

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

**VERITEK**

For

**THAMES COROMANDEL DISTRICT  
COUNCIL AND GENESIS ENERGY**

Prepared by: Rebecca Elliot

Date audit commenced: 12 March 2018

Date audit report completed: 23 May 2018

Audit report due date: 01-Jun-18

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## EXECUTIVE SUMMARY

This audit of the Thames Coromandel District Council Unmetered Streetlights (**TCDC**) 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.

TCDC is undertaking an LED rollout. The field audit found database inaccuracies in both existing and new work being carried out. The field contract is going out for tender to replace the existing contractor who has advised they will not be retendering for the work. A full field audit is planned for August to correct the database. I have recommended that the new connection process is reviewed in conjunction with the council and Powerco as it appears that the process to notify of new connections is not working, as there have been instances where the first notification of new lights being livened is when a resident calls up for maintenance.

This audit found five non-compliances and makes one recommendation. The future risk rating of ten indicates that the next audit be completed in three months. As the full field audit is scheduled for August I recommend that the next audit be due in five months. This will allow sufficient time for the findings of the full field audit to be completed. The matters raised are detailed below:

## AUDIT SUMMARY

### NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Deriving submission information	2.1	11(1) of Schedule 15.3	<p>The database accuracy is assessed to be 94.6% indicating an estimated over submission of 66,300 kWh per annum.</p> <p>Incorrect wattages use for submission resulting in an estimated over submission of 123.86 kWh.</p> <p>The combined estimated over submission is 66,176.14 kWh per annum.</p>	Weak	High	9	Investigating
All load recorded in the database	2.5	11(2A) of Schedule 15.3	Items of load are missing from the database.	Weak	High	9	Investigating
Tracking of load change	2.6	11(3) of Schedule 15.3	Tracking of load change not capturing all changes made in the field.	Weak	High	9	Investigating
Database accuracy	3.1	15.2 and 15.37B(b)	<p>The database accuracy is assessed to be 94.6% indicating an estimated over submission of 66,300 kWh per annum.</p>	Weak	High	9	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)	The database accuracy is assessed to be 94.6% indicating an estimated over submission of 66,300 kWh per annum.  Incorrect wattages use for submission resulting in an estimated over submission of 123.86 kWh.  The combined estimated over submission is 66,176.14 kWh per annum.	Weak	High	9	Investigating
Future Risk Rating						35	

<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
Tracking of load change	2.6	Review new streetlight electrical connection process with council and Powerco.	

## 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

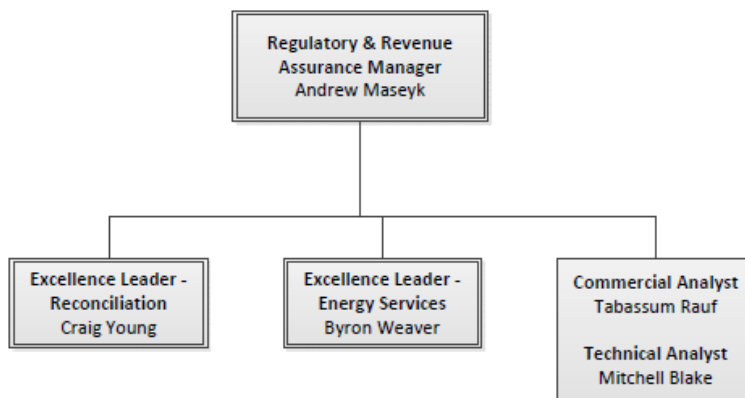
Section 11 of the Electricity Industry Act provides for the Electricity Authority to exempt any participant from compliance with all or any of the clauses.

#### 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 Roading 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)
0001425630UNEF3	Thames Coromandel District Council	KPU0661	NST	3519	313,785

#### 1.7. Authorisation Received

All information was provided directly by Genesis or Power Solutions.

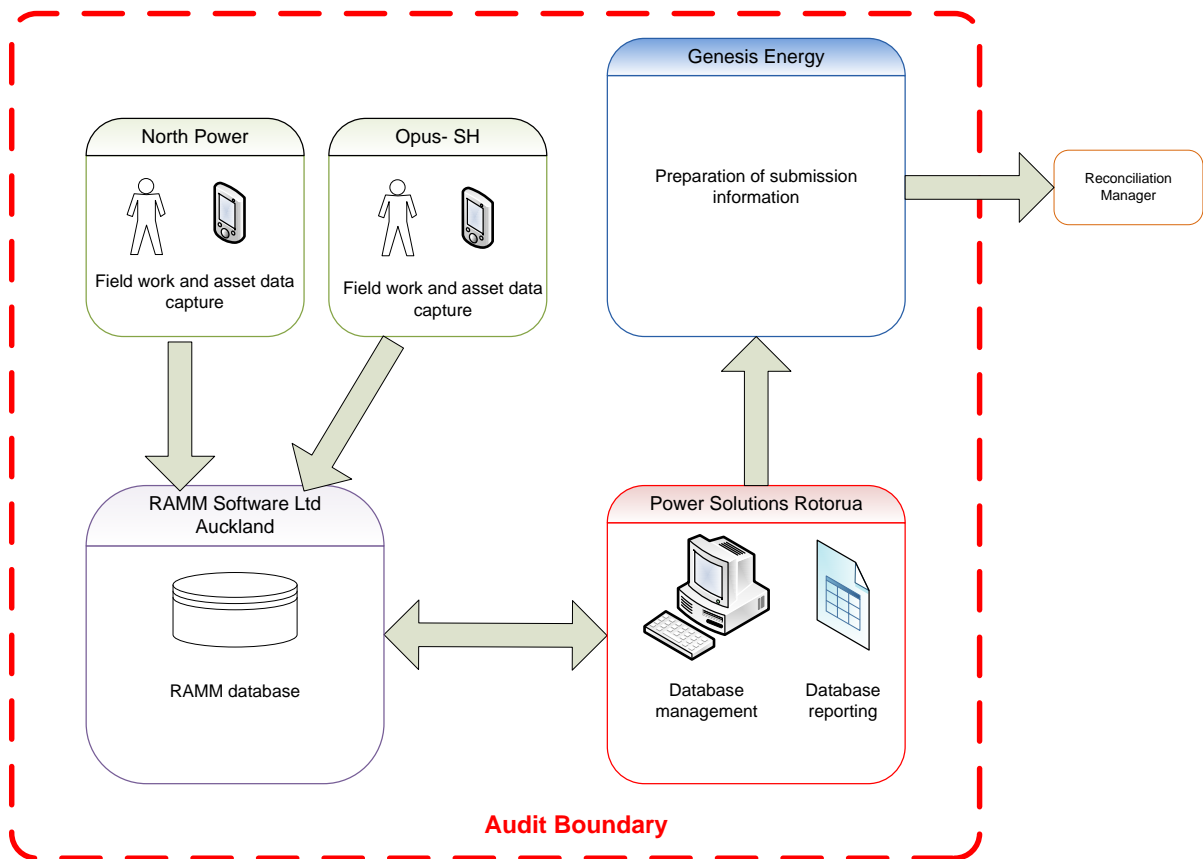
#### 1.8. Scope of Audit

This audit of the Thames Coromandel District Council Unmetered Streetlights (**TCDC**) 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 PSL, on behalf of TCDC, who is Genesis’ customer. The fieldwork and asset data capture are conducted by Northpower (a contractor to TCDC) for the council street lights. Some NZTA lights are recorded in the TCDC database for roads below 80km. The field contractor for these is Northpower on behalf of Opus. Reporting is provided to Genesis on a monthly basis by PSL. Pocket RAMM is not used. All changes are tracked by paper and loaded into RAMM once returned from the field. Northpower will cease being the contractor in December and have advised they do not wish to carry on with this work. A contract is going out for tender to select the new field service provider.

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 236 items of load on 12<sup>th</sup> March 2018.

### 1.9. Summary of previous audit

Genesis provided a copy of the last audit report undertaken by Rebecca Elliot of Veritek Limited in May 2017 which 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	Inaccurate submission due to database inaccuracies.	Still existing
ICP identifier	2.2.1	11(2)(a) of schedule 15.3	78 items of load without the ICP recorded in the database.	Cleared
Tracking of Load Change	2.3	11(3) of schedule 15.3	Database inaccuracies found.	Still existing



## Table of Recommendations

Subject	Section	Clause	Recommendation for Improvement	Status
Tracking of Load Change	2.3	11(3) of schedule 15.3	Review notification processes from field to council.	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 from RAMM and the “burn time” which is sourced from a data logger installed on the Powerco network. 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.

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: entire audit period	<p>The database accuracy is assessed to be 94.6% indicating an estimated over submission of 66,300 kWh per annum.</p> <p>Incorrect wattages use for submission resulting in an estimated over submission of 123.86 kWh</p> <p>The combined estimated over submission is 66,176.14 kWh per annum.</p> <p>Potential impact: High</p> <p>Actual impact: High</p> <p>Audit history: Twice</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 lamp information is correctly recorded most of the time.</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
Genesis have yet to discuss these issues with TCDC and Power Solutions		12/2018	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
With Genesis using information provided by Jon Stevens @ power solutions. Genesis will endeavour to liaise with all parties to rectify issues outlined in this audit.		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 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

An ICP is recorded for each item of load.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 11(2)(b) of Schedule 15.3*

#### **Code related audit information**

*The DUML database must contain the location of each DUML item.*

#### **Audit observation**

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

#### **Audit commentary**

The database contains 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 DUML database must contain:*

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

#### **Audit observation**

The database was checked to confirm that it contained a field for lamp type and wattage capacity and included any ballast or gear wattage and that 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. The gear wattage is recorded in the database which meets the requirements of this clause. The ballast in RAMM is not used for submission. The ballasts are added in the monthly wattage report. Some errors were found in the monthly report and this is recorded as non-compliance in **section 3.1**.

#### **Audit outcome**

Compliant

## 2.5. All load recorded in database (Clause 11(2A) of Schedule 15.3)

### Code reference

Clause 11(2A) of Schedule 15.3

### Code related audit information

The retailer must ensure that each item of DUML for which it is responsible is recorded in this database.

### Audit observation

The field audit was undertaken of a statistical sample of 236 items of load on 5<sup>th</sup> February 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 and Parks</b>					
ALBERT ST (WHITIANGA)	2	2			
BEACH RD (THAMES)	1	1			
HAHEI BEACH RD	1	1			
LONG BAY RD	3	3			
PAUANUI BEACH RD HLA (#70 - END)	2	2			
VICTORIA ST (TARARU)	1	1			
<b>Council lighting</b>					
ABERDEEN PL	2	2			
AVALON PL	2	2			
BLUFF RD (EAST)	5	3	-2		2x less lights in the field
CENTREWAY (EASTBOUND)	3	3			
CHARTWELL AVE (NORTHBOUND)	2	2			
GREENHILLS DR	6	6			
HIKUI SETTLEMENT RD/THE QUAY RAB	5	5			
HUNT RD	8	8			

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
LITTLE GEORGE PL	2	2			
MANGAKAHIA DR	1	1			
MARQUET PL	2	2			
MARY ST SERVICE LANE #7 (RP203 LHS)	3	3			
MERCURY ST	1	1			
PATUWAI DR	4	7	3		3x additional LEDs found in the field
PETLEY PDE	2	2		2	2x LED in the field not 80W MV
PRICES AVE	2	2		2	2x LED found in the field not HPS
PURANGI RD	9	9			
PURIRI PL (WHITIANGA)	1	1			
SHARYN PL	4	9	5	1	5x additional LED in the field and 1 LED not 70W HPS
TAIRUA HGTS	1	1		1	1 x LED in the field not 80W MV
TE PUNGA RD	1	1			
THE ESPLANADE (WHITIANGA)	11	11			
VISTA PAKU (NORTHBOUND)	2	2			
WHITEHEAD WAY	1	1			
<b>New</b>					
BENJAMIN PL	1	1			
HARBOUR DR (WEST)	10	10			
HARBOUR DR/NGAIO DR RAB (EAST)	1	1			
KARO DR	2	2			

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
KELLY JADE AVE	3	3			
KUPE DR (NORTHBOUND)	17	22	5		3x additional 70W HPS & 2 LED lights found in the field
MAHOE PL	1	1			
MERMAID PL	1	1			
MOTU ITI	5	5			
NGAIO DR	11	10	-1		1x 70W HPS not found in the field
PACIFIC VIEW DR	4	4			
RANGIORA CRES	4	4			
SCOTT DR	8	8			
TI KOUKA CRES	3	3			
VANITA DR/LEEWARD DR RAB	7	7			
WATERWAYS PDE/THE QUAY RAB	3	3			
YANKEE LANE	1	1			
<b>NZTA</b>					
BONGARD RD	1	1			
JOAN GASKELL DR (WESTBOUND)	2	2			
JOAN GASKELL DR/KUPE DR RAB	4	4			
KINGSTON ST	2	2			
OCEAN BEACH RD	1	1			
PRINCE ST	6	6			
QUEEN ST	10	10			
RACECOURSE RD	1	1			

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
SEAVIEW AVE	1	1			
SH 25 (TAIRUA SOUTH)	25	25			
SH 26 (HIKUTAIA)	5	5			
SH 26 (KOPU)	4	4			
STRONGMAN RD	1	1			
THE DIVIDEND (NORTHBOUND)	1	2	1		1x extra LED found in the field
<b>Grand Total</b>	236	247	13 extra lights	6	

I found 13 more lamps in the field than were recorded in the database. The differences found in the field are recorded as non-compliance in **section 3.1**. There is a full field audit planned to correct RAMM scheduled for August 2018. 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: entire audit period	Items of load are missing from the database.  Potential impact: Low  Actual impact: Low  Audit history: None  Controls: Weak  Breach risk rating: 9		
Audit risk rating	Rationale for audit risk rating		
<b>High</b>	The controls are rated as weak as the field capture of lighting changes is not always accurate as indicated by the variances found in the field audit.  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
Genesis have yet to discuss these issues with TCDC and Power Solutions		12/2018	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
With Genesis using information provided by Jon Stevens @ power solutions. Genesis will endeavor to liaise with all parties to rectify issues outlined in this audit.		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.

TCDC are undertaking an LED rollout. Pocket RAMM is not used. All changes made in the field (both maintenance and LED roll out) are tracked by paper and loaded into RAMM once these are returned from the field. There is a notable lag between LEDs being installed and getting into the database. The database is currently approximately 200 lights behind what is installed in the field. A full field audit is planned in August to get the database up to date. Northpower will cease being the contractor in December and have advised they do not wish to carry on with this work. A contract is going out for tender to select the new field service provider.

The process for new connections was reviewed. As-built plans are provided to PSL. PSL then conduct a field check to ensure the database has been populated accurately. PSL are reliant on Northpower or TCDC to advise of the connection dates for new or replaced items of load. It appears that these updates are not always reaching PSL to be included in the database. I repeat last year’s recommendation that the new connection process be reviewed with the council and Powerco to ensure all changes are captured in a timely fashion.

Description	Recommendation	Audited party comment	Remedial action
Tracking of load change	Review new streetlight electrical connection process with council and Powerco.	Genesis will liaise with TCDC/Power solutions as to how they currently maintain and any improvements required.	Investigating

Monthly “outage patrols” are conducted by the field contractor. These are to check for lights out, not to confirm the accuracy of the database.

There are no festive lights used in the TCDC area.

**Audit outcome**

Non-compliant

Non-compliance	Description		
Audit Ref: 2.6 With: 11(3) of Schedule 15.3 From: 01-Jun-17 To: 31-May-18	Tracking of load change not capturing all changes made in the field. Potential impact: High Actual impact: High Audit history: Once Controls: Weak Breach risk rating: 9		
Audit risk rating	Rationale for audit risk rating		
High	The controls are rated as weak as the field capture of lighting changes is not always accurate as indicated by the variances found in the field audit. 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
Genesis have yet to discuss these issues with TCDC and Power Solutions		12/2018	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
With Genesis using information provided by Jon Stevens @ power solutions. Genesis will endeavor to liaise with all parties to rectify issues outlined in this audit.		12/2018	

## 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 DUMML 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 DUMML database is complete and accurate.

##### Audit observation

The DUMML Statistical Sampling Guideline was used to determine the database accuracy. The table below shows the survey plan.

Plan Item	Comments
Area of interest	Thames Coromandel region
Strata	<p>The database contains items of load in Thames Coromandel peninsular.</p> <p>The area has three distinct sub groups. Urban, Rural and NZTA.</p> <p>The processes for the management of TCDC items of load are the same, but I decided to place the items of load into four strata, as follows:</p> <ol style="list-style-type: none"><li>1. Amenity and Parks</li><li>2. Council</li><li>3. New</li><li>4. 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 61 subunits.
Total items of load	236 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 94.6% of the database data for the sample checked. The total wattage recorded in the database for the sample was 29,244 watts. The estimated total wattage found in the field for the sample checked was 28,829 watts, a difference of 461 watts. This will result in estimated over submission of 66,300kWh per annum (based on annual burn hours of 4,271 as detailed in the DUMML database auditing tool).

The ballast in RAMM is not correct and is not used for submission. The correct ballasts need to be in the database. This is recorded as non-compliance below. The wattages are added in the monthly report and the accuracy of these is discussed in **section 3.2**.

##### 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 94.6% indicating an estimated over submission of 66,300 kWh per annum.</p> <p>The ballasts are not recorded correctly in the RAMM database.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Weak</p> <p>Breach risk rating: 9</p>		
Audit risk rating	Rationale for audit risk rating		
<b>High</b>	<p>The controls are rated as weak as the field capture of lighting changes is not always accurate as is indicated by the database accuracy rating.</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
Genesis have yet to discuss these issues with TCDC and Power Solutions		12/2018	Choose an item.
Preventative actions taken to ensure no further issues will occur		Completion date	
With Genesis using information provided by Jon Stevens @ power solutions. Genesis will endeavor to liaise with all parties to rectify issues outlined in this audit.		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 from RAMM and the “burn time” which is sourced from a data logger installed on the Powerco network. I checked the accuracy of the submission information for the month of December, 2017 by multiplying the total kW from the database by the total “on” time from the data logger file and the figures matched.

There is some inaccurate data within the database used to calculate submissions. This is recorded as non-compliance and discussed in **section 2.1** and **3.1**.

The field data was 94.6% of the database data for the sample checked. The total wattage recorded in the database for the sample was 29,244 watts. The estimated total wattage found in the field for the sample checked was 28,829 watts, a difference of 461 watts. This will result in estimated over submission of 66,300 kWh per annum (based on annual burn hours of 4,271 as detailed in the DUML database auditing tool).

The wattages used for submission in the monthly report were checked and one discrepancy:

Wattage	Type	I/Q Wattage (kW)	Quantity 30/04/18	Wattage Variance
56.5W	AEC 4 Module LED	71	2	-29

This will be resulting in an estimated over submission of 123.86 kWh per annum (based on 4,271 burn hours as detailed in the DUML audit tool). This is recorded as non-compliance.

The combined estimated over submission is 66,176.14 kWh per annum.

**Audit outcome**

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c)</p> <p>From: entire audit period</p>	<p>The database accuracy is assessed to be 94.6% indicating an estimated over submission of 66,300 kWh per annum.</p> <p>Incorrect wattages use for submission resulting in an estimated over submission of-123.86 kWh.</p> <p>The combined estimated over submission is 66,176.14 kWh per annum.</p> <p>Potential impact: High Actual impact: High Audit history: Twice Controls: Weak Breach risk rating: 9</p>		
Audit risk rating	Rationale for audit risk rating		
<p><b>High</b></p>	<p>The controls are rated as weak as the field capture of lighting changes is not always accurate as is indicated by the database accuracy rating.</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
Genesis have yet to discuss these issues with TCDC and Power Solutions		12/2018	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
With Genesis using information provided by Jon Stevens @ power solutions. Genesis will endeavor to liaise with all parties to rectify issues outlined in this audit.		12/2018	

## CONCLUSION

TCDC is undertaking an LED rollout. The field audit found database inaccuracies in both existing and new work being carried out. The field contract is going out for tender to replace the existing contractor who has advised they will not be retendering for the work. A full field audit is planned for August to correct the database. I have recommended that the new connection process is reviewed in conjunction with the council and Powerco as it appears that the process to notify of new connections is not working as there have been instances where the first notification of new lights being livened is when a resident calls up for maintenance.

This audit found five non-compliances and makes one recommendation. The future risk rating of ten indicates that the next audit be completed in three months. As the full field audit is scheduled for August I recommend that the next audit be due in five months. This will allow sufficient time for the findings of the full field audit to be completed.



## PARTICIPANT RESPONSE

Since the Audit in 2017, NorthPower no longer supply this information. This audit has highlighted that the information as @ December 2017/ Jan 2018 is now being provided from SLIM database maintained by Power Solutions. Genesis will be working with the contracted party and 3<sup>rd</sup> parties to gain database accuracy.