buller and Network Tasman networks.

The processes were reviewed and have not changed for new lamp connections and the tracking of load changes due to faults and maintenance. Fault, maintenance and LED upgrade work is completed by Buller Electricity on the Buller Network lights and by WJ Ashton for the Network Tasman NZTA lights in Murchison.

The LED replacement project has continued to be rolled out. A number of LED lights have been installed in the field, but the details in the database do not match the lamp details in the field. The database has five lights recorded for Sunderland Street on two different ICPs: ICP 0003970474BUE6B and ICP 0003970396BUB56. ICP 0003970396BUB56 is not part of this audit because it's a metered ICP with a different retailer. This is discussed further in **section 2.2 and 2.5**.

Meridian reconciles this DUML load using the RPS profile and the daily unmetered figures for both ICPs. Meridian Energy receive a monthly wattage report from Buller District Council. This is multiplied by 11.5 burn hours per day to update the daily figure on the registry. I checked the values being submitted and confirmed the calculations are correct.

The full field audit found that the database was not accurate to within +/- 5% accuracy threshold. This will be resulting in an estimated annual over submission of 2,558 kWh p.a.

The audit found four non-compliances and makes three recommendations. The future risk rating of 11 indicates that the next audit be completed in 12 months. I have considered this in conjunction with Meridian's comments. I recommend that the next audit be in 12 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 field audit found a 14% error rate resulting in an estimated annual over submission of 2,558 kWh. The data used for submission does not track changes at a daily basis and is provided as a snapshot.	Weak	Low	3	
All load recorded in database	2.5	11(2A) of Schedule 15.3	Three additional items of load found in the field of 71 items of load sampled.	Moderate	Low	2	
Database accuracy	3.1	15.2 and 15.37B(b)	The field audit found a 14% error rate resulting in an estimated annual over submission of 2,558 kWh. One lamp not recorded correctly in the database, resulting in approximately 59.80 kWh p.a. of over submission.	Weak	Low	3	
Volume information accuracy	3.2	15.2 and 15.37B(c)	The field audit found a 14% error rate resulting in an estimated annual over submission of 2,558 kWh. The data used for submission does not track changes at a daily basis and is provided as a snapshot.	Weak	Low	3	
Future Risk Rating						11	

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
ICP identifier and items of load	2.2	Investigate the lights in Sunderland St recorded against ICP 0003970396BUB56 and update accordingly.	Correct the ICP for the lights in Sunderland St.
Location of each item of load	2.3	Identify correct co-ordinates for one light (pole 80083)	Correct the co-ordinates for one light (pole 80083)
Database accuracy	3.1	Incorrect light model of GL700 recorded for lights with LED wattage.	Update database with correct light model.

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

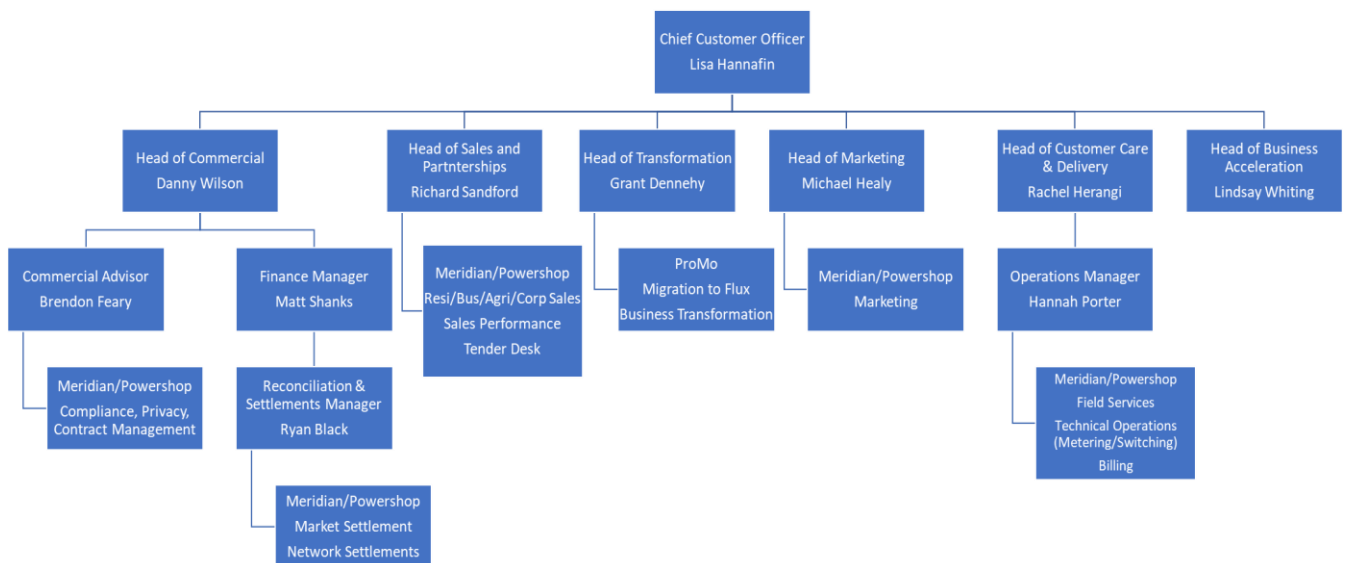
Section 11 of the Electricity Industry Act provides for the Electricity Authority to exempt any participant from compliance with all or any of the clauses.

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
Steve Woods	Lead Auditor
Claire Stanley	Supporting Auditor

Other personnel assisting in this audit were:

Name	Title	Company
Martin Dobson	Coordinator Asset Information	Buller District Council
Amy Cooper	Compliance Officer	Meridian
Daniel Lau	Energy Data Analyst	Meridian

1.4. Hardware and Software

The SQL database used for the management of DUML is remotely hosted by thinkproject New Zealand Limited. The database is commonly known as “RAMM” which stands for “Road Assessment and Maintenance Management”. The specific data used for DUML is held in the Streetlight tables. thinkproject New Zealand Limited backs up the database and assists with disaster recovery as part of their hosting service.

Access to the database is secure by way of password protection.

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	Number of items of load	Database wattage (watts)
0003970474BUE6B	DUML Streetlights	ORO1102	62	2,949
0000090008NT5BE	BULLER CC STREETLIGHTING MURCHISON GXP	MCH0111	9	1,342
TOTAL			71	4,291

1.7. Authorisation Received

All information was provided directly by Meridian and Buller District Council.

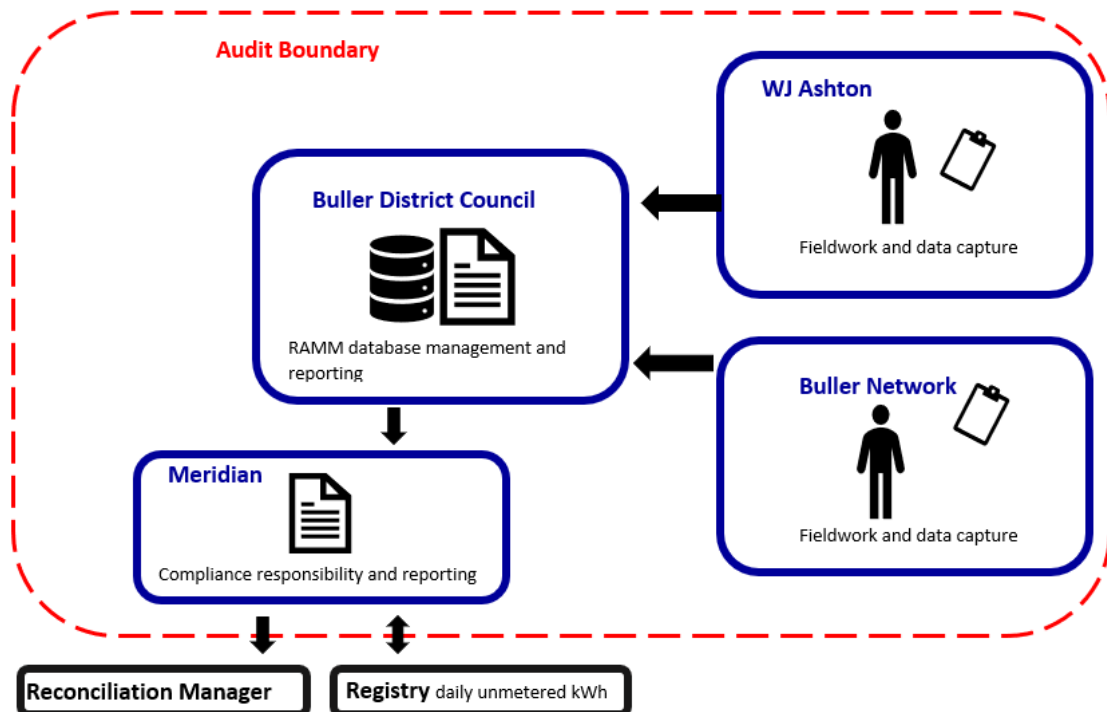
1.8. Scope of Audit

This audit of the BDC DUML, Buller Electricity's RAMM database and processes was conducted at the request of Meridian Energy 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.

This audit report includes all the unmetered streetlights recorded in the RAMM database. This covers lights on both the Buller and Network Tasman networks.

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

The diagram below shows the audit boundary for clarity.



The field audit was undertaken of all 71 unmetered load items recorded in the RAMM database on 14th November 2022.

1.9. Summary of previous audit

Meridian provided a copy of the last audit report undertaken by Rebecca Elliot of Veritek Limited in December 2021. The current status of the non-compliances found in the last audit are detailed below:

Table of Non-Compliances

Subject	Section	Clause	Non-Compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	The field audit found a 12% error rate resulting in an estimated annual over submission of 2,396 kWh.	Still existing
			The data used for submission does not track changes at a daily basis and is provided as a snapshot.	Still existing
Description and capacity of load	2.4	11(2)(c) of Schedule 15.3	27 lights with an unknown light type.	Cleared
Database accuracy	3.1	15.2 and 15.37B(b)	The field audit found a 12% error rate resulting in an estimated annual over submission of 2,396 kWh. 27 lights with an unknown light description.	Still existing
Volume information accuracy	3.2	15.2 and 15.37B(c)	The field audit found a 12% error rate resulting in an estimated annual over submission of 2,396 kWh.	Still existing
			The data used for submission does not track changes at a daily basis and is provided as a snapshot.	Still existing

Recommendations

Subject	Section	Description	Action
		Nil	

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:

- a) by 1 June 2018 (for DUML that existed prior to 1 June 2017)*
- b) within three months of submission to the reconciliation manager (for new DUML)*
- c) 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. 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 RPS profile and the daily unmetered figures for both ICPs. Meridian Energy receive a monthly wattage report from Buller District Council. This is multiplied by 11.5 burn hours per day to update the daily figure on the registry.

I checked the values being submitted and confirmed the calculations are correct.

The full field audit found that the database had a 14% error rate. This will be resulting in an estimated annual over submission of 2,558 kWh p.a. and is recorded as non-compliance below.

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 data supplied to Meridian each month is based on a snapshot and does not achieve compliance with the requirements above.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: 28-Aug-21 To: 03-Oct-22	<p>The field audit found a 14% error rate resulting in an estimated annual over submission of 2,558 kWh.</p> <p>The data used for submission does not track changes at a daily basis and is provided as a snapshot.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times previously</p> <p>Controls: Weak</p> <p>Breach risk rating: 3</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are rated as weak as changes in the field are not being reflected in the database.</p> <p>The impact is assessed to be low due to the estimated amount of over submission described above.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Meridian will advise of the inaccuracies identified and request for corrections to be made.		2/12/2022	Identified
Preventative actions taken to ensure no further issue will occur		Completion date	
We have assessed our processes and tools to account for historic lamp installations and changes to the database at a daily level. There are checks in place comparing month to month data to identify any material changes and confirm details for these. These are accounted for in monthly submission.		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 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.

The database has five lights recorded for Sunderland Street on two different ICP's. ICP 0003970474BUE6B and ICP 0003970396BUB56.

ICP 0003970396BUB56 is not part of this audit because it's a metered ICP with a different retailer. I recommend that the ICP number is confirmed for the lights in Sunderland St and updated in the database. This is discussed further in **section 2.5**.

Recommendation	Description	Audited party comment	Remedial action
ICP identifier and items of load	Investigate the lights in Sunderland St recorded against ICP 0003970396BUB56 and update accordingly.	Meridian will advise the council of the recommendation	Identified

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 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 contains the nearest street address, pole numbers and Global Positioning System (GPS) coordinates for each item of load and users in the office and field can view these locations on a mapping system. The co-ordinates for one light (pole 80083) is in the ocean but there were sufficient physical address details to make it locatable.

Recommendation	Description	Audited party comment	Remedial action
Identify correct co-ordinates for one light (pole 80083).	Correct the co-ordinates for one light (pole 80083).	Meridian will advise the council of the recommendation	Identified

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 RAMM database has fields for make, model, ballast and wattage.

The previous audit identified nine lamps with a description of Unknown for make and model. And 18 lights had Unknown for the light model. These have all been updated in the database.

The accuracy of these lights 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 undertaken of the all the unmetered 71 items of load on 14th November 2022.

Audit commentary

The field audit discrepancies are detailed in the table below:

Street/Area	Database Count	Field Count	Lamp no. difference	No of incorrect lamp wattage	Comments
BEACH RD (CHARLESTON)	1	1		1	1 x 70W HPS recorded in the database but 70W SON located in the field
CAINS RD	1	1		1	1 X 27 LED recorded in the database but 1 x 22W LED located in the field
CALEDONIAN RD	1	1		1	1 x 27W LED recorded in the database but 1 x 22W LED located in the field
CAMP ST (CHARLESTON)	4	4	+1, -1	3	3 x 100W HPS recorded in the database but 3 x 70W HPS located in the field. 1 x 100W HPS recorded in the database but not located in the field. 1 additional 70W HPS located in the field.
KEW RD	4	4		2	2 x 27W LED recorded in the database but 2 x 22W LED located in the field
MCINTYRE RD (WEST)	1	1		1	1 x 27W LED recorded in the database but 1 x 22W LED located in the field
NEWCASTLE ST	3	4	+1	1	1 x 27W LED recorded in the database but 1 x 22W LED located in the field. 1 additional 22W LED located in the field.

Street/Area	Database Count	Field Count	Lamp no. difference	No of incorrect lamp wattage	Comments
NINE MILE RD	4	4		4	3 x 27W LED recorded in the database but 3 x 22W LED located in the field. 1 x 70W HPS recorded in the database but 1 x 22W LED located in the field.
POWELL PL	1	1		1	1 x 70W HPS recorded in the database but 1 x 22W LED located in the field.
PRINCES ST	1	1		1	1 x 70W HPS recorded in the database but 1 x 22W LED located in the field.
REEDYS RD	1	1		1	1 x 70W HPS recorded in the database but 1 x 27W LED located in the field.
SH 67 WAIMANGAROA	10	10		4	1 x 100W HPS recorded in the database but 1 x 27W LED located in the field. 1 x 22W LED recorded in the database but 1 x 27W LED located in the field. 1 x 22W LED recorded in the database but 1 x 70W HPS located in the field. 1 x 22W LED recorded in the database but 1 x 27W LED located in the field.
SH 67A ACCESSWAY 430	1	0	-1		1 x 150W HPS recorded in the database but not located in the field.
SUNDERLAND ST	2	3	+1	2	1 x 27W LED recorded in the database but 1 x 22W LED located in the field. 2 x additional 22W LED located in the field 2 x 27W LED recorded in the database but not located in the field. <i>Refer table below for further notes.</i>
Grand Total	71	74	5 (+3, -2)	23	

Three additional items of load found in the field of 71 items of load sampled.

The database has five lights recorded for Sunderland Street on two different ICPs:

Road	Road: Town	ICP Group	Northing	Easting	Notes	Correct wattage
SUNDERLAND ST	WAIMANGAROA	0003970474BUE6B	5381437	1496905	Light located in field ICP 0003970474BUE6B	22
SUNDERLAND ST	WAIMANGAROA	0003970396BUB56	5381559	1496822	This light was located in the field and should be on ICP 0003970474BUE6B (it is outside no 7)	22
SUNDERLAND ST	WAIMANGAROA	0003970396BUB56	5381654	1496767	This light was located in the field and should be on ICP 0003970474BUE6B (it is near no 11)	22
SUNDERLAND ST	WAIMANGAROA	0003970474BUE6B	5381512	1496853	These co-ordinates are outside no 3 - there is no light on the pole.	0
SUNDERLAND ST	WAIMANGAROA	0003970396BUB56	5381611	1496796	These co-ordinates are outside no 9 - there is no light on the pole	0

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.5 With: Clause 11(2A) of Schedule 15.3 From: 28-Aug-21 To: 03-Oct-22	Three additional items of load found in the field of 71 items of load sampled. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as moderate because they ensure most information is accurate. The impact is assessed to be low due to the small number of additional lights found in the field in relation to the overall count of the items of load.		
Actions taken to resolve the issue		Completion date	Remedial action status
Meridian will advise of the inaccuracies identified and request for corrections to be made.		02/12/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Meridian will continue to follow up with Buller DC to complete the required corrections and to maintain the install updates and changes to the database.		01/03/2023	

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.

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 RAMM database has a complete audit trail of all additions and changes to the database information.

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

The field audit was undertaken of all 71 items of unmetered load items recorded in the RAMM database on 14th November 2022.

Wattages were checked for alignment with the published standardised wattage table produced by the Electricity Authority or LED light specifications where available against the DUML database.

The change management process to track changes and timeliness of database updates was evaluated.

Audit commentary

Database accuracy

The field audit found a large number of errors. These are detailed in **section 2.5**. I calculated an error rate across the database of 14%. This will be resulting in an estimated annual over submission of 2,558 kWh p.a. This is not within the allowable database accuracy threshold of +/- 5% and is recorded as non-compliance below.

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 LED light specifications and found to be correct. Some wattages have been updated since the last audit.

One LED lamp has ballast recorded, but ballast should not be applied to the LED lamp:

Lamp Make/Model	Lamp Wattage	Expected wattage	Ballast recorded	Variance	Database quantity	Estimated annual kW effect on consumption
Sylvania Roadster	22W	22W	14W	14W	1	59.80

This will result in an estimated over submission of 59.80 kWh per annum (based on 4271 hours per annum). This is recorded as non-compliance below.

There are ten lights with the light model of GL700 recorded, the wattage indicates these are LED lights. I recommend the light model is reviewed and updated to ensure accuracy.

Recommendation	Description	Audited party comment	Remedial action
Database Accuracy	Update database with correct light model.	Meridian will advise the council of the recommendation	Identified

Tracking of load change

The processes were reviewed and have not changed for new lamp connections and the tracking of load changes due to faults and maintenance. Fault, maintenance and LED upgrade work is completed by Buller Electricity on the Buller Network lights and by WJ Ashton for the Network Tasman NZTA lights in Murchison.

Buller Electricity update RAMM directly as maintenance is performed. The LED replacement project has mostly been completed, there are small number of lights still to be changed to LED. There are 18 NZTA lights that have not been upgraded to LED. Due the distance to be covered in the network any changes required will be fitted in amongst other work in the area.

Private lights are on their own metered ICPs.

Christmas lights in the Buller district are connected to metered circuits. Currently they are only in the Palmerston Street area.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: 28-Aug-21 To: 03-Oct-22	The field audit found a 14% error rate resulting in an estimated annual over submission of 2,558 kWh. One lamp not recorded correctly in the database, resulting in approximately 59.80 kWh p.a. of over submission. Potential impact: Low Actual impact: Low Audit history: Twice previously Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as weak as changes in the field are not being reflected in the database. The impact is assessed to be low due to the estimated amount of over submission described above.		
Actions taken to resolve the issue		Completion date	Remedial action status
Meridian will advise of the inaccuracies identified and request for corrections to be made.		02/12/2022	Identified
Preventative actions taken to ensure no further issue will occur		Completion date	
Meridian will continue to follow up with Buller DC to complete the required corrections and to maintain the install updates and changes to the database.		01/03/2023	

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

Meridian reconciles this DUML load using the RPS profile and the daily unmetered figures for both ICPs. Meridian Energy receive a monthly wattage report from Buller District Council. This is multiplied by 11.5 burn hours per day to update the daily figure on the registry.

I checked the values being submitted and confirmed the calculations are correct.

The full field audit found that the database had a 14% error rate. This will be resulting in an estimated annual over submission of 2,558 kWh p.a. and is recorded as non-compliance below.

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 data supplied to Meridian each month is based on a snapshot and does not achieve compliance with the requirements above.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c) From: 28-Aug-21 To: 03-Oct-22	The field audit found a 14% error rate resulting in an estimated annual over submission of 2,558 kWh. 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: Multiple times previously Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as weak as changes in the field are not being reflected in the database. The impact is assessed to be low due to the estimated amount of over submission described above.		
Actions taken to resolve the issue		Completion date	Remedial action status
Meridian will advise of the inaccuracies identified and request for corrections to be made.		02/12/2022	Identified
Preventative actions taken to ensure no further issue will occur		Completion date	
We have assessed our processes and tools to account for historic lamp installations and changes to the database at a daily level. There are checks in place comparing month to month data to identify any material changes and confirm details for these. These are accounted for in monthly submission.		Ongoing	

CONCLUSION

This audit report includes all the unmetered streetlights recorded in the BDC RAMM database across the Buller and Network Tasman networks.

The processes were reviewed and have not changed for new lamp connections and the tracking of load changes due to faults and maintenance. Fault, maintenance and LED upgrade work is completed by Buller Electricity on the Buller Network lights and by WJ Ashton for the Network Tasman NZTA lights in Murchison.

The LED replacement project has continued to be rolled out. A number of LED lights have been installed in the field, but the details in the database do not match the lamp details in the field. The database has five lights recorded for Sunderland Street on two different ICPs: ICP 0003970474BUE6B and ICP 0003970396BUB56. ICP 0003970396BUB56 is not part of this audit because it's a metered ICP with a different retailer. This is discussed further in **section 2.2 and 2.5**.

Meridian reconciles this DUML load using the RPS profile and the daily unmetered figures for both ICPs. Meridian Energy receive a monthly wattage report from Buller District Council. This is multiplied by 11.5 burn hours per day to update the daily figure on the registry. I checked the values being submitted and confirmed the calculations are correct.

The full field audit found that the database was not accurate to within +/- 5% accuracy threshold. This will be resulting in an estimated annual over submission of 2,558 kWh p.a.

The audit found four non-compliances and makes three recommendations. The future risk rating of 11 indicates that the next audit be completed in 12 months. I have considered this in conjunction with Meridian's comments. I recommend that the next audit be in 12 months.

PARTICIPANT RESPONSE

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