ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

For

KAIPARA DISTRICT COUNCIL
AND GENESIS ENERGY

Prepared by: Rebecca Elliot

Date audit commenced: 9 October 2019

Date audit report completed: 26 November 2019

Audit report due date: 1 October 2019

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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 five non-compliances and makes one recommendation.

Genesis has started reconciling the load using the KDC RAMM streetlight database. In previous audits Genesis were using a database managed by Northpower. The RAMM database was found to have a higher level of accuracy compared to that of the Northpower database. Field work is carried out by Currie Electrical and the database is updated using RAMM Contractor.

There are 18 lamps with incorrect gear wattages recorded in the database. The incorrect capacities will be resulting in an estimated minor under submission of 768.78 kWh per annum (based on annual burn hours of 4,271 as is detailed in the DUML database auditing tool).

The field audit of 175 items of load confirmed the database accuracy to be within the acceptable +/-5% accuracy threshold.

The future risk rating of nine indicates that the next audit be completed in 12 months. I have considered this in conjunction with Genesis' comments and recommend that the next audit be in 18 months as the database has a high level of accuracy and Genesis are using this data for reconciliation.

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	16A.26(1)(b) of Part 16A	Audit not completed within the required timeframe.	Strong	Low	1	Cleared
Deriving submission information	2.1	11(1) of Schedule 15.3	18 items of permanent load have the incorrect ballast applied indicating under submission of 768.78 kWh per annum. The data used for submission does not track changes at a daily basis and is provided as a snapshot.	Moderate	Low	2	Identified
All load recorded in database	2.5	11(2A) and (d) of Schedule 15.3	One additional lamp found in the field.	Moderate	Low	2	Identified
Database accuracy	3.1	15.2 and 15.37B(b)	18 items of permanent load have the incorrect ballast applied indicating under submission of 768.78 kWh per annum.	Moderate	Low	2	Identified
Volume information accuracy	3.2	15.2 and 15.37B(c)	18 items of permanent load have the incorrect ballast applied indicating under submission of 768.78 kWh per annum. The data used for submission does not track changes at a daily basis and is provided as a snapshot.	Moderate	Low	2	Identified
Future Risk Rating						9	

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
Database Accuracy	3.1	Update database with lamp description details to confirm the correct wattage has been applied.

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

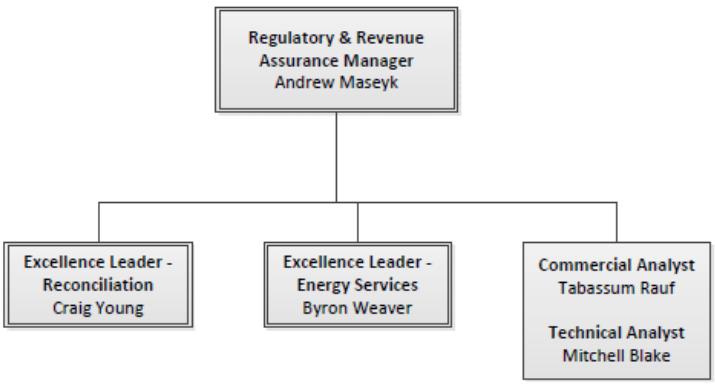
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

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
Karen Ruskin	Asset Systems Technician	Kaipara District Council

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.

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	571	42,688
0000545280NRE79	Streetlights; Kaipara District Council	MTO0331	NST	619	25,579
			TOTAL	1,190	68,267

The ballast values are included in the wattage totals.

1.7. Authorisation Received

All information was provided directly by Genesis and KDC.

1.8. Scope of Audit

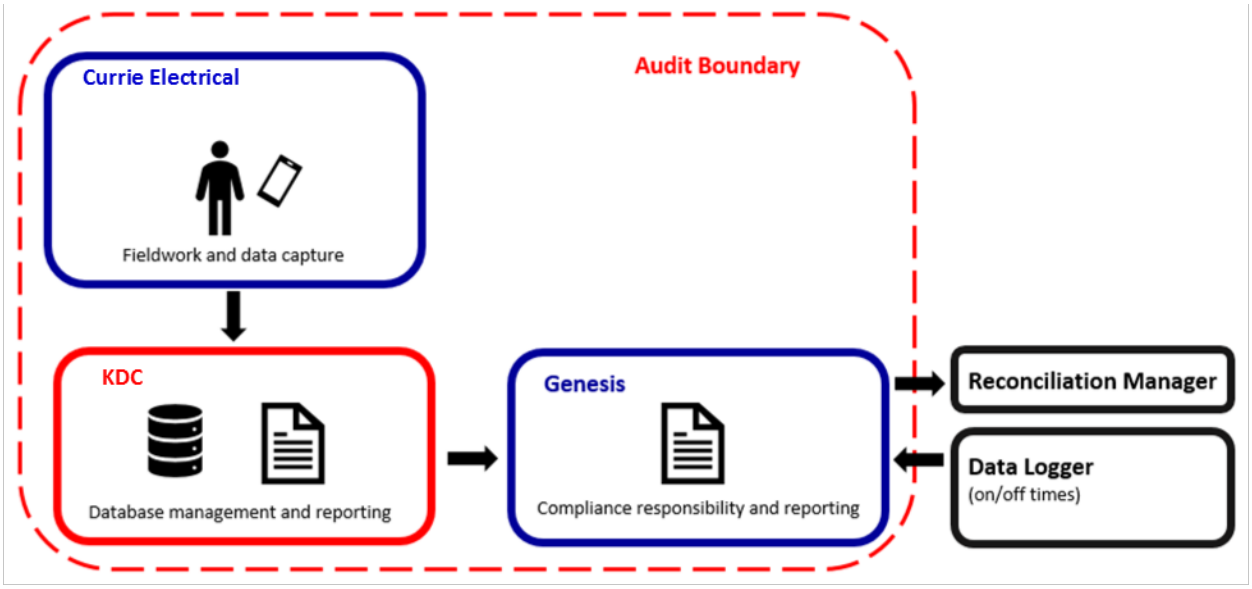
This audit of the Kaipara District Council (**KDC**) DUML database and processes was conducted at the request of Genesis Energy Limited (**Genesis**) in accordance with clause 15.37B. The purpose of this audit is to verify that the volume information is being calculated accurately, and that profiles 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. Genesis reconciles this load using the KDC RAMM streetlight database.

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

Field work is carried out by Currie Electrical and the database is updated using RAMM Contractor.



The field audit was undertaken of a statistical sample of 175 items of load on 1st November 2019.

1.9. Summary of previous audit

The previous audit was completed in January 2019 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
DUML Audit	1.10	17.295F of part 17	Audit not completed within the required timeframe.	Still existing
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.	Cleared for all but a minor number of incorrect ballasts applied

Subject	Section	Clause	Non-compliance	Status
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.	Cleared
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.	Cleared for all but a minor number of incorrect ballasts applied.

Table of Recommendations

Subject	Section	Recommendation for Improvement	Status
Data Transmission	1.10	Add password protection to wattage report.	Cleared
Tracking of Load Changes	2.6	Investigate using KDC RAMM database to derive submission from.	Cleared

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

Code reference

Clause 16A.26 and 17.295F

Code related audit information

Retailers must ensure that DUML database audits are completed:

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

Audit observation

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 16A.26(1)(b) of Part 16A From: 01-Oct-19 To: 22-Nov-19	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 their 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 will be requesting full extraction information, removing the risk of lateness due to the customer.	01/12/2019	Cleared
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Request that full data extractions are provided monthly.	01/12/2019	

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.

Genesis has started reconciling the load using the KDC RAMM streetlight database. In previous audits Genesis were using a database managed by Northpower. The total volume submitted to the Reconciliation Manager is based on the most recently received database report provided by KDC.

I compared the submission volumes with the load recorded in the database extract provided for this audit in September against the volumes submitted by Genesis. The database volumes matched the volumes submitted by Genesis.

I checked the ballasts being applied and found that 18 lamps had a discrepancy when compared to the standardised wattage table. The incorrect capacities will be resulting in an estimated minor under submission of 768.78 kWh per annum (based on annual burn hours of 4,271 as is detailed in the DUML database auditing tool).

On 18 June 2019, the Electricity Authority issued a memo confirming that the code requirement to calculate the correct monthly load must:

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

The current data used is a snapshot and this practice is non-compliant.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: 01-Feb-19 To: 11-Oct-19	18 items of permanent load have the incorrect ballast applied indicating a minor under submission of 768.78 kWh per annum. The data used for submission does not track changes at a daily basis and is provided as a snapshot. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate as they will mitigate risk most of the time but there is room for errors to occur. The impact is assessed to be low due to the kWh volumes.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will request KDC to make the 18 necessary corrections to ballast/Gear wattage information in RAMM.	01/12/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis receives from KDC the changes in dataset within the period. Genesis will request that a full set of data is also provided or for KDC to provide a summary of lamp/gear wattage combinations for review.	01/12/2019	

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 make and model. There are three fields which record lamp wattage, gear wattage and total wattage including gear and lamp wattage.

The accuracy of lamp descriptions, wattages and ballasts is recorded 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 175 items of load on 1st November 2019.

Audit commentary

The field audit discrepancies found are detailed in the table below.

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
Piraka St	3	4	+1	-	1x additional 21w LED found in field.
Station Rd	12	11	-1	-	1x 70w HPSV not found in field.

This clause relates to lights in the field that are not recorded in the database. I found one additional lamp in the field that was not recorded in the database.

The database accuracy 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-Feb-19 To: 11-Oct-19	One additional lamp found in the field. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate due to the volume of additional lights found in the field. The impact is assessed to be low and the database is assessed in section 3.1 to be within the acceptable database accuracy thresholds.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will request KDC to make the 18 necessary corrections to ballast/Gear wattage information in RAMM.	01/12/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis receives from KDC the changes in dataset within the period. Genesis will request that a full set of data is also provided or for KDC to provide a summary of lamp/gear wattage combinations for review.	01/12/2019	

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 functionality achieves compliance with the code. The change management process and the compliance of the database reporting provided to Genesis is detailed in **sections 3.1** and **3.2**.

Audit outcome

Compliant

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

Code reference

Clause 11(4) of Schedule 15.3

Code related audit information

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

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

Audit observation

The database was checked for audit trails.

Audit commentary

The KDC RAMM 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

A database extract was provided 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	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 four strata: 1. Dargaville (streets A-M), Poutu and Ruawai 2. Dargaville (streets N-Z), Aranga, Mangatu, Pukehuia and Tangowahine. 3. Mangawhai. 4. Kaiwaka, Matakohe and Maungaturoto.
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 43 sub-units (roads).
Total items of load	175 items of load were checked.

Wattages were checked for alignment with the published standardised wattage table produced by the Electricity Authority or LED light specifications as available against the RAMM database.

Audit commentary

Field Audit Findings

A field audit was conducted of a statistical sample of 175 items of load. These are detailed in **section 2.5**. The "database auditing tool" was used to analyse the results, which are shown in the table below.

Result	Percentage	Comments
The point estimate of R	99.1	Wattage from survey is lower than the database wattage by 0.9%
R_L	95.1	With a 95% level of confidence it can be concluded that the error could be between -4.9% and 0.7%
R_H	100.7	

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 A (detailed below) applies.

The conclusion from Scenario A is that the variability of the sample results across the strata means that the true wattage (installed in the field) could be between 4.9% lower and 0.7% higher than the wattage recorded in the DUML database. Compliance is recorded because the potential error is less than 5.0%.

In absolute terms the installed capacity is estimated to be 1 kW lower than the capacity indicated by the database.

There is a 95% level of confidence that the installed capacity is up to 3 kW lower than the database.

In absolute terms, total annual consumption is estimated to be 2,500 kWh lower than the DUML database indicates.

There is a 95% level of confidence that the annual consumption is between 14,400 kWh p.a. lower to 1,900 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 %

Wattage and ballast accuracy findings

I checked the ballasts being applied and found that 18 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 (watts)	Database Quantity	Estimated Annual kWh effect on consumption
250w HPSV Lamp	268	278	-10	18	-768.78 kWh
Total estimated annual effect on submission					- 768.78 kWh

The incorrect capacities will be resulting in an estimated under submission of 768.78 kWh per annum (based on annual burn hours of 4,271 as is detailed in the DUML database auditing tool).

I reviewed the LED light descriptions and found that there are insufficient details to confirm that the correct wattage has been applied as detailed in the table below:

	Wattage applied							
Light Descriptions	21	27	28	56	83	168	268	Grand Total
AEC								
IZ	825							825
KTL								
BRG5			33					33
BRG6				3				3
BRSL			19					19
TOTAL	825	0	52	3	0	0	0	880

I recommend that the light specifications are updated to include enough detail to confirm the correct wattage has been applied.

Recommendation	Description	Audited party comment	Remedial action
Database Accuracy	Update database with lamp description details to confirm the correct wattage has been applied.	Genesis will liaise with KDC to make the necessary data updates regarding lamp descriptions.	Identified

Change management process findings

The RAMM database used for submission is managed by KDC. The processes to track load changes due to faults and maintenance were examined. All fault and maintenance work is conducted by Currie Electrical and the database is updated using RAMM Contractor.

The processes were reviewed for new lamp connections were examined. KDC accept responsibility of these assets upon the 224C being issued. "As-built" plans are expected to be submitted to KDC as part of this process. The electrical connection of new streetlights is controlled by Northpower and KDC are not advised of when this occurs. The new lights are recorded in the database from the date of vesting. This will be resulting in no submission occurring for the period between electrical connection and vesting of the assets to council, however there have not been any new subdivisions added during the audit period.

There are no festive lights connected to the unmetered streetlight circuits. Private lights are not held in the database.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: 01-Feb-19 To: 11-Oct-19	18 items of permanent load have the incorrect ballast applied indicating under submission of 768.78 kWh per annum. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	Controls are rated as moderate, as they are sufficient to mitigate the risk most of the time but there is room for improvement. The impact is assessed to be low due to the impact on submission.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will request KDC to make the 18 necessary corrections to ballast/Gear wattage information in RAMM.	01/12/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis receives from KDC the changes in dataset within the period. Genesis will request that a full set of data is also provided or for KDC to provide a summary of lamp/gear wattage combinations for review.	01/12/2019	

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; 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 total volume submitted to the Reconciliation Manager is based on the most recently received database report provided by KDC. As detailed in **section 2.1**, the database extract matched the volumes submitted by Genesis.

As noted in **section 3.1**, there are 18 lamps with incorrect gear wattages recorded in the database. The incorrect capacities will be resulting in an estimated under submission of 768.78 kWh per annum (based on annual burn hours of 4,271 as is detailed in the DUML database auditing tool).

The database accuracy is discussed in **section 3.1.** The field audit confirmed it to be within the acceptable +/-5% accuracy threshold.

On 18 June 2019, the Electricity Authority issued a memo confirming that the code requirement to calculate the correct monthly load must:

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

The current data used is a snapshot and this practice is non-compliant.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c) From: 01-Feb-19 To: 11-Oct-19	18 items of permanent load have the incorrect ballast applied indicating under submission of 768.78 kWh per annum. The data used for submission does not track changes at a daily basis and is provided as a snapshot. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate as they will mitigate risk most of the time but there is room for errors to occur. The impact is assessed to be low due to the kWh volumes.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will request KDC to make the 18 necessary corrections to ballast/Gear wattage information in RAMM.	01/12/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis receives from KDC the changes in dataset within the period, KDC has stated that their RAMM version is not able to manage event-based data. Genesis will discuss this with KDC to see what measures can be taken to try and adhere to the tracking of changes within the database. Genesis will request that a full set of data is also provided or for KDC to provide a summary of lamp/gear wattage combinations for review.	01/12/2019	

CONCLUSION

This audit found five non-compliances and makes one recommendation.

Genesis has started reconciling the load using the KDC RAMM streetlight database. In previous audits Genesis were using a database managed by Northpower. Field work is carried out by contractors and the database is updated using RAMM Contractor. The RAMM database was found to have a higher level of accuracy compared to that of the Northpower database.

There are 18 lamps with incorrect gear wattages recorded in the database. The incorrect capacities will be resulting in an estimated minor under submission of 768.78 kWh per annum (based on annual burn hours of 4,271 as is detailed in the DUML database auditing tool).

The field audit of 175 items of load confirmed the database accuracy to be within the acceptable +/-5% accuracy threshold.

The future risk rating of nine indicates that the next audit be completed in 12 months. I have considered this in conjunction with Genesis' comments and recommend that the next audit be in 18 months as the database has a high level of accuracy and Genesis are using this data for reconciliation.

PARTICIPANT RESPONSE

Genesis notes that the tracking of changes is currently managed by, KDC providing the changes within the period. Genesis has maintained a master dataset based of the asset verifications conducted to cleanse the dataset over the past 12 months.

Genesis adjusts monthly volumes based on the change information provided monthly if any. KDC have advised that the RAMM version is unable to manage event-based asset data. Genesis will enquire as to whether RAMM will be updated to cater for tracking of changes.

Genesis wish to request an 18month review which best reflects the outcomes of both KDC's and Genesis work increasing the database accuracies, reducing the risk rating from 28 to 9, since last reviewed.