ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

For

KAIPARA DISTRICT COUNCIL
AND GENESIS ENERGY

Prepared by: Rebecca Elliot

Date audit commenced: 21 November 2018

Date audit report completed: 31 January 2019

Audit report due date: 1 December2018

TABLE OF CONTENTS

Executive summary 3
Audit summary 4

Non-compliances 4
Recommendations 5
Issues 5

1. Administrative 6

1.1. Exemptions from Obligations to Comply with Code 6
1.2. Structure of Organisation 6
1.3. Persons involved in this audit 6
1.4. Hardware and Software 7
1.5. Breaches or Breach Allegations 7
1.6. ICP Data 7
1.7. Authorisation Received 7
1.8. Scope of Audit 7
1.9. Summary of previous audit 8
Table of Non-Compliance 8
Table of Recommendations 9
1.10. Distributed unmetered load audits (Clause 16A.26 and 17.295F) 9

2. DUML database requirements 11

2.1. Deriving submission information (Clause 11(1) of Schedule 15.3) 11
2.2. ICP identifier and items of load (Clause 11(2)(a) and (aa) of Schedule 15.3) 13
2.3. Location of each item of load (Clause 11(2)(b) of Schedule 15.3) 13
2.4. Description and capacity of load (Clause 11(2)(c) and (d) of Schedule 15.3) 13
2.5. All load recorded in database (Clause 11(2A) of Schedule 15.3) 14
2.6. Tracking of load changes (Clause 11(3) of Schedule 15.3) 18
2.7. Audit trail (Clause 11(4) of Schedule 15.3) 19

3. Accuracy of DUML database 20

3.1. Database accuracy (Clause 15.2 and 15.37B(b)) 20
3.2. Volume information accuracy (Clause 15.2 and 15.37B(c)) 22

Conclusion 25

Participant response 26

EXECUTIVE SUMMARY

This audit of the Kaipara 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.

This audit found four non-compliances and one recommendation was made.

Genesis reconciles this load using the streetlight database held by Northpower. This is maintained for the purpose of billing line charges and not for submission purposes. There is no direct mechanism in place for updating load changes; this is recorded as non-compliance. It was recommended in the previous audit that use of the Kaipara District Councils RAMM database is investigated to better manage changes in load items.

Genesis are receiving a wattage report intermittently. The November 2018 submissions were calculated using the extract provided in October 2018. The calculations were checked and found to have been calculated incorrectly resulting in over submission of 3,422 kWh.

The wattage report kW figures were compared the database extract and found to be different resulting in potential over submission of 83,867.59 kWh. This will be due to an out of date wattage report being used to calculate submission.

The database accuracy is assessed to be 93.2% indicating potential over submission of 39,600 kWh per annum.

643 items of permanent load have the incorrect ballast applied indicating over submission of 33,236.49 kWh per annum.

The future risk rating of 28 indicates that the next audit be completed in three months. I recommend that the next audit be in six to nine months to allow Genesis time to work with the council and bring RAMM up to date. The matters raised are detailed below:

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
DUML Audit	1.10	17.295F of part 17	Audit not completed within the required timeframe.	Strong	Low	1	Cleared
Deriving submission information	2.1	11(1) of Schedule 15.3	The database accuracy is assessed to be 93.2% indicating potential over submission of 39,600 kWh per annum. 643 items of load have the incorrect ballast applied in the DUML database which would result in over submission of 33,236.49 kWh per annum if used for submission. Total kW values are calculated outside of the database. Out of date kW report used to calculate submission resulting in a potential 83,867.59 kWh of over submission per annum.	Weak	High	9	Identified
Database accuracy	3.1	15.2 and 15.37B(b)	The database accuracy is assessed to be 93.2% indicating potential over submission of 39,600 kWh per annum. 643 items of permanent load have the incorrect ballast applied indicating over submission of 33,236.49 kWh per annum if used for submission.	Weak	High	9	Identified

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)	Incorrect submission figures submitted for the month of November resulting 3,422kWh of over submission. The database accuracy is assessed to be 93.2% indicating potential over submission of 39,600 kWh per annum. 643 items of load have the incorrect ballast applied in the DUML database which would result in over submission of 33,236.49 kWh per annum if used for submission. Total kW values are calculated outside of the database. Out of date kW report used to calculate submission resulting in a potential 83,867.59 kWh of over submission per annum.	Weak	High	9	Identified
Future Risk Rating						28	

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
Tracking of Load Changes	2.6	Work with KDC to bring the RAMM database up to date so that it can be used for reconciliation.	Clause 11(3) of schedule 15.3

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

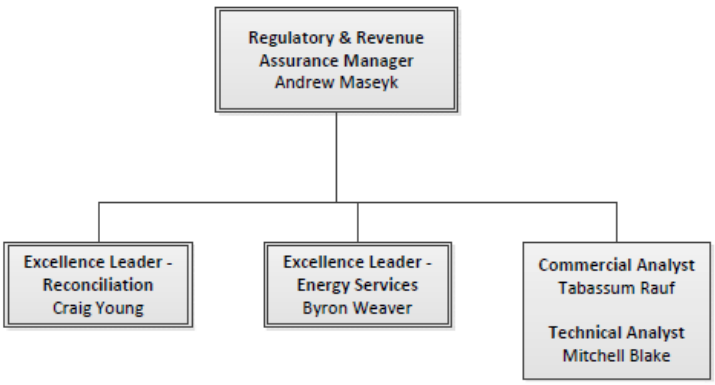
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

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:

Rebecca Elliot

Veritek Limited

Electricity Authority Approved Auditor

Supporting Auditor:

Brett Piskulic

Veritek Limited

Electricity Authority Approved Auditor

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
Peter Smith	Retail Billing Accountant	Northpower

1.4. Hardware and Software

The streetlight data is held in Northpower's SQL database with an Access interface. This is backed up to industry standards.

Access to the database is secure by way of password protection

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)
0000545278NRC7A	Streetlights; Kaipara District Council	MPE1101	NST	712	81,714
0000545280NRE79	Streetlights; Kaipara District Council	MTO0331	NST	800	54,660

The ballast values are included in the wattage totals.

1.7. Authorisation Received

All information was provided directly by Genesis and Northpower.

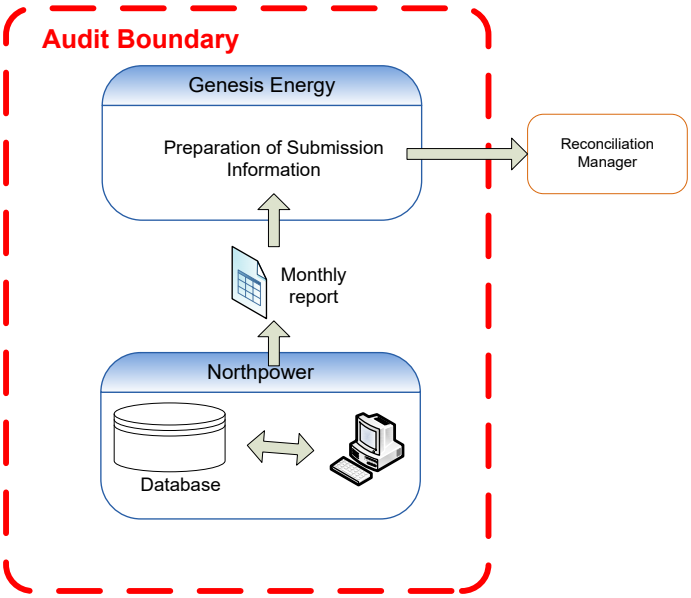
1.8. Scope of Audit

This audit of the Kaipara 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.

Kaipara District Council Unmetered Streetlights are located on the Northpower network. These are reconciled using the streetlight database held by Northpower (this is indicated by the use of the NST profile). This is maintained for the purpose of billing line charges and not for submission purposes. Northpower intermittently provide a monthly report to Genesis of this database.

The scope of the audit encompasses the collection, security and accuracy of the data, including the preparation of submission information based on the monthly reporting. The diagram below shows the flow of information and the audit boundary for clarity.



The field audit was undertaken of a statistical sample of 293 items of load on 22nd November 2018.

1.9. Summary of previous audit

The previous audit was completed in May 2018 by Rebecca Elliot 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	1,397 items of load have the incorrect ballast applied indicating over submission of 60,649.9 kWh per annum.	Still existing
Tracking of load change	2.6	11(3) of Schedule 15.3	Tracking of load change not carried out, there is no direct mechanism for updates to be recorded.	Still existing
Database accuracy	3.1	15.2 and 15.37B(b)	1,397 items of permanent load have the incorrect ballast applied indicating over submission of 60,649.91 kWh per annum.	Still existing
Volume information accuracy	3.2	15.2 and 15.37(c)	1,397 items of permanent load have the incorrect ballast applied indicating over submission of 60,649.91 kWh per annum.	Still existing

Table of Recommendations

Subject	Section	Recommendation for Improvement	Status
Data Transmission	1.10	Add password protection to wattage report.	Still existing
Tracking of Load Changes	2.6	Investigate using KDC RAMM database to derive submission from.	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. Genesis were unable to complete this audit by the required timeframe as a database extract was not able to be obtained within time to complete the audit by the due date.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 1.10 Clause 17.295F of part 17 From: 01-Dec-18 To: 12-Dec-18	Audit not completed within the required timeframe. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong, as Genesis are reliant on the database provider to supply the data and in this case the delay caused this report to be late. The impact is assessed to be low, as this has no direct impact on reconciliation.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis engaged to ensure the audit was completed	01/09/2018	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis DUML auditor has been notified to conduct the audits as required.	01/09/2018	

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 NST profile using the monthly report provided by Northpower.

The total volume submitted to the Reconciliation Manager is based on the most recently received database report provided by Northpower. These are not provided monthly and therefore Genesis has to use the most recent available report to calculate the submission figures.

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

ICPs	Fittings number from Nov submission	Fittings number from database extract	Differences	kWh value submitted	Calculated kWh value from database	Differences
0000545278NRC7A	702	712	10	16,534 kWh	21,424.44kWh	4,890.44
0000545280NRE79	806	800	-6	26,282 kWh	14,402.59kWh	-11,879.9
Total month kWh difference						-6,988.97

Annualised this will result in an estimated annual over submission of 83,867.59 kWh. As detailed above the wattage report is not always received monthly or in time and in this instance, Genesis used the October data for the November submission due to the data not being available. This will account for the difference in light count volumes.

The lamp ballast is not recorded correctly for 643 lamps which had a discrepancy when compared to the standardised wattage table. The incorrect capacities will be resulting in an estimated over submission of 33,236.49 kWh per annum (based on annual burn hours of 4,271 as is detailed in the DUML database auditing tool) if used for submission. It is for this reason that Genesis do not use the ballasts from the monthly wattage report but calculate the ballasts and therefore the total kW value in a separate spreadsheet based on the light types provided in the monthly report. The lamp wattage values applied by Genesis were checked and confirmed to be correct. The code requires this to be calculated within the database. This is recorded as non-compliance below.

The field audit against the database quantities found potential over submission of 39,600 kWh. This is detailed in **section 3.1**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: 01-May-18 To: 30-Nov-18	The database accuracy is assessed to be 93.2% indicating potential over submission of 39,600 kWh per annum. 643 items of load have the incorrect ballast applied in the DUML database which would result in over submission of 33,236.49 kWh per annum if used for submission. Total kW values are calculated outside of the database. Out of date kW report used to calculate submission resulting in a potential 83,867.59 kWh of over submission per annum. Potential impact: High Actual impact: High Audit history: Once 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 an up to date monthly wattage report, and ballast is not recorded in the database. The impact is assessed to be high due to the kWh volumes.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will be utilising the KDC dataset once the data has been analyse and assessed for accuracy. Genesis will continue to work with the council on any anomalies that have been identified. NPOW data will no longer be used and Genesis has informed KDC that their information needs to be provided to the distributor for transparency.	01/04/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis has engaged with Kaipara DC and have been able to secure monthly report from the council of their database.	01/04/2019	

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 had an ICP recorded.

Audit outcome

Compliant

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

Code reference

Clause 11(2)(b) of Schedule 15.3

Code related audit information

The 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 has the nearest street address for all items of load.

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.

Audit commentary

The database contains fields for lamp type and lamp wattage. There is a field which records the total wattage including any ballasts for each fitting. All fields were populated.

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 293 items of load on 22nd November 2018.

Audit commentary

The field audit findings are detailed in the table below.

I found four less lamps in the field than were recorded in the database, and 11 lamp wattage differences.

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
RURAL					
School House Lane	1	1			
Ocean Close	1	0	-1		1 x 150W HPSV not found.
Tua Tua Place	1	1			
Kotare Crescent	2	2			
Ripiro Drive	6	6			
Paparoa-Oakleigh Road	2	2			
Oxford Street	3	3			
Ocean View Terrace	1	1			
Glinks Road	4	4			
Tasman Heights	1	0	-1		1 x 150W HPSV not found.

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
Dargaville					
Portland Street	4	4			
Earl Street	2	2		1	1x incorrect wattage - 150W HPSV found in the field recorded as a 21W LED in the database.
Park Road	4	4			
Cobham Avenue	9	9			
Kauri Court	1	1			
Gordon Street	19	19			
Parore Street	13	13			
Old Golf Course Road	1	0	-1		1 x 70W HPSV not found.
Phoenix Place	7	7			
Station Road	11	11		1	1x incorrect wattage - 21W LED found in the field recorded as a 70W HPSV in the database.
Clyde Street	3	3			
Cranley Street	5	5			
Day Street	3	3			
Tunatahi Street	1	1			
Montgomery Avenue	12	12			
Pukeko Street	1	1			
Mountain View Place	1	1			
First Avenue	3	3			

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
Rimu Street	1	1			
Haimona Street	3	3			
Onslow Street	6	6		2	2x incorrect wattage - 21W LED found in the field recorded as a 70W HPSV in the database.
Beach Road	7	7			
Gladstone Street	6	5	-1	1	1x incorrect wattage - 21W LED found in the field recorded as a 70W HPSV in the database. 1x 21W LED not found in the field.
Hoanga Road	1	1			
Mangawhai					
Holiday Crescent	4	4			
Cheviot Street	11	11		2	2x incorrect wattage - 21W LED found in the field recorded as a 70W HPSV in the database.
Devon Street	5	5		1	1x incorrect wattage - 21W LED found in the field recorded as a 70W HPSV in the database.
Grove Road	3	3			
Kawau Lane	1	1			
Albert Street	2	2			
Suffolk St	1	1			

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
Driftwood Place	10	10			
Seabreeze Road	14	14			
Greenview Drive	6	6		1	1x incorrect wattage - 21W LED found in the field recorded as a 70W HPSV in the database.
Sailrock Drive	3	3			
Spinifex Road	4	4			
Spinnaker Lane	2	2			
Margaret Street	3	3			
Pearson Street	5	5			
Breakwater Place	2	2			
Ellen Street	1	1			
Taranui Place	2	2			
Heather Street	4	4			
Kaiwaka, Maungaturoto					
Riverview Place	2	2			
Oneriri Road	1	1		1	1x incorrect wattage - 21W LED found in the field recorded as a 70W HPSV in the database.
Hastie Lane	3	3			
Gorge Road	12	12		1	1x incorrect wattage - 21W LED found in the field recorded as a 70W HPSV in the database.

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
Blakey Road	1	1			
Doctors Hill Road	5	5			
View Street	5	5			
Ash Grove	3	3			
Marshall Road	5	5			
Nathan Road	1	1			
Griffin Road	1	1			
Puawai Street	4	4			
Settlement Road	4	4			
Aratapu, Mangawhare, Ruawai, Te Kopuru					
Norton Street	17	17			
Grand Total	**293**	**289**	**-4**	**11**	

This clause relates to lights in the field that are not recorded in the database. I found four less lamps in the field than were recorded in the database. The database accuracy is discussed in **section 3.1**. No additional items of load were found therefore compliance is recorded in relation to this clause.

Audit outcome

Compliant

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

Code reference

Clause 11(3) of Schedule 15.3

Code related audit information

The 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

Any changes that are made during any given month take effect from the beginning of that month. The information is available which would allow for the total load in kW to be retrospectively derived for any day. On 20 September 2012, the Authority sent a memo to Retailers and auditors advising that tracking of load changes at a daily level was not required if the database contained an audit trail. I have interpreted this to mean that the production of a monthly "snapshot" report is sufficient to achieve compliance.

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

The streetlight database held by Northpower is maintained for the purpose of billing line charges and not for submission purposes. When new installations are completed or changes are made, there is not a direct mechanism for updated information to be provided from the contractors who complete the installations to Northpower. Therefore, changes are gathered in a haphazard manner as Northpower comes across changes in the course of their management of the network. Genesis have examined the KDC RAMM database but found the information recorded is less accurate than that being provided by Northpower. I recommend that Genesis work with the council to bring their data up to date so that the RAMM data can be used for submission and then the tracking of load changes will be managed in a more systematic way.

Recommendation	Description	Audited party comment	Remedial action
Regarding: Clause 11(3) of schedule 15.3	Work with KDC to bring the RAMM database up to date so that it can be used for reconciliation.	Genesis believe that information being supplied by KDC is up to date, and will work with the council on any anomalies that transpire.	Identified

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

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 Northpower database has an audit trail of all additions and changes 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

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	Kaipara District Council area
Strata	The database contains the KDC items of load in two ICPs in the Kaipara region area. The processes for the management of all KDC items of load are the same, but I decided to place the items of load into five strata: 1. Rural 2. Dargaville 3. Mangawhai and Hakaru 4. Kaiwaka and Maungaturoto 5. Aratapu, Mangawhare, Ruawai and Te Kopuru
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 67 sub-units.
Total items of load	293 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

A statistical sample of 293 items of load found that the field data was 93.2% of the database data for the sample checked. This is not within the required database accuracy of 2.5%+/-. The statistical sampling tool reported with 95% confidence the precision of the sample was 11.2% and the true load in the field will be between 87.1% to 98.3% of the load recorded in the database. The sample is not sufficiently precise to be able to determine the database accuracy but indicates that the database is likely to be over submitting largely due to incorrect wattages being recorded in the field.

The tool indicated that there is potentially 39,600 kWh per annum (based on annual burn hours of 4,271 as detailed in the DUML database auditing tool) of over submission. The statistical sampling tool reported with 95% confidence that there is a potential estimated submission variance range of between 9,700 kWh and 79,400kWh over submission. This is recorded as non-compliance.

I checked the ballasts being applied and found that 643 lamps had a discrepancy when compared to the standardised wattage table. This is detailed in the table below:

Lamp Type	Database Total Lamp Wattage	EA Standardised Total Wattage	Variance	Database Quantity	Estimated Annual kWh effect on consumption
150w HPSV Lamp	390	168	12.1	390	20,154.85
160w BMV Lamp.	160.1	175	-14.9	1	-63.64
250W MH	294.5	278	16.5	27	1,902.73
250w HPSV Lamp	294.5	278	16.5	80	5,919.6
400w MV Lamp	457.4	425	32.4	2	276.76
70w HPSV Lamp	91.5	83	8.5	139	5,046.19
Total estimated annual effect on submission					33,236.49

The incorrect capacities will be resulting in an estimated over submission of 33,236.49 kWh per annum (based on annual burn hours of 4,271 as is detailed in the DUML database auditing tool) if used for submission. It is due to this inaccuracy that Genesis calculate the total wattage based on the lamp types provided from the database extract. I checked the accuracy of these and found them to be correct.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: 01-May-18 To: 30-Nov-18	The database accuracy is assessed to be 93.2% indicating potential over submission of 39,600 kWh per annum. 643 items of permanent load have the incorrect ballast applied indicating over submission of 33,236.49 kWh per annum if used for submission. 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 as the submission is not calculated from an up to date monthly wattage report, and incorrect ballasts recorded in the database. The impact is assessed to be high due to the kWh volumes.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will be utilising the KDC dataset once the data has been analyse and assessed for accuracy. Genesis will continue to work with the council on any anomalies that have been identified. NPOW data will no longer be used and Genesis has informed KDC that their information needs to be provided to the distributor for transparency.	01/04/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis has engaged with Kaipara DC and have been able to secure monthly report from the council of their database.	01/04/2019	

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
- 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 total volume submitted to the Reconciliation Manager is based on the most recently received database report provided by Northpower. These are not provided monthly and therefore Genesis has to use the most recent available report to calculate the submission figures. I checked the submission figures submitted by Genesis by multiplying the kW figure used against the logger hours and found:

ICPs	kW figure used	Logger hours	Expected kWh figure	kWh value submitted	Differences
0000545278NRC7A	76.227	307.27	23,423	16,534	-6,889
0000545280NRE79	51.979	307.27	15,972	26,282	10,310

This resulted in 3,422 kWh of over submission for the month of November.

As detailed in **section 2.1**, the database extract did not match the volumes submitted by Genesis resulting in an over submission of 6,988.97 kWh for the month of November 2018. Annualised this will result in an estimated annual over submission of 83,867.59 kWh. As detailed above the wattage report is not always received monthly or in time and in this instance, Genesis used the October data for November due to data not being available.

The lamp ballast is not recorded correctly for 643 lamps which had a discrepancy when compared to the standardised wattage table. The incorrect capacities will be resulting in an estimated over submission of 33,236.49 kWh per annum (based on annual burn hours of 4,271 as is detailed in the DUML database auditing tool) if used for submission. Genesis do not used the ballasts from the monthly wattage report but calculate the ballasts and therefore the total kW value in a separate spreadsheet based on the light types provided in the monthly report. The lamp wattage values applied by Genesis were checked and confirmed to be correct. The code requires this to be calculated within the database. This is recorded as non-compliance below.

The field audit against the database quantities found potential over submission of 39,600 kWh. This is detailed 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-May-18 To: 30-Nov-18	Incorrect submission figures submitted for the month of November resulting 3,422kWh of over submission. The database accuracy is assessed to be 93.2% indicating potential over submission of 39,600 kWh per annum. 643 items of load have the incorrect ballast applied in the DUML database which would result in over submission of 33,236.49 kWh per annum if used for submission. Total kW values are calculated outside of the database. Out of date kW report used to calculate submission resulting in a potential 83,867.59 kWh of over submission per annum. Potential impact: High Actual impact: High Audit history: Once 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 an up to date monthly wattage report, and ballast is not calculated from the database. The impact is assessed to be high due to the kWh volumes.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will be utilising the KDC dataset once the data has been analyse and assessed for accuracy. Genesis will continue to work with the council on any anomalies that have been identified. NPOW data will no longer be used and Genesis has informed KDC that their information needs to be provided to the distributor for transparency.	01/04/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis has engaged with Kaipara DC and have been able to secure monthly report from the council of their database.	01/04/2019	

CONCLUSION

This audit found four non-compliances and one recommendation was made.

Genesis reconciles this load using the streetlight database held by Northpower. This is maintained for the purpose of billing line charges and not for submission purposes. There is no direct mechanism in place for updating load changes; this is recorded as non-compliance. It was recommended in the previous audit that use of the Kaipara District Councils RAMM database is investigated to better manage changes in load items.

Genesis are receiving a wattage report intermittently. The November 2018 submissions were calculated using the extract provided in October 2018. The calculations were checked and found to have been calculated incorrectly resulting in over submission of 3,422 kWh.

The wattage report kW figures were compared the database extract and found to be different resulting in potential over submission of 83,867.59 kWh. This will be due to an out of date wattage report being used to calculate submission.

The database accuracy is assessed to be 93.2% indicating potential over submission of 39,600 kWh per annum.

643 items of permanent load have the incorrect ballast applied indicating over submission of 33,236.49 kWh per annum.

The future risk rating of 28 indicates that the next audit be completed in three months. I recommend that the next audit be in six to nine months to allow Genesis time to work with the council and bring RAMM up to date.

PARTICIPANT RESPONSE

Genesis have been proactive with the council, however, due to resource constraints with the council the accuracy issues identified have not been corrected. This has meant the data received has not been at the level of standard Genesis required and therefore continued to utilise the information being provided by the distributor. Genesis wish to change the data source and will be working closely with Whangarei DC in order to achieve this. Ove r the last few months Genesis and WDC have had good engagement and believe Genesis will be using WDC RAMM information in the very near future.

Genesis Believes that the 3-month revision on this is justified, however do not believe that re auditing in 3 months will achieve the desired result. Genesis and WDC are working well on the remaining RAMM issues and believe a 6 to 9-month review period would see clear progress results.