

ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT



For

KĀPITI COAST DISTRICT COUNCIL
AND CONTACT ENERGY LIMITED (CTCS)

Prepared by: Steve Woods

Date audit commenced: 18 May 2021

Date audit report completed: 24 May 2021

Audit report due date: 1 June 2021

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EXECUTIVE SUMMARY

This audit of the **Kāpiti Coast District Council (KCDC)** DUML database and processes was conducted at the request of **Contact Energy Limited (Contact)** 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. The scope of the audit encompasses the collection, security and accuracy of the data, including the preparation of submission information.

A RAMM database is held by KCDC. Fault, maintenance and upgrade work is managed by KCDC and is conducted by Fulton Hogan. Fulton Hogan enters database updates using Pocket RAMM.

A full field audit has been completed and the database was found to be accurate to within 0.2%. The controls are strong for changes and new connections, once new areas have been vested. There is still a gap between light livening and vesting, where the developer should take responsibility for the consumption of the lights.

Minor issues found are as follows:

- a small number of field discrepancies,
- one light in the database without a model or wattage, and
- some items of load may need to be removed from the database if they are metered, and some may need to be added if it is confirmed they are Council owned.

Overall, this is an excellent result. The future risk rating indicates the next audit be conducted in 24 months' time. 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 | <p>The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot.</p> <p>Livening dates are not recorded for new connections; and change dates may not reflect the date of the change if they are not processed in RAMM at the time that the change occurs.</p> <p>One item of load does not have the wattage recorded.</p> | Strong | Low | 1 | Identified |
| Description and capacity of load | 2.4 | 11(2)(c) and (d) of Schedule 15.3 | One item of load with blank model and wattage. | Strong | Low | 1 | Identified |
| Database accuracy | 3.1 | 15.2 and 15.37B(b) | <p>The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot.</p> <p>Livening dates are not recorded for new connections; and change dates may not reflect the date of the change if they are not processed in RAMM at the time that the change occurs.</p> <p>One item of load with zero wattage and no lamp model.</p> | Strong | Low | 1 | Identified |
| Volume information accuracy | 3.2 | 15.2 and 15.37B(c) | <p>The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot.</p> <p>Livening dates are not recorded for new connections; and change dates may not reflect the date of the change if they are not processed in RAMM at the time that the change occurs.</p> <p>One item of load does not have the wattage recorded.</p> | Strong | Low | 1 | Investigating |
| Future Risk Rating | | | | | | 4 | |

| | | | | | | |
|-----------------------------------|-----------|-----------|-----------|-----------|----------|----------|
| 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 | Recommendation |
|---------------------------|----------------|---|
| Location of items of load | 2.3 | Populate GPS coordinates for 20 items of load. |
| Database accuracy | 3.1 | Check 39 items of load to confirm if they should be recorded against ICP 0016099024EL49F. |

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.

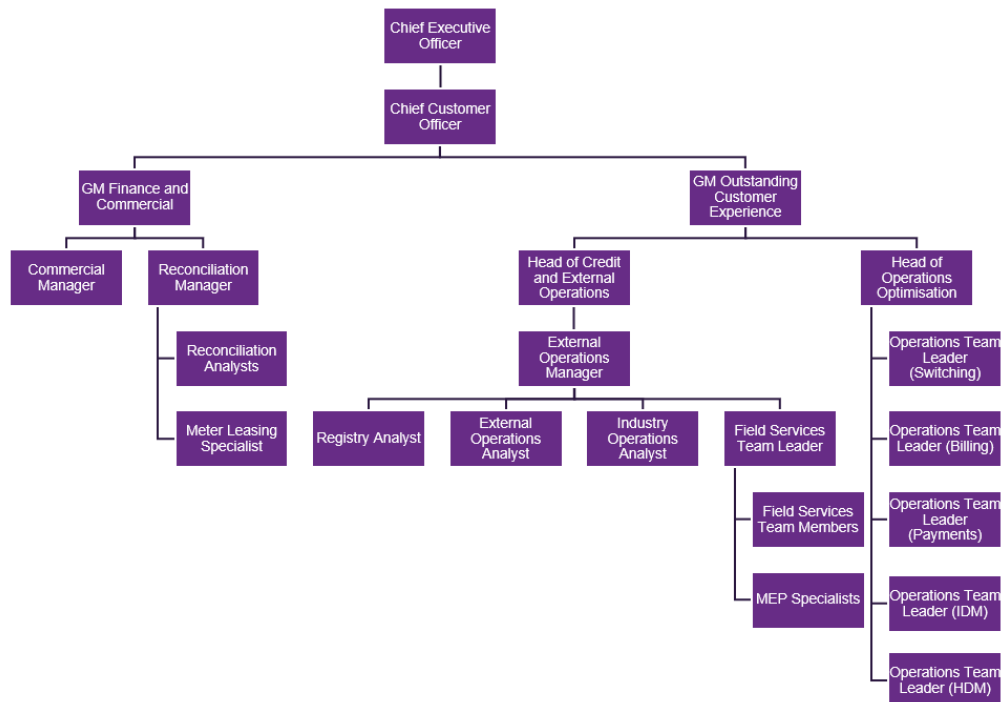
Audit commentary

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

1.2. Structure of Organisation

Contact Energy provided a copy of their organisational structure.

Contact Organisational Diagram



1.3. Persons involved in this audit

Auditor:

Steve Woods

Veritek Limited

Electricity Authority Approved Auditor

Other personnel assisting in this audit were:

| Name | Title | Company |
|----------------------|-------------------------------|-------------------------------|
| Fraser Miller | Network Operations Engineer | Kāpiti Coast District Council |
| Luke Cartmell-Gollan | Commercial Operations Manager | Contact Energy |

1.4. Hardware and Software

The SQL database used for the management of DUML is remotely hosted by RAMM Software Ltd. The database is commonly known as “RAMM” which stands for “Roading Asset and Maintenance Management”. The specific module used for DUML is called RAMM Contractor.

RAMM Software Limited backs up the database and assists with disaster recovery as part of their hosting service. Nightly backups are performed. As a minimum, daily backups are retained for the previous five working days, weekly backups are retained for the previous four weeks, and monthly backups are retained for the previous six months.

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 | Profile | Number of items of load | Database wattage (watts) |
|-----------------|-------------------|---------|---------|-------------------------|--------------------------|
| 0016099024EL49F | KCDC STREETLIGHTS | PRM0331 | DST | 4760 | 164,905 |

1.7. Authorisation Received

All information was provided directly by Contact or KCDC.

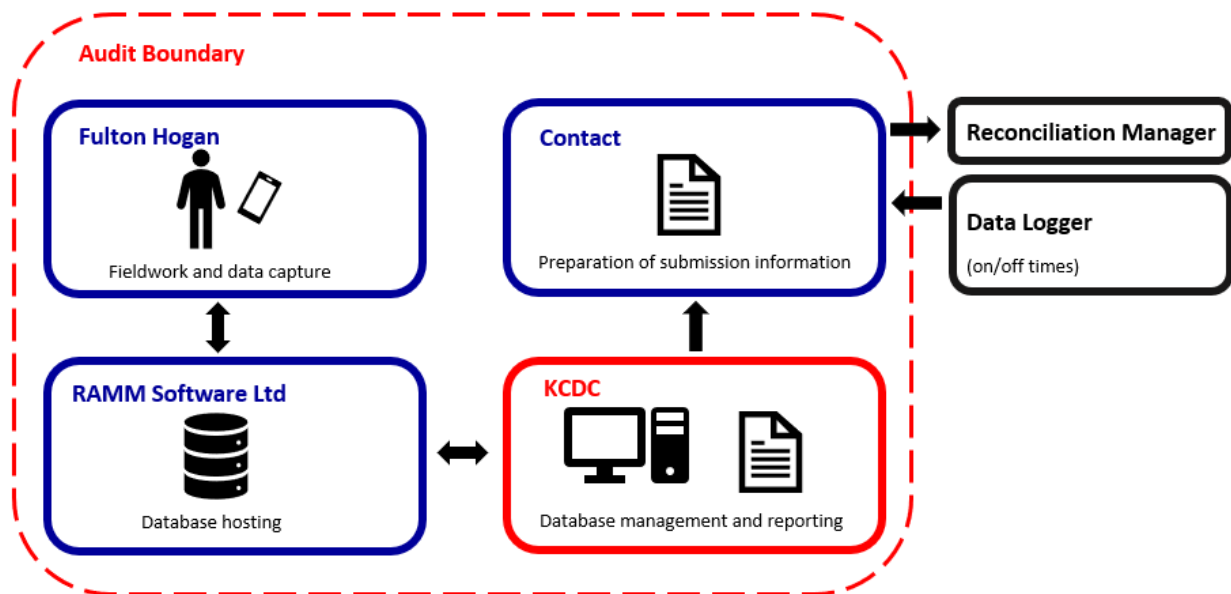
1.8. Scope of Audit

This audit of the KCDC DUML database and processes was conducted at the request of Contact in accordance with clause 15.37B. The purpose of this audit is to verify that the volume information is being calculated accurately, and that profiles have been correctly applied.

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

A RAMM database is held by KCDC. Fault, maintenance and upgrade work is managed by KCDC and is conducted by Fulton Hogan. Fulton Hogan enters database updates using Pocket RAMM.

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 field audit was undertaken of a statistical sample of 249 items of load on 18 May 2021.

1.9. Summary of previous audit

The previous audit of this database was undertaken by Tara Gannon of Veritek Limited in November 2019. The summary table below shows the statuses of the non-compliances raised in the previous audit. Further comment is made in the relevant sections of this report.

Table of Non-compliances

| Subject | Section | Clause | Non-compliance | Status |
|---------------------------------|---------|------------------------|---|-------------------|
| Deriving submission information | 2.1 | 11(1) of Schedule 15.3 | 41 metered lights were included in the submission calculation, resulting in over submission of 3,137 W or 1,145 kWh for September 2019. The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot. | Partially cleared |

| Subject | Section | Clause | Non-compliance | Status |
|----------------------------------|---------|------------------------------------|--|-------------------|
| | | | <p>Livening dates are not recorded for new connections; and change dates may not reflect the date of the change if they are not processed in RAMM at the time that the change occurs.</p> <p>Seven unmetered items of load do not have an ICP number recorded.</p> <p>One 250 W HPS lamp was confirmed to have an incorrect gear wattage, resulting in under submission of 43 kWh per annum.</p> | |
| ICP identifier and items of load | 2.2 | 11(2)(a) and (aa) of Schedule 15.3 | Seven unmetered items of load do not to have an ICP number recorded. | Cleared |
| Database accuracy | 3.1 | 15.2 and 15.37B(b) | <p>The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot.</p> <p>Livening dates are not recorded for new connections; and change dates may not reflect the date of the change if they are not processed in RAMM at the time that the change occurs.</p> <p>Seven unmetered items of load do not have an ICP number recorded.</p> <p>One 250 W HPS lamp was confirmed to have an incorrect gear wattage, resulting in under submission of 43 kWh per annum.</p> | Partially cleared |
| Volume information accuracy | 3.2 | 15.2 and 15.37B(c) | <p>41 metered lights were included in the submission calculation, resulting in over submission of 3,137 W or 1,145 kWh for September 2019.</p> <p>The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot.</p> <p>Livening dates are not recorded for new connections; and change dates may not reflect the date of the change if they</p> | Partially cleared |

| Subject | Section | Clause | Non-compliance | Status |
|---------|---------|--------|---|--------|
| | | | are not processed in RAMM at the time that the change occurs. One 250 W HPS lamp was confirmed to have an incorrect gear wattage, resulting in under submission of 43 kWh per annum. | |

Table of Recommendations

| Subject | Section | Recommendation | Status |
|--------------------------|---------|--|---------|
| Description of load type | 2.4 | Confirm the correct lamp and gear wattages for PH (LED8, 0 watts), SYLV (RS, 60 watts), BETA (B70, 70 watts) and PH (MLG, 35 watts), and update the database as necessary. | Cleared |
| Database accuracy | 3.1 | Confirm the correct wattages for the Roadstar LED lights and update the database as necessary. | 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 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

Contact 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

Contact reconciles this DUMML load using the DST profile.

I reviewed the submission information for April 2021 and found the calculation methodology was correct. The wattage was based on the total wattage for ICP 0016099024EL49F from the database, and on hours were based on data logger information.

The field audit found that the database is accurate to within +/- 5%. With a 95% level of confidence, it can be concluded that the error could be between -0.2% and +0.7%.

As recorded in **section 2.4**, one item of load does not have wattage recorded.

On 18 June 2019, the Electricity Authority issued a memo clarifying the memo of 2012 that stated that a monthly snapshot was sufficient to calculate submission from, and confirmed the code requirement to calculate the correct monthly load must:

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

The current monthly report is provided as a snapshot and this practice is non-compliant. When a wattage is changed in the database due to a physical change or a correction, only the record present at the time the report is run is recorded, not the historical information showing dates of changes. Contact completes revision submissions where corrections are required; and have not yet updated their processes to be consistent with the Authority's memo.

The RAMM database records an installation date, which typically records the original installation date for the light. There is no separate livening date.

Change dates are automatically generated by RAMM when records change but cannot be selected by the user. Where a change is entered using Pocket RAMM at the time of the change, this date will reflect the date on which the change occurred. If a correction or change is processed at a later date, the change date may be incorrect.

Audit outcome

Non-compliant

| Non-compliance | Description | | |
|--|--|---------------------------|------------------------|
| Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: 01-Oct-20 To: 21-May-21 | The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot. Livening dates are not recorded for new connections; and change dates may not reflect the date of the change if they are not processed in RAMM at the time that the change occurs. One item of load does not have the wattage recorded. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Strong Breach risk rating: 1 | | |
| Audit risk rating | Rationale for audit risk rating | | |
| Low | The controls are recorded as strong because they mitigate risk to an acceptable level. The impact on settlement and participants is minor; therefore, the audit risk rating is low. | | |
| Actions taken to resolve the issue | | Completion date | Remedial action status |
| Kapiti DC will be reviewing the fields and functionality of RAMM to allow for livening dates to be entered and reported as at effective livening date, rather than entered or certification date. The item of load with no wattage has been resolved. | | 31/8/2021 Complete | Identified |
| Preventative actions taken to ensure no further issues will occur | | Completion date | |
| The missed item of load was due to project run by NZTA and divested. Reporting has subsequently been built to allow for any blank field to be identified – this is run monthly prior to submitting the database. | | Complete | |

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.

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 fields for light ID, pole ID, road name, house address, location number, and pole number. All items of load have a light ID and pole ID recorded, and this can be used to map the location of each light using RAMM.

GPS coordinates are populated for all but 20 items of load. Whilst all items of load could be located, I recommend the coordinates are populated for these 20 examples.

| Recommendation | Description | Audited party comment | Remedial action |
|--|--|---|-----------------|
| Regarding clause 11(2)(b) of Schedule 15.3 | Populate GPS coordinates for 20 items of load. | This recommendation has been completed. | 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 light type and wattage capacity,
- wattage capacities include any ballast or gear wattage, and
- each item of load has a light type, light wattage, and gear wattage recorded.

Audit commentary

The database contains fields for lamp make and model, lamp wattage and gear wattage. All but one items of load have a lamp make and model, lamp wattage, and gear wattage populated.

Light ID 66956 does not have the lamp model or wattage recorded. KCDC has been provided this information and they intend to correct this.

Audit outcome

Non-compliant

| Non-compliance | Description | | |
|--|--|-----------------|------------------------|
| Audit Ref: 2.4 With: Clause 11(2)(c) and (d) of Schedule 15.3 From: 01-Oct-20 To: 21-May-21 | One item of load with blank model and wattage. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1 | | |
| Audit risk rating | Rationale for audit risk rating | | |
| Low | The controls are recorded as strong because they mitigate risk to an acceptable level. The impact on settlement and participants is minor; therefore, the audit risk rating is low. | | |
| Actions taken to resolve the issue | | Completion date | Remedial action status |
| Wattage has been added to the item of load. | | Complete | Identified |
| Preventative actions taken to ensure no further issues will occur | | Completion date | |
| The missed item of load was due to project run by NZTA and divested. Reporting has subsequently been built to allow for any blank field to be identified – this is run monthly prior to submitting the database. | | Complete | |

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 a statistical sample of 249 items of load on 18 May 2021. The sample was selected from four strata, as follows:

1. Otaki,
2. Paekakariki and Raumati,
3. Paraparaumu, and
4. Waikanae.

Audit commentary

The field audit discrepancies are detailed in the table below:

| Street | Database count | Field count | Light count difference | Wattage recorded incorrectly | Comments |
|--------------------|----------------|-------------|------------------------|------------------------------|--|
| BAHAMA CRES | 3 | 3 | - | 3 | 3 x L46 LED lights recorded as L40 LED light. |
| TILLEY RD | 25 | 25 | - | 10 | 10 x L23 LED lights were recorded as L27 LED lights. |
| Grand Total | | | | 13 | |

This clause relates to lights in the field that are not recorded in the database. The audit did not find any additional lights in the field.

Audit outcome

Compliant

2.6. Tracking of load changes (Clause 11(3) of Schedule 15.3)

Code reference

Clause 11(3) of Schedule 15.3

Code related audit information

The DUMML database must track additions and removals in a manner that allows the total load (in kW) to be retrospectively derived for any given day.

Audit observation

The process for tracking of changes in the database was examined.

Audit commentary

The RAMM database functionality achieves compliance with the code.

The change management process and the compliance of the database reporting provided to Contact is detailed in **sections 3.1** and **3.2**.

Audit outcome

Compliant

2.7. Audit trail (Clause 11(4) of Schedule 15.3)

Code reference

Clause 11(4) of Schedule 15.3

Code related audit information

The DUML database must incorporate an audit trail of all additions and changes that identify:

- *the before and after values for changes*
- *the date and time of the change or addition*
- *the person who made the addition or change to the database.*

Audit observation

The database was checked for audit trails.

Audit commentary

The 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

Contact's submissions are based on a monthly extract from the RAMM database. A RAMM database extract was provided in May 2021 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 | Kāpiti Coast City Council Street Lights |
| Strata | The database contains the KCDC items of load for DUML ICPs in the Kāpiti Coast region. The processes for the management of all KCDC 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. Otaki, 2. Paekakariki and Raumati, 3. Paraparaumu, and 4. Waikanae. |
| 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 44 sub-units. |
| Total items of load | 249 items of load were checked, which made up approx. 5% of the total database wattage. |

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

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

Audit commentary

Field audit findings

A field audit was conducted of a statistical sample of 249 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 | 99.8 | Wattage from survey is lower than the database wattage by 0.2% |
| R _L | 99.0 | With a 95% level of confidence, it can be concluded that the error could be between -0.2% and +0.7% |
| R _H | 100.7 | |

The variability of the sample results across the strata means that the true wattage (installed in the field) could be between 0.2% lower and 0.7% higher than the wattage recorded in the DUMML database.

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 A (detailed below) applies. Compliance is recorded because the best estimate indicates that the database is accurate within ±5.0%.

There is a 95% level of confidence that the annual consumption is between 7,000 kWh per annum lower and 5,100 kWh per annum higher than the database indicates.

In absolute terms the installed capacity is estimated to be the same as the database indicates.

There is a 95% level of confidence that the installed capacity is between 2.0 kW lower and 1.0 kW higher than the database.

In absolute terms, total annual consumption is estimated to be 1,400 kWh lower than the DUMML database indicates.

| Scenario | Description |
|---|--|
| <p>A - Good accuracy, good precision</p> | <p>This scenario applies if:</p> <ul style="list-style-type: none"> (a) R_H is less than 1.05; and (b) R_L is greater than 0.95 <p>The conclusion from this scenario is that:</p> <ul style="list-style-type: none"> (a) the best available estimate indicates that the database is accurate within +/- 5 %; and (b) this is the best outcome. |
| <p>B - Poor accuracy, demonstrated with statistical significance</p> | <p>This scenario applies if:</p> <ul style="list-style-type: none"> (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. <p>There is evidence to support this finding. In statistical terms, the inaccuracy is statistically significant at the 95% level</p> |
| <p>C - Poor precision</p> | <p>This scenario applies if:</p> <ul style="list-style-type: none"> (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 <p>The conclusion from this scenario is that the best available estimate is not precise enough to conclude that the database is accurate within +/- 5 %</p> |

ICP number accuracy

All ICP numbers are recorded. 12 items of load are recorded as metered but are against the 0016099024EL49F ICP. KCDC intends to check if these should be recorded as unmetered.

There are 27 items of load with “Non_Roading Owner” in the ICP field, but the owner field has community services, parks local authority, other or unknown recorded. I also recommend these are checked to determine if they should be against the Council ICP.

| Recommendation | Description | Audited party comment | Remedial action |
|-------------------------------------|---|--|-----------------|
| Regarding Clause 15.2 and 15.37B(b) | Check 39 items of load to confirm if they should be recorded against ICP 0016099024EL49F. | A review will be completed and the ICP categorization will be updated where required; Any KCDC light will be allocated to 0016099024EL49F; other lights will be categorised as metered or where available the ICP; Please note only assets that are KCDC owned are maintained within RAMM – all other records are for reference purposes only. If the lights do not operate on the DST profile, these will be categorised under another KCDC owned ICP | Identified |

Light description and capacity accuracy

As discussed in **section 2.4**, one item of load does not have the lamp description or wattage entered. The discrepancies from the last audit have been corrected.

Change management process findings

Fault, maintenance and upgrade work is managed by KCDC and was conducted by Fulton Hogan. Database updates are made directly via Pocket RAMM.

Photos are required to be provided when work is completed. The photos and claims for work completed submitted by Fulton Hogan are checked against the database records. Any discrepancies are followed up with Fulton Hogan.

I walked through the new connection process.

- For subdivisions, the developer is responsible for providing a plan for streetlighting to KCDC for approval which includes approved luminaires as set out in the Kāpiti Coast District Council Standard Details and Specifications for Road Lighting Infrastructure (30 December 2018). The approved lights are then installed. As part of the section 224C process, the developer is required to arrange for a qualified person to complete a RAMM inventory including taking photos, and also provide the Electra network’s approval of the connection and certification. The RAMM information is checked against the as built plans and photos, and any discrepancies are investigated. Field checks are carried out if deemed necessary. The database is not updated until vesting has occurred, therefore there can be a gap between livening and the database update date.
- For new connections initiated by KCDC, Fulton Hogan completes the field work, and updates the database using Pocket RAMM.

The current monthly report is provided as a snapshot and this practice is non-compliant. When a wattage is changed in the database due to a physical change or a correction, only the record present at the time the report is run is recorded, not the historical information showing dates of changes.

The RAMM database records an installation date, which typically records the original installation date for the light. There is no separate livening date.

Change dates are automatically generated by RAMM when records change; but cannot be selected by the user. Where a change is entered using Pocket RAMM at the time of the change, this date will reflect the date on which the change occurred. If a correction or change is processed at a later date, the change date may be incorrect.

Outage patrols are conducted every three months, and Fulton Hogan directly update their findings into RAMM from the field.

Festive lights

KCDC confirmed that there is no festive lighting used on the Kāpiti Coast.

Private lights

120 unmetered private lights are recorded in the database. One is included in the extract provided to Contact Energy but the other 119 do not have an ICP recorded against them. They used to be recorded against the KCDC ICP but following a recent complete field audit, they are now recorded as "NON_ROADING_OWNER" and not reported to Contact. It does not appear that Electra (the distributor) has any shared unmetered load ICPs, therefore I have provided this list to the Electricity Authority to be passed on to Electra to create shared unmetered load ICPs. There are a further 35 items of load categorised as "NON_ROADING_OWNER" with light owners of:

- Community services,
- Wgtn Reg Council (carparking),
- Parks,
- Unknown,
- Power Board,
- Local Authority, and
- NZTA.

The NZTA lights are now in a separate database managed by NZTA. The Wellington Regional Council lights will be advised to Wellington Regional Council by KCDC. I have asked KCDC if the remaining lights should be assigned to the 0016099024EL49F ICP.

NZTA lights

NZTA lights are now separately recorded against NZTA ICPs.

Audit outcome

Non-compliant

| Non-compliance | Description | | |
|--|---|---------------------------|------------------------|
| Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: 01-Oct-19 To: 21-May-21 | The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot. Livening dates are not recorded for new connections; and change dates may not reflect the date of the change if they are not processed in RAMM at the time that the change occurs. One item of load with zero wattage and no lamp model. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2 | | |
| Audit risk rating | Rationale for audit risk rating | | |
| Low | The controls are recorded as strong because they mitigate risk to an acceptable level. The impact on settlement and participants is minor; therefore, the audit risk rating is low. | | |
| Actions taken to resolve the issue | | Completion date | Remedial action status |
| Kapiti DC will be reviewing the fields and functionality of RAMM to allow for livening dates to be entered and reported as at effective livening date, rather than entered or certification date. The item of load with no wattage has been resolved. | | 31/8/2021 Complete | Identified |
| Preventative actions taken to ensure no further issues will occur | | Completion date | |
| The missed item of load was due to project run by NZTA and divested. Reporting has subsequently been built to allow for any blank field to be identified – this is run monthly prior to submitting the database. | | Complete | |

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 on hours against the submitted figure to confirm accuracy.

Audit commentary

Contact reconciles this DUML load using the DST profile.

I reviewed the submission information for April 2021 and found the calculation methodology was correct. The wattage was based on the total wattage for ICP 0016099024EL49F from the database, and on hours were based on data logger information.

The field audit found that the database is accurate to within +/- 5%. With a 95% level of confidence, it can be concluded that the error could be between -0.2% and +0.7%.

As recorded in **section 2.4**, one item of load does not have wattage recorded.

On 18 June 2019, the Electricity Authority issued a memo clarifying the memo of 2012 that stated that a monthly snapshot was sufficient to calculate submission from, and confirmed the code requirement to calculate the correct monthly load must:

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

The current monthly report is provided as a snapshot and this practice is non-compliant. When a wattage is changed in the database due to a physical change or a correction, only the record present at the time the report is run is recorded, not the historical information showing dates of changes. Contact completes revision submissions where corrections are required; and have not yet updated their processes to be consistent with the Authority's memo.

The RAMM database records an installation date, which typically records the original installation date for the light. There is no separate livening date.

Change dates are automatically generated by RAMM when records change; but cannot be selected by the user. Where a change is entered using Pocket RAMM at the time of the change, this date will reflect the date on which the change occurred. If a correction or change is processed at a later date, the change date may be incorrect.

Audit outcome

Non-compliant

| Non-compliance | Description | | |
|---|---|----------------------------------|------------------------|
| <p>Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c)</p> <p>From: 01-Oct-20 To: 21-May-21</p> | <p>The monthly database extract provided does not track changes at a daily basis and is provided as a snapshot.</p> <p>Livening dates are not recorded for new connections; and change dates may not reflect the date of the change if they are not processed in RAMM at the time that the change occurs.</p> <p>One item of load does not have the wattage recorded.</p> <p>Potential impact: Low Actual impact: Low Audit history: Twice Controls: Strong Breach risk rating: 1</p> | | |
| Audit risk rating | Rationale for audit risk rating | | |
| <p>Low</p> | <p>The controls are recorded as strong because they mitigate risk to an acceptable level.</p> <p>The impact on settlement and participants is minor; therefore, the audit risk rating is low.</p> | | |
| Actions taken to resolve the issue | | Completion date | Remedial action status |
| <p>Kapiti DC will be reviewing the fields and functionality of RAMM to allow for livening dates to be entered and reported as at effective livening date, rather than entered or certification date.</p> <p>The item of load with no wattage has been resolved.</p> | | <p>31/8/2021</p> <p>Complete</p> | <p>Investigating</p> |
| Preventative actions taken to ensure no further issues will occur | | Completion date | |
| <p>The missed item of load was due to project run by NZTA and divested. Reporting has subsequently been built to allow for any blank field to be identified – this is run monthly prior to submitting the database.</p> | | <p>Complete</p> | |

CONCLUSION

The audit was conducted in accordance with the audit guidelines for DUMML audits version 1.1. The scope of the audit encompasses the collection, security and accuracy of the data, including the preparation of submission information.

A RAMM database is held by KCDC. Fault, maintenance and upgrade work is managed by KCDC and is conducted by Fulton Hogan. Fulton Hogan enters database updates using Pocket RAMM.

A full field audit has been completed and the database was found to be accurate to within 0.2%. The controls are strong for changes and new connections, once new areas have been vested. There is still a gap between light livening and vesting, where the developer should take responsibility for the consumption of the lights.

Minor issues found are as follows:

- a small number of field discrepancies,
- one light in the database without a model or wattage, and
- some items of load may need to be removed from the database if they are metered and some may need to be added if it is confirmed they are Council owned.

Overall, this is an excellent result. The future risk rating indicates the next audit be conducted in 24 months' time. I agree with this recommendation.

PARTICIPANT RESPONSE

The Council has been a pleasure to work with and have been very focussed on improving the accuracy of their submissions, which can be seen by their continuous trend downward in points scored via their external audits.

The Council has worked hard since the last Audit period to implement all recommendations and resolve non-compliances. This audit has identified one gap in the process in relation to assets that have been divested and further controls have since been introduced to pick up these issues prior to submission.

The Council will continue to work on the additional non-compliances found in this audit which will likely require changes to how it manages the data in RAMM to ensure accurate daily volumes are able to be submitted to the market.