

**ELECTRICITY INDUSTRY PARTICIPATION CODE  
DISTRIBUTED UNMETERED LOAD AUDIT REPORT**

**VERITEK**

For

**WAIMATE DISTRICT COUNCIL AND  
GENESIS ENERGY LIMITED**

Prepared by: Rebecca Elliot

Date audit commenced: 23 October 2018

Date audit report completed: 26 November 2018

Audit report due date: 01-Dec-18

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## EXECUTIVE SUMMARY

This audit of the Waimate 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.

WDC manages the streetlight data in RAMM, but WDC do not currently provide RAMM reports of the streetlight data to Genesis. Genesis bill and submit based on the information on the registry and use the average burn hours for the whole year. The data in the registry is dated January 2016 and has not been updated since. I have repeated the recommendation from the last audit that the RAMM database is used to derive submission as soon as possible.

The field audit was undertaken of a statistical sample of 154 items of load on 28th October 2018. The database accuracy was affected by the duplication of five high wattage lights. With this aside the field findings were largely accurate.

The audit found four non-compliances and makes one recommendation. These are mostly a result of historic registry values being used for submissions and not WDC's RAMM database. The future risk rating of 16 indicates that the next audit be completed in six months and I agree with this recommendation. 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	<p>Historic unmetered load value held on the Registry is being used to calculate monthly submissions. The difference calculated to be an under submission of 2,696 kWh for the September period. Approx. 32,352 kWh per annum.</p> <p>One item of load recorded with no model and zero wattage, estimated to be 717.5 kWh per annum.</p> <p>Festive lighting is connected but the volume is not recorded.</p>	Weak	Medium	6	Identified
Description and capacity of load	2.4	11(2)(c) and (d) of Schedule 15.3	<p>One item of load recorded with no model and zero wattage, estimated to be 717.5 kWh per annum.</p>	Moderate	Low	2	Identified
Database accuracy	3.1	15.2 and 15.37B(b)	<p>The database accuracy is assessed to be 80.4% indicating potential over submission of 62,200 kWh per annum if the database were used for submission.</p> <p>One item of load recorded with no model and zero wattage, estimated to be 717.5 kWh per annum.</p> <p>Festive lighting is connected but the volume is not recorded.</p>	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)	<p>Historic unmetered load value held on the Registry is being used to calculate monthly submissions. The difference calculated to be an under submission of 2,696 kWh for the September period. Approx. 32,352 kWh per annum.</p> <p>One item of load recorded with no model and zero wattage, estimated to be 717.5 kWh per annum.</p> <p>Festive lighting is connected but the volume is not recorded.</p>	Weak	Medium	6	Identified
Future Risk Rating						16	

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

## RECOMMENDATIONS

Subject	Section	Description	Action
Deriving submission information	2.1	Waimate DC to send Genesis a monthly wattage report from RAMM.	Genesis are now receiving RAMM information (November 18 data has been supplied)

## 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

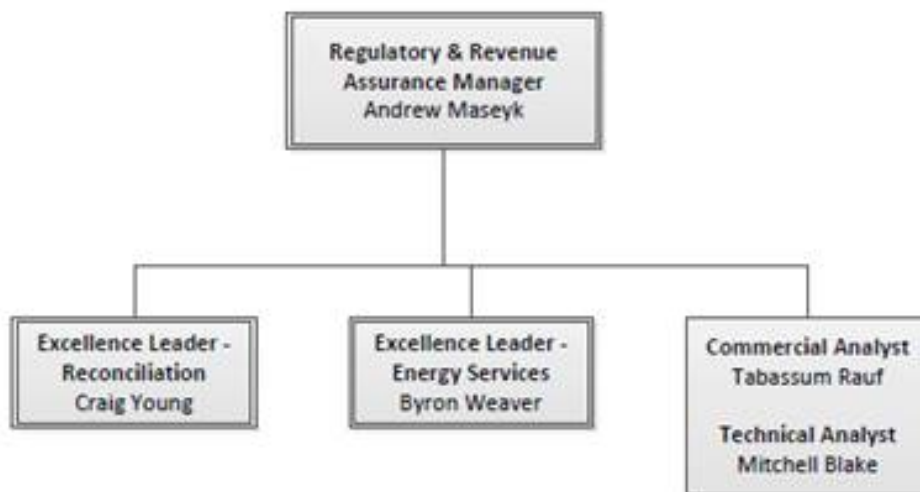
Section 11 of the Electricity Industry Act provides for the Electricity Authority to exempt any participant from compliance with all or any of the clauses.

#### Audit commentary

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

### 1.2. Structure of Organisation

Genesis provided a copy of their organisational structure:



### 1.3. Persons involved in this audit

Auditor:

Name	Title
Rebecca Elliot	Lead Auditor
Debbie Anderson	Supporting Auditor

Other personnel assisting in this audit were:

Name	Title	Company
Grace Hawken	Technical Specialist – Reconciliation Team	Genesis Energy
Rob Moffatt	Roading Manager	Waimate District Council
Shelley Wilson	Roading Assistant	Waimate District Council

#### 1.4. Hardware and Software

The kW value for this DUML load is calculated using the registry kW figure.

WDDC have a SQL database used for the management of DUML by the council and this is remotely hosted by RAMM Software Ltd. The database is commonly known as “RAMM” which stands for “Roading Asset and Maintenance Management”.

WDC confirmed that the database back-up is 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

The following ICPs are relevant to the scope of this audit:

ICP Number	Description	NSP	Profile	Number of items of load	Total Database wattage (watts)
0000000002AL627	Streetlighting	STU0111	UNM	619	74,083
0000175690WT219	Hakataramea Streetlights	WTK0111	RPS	3	249
TOTAL				622	74,332W

#### 1.7. Authorisation Received

All information was provided directly by Genesis and WDC.

#### 1.8. Scope of Audit

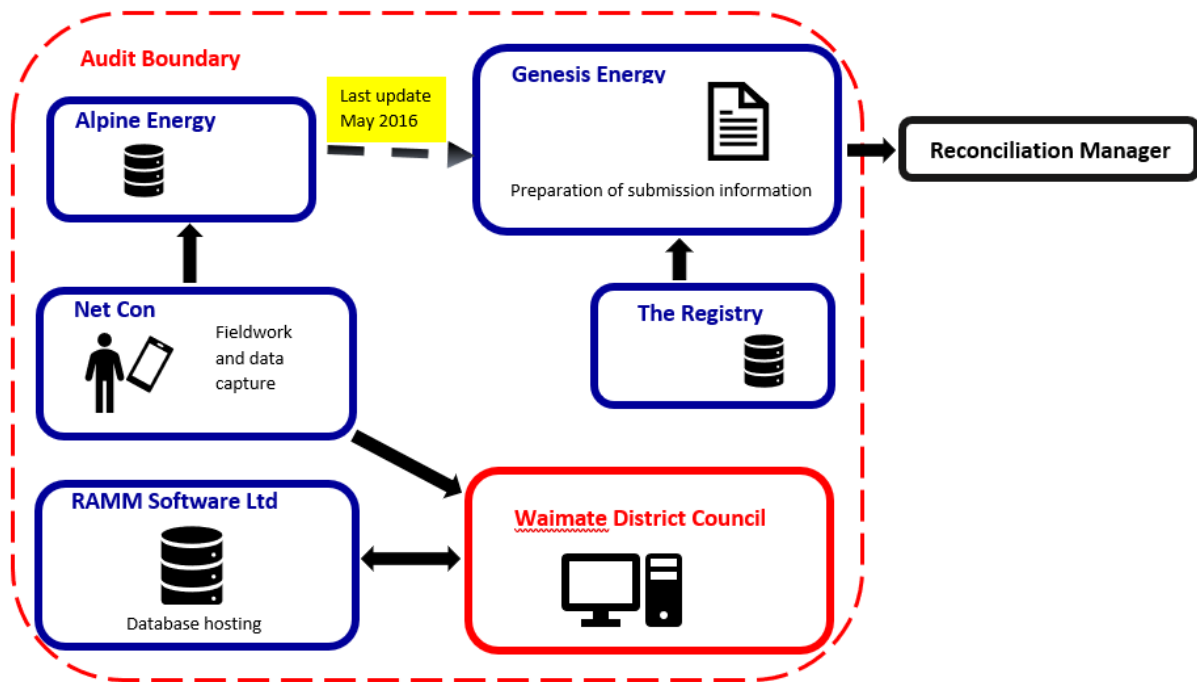
This audit of the WDC DUML database and processes was conducted at the request of Genesis, in accordance with clause 15.37B. The purpose of this audit is to verify that the volume information is being calculated accurately, and that profiles have been correctly applied.

The audit was conducted in accordance with the audit guidelines for DUML audits version 1.1.

The distributor for the majority of the Waimate region is Alpine Energy with a very small number of items recorded on Network Waitaki. The field work is undertaken by NetCon.

Historically Alpine provided usage data to Genesis, but no updates have been received from Alpine since May 2016 when they ceased providing this information on behalf of the councils. Although WDC now manage their streetlight data in RAMM, Genesis will continue to use the information held on the Registry for submission until they are satisfied with the quality of the data in RAMM.

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 audit was conducted in accordance with the audit guidelines for DUML audits version 1.1.

The field audit was undertaken of a statistical sample of 154 items of load on 28<sup>th</sup> October 2018.

### 1.9. Summary of previous audit

The last audit report undertaken by Steve Woods of Veritek Limited in May 2018 was the audit report undertaken for Genesis as part of their 2018 reconciliation participant audit.

### Table of Non-Compliance

Subject	Section	Clause	Non-Compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	Unmetered load held on the Registry, being used to calculate monthly submissions, is a historic value. The difference between the submission made based on Registry information and the outcome based on WDC's database is calculated to be an under submission 2,782.1 kWh for March period.	Still existing



Subject	Section	Clause	Non-Compliance	Status
ICP identifier and items of load	2.2	11(2)(a) and (aa) of Schedule 15.3	Not all items of load have an ICP identifier recorded against them.	Cleared
Description and capacity of load	2.4	11(2)(c) and (d) of Schedule 15.3	Six of the seven lamp type wattages were not correct, affecting 456 lamps with an overall wattage difference of 1,157 kW per annum.	Still Existing
All load recorded in database	2.5	11(2A) of Schedule 15.3	All load is not recorded in the database. One additional 'PHIL (70N, 70 watts)' lamp was located on Pitman Place during the sample check. Will result in estimated under submission of 354.5 kWh per annum.	Cleared
Tracking of load changes	2.6	11(3) of Schedule 15.3	Changes to load are not always notified by NetCon in a timely manner. No adjustment is made to the database for Festive light load.	Cleared
Database accuracy	3.1	15.2 and 15.37B(b)	<p>The database was found to contain some inaccuracies.</p> <p>The database check found six of the seven lamp type and wattages were not correct, affecting 456 lamps with an overall wattage difference of 1,157 kW per annum.</p> <p>The field audit found one additional lamp and one lamp type and wattage difference. Resulting in estimated under submission of 367 kWh per annum.</p> <p>The field data was 100.6% of the database data for the sample checked. A difference of 86 watts. This will result in estimated under submission of 367 kWh per annum.</p>	Still Existing
Volume information accuracy	3.2	15.2 and 15.37B(c)	Unmetered load held on the Registry, being used to calculate monthly submissions, is a historic value. The difference between the submission made based on Registry information and the outcome based on WDC's database is calculated to be an under submission 2,782.1 kWh for March period.	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. Compliance is confirmed.

## 2. DUMML 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:

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

#### Audit observation

The process for calculation of consumption was examined and the application of profiles was checked. The database was checked for accuracy.

#### Audit commentary

Genesis reconciles this DUMML load using the UNM profile. The daily unmetered kW value on the registry and used for submission is historic and has not changed since it was originally entered on 01/01/2016. Genesis bill and submit based on the information on the registry and use the average burn hours for the whole year. I confirmed the calculation was correct.

The Registry values state 604 items of load and 66.612kW. The WDC RAMM database contains 622 items of load and 74.33kW. This is likely to be due to the duplicated lights found in the sample as detailed in sections 2.5 and 3.1. I have calculated the difference in submission for the month of September as detailed in the table below:

ICP Number	Registry kWh Sept submission	RAMM estimated Sept kWh submission	Estimated kWh Sept under submission
000000002AL627	23,261	25,957	2,696

The process being used is compliant but the lack of up to date data being used for submission is recorded as non-compliance. This will be resulting in an estimated 32,352 kWh of under submission per annum.

The recommendation from the last two audits, that a monthly report is sent from Waimate DC to Genesis, is again repeated.

Recommendation	Description	Audited party comment	Remedial action
<b>Regarding:</b> Clause 11(1) of schedule 15.3	Waimate DC to send Genesis a monthly wattage report from RAMM.	Genesis are now receiving RAMM information (November 18 data has been supplied)	Identified

As detailed in sections 2.5 and 3.1, festive lighting is electrically connected but is not tracked. I was unable to determine the specific impact on reconciliation, but the volume of lights associated with this is small.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3  From: 01-May-18 To: 23-Oct-18	<p>Historic unmetered load value held on the Registry is being used to calculate monthly submissions. The difference calculated to be an under submission of 2,696 kWh for the September period. Approx. 32,352 kWh per annum.</p> <p>Festive lighting is connected but the volume is not recorded.</p> <p>Potential impact: High</p> <p>Actual impact: Medium</p> <p>Audit history: Once</p> <p>Controls: Weak</p> <p>Breach risk rating: 6</p>		
Audit risk rating	Rationale for audit risk rating		
<b>Medium</b>	<p>The controls are rated as weak, because Waimate District Council's database is not being used for submissions and Registry information has not been updated.</p> <p>The impact is rated as medium, based on the potential kWh difference.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis has been in communication with Waimate DC, Waimate has made a great improvement in their data base and have started to provide Genesis with their Ramm report. Genesis plan to have this data utilised and correct any information on the registry asap.		01/02/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis will continue to analyse the Waimate data extraction and use for billing and settlements.		01/02/2019	

## 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 have an ICP number 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 DUMML database must contain the location of each DUMML item.*

### **Audit observation**

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

### **Audit commentary**

All items of load have a road name and location (displacement) recorded. The majority of items also have a pole number and GPS co-ordinates recorded to assist with the location of the items.

### **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 DUMML database must contain:*

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

### **Audit observation**

The database was checked to confirm that it contained a field for lamp type and wattage capacity and included any ballast or gear wattage and that each item of load had a value recorded in these fields.

### **Audit commentary**

The database has fields for both 'lamp make model' and 'model' as well as wattage and gear wattage. All lamps have the correct model wattage values recorded with the exception of one lamp with no model information or wattage. Its lamp make model information implies that the wattage should be 168W.

### **Audit outcome**

Non-compliant

Non-compliance	Description		
Audit Ref: 2.4 With: Clause 11(2)(c) & (d) of Schedule 15.3  From: 01-May-18 To: 23-Oct-18	One item of load recorded with no model and zero wattage, estimated to be 717.5 kWh per annum. 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, because they are sufficient to ensure that lamp information is correctly recorded most of the time.  The impact is assessed to be low, as the database values are not currently used for submission.		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis will feed back any issues found with the data provided. Genesis has reviewed the data provided by Waimate Dc and can concur with the auditor's findings. There are a small number of variances in ballast and lamp wattages.		01/02/2019	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis will continue to analyse the Waimate data extraction and use for billing and settlements. And feed back to Waimate DC any anomalies found within the dataset.		01/02/2019	

## 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 154 items of load on 28th October 2018.

## Audit commentary

The field audit findings are detailed in the table below:

Street/Area	Database Count	Field Count	Lamp no. difference	No of incorrect lamp wattage	Comments
<b>Council Road Lighting</b>					
ERIC BATCHELOR PLACE (794)	4	4	-		
HIGH STREET (740)	5	5	-		
MCLEAN STREET (492)	2	2	-		
RHODES STREET (725)	15	15	-		
SAUL SHRIVES PLACE (792)	2	2	-		
TOWN BELT (724)	2	2	-		
<b>Line Company</b>					
BOND STREET (756)	4	4	-		
CORONATION STREET (741)	4	4	-		
GOLDSMITH STREET (771)	3	3	-		
HIGH STREET (740)	27	27	-	1	1x incorrect wattage 150W found in the field recorded as 70W in the database
HUGHES STREET (721)	6	6	-		
INNES STREET (727)	5	5	-		
MAKIKIHI STATION ROAD (354)	3	3	-		
MANSE STREET (729)	9	9	-		
SH 1 RS 520 ST ANDREWS (1017)	25	6	-19		19x HPS 250/150W lamps found in the field
SH 1 RS 560 GLENAVY (1019)	9	8	-1	1	1x 150W lamp not found in the field 1x incorrect wattage 150W found in the field recorded as 250W in the database
THACKERAY STREET (265)	7	7	-		
<b>NZTA</b>					
SH 1 RS 520 ST ANDREWS (1017)	18	18	-		
SH 1 RS 560 GLENAVY (1019)	4	3	-1		1x 150W lamp not found in the field
<b>Grand Total</b>	<b>154</b>	<b>133</b>	<b>-21</b>	<b>2</b>	

21 less lamps were found in the field and there were two lamps discovered with a different lamp type and wattage than recorded in the database. I believe that 18 of the lamps not found in the field are because of a duplication of a section of roading in the database. There are lamps labelled as 'SH 1 RS 520 ST ANDREWS' in the database with a Pole Owner of both NZTA and Line Company.

Issue	Volume information impact (annual kWh)
18 x 250W lamps duplicated in the database	21,372 kWh over submission if the current database had been used for submission.

These differences are recorded as non-compliance in **section 3.1**.

There were no items located that were missing from the RAMM database.

#### **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 DUMML 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<sup>th</sup> September 2012, the Authority sent a memo to Retailers and auditors advising that tracking of load changes at a daily level was not required as long as 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 processes were reviewed for ensuring that changes in the field are captured. Alpine Energy’s contracting company, NetCon remains the contractor for streetlight maintenance and new connections.

There are not a lot of new streetlight connections in the WDC area. All new streetlight connections or removals follow the “new connections” process and a “streetlight movements” form is required to be completed. Waimate DC add new lights to the RAMM database, within the month they are received, once the street has been vested to the council. The connection notifications have improved during the audit period from NetCon.

Monthly outage patrols are carried out by NetCon, and if required maintenance is completed as a result of this. Any changes made are communicated to WDC and captured in RAMM.

As Alpine are no longer maintaining a street light database it has been recommended again in **Section 2.1**, that Genesis use WDC’s RAMM database to calculate submission. Comparison of the values held on the Registry to September’s RAMM database extract show that in the last two years there have been 18 additional lamps added and an increase of 7.72kW.

WDC’s LED replacement project has not yet begun, this is expected to begin within six months and will take three to four months to complete. This will have a significant impact on the database. The intention is to ensure the correct lamp type, wattage and ballast values are recorded in the database as the LED lights are rolled out. Once installed, there are no plans for dimming.

Festive lights are managed by the Information Centre. A contractor from Oamaru is used to install and then remove the lights. WDC are advised of the period the lights are active, but no changes are made to



the database. Genesis is not advised of the additional load. It is WDC's intention to capture the festive lights in the RAMM database. I was unable to determine the items of load associated with this festive lighting but it is small and this is recorded as non-compliance in **sections 2.1, 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 DUMML database must incorporate an audit trail of all additions and changes that identify:*

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

#### **Audit observation**

The database was checked for audit trails.

#### **Audit commentary**

RAMM records audit trail information of changes made.

#### **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	Waimate District Council region
Strata	The database contains items of load in Invercargill City Council area.  The processes for the management of ICC items of load are the same, but I decided to place the items of load into three strata, as follows:  <ol style="list-style-type: none"><li>1. Council Road Lighting</li><li>2. Line Company</li><li>3. NZTA.</li></ol>
Area units	I created a pivot table of the roads in each area and I used a random number generator in a spreadsheet to select a total of 19 sub-units.
Total items of load	154 items of load were checked.

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

##### Audit commentary

As detailed in **section 2.5**, the field audit found two lamp wattage differences and I was unable to locate 21 lamps in the field.

The field data was 80.4% 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 39.3% and the true load in the field will be between 60.9% to 100.2% 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 would likely be over submitting if the database was used for submission.

The tool indicated that there is potentially 62,200 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 the estimated impact will be between 124,100 kWh per annum over submission and 800 kWh per annum under submission if the database were used.

The database was found to contain inaccuracies when matched to the published standardised wattage table:

Issue	Volume information impact (annual kWh)
1 x lamp has no model or wattage information recorded, believed to be 168W	718 kWh under submission if the current database had been used for submission.

As detailed in **sections 2.1** and **2.5**, festive lighting is electrically connected but is not tracked. I was unable to determine the specific impact on reconciliation, but the volume of lights associated with this is small.

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b)  From: 01-May-18 To: 23-Oct-18	The database accuracy is assessed to be 80.4% indicating potential over submission of 62,200 kWh per annum if the database were used for submission.  One item of load recorded with no model and zero wattage, estimated to be 717.5 kWh per annum if the current database had been used for submission.  Festive lighting is connected but the volume is not recorded.  Potential impact: High Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	The controls are rated as moderate, as the processes in place to manage change will mitigate risk most of the time.  The impact is assessed to be low as the database is not being used for reconciliation.		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis has analysed the dataset provided for Nov-18. Genesis confirms the auditor's findings as the dataset only hold 601 load items not 622. Genesis will feed this back to Waimate and request verification of missing lamps		01/02/2019	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis will confirm status of missing items, and will rely on the compliant tracking of load items to capture new/replaced or removed items.		01/02/2019	

### 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 the ICP has 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 UNM profile. The daily unmetered kW value on the registry and used for submission is historic and has not changed since it was originally entered on 01/01/2016. Genesis bill and submit based on the information on the registry and use the average burn hours for the whole year. I confirmed the calculation was correct.

The Registry values state 604 items of load and 66.612kW. The WDC RAMM database contains 622 items of load and 74.33kW. This is likely to be due to the duplicated lights found in the sample as detailed in **sections 2.5** and **3.1**. I have calculated the difference in submission for the month of September as detailed in the table below

ICP Number	Registry kWh Sept submission	RAMM estimated Sept kWh submission	Estimated kWh Sept under submission
000000002AL627	23,261	25,957	2,696

The process being used is compliant but the lack of up to date data being used for submission is recorded as non-compliance. This will be resulting in an estimated 32,352 kWh of under submission per annum.

No reports from the WDC database are provided to Genesis, this has been recommended again in **section 2.1**.

As detailed in **sections 2.1, 2.5** and **3.5**, festive lighting is electrically connected but is not tracked. I was unable to determine the specific impact on reconciliation, but the volume of lights associated with this is small.

#### Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c)</p> <p>From: 01-May-18 To: 23-Oct-18</p>	<p>Historic unmetered load value held on the Registry is being used to calculate monthly submissions. The difference calculated to be an under submission of 2,696 kWh for the September period. Approx. 32,352 kWh per annum.</p> <p>Festive lighting is connected but the volume is not recorded.</p> <p>Potential impact: High Actual impact: Medium Audit history: Once Controls: Weak Breach risk rating: 6</p>		
Audit risk rating	Rationale for audit risk rating		
<p><b>Medium</b></p>	<p>The controls are rated as weak, because Waimate District Council's database is not being used for submissions and Registry information has not been updated.</p> <p>The impact is assessed to be medium, based on the kWh differences described above.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Genesis has been in communication with Waimate DC, Waimate has made a great improvement in their data base and have started to provide Genesis with their Ramm report. Genesis plan to have this data utilised and correct any information on the registry asap.</p>		<p>01/02/2018</p>	<p>Identified</p>
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Genesis will continue to analyse the Waimate data extraction and use for billing and settlements. Genesis will continue to use the average burn hours unless logger information can be provided for the region (Alpine network).</p>		<p>01/02/2019</p>	

## CONCLUSION

WDC manages the streetlight data in RAMM, but WDC do not currently provide RAMM reports of the streetlight data to Genesis. Genesis bill and submit based on the information on the registry and use the average burn hours for the whole year. The data in the registry is dated January 2016 and has not been updated since. I have repeated the recommendation from the last audit that the RAMM database is used to derive submission as soon as possible.

The field audit was undertaken of a statistical sample of 154 items of load on 28th October 2018. The database accuracy was affected by the duplication of five high wattage lights. With this aside the field findings were largely accurate.

The audit found four non-compliances and makes one recommendation. These are mostly a result of historic registry values being used for submissions and not WDC's RAMM database. The future risk rating of 16 indicates that the next audit be completed in six months and I agree with this recommendation.

## PARTICIPANT RESPONSE

Genesis, working alongside Waimate District Council, are making good inroads to securing good usable data from Waimate. Upon analysing the Ramm information provide there were a small number of lamp/ballast discrepancies. Genesis plans on using this information for The December billing/settlement processes. Implementing this will ensuring the recommendation is cleared and the risk rating is reduced across multiple sections of this report. Genesis would be seeking a 12 month review period.