

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

For

**TAURANGA CITY COUNCIL PARKS AND
RESERVES AND MANAWA ENERGY
LIMITED**

NZBN: 9429038917912

Prepared by: Steve Woods

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Date audit report completed: 25 May 2022

Audit report due date: 23 May 2022

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EXECUTIVE SUMMARY

This audit of the Tauranga City Council Parks and Reserves (TCC P&R) DUML database and processes was conducted at the request of Manawa Energy Limited (Manawa) 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 used for submission is called Accela and is managed by TCC P&R. The field work and asset data capture are conducted by McKay Electrical, and they provide hard copy updates to TCC P&R. Reporting is provided to Manawa on a monthly basis.

A full field audit was undertaken, and a small number of differences were found. The database accuracy was confirmed to be within the allowable threshold and is therefore deemed to be accurate. One additional item of load was identified in the Papamoa Domain.

Examination of the database found that changes made in the Accela database can only be applied from the day of being changed and not the date of light install. As a snapshot of the database is used for submission this currently has no impact on reconciliation.

The audit found four non-compliances. The future risk rating of 11 indicates that the next audit be completed in 12 months. I have considered this along with the materiality of the non-compliances found and recommend that the next audit be in 18 months.

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	Database does not track changes from the effective date. Submission is based on a snapshot of the database at the end of the month and does not consider historic adjustments or the fact that lights can be livened before they are entered into the database.	Moderate	Low	2	Identified
All load recorded in database	2.5	11(2A) of Schedule 15.3	One additional light identified in Papamoa Domain	Moderate	Low	2	Identified
Tracking of load change	2.6	11(3) of Schedule 15.3	Database does not track changes from the effective date.	None	Low	5	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)	Database does not track changes from the effective date. Submission is based on a snapshot of the database at the end of the month and does not consider historic adjustments or the fact that lights can be livened before they are entered into the database.	Moderate	Low	2	Investigating
Future Risk Rating						11	

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	Clause	Recommendation

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

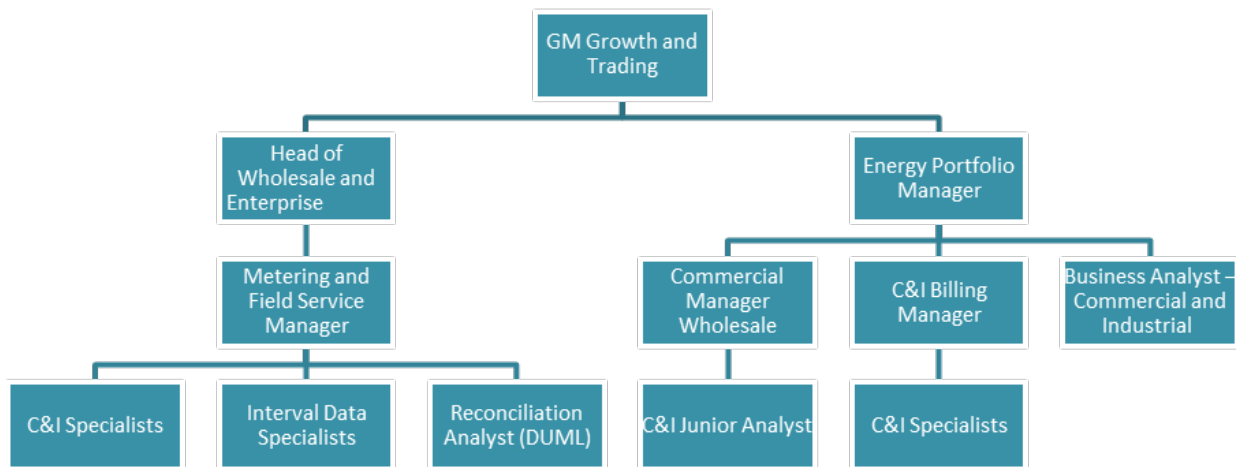
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

Audit commentary

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

1.2. Structure of Organisation

Manawa provided a copy of their organisational structure.



1.3. Persons involved in this audit

Auditor:

Steve Woods

Veritek Limited

Electricity Authority Approved Auditor

Other personnel assisting in this audit were:

Name	Title	Company
Robbie Diederer	Reconciliation Analyst	Manawa
Michael Jones	Traffic Systems Engineer	Tauranga City Council
Michele McClure	Asset Management Analyst Developer	Tauranga City Council

1.4. Hardware and Software

The Accela database used for the management of DUML is managed by TCC P&R.

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	Number of items of load	Database wattage (watts)
1000525003PCF31	Tauranga District Council Parks Streetlights (KMO)	KMO0331	3	143
1000525000PC3F1	Tauranga District Council Parks Streetlights (MTM)	MTM0331	63	6,072
1000525002PC374	Tauranga District Council Parks Streetlights (TGA11)	TGA0111	53	3,652
1000525001PCFB4	Tauranga District Council Parks Streetlights (TGA33)	TGA0331	141	7,275
Total			260	17,142

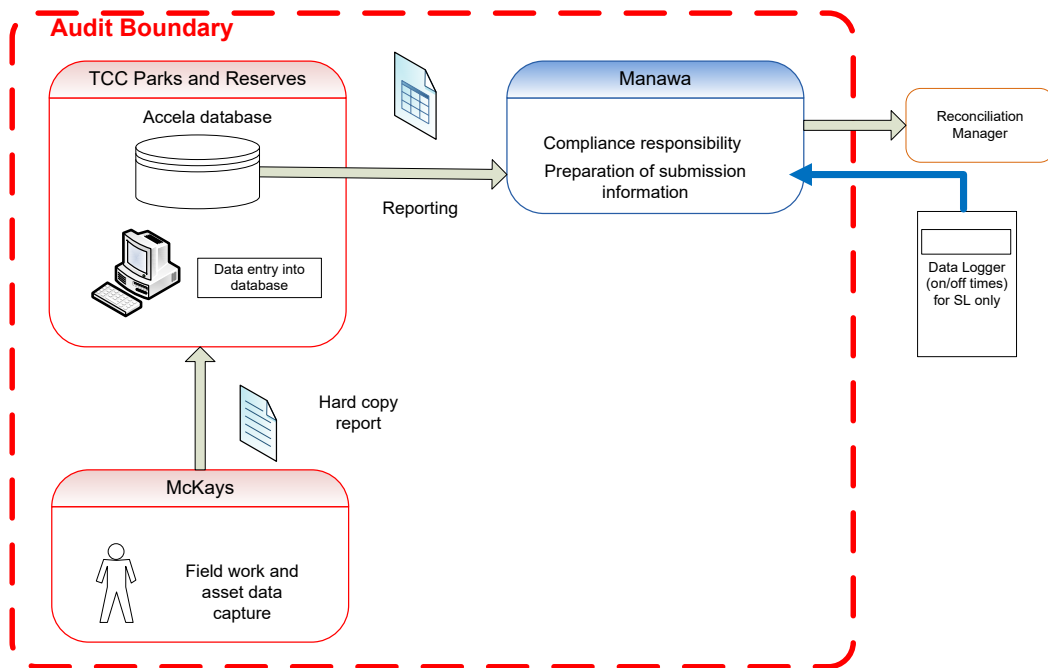
1.7. Authorisation Received

All information was provided directly by Manawa and TCC P&R.

1.8. Scope of Audit

The database used for submission is called Accela and is managed by TCC P&R. The field work and asset data capture is conducted by McKay Electrical and they provide hard copy updates to TCC P&R. Reporting is provided to Manawa on a monthly basis.

The diagram below shows the current flow of information and the audit boundary for clarity.



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

The field audit was undertaken of the complete database on 17/05/2022.

1.9. Summary of previous audit

The previous audit was completed in October 2020 by Rebecca Elliot of Veritek Limited. Four non-compliances were identified, and one recommendation was made. The statuses of the non-compliances and recommendations are described below.

Table of Non-compliance

Subject	Section	Clause	Non-compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	Database does not track changes from the effective date. Submission is based on a snapshot of the database at the end of the month and does not consider historic adjustments or the fact that lights can be lived before they are entered into the database.	Still existing
Tracking of load change	2.6	11(3) of Schedule 15.3	Database does not track changes from the effective date.	Still existing
Database accuracy	3.1	15.2 and 15.37B(b)	3x 50W HPS lights with no ballast recorded resulting an estimated very minor under submission of 128kWh per annum. 20 metered items of load recorded against the un-metered ICP.	Cleared
Volume information accuracy	3.2	15.2 and 15.37B(c)	Database does not track changes from the effective date. Submission is based on a snapshot of the database at the end of the month and does not consider historic adjustments or the fact that lights can be lived before they are entered into the database.	Still existing

Table of Recommendations

Subject	Section	Clause	Recommendation	Status
Location of each item of load	2.3	11(2)(b) of Schedule 15.3	Include GPS coordinates in the database to assist with light location	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

Manawa have requested Veritek to undertake this DUML audit.

Audit commentary

This audit report confirms that the requirement to conduct an audit has been met for this database within the required timeframe.

Audit outcome

Compliant

2. DUMML DATABASE REQUIREMENTS

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

Code reference

Clause 11(1) of Schedule 15.3

Code related audit information

The retailer must ensure the:

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

Audit observation

The process for calculation of consumption was examined.

Audit commentary

Manawa reconciles this DUMML load using the STL profile. The on and off times are derived from data logger information.

I recalculated the submissions for April 2022 using the data logger and database information. I confirmed that the calculation method and result was correct.

The database does not allow changes to be loaded for the date of the change. This is recorded as non-compliance below and in **section 2.6**.

Submission is based on a snapshot of the database at the end of the month and does not consider historic adjustments or the fact that lights can be livened before they are entered into the database.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: 11(1) of Schedule 15.3 From: 01-Nov-21 To: 18-May-22	Database does not track changes from the effective date. Submission is based on a snapshot of the database at the end of the month and does not consider historic adjustments or the fact that lights can be livened before they are entered into the database. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	Rationale for audit risk rating
Low	Changes are made when required but cannot be applied for the correct date and some errors in the field indicate that the information is not always being updated in the database therefore controls are rated as moderate overall. Overall, the database accuracy is high therefore the audit risk rating is assessed to be low.

Actions taken to resolve the issue	Completion date	Remedial action status
We have established a reliable process for receiving updates from field changes, through back-office databases and into our reconciliation tools that minimise the impact of not being able to reflect actual date changes for lights. That coupled with a low number of light changes (new or upgrades) means the absolute impact of this non-compliance is small		Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
We still intend to work with council to try and get changes made to their database that will continue to improve this	On going	

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 an ICP is recorded for each item of load.

Audit commentary

An ICP is recorded for each item of load. The accuracy of the ICP applied is discussed in **section 3.1**.

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 a field for the park or reserve and another field with a description. The items of load are also recorded in the GIS and access was provided to enable an accurate plot of these lights for the field audit.

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

The database contains a field for gear wattage and lamp wattage. All fields were populated, and the accuracy of the fields 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

A field audit of all 391 items of load recorded in the database was undertaken.

Audit commentary

The field audit findings are detailed in the table below.

Wattages for lamps found in the field but not the database were based on lamp label information where available and estimated based on physical characteristics and other surrounding lamps where unlabelled.

Address	Database Count	Field Count	Count differences	Wattage differences	Comments
Macville Park	3	3		1	1x 67W LED recorded as 70W HPS
Memorial Park	56	56		1	1 x 29W LED recorded as 27W LED
The Strand Reclamation	35	35		21	15 x 58W LED recorded as 48W LED 4 X 58W LED recorded as 150W HPS 2 X 58W LED recorded as 100W HPS 2 x 111W LED recorded as 150W HPS
Papamoa Domain	10	11	+1		1 x additional 67W LED identified in the field

This clause relates to items of load in the field not recorded in the database. One additional light was found in the field.

The lamp wattage differences are recorded as non-compliance in **section 3.1**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.5 With: Clause 11(2A) of Schedule 15.3 From: 01-Nov-20 To: 18-May-22	One additional light identified in Papamoa Domain Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating:		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement and participants is minor; therefore the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Database to be updated to reflect the findings of this audit		27 May 2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Given the risk rating, no further action required			

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

Code reference

Clause 11(3) of Schedule 15.3

Code related audit information

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

Audit observation

The ability of the database to track changes was assessed and the process for tracking of changes in the database was examined.

Audit commentary

Examination of the database found that changes made in the Accela database can only be applied from the day of being changed and not the date of light install. This is recorded as non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.6 With: Clause 11(3) of Schedule 15.3 From: 01-Nov-20 To: 18-May-22	Database does not track changes from the effective date. Potential impact: Low Actual impact: Low Audit history: Once Controls: None Breach risk rating: 5		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as none as the database functionality prevents the loading of changes to the database for the date of install and changes can only be from the date the change is loaded. The audit risk rating is low as the number of lights in the database is small so any impact to reconciliation will be low.		
Actions taken to resolve the issue		Completion date	Remedial action status
We have established a reliable process for receiving updates from field changes, through back-office databases and into our reconciliation tools that minimise the impact of not being able to reflect actual date changes for lights. That coupled with a low number of light changes (new or upgrades) means the absolute impact of this non-compliance is small			Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
We still intend to work with council to try and get changes made to their database that will continue to improve this		On going	

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 database contains a complete audit trail of all additions and changes.

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

A 100% audit was undertaken to determine the database wattage.

Wattages were checked for alignment with the published standardised wattage table produced by the Electricity Authority against the database or in the case of LED lights against the LED light specification.

The change management process and timeliness of database updates was evaluated.

Audit commentary

Field Audit Findings

The field audit found an error rate of 2.83% which is within the +/-5% threshold and therefore the database is confirmed to be accurate. The discrepancies found in the field are detailed in **section 2.5**.

Lamp description and capacity accuracy

There were no lamp description and capacity discrepancies found.

ICP accuracy

All items of load had an ICP recorded.

Location accuracy

The database contains fields for the street address and also GPS coordinates.

Change management process findings

McKay Electrical has the maintenance contract for streetlights and data is entered directly into the RAMM database via pocket RAMM. McKay Electrical submits Service Orders immediately after the work has been completed and this is in turn checked by Tauranga City Council to validate the claims. It doesn't appear that changes are being populated in a timely fashion, however the database is considered to be accurate because the error is less than +/- 5%.

Audit outcome

Compliant

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

Manawa reconciles this DUML load using the STL profile. The on and off times are derived from data logger information.

I recalculated the submissions for April 2022 using the data logger and database information. I confirmed that the calculation method and result was correct.

The database does not allow changes to be loaded for the date of the change. This is recorded as non-compliance below and in **section 2.6**.

Submission is based on a snapshot of the database at the end of the month and does not consider historic adjustments or the fact that lights can be livened before they are entered into the database.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c) From: 26-Nov-19 To: 22-Oct-20	Database does not track changes from the effective date. Submission is based on a snapshot of the database at the end of the month and does not consider historic adjustments or the fact that lights can be livened before they are entered into the database. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Changes are made when required but cannot be applied for the correct date and some errors in the field indicate that the information is not always being updated in the database therefore controls are rated as moderate overall. Overall, the database accuracy is high therefore the audit risk rating is assessed to be low.		
Actions taken to resolve the issue		Completion date	Remedial action status

<p>We have established a reliable process for receiving updates from field changes, through back-office databases and into our reconciliation tools that minimise the impact of not being able to reflect actual date changes for lights. That coupled with a low number of light changes (new or upgrades) means the absolute impact of this non-compliance is small</p>		<p>Investigating</p>
<p>Preventative actions taken to ensure no further issues will occur</p>	<p>Completion date</p>	
<p>We still intend to work with council to try and get changes made to their database that will continue to improve this</p>	<p>ongoing</p>	

CONCLUSION

The database used for submission is called Accela and is managed by TCC P&R. The field work and asset data capture are conducted by McKay Electrical and they provide hard copy updates to TCC P&R. Reporting is provided to Manawa on a monthly basis.

A full field audit was undertaken, and a small number of differences were found. The database accuracy was confirmed to be within the allowable threshold and is therefore deemed to be accurate. One additional item of load was identified in the Papamoa Domain.

Examination of the database found that changes made in the Accela database can only be applied from the day of being changed and not the date of light install. As a snapshot of the database is used for submission this currently has no impact on reconciliation.

The audit found four non-compliances. The future risk rating of 11 indicates that the next audit be completed in 12 months. I have considered this along with the materiality of the non-compliances found and recommend that the next audit be in 18 months.

PARTICIPANT RESPONSE

We agree with the overall findings of the audit. We continue to work with the customer to resolve the relatively small items of noncompliance.