ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

VERITEK

For

KAWERAU DISTRICT COUNCIL AND GENESIS ENERGY LIMITED NZBN:9429037706609

Prepared by: Steve Woods

Date audit commenced: 23 January 2024

Date audit report completed: 19 February 2024

Audit report due date: 15-Feb-24

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EXECUTIVE SUMMARY

This audit of the **Kawerau District Council** (**KDC**) DUML database and processes was conducted at the request of **Genesis Energy Limited (Genesis**), 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 scope of the audit encompasses the collection, security and accuracy of the data, including the preparation of submission information. The field work and management of the RAMM database is carried out by Horizon.

The management of the RAMM database and associated field processes had changed during the audit period and the database accuracy has improved as a result. However, none of the discrepancies identified during the previous audit were corrected and neither of the two recommendations were adopted. I have taken this into account in determining the next audit period.

There were 41 field audit discrepancies (18%), resulting in under submission of 18,400 kWh per annum. There were some database discrepancies identified in the last audit which are still present and result in over submission of 11,131 kWh per annum. There are two new roads with 22 lights in total which are not recorded in the database. I recommend these are checked to confirm if they are electrically connected and if so, add them to the database.

This audit found four non-compliances and makes four recommendations. The future risk rating of 20 indicates that the next audit be completed in three months. I have considered this in conjunction with the comments received from Genesis and I recommend the next audit be completed in six months, which should allow sufficient time to conduct a full field audit and resolve the database discrepancies.

The matters raised are detailed in the table 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	Under submission of 18,400 kWh per annum identified by the field audit. On off times are based on a logger located in Taupo and not in Kawerau. Some ballast wattage discrepancies leading to over submission of 11,131 kWh per annum. Submission is based on a snapshot and does not consider historic adjustments.	Weak	Medium	6	Identified
All load recorded in database	2.5	11(2A) of Schedule 15.3	Eight additional lights in the field.	Moderate	Low	2	Identified
Database accuracy	3.1	15.2 and 15.37B(b)	Festive lighting is connected but the volume is not recorded. Some ballast wattage discrepancies leading to over submission of 11,131 kWh per annum. Under submission of 18,400 kWh per annum identified by the field audit. Corrections not made after the previous audit.	Weak	Medium	6	Identified
Volume information accuracy	3.2	15.2 and 15.37B(c)	Under submission of 18,400 kWh per annum identified by the field audit. On off times are based on a logger located in Taupo and not in Kawerau. Some ballast wattage discrepancies leading to over submission of 11,131 kWh per annum.	Weak	Medium	6	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Submission is based on a snapshot and does not consider historic adjustments.				
					Future Risk Rating	**20**	

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
Database accuracy	3.1	Check one of the Cree Ledway 30 70-watt LEDs to ensure it has not been set to a lower wattage
		Record festive lights in RAMM.
		Check lights on Anaru Drive and Tamaoho Drive to confirm if they are livened and if so, update the database
		Adopt a new connections process that includes approval steps by KDC and Genesis

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

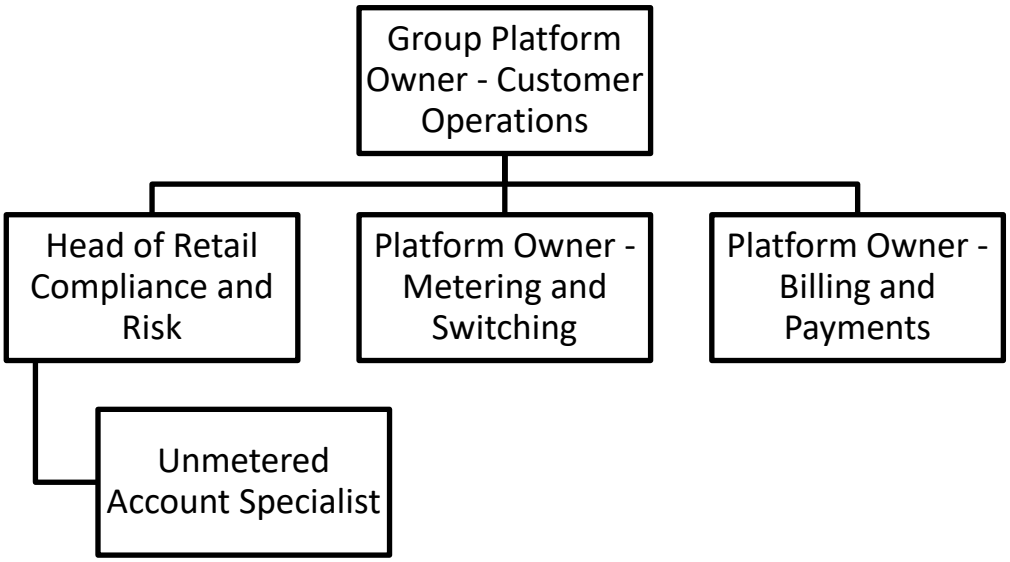
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

Audit commentary

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

1.2. Structure of Organisation

Genesis provided a copy of their organisational structure.



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
Alysha Majury	Unmetered Account Specialist	Genesis Energy
Hanno van der Merwe	Group Manager Operations and Services	Kawerau DC
Tina Mitchell	Asset and Contract Manager	Kawerau DC
Stacey Flintoff	Streetlight Coordinator	Horizon Networks

1.4. Hardware and Software

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

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

Systems used by the trader to calculate submissions are assessed as part of their reconciliation participant audits.

1.5. Breaches or Breach Allegations

There are no breach allegations relevant to the scope of this audit.

1.6. ICP Data

ICP Number	Description	Profile	Number of items of load	Database wattage (watts)
1000023043BP177	Streetlights, KAWERAU	NST	925	45,927

1.7. Authorisation Received

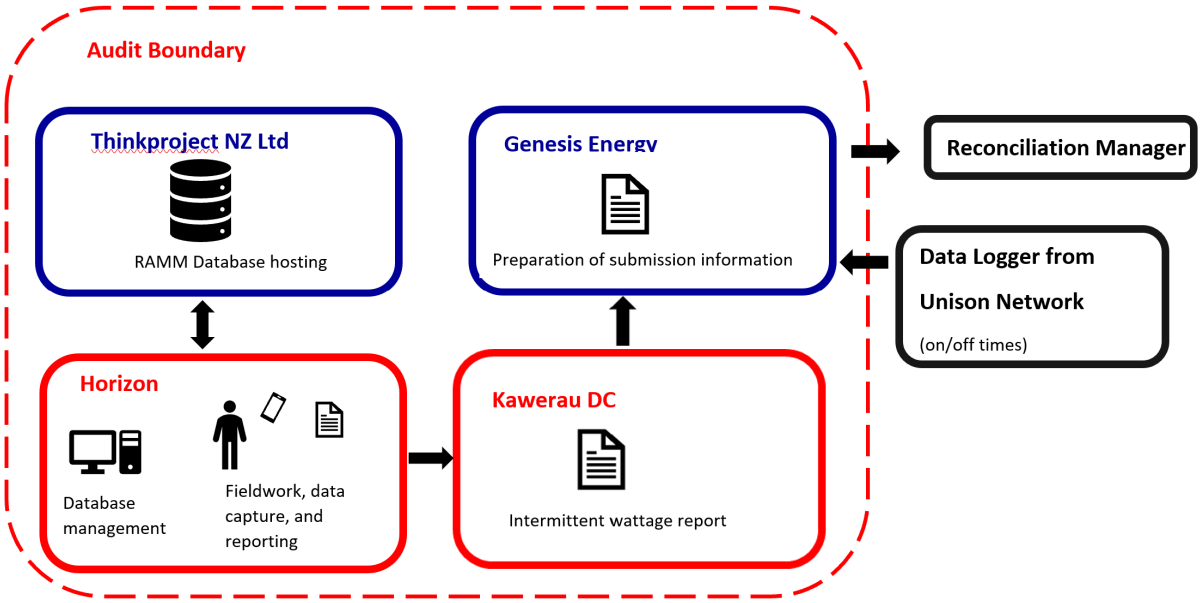
All information was provided directly by Genesis, KDC or Horizon Network.

1.8. Scope of Audit

This audit of the **Kawerau District Council (KDC**) DUML database and processes was conducted at the request of **Genesis Energy Limited (Genesis**), 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.

Genesis reconciles this DUML load using the NST profile. A database extract is being used to calculate the kW figure. A RAMM database is managed by KDC in relation to this load. I compared the field findings to the database records.

The database is remotely hosted by thinkproject Ltd. The field work is carried out by Horizon. The asset data capture and database population are conducted by Horizon. The scope of the audit encompasses the collection, security and accuracy of the data, including the preparation of submission information. The diagram below shows the audit boundary for clarity.



The field audit was undertaken of a statistical sample of 232 items of load on 28th January 2024.

1.9. Summary of previous audit

The previous audit was conducted by Steve Woods in April 2023. The findings are shown in the table below.

Table of Non-compliances

Subject	Section	Clause	Non-Compliance	Status
Distributed unmetered load audits	1.10	16A.26	Audit report not completed by due date.	Cleared
Deriving submission information	2.1	11(1) of Schedule 15.3	On off times are based on a logger located in Taupo and not in Kawerau. Some ballast wattage discrepancies leading to over submission of 11,131 kWh per annum. Submission is based on a snapshot and does not consider historic adjustments	Still existing
All load recorded in database	2.5	11(2A) of Schedule 15.3	Five additional lights in the field	Still existing
Database accuracy	3.1	15.2 and 15.37B(b)	Festive lighting is connected but the volume is not recorded. Some ballast wattage discrepancies leading to over submission of 11,131 kWh per annum.	Still existing
Volume information accuracy	3.2	15.2 and 15.37B(c)	On off times are based on a logger located in Taupo and not in Kawerau. Some ballast wattage discrepancies leading to over submission of 11,131 kWh per annum. Submission is based on a snapshot and does not consider historic adjustments	Still existing

Table of Recommendations

Subject	Section	Description	Status
Database accuracy	3.1	Record festive lights in RAMM.	Still existing
		Check lights on Anaru Drive and Tiwhatiwha Cres to confirm if they are livened and if so, update the database.	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

Genesis have requested Veritek to undertake this streetlight audit.

Audit commentary

This audit report demonstrates that the audit was conducted as required by this clause.

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

Genesis reconciles this DUML load using the NST profile. A database extract is expected to be provided each month, however the last extract prior to January 2024 was July 2023. Genesis has agreed to send a request to Horizon each month to ensure the database extract is provided.

Genesis has a compliant process for calculating monthly kWh.

A logger in Taupo on the Unison network is being used to calculate the burn hours and these burn hours are being used. This is likely to be reasonably similar to the Kawerau hours but is not compliant as it is on a different network. KDC intends to move away from the ripple relay to daylight sensors in each light. I recommend that Genesis work with KDC to ensure that the correct burn hours are applied, and a suitable profile is in place for submission. No time frame was given as to when this will be deployed.

The field audit found the database was not accurate to within +/- 5%. The database auding tool recorded that under submission by 18,400 kWh per annum is occurring. The discrepancies identified during the previous audit have still not been corrected.

The previous audit identified the following database discrepancies, which have not been corrected:

- 154 17-watt under veranda LED lights have 17 watts in the ballast field as well as the wattage field, leading to over submission of 11,182 kWh per annum, and
- three 150-watt HPS lights have 14 watts recorded for the ballast instead of 18 watts, leading to under submission of 51 kWh per annum.

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 wattage reports are provided as a snapshot, and this is non-compliant. Genesis completes revision submissions where corrections are required. Genesis is working to develop event-based calculations, which will enable accurate volume calculations where lamps change part way through a month.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 Clause 11(1) of Schedule 15.3 From: 01-Jun-23 To: 08-Feb-24	Under submission of 18,400 kWh per annum identified by the field audit. On off times are based on a logger located in Taupo and not in Kawerau. Some ballast wattage discrepancies leading to over submission of 11,131 kWh per annum. Submission is based on a snapshot and does not consider historic adjustments. Potential impact: High Actual impact: Medium Audit history: Multiple times Controls: Weak Breach risk rating: 6
Audit risk rating	**Rationale for audit risk rating**
Medium	The previous audit recorded the controls as moderate, but I have recorded them as weak in this audit because the discrepancies from the previous audit have not been corrected and the recommendations were not adopted. The impact is assessed to be medium, based on the kWh differences described above.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will continue to work with KDC to ensure the discrepancies identified are corrected. Genesis will continue to work with KDC to implement a tracking of change process	Continuous Improvement	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis will continue to work with KDC to ensure the discrepancies identified are corrected. Genesis will continue to work with KDC to implement a tracking of change process	Continuous Improvement	

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 an ICP was recorded against each item of load.

Audit commentary

All items of load now have the 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 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 street address and also GPS coordinates. All items of load have GPS coordinates.

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 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 for lamp and gear wattage. There were no fields with data missing. The accuracy of the gear wattage is discussed in **section 3.1.**

Audit outcome

Compliant

2.5. All load recorded in database (Clause 11(2A) of Schedule 15.3)

Code reference

Clause 11(2A) of Schedule 15.3

Code related audit information

The retailer must ensure that each item of DUML for which it is responsible is recorded in this database.

Audit observation

The field audit was undertaken of a statistical sample of 232 items of load on 28th January 2024.

Audit commentary

There were 41 field audit discrepancies (18%), and a spreadsheet of the findings has been supplied with this report. The table below shows a summary of findings.

Finding	Quantity
Additional lights in the field	8
Lights missing from the field	1
Incorrect wattage	32

Eight additional lights were found in the field, which is recorded as non-compliance. The accuracy of the field audit 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-Jun-23 To: 08-Feb-24	Eight additional lights in the field. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. 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
Genesis will continue to work with KDC to ensure the discrepancies identified are corrected.	30/05/2024	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
Genesis will continue to work with KDC to ensure the discrepancies identified are corrected.	30/05/2024	

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

Code reference

Clause 11(3) of Schedule 15.3

Code related audit information

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

Audit observation

The ability of the database to track changes was assessed and 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

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

Plan Item	Comments
Area of interest	Kawerau District Council streetlights in and around Kawerau
Strata	The database contains 925 items of load in the Kawerau DC area. The processes for the management of all Kawerau DC items of load is the same. I selected the following strata: • roads A-F, • roads G-I, • roads J-O, • roads P-R and • roads S-Z.
Area units	I created a pivot table of the roads in each database and used a random number generator in each spreadsheet to select a total of 48 sub-units.
Total items of load	232 items of load were checked.

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

Audit commentary

Database accuracy based on the field audit

A field audit was conducted of a statistical sample of 232 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	109.5	Wattage from survey is higher than the database wattage by 9.5%
R_L	101.8	With a 95% level of confidence, it can be concluded that the error could be between 1.8% and 18.8%
R_H	118.8	

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 B (detailed below) applies.

The conclusion from Scenario B is that the database is confirmed to be inaccurate, demonstrated with statistical significance.

In absolute terms the installed capacity is estimated to be 4.0 kW higher than the database indicates.

There is a 95% level of confidence that the installed capacity is between 1.0 kW to 9.0 kW higher than the database.

In absolute terms, total annual consumption is estimated to be 18,400 kWh higher than the DUML database indicates.

There is a 95% level of confidence that the annual consumption is between 3,400 kWh p.a. to 36,500 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 %

Many of the lights are of the Cree Ledway type, and have 30 LEDs, which means they are either 53 watts (if the driver is 525mW) or 70 watts (if the driver is 700 mW). I have assumed they are 70 watts for the purposes of this audit, because the database contains many Ledway 70-watt lights but no 53-watt lights. This seems high given the lights are not on main roads, therefore I recommend one of the lights identified as 70 watts by the field audit is checked to ensure it has not been set to a lower wattage.

Description	Recommendation	Audited party comment	Remedial action
Ledway 70-watt LEDs	Check one of the Cree Ledway 30 70-watt LEDs to ensure it has not been set to a lower wattage.	Genesis will work with KDC to ensure this is investigated and any required changes are updated and recorded	Identified

The previous audit identified 32 database errors (12%), which are shown in the table below. None of these errors have been corrected.

Finding	Quantity
Additional lights in the field	5
Lights missing from the field	1
Incorrect wattage	26

Lamp description and capacity accuracy

The database was checked against the published standardised wattage table.

All lamp wattages were correct, but there were some ballast wattage discrepancies, which were also recorded in the previous audit, as follows:

- 154 17-watt under veranda LED lights have 17 watts in the ballast field as well as the wattage field, leading to over submission of 11,182 kWh per annum, and
- three 150-watt HPS lights have 14 watts recorded for the ballast instead of 18 watts, leading to under submission of 51 kWh per annum.

As recorded in the last three audits, festive lights are connected to the unmetered streetlight circuits but are not tracked in RAMM. I was unable to determine the specific impact on reconciliation, but the volume of lights associated with this is small. I am repeating the recommendation to maintain visibility.

Description	Recommendation	Audited party comment	Remedial action
Database accuracy	Record festive lights in RAMM.	Genesis will continue to work with KDC to ensure the discrepancies identified are corrected.	Identified

NZTA lighting

NZTA lighting is included in the database for the urban area and was checked as part of the field audit.

ICP accuracy

ICP details are correct in the database.

Location accuracy

The database contains fields for the street address and also GPS coordinates and all were populated.

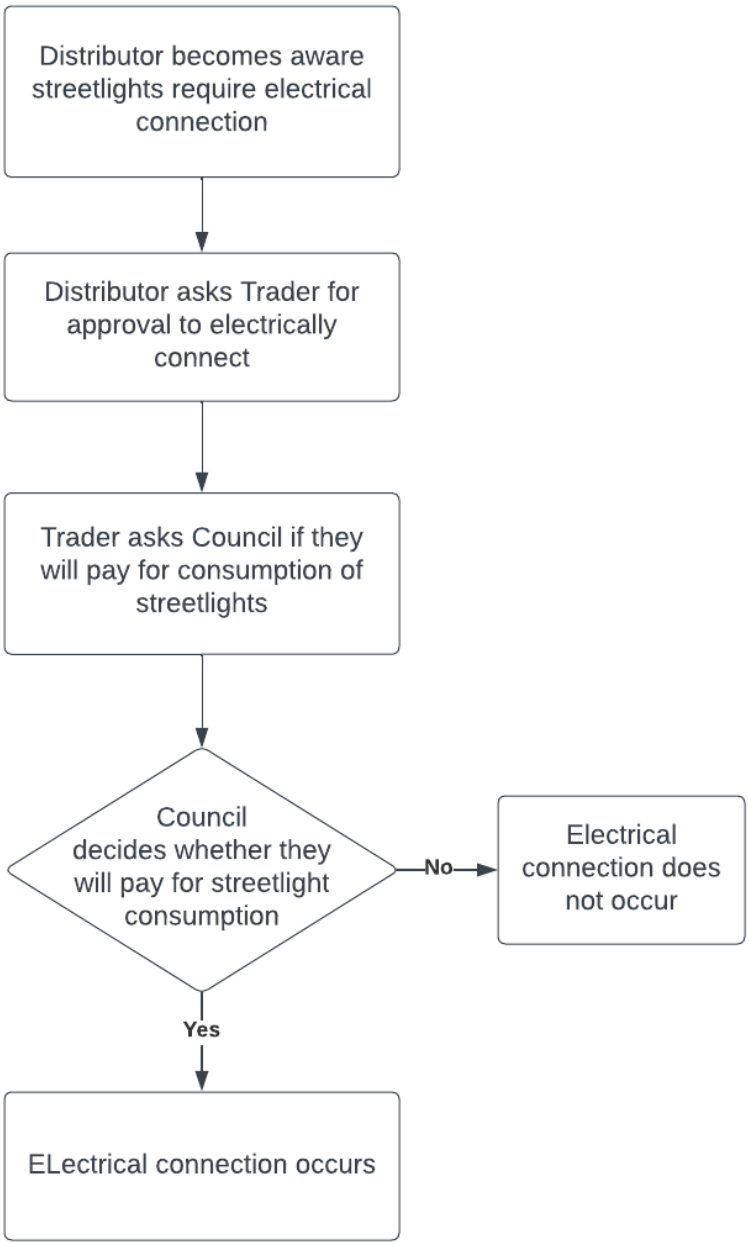
Change management process findings

The processes were reviewed for ensuring that changes in the field are captured. The field work and database management are carried out by Horizon.

During the last audit, it was reported that there were two new areas where the lights were not all recorded against the new roads. The roads are Anaru and Tiwhatiwha Cres. In addition, Tamaoho Drive has lights installed but it is not known if these are electrically connected. The new connections process has been reviewed and will now involve a field visit to ensure all lights are correctly recorded. Tiwhatiwha Cres is included in the confirmed database discrepancies. Tamaoho Drive and Anaru Drive will be investigated. If the lights are electrically connected, under submission of 7,628 kWh per annum will be occurring.

Description	Recommendation	Audited party comment	Remedial action
Database accuracy	Check lights on Anaru Drive and Tamaoho Drive to confirm if they are livened and if so, update the database.	Genesis will work with KDC to ensure this is investigated and any required changes are updated and recorded	Identified

I recommend the process below is adopted to ensure appropriate approvals are in place prior to electrical connection.



Description	Recommendation	Audited party comment	Remedial action
New connections	Adopt a new connections process that includes approval steps by KDC and Genesis	Genesis will work with KDC and Network to ensure a robust process is implemented to ensure all actions are taken and recorded	Identified

KDC have fortnightly outage patrols in place. The frequency of these patrols is expected to be extended once the Cree lights that are failing have been replaced.

There are no known private lights connected.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: 01-Sep-22 To: 24-May-23	Festive lighting is connected but the volume is not recorded. Some ballast wattage discrepancies leading to over submission of 11,131 kWh per annum. Under submission of 18,400 kWh per annum identified by the field audit. Corrections not made after the previous audit. Potential impact: High Actual impact: Medium Audit history: Multiple times Controls: Weak Breach risk rating: 6
Audit risk rating	**Rationale for audit risk rating**
Medium	The previous audit recorded the controls as moderate, but I have recorded them as weak in this audit because the discrepancies from the previous audit have not been corrected and the recommendations were not adopted. The impact is assessed to be medium, based on the kWh differences described above.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will work closely with KDC to ensure the required changes are updated	Continuous Improvement	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis will work closely with KDC to ensure the required changes are updated	Continuous Improvement	

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

Genesis reconciles this DUML load using the NST profile. A database extract is expected to be provided each month, however the last extract prior to January 2024 was July 2023. Genesis has agreed to send a request to Horizon each month to ensure the database extract is provided.

Genesis has a compliant process for calculating monthly kWh.

A logger in Taupo on the Unison network is being used to calculate the burn hours and these burn hours are being used. This is likely to be reasonably similar to the Kawerau hours but is not compliant as it is on a different network. KDC intends to move away from the ripple relay to daylight sensors in each light. I recommend that Genesis work with KDC to ensure that the correct burn hours are applied, and a suitable profile is in place for submission. No time frame was given as to when this will be deployed.

The field audit found the database was not accurate to within +/- 5%. The database auding tool recorded that under submission by 18,400 kWh per annum is occurring. The discrepancies identified during the previous audit have still not been corrected.

The previous audit identified the following database discrepancies, which have not been corrected:

- 154 17-watt under veranda LED lights have 17 watts in the ballast field as well as the wattage field, leading to over submission of 11,182 kWh per annum, and
- three 150-watt HPS lights have 14 watts recorded for the ballast instead of 18 watts, leading to under submission of 51 kWh per annum.

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 wattage reports are provided as a snapshot, and this is non-compliant. Genesis completes revision submissions where corrections are required. Genesis is working to develop event-based calculations, which will enable accurate volume calculations where lamps change part way through a month.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.2 Clause 15.2 and 15.37B(c) From: 01-Jun-23 To: 08-Feb-24	Under submission of 18,400 kWh per annum identified by the field audit. On off times are based on a logger located in Taupo and not in Kawerau. Some ballast wattage discrepancies leading to over submission of 11,131 kWh per annum. Submission is based on a snapshot and does not consider historic adjustments. Potential impact: High Actual impact: Medium Audit history: Multiple times Controls: Weak Breach risk rating: 6
Audit risk rating	**Rationale for audit risk rating**
Medium	The previous audit recorded the controls as moderate, but I have recorded them as weak in this audit because the discrepancies from the previous audit have not been corrected and the recommendations were not adopted. The impact is assessed to be medium, based on the kWh differences described above.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis continues to investigate a logger for Kawerau which is underway however no completion date available. Genesis will continue to work with KDC about accuracy of their database and implementing a tracking of change process	Continuous Improvement	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis currently uses the Taupo logger as it is closest available to Kawerau	Continuous Improvement	

CONCLUSION

The management of the RAMM database and associated field processes had changed during the audit period and the database accuracy has improved as a result. However, none of the discrepancies identified during the previous audit were corrected and neither of the two recommendations were adopted. I have taken this into account in determining the next audit period.

There were 41 field audit discrepancies (18%), resulting in under submission of 18,400 kWh per annum. There were some database discrepancies identified in the last audit which are still present and result in over submission of 11,131 kWh per annum. There are two new roads with 22 lights in total which are not recorded in the database. I recommend these are checked to confirm if they are electrically connected and if so, add them to the database.

This audit found four non-compliances and makes four recommendations. The future risk rating of 20 indicates that the next audit be completed in three months. I have considered this in conjunction with the comments received from Genesis and I recommend the next audit be completed in six months, which should allow sufficient time to conduct a full field audit and resolve the database discrepancies.

PARTICIPANT RESPONSE

Genesis continues to investigate a more appropriate logger to be available for Kawerau and currently uses the closest available logger.

Genesis continues to build and work with KDC with improving the accuracy of their database and have continued with more engagement with the council.

Genesis agrees with the audit findings.