

ELECTRICITY INDUSTRY PARTICIPATION CODE  
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

VERITEK

For

WAIKATO DISTRICT COUNCIL AND  
GENESIS ENERGY

Prepared by: Rebecca Elliot

Date audit commenced: 19 October 2018

Date audit report completed: 19 November 2018

Audit report due date: 01-Dec-18

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## EXECUTIVE SUMMARY

This audit of the Waikato District Council Unmetered Streetlights (**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.

The database is remotely hosted by RAMM Software Ltd and the reporting from this is managed by Odyssey Energy Limited. The installation fieldwork and asset data capture is managed by Infrastructure Alliance. Infrastructure Alliance is a joint venture between Waikato DC and Downer to provide infrastructure management across all of Waikato DC assets.

WDC have largely completed the LED roll out across the council owned lights. The field audit undertaken for this audit found a high level of accuracy.

The audit found four non-compliance issues and one recommendation is made. The future risk rating of eight indicates that the next audit be completed in 18 months, and I agree with this. 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	Analysis of the database found 13 lamps with the incorrect LED wattage recorded indicating an estimated minor under submission of 713 kWh.	Moderate	Low	2	Identified
All load recorded in database	2.5	11(2A) of Schedule 15.3	Two items of load missing from the database.	Moderate	Low	2	Identified
Database accuracy	3.1	15.2 and 15.37B(b)	Analysis of the database found 13 lamps with the incorrect LED wattage recorded indicating an estimated minor under submission of 713 kWh.	Moderate	Low	2	Identified
Volume information accuracy	3.2	15.2 and 15.37B(c)	Analysis of the database found 13 lamps with the incorrect LED wattage recorded indicating an estimated minor under submission of 713 kWh.	Moderate	Low	2	Identified
Future Risk Rating						8	

<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
Tracking of load change	2.6	Recommend that Genesis and WDC liaise with the three Distributors to put in a place a process to add new lights to RAMM at the point of electrical connection.	Genesis will be recommending a review of the tracking of load changes to ensure the correct information is being provided and updated in a timely manner, and whether the auditors recommendation is something that can be managed over 3 distributors.

## 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

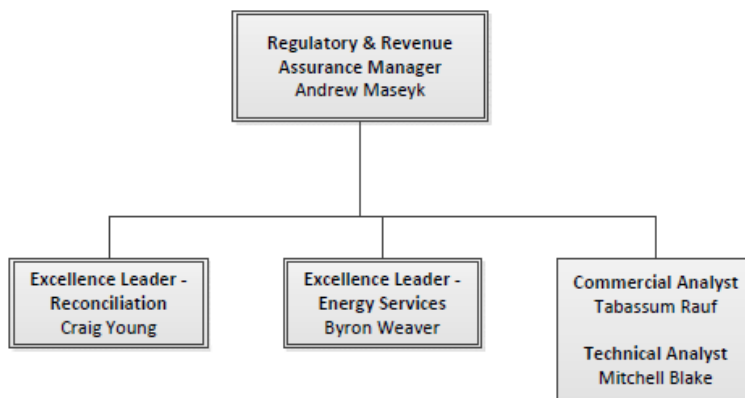
Section 11 of the Electricity Industry Act provides for the Electricity Authority to exempt any participant from compliance with all or any of the clauses.

#### 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 - Reconciliation Team	Genesis Energy
Zoran Draca	Director	Odyssey Energy Ltd
Paul Griffiths	Project Manager	Downer Group

#### 1.4. Hardware and Software

**Section 1.8** shows that the SQL database used for the management of DUML is remotely hosted by RAMM Software Ltd. The database is commonly known as “RAMM” which stands for “Roading Asset and Maintenance Management”. The specific module used for DUML is called RAMM Contractor.

The database 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 Sept	Database wattage March
0000011102WE267	Waikato DC Streetlights (WEL Network)	HLY0331	NST	3,681	<b>220,301</b>	310,759
0007659000WAD19	Waikato DC Streetlights (Waipa Network)	CBG0111	NST	86	<b>7,382</b>	12,935
1099570058CN633	Waikato DC Streetlights (Counties Network)	BOB3301	NST	849	<b>51,990</b>	67,682
1099572699CN8DF	Waikato Streetlights GLN0332 (Counties Network)	GLN0332	NST	21	<b>1,192</b>	1,637

ICP Number	Description	NSP	Profile	Number of items of load	Database wattage Sept	Database wattage March
1099572700CN06D	Waikato Streetlights BOB1101 (Counties Network)	BOB1101	NST	13	904	1,844
Total				4,650	281,769	

### 1.7. Authorisation Received

All information was provided directly by Genesis, Infrastructure Alliance or Odyssey.

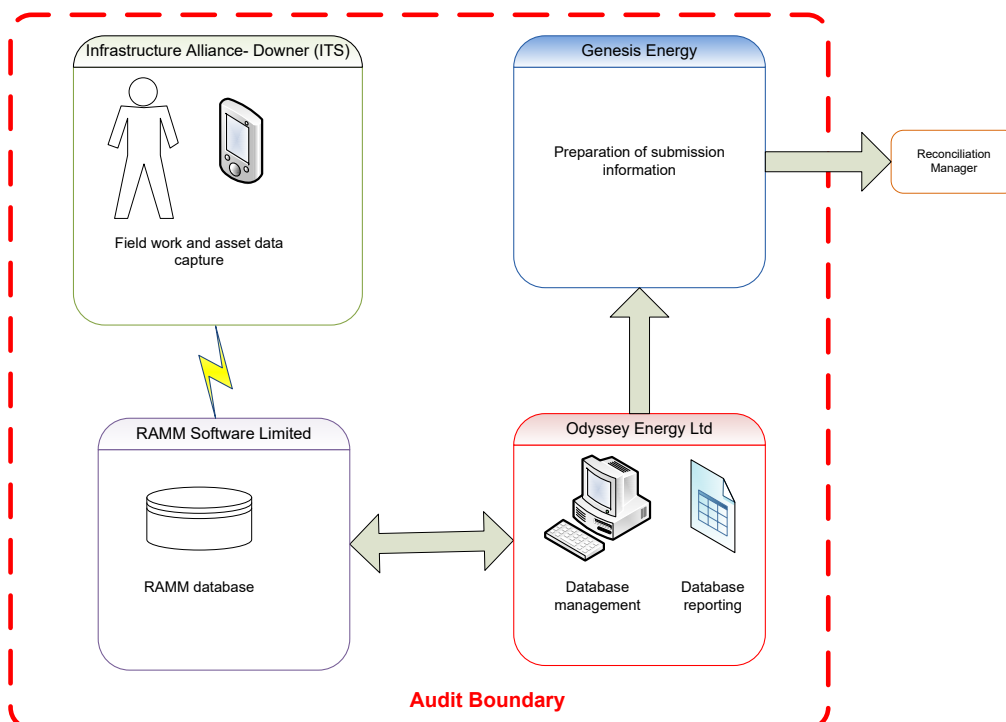
### 1.8. Scope of Audit

This audit of the Waikato District Council Unmetered Streetlights (**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.

The database is remotely hosted by RAMM Software Ltd and is managed by Odyssey Energy Ltd (Odyssey) on behalf of Waikato DC, who is Genesis's customer. Infrastructure Alliance, who are contractors to Waikato DC, conduct the fieldwork and asset data capture.

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





The field audit was undertaken of a statistical sample of 318 items of load on 19<sup>th</sup> October 2018.

### 1.9. Summary of previous audit

Genesis provided a copy of the last audit report undertaken by Rebecca Elliot of Veritek Limited in March 2018. The current status of those audit findings are detailed below:

### Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	The submission for ICP 0000011102WE267 was found to be incorrect and resulting in an estimated over submission of 47,300 kWh per annum.	Cleared
			The database accuracy is assessed to be 90.9% indicating an estimated over submission of 153,900 kWh per annum.	Cleared
			Analysis of the ballasts applied indicate a minor under submission of 508.25 kWh.	Still existing
All load recorded in database	2.5	11(2A) of Schedule 15.3	16 items of load missing from the database.	Still existing
Tracking of load change	2.6	11(3) of Schedule 15.3	Tracking of load change not always capturing changes correctly.	Cleared
Database accuracy	3.1	15.2 and 15.37B(b)	The database accuracy is assessed to be 90.9% indicating an estimated over submission of 153,900 kWh per annum.	Cleared
			Analysis of the ballasts applied indicate a minor under submission of 508.25 kWh.	Still existing
Volume information accuracy	3.2	15.2 and 15.37B(c)	The submission for ICP 0000011102WE267 was found to be incorrect and resulting in an estimated over submission of 47,300 kWh per annum.	Cleared
			The database accuracy is assessed to be 90.9% indicating an estimated over submission of 153,900 kWh per annum.	Cleared
			Analysis of the ballasts applied indicate a minor under submission of 508.25 kWh.	Still existing

## Table of Recommendations

Subject	Section	Clause	Recommendation for Improvement	Status
All load recorded in database	2.5	Review and improve the notification process for new street light connections.	All load recorded in database.	Cleared

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

#### Code reference

*Clause 16A.26 and 17.295F*

#### Code related audit information

*Retailers must ensure that DUML database audits are completed:*

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

#### Audit observation

Genesis have requested Veritek to undertake this streetlight audit.

#### Audit commentary

This audit report confirms that the requirement to conduct an audit has been met for this database 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. The figures matched for all ICPs. The variance reported in the last audit in relation to ICP 0000011102WE267 was due to timing. The database extract was less than the monthly report due to the LED roll out (this is evident by comparing the total wattage per ICP in **section 1.6** from the last audit report to this one). Therefore, the volume submitted by Genesis was correct.

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-May-18 To: 31-Oct-18	Analysis of the database found 13 lamps with the incorrect LED wattage recorded indicating an estimated minor under submission of 713 kWh per annum.  Potential impact: Medium  Actual impact: Low  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 as the processes in place to manage change are sufficient to mitigate risk most of the time.  The impact is assessed to be medium, based on the kWh differences.		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis will work with Odyssey Energy Ltd to ascertain the correct lamp wattages for the 13 assets.		01/03/2019	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis will be recommending a review of the tracking of load changes to ensure the correct information is being provided and updated in a timely manner		01/03/2019	

## 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 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

The RAMM database contains the relevant ICP identifiers for all items 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 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. The gear wattage is recorded in the database which meets the requirements of this clause. The accuracy of the description and wattages recorded is discussed 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 318 items of load on 19<sup>th</sup> October 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>HUNTLY</b>					
BLUNDELL PL	5	5			
BRIAN CURLE CL	2	2			
BROWNLIE CRES	5	4	-1		1x 36W LED not found in the field
DAVIS PL	3	3			
GAVIN PL	7	7			
HAKARIMATA RD	2	2		1	1x incorrect wattage recorded in the database-incorrect LED wattage
HARLOCK PL	2	2			
HERBERT RD	1	1			
JOSEPH ST	14	14			
LIGNITE ST	1	1			
MEADOWS LANE	3	3			
MIRO RD (GLEN AFTON)	1	1			
STIRLING PL	1	1			
TITHER ST	2	2			
TREGOWETH LANE	16	16			
WIGHT ST	4	4			

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
<b>NGARUAWAHIA</b>					
ASHWELL CRES	5	5			
CLOVERFIELD LANE	1	1			
EVOLUTION DR	7	7			
FERGUSON RD	1	1		1	1x incorrect 150W HPS wattage recorded in the database - LED found in the field.
GREENLANE RD	5	6	1		1x 150W HPS extra found in the field.
HILLVIEW RD	1	1			
HOLMES RD (NEWCASTLE)	2	2			
INNOVATION WAY	6	6			
KAY RD	1	1			
KING ST	5	5			
MCGIFFORD LANE	1	1			
NEWTON ST	15	15			
NGARUAWAHIA RD	8	8			
NORTH ST	3	3			
ONION RD	1	1		1	1x incorrect 150W HPS wattage recorded in the database - LED found in the field.
PARK RD	8	8			
PHARO PL	7	7			
RANGAWHENUA ST	4	4			
RANGIMARIE RD	3	3			
ROTHWELL LANE	3	3			
SHERWOOD DOWNS DR	6	6			

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
TE WIATA LANE	8	8			
WATTS GR	2	3	1	1	1x extra 36W LED found in the field. 1x incorrect 150W HPS wattage recorded in the database - LED found in the field.
WESTWOOD PL	2	2			
<b>RURAL NTH WAIKATO</b>					
BUCKLAND RD	19	17	-2	1	2x HPS lights not found in the field. 1x incorrect wattage 150W HPS wattage recorded in database - LED found in the field.
COZEN RD	1	1			
DELPHI GR	3	3			
KILBRYDE CRES	7	7			
LAKE RD	2	2		1	1x incorrect LED wattage recorded in database - 40W LED not 92W.
MARKET ST (POKENO)	11	11			
MCNEISH PL	4	4			
PIAKO RD	1	1			
SETTLERS RD	1	0	-1		No light found in the field.
TAUHEI RD	3	3			
VILLAGE PL	1	1			
WARING RD	1	1			
<b>RURAL WEST WAIKATO</b>					
ARKLE AVE	3	3			
BALLANTYNE AVE	4	4			
CAMBRAE RD	5	5			



Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
CLARK & DENIZE RD	4	4			
FERNBIRD AVE	4	4			
GILMOUR ST	2	2			
HALL RD (ONEWHERE)	8	8			
KAREKARE AVE	2	2			
LONG ST	4	4			
MCKENZIE RD	1	1			
PARK DR	9	9			
RANGIRIRI RD	9	9			
ROBERT ST	2	2			
ST ANDREWS PL	1	1			
TRAVERS RD	2	2			
<b>TAMAHERE &amp; AMENITY</b>					
ALLAN TURNER WALKWAY	4	4			
CHERRY LANE	1	1			
HUNTLY WEST SPORTS COMPLEX	2	2		2	2x incorrect HPS wattage recorded in the database - LED in the field.
MATANGI RECREATION RESERVE	1	1			1x incorrect 70W HPS wattage recorded in the database - LED found in the field
MEREMERE HALL	1	1			
PIAKO RD	3	3		1	1x incorrect 92 LED wattage recorded in the database - 70W HPS found in the field
PICKERING RD/OAKLEA LANE RAB	5	5			
SANCTUARY LANE	3	3			

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
SCOTSMAN VALLEY RD	5	5			
SEDDON RD	3	3			
STRAWBERRY FIELDS LANE	2	2		1	1x incorrect 150W HPS wattage recorded in the database - LED found in the field.
<b>Grand Total</b>	<b>318</b>	<b>316</b>	<b>5</b>	<b>10</b>	

I found two additional lights in the field than recorded in the database. The differences found in the field 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-May-18 To: 31-Oct-18	Two items of load are missing from the database. Potential impact: Medium Actual impact: Low Audit history: Once previously 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 are sufficient to mitigate risk most of the time.  The impact is assessed to be low, based on the database accuracy as detailed in <b>section 3.1</b> .		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis will work with Odyssey Energy Ltd to ascertain the correct lamp wattages for the 13 assets.		01/03/2019	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis will be recommending a review of the tracking of load changes to ensure the correct information is being provided and updated in a timely manner		01/03/2019	

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

### Code reference

Clause 11(3) of Schedule 15.3

### Code related audit information

*The DUML database must track additions and removals in a manner that allows the total load (in kW) to be retrospectively derived for any given day.*

### Audit observation

The process for tracking of changes in the database was examined.

### Audit commentary

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 notified through to Infrastructure Alliance and subsequently Odyssey Energy Limited. All work in the field is entered directly into “Pocket RAMM”.

For new subdivisions all new street lights assets are reviewed prior to the street light circuit being connected. The assets are only added to RAMM after the subdivision has been vested. This can be sometime after the street lights have been connected. Distributors’ are responsible for the electrical connection of street light circuits and they should be getting permission from a trader prior to these being electrically connected. I recommend that Genesis and WDC liaise with the three networks across which their lights are connected to put in place a process to add these lights to RAMM prior to them being electrically connected. Once vested, Infrastructure Alliance have a dedicated resource in place to assess the asset capture for new subdivisions. They inspect approximately 90% of the assets to confirm that they are correct. This information is now flowing through to the database in a timely fashion so that Odyssey can include this in the monthly wattage report. In addition to this, Infrastructure Alliance carry out an annual audit which checks both quality of workmanship and accuracy of all asset capture. Any errors found are corrected.

Recommendation	Description	Audited party comment	Remedial action
11 (3) of schedule 15.3	Recommend that Genesis and WDC liaise with the three Distributors to put in a place a process to add new lights to RAMM at the point of electrical connection.	Genesis will be recommending a review of the tracking of load changes to ensure the correct information is being provided and updated in a timely manner, and whether the auditors recommendation is something that can be managed over 3 distributors.	Identified

The monthly wattage report is produced by Odyssey Energy Limited. As part of the monthly report production they check the wattage, gear wattage and ICP allocation for any anomalies and these are resolved before the wattage report is sent to Genesis Energy.

There are no outage patrol processes in place as LED lights have a low failure rate. Any street light replacements are made on a reactive basis generated from public requests.

I was advised that there are no festival lights being connected to the street light circuits for the Waikato DC area.

#### **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**

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	The rural Waikato District from north of Hamilton to Pokeno
Strata	The database contains items of load in Waikato District Council area. The council area covers three different networks of Counties Network, Waipa and WEL network. The strata was divided into five geographical locations: <ol style="list-style-type: none"><li>1. Huntly and Amenity lighting</li><li>2. Ngaruawahia</li><li>3. Rural North Waikato</li><li>4. Rural West Waikato</li><li>5. Tamahere.</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 76 sub-units.
Total items of load	318 items of load were checked.

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

##### Audit commentary

A statistical sample of 318 items of load found that the field data was 100.4% of the database data for the sample checked. This is within the 2.5%+/- database accuracy threshold as detailed in the DUML audit guideline. The statistical sampling tool reported with 95% confidence the precision of the sample was 8.1% and the true load in the field will be between 97.0% to 105.1% of the load recorded in the database. The sample is not sufficiently precise to be able to determine the database accuracy but indicates that the database is likely to be accurate.

The tool indicated that there is potentially 4,200 kWh per annum (based on annual burn hours of 4,271 as detailed in the DUMML database auditing tool) of under submission. The statistical sampling tool reported with 95% confidence that there is a potential estimated submission variance range of between 36,200 kWh over submission and 61,000 kWh per annum under submission.

The database was checked and found all ballasts were applied correctly, with the exception of 13 mismatched light descriptions vs wattage recorded as detailed in the table below:

Light Type	Wattage recorded	Correct wattage	Difference	Volume	Total wattage variance
LED floodlight 15deg 400W	440	400	40	1	40
LED RGB uplight 55W	50	55	-5	2	-10
LED Road Grace 36w 24 LED	92	36	56	2	112
LED Road Grace 92 Watts	77	92	-15	1	-15
LED Road Grace 92 Watts	120	92	28	1	28
LED Stela Long 34W 30 Led	36	34	2	6	12
Total					167

This is resulting in an estimated a minor under submission of 713.3 kWh per annum (based on annual burn hours of 4,271 as detailed in the DUMML database auditing tool).

**Audit outcome**

Non-compliant

Non-compliance	Description		
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b)  From: 01-May-18 To: 31-Oct-18	Analysis of the database found 13 lamps with the incorrect LED wattage recorded indicating an estimated minor under submission of 713 kWh per annum.  Potential impact: Medium  Actual impact: Low  Audit history: Once previously  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 are sufficient to mitigate risk most of the time.  The impact is assessed to be low, based on the kWh value above.		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis will work with Odyssey Energy Ltd to ascertain the correct lamp wattages for the 13 assets.		01/03/2019	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis will be recommending a review of the tracking of load changes to ensure the correct information is being provided and updated in a timely manner		01/03/2019	

### 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 NST profile. The on and off times are derived from data logger information. Genesis receive a monthly database extract, and this is used to derive submission.

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. The figures matched for all ICPs.

There is a small amount of inaccurate data within the database used to calculate submissions. This is recorded as non-compliance and discussed in **sections 2.1** and **3.1**.

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c)  From: 01-May-18 To: 31-Oct-18	Analysis of the database found 13 lamps with the incorrect LED wattage recorded indicating an estimated minor under submission of 713 kWh per annum.  Potential impact: Medium  Actual impact: Low  Audit history: Once previously  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 are sufficient to mitigate risk most of the time.  The impact is assessed to be low, based on the kWh value above.		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis will work with Odyssey Energy Ltd to ascertain the correct lamp wattages for the 13 assets.		01/03/2019	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis will be recommending a review of the tracking of load changes to ensure the correct information is being provided and updated in a timely manner		01/03/2019	



## CONCLUSION

The database is remotely hosted by RAMM Software Ltd and the reporting from this is managed by Odyssey Energy Limited. The installation fieldwork and asset data capture is managed by Infrastructure Alliance. Infrastructure Alliance is a joint venture between Waikato DC and Downer to provide infrastructure management across all of Waikato DC assets.

WDC have largely completed the LED roll out across the council owned lights. The field audit undertaken for this audit found a high level of accuracy.

The audit found four non-compliance issues and one recommendation is made. The future risk rating of eight indicates that the next audit be completed in 18 months, and I agree with this.

## PARTICIPANT RESPONSE

Genesis are quite happy with the audit outcome and is a result of relationship building between retailer and customer, although believe this should be better due to the same minor non-compliances highlighted across multiple sections of the audit, that over inflates the actual risk rating.

Genesis has populated an indicative date for the correction of data to be completed. Genesis will continue working with WDC/Odyssey assisting where possible with the tracking of load changes to identify any gaps over the coming Months.