

ELECTRICITY INDUSTRY PARTICIPATION CODE  
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

VERITEK

For

NAPIER CITY COUNCIL AND GENESIS  
ENERGY

Prepared by: Rebecca Elliot

Date audit commenced: 1 February 2018

Date audit report completed: 18 May 2018

Audit report due date: 01-Jun-18

---

## 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 .....	8
1.9. Summary of previous audit .....	8
1.10. Distributed unmetered load audits (Clause 16A.26 and 17.295F).....	9
2. DUML database requirements.....	10
2.1. Deriving submission information (Clause 11(1) of Schedule 15.3) .....	10
2.2. ICP identifier and items of load (Clause 11(2)(a) and (aa) of Schedule 15.3) .....	11
2.3. Location of each item of load (Clause 11(2)(b) of Schedule 15.3) .....	12
2.4. Description and capacity of load (Clause 11(2)(c) and (d) of Schedule 15.3) .....	12
2.5. All load recorded in database (Clause 11(2A) of Schedule 15.3) .....	13
2.6. Tracking of load changes (Clause 11(3) of Schedule 15.3) .....	17
2.7. Audit trail (Clause 11(4) of Schedule 15.3).....	18
3. Accuracy of DUML database .....	19
3.1. Database accuracy (Clause 15.2 and 15.37B(b)) .....	19
3.2. Volume information accuracy (Clause 15.2 and 15.37B(c)) .....	20
Conclusion .....	22
Participant response .....	23

## EXECUTIVE SUMMARY

This audit of the Napier City Council Unmetered Streetlights (**NCC**) 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, which became effective on 1 June 2017.

The database is remotely hosted by RAMM Software Ltd and is managed by Power Solutions on behalf of NCC, who is Genesis' customer. The fieldwork and asset data capture is conducted by Pope Electrical. Reporting is provided to NCC, Unison and Genesis on a monthly basis.

There are 134 lights recorded as private lights, and these are excluded from submission. It is unclear if these are being reconciled elsewhere as standard unmetered load, so I recommend that Genesis work with Unison to resolve the ownership of these lights to ensure this load is being reconciled.

This audit found five non-compliances and two recommendations were made. The future risk rating of 26 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	The database accuracy is assessed to be 115.9% indicating an estimated under submission of 556,000 kWh per annum (excluding ballast).  The ballasts are not recorded correctly in the RAMM database.	Moderate	High	6	Investigating
Description and capacity of load	2.4	11(2)(c) and (d) of Schedule 15.3	54 items of load with no rear wattage recorded.  19 items of load recorded with zero wattage.	Moderate	Low	2	Investigating
All load recorded in the database	2.5	11(2A) of Schedule 15.3	Items of load are missing from the database.	Moderate	High	6	Investigating
Database accuracy	3.1	15.2 and 15.37B(b)	The database accuracy is assessed to be 115.9% indicating an estimated under submission of 556,000 kWh per annum (excluding ballast).  The ballasts are not recorded correctly in the RAMM database.	Moderate	High	6	Investigating
Volume information accuracy	3.2	15.2 and 15.37B(c)	The database accuracy is assessed to be 115.9% indicating an estimated under submission of 556,000 kWh per annum (excluding ballast).  The ballasts are not recorded correctly in the RAMM database.	Moderate	High	6	Investigating
Future Risk Rating						26	

<b>Future risk rating</b>	1-3	4-6	7-8	9-17	18-26	27+
<b>Indicative audit frequency</b>	36 months	24 months	18 months	12 months	6 months	3 months

## RECOMMENDATIONS

Subject	Section	Description	Action
ICP Identifier	2.2	Liaise with Unison to confirm these are private lights and not incorrectly recorded as private.	Investigating
Tracking of load change	2.6	Put a process of notification in place to ensure if festive lighting is connected to the unmetered street light circuit, it is captured for reconciliation and billing purposes.	Investigating

## 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

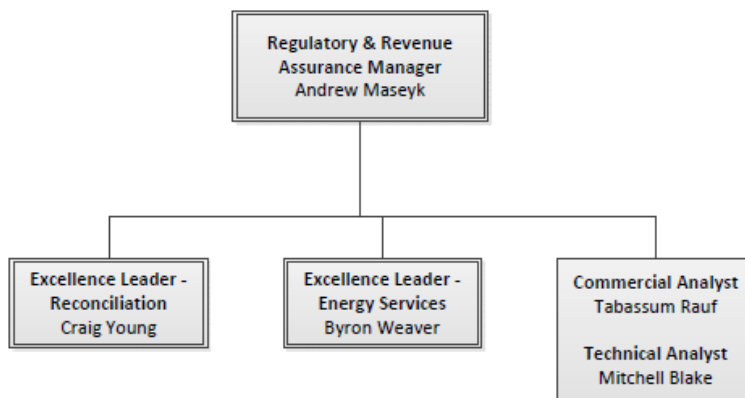
Section 11 of the Electricity Industry Act provides for the Electricity Authority to exempt any participant from compliance with all or any of the clauses.

#### Audit commentary

Genesis confirms that 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**

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
Jon Stevens	Projects Engineer	Power Solutions

#### 1.4. Hardware and Software

**Section 1.8** records that Roding Asset and Maintenance Management database, commonly known as RAMM continues to be used the management of DUML. This is remotely hosted by RAMM Software Ltd. The specific module used for DUML is called “SLIMM” which stands for “Streetlighting Inventory Maintenance Management”.

Power Solutions 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

ICP Number	Description	NSP	Profile	Number of items of load	Database wattage (watts)
0000939920HB224	Marine Parade Lighting	RDF0331	NST	21	2,108
0000939921HBE61	Carriageway Lighting	RDF0331	NST	162	27,637
0000939923HBEE4	Amenity Lighting	RDF0331	NST	82	5,885
0000939906HBEFE	Road Lighting	RDF0331	NST	7,451	739,861
0000939908HBD65	Amenity Lighting	RDF0331	NST	1,099	101,059

I note that the database has 134 items of load where the ICP is recorded as “PRIVATE”. These are excluded from submission. This is discussed further in **section 2.2**.

#### 1.7. Authorisation Received

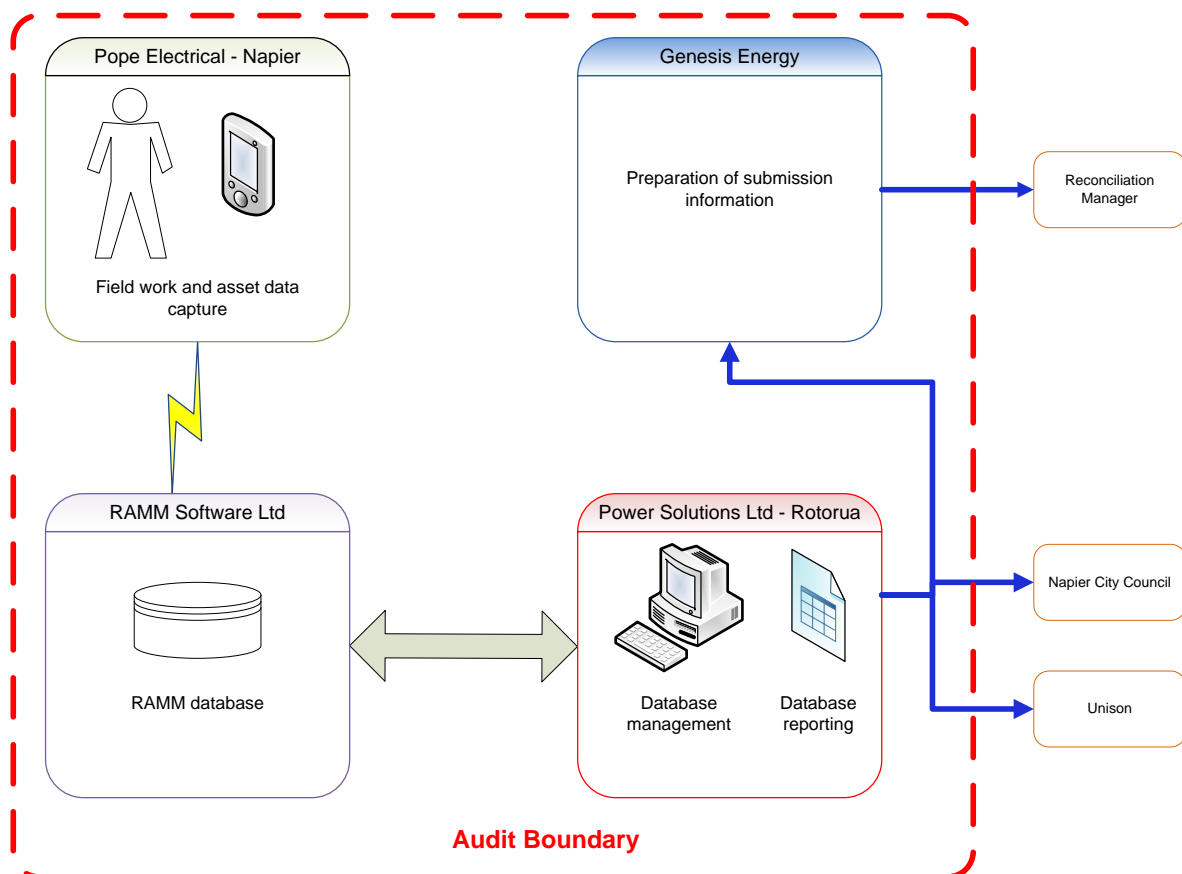
All information was provided directly by Genesis or Power Solutions.

## 1.8. Scope of Audit

This audit of the Napier City Council Unmetered Streetlights (NCC) 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, which became effective on 1 June 2017.

The database is remotely hosted by RAMM Software Ltd and is managed by Power Solutions on behalf of NCC, who is Genesis' customer. The fieldwork and asset data capture is conducted by Pope Electrical. Reporting is provided to NCC, Unison and Genesis on a monthly basis. The scope of the audit encompasses the collection, security and accuracy of the data, including the preparation of submission information based on the database reporting. The diagram below shows the audit boundary for clarity.



The field audit was undertaken of a statistical sample of 266 items of load on 30<sup>th</sup> January 2018.

## 1.9. Summary of previous audit

Genesis provided a copy of the last audit report undertaken by Rebecca Elliot of Veritek Limited in February 2017 this audit report was undertaken for Genesis as part of their 2017 reconciliation participant audit. This audit wasn't submitted due to the audit regime change that occurred on 1<sup>st</sup> June 2017. For completeness I have included the findings for reference below:



## Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
Deriving submission information	2.1	11(1) of schedule 15.3	Incorrect submission due to incorrect wattage report being provided.	Cleared
			Estimated under submission of 12,448 kWh per annum due to incorrect ballasts being applied.	Still existing
ICP Identifier	2.2.1	11(2)(a) of schedule 15.3	6 items of load without an ICP recorded against them.	Cleared
Capacity of each item of load	2.2.4	11(2)(d) of schedule 15.3	Incorrect ballasts being applied resulting in an estimated under submission of 12,448 kWh per annum.	Still existing

## Table of Recommendations

Subject	Section	Clause	Recommendation for Improvement	Status
Tracking of Load Change	2.3	11(3) of schedule 15.3	Put a process of notification in place to ensure if festive lighting is connected to the unmetered street light circuit, it is captured for reconciliation and billing purposes.	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. DUML DATABASE REQUIREMENTS

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

#### Code reference

*Clause 11(1) of Schedule 15.3*

#### Code related audit information

*The retailer must ensure the:*

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

#### Audit observation

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

#### Audit commentary

Genesis reconciles this DUML load using the NST profile. The total volume submitted to the Reconciliation Manager is based on a monthly database report derived from RAMM and the “burn time” which is sourced from data loggers installed on the Unison network. I checked the accuracy of the submission and confirm compliance.

There is some inaccurate data within the database used to calculate submissions. This is recorded as non-compliance and discussed in **section 3.1** and **3.2**.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3  From: 01-Jun-17 To: 30-Apr-18	<p>The database accuracy is assessed to be 115.9% indicating an estimated under submission of 556,000 kWh per annum (excluding ballast).</p> <p>The ballasts are not recorded correctly in the RAMM database.</p> <p>Potential impact: High</p> <p>Actual impact: High</p> <p>Audit history: None</p> <p>Controls: Moderate</p> <p>Breach risk rating: 6</p>		
Audit risk rating	Rationale for audit risk rating		
High	<p>The controls are rated as moderate, because they are sufficient to ensure that changes to the database are correctly recorded most of the time, and the errors found are historic.</p> <p>The impact is assessed to be high, based on the kWh differences described above.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Power solutions in regards to the audit findings in 2017. Genesis are currently also speaking with Unison to rectify the database exceptions.		12/2018	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis, have been advised that field audits will be conducted to verify assets currently connected		12/2018	

## 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 DUMML database must contain:*

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

### Audit observation

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

### Audit commentary

All items of load have an ICP recorded against them with the exception of 134 items of load marked as PRIVATE. I recommend that these are confirmed as private with Unison.

Description	Recommendation	Audited party comment	Remedial action
ICP identifier and items of load	Liaise with Unison to confirm these are private lights and not incorrectly recorded as private.	Genesis has been contacted by Unison regarding these exceptions.	Investigating

#### 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

The database contains the nearest street address, pole numbers and Global Positioning System (GPS) coordinates for each item of load and users in the office and field can view these locations on a mapping system.

#### 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 contains two records for wattage, firstly the lamp wattage and secondly the gear wattage, which represents ballast losses. Analysis of the database identified:

- 54 items of load have no gear wattage recorded for lights where gear wattage is expected
- 19 items of load recorded with zero wattage.

Lamp type	Volume
1W LED	9
LED in 4.5.27	3
Parking Machine Battery Charge	7
<b>Grand Total</b>	<b>19</b>

As discussed in **section 3.1**, the ballast in RAMM is not correct and is not used for submission. The correct wattages are added in the monthly report. The correct ballasts are applied but this needs to be in the database. This is recorded as non-compliance in **section 3.1**.

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.4 With: Clause 11(2)(c) & (d) of Schedule 15.3  From: 01-Jun-17 To: 30-Apr-18	54 items of load with no rear wattage recorded. 19 items of load recorded with zero wattage. Potential impact: Low Actual impact: None Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	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 correct ballasts and wattages are added to the monthly report.		
Actions taken to resolve the issue		Completion date	Remedial action status
Power solutions in regards to the audit findings in 2017. Genesis are currently also speaking with Unison to rectify the database exceptions.		12/2018	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis, have been advised that field audits will be conducted to verify assets currently connected		12/2018	

## 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 266 items of load on 30<sup>th</sup> January 2018.

### Audit commentary

The field audit findings are detailed in the table below:

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
<b>Amenity Lighting</b>					
CHAMBERS STREET	1	1			
COBDEN ROAD	1	1			
DALTON ST CIVIC BUILDING PRECINCT	2	4	2		2x 35W MH extra lights
ETON STREET	2	2			
FAULKNOR LANE	2	2			
FRANCE ROAD	2	2		1	80W MV in field recorded as 150W HPS in database
LIVERPOOL CRESCENT	1	1			
SHEARER PLACE EXT.	1	1			
TARADALE ROAD SH 50 EAST	1	1			
WILLIAMS STREET	1	1			
Carpark, rest home	22	22			
BLEDISLOE ROAD	3	3			
CLIVE SQUARE EAST	2	2			
DICKENS STREET SOUTH LEASE CARPARK	8	13	5		4x 150W MH & 1x 35W MH extra lights
HARAKEKE CYCLEWAY - NASH TO LATHAM	1	1			
LANARK CRESCENT	4	5	1		1x 35W MH extra light
NELSON PLACE	3	3			
NUFFIELD AVENUE	1	1			
<b>New</b>					

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
ADDINGTON PLACE LEFT ARM	2	2			
AINTREE PLACE	4	4			
AINTREE PLACE EXTENSION	1	1			
HUNTER DRIVE	5	5			
HUNTER DRIVE RIGHT ARM	3	3			
HYDE PLACE	2	2			
MANA PLACE	1	1			
MERLOT DRIVE EXTN (#20-22)	1	1			
ONYX PLACE	4	4			
TAIERI PLACE	3	3			
<b>ROW Private</b>					
CORONATION STREET	2	2			
DALTON STREET WEST - NORTH SIDE OF POLICE STA	1	1			
GEBBIE ROAD	1	2	1		1x 35W MH extra lights
GILL ROAD	1	1			
JARVIS PLACE	1	1			
MILTON ROAD	3	3			
NORTHE STREET EAST	2	3	-1 +2		1x 150W HPS not found & 2x extra halogen lights
<b>Urban</b>					
ALLEN BERRY AVENUE	13	13			
CORMACK PLACE	3	3			
CUMBERLAND RISE	10	13	3		3x 35W extra lights
DALTON STREET	35	38	3		2x 35W MH & 1x 150W MH extra lights
D'ARCY PLACE	3	3			

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
HAMLIN PLACE	5	5			
HINTON ROAD	8	8			
LIPTON PLACE	7	6	-1		1x 35W MH less found in the field
NORWICH CRESCENT	10	13	3		3x 35W MH extra
OSSIAN STREET	13	13			
PERCY SPILLER AVENUE	6	6			
ROSE STREET	5	5			
SHAKESPEARE TERRACE	2	2			
SLOANE PLACE EAST	1	1			
SYMONS LANE	8	15	7		7x 35W MH extra
THODE PLACE	2	2			
TRENT STREET LOOP	1	1			
TURNER PLACE	5	5			
WAGHORNE STREET	26	26		1	35W MH in field recorded as 80W MV in database
WAITAKI WAY	4	4			
YPRES STREET	4	5	1		1x 35W MH extra in walkway
<b>Grand Total</b>	266	291	28	2	

I found 28 more lamps in the field than were recorded in the database. These differences are recorded as non-compliance in **section 3.1**. The items missing from the RAMM database are recorded as non-compliance.

#### Audit outcome

Non-compliant



Non-compliance	Description		
Audit Ref: 2.5 With: Clause 11(2A) of Schedule 15.3 From: 01-Jun-17 To: 30-Apr-18	Items of load are missing from the database. Potential impact: High Actual impact: High Audit history: None Controls: Moderate Breach risk rating: 6		
Audit risk rating	Rationale for audit risk rating		
High	The controls are rated as moderate, because they are sufficient to ensure that changes to the database are correctly recorded most of the time, and the errors found are historic.  The impact is assessed to be high, based on the kWh differences detailed in <b>section 3.1</b> .		
Actions taken to resolve the issue		Completion date	Remedial action status
Power solutions in regards to the audit findings in 2017. Genesis are currently also speaking with Unison to rectify the database exceptions.		12/2018	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis, have been advised that field audits will be conducted to verify assets currently connected		12/2018	

## 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<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 processes were reviewed for new lamp connections and the tracking of load changes due to faults and maintenance. All fault and maintenance work is controlled by PSL and conducted by Pope Electrical through “RAMM Contractor”. Once each job is completed the database is updated via field PDA’s. Paperwork is also provided to note materials used, and this is compared with the data in the database for each job. The monthly outage patrols also involve a check of database accuracy. For new subdivisions, NCC engages Opus to record the lighting details in the database.

NCC sometimes has festive lighting connected during December and January. This is dependent on the donation of Christmas trees each year. It is unclear if Power Solutions are advised of this in every instance. If they are advised this is included in the relevant monthly reports. I recommend a process of notification is put in place to ensure that this is captured in every instance.

Recommendation	Description	Audited party comment	Remedial action
<b>Regarding:</b> 11(3) of schedule 15.3	Put a process of notification in place to ensure if festive lighting is connected to the unmetered street light circuit, it is captured for reconciliation and billing purposes.	Genesis will raise this requirement with Napier CC	Investigating

**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 RAMM database has a complete 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	Napier city region
Strata	The database contains items of load in Napier City Council area.  The processes for the management of NCC items of load are the same, but I decided to place the items of load into five strata, as follows:  <ol style="list-style-type: none"><li>1. Amenity lighting</li><li>2. Car park, Rest home</li><li>3. New</li><li>4. ROW Private</li><li>5. Urban.</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 60 sub-units.
Total items of load	266 items of load were checked.

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

##### Audit commentary

The field data was 115.9% of the database data for the sample checked. The total wattage recorded in the database for the sample was 22,483 watts. The estimated total wattage found in the field for the sample checked was 24,372 watts, a difference of 1,899 watts. This will result in estimated over submission of 556,000 kWh per annum (based on annual burn hours of 4,271 as detailed in the DUML database auditing tool).

The ballast in RAMM is not correct and is not used for submission. The correct wattages are added in the monthly report. The correct ballasts need to be in the database. This is recorded as non-compliance below.

##### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b)  From: entire audit period	<p>The database accuracy is assessed to be 115.9% indicating an estimated under submission of 556,000 kWh per annum (excluding ballast).</p> <p>The ballasts are not recorded correctly in the RAMM database.</p> <p>Potential impact: High</p> <p>Actual impact: High</p> <p>Audit history: None</p> <p>Controls: Moderate</p> <p>Breach risk rating:6</p>		
Audit risk rating	Rationale for audit risk rating		
<b>High</b>	<p>The controls are rated as moderate, because they are sufficient to ensure that changes to the database are correctly recorded most of the time the errors found are historic.</p> <p>The impact is assessed to be high, based on the kWh differences described above.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Power solutions in regards to the audit findings in 2017. Genesis are currently also speaking with Unison to rectify the database exceptions.		12/2018	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis, have been advised that field audits will be conducted to verify assets currently connected		12/2018	

### 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 NST profile. The total volume submitted to the Reconciliation Manager is based on a monthly database report derived from RAMM and the “burn time” which is sourced from data loggers installed on the Unison network. I checked the accuracy of the submission and confirm compliance.

The ballast in RAMM is not correct and is not used for submission. The correct wattages are added in the monthly report. The correct ballasts need to be in the database. This is recorded as non-compliance below. I checked the accuracy of the submission information by multiplying the total kW from the database by the total “on” time from the data logger file and the figures matched.

As detailed in **section 3.1**, the DUML database auditing tool provided a result indicating the field data was 115.9% of the database data. This will result in an estimated under submission by 556,000 kWh per annum.

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c)  From: entire audit period	The database accuracy is assessed to be 115.9% indicating an estimated under submission of 556,000 kWh per annum (excluding ballast).  The ballasts are not recorded correctly in the RAMM database.  Potential impact: High  Actual impact: High  Audit history: None  Controls: Moderate  Breach risk rating: 6		
Audit risk rating	Rationale for audit risk rating		
<b>High</b>	The controls are rated as moderate, because they are sufficient to ensure that changes to the database are correctly recorded most of the time, and the errors found are historic.  The impact is assessed to be high, based on the kWh differences described above.		
Actions taken to resolve the issue		Completion date	Remedial action status
Power solutions in regards to the audit findings in 2017. Genesis are currently also speaking with Unison to rectify the database exceptions.		12/2018	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis, have been advised that field audits will be conducted to verify assets currently connected		12/2018	

## CONCLUSION

The database is remotely hosted by RAMM Software Ltd and is managed by Power Solutions on behalf of NCC, who is Genesis' customer. The fieldwork and asset data capture is conducted by Pope Electrical. Reporting is provided to NCC, Unison and Genesis on a monthly basis.

There are 134 lights recorded as private lights, and these are excluded from submission. It is unclear if these are being reconciled elsewhere as standard unmetered load, so I recommend that Genesis work with Unison to resolve the ownership of these lights to ensure this load is being reconciled.

This audit found five non-compliances and two recommendations were made. The future risk rating of 26 indicates that the next audit be completed in six months and I agree with this recommendation.

## PARTICIPANT RESPONSE

Genesis are currently working with all parties to rectify the issues outlined in this audit.