

ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

VERITEK

For

BULLER DISTRICT COUNCIL
RAMM DATABASE
AND MERIDIAN ENERGY

Prepared by: Rebecca Elliot

Date audit commenced: 16 September 2019

Date audit report completed: 29 November 2019

Audit report due date: 01-Dec-19

TABLE OF CONTENTS

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

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.

Meridian's submissions for the Buller DC unmetered streetlights have continued to be based on the unmetered daily kWh recorded on the registry for both ICPs. Meridian have requested a monthly RAMM database report, but none has been provided to date. I have repeated the last audit's recommendation that this be provided and that it include daily database changes. Meridian have updated the daily kWh figure from 134 kWh to 61.44kWh based on the last audit's findings. This was backdated to 1/10/17 so that revisions could be processed, and I confirm that revisions have been submitted to the market.

This audit report includes all the unmetered streetlights recorded in the BDC RAMM database across the Buller and Network Tasman networks. BDC have been liaising with NZTA to confirm that they have all of the NZTA unmetered lights recorded correctly. NZTA provided this information to BDC in October 2019. This detailed 25 lights that were recorded in the NZTA RAMM database. The NZTA information provided contained pole numbers only. I compared these to the NZTA items of load recorded in the BDC RAMM database and found 17 of these have been added but I was unable to confirm the remaining seven items of load. These appear to be missing. Assuming these are all 100W HPS (the most common NZTA light) this will be resulting in an estimated under submission of 3,408 kWh per annum if the database were used for reconciliation.

A field audit found the BDC RAMM database to have a high level of accuracy and it is within the allowable +/-5% accuracy threshold.

The audit found four non-compliances and makes two recommendations. The future risk rating of six indicates that the next audit be completed in 12 months. I agree with this recommendation.

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 registry daily kWh figure is used for submission and this does not track change daily as required by the code resulting in under submission of approx. 3,708kWh per annum. | Weak | Low | 3 | Identified |
| All load recorded in the database | 2.5 | 11(2A) of Schedule 15.3 | Seven NZTA items of load missing from the BDC RAMM database resulting in an estimated annual under submission of 3,408 kWh. | Moderate | Low | 2 | Identified |
| Database accuracy | 3.1 | 15.2 and 15.37B(b) | Seven NZTA items of load missing from the BDC RAMM database resulting in an estimated annual under submission of 3,408 kWh. | Moderate | Low | 2 | Investigating |
| Volume information accuracy | 3.2 | 15.2 and 15.37B(c) | The registry daily kWh figure is used for submission and this does not track change daily as required by the code resulting in in under submission of approx. 3,708kWh per annum. | Weak | Low | 3 | Identified |
| Future Risk Rating | | | | | | 10 | |

| | | | | | | |
|-----------------------------------|-----------|-----------|-----------|-----------|----------|----------|
| 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 | Action |
|---------|---------|-------------|--------|
|---------|---------|-------------|--------|

| | | | |
|---------------------------------|-----|--|--|
| Deriving submission information | 2.1 | Buller DC to send Meridian a monthly wattage report that tracks load change daily from RAMM. | |
| Database accuracy | 3.1 | Update lamp descriptions to detail light make and model in sufficient detail to 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

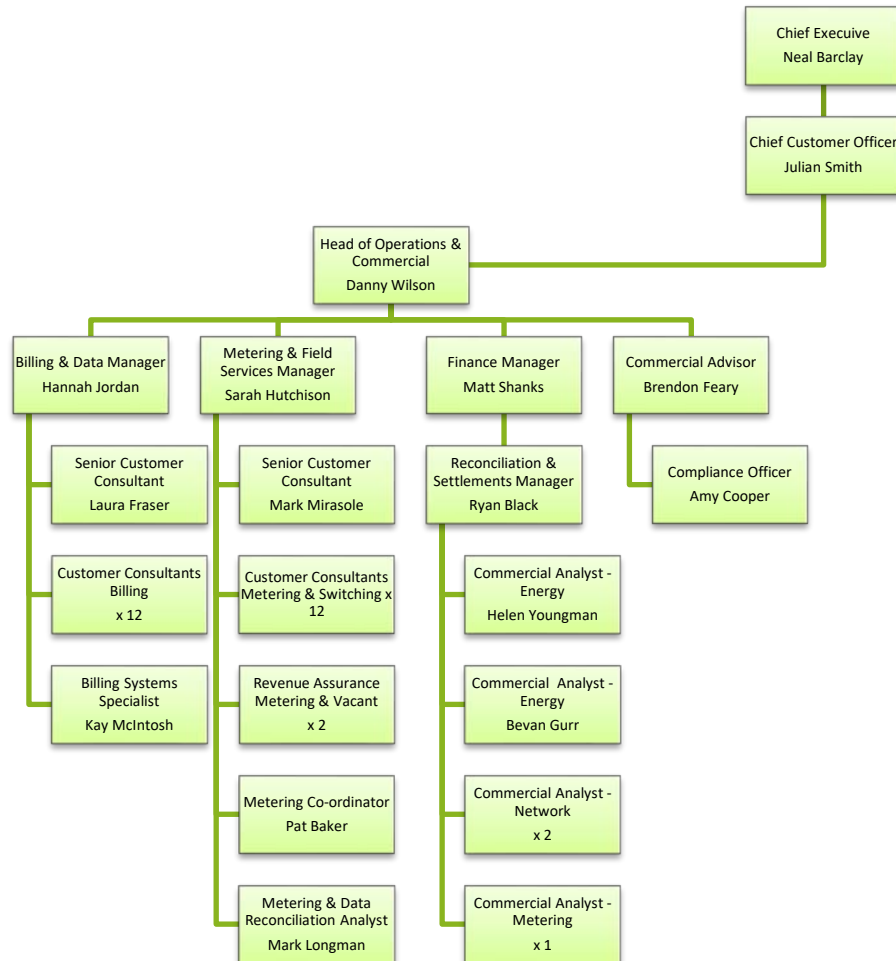
Section 11 of the Electricity Industry Act provides for the Electricity Authority to exempt any participant from compliance with all or any of the clauses.

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:

Rebecca Elliot

Veritek Limited

Electricity Authority Approved Auditor

Other personnel assisting in this audit were:

| Name | Title | Company |
|----------------|-------------------------------|----------------------------|
| Kim McLaughlin | Administrator | Buller Electricity Limited |
| Martin Dobson | Coordinator Asset Information | Buller District Council |
| Amy Cooper | Compliance Officer | Meridian |
| Helen Youngman | Energy Data Analyst | Meridian |

1.4. Hardware and Software

The RAMM database used for the management of DUML is remotely hosted by RAMM Software Ltd.

BDC confirmed that the database back-up is in accordance with standard industry procedures. Access to the database is secure by way of password protection.

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 | 63 | 5,428 |
| 0000090008NT5BE | BULLER CC STREETLIGHTING MURCHISON GXP | MCH0111 | 9 | 1,427 |
| TOTAL | | | 72 | 6,855 |

The bulk of the Buller DC lights are on metered circuits. Buller Network confirmed this by undertaking a complete field audit prior to the last audit.

1.7. Authorisation Received

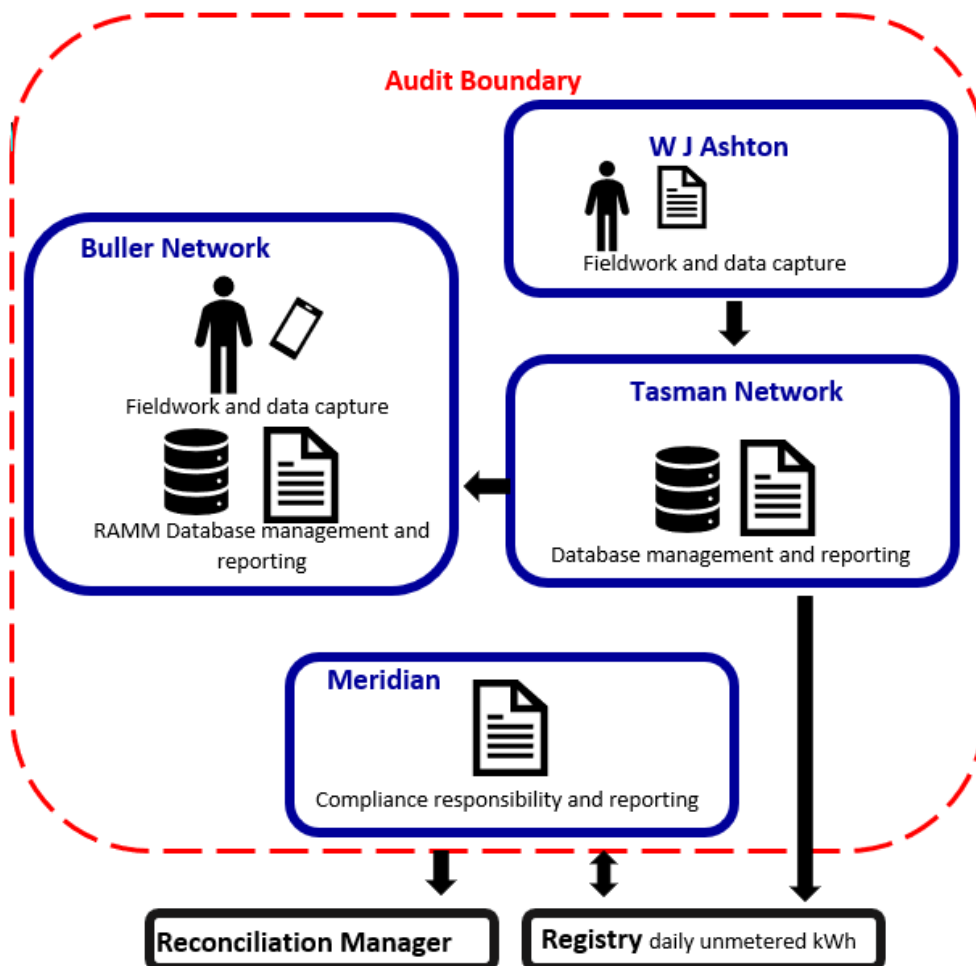
All information was provided directly by Meridian, BDC and Buller Electricity.

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:



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

The field audit was undertaken of all 72 unmetered load items recorded in the RAMM database on the 6th & 7th November 2019.

1.9. Summary of previous audit

Meridian provided a copy of the last audit report undertaken by Rebecca Elliot of Veritek Limited in November 2019. The current status of the non-compliances found in the last audit are detailed below:

Table of Non-Compliance

| Subject | Section | Clause | Non-Compliance | Status |
|---------------------------------|---------|------------------------|---|----------------|
| Deriving submission information | 2.1 | 11(1) of Schedule 15.3 | Over submission of approx. 27,533 kWh per annum will be occurring due to historic registry value being used for submission. | Still existing |
| Volume information accuracy | 3.2 | 15.2 and 15.37B(c) | Over submission of approx. 27,533 kWh per annum will be occurring due to historic registry value being used for submission. | Still existing |

RECOMMENDATIONS

| Subject | Section | Description | Status |
|---------------------------------|---------|--|----------------|
| Deriving submission information | 2.1 | Buller DC to send Meridian a monthly wattage report from RAMM. | 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 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

Meridian reconciles this DUML load using the RPS profile and the daily unmetered figures for both ICPs. I checked the values being submitted and confirmed the calculations are correct.

There have been no changes made to the Network Tasman ICP items of load during the audit period confirming that the daily kWh figure recorded in the registry and used by Meridian is correct.

The database has 72 items of load associated with ICP 0003970474BUE6B with a total load of 6.855kW. BDC have been liaising with NZTA to confirm that they have all of the NZTA unmetered lights recorded correctly. NZTA provided this information to BDC in October 2019. This detailed 25 lights that were recorded in the NZTA RAMM database. The NZTA information provided contained pole numbers only. I compared these to the items of load in the BDC RAMM database and found 17 of these have been added to the BDC RAMM database but I was unable to confirm the remaining seven items of load. These appear to be missing. Assuming these are all 100W HPS (the most common NZTA light) this will be resulting in an estimated under submission of 3,408 kWh per annum if the database were used for reconciliation. This is recorded as non-compliance in **sections 2.5** and **3.1**.

Meridian Energy have been requesting a database extract to use for reconciliation, but none has been provided to date, so they have continued to use the daily kWh registry figure multiplied by number of days in the month to determine the kWh value for the ICP 0003970474BUE6B. The daily kWh figure was updated from 134 kWh to 61.44kWh backdated to 1/10/17 so that revisions could be processed. I checked this and revisions have been submitted to the market.

Due to the additional NZTA lights on ICP 0003970474BUE6B the current daily kWh value is too low as the calculated daily kWh figure is 71.60kWh not 61.44kWh, resulting in under submission as detailed below if it is not updated in the registry:

| BDC vs registry daily kWh | Annual kWh (daily kWh x 365 days) |
|---------------------------------|-----------------------------------|
| BDC | 26,134 |
| Registry | 22,426 |
| Estimated Annual kWh difference | 3,708 |

This 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.

No database reporting including the tracking of load change at a daily level is currently being provided and I repeat the last audit’s recommendation that a monthly report be sent from Buller DC to Meridian to be used for reconciliation. This is recorded as non-compliance.

| Recommendation | Description | Audited party comment | Remedial action |
|---|--|---|-----------------|
| Regarding: Clause 11(1) of schedule 15.3 | Buller DC to send Meridian a monthly wattage report that tracks load change daily from RAMM. | We have received a report from BDC and are confirming the process for providing this monthly. | Identified |

Audit outcome

Non-compliant

| Non-compliance | Description | | |
|---|--|-----------------|------------------------|
| Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: 01-May-18 To: 30-Nov-19 | The registry daily kWh figure is used for submission and this does not track change daily as required by the code resulting in an estimated under submission of approx. 3,708kWh per annum. 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 no database reports have been provided but note that with the RAMM database being used the control rating will improve. The impact is assessed to be low due to the estimated minor amount of under submission described above. | | |
| Actions taken to resolve the issue | | Completion date | Remedial action status |

| | | |
|--|------------------------|------------|
| Buller DC has provided a database report and we are confirming a process for providing this monthly. | 31 Dec 2019 | Identified |
| We will revise any historic submissions when we have confirmed whether the 7 items of missing NZTA load need to be included and that the other discrepancies found during the field audit have been corrected. | 28 Feb 2019 | |
| Preventative actions taken to ensure no further issue will occur | Completion date | |
| Provision of a monthly database report will ensure materially accurate information is used for settlement going forward. | | |

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 road name and GPS coordinates which are populated for all items of load.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

The DUML database must contain:

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

Audit observation

The database was checked to confirm 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 and wattage. All of these fields are populated for each item of load. The wattage field is populated with the total wattage. The accuracy of these are 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 72 items of load on 6th & 7th November 2019.

Audit commentary

The field audit confirmed all but two lights were correctly recorded. These are detailed below:

| Street/Area | Database Count | Field Count | Lamp no. difference | No of incorrect lamp wattage | Comments |
|--------------------|----------------|-------------|---------------------|------------------------------|--|
| REEDY RD | 1 | 1 | | 1 | 1 x 27W LED found in the field recorded as 70W HPS in the database |
| STEPHEN ROAD | 1 | 0- | -1 | | 1x 70W HPS not found in the field |
| Grand Total | 72 | 71 | -1 | 1 | |

There were no additional items of load found in the field.

I examined the NZTA light information provided by NZTA to BDC in October 2019. This detailed 25 lights that were recorded in the NZTA RAMM database. The NZTA information provided contained pole numbers only. I compared these to the items of load in the BDC RAMM database and found 17 of these have been added to the BDC RAMM database but I was unable to confirm the remaining seven items of load. These appear to be missing. Assuming these are all 100W HPS (the most common NZTA light) this will be resulting in an estimated under submission of 3,408 kWh per annum. This is recorded as non-compliance.

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

Audit outcome

Non-compliant

| Non-compliance | Description | | |
|---|---|-----------------|------------------------|
| Audit Ref: 2.5 With: Clause 11(2A) of Schedule 15.3 From: 01-May-18 To: 30-Nov-19 | Seven NZTA items of load missing from the BDC RAMM database resulting in an estimated annual under submission of 3,408 kWh if used for submission. 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 as BDC are working to rectify this. The impact is assessed to be low due to the estimated amount of under submission described above. | | |
| Actions taken to resolve the issue | | Completion date | Remedial action status |
| We will follow up with BDC re the seven items of NZTA load not recorded in the database to establish whether this needs to be added. We will pass the minor discrepancies identified during the field audit to Buller for correction | | 31 Dec 2019 | Identified |
| Preventative actions taken to ensure no further issue will occur | | Completion date | |
| | | | |

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 database was examined.

Audit commentary

The RAMM database functionality achieves compliance with the code if used for submission. The change management process and the compliance of the database reporting provided to Genesis 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 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 if used for submission.

Audit commentary

The database has a complete audit trail.

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 74 items of unmetered load items recorded in the RAMM database on the 6th & 7th November 2019.

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 one light missing and one HPS light that has been replaced with an LED. I calculated an error rate across the database of 2%. This will be resulting in an estimated minor annual over submission of 594 kWh. This is within the allowable database accuracy threshold of +/- 5% and the database is compliant. The variances found in the field are detailed in **section 2.5**.

I examined the NZTA light information provided by NZTA to BDC in October 2019. This detailed 25 lights that were recorded in the NZTA RAMM database. The NZTA information provided contained pole numbers only. I compared these to the items of load in the BDC RAMM database and found 17 of these have been added to the BDC RAMM database but I was unable to confirm the remaining seven items of load. These appear to be missing. Assuming these are all 100W HPS (the most common NZTA light) this will be resulting in an estimated under submission of 3,408 kWh per annum. This is recorded as non-compliance.

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. I note that the light description details do not provide sufficient information in the database to confirm the correct wattage has been applied e.g. the LED lights are Betacom GL520 27W LED but only the wattage is recorded in the lamp description field. The field audit confirmed that the wattage is recorded correctly but I recommend that the light descriptions are updated to include sufficient detail to confirm the correct lamp wattage has been applied.

| Recommendation | Description | Audited party comment | Remedial action |
|-------------------|--|--|-----------------|
| Database Accuracy | Update lamp descriptions to detail light make and model in sufficient detail to confirm that the correct wattage has been applied. | We will pass this recommendation on to BDC | Identified |

Tracking of load change

The processes were reviewed 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.

Any new streetlight connections are metered therefore the volume of unmetered lights is not expected to increase.

Outage patrols are not conducted by BDC, notifications from the public are relied upon for light outages.

No changes have been made on the Murchison Junction lights but any changes made would be notified to Network Tasman who would update BDC. In the Buller Network area, when maintenance is undertaken a check of the database is done and any corrections required are made at that time. Buller Electricity update RAMM directly as maintenance is performed.

The LED replacement project is still being rolled out with the intention for it to be completed by June 2020. The installed LEDs will have built in CMS capability but BDC have no plans to implement a CMS at this time. Buller Electricity contractors have RAMM logins.

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: 01-May-18 To: 30-Nov-19 | Seven NZTA items of load missing from the BDC RAMM database resulting in an estimated annual under submission of 3,408 kWh if used for submission. 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 as BDC are working to rectify this. The impact is assessed to be low due to the estimated amount of under submission described above. | | |
| Actions taken to resolve the issue | | Completion date | Remedial action status |
| We will follow up with BDC re the seven items of NZTA load not recorded in the database to establish whether this needs to be added. | | 31 Dec 2019 | Investigating |
| Preventative actions taken to ensure no further issue will occur | | Completion date | |

| | | |
|--|--|--|
| | | |
|--|--|--|

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

There have been no changes made to the Network Tasman ICP items of load during the audit period confirming that the daily kWh figure recorded in the registry and used by Meridian is correct.

The database has 72 items of load associated with ICP 0003970474BUE6B with a total load of 6.855kW. BDC have been liaising with NZTA to confirm that they have all of the NZTA unmetered lights recorded correctly. NZTA provided this information to BDC in October 2019. This detailed 25 lights that were recorded in the NZTA RAMM database. The NZTA information provided contained pole numbers only. I compared these to the items of load in the BDC RAMM database and found 17 of these have been added to the BDC RAMM database but I was unable to confirm the remaining seven items of load. These appear to be missing. Assuming these are all 100W HPS (the most common NZTA light) this will be resulting in an estimated under submission of 3,408 kWh per annum if the database were used for reconciliation. This is recorded as non-compliance in **sections 2.5** and **3.1**.

Meridian Energy have been requesting a database extract to use for reconciliation, but none has been provided to date, so they have continued to use the daily kWh registry figure multiplied by number of days in the month to determine the kWh value for the ICP 0003970474BUE6B. The daily kWh figure was updated from 134 kWh to 61.44kWh backdated to 1/10/17 so that revisions could be processed. I checked this and revisions have been submitted to the market.

Due to the additional NZTA lights on ICP 0003970474BUE6B the current daily kWh value is too low as the calculated daily kWh figure is 71.60kWh not 61.44kWh, resulting in under submission as detailed below if it is not updated in the registry:

| BDC vs registry daily kWh | Annual kWh (daily kWh x 365 days) |
|---------------------------|-----------------------------------|
| BDC | 26,134 |

| | |
|---------------------------------|--------|
| Registry | 22,426 |
| Estimated Annual kWh difference | 3,708 |

This 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.

No database reporting including the tracking of load change at a daily level is currently being provided and I repeat the last audit's recommendation in **section 2.1**, that a monthly report be sent from Buller DC to Meridian to be used for reconciliation.

Audit outcome

Non-compliant

| Non-compliance | Description | |
|--|---|------------------------|
| Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c) From: 01-May-18 To: 30-Nov-19 | The registry daily kWh figure is used for submission and this does not track change daily as required by the code resulting in under submission of approx. 3,708kWh per annum. 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 no database reports have been provided but note that with the RAMM database being used the control rating will improve. The impact is assessed to be low due to the estimated minor amount of under submission described above. | |
| Actions taken to resolve the issue | Completion date | Remedial action status |
| Buller DC has provided a database report and we are confirming a process for providing this monthly. | 31 Dec 2019 | Identified |
| We will revise any historic submissions when we have confirmed whether the 7 items of missing NZTA load need to be included and that the other discrepancies found during the field audit have been corrected. | 28 Feb 2019 | |
| Preventative actions taken to ensure no further issue will occur | Completion date | |

| | | |
|--|--|--|
| Provision of a monthly database report will ensure materially accurate information is used for settlement going forward. | | |
|--|--|--|

CONCLUSION

Meridian’s submissions for the Buller DC unmetered streetlights have continued to be based on the unmetered daily kWh recorded on the registry for both ICPs. Meridian have requested a monthly RAMM database report, but none has been provided to date. I have repeated the last audit’s recommendation that this be provided and that it include daily database changes. Meridian have updated the daily kWh figure from 134 kWh to 61.44kWh based on the last audit’s findings. This was backdated to 1/10/17 so that revisions could be processed, and I confirm that revisions have been submitted to the market.

This audit report includes all the unmetered streetlights recorded in the BDC RAMM database across the Buller and Network Tasman networks. BDC have been liaising with NZTA to confirm that they have all of the NZTA unmetered lights recorded correctly. NZTA provided this information to BDC in October 2019. This detailed 25 lights that were recorded in the NZTA RAMM database. The NZTA information provided contained pole numbers only. I compared these to the NZTA items of load recorded in the BDC RAMM database and found 17 of these have been added but I was unable to confirm the remaining seven items of load. These appear to be missing. Assuming these are all 100W HPS (the most common NZTA light) this will be resulting in an estimated under submission of 3,408 kWh per annum if the database were used for reconciliation.

A field audit found the BDC RAMM database to have a high level of accuracy and it is within the allowable +/-5% accuracy threshold.

The audit found four non-compliances and makes two recommendations. The future risk rating of six indicates that the next audit be completed in 12 months. I agree with this recommendation.

PARTICIPANT RESPONSE