ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

For

WHAKATANE DISTRICT COUNCIL
AND GENESIS ENERGY

Prepared by: Steve Woods

Date audit commenced: 27 August 2020

Date audit report completed: 11 September 2020

Audit report due date: 17 September 2020

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EXECUTIVE SUMMARY

This audit of the Whakatane District Council (**WDC**) 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 continue to use the registry figures and UML profile to calculate submissions. There is a variance between the RAMM database extract, and the kWh figure submitted by Genesis resulting in an estimated annual over submission 51,595 kWh. Genesis intends to start using the output from WDC's Telensa system for on/off times and possibly for wattage information. The wattage information will need to be checked for accuracy first, because lamps of the same rated wattage do not all have the same reported wattage in Telensa.

Amenity lights were previously recorded in the database against ICP 1000023042BPD32, but they are now recorded against ICP 1000023047BP07D, however Genesis is still submitting for ICP 1000023042BPD32.

The assets associated with ICP 1000023061BPCA7 (Murupara amenity lights) are not recorded in the RAMM database and are excluded from this audit as Whakatane DC have completed a number of checks and can find no evidence of these lights. Therefore, Genesis and the Whakatane District Council have agreed they do not exist.

This audit found four non-compliances and makes two recommendations.

The future risk rating of 22 indicates that the next audit be completed in three months. Whilst there is some urgency to resolve the matters raised, I believe six months is a more reasonable timeframe to have all of the required actions completed.

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	Variance found between RAMM database extract and the kWh figure submitted by Genesis resulting in an estimated annual over submission 51,595 kWh. Actual on/off times are different to the fixed 11.9 hours used by Genesis. In absolute terms, total annual consumption is estimated to be 7,700 kWh higher than the DUML database indicates. Submission is based on a snapshot and does not consider historic adjustments.	Weak	High	9	Investigating
All load recorded in database	2.5	11(2A) and (d) of Schedule 15.3	Two additional items of load found in the field sample.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Database accuracy	3.1	15.2 and 15.37B(b)	In absolute terms, total annual consumption is estimated to be 7,700 kWh higher than the DUML database indicates. 5 incorrect ballasts. 4 incorrect lamp descriptions. Any changes that are made during any given month take effect from the beginning of that month. This process does not account for historic changes or changes within a month. New connections are recorded from the time of vesting, not from the time of livening.	Moderate	Low	2	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Volume information accuracy	3.2	15.2 and 15.37B(c)	Variance found between RAMM database extract and the kWh figure submitted by Genesis resulting in an estimated annual over submission 51,595 kWh. Actual on/off times are different to the fixed 11.9 hours used by Genesis. In absolute terms, total annual consumption is estimated to be 7,700 kWh higher than the DUML database indicates. Submission is based on a snapshot and does not consider historic adjustments.	Weak	High	9	Investigating
Future Risk Rating						22	

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
Deriving submission information	2.1	Liaise with WDC to determine the accuracy of the on/off information and the kWh reporting
Location of each item of load	2.3	Populate GPS coordinates in RAMM to assist with locating lights for audit and other purposes.

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

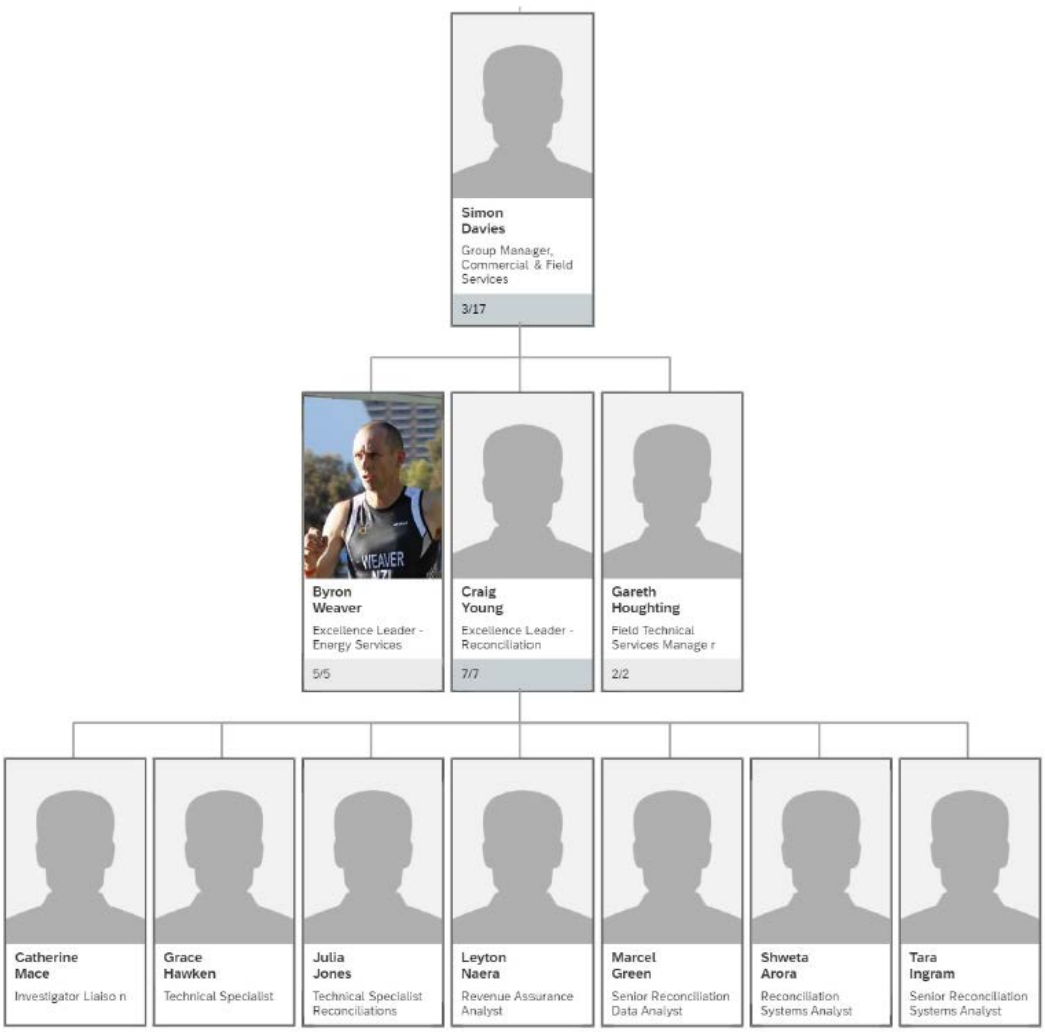
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

Audit commentary

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

1.2. Structure of Organisation

Genesis provided the relevant 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 - Reconciliations Team	Genesis Energy
Aidan Glynn	Team Leader – Network Operations	Whakatane DC
Ella Barnfield	Contracts Engineer – Transportation	Whakatane DC

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.

The database is backed-up 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	NSP	Profile	Number of items of load	Database wattage (watts)
1000023042BPD32	Amenity Lights WDC	EDG0331	UNM	0	0
1000023060BP0E2	Ruatahuna Streetlights	EDG0331	UNM	199	11,578
1000023047BP07D	Whakatane Streetlights	EDG0331	UNM	2,352	125,215
Total				2,551	136,793

The assets associated with ICP 1000023061BPCA7 (Murupara amenity lights) are not recorded in the RAMM database and are excluded from this audit, as Whakatane DC have completed a number of checks and can find no evidence of these lights. Therefore, Genesis and the Whakatane District Council have agreed they do not exist.

1.7. Authorisation Received

All information was provided directly by Genesis and WDC.

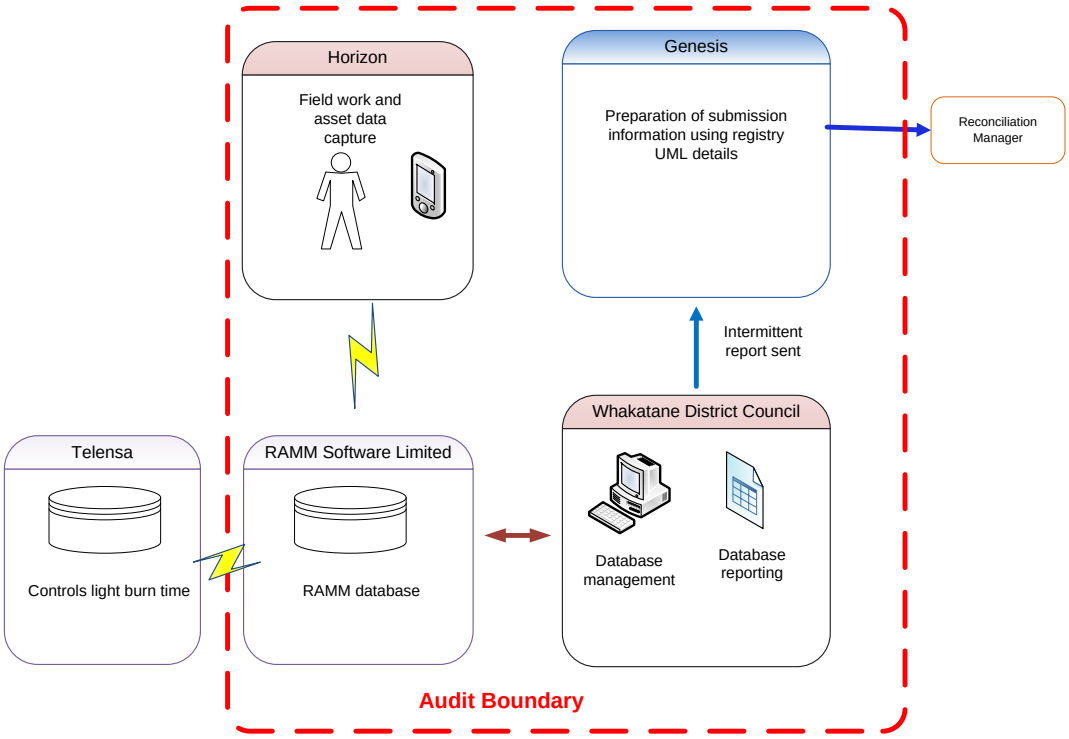
1.8. Scope of Audit

This audit of the Whakatane District Council (**WDC**) 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.

A field audit against the RAMM database extract was undertaken to assess the accuracy of this against the registry figures used for submission. Horizon is engaged by WDC and conducts the fieldwork and asset data capture. WDC have installed a central management system called Telensa as part of the LED replacement programme of work. It controls the light burn times and has replaced the network relays previously used. Genesis does not use the output from this system; therefore, I did not check the accuracy of the reporting. Genesis still uses the registry figures for submission.

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 332 items of load.

1.9. Summary of previous audit

The previous audit was completed in December 2019 by Steve Woods of Veritek Limited. The current status of that audit's findings is detailed below:

Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	Variance found between RAMM database extract and the kWh figure submitted by Genesis resulting in an estimated annual under submission 30,000 kWh.	Still existing
Description and capacity of load	2.4	11(2)(c) and (d) of Schedule 15.3	67 items of load with an invalid or incomplete lamp description.	Now recorded in section 3.1
All load recorded in database	2.5	11(2A) and (d) of Schedule 15.3	Seven additional items of load found in the field sample.	Still existing for different lights
Database accuracy	3.1	15.2 and 15.37B(b)	In absolute terms, total annual consumption is estimated to be 17,400 kWh higher than the DUML database indicates. 2 incorrect ballasts. 67 items of load with insufficient description details. Any changes that are made during any given month take effect from the beginning of that month. This process does not account for historic changes or changes within a month. New connections are recorded from the time of vesting, not from the time of livening.	Still existing
Volume information accuracy	3.2	15.2 and 15.37B(c)	Variance found between RAMM database extract and the kWh figure submitted by Genesis resulting in an estimated annual under submission 30,000 kWh.	Still existing

Subject	Section	Recommendation	Status
Deriving submission information	2.1	Liaise with WDC to determine the accuracy of the on/off information and the kWh reporting.	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 within the required timeframe.

Audit outcome

Compliant

2. DUML DATABASE REQUIREMENTS

2.1. Deriving submission information (Clause 11(1) of Schedule 15.3)

Code reference

Clause 11(1) of Schedule 15.3

Code related audit information

The retailer must ensure the:

- *DUML database is up to date*
- *methodology for deriving submission information complies with Schedule 15.5.*

Audit observation

The process for calculation of consumption was examined.

Audit commentary

Genesis reconciles this DUML load using the UML profile and the registry daily kWh figure.

I compared the submission volumes with the load recorded in the database extract provided for this audit in July 2020 against the volumes submitted by Genesis and found:

ICPs	Fittings number from July 2020 submission	Fittings number from July 2020 database extract	Differences	kWh value submitted	Calculated kWh value from database	Differences
1000023042BPD32	104	0	+104	3,813	0	+3,813
1000023060BP0E2	199	199	0	4,231	4,271	-40
1000023047BP07D	2,353	2,352	+1	46,841	46,192	+649
Total month kWh difference						+4,382

Annualised this will result in an estimated annual over submission of approx. 51,595 kWh. This is calculated on the difference in the daily kWh figures.

The results of the field audit found that in absolute terms, total annual consumption is estimated to be 7,700 kWh higher than the DUML database indicates.

WDC have installed a central management system called Telensa as part of the LED replacement programme of work. This was demonstrated during the site audit. It controls the light burn times and has replaced the networks relays previously used therefore the fixed burn hours used to calculate submission will not be representative of the actual burn hours. This is recorded as non-compliance.

Submission is based on a snapshot of the database at the end of the month and does not consider historic adjustments or the fact that lights can be livened before they are entered into the database.

The Telensa system calculates the kWh consumption across the streetlight network and I recommend that Genesis work with WDC to determine the accuracy of the on/off information and the kWh reporting.

Description	Recommendation	Audited party comment	Remedial action
Deriving submission information	Liaise with WDC to determine the accuracy of the on/off information and the kWh reporting	Genesis has been working with the council and has reviewed data sets that have the burn time per asset. What Genesis is unable to do is validate the burn time for non LED assets. Genesis is currently discussing reporting options with the council and Telensa to provide accuracy in settlement information	Investigating

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: 01-Dec-19 To: 31-Aug-20	Variance found between RAMM database extract and the kWh figure submitted by Genesis resulting in an estimated annual over submission 51,595 kWh. Actual on/off times are different to the fixed 11.9 hours used by Genesis. In absolute terms, total annual consumption is estimated to be 7,700 kWh higher than the DUML database indicates. Submission is based on a snapshot and does not consider historic adjustments. Potential impact: High Actual impact: Medium Audit history: Three times previously Controls: Weak Breach risk rating: 9
Audit risk rating	**Rationale for audit risk rating**
High	The controls are rated as weak as the submission is not calculated from the database and the burn hours used to calculate submission are fixed but are variable in the field. The impact is assessed to be medium due to the over submission of approx. 16,860 kWh per annum.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis and Whakatane DC are investigating avenues to enable compliance to be met. Genesis has spoken with Telensa and have provided Telensa with the trader s expected outcomes. Telensa has also been working with the council and now have all information in order help both Council and Trader meet compliance expectations.	unknown	Investigating

Preventative actions taken to ensure no further issues will occur	Completion date	
Currently discussing reporting avenues of the database to enable the trader to move forward in meeting compliance.	unknown	

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

The RAMM database is used to manage roading assets.

The assets associated with ICP 1000023061BPCA7 (Murupara amenity lights) are not recorded in the RAMM database and are excluded from this audit as Whakatane DC have completed a number of checks and can find no evidence of these lights. Therefore, Genesis and the Whakatane District Council have agreed they do not exist.

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 either the nearest street address, pole numbers, metres from the end of the carriageway for each item of load. It is recommended that the co-ordinates for streetlights are entered into the RAMM database to assist with locating lights for audit and other purposes.

Recommendation	Description	Audited party comment	Remedial action
Regarding Clause 11(2)(b) of Schedule 15.3	Populate GPS coordinates in RAMM to assist with locating lights for audit and other purposes.	Genesis and Veritek have raised this with the council and believe the council will provide the relevant locational details to assist in locating assets for auditing purposes.	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 DUML database must contain:

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

Audit observation

The database was checked to confirm that it contained a field for lamp type and wattage capacity and included any ballast or gear wattage and that all items of load were recorded.

Audit commentary

Lamp make, model, wattage and ballast wattage are included in the database.

Examination of the database found nine items of load that had an incomplete or invalid light type recorded:

Lamp Descriptions	Quantity	Issue
175W Sodium	3	Looks like Metal Halide
SON 80w	1	Looks like Mercury Vapour
LED XSP1 29W	1	Incorrect Ballast
LED XSP1 67W	4	Incorrect Ballast
TOTAL	9	

These have been passed to WDC to correct. This is recorded as non-compliance 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 332 items of load.

Audit commentary

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

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
KAURI CRES	4	6	+2	-	2 x additional 67W LED found

I found two additional lamps in the field than were not recorded in the database. No wattage discrepancies were identified.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.5 With: Clause 11(2A) and (d) of Schedule 15.3 From: 01-Dec-19 To: 31-Aug-20	Two additional items of load found in the field sample. Potential impact: High Actual impact: Low Audit history: Three times Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate because they ensure the light count is accurate most of the time. The impact is assessed to be low because there were only two discrepancies.

Actions taken to resolve the issue	Completion date	Remedial action status
Whakatane DC have agreed to add the any additional assets identified in the field into RAMM.	01/10/2020	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
Whakatane continues to maintain their assets and work with their service provider to ensure all assets are identified.	01/10/2020	

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 process for tracking of changes in the database was examined.

Audit commentary

The database tracks additions and removals as required by this clause.

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

Festive lighting is connected into the metered circuits and is therefore accounted for in the metered supply.

Some private lights have been identified as a result of the installation of the Telensa system as these lights were no longer turning off with the removal of the Network owned relays. WDC have passed the details of these lights to Horizon to investigate. The outcome of these investigations will need to be examined as part of the next Horizon Distributor audit.

Audit outcome

Compliant

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

Code reference

Clause 11(4) of Schedule 15.3

Code related audit information

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

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

Audit observation

The database was checked for audit trails.

Audit commentary

RAMM contains a complete audit trail of all additions and changes with operator ID to the database information.

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

A RAMM database extract provided in July 2018 has been used to populate the registry unmetered load figures. The registry unmetered load figures are used to calculate submission. A RAMM database extract was provided in July 2020, 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	Whakatane District Council area
Strata	The database contains the items of load in the Whakatane region. The processes for the management of all WDC items of load are the same, but I decided to place the items of load into three strata: 1. Roads A-H 2. Roads I-O 3. Roads P-Z.
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 78 sub-units.
Total items of load	332 items of load were checked.

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

Audit commentary

Database accuracy based on the field audit

A field audit was conducted of a statistical sample of 332 items of load. The "database auditing tool" was used to analyse the results, which are shown in the table below.

Result	Percentage	Comments
The point estimate of R	101.3	Wattage from survey is higher than the database wattage by 1.3%
R_L	100.0	With a 95% level of confidence it can be concluded that the error could be between 0.0% and 6.0%
R_H	106.0	

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 0.0% and 6.0% 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 2.0 kW higher than the database indicates.

There is a 95% level of confidence that the installed capacity is between 0 kW higher to 8 kW higher than the database.

In absolute terms, total annual consumption is estimated to be 7,700 kWh higher than the DUML database indicates.

There is a 95% level of confidence that the annual consumption is between 0 kWh p.a. higher to 35,200 kWh p.a. higher than the database indicates.

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

Lamp description and capacity accuracy

As recorded in **section 2.4**, examination of the database found nine items of load that had an incomplete or invalid light type recorded:

Lamp Descriptions	Quantity	Issue
175W Sodium	3	Looks like Metal Halide
SON 80w	1	Looks like Mercury Vapour
LED XSP1 29W	1	Incorrect Ballast of 18 applied
LED XSP1 67W	4	Incorrect Ballast of 13 applied
TOTAL	9	

These have been passed to WDC to correct. This is recorded as non-compliance.

NZTA lighting

NZTA lighting is not included in the database. NZTA lighting has separate ICPs.

ICP accuracy

The RAMM database is used to manage roading assets. Amenity lights were previously recorded in the database against ICP 1000023042BPD32, but they are now recorded against ICP 1000023047BP07D.

The assets associated with ICP 1000023061BPCA7 (Murupara amenity lights) are not recorded in the RAMM database and are excluded from this audit as Whakatane DC have completed a number of checks and can find no evidence of these lights. Therefore, Genesis and the Whakatane District Council have agreed they do not exist.

Location accuracy

Analysis of the RAMM database extract found compliance.

Change management process findings

Horizon is now the contractor and paperwork is updated directly into RAMM by Horizon. Pocket RAMM may be used by the contractors to track changes in the future. These are reviewed by WDC before they are accepted into the database.

WDC have installed a central management system called Telensa as part of the LED replacement programme of work. This was demonstrated during the site audit. It controls the lights burn times and has replaced the networks relays previously used. WDC have no plans to use dimming. The impact of the CMS system on the calculation of submission is discussed further in **sections 2.1** and **3.2**.

The Telensa CMS system tracks faults on the network and therefore outage patrols are no longer required. The system also flags if the lamp burn wattage is different to that recorded in the database. This will increase the accuracy of the data in the database. The data from the Telensa system is synchronised with the RAMM database.

The new connection process was discussed. The level of new activity in the WDC area is increasing but is still relatively small. New streetlight circuits get connected by the network, but these do not get added to the RAMM database until the lights are vested to WDC. This can be some months later and therefore the intervening period is not being reconciled. Any changes that are made during any given month take effect from the beginning of that month. This process does not account for historic changes or changes within a month.

Festive lighting is connected into the metered circuits and is therefore accounted for in the metered supply.

Some private lights have been identified as a result of the installation of the Telensa system as these lights were no longer turning off with the removal of the Network owned relays. WDC have passed the details of these lights to Horizon to investigate.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: 01-Dec-19 To: 31-Aug-20	In absolute terms, total annual consumption is estimated to be 7,700 kWh higher than the DUML database indicates. 5 incorrect ballasts. 4 incorrect lamp descriptions. Any changes that are made during any given month take effect from the beginning of that month. This process does not account for historic changes or changes within a month. New connections are recorded from the time of vesting, not from the time of livening. Potential impact: Medium Actual impact: Low Audit history: Multiple times 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 audit risk rating is assessed to be low because the database is not used for submission.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis and Whakatane DC are investigating avenues to enable compliance to be met. Genesis has spoken with Telensa and have provided Telensa with the trader s expected outcomes. Telensa has also been working with the council and now have all information in order help both Council and Trader meet compliance expectations. The council and Genesis will need to consider legacy assets, or the council will need to replace to remove the necessity of having two settlement calculations across the database.	unknown	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Currently discussing reporting avenues of the database to enable the trader to move forward in meeting compliance.	unknown	

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 all ICPs have 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 UML profile and the registry daily kWh figure.

I compared the submission volumes with the load recorded in the database extract provided for this audit in July 2020 against the volumes submitted by Genesis and found:

ICPs	Fittings number from July 2020 submission	Fittings number from July 2020 database extract	Differences	kWh value submitted	Calculated kWh value from database	Differences
1000023042BPD32	104	0	+104	3,813	0	+3,813
1000023060BP0E2	199	199	0	4,231	4,271	-40
1000023047BP07D	2,353	2,352	+1	46,841	46,192	+649
Total month kWh difference						+4,382

Annualised this will result in an estimated annual over submission of approx. 51,595 kWh. This is calculated on the difference in the daily kWh figures.

The results of the field audit found that in absolute terms, total annual consumption is estimated to be 7,700 kWh higher than the DUML database indicates. This has no direct impact on submission as no wattage reports have been provided to Genesis in recent times.

WDC have installed a central management system called Telensa as part of the LED replacement programme of work. This was demonstrated during the site audit. It controls the light burn times and has replaced the networks relays previously used therefore the fixed burn hours used to calculate submission will not be representative of the actual burn hours. This is recorded as non-compliance.

Submission is based on a snapshot of the database at the end of the month and does not consider historic adjustments or the fact that lights can be livened before they are entered into the database.

The lamp ballast accuracy was checked. There were two minor discrepancies. Four 67W LEDs have a 13W ballast recorded and one 29W LED has an 18W ballast recorded.

This has no direct impact on submission as no wattage reports have been provided to Genesis. The incorrect wattages applied in the database are recorded as non-compliance in **section 3.1**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c) From: 01-Dec-19 To: 31-Aug-20	Variance found between RAMM database extract and the kWh figure submitted by Genesis resulting in an estimated annual over submission 51,595 kWh. Actual on/off times are different to the fixed 11.9 hours used by Genesis. In absolute terms, total annual consumption is estimated to be 7,700 kWh higher than the DUML database indicates. Submission is based on a snapshot and does not consider historic adjustments. Potential impact: High Actual impact: High Audit history: Three times previously Controls: Weak Breach risk rating: 9
Audit risk rating	**Rationale for audit risk rating**
High	The controls are rated as weak as the submission is not calculated from the database and the burn hours used to calculate submission are fixed but are variable in the field. The impact is assessed to be high due to the over submission of approx. 51,595 kWh per annum.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis and Whakatane DC are investigating avenues to enable compliance to be met. Genesis has spoken with Telensa and have provided Telensa with the trader s expected outcomes. Telensa has also been working with the council and now have all information in order help both Council and Trader meet compliance expectations. The council and Genesis will need to consider legacy assets, or the council will need to replace to remove the necessity of having two settlement calculations across the database.	unknown	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	

Currently discussing reporting avenues of the database to enable the trader to move forward in meeting compliance.	unknown	

CONCLUSION

Genesis continue to use the registry figures and UML profile to calculate submissions. There is a variance between the RAMM database extract, and the kWh figure submitted by Genesis resulting in an estimated annual over submission 51,595 kWh. Genesis intends to start using the output from WDC's Telensa system for on/off times and possibly for wattage information. The wattage information will need to be checked for accuracy first, because lamps of the same rated wattage do not all have the same reported wattage in Telensa.

Amenity lights were previously recorded in the database against ICP 1000023042BPD32, but they are now recorded against ICP 1000023047BP07D, however Genesis is still submitting for ICP 1000023042BPD32.

The assets associated with ICP 1000023061BPCA7 (Murupara amenity lights) are not recorded in the RAMM database and are excluded from this audit as Whakatane DC have completed a number of checks and can find no evidence of these lights. Therefore, Genesis and the Whakatane District Council have agreed they do not exist.

This audit found four non-compliances and makes two recommendations.

PARTICIPANT RESPONSE

Genesis feel that there is definite traction happening, Whakatane DC's information within the system is been identified as quite accurate, with minor is exceptions as there are with any database. The process for settlements has been discussed in length and has extended to include Telensa in finding the right reporting solution. Genesis feels it is close to being able to utilise the Telensa systems information enabling accuracy gains in settlement processes. Genesis asks that a minimum of a 6 month review to be able to establish reporting and Genesis to establish a process to utilise this reporting to remove the necessity of providing settlements based off registry information.