

ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

VERITEK

For

KAWERAU DISTRICT COUNCIL
AND GENESIS ENERGY LIMITED

Prepared by: Steve Woods

Date audit commenced: 28 August 2020

Date audit report completed: 8 December 2020

Audit report due date: 20-Oct-20

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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 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 managed by Opus on behalf KDC in relation to this load. The field work is carried out by Horizon. Horizon will update and maintain changes using desktop updates into RAMM.

Genesis use the daily kWh figure recorded in the registry to reconcile this load. Genesis have been provided with a wattage report but found the data quality to be too poor to use for submission purposes. Genesis intend to move to the KDC data once the database accuracy is confirmed. The update from the 100% field audit, indicated by KDC to be completed, has not been updated in the RAMM database.

Analysis of the database found:

- missing wattage values,
- lamp wattages recorded as ballast values,
- a large volume of additional lights found in the field audit, and
- a large proportion of incorrect wattages in the database.

The combination of these factors means that it is not possible to calculate accurately the difference between the registry figure used for submission, and what is installed in the field.

This audit found six non-compliances and makes one recommendation. The future risk rating of 41 indicates that the next audit be completed in three months, which should allow sufficient time to remedy the database inaccuracy issues.

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	Historic registry figure used for submission. RAMM database is not accurate.	Weak	High	9	Identified
Location of each item of load	2.3	11(2)(b) of Schedule 15.3	56 items of load with insufficient location details.	Moderate	Low	2	Investigating
Description and capacity of each item of load	2.4	11(2)(c)&(d) of Schedule 15.3	125 items of load with no lamp descriptions, lamp wattage and ballast detailed. 183 items of load with no lamp wattage or ballast wattage recorded.	Weak	Medium	6	Investigating
All load recorded in database	2.5	11(2A) of Schedule 15.3	29 lights not included in the database extract.	Weak	Medium	6	Investigating
Database accuracy	3.1	15.2 and 15.37B(b)	In absolute terms the installed capacity is estimated to be 3.0 kW higher than the database indicates. Lamp wattage is recorded as ballast wattage. 125 items of load with no lamp descriptions, lamp wattage and ballast detailed. 183 items of load with no lamp wattage or ballast wattage recorded. 56 items of load did not have a street number or GPS coordinates. Festive lighting is connected but the volume is not recorded.	Weak	High	9	Investigating
Volume information accuracy	3.2	15.2 and 15.37B(c)	Historic registry figure used for submission. RAMM database is not accurate.	Weak	High	9	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Future Risk Rating						41	

Future risk rating	0	1-4	5-8	9-15	16-18	19+
Indicative audit frequency	36 months	24 months	18 months	12 months	6 months	3 months

RECOMMENDATIONS

Subject	Section	Description	Recommendation
Database accuracy	3.1	Tracking of load change	Record festive lights in RAMM.
		Tracking of load change	Review the new connection process.

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

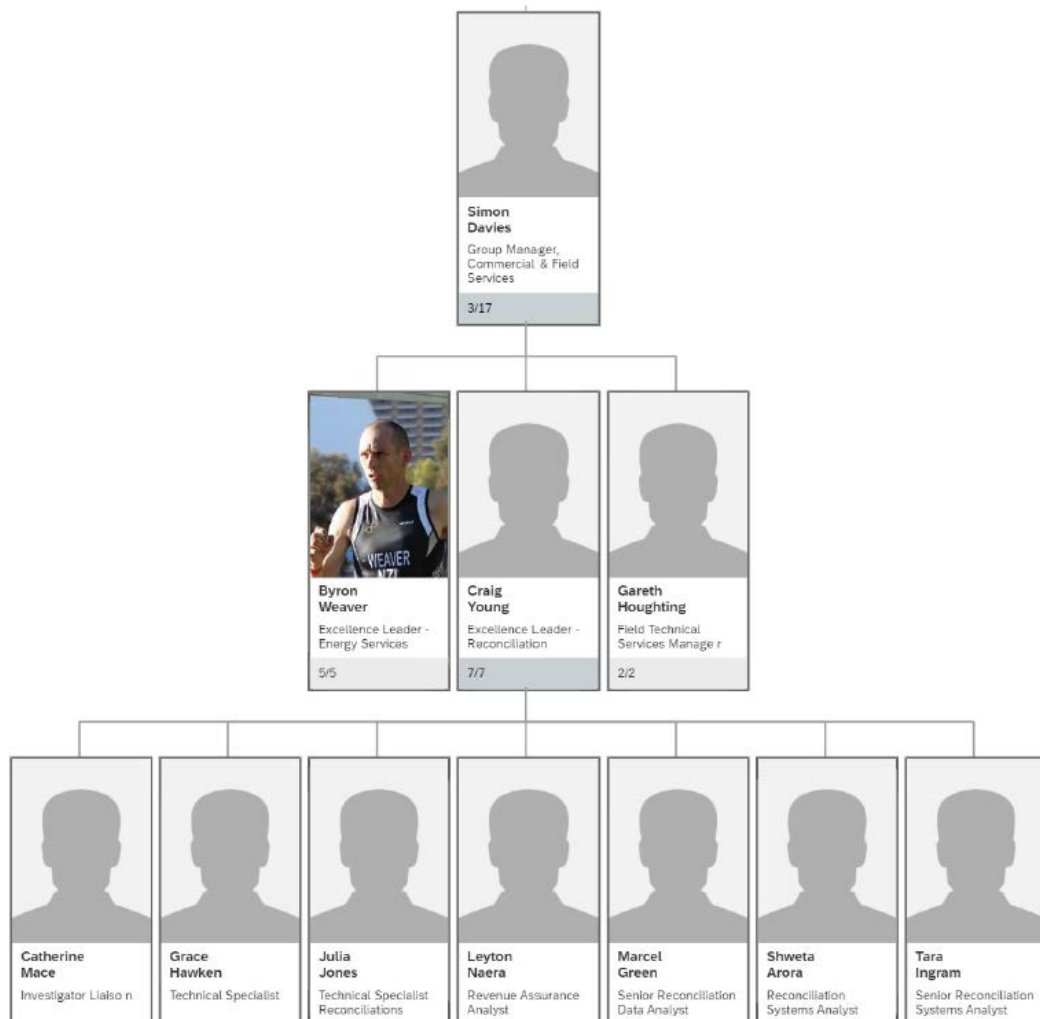
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

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

Claire Stanley Supporting Auditor Veritek

Other personnel assisting in this audit were:

Name	Title	Company
Craig Young	Excellence Leader - Reconciliation	Genesis Energy
Grace Hawken	Technical Specialist - Reconciliation Team	Genesis Energy
Andre Erasmus	Engineering Manager	Kawerau DC
Tina Mitchell	Asset and Contract Manager	Kawerau DC

1.4. Hardware and Software

The registry figures are used to calculate submission. KDC have a SQL database used for the management of DUML called RAMM. This is remotely hosted by RAMM Software Ltd. "RAMM" stands for "Roading Asset and Maintenance Management".

KDC confirmed that the database back-up is in accordance with standard industry procedures. 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	763	26,593

Note that the above database wattage does not include gear wattage, because this is recorded incorrectly.

1.7. Authorisation Received

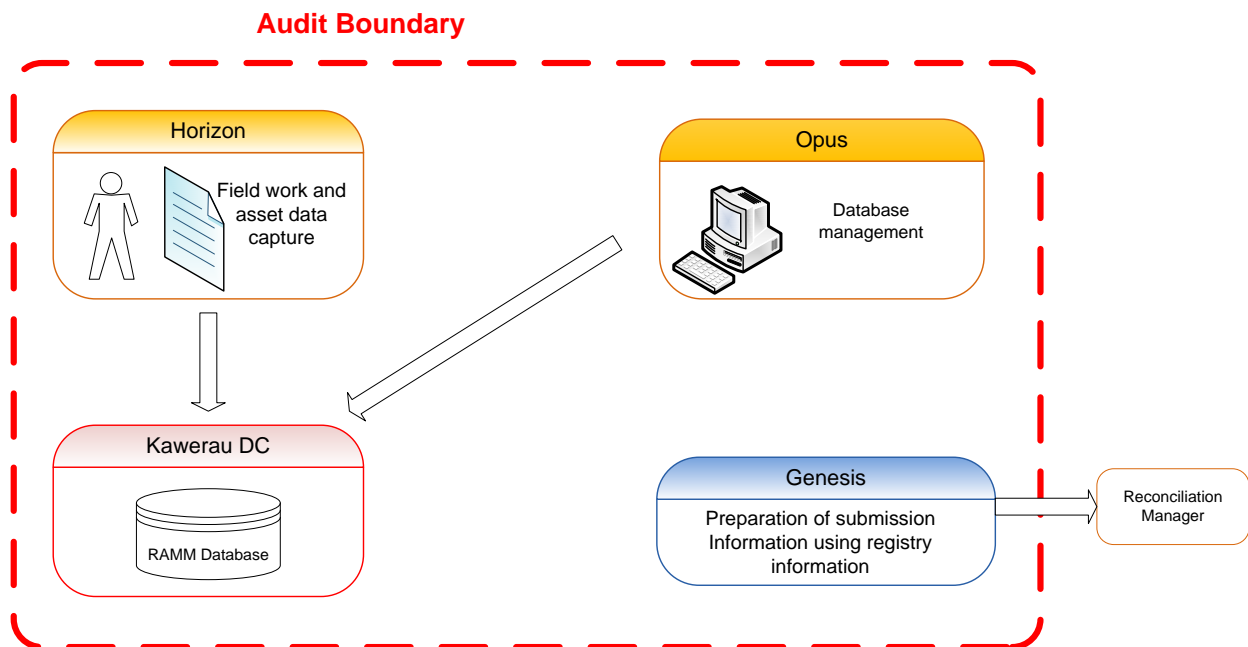
All information was provided directly by Genesis or KDC.

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 use the daily kWh figure recorded in the registry to reconcile this load. The registry figure was last changed in September 2019. 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 RAMM Software 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 233 items of load.

1.9. Summary of previous audit

The previous audit was conducted by Steve Woods in September 2019. The findings are shown in the table below.

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	Historic registry figure used for submission. RAMM database is not accurate.	Still existing
ICP Identifier	2.2	11(2)(a) & (aa) of Schedule 15.3	ICP is not recorded in the database.	Still existing
Location of each item of load	2.3	11(2)(b) of Schedule 15.3	27 items of load with insufficient location details.	Still existing
Description and capacity of each item of load	2.4	11(2)(c)&(d) of Schedule 15.3	29 items of load with no lamp descriptions, lamp wattage and ballast detailed. 183 items of load with no lamp wattage or ballast wattage recorded.	Still existing
All load recorded in database	2.5	11(2A) of Schedule 15.3	41 lights not included in the database extract.	Still existing
Database accuracy	3.1	15.2 and 15.37B(b)	The database accuracy is assessed to be 113.5% indicating potential under submission of 23,500 kWh per annum if the database were used for submission. Lamp wattage recorded as ballast wattage indicating an estimated over submission of 79,048 kWh of over submission if the database were used for submission. 218 items of load with missing wattage values indicating an estimated under submission of 26,758 kWh if the database were used for submission. Festive lighting is connected but the volume is not recorded.	Still existing
Volume information accuracy	3.2	15.2 and 15.37B(c)	Historic registry figure used for submission.	Still existing

RECOMMENDATIONS

Subject	Section	Clause	Recommendation	Status
Tracking of load change	2.6	11(3) of Schedule 15.3	Record festive lights in RAMM.	Still existing

1.10. Distributed unmetered load audits (Clause 16A.26 and 17.295F)

Code reference

Clause 16A.26 and 17.295F

Code related audit information

Retailers must ensure that DUML database audits are completed:

- 1. by 1 June 2018 (for DUML that existed prior to 1 June 2017)*
- 2. within three months of submission to the reconciliation manager (for new DUML)*
- 3. within the timeframe specified by the Authority for DUML that has been audited since 1 June 2017.*

Audit observation

Genesis 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. 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. The registry daily kWh figure (assuming burn hours of 11.9) is used to calculate submission. I confirmed the calculation was correct. KDC has not provided a monthly wattage report from the database to Genesis, so the registry figures continue to be used for submission.

I compared the kW value recorded in the registry with the load recorded in the database extract for the month of April 2020 and found:

ICP	Registry kW figure	Database kW figure	Kw Difference	kWh value submitted for April 2020	Calculated kWh value from database for April 2020	kWh Difference for April 2020
1000023043BP177	54.516	26.593	27.563	19,642	9,494	9,969
Annualised kWh variance						119,622

Based on the variance between the database and the registry figure there is 119,622 kWh of over submission. As noted in the last audit the database is not within the acceptable accuracy range.

The following accuracy issues are present:

- 183 items of load do not have wattage recorded,
- 322 items of load do not have gear wattage recorded, and
- Where gear wattage is populated it is the same as lamp wattage and is therefore incorrect

These issues are detailed in **sections 2.2,2.4.**

The field audit found that the database contained more lights in the field than were recorded in the database that indicates if the database were being used for submission this would result in an estimated annual under submission 13,500 kWh.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 Clause 11(1) of Schedule 15.3 From: 01-Nov-19 To: 01-Sep-20	Historic registry figure used for submission. RAMM database is not accurate. Potential impact: High Actual impact: High Audit history: Once Controls: Weak Breach risk rating: 9		
Audit risk rating	Rationale for audit risk rating		
High	The controls are rated as weak because the RAMM database is not used for reconciliation and there has been no change since the last audit. The impact is assessed to be high due to the registry figure being used, and the RAMM database accuracy being poor.		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Genesis has conducted a desk top audit to verify the asset extraction accuracy levels. As the auditor has stated there was a kW value of 26.593 with a difference of 27.563 kW.</p> <p>Genesis review found an additional 157 assets with 62 asset error and confirmed 699 assets.</p> <p>Genesis desktop has summarised the KDC lighting assets to be 856 active assets including (parks and property) totalling 38.162 kW. Genesis will be back dating the registry information historically with this information and are confident that the WSP field audit will confirm accuracy.</p> <p>Genesis has also spoken with the new contractor for KDC who will be responsible for the asset database management. Trevor has advise that a field audit will hopefully be completed prior to Christmas with updates being completed upon return in the new year.</p>		01/11/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Once KDC can provide monthly accurate database extractions Genesis will be able to do assets reviews. Genesis are currently working with KDC to increase the accuracy of the database.		28/02/2021	

2.2. ICP identifier and items of load (Clause 11(2)(a) and (aa) of Schedule 15.3)

Code reference

Clause 11(2)(a) and (aa) of Schedule 15.3

Code related audit information

The DUML database must contain:

- each ICP identifier for which the retailer is responsible for the DUML
- the items of load associated with the ICP identifier.

Audit observation

The database was checked to confirm the correct ICP was recorded against each item of load.

Audit commentary

All items of load have an ICP recorded against them.

Audit outcome

Compliant

2.3. Location of each item of load (Clause 11(2)(b) of Schedule 15.3)

Code reference

Clause 11(2)(b) of Schedule 15.3

Code related audit information

The DUML database must contain the location of each DUML item.

Audit observation

The database was checked to confirm the location is recorded for all items of load.

Audit commentary

The database contains fields for the street address and also GPS coordinates. 56 items of load did not have a street number or GPS coordinates.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.3 Clause 11(2)(b) of Schedule 15.3 From: 01-Nov-19 To: 01-Sep-20	56 items of load with insufficient location details. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	Rationale for audit risk rating

Low	<p>The controls are rated as moderate as the location is recorded for all but 56 items of load.</p> <p>The impact is assessed to be low as there are only 56 items of load with insufficient location details.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis and KDC are in the process of confirming the field assets and the necessary corrections to asset information within the database.		28/02/2021	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Council to contract WSP to conduct field audit with an expected completion date late Dec-2020		28/02/2021	

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 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 the manufacturers rated wattage and the ballast wattage. The extract provided has fields for lamp and gear make and model. Analysis found there were:

- 125 items of load with no lamp descriptions, and
- 183 items of load with no lamp wattage or ballast wattage recorded.

The accuracy of those with the lamp description, capacity and ballasts recorded is discussed in **section 3.1**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.4 Clause 11(2)(c)&(d) of Schedule 15.3 From: 01-Nov-19 To: 01-Sep-20	125 items of load with no lamp descriptions detailed. 183 items of load with no lamp wattage or ballast wattage recorded. Potential impact: Low Actual impact: Low Audit history: Once Controls: Weak Breach risk rating: 6		
Audit risk rating	Rationale for audit risk rating		
Medium	The controls are rated as weak the data quality indicates a lack of quality control to check the data being loaded. The impact is assessed to be medium based on the high proportion of missing data.		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis and KDC are in the process of confirming the field assets and the necessary corrections to asset information within the database.		28/02/2021	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Council to contract WSP to conduct field audit with an expected completion date late Dec-2020		28/02/2021	

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 162 items of load.

Audit commentary

The field audit discrepancies were numerous, and a spreadsheet of the findings has been supplied with this report. The table below shows a summary of findings.

Finding	Quantity
Lights missing from the database	29
Lights missing from the field	10

Incorrect or missing wattage in database	50
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This clause relates to lights in the field that are not recorded in the database. The field audit found 29 additional lights. 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-Nov-19 To: 01-Sep-20	29 lights not included in the database extract. Potential impact: Medium Actual impact: High Audit history: Once Controls: Weak Breach risk rating: 6		
Audit risk rating	Rationale for audit risk rating		
Medium	The controls are rated as weak the data quality indicates a lack of quality control to check the data being inputted. The impact is rated as medium as the actual impact is unknown as the registry figure is being used for reconciliation.		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis and KDC are in the process of confirming the field assets and the necessary corrections to asset information within the database.		28/02/2021	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Council to contract WSP to conduct field audit with an expected completion date late Dec-2020		28/02/2021	

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

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

Audit observation

The database was checked for audit trails.

Audit commentary

The 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 763 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: <ul style="list-style-type: none"> • Roads A-H • Roads I-O • Roads P-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 39 sub-units.
Total items of load	162 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 233 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	111.9	Wattage from survey is higher than the database wattage by 11.9%
R _L	102.7	With a 95% level of confidence it can be concluded that the error could be between 2.7% and 31.2%
R _H	131.2	

These results were categorised in accordance with the “Distributed Unmetered Load Statistical Sampling Audit Guideline”, effective from 01/02/19 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 2.7% higher and 31.2% 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 3 kW higher than the database indicates.

There is a 95% level of confidence that the installed capacity is between 1 kW higher to 8 kW higher than the database.

In absolute terms, total annual consumption is estimated to be 13,500 kWh higher than the DUML database indicates.

There is a 95% level of confidence that the annual consumption is between 3,000 kWh p.a. higher to 35,400 kWh p.a. higher than the 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>

Lamp description and capacity accuracy

The database was checked against the published standardised wattage table. The RAMM database lamp wattage is recorded as ballast as well. Accurate ballast information is required to achieve compliance.

As detailed in **section 2.4**, analysis of the database found:

- 125 items of load with no lamp descriptions, lamp wattage and ballast detailed
- 183 items of load with no lamp wattage or ballast wattage recorded

As recorded in the last audit, 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
Tracking of load change	Record festive lights in RAMM.	Genesis has spoken with the database administrator to ensure that the festive lighting is maintained within the asset database.	Identified
Tracking of load change	Review the new connection process.	Genesis has raised the new connection process in the region with Horizon Energy, Genesis has also raised the new connection process with the council.	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 is recorded in the database against all items of load.

Location accuracy

The database contains fields for the street address and also GPS coordinates. 56 items of load did not have a street number or GPS coordinates.

Change management process findings

The processes were reviewed for ensuring that changes in the field are captured. The field work is carried out by Horizon. The asset data capture and database population are conducted by Horizon. It has been identified that Horizon have not had access to RAMM and therefore have not updated any changes for the last 6-8 months. This was unknown by KDC. Horizon will update and maintain changes in RAMM using desktop updates. The update from the 100% field audit, indicated by KDC to be completed, has not been updated in the RAMM database.

The process for new connections remains unchanged. The field audit found new lights that were not recorded in the database and I recommend this process is reviewed.

The LED replacement project is largely complete.

KDC have weekly outage patrols in place. The frequency of these patrols is expected to be extended due to the lower failure rate of LED lights.

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-Nov-19 To: 01-Sep-20	In absolute terms the installed capacity is estimated to be 3.0 kW higher than the database indicates. Lamp wattage is recorded as ballast wattage. 125 items of load with no lamp descriptions, lamp wattage and ballast detailed. 183 items of load with no lamp wattage or ballast wattage recorded. 56 items of load did not have a street number or GPS coordinates. Festive lighting is connected but the volume is not recorded. Potential impact: High Actual impact: High Audit history: Once Controls: Weak Breach risk rating: 9		
Audit risk rating	Rationale for audit risk rating		
High	The controls are rated as weak the data quality indicates a lack of quality control to check the data being inputted. The impact is assessed to be high, based on the kWh differences described above.		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis and KDC are in the process of confirming the field assets and the necessary corrections to asset information within the database.		28/02/2021	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Council to contract WSP to conduct field audit with an expected completion date late Dec-2020		28/02/2021	

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. The registry daily kWh figure (assuming burn hours of 11.9) is used to calculate submission. I confirmed the calculation was correct. KDC has not provided a monthly wattage report from the database to Genesis so the registry figures continue to be used for submission.

I compared the kW value recorded in the registry with the load recorded in the database extract for the month of April 2020 and found:

ICP	Registry kW figure	Database kW figure	Kw Difference	kWh value submitted for April 2020	Calculated kWh value from database for April 2020	kWh Difference for April 2020
1000023043BP177	54.516	26.593	27.563	19,642	9,494	9,969
Annualised kWh variance						119,622

Based on the variance between the database and the registry figure there is 119,622 kWh of over submission. As noted in the last audit the database is not within the acceptable accuracy range.

The following accuracy issues are present:

- 183 items of load do not have wattage recorded,
- 322 items of load do not have gear wattage recorded, and
- Where gear wattage is populated it is the same as lamp wattage and is therefore incorrect

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.2 Clause 15.2 and 15.37B(c) From: 01-Nov-19 To: 01-Sep-20	Historic registry figure used for submission. RAMM database is not accurate. Potential impact: High Actual impact: High Audit history: Once Controls: Weak Breach risk rating: 9
Audit risk rating	Rationale for audit risk rating

High	<p>The controls are rated as weak because the RAMM database is not used for reconciliation and there has been no change since the last audit.</p> <p>The impact is assessed to be high due to the registry figure being used, and the RAMM database accuracy being poor.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis and KDC are in the process of confirming the field assets and the necessary corrections to asset information within the database.		28/02/2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Council to contract WSP to conduct field audit with an expected completion date late Dec-2020		28/02/2021	

CONCLUSION

Genesis use the daily kWh figure recorded in the registry to reconcile this load. Genesis have been provided with a wattage report but found the data quality to be too poor to use for submission purposes. Genesis intend to move to the KDC data once the database accuracy is confirmed. The update from the 100% field audit, indicated by KDC to be completed, has not been updated in the RAMM database.

Analysis of the database found:

- missing wattage values,
- lamp wattages recorded as ballast values,
- a large volume of additional lights found in the field audit, and
- a large proportion of incorrect wattages in the database.

The combination of these factors means that it is not possible to calculate accurately the difference between the registry figure used for submission, and what is installed in the field.

This audit found six non-compliances and makes one recommendation. The future risk rating of 41 indicates that the next audit be completed in three months, which should allow sufficient time to remedy the database inaccuracy issues.

PARTICIPANT RESPONSE

Genesis contacted the council in regarding another poor outcome. The Councils response triggered a desk top review of the assets to provide Genesis better clarity of active assets in the field.

Genesis currently uses the registry information and will need to investigate how to transition off registry-based calculations and will rely on the timely completion of the field audit, estimated to be completed late December 2020 to provide RAMM with corrective information.

Genesis will look at the revision of information once the field audit has been completed.