

ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

VERITEK

For

WAITAKI DISTRICT COUNCIL AND
MERIDIAN ENERGY LIMITED

NZBN: 9429037696863

Prepared by: Rebecca Elliot

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Date audit report completed: 4 November 2022

Audit report due date: 01-Nov-22

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EXECUTIVE SUMMARY

This audit of the **Waitaki District Council (WDC)** DUMML 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 DUMML audits version 1.1

WDC switched to Meridian on 01/10/2022.

The WDC boundary is part of both Network Waitaki and OtagoNet (Child company of PowerNet). WDC manages a RAMM database for the entire area, which is used for submission purposes.

The field audit found that database accuracy was not within the allowable +/- 5% threshold.

- In absolute terms the installed capacity is estimated to be the 2 kW higher than database indicates.
- There is a 95% level of confidence that the installed capacity is between 1 kW lower to 7 kW higher than the database.
- In absolute terms, total annual consumption is estimated to be 6,700 kWh higher than the DUMML database indicates.
- There is a 95% level of confidence that the annual consumption is between 6,100 kWh p.a. lower to 31,900 kWh p.a. higher than the database indicates.

The audit found four non-compliance issues in relation to this DUMML database and processes and makes 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 I agree with this recommendation.

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 that database accuracy was not within the allowable +/- 5% threshold. This will be resulting in an estimated under submission of approximately 6,700 kWh per annum. The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot. | Strong | Low | 1 | Identified |
| All load recorded in the database | 2.5 | Clause 11(2A) of Schedule 15.3 | Three additional lights found in the field of 260 items of load sampled (1% error rate). | Strong | Low | 1 | Identified |
| Database accuracy | 3.1 | 15.2 and 15.37B(b) | The field audit found that database accuracy was not within the allowable +/- 5% threshold. This will be resulting in an estimated under submission of approximately 6,700 kWh per annum. | Strong | Low | 1 | Identified |
| Volume information accuracy | 3.2 | 15.2 and 15.37B(c) | The field audit found that database accuracy was not within the allowable +/- 5% threshold. This will be resulting in an estimated under submission of approximately 6,700 kWh per annum. The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot. | Strong | Low | 1 | 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

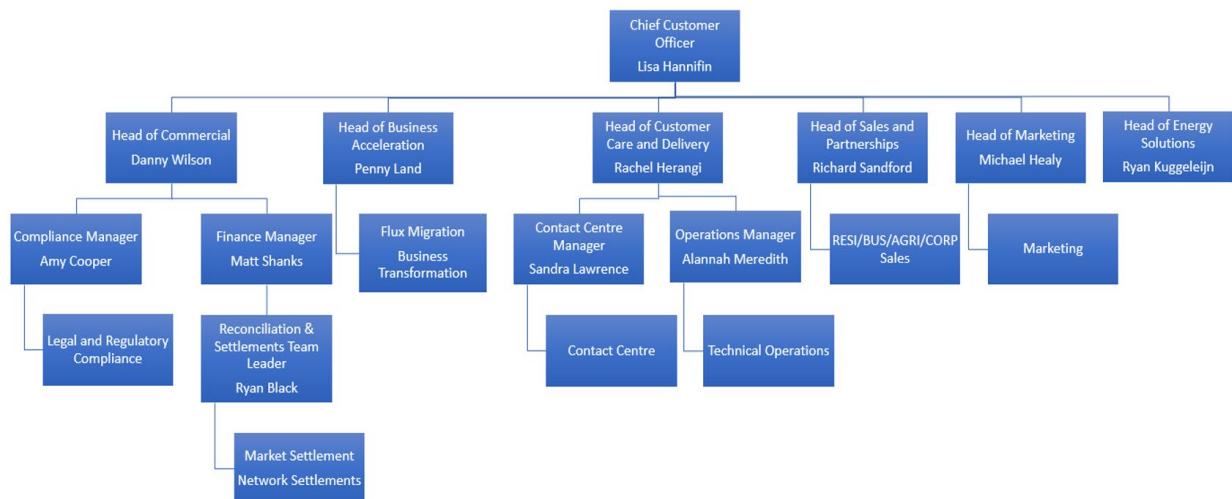
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

Audit commentary

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

1.2. Structure of Organisation

Meridian Energy provided a copy of their organisational structure.



1.3. Persons involved in this audit

Auditors:

| Name | Title | Company |
|----------------|--------------------|---------|
| Rebecca Elliot | Auditor | Veritek |
| Claire Stanley | Supporting Auditor | Veritek |

Other personnel assisting in this audit were:

| Name | Title | Company |
|--------------|-----------------------|--------------------------|
| Rodger McGaw | Road Network Engineer | Waitaki District Council |
| Amy Cooper | Compliance Officer | Meridian Energy |

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

The following ICPs are relevant to the scope of this audit:

| ICP Number | Description | GXP | Profile | Number of items of load | Database wattage (watts) |
|------------------------------------|-----------------------------|---------|--------------|-------------------------|--------------------------|
| 0000050700WTE7B Network Waitaki | Streetlighting GXP OAM 0331 | OAM0331 | SST | 1,979 | 93,441 |
| 0000050710WT4D6 Network Waitaki | Streetlights GXP TWZ 0331 | TWZ0331 | SST | 126 | 5,519 |
| 0000050720WT32E Waitaki Power | Streetlighting GXP WTK 0111 | WTK0111 | SST | 205 | 9,625 |
| 0001982402TG5FC OtagoNet | WDC STREETLIGHTS Oamaru | HWB1101 | SST | 152 | 5,765 |
| | | | TOTAL | 2,462 | 114,345 |

1.7. Authorisation Received

All information was provided directly by Meridian and WDC.

1.8. Scope of Audit

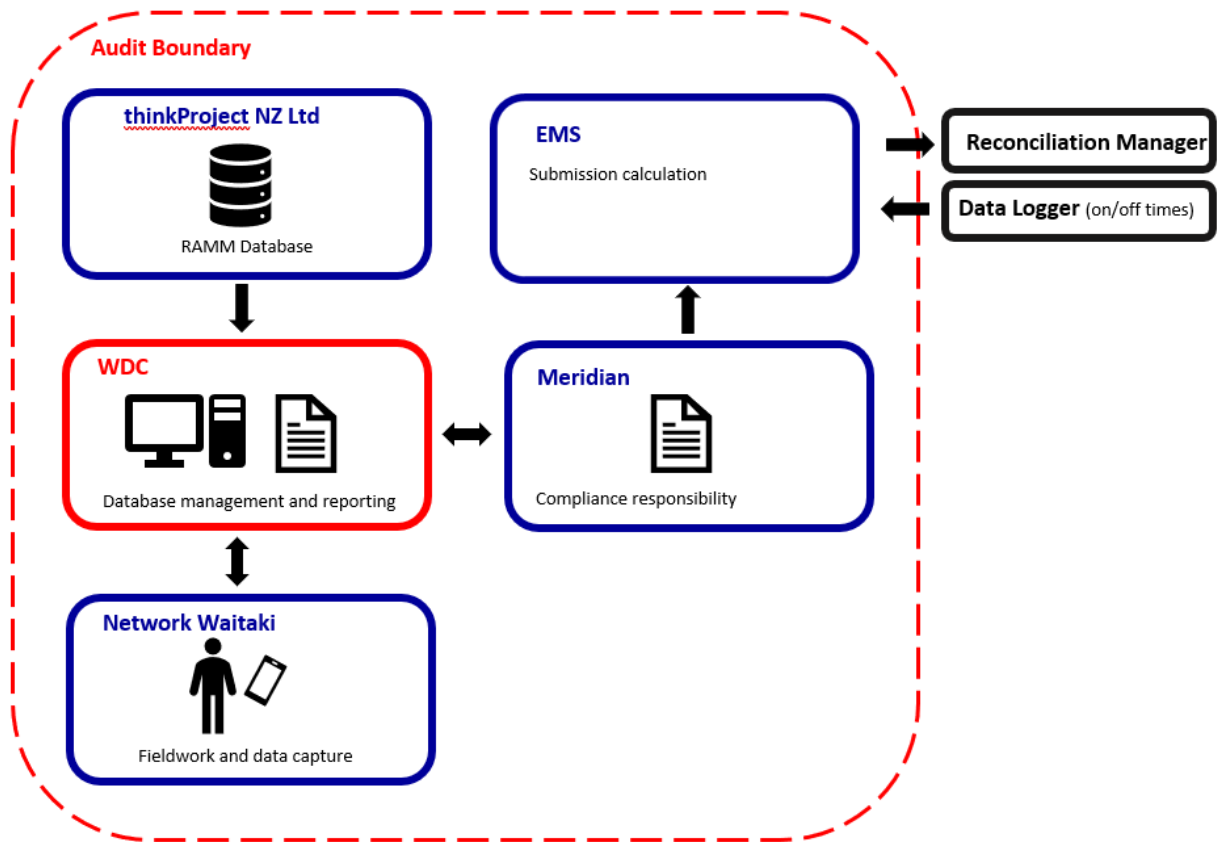
This audit of the Waitaki District Council (WDC) DUMML database and processes was conducted at the request of Meridian Energy Limited (Meridian), in accordance with clause 15.37B. The purpose of this audit is to verify that the volume information is being calculated accurately, and that profiles have been correctly applied.

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

WDC switched to Meridian from 01/10/22.

The database is remotely hosted by thinkproject New Zealand Ltd and is managed by WDC, who is Meridian's customer. Reporting is provided by WDC to Meridian on a monthly basis. The fieldwork and asset data capture are conducted by Network Waitaki. 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.



A field audit was undertaken of 260 items of load.

1.9. Summary of previous audit

The previous audit was completed in May 2020 by Rebecca Elliot of Veritek. The current status of that audit's findings is detailed below:

Table of Non-Compliance

| Subject | Section | Clause | Non-compliance | Status |
|---------------------------------|---------|------------------------|---|---|
| Deriving submission information | 2.1 | 11(1) of Schedule 15.3 | <p>The database has minor inaccuracies resulting in an over submission of 286 kWh per annum.</p> <p>14 items of load have the incorrect wattage applied in the DUMML database resulting in an estimated over submission of 217.8 kWh per annum.</p> <p>Database discrepancies not corrected from last audit resulting in an estimated over submission of 4,903 kWh per annum.</p> <p>The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot.</p> | <p>Still existing</p> <p>Still existing for a reduced number</p> <p>Cleared</p> <p>Still existing</p> |

| Subject | Section | Clause | Non-compliance | Status |
|----------------------------------|---------|-----------------------------------|--|--|
| Description and capacity of load | 2.4 | 11(2)(c) and (d) of Schedule 15.3 | 2 missing lamp wattages 1 missing ballast 1 missing make/model 3 ballasts still recorded for LED. | Cleared |
| Database accuracy | 3.1 | 15.2 and 15.37B(b) | The database has minor inaccuracies resulting in an over submission of 286 kWh per annum. 14 items of load have the incorrect wattage applied in the DUML database resulting in an estimated over submission of 217.8 kWh per annum. Database discrepancies not corrected from last audit resulting in an estimated over submission of 4903 kWh per annum. | Still existing Still existing for a reduced number Cleared |
| Volume information accuracy | 3.2 | 15.2 and 15.37B(c) | The database has minor inaccuracies resulting in an over submission of 286 kWh per annum. 14 items of load have the incorrect wattage applied in the DUML database resulting in an estimated over submission of 217.8 kWh per annum. The data used for submission does not track changes at a daily basis and is provided as a snapshot. | Still existing Still existing for a reduced number Cleared |

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 3 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. 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 DST profile, and on and off times are derived from a data logger read by EMS and are used to create a shape file. Meridian supplies EMS with the capacity information and EMS calculates the kWh figures for the ICPs and includes them in the relevant AV080 file. This process was audited during Meridian's reconciliation participant audit and EMS' agent audit.

I compared the RAMM extract to the capacities provided to EMS for October 2022 and found that they matched exactly.

As detailed in **section 3.1**, the field audit found that database accuracy was not within the allowable +/- 5% threshold. This will be resulting in an estimated under submission of approximately 6,700 kWh per annum.

The database discrepancies reported in the previous two audits that had not been corrected, have now been updated in RAMM.

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: 18- Mar -20 To: 12-Sep-22 | The field audit found that database accuracy was not within the allowable +/- 5% threshold. This will be resulting in an estimated under submission of approximately 6,700 kWh per annum. The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot. Potential impact: Low Actual impact: Low Audit history: Three times previously Controls: Strong Breach risk rating: 1 | | |
| Audit risk rating | Rationale for audit risk rating | | |
| Low | Controls are rated as strong, the small number of exceptions indicated that controls are sufficient to ensure that all lamps are recorded in the database most of the time. 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 |
| Discrepancies identified during the field audit will be provided to Network Waitaki for resolution and regularly follow up to ensure these are actioned. 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 snapshot data to identify any material changes and confirm details/dates for these. These are accounted for in monthly submission. | | 30 Nov 22 Ongoing | Identified |
| Preventative actions taken to ensure no further issues will occur | | Completion date | |
| Existing process controls for maintenance of the database will continue. Meridian will continue to work with database holders to request that monthly data extracts include the detail of changes. | | Ongoing 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 number recorded against them in the database.

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 most items of load, and users in the office and field can view these locations on a mapping system.

Although four items of load do not have GPS co-ordinates recorded, there was still sufficient information recorded in the address field to be able to locate the lamps.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

The DUMML database must contain:

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

Audit observation

The database was checked to confirm that it contained a field for lamp type and wattage capacity and included any ballast or gear wattage and that each item of load had a value recorded in these fields.

Audit commentary

The database contains fields to record the lamp make and model. Analysis of the database found all had a light model and capacity recorded.

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 260 items of load.

Audit commentary

The field audit findings for the sample of lamps was accurate with the exception of the streets detailed in the table below:

| Street/Area | Database Count | Field Count | Lamp no. difference | No of incorrect lamp wattage | Comments |
|---------------------|----------------|-------------|---------------------|------------------------------|---|
| Arun St | 15 | 16 | +1 | | 1 x additional 75W LED (ped x) found in the field but not recorded in the database. |
| Awamoa Rd | 16 | 18 | +2 | | 2 x additional 66W LEDs found in the field but not recorded in the database. |
| Grove Ave | 8 | 8 | | 1 | 1 x 28W LED recorded in the database but 1 x 20W LED located in the field |
| Short St | 3 | 2 | -1 | | 1 x 28W LED recorded in the database but not located in the field |
| Runbrake St East | 4 | 4 | | 1 | 1 x 70W HPS recorded in the database but 1 x 20W LED located in the field |
| Sample total | 267 | 270 | 4 (+3, -1) | 2 | |

The field audit found three additional lights in the field of 260 items of load sampled. This is recorded as a non-compliance below.

Audit outcome

Non-compliant

| Non-compliance | Description | | |
|--|--|-----------------|------------------------|
| Audit Ref: 2.5 With: Clause 11(2A) of Schedule 15.3 From: 18- Mar -20 To: 12-Sep-22 | Three additional lights found in the field of 260 items of load sampled (1% error rate). Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1 | | |
| Audit risk rating | Rationale for audit risk rating | | |
| Low | Controls are rated as strong, the small number of exceptions indicated that controls are sufficient to ensure that all lamps are recorded in the database most of the time. The impact is assessed to be low due to three 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 |
| Discrepancies identified during the field audit will be provided to Network Waitaki for resolution and regularly follow up to ensure these are actioned. | | 30 Nov 22 | Identified |
| Preventative actions taken to ensure no further issues will occur | | Completion date | |
| Existing process controls for maintenance of the database will continue. | | Ongoing | |

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.

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

RAMM records audit trail information of changes made.

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

Audit observation

A database extract was provided, and I assessed the accuracy of this by using the DUML Statistical Sampling Guideline. The table below shows the survey plan.

| Plan Item | Comments |
|---------------------|---|
| Area of interest | Waitaki District Council area |
| Strata | The database contains items of load in the Waitaki district area. The processes for the management of all Waitaki items of load are the same, but I decided to place the items of load into four strata: <ol style="list-style-type: none"> 1. A – ICP 0000050700WTE7B, 2. B – CP 0000050710WT4D6, 3. C – ICP 0000050720WT32E, and 4. D – ICP 0001982402TG5FC. |
| 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 47 sub-units. |
| Total items of load | 260 items of load were checked. |

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

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

Audit commentary

Database accuracy based on the field audit

A field audit was conducted of a statistical sample of 260 items of load. The “database auditing tool” was used to analyse the results, which are shown in the table below.

| Result | Percentage | Comments |
|-------------------------|------------|--|
| The point estimate of R | 101.4 | Wattage from survey is higher than the database wattage by 1.4% |
| R _L | 98.7 | With a 95% level of confidence, it can be concluded that the error could be between -1.3% and +6.5%. |
| R _H | 106.5 | |

These results were categorised in accordance with the “Distributed Unmetered Load Statistical Sampling Audit Guideline”, effective from 1 February 2019 and the table below shows that Scenario C (detailed below) applies.

The conclusion from Scenario C is that the variability of the sample results across the strata means that the true wattage (installed in the field) could be between 1.3% lower and 6.5% higher than the wattage recorded in the DUML database. Non-compliance is recorded because the potential error is greater than 5.0%.

In absolute terms the installed capacity is estimated to be the 2 kW higher than database indicates.

There is a 95% level of confidence that the installed capacity is between 1 kW lower to 7 kW higher than the database.

In absolute terms, total annual consumption is estimated to be 6,700 kWh higher than the DUML database indicates.

There is a 95% level of confidence that the annual consumption is between 6,100 kWh p.a. lower to 31,900 kWh p.a. higher than the database indicates.

| Scenario | Description |
|--|--|
| A - Good accuracy, good precision | This scenario applies if: (a) R_H is less than 1.05; and (b) R_L is greater than 0.95 The conclusion from this scenario is that: (a) the best available estimate indicates that the database is accurate within +/- 5 %; and (b) this is the best outcome. |
| B - Poor accuracy, demonstrated with statistical significance | This scenario applies if: (a) the point estimate of R is less than 0.95 or greater than 1.05 (b) as a result, either R_L is less than 0.95 or R_H is greater than 1.05. There is evidence to support this finding. In statistical terms, the inaccuracy is statistically significant at the 95% level |
| C - Poor precision | This scenario applies if: (a) the point estimate of R is between 0.95 and 1.05 (b) R_L is less than 0.95 and/or R_H is greater than 1.05 The conclusion from this scenario is that the best available estimate is not precise enough to conclude that the database is accurate within +/- 5 % |

Lamp description and capacity accuracy

All lamp models and wattages were applied correctly.

Change management process findings

The field contractor changed to Network Waitaki from the 1 July 2021, and they are responsible for the Network maintenance. A Service Request is issued for reactive work to complete fault and regular maintenance programme work. Pocket Ramm is used in the field, and this updates the RAMM database directly with any changes.

WDC perform night time inspections monthly. At other times maintenance is performed by a street lighting contractor upon receiving a request from WDC.

Prior to connection of a new streetlight circuit the contractor submits an application form to Network Waitaki detailing the planned addition. Network Waitaki approves the application and notifies Meridian requesting approval to connect. Once approved by Meridian the connection is authorised and completed by Network Waitaki. The documentation is provided to both Network Waitaki and WDC and the database is updated by the contractor.

For all new connections, an “as built” is required to be submitted to council before connection can occur. These are added to RAMM. Network Waitaki update RAMM when lights are vested, all information is updated in RAMM.

Festive lights are not defined separately in RAMM. The contractor advises WDC and the Network when they are installed and removed. The network records festive lights as a separate item in their monthly report to Meridian.

Audit outcome

Non-compliant

| Non-compliance | Description | | |
|--|---|-----------------|------------------------|
| Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: 18- Mar -20 To: 12-Sep-22 | <p>The field audit found that database accuracy was not within the allowable +/- 5% threshold. This will be resulting in an estimated under submission of approximately 6,700 kWh per annum.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Three times previously</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p> | | |
| Audit risk rating | Rationale for audit risk rating | | |
| Low | <p>Controls are rated as strong, the small number of exceptions indicated that controls are sufficient to ensure that all lamps are recorded in the database most of the time.</p> <p>The impact is expected to be low based on the kWh variances identified.</p> | | |
| Actions taken to resolve the issue | | Completion date | Remedial action status |
| Discrepancies identified during the field audit will be provided to Network Waitaki for resolution and regularly follow up to ensure these are actioned. | | 30 Nov 22 | Identified |
| Preventative actions taken to ensure no further issues will occur | | Completion date | |
| Existing process controls for maintenance of the database will continue. | | Ongoing | |

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 DST profile, and on and off times are derived from a data logger read by EMS and are used to create a shape file. Meridian supplies EMS with the capacity information and EMS calculates the kWh figures for the ICPs and includes them in the relevant AV080 file. This process was audited during Meridian's reconciliation participant audit and EMS' agent audit.

I compared the RAMM extract to the capacities provided to EMS for October 2022 and found that they matched exactly.

As detailed in **section 3.1**, the field audit found that database accuracy was not within the allowable +/- 5% threshold. This will be resulting in an estimated under submission of approximately 6,700 kWh per annum.

The database discrepancies reported in the previous two audits that had not been corrected, have now been updated in RAMM.

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 | | |
|--|---|---------------------------------|------------------------|
| <p>Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c)</p> <p>From: 18- Mar -20 To: 12-Sep-22</p> | <p>The field audit found that database accuracy was not within the allowable +/- 5% threshold. This will be resulting in an estimated under submission of approximately 6,700 kWh per annum.</p> <p>The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot.</p> <p>Potential impact: Low Actual impact: Low Audit history: Three times previously Controls: Strong Breach risk rating: 1</p> | | |
| Audit risk rating | Rationale for audit risk rating | | |
| <p>Low</p> | <p>Controls are rated as strong, the small number of exceptions indicated that controls are sufficient to ensure that all lamps are recorded in the database most of the time.</p> <p>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.</p> | | |
| Actions taken to resolve the issue | | Completion date | Remedial action status |
| <p>Discrepancies identified during the field audit will be provided to Network Waitaki for resolution and regularly follow up to ensure these are actioned.</p> <p>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 snapshot data to identify any material changes and confirm details/dates for these. These are accounted for in monthly submission.</p> | | <p>30 Nov 22</p> <p>Ongoing</p> | <p>Identified</p> |
| Preventative actions taken to ensure no further issues will occur | | Completion date | |
| <p>Existing process controls for maintenance of the database will continue.</p> <p>Meridian will continue to work with database holders to request that monthly data extracts include the detail of changes.</p> | | <p>Ongoing</p> <p>Ongoing</p> | |

CONCLUSION

WDC switched to Meridian on 01/10/2022.

The WDC boundary is part of both Network Waitaki and OtagoNet (Child company of PowerNet). WDC manages a RAMM database for the entire area, which is used for submission purposes.

The field audit found that database accuracy was not within the allowable +/- 5% threshold.

- In absolute terms the installed capacity is estimated to be the 2 kW higher than database indicates.
- There is a 95% level of confidence that the installed capacity is between 1 kW lower to 7 kW higher than the database.
- In absolute terms, total annual consumption is estimated to be 6,700 kWh higher than the DUML database indicates.
- There is a 95% level of confidence that the annual consumption is between 6,100 kWh p.a. lower to 31,900 kWh p.a. higher than the database indicates.

The audit found four non-compliance issues in relation to this DUML database and processes and makes 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 I agree with this recommendation.

PARTICIPANT RESPONSE

Meridian has reviewed this report and their comments are contained in the body of the report.