ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

For

WHAKATANE DISTRICT COUNCIL
AND GENESIS ENERGY

Prepared by: Rebecca Elliot

Date audit commenced: 13 November 2018

Date audit report completed: 26 November 2018

Audit report due date: 1 December2018

TABLE OF CONTENTS

EXECUTIVE SUMMARY

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

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

Genesis are receiving a monthly wattage report intermittently. The September 2018 submissions were calculated using the extract provided in July 2018. The kW figures from that wattage report were populated on the registry by Genesis, and it is the registry figure that is being used for submission calculations. This found a potential over submission of 243,781 kWh per annum.

The RAMM database does not record the ballast figure. This will be resulting in an estimated 27,599 kWh of under submission per annum.

WDC are continuing with the LED rollout to replace all of the existing streetlights. This involves not only the lights but pole replacement. The volume of change occurring is not being reflected in submission due to the lack of monthly wattage reports being provided. WDC expect this to be completed by July 2019 and that the database will be accurate from this point.

The field audit accuracy reflects the high volume of change occurring with a database accuracy of 110.8% indicating a potential under submission of 72,300 kWh. So, whilst the light wattages are decreasing (reflected in the estimated over submission detailed above) there is an increase in the volume of lights being installed on the network.

This audit found five non-compliances and no recommendations are made. The future risk rating of 44 indicates that the next audit be completed in three months. I recommend that the next audit be in six months to allow time for the LED rollout to be completed and Genesis to work with WDC to correct the data in the database. 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	Variance found between RAMM database extract and the kWh figure submitted by Genesis resulting in an estimated annual over submission 243,781. Ballast not recorded in the RAMM database resulting in an estimated annual under submission if 27,599 kWh. The database accuracy is assessed to be 110.8% indicating potential under submission of 72,300 kWh per annum.	Weak	High	9	Identified
Description and capacity of load	2.4	11(2)(c) and (d) of Schedule 15.3	Ballast is not recorded as a separate value therefore it is not being reconciled resulting in an estimated 27,599 of under submission per annum. 37 items of load with an invalid or incomplete lamp description.	None	Medium	8	Identified
All load recorded in database	2.5	11(2A) and (d) of Schedule 15.3	33 additional items of load found in the field found in field sample.	Weak	High	9	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Database accuracy	3.1	15.2 and 15.37B(b)	The database accuracy is assessed to be 110.8% indicating potential under submission of 72,300 kWh per annum. Ballast is not recorded as a separate value therefore it is not being reconciled resulting in an estimated 27,599 of under submission per annum.	Weak	High	9	Identified
Volume information accuracy	3.2	15.2 and 15.37B(c)	Variance found between RAMM database extract and the kWh figure submitted by Genesis resulting in an estimated annual over submission 243,781. Ballast not recorded in the RAMM database resulting in an estimated annual under submission if 27,599 kWh. The database accuracy is assessed to be 110.8% indicating potential under submission of 72,300 kWh per annum.	Weak	High	9	Identified
Future Risk Rating						44	

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

RECOMMENDATIONS

Subject	Section	Description	Recommendation
		Nil	

ISSUES

Subject	Section	Description	Issue
		Nil	

1. ADMINISTRATIVE

1.1. Exemptions from Obligations to Comply with Code

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

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

Audit observation

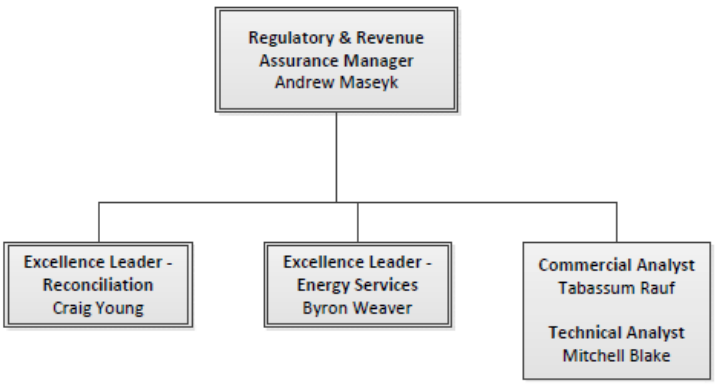
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

Audit commentary

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

1.2. Structure of Organisation

Genesis provided the relevant organisational structure:



1.3. Persons involved in this audit

Auditor:

Rebecca Elliot

Veritek Limited

Electricity Authority Approved Auditor

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
Aidan Glynn	Team Leader – Network Operations	Whakatane DC

1.4. Hardware and Software

The SQL database used for the management of DUML is remotely hosted by RAMM Software Ltd. The database is commonly known as "RAMM" which stands for "Roading Asset and Maintenance Management". The specific module used for DUML is called RAMM Contractor.

The database is backed-up in accordance with standard industry procedures. Access to the database is secure by way of password protection.

1.5. Breaches or Breach Allegations

There are no breach allegations relevant to the scope of this audit.

1.6. ICP Data

ICP Number	Description	NSP	Profile	Number of items of load	Database wattage (watts)
1000023042BPD32	Amenity Lights WDC	EDG0331	UNM	326	25,779
1000023060BP0E2	Ruatahuna Streetlights	EDG0331	UNM	183	13,912
1000023061BPCA7	Murupara Amenity Lights	EDG0331	UNM	9	639
1000023047BP07D	Whakatane Streetlights	EDG0331	UNM	2,075	116,782

The ballast values are not included in the wattage totals. This is detailed in **section 2.4**.

1.7. Authorisation Received

All information was provided directly by Genesis and WDC.

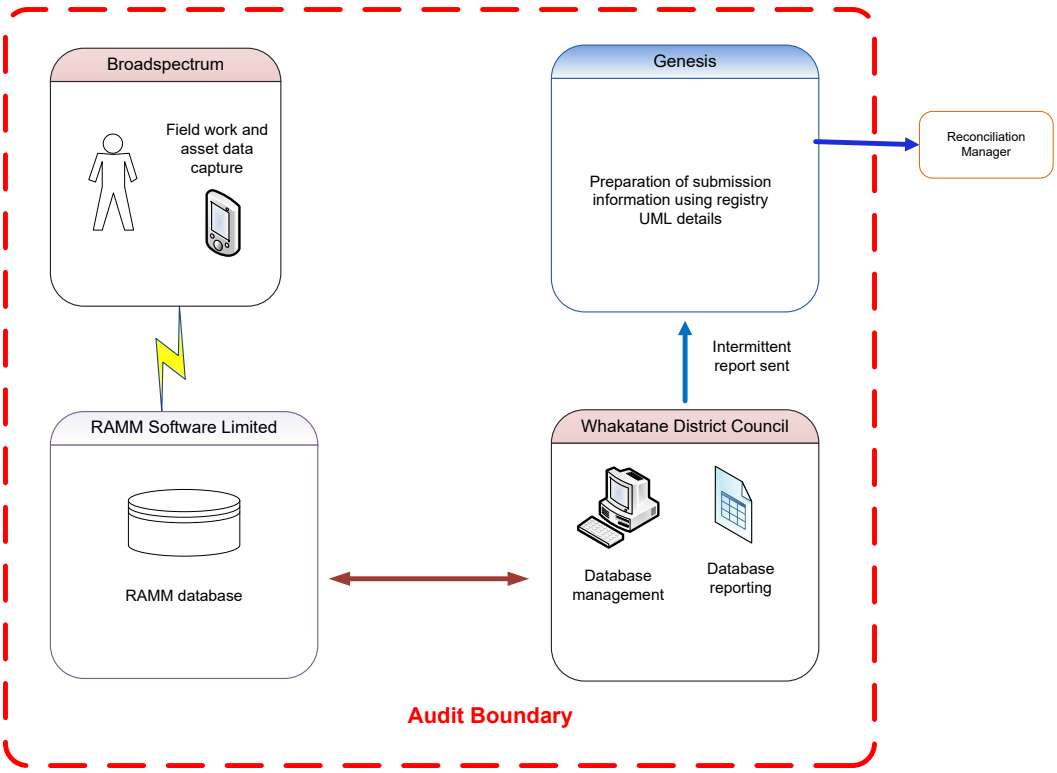
1.8. Scope of Audit

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

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

A field audit against the RAMM database extract was undertaken to assess the accuracy of this against the registry figures used for submission. Broadspectrum is engaged by WDC and conducts 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 reporting. The diagram below shows the audit boundary for clarity.



The field audit was undertaken of a statistical sample of 196 items of load on 9th November 2018.

1.9. Summary of previous audit

The previous audit was completed in May 2018 by Rebecca Elliot of Veritek Limited. The current status of that audit's findings is detailed below:

Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	Database not used for submission. The registry UML figures are used to calculate submission. The variances found will be resulting in an estimated over submission of 118,896.74 kWh per annum.	Still existing
ICP Identifier	2.2	11(2)(c) and (d) of Schedule 15.3	86 items of load with no ICP recorded.	Cleared
Description and capacity of load	2.4	11(2)(c) and (d) of Schedule 15.3	57 items of load with an invalid or incomplete lamp description.	Still existing

Subject	Section	Clause	Non-compliance	Status
All load recorded in database	2.5	11(2A) and (d) of Schedule 15.3	46 additional items of load found in the field found in field sample.	Still existing
Tracking of load change	2.6	11(3) of Schedule 15.3	Monthly reports not provided to Genesis for submission. Load changes not tracked in the database.	Still existing
Database accuracy	3.1	15.2 and 15.37B(b)	Database not used for submission. The registry UML figures are used to calculate submission. The variances found will be resulting in an estimated over submission of 118,896.74 kWh per annum.	Still existing
Volume information accuracy	3.2	15.2 and 15.37B(c)	Database not used for submission. The registry UML figures are used to calculate submission. The variances found will be resulting in an estimated over submission of 118,896.74 kWh per annum.	Still existing

Table of Recommendations

Subject	Section	Recommendation for Improvement	Status
Database Accuracy	3.1	Undertake a full field audit and correct data in RAMM.	Not adopted as LED roll out is expected to address this

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.

Audit commentary

Genesis reconciles this DUML load using the UML profile. Genesis receive wattage reports intermittently with the last received in July 2018. The kW figures from that wattage report were populated on the registry by Genesis, and it is the registry figure that is being used for submission calculations. I compared the submission volumes with the load recorded in the database extract provided for this audit in September against the volumes submitted by Genesis and found:

ICPs	Fittings number from Sept submission	Fittings number from database extract	Differences	kWh value submitted	Calculated kWh value from database	Differences
1000023042BPD32	133	326	193	5,910.00	9,203.10	3,293.10
1000023060BP0E2	184	193	9	5,632.00	4,966.58	- 665.42
1000023061BPCA7	9	9	0	261.00	261.00	0
1000023047BP07D	2,072	2,075	3	63,495.00	41,691.17	-22,253.83
Total month kWh difference						-19,626.14

Annualised this will result in an estimated annual over submission of 243,781 kWh. This is calculated on the difference in the daily kWh figures. The difference is due to the lack of regular monthly wattage reports, leaving Genesis no option but to use out of date information for reconciliation and billing.

The lamp ballast is not recorded as a separate value in the database. This will be resulting in 27,599 kWh of under submission per annum.

The field audit against the database quantities found potential under submission of 72,300 kWh. This is detailed in **section 3.1**. The database accuracy is reflective of the increased number of LED lights being installed in the field as a result of the LED roll out. So, whilst the light wattages are decreasing, there is an increase in the volume of lights being installed on the network. The field audit indicates that this is resulting in potential under submission.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: 01-May-18 To: 30-Sep-18	Variance found between RAMM database extract and the kWh figure submitted by Genesis resulting in an estimated annual over submission 243,781. Ballast not recorded in the RAMM database resulting in an estimated annual under submission if 27,599 kWh. The database accuracy is assessed to be 110.8% indicating potential under submission of 72,300 kWh per annum. Potential impact: High Actual impact: High Audit history: Once previously Controls: Weak Breach risk rating: 9
Audit risk rating	**Rationale for audit risk rating**
High	The controls are rated as weak as the submission is not calculated from an up to date monthly wattage report, and ballast is not recorded in the database. The impact is assessed to be high due to the kWh volumes.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis have been working with Whakatane DC to get accuracy in their Ramm. The last Ramm reporting received from Whakatane DC is actually very good. Genesis will be changing its current process of using the registry and switching to data supplied which almost matches the auditors Ramm findings. The variances are the constant changes being completed in the field.	01/03/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis have been working with Whakatane DC to get accuracy in their Ramm. The last Ramm reporting received from Whakatane DC is actually very good, bar some minor ballast discrepancies. Genesis have been in communication with Aiden Glynn from WDC who has ensured me the system currently being implanted along with the LED roll out will mean a very high level of data. Genesis has every confidence in this and will be visiting Whakatane DC to get a roadshow of their new system.	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 DUML database must contain:

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

Audit observation

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

Audit commentary

All items of load had an ICP recorded.

Audit outcome

Compliant

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

Code reference

Clause 11(2)(b) of Schedule 15.3

Code related audit information

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

Audit observation

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

Audit commentary

The database contains either the nearest street address, pole numbers, metres from the end of the carriageway or 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.

Audit commentary

Lamp make, model and lamp wattage are included in the database. The lamp ballast value is not recorded as separate field. The database extract provided for the last audit had been manipulated to present this as a separate value field, therefore the load associated with the lamp ballast are not being reconciled. This will be resulting in an estimated 27,599 kWh of under submission per annum. This is recorded as non-compliance.

Examination of the database found 57 items of load that had an incomplete light type or invalid light type recorded:

Lamp Descriptions	Quantity
80 UNknown	2
80W	34
MH 350	1
TOTAL	37

This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.4 With: Clause 11(2)(c) and (d) of Schedule 15.3 From: 01-May-18 To: 30-Sep-18	Ballast is not recorded as a separate value therefore it is not being reconciled resulting in an estimated 27,599 of under submission per annum. 37 items of load with an invalid or incomplete lamp description. Potential impact: Medium Actual impact: Medium Audit history: Once Controls: None Breach risk rating: 8
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are rated as weak as the lamp ballast are not recorded as a separate field in the database. The impact is assessed to be medium based on the kWh impact on submission.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis have discussed this issue with Whakatane DC, they have iterated that these most likely will not be corrected due to resource issues and that the completion of the LED roll out by 01/03/2019 as quoted by WDC be "irrelevant". Genesis has informed that the ballast is relevant as this effects the settlements and billing volumes historically.	01/03/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis will be making changes to how the council is billed and how the volumes are settled. Genesis will be conducting its own review of the information provided historically to see if historical revisions can be corrected.	01/03/2019	

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

Code reference

Clause 11(2A) of Schedule 15.3

Code related audit information

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

Audit observation

The field audit was undertaken of a statistical sample of 196 items of load on 9th November 2018.

Audit commentary

The field audit findings are detailed in the table below.

I found 46 more lamps in the field than were recorded in the database, and 14 lamp wattage differences.

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
RURAL					
AMOKURA ROAD	5	5			
GALATEA ROAD	2	19	17		17x additional 67W LED lights found in the field
HUGHES PLACE	4	4			
PAROA ROAD	3	4	1		1x additional 103W LED light found in the field
TAIWHAKAEA ROAD	4	4			
TAUHE TAREI ROAD	4	3	-1		1x 20W LED not found in the field
Urban other					
COLLEGE ROAD	34	41	+7 -2		7x additional 29W LED found in the field 2x less 70W HPS not found in the field
DAWN PARADE	5	5			
GRACE STREET	3	3			
KAURI STREET	6	6			
MERITO PLACE	1	1			
NESBITT STREET (SOUTH)	1	8	7		7x additional lamps found in the field (7x LED +1x 70W HPS
TAWHARA PLACE	3	3			
TURNBULL PLACE	2	2			

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
Whakatane A-L					
DOMAIN ROAD	33	31	-2		2x HPS not found in the field
GADD PLACE	2	2			
GARAWAY STREET	13	13			
HARVEY STREET	6	6			
KAKAHOROADRIVE/BRACKEN STREET RAB SERVICE LAN	4	4			
KIRK STREET	9	9			
LAKEVIEW PLACE	2	2			
Whakatane M-Z					
MURIWAI DRIVE CARPARK #1	2	2			
NELSON STREET	5	5			
RICHARDSON STREET	2	6	4		4x additional 29W LED found in the field
SISAM PLACE	2	2		1	1x incorrect wattage- LED found in the field recorded as a HPS in the database
THE FAIRWAY	7	7			
THE GREEN	2	2			
VICTORIA AVENUE	16	19	3		3x additional 70W HPS found in the field
WHITE HORSE DRIVE	14	15	1		1x additional 29W LED found in the field
Grand Total	**196**	**233**	**45**	**1**	

I found 33 additional lamps in the field than were recorded in the database. The high volume of variances found in the field will be due the LED roll out, which includes pole replacements as well. The roll out is expected to be finished by June 2019. The database accuracy is discussed in **section 3.1**. The additional items found in the field are recorded as non-compliance below.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.5 With: Clause 11(2A) and (d) of Schedule 15.3 From: 01-May-18 To: 30-Sep-18	33 additional items of load found in the field sample. 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 due to the volume of additional lights found in the field. The impact is assessed to be high due to the total estimated kWh difference detailed in **section 3.1**.

Actions taken to resolve the issue	Completion date	Remedial action status
LED roll out and the current slight delays in having these communicated seems to be the driver behind these variances. Whakatane has advised that the implementation of their new system will give them real time visibility and reporting.	01/03/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis will work with Whakatane DC to build reporting from their new system once its implemented.	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 September 2012, the Authority sent a memo to retailers and auditors advising that tracking of load changes at a daily level was not required if the database contained an audit trail. I have interpreted this to mean that the provision monthly report is sufficient to achieve compliance.

The database tracks additions and removals as required by this clause.

Pocket RAMM is used by the contractors to track changes. These are reviewed by WDC before they are accepted into the database. WDC have commenced an LED rollout and pole replacement programme which was still underway when the field audit was undertaken and is not expected to be completed until July 2019. TAs monthly wattage reports are not being provided this is resulting in inaccurate data being used for reconciliation. This is recorded as non-compliance in **sections 2.1** and **3.2**.

The new connection process was discussed. There has not been very much new activity in the WDC area but as reported in the last audit there are new subdivisions expected. New streetlight circuits get connected by the network, but these do not get added to the RAMM database until the lights are vested to WDC. This can be some months later and therefore the intervening period is not being reconciled. The accuracy of the database is discussed in **section 3.1**.

Outage patrols are carried on a rolling monthly basis.

Festive lighting is connected into the metered circuits and is therefore accounted for in the metered supply.

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

RAMM contains 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 RAMM database is not used to derive submission. The unmetered load recorded in the registry is used to calculate submission. This is recorded as non-compliance below. A RAMM database does exist for this load and I assessed the accuracy by using the DUML Statistical Sampling Guideline. The table below shows the survey plan.

Plan Item	Comments
Area of interest	Whakatane District Council area
Strata	The database contains the WDC items of load in for five ICPs in the Whakatane region area. The processes for the management of all WDC items of load are the same, but I decided to place the items of load into four strata: 1. Urban (outside of Whakatane) 2. Rural 3. Whakatane roads A-L 4. Whakatane roads M-Z.
Area units	I created a pivot table of the roads and I used a random number generator in a spreadsheet to select a total of 40 sub-units.
Total items of load	196 items of load were checked.

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

Audit commentary

A statistical sample of 196 items of load found that the field data was 110.8% of the database data for the sample checked. This is not within the required database accuracy of 2.5%+/-. The statistical sampling tool reported with 95% confidence the precision of the sample was 43.7% and the true load in the field will be between 98.7% to 142.4% 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 under submitting largely due to incorrect wattages being recorded in the field.

The tool indicated that there is potentially 72,300 kWh per annum (based on annual burn hours of 4,271 as detailed in the DUML 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 8,700 kWh under submission and 283,000 under submission. This is recorded as non-compliance.

The database accuracy is reflective of the increased number of LED lights being installed in the field as a result of the LED roll out. So, whilst the light wattages are decreasing (reflected in the estimated over submission in **sections 2.1** and **3.2**) there is an increase in the volume of lights being installed on the network. The field audit indicates that this is resulting in potential under submission.

As discussed in **section 2.4**, the lamp ballast value is not recorded as separate field. The database extract provided for the last audit had been manipulated to present this as a separate value field therefore the load associated with the lamp ballast are not being reconciled. This will be resulting in an estimated 27,599 kWh of under submission per annum. This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: 01-May-18 To: 30-Sep-18	The database accuracy is assessed to be 110.8% indicating potential under submission of 72,300 kWh per annum. Ballast is not recorded as a separate value therefore it is not being reconciled resulting in an estimated 27,599 of under submission per annum. 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 submission is not calculated from an up to date monthly wattage report, and ballast is not recorded in the database. The impact is assessed to be high due to the kWh volumes.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis have discussed this issue with Whakatane DC, they have iterated that these most likely will not be corrected due to resource issues and that the completion of the LED roll out by 01/03/2019 as quoted by WDC be "irrelevant". Genesis has informed that the ballast are relevant as this effects the settlements and billing volumes historically.	01/03/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis will be making changes to how the council is billed and how the volumes are settled. Genesis will be conducting its own review of the information provided historically to see if historical revisions can be corrected.	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 all ICPs have 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 UML profile. Genesis receive wattage reports intermittently with the last received in July 2018. The kW figures from that wattage report were populated on the registry by Genesis, and it is the registry figure that is being used for submission calculations. I compared the submission volumes with the load recorded in the database extract provided for this audit in September against the volumes submitted by Genesis and found an estimated annualised over submission of 243,781 kWh. This is calculated on the difference in the daily kWh figures.

The lamp ballast is not recorded as a separate value in the database. This will be resulting in 27,599 kWh of under submission per annum.

The field audit against the database quantities found potential under submission of 72,300 kWh. This is detailed in **section 3.1**. The database accuracy is reflective of the increased number of LED lights being installed in the field as a result of the LED roll out. So, whilst the light wattages are decreasing, there is an increase in the volume of lights being installed on the network. The field audit indicates that this is resulting in potential under submission.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c) From: 01-May-18 To: 30-Sep-18	Variance found between RAMM database extract and the kWh figure submitted by Genesis resulting in an estimated annual over submission 243,781. Ballast not recorded in the RAMM database resulting in an estimated annual under submission if 27,599 kWh. The database accuracy is assessed to be 110.8% indicating potential under submission of 72,300 kWh per annum. Potential impact: High Actual impact: High Audit history: Once previously Controls: Weak Breach risk rating: 9
Audit risk rating	**Rationale for audit risk rating**
High	The controls are rated as weak as the submission is not calculated from an up to date monthly wattage report, and ballast is not recorded in the database. The impact is assessed to be high due to the kWh volumes.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis have discussed this issue with Whakatane DC, they have iterated that these most likely will not be corrected due to resource issues and that the completion of the LED roll out by 01/03/2019 as quoted by WDC be “irrelevant”. Genesis has informed that the ballast are relevant as this effects the settlements and billing volumes historically.	01/03/2019	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis will be making changes to how the council is billed and how the volumes are settled. Genesis will be conducting its own review of the information provided historically to see if historical revisions can be corrected.	01/03/2019	

CONCLUSION

Genesis are receiving a monthly wattage report intermittently. The September 2018 submissions were calculated using the extract provided in July 2018. The kW figures from that wattage report were populated on the registry by Genesis, and it is the registry figure that is being used for submission calculations. This found a potential over submission of 243,781 kWh per annum.

The RAMM database does not record the ballast figure. This will be resulting in an estimated 27,599 kWh of under submission per annum.

WDC are continuing with the LED rollout to replace all of the existing streetlights. This involves not only the lights but pole replacement. The volume of change occurring is not being reflected in submission due to the lack of database updates. WDC expect this to be completed by July 2019 and that the database will be accurate from this point.

The field audit accuracy reflects the high volume of change occurring with a database accuracy of 110.8% indicating a potential under submission of 72,300 kWh. So, whilst the light wattages are decreasing (reflected in the estimated over submission detailed above) there is an increase in the volume of lights being installed on the network.

This audit found five non-compliances and no recommendations are made. The future risk rating of 44 indicates that the next audit be completed in three months. I recommend the next audit be in six months to allow time for the LED rollout to be completed and updated in the database.

PARTICIPANT RESPONSE

Genesis agrees with the auditor's recommendation of 6 months (01/06/2019). This will give Whakatane time to complete the LED roll out and will have their management system implemented. Genesis is quite interested in their new system and will be visiting to be shown the new system and how it works. Genesis will also be looking at whether they are able to access the management tool and /or have reports created meet the requirements of billing and settlements.