ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

For

NZTA TAUPO
AND
TRUSTPOWER LIMITED (CNIR)
NZBN: 9429038917912

Prepared by: Rebecca Elliot

Date audit commenced: 22 March 2022

Date audit report completed: 4 May 2022

Audit report due date: 5 September 2019

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EXECUTIVE SUMMARY

This audit of the **NZTA Taupo (NZTA)** DUML database and processes was conducted at the request of **Trustpower Limited (CNIR)** 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.

Trustpower Limited has changed participant codes during the audit period from TRUS to CNIR, the database has not switched traders.

The RAMM database used for submission is managed by WSP. McKay Electrical carry out the field maintenance.

The last audit found that the database contained 234 items of load, but CNIR was only reconciling 23 items of load. Post that audit 69 items of load were being reconciled. This audit confirmed that there are 257 items of load associated with the two ICPs. CNIR have corrected the volumes for the available 14-month cycle but due to the lateness of this audit being completed the volumes from November 2018 to December 2020 will not be corrected resulting in an estimated under submission of 312,844 kWh.

The 14-month revision has incorrectly included the 51 lights which were provided on a separate spreadsheet but are not in RAMM. These were checked in the field and found they were all duplicates. This will need to be corrected in the revisions being processed.

It appears that there are 209 NZTA lights in the Ruapehu DC & Taupo DC areas that are being reconciled by both the council and NZTA databases resulting in potentially 36.63 kW or 156,434 kWh per annum of load being submitted twice.

A full field audit was undertaken and found a number of errors. The database is not within the allowable +/-5% threshold resulting in an estimated over submission of 10,426 kWh per annum.

The audit found three non-compliances and makes one recommendation. The future risk rating of 33 indicates that the next audit be completed in three 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
DUML Audit	1.10	17.295F	Audit report not submitted within the required timeframe resulting in under submission of volume due to the under submission that will not be corrected as it is outside the 14-month revision cycle.	Moderate	High	6	Identified
Deriving submission information	2.1	11(1) of Schedule 15.3	DUML database has not been up to date resulting in an estimated under submission of 312,844 kWh that will not be corrected as this is outside of the 14-month revision cycle. 51 duplicated lights incorrectly included in the 14-month revisions being processed. The database accuracy is not within the allowable +/-5% threshold resulting in an estimated over submission of 10,426 kWh per annum. 209 NZTA lights in the Ruapehu DC & Taupo DC areas that are being reconciled by both the council and NZTA databases resulting in potentially 36.63 kW or 156,434 kWh per annum of load being submitted twice. The data used for submission does not track changes at a daily basis and is provided as a snapshot.	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 not within the allowable +/-5% threshold resulting in an estimated over submission of 10,426 kWh per annum. 209 NZTA lights in the Ruapehu DC & Taupo DC areas that are being reconciled by both the council and NZTA databases resulting in potentially 36.63 kW or 156,434 kWh per annum of load being submitted twice. 25 lamps were found to have the incorrect ballast recorded the impact of this is included in the database inaccuracy recorded above.	Weak	High	9	Identified

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)	DUML database has not been up to date resulting in an estimated under submission of 312,844 kWh that will not be corrected as this is outside of the 14-month revision cycle. 51 duplicated lights incorrectly included in the 14-month revisions being processed. The database accuracy is not within the allowable +/-5% threshold resulting in an estimated over submission of 10,426 kWh per annum. 209 NZTA lights in the Ruapehu DC & Taupo DC areas that are being reconciled by both the council and NZTA databases resulting in potentially 36.63 kW or 156,434 kWh per annum of load being submitted twice. The data used for submission does not track changes at a daily basis and is provided as a snapshot.	Weak	High	9	Identified
Future Risk Rating						33	

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
Database accuracy	3.1	Liaise with NZTA to ensure SH lights are included for all SH associated with this area.

		Liaise with local councils and NZTA to determine which database the duplicated lights are to be recorded in.

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

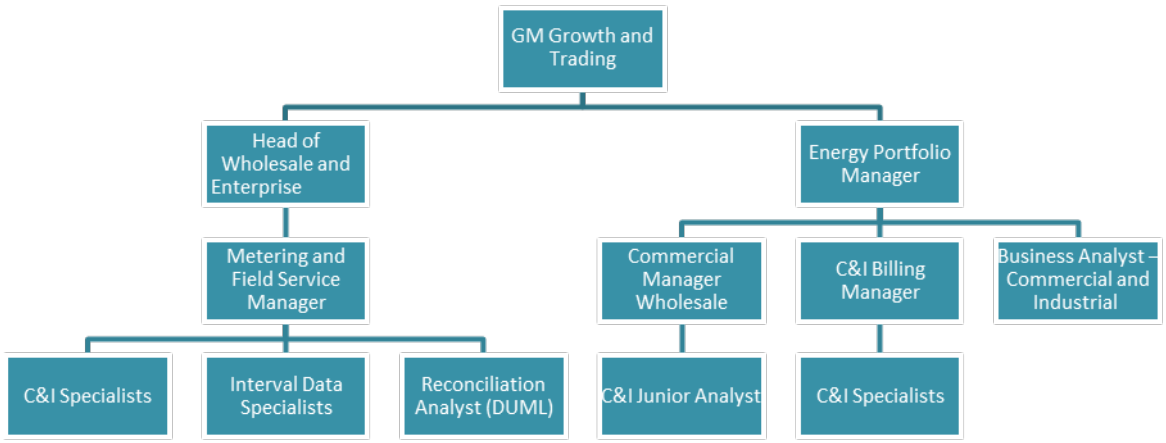
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

Audit commentary

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

1.2. Structure of Organisation

CNIR provided a copy of their 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
Robbie Diederen	Streetlighting Reconciliation Analyst	Trustpower Limited
Saurav Suniara	Asset Engineer Transport - CWNOC	WSP

1.4. Hardware and Software

The SQL database used for the management of DUML is remotely hosted by thinkproject New Zealand Limited. The database is commonly known as "RAMM" which stands for "Road Assessment and Maintenance Management". The specific data used for DUML is held in the Streetlight tables. thinkproject New Zealand Limited backs up the database and assists with disaster recovery as part of their hosting service.

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

Systems used by the trader to calculate submissions are assessed as part of their reconciliation participant audits.

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)
0000381313TUB52	STATE HIGHWAY 5	TMU0111	STL	60	13,204
0088051901WM4EB	SH1_SH41 SH47	TKU0331	STL	202	33,663
TOTAL				262	48,687

The above data is the volume recorded in the database extract associated with the relevant ICPs. Examination in the field detailed in **sections 2.5** and **3.1** found 257 items of load in the field.

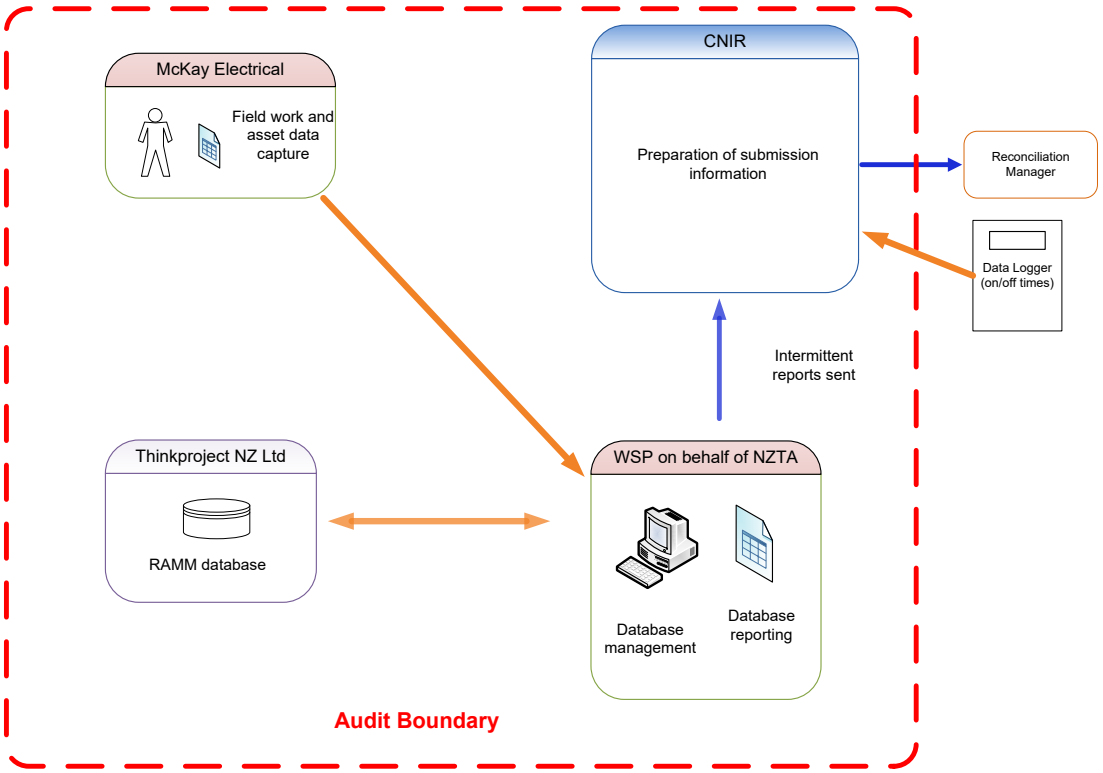
1.7. Authorisation Received

All information was provided directly by CNIR and WSP.

1.8. Scope of Audit

The RAMM database used for submission is managed by WSP. McKay Electrical carry out the field maintenance and provide changes made in the field to WSP to be updated in RAMM.

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

A 100% field audit was undertaken in the field on April 14 & 15th, 2022. The results of this are discussed in **section 3.1**.

1.9. Summary of previous audit

The previous audit was completed in November 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 extract used for submission is not up to date resulting in a potential estimated under submission of 151,398 kWh per annum.	Still existing
ICP identifier	2.2	11(2)(a) and (aa) of Schedule 15.3	The ICP is not recorded in the database extract provided.	Cleared
Description and capacity of load	2.4	11(2)(c) & d) of Schedule 15.3	Ballast not recorded in the database extract provided. Wattage was recorded as zero or blank for 229 items of load. 54 items of load with no lamp description.	Cleared
Database accuracy	3.1	15.2 and 15.37B(b)	The database is not being maintained. Potentially there is an estimated under submission of 151,398 kWh per annum.	Still existing
Volume information accuracy	3.2	15.2 and 15.37B(c)	Database extract used for submission is not up to date resulting in a potential estimated under submission of 151,398 kWh per annum.	Still existing

Table of Recommendations

Subject	Section	Recommendation for Improvement	Status
ICP identifier	2.2	Trustpower to liaise with the relevant parties to where and if the additional lights are being reconciled.	Not adopted

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

CNIR 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. The audit was due to be submitted by September 2019 but the request to proceed with the audit was not provided until March 2022.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 1.10 With: Clause 16A.26 From: 05-Sep-19 To: 31-Mar-22	Audit report not submitted within the required timeframe resulting in under submission of volume due to the under submission that will not be corrected as it is outside the 14-month revision cycle. Potential impact: High Actual impact: High Audit history: None Controls: Moderate Breach risk rating: 6
Audit risk rating	**Rationale for audit risk rating**
High	The controls are rated as moderate, CNIR are generally good at managing DUML audits but this one was not identified and progressed as expected. The impact is assessed to be high based due to the under submission that will not be corrected as it is outside the 14-month revision cycle.

Actions taken to resolve the issue	Completion date	Remedial action status
In the case of this audit, we were aware – based on a prior audit of this DUML, that there were alleged large discrepancies between load recorded in the DUML database, and load that a sample field audit indicated was, actually connected under the ICP. That resulted in a recommendation to perform a full field audit. Despite multiple attempts to engage with the customer around a field audit and receive the results of the full field audit once completed – Manawa Energy (nee Trustpower) did struggle to access the data updates we required. As the most material issue affecting this DUML, we persisted in trying to get results of the field audit supplied – prior to reauditing the database. In addition, through the period of late 2021 and early 2022 – we lost key personal who had knowledge and relationship with the history of this DUML. These factors contributed to the late conducting of this one particular DUML audit. However, as demonstrated through management of our other DUML databases – we do not believe this is a systemic issue.	Complete	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
We maintain oversight of the audit periods relating to each of the DUML audits we manage and conduct audits with our audit partner Veritek to have these completed in a timely manner.	N/A	

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

CNIR reconciles this DUML load using the STL profile. The on and off times are derived from data logger information. Database reports are being received intermittently, therefore submission cannot be calculated from an up-to-date database extract. This is recorded as non-compliance.

The calculation methodology was confirmed to be correct.

The last audit found that the database contained 234 items of load, but CNIR was only reconciling 23 items of load. Post that audit 69 items of load were being reconciled. This audit confirmed that there are 257 items of load associated with the two ICPs. CNIR have corrected the volumes for the available 14-month cycle but due to the lateness of this audit being completed the volumes from November 2018 to December 2020 will not be corrected resulting in an estimated under submission of 312,844 kWh.

The 14-month revision has incorrectly included the 51 lights which were provided on a separate spreadsheet but are not in RAMM. These were checked in the field and found they were all duplicates. This will need to be corrected in the revisions being processed.

As detailed in **section 3.1**:

- the database accuracy is not within the allowable +/-5% threshold resulting in an estimated over submission of 10,426 kWh per annum, and
- it appears that there are 209 NZTA lights in the Ruapehu DC & Taupo DC areas that are being reconciled by both the council and NZTA databases resulting in potentially 36.63 kW or 156,434 kWh per annum of load being submitted twice.

On 18 June 2019, the Electricity Authority issued a memo confirming that the code requirement to calculate the correct monthly load must:

- take into account when each item of load was physically installed or removed, and
- wash up volumes must take into account where historical corrections have been made to the DUML load and volumes.

The current reporting is based on a snapshot, which is not compliant.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: 01-Nov-18 To: 31-Mar-22	DUML database has not been up to date resulting in an estimated under submission of 312,844 kWh that will not be corrected as this is outside of the 14-month revision cycle. 51 duplicated lights incorrectly included in the 14-month revisions being processed. The database accuracy is not within the allowable +/-5% threshold resulting in an estimated over submission of 10,426 kWh per annum. 209 NZTA lights in the Ruapehu DC & Taupo DC areas that are being reconciled by both the council and NZTA databases resulting in potentially 36.63 kW or 156,434 kWh per annum of load being submitted twice. The data used for submission does not track changes at a daily basis and is provided as a snapshot. Potential impact: High Actual impact: High Audit history: Twice previously Controls: Weak Breach risk rating: 9
Audit risk rating	**Rationale for audit risk rating**
High	The controls are rated as weak as the issues identified in the 2018 audit were not followed through resulting in incorrect submission. The impact is assessed to be high based on based on the potential kWh submission impact described above.

Actions taken to resolve the issue	Completion date	Remedial action status
Manawa Energy has a number of DUML customers and receives data from several DUML databases. The outcome of the previous audit of the Taupo database – where there was a suggestion that actual light volumes were higher than being reported in the database resulted in a puzzling finding. We acted upon advice from the agent that a full field audit would be undertaken to validate this, however this never eventuated. We have had another instance where the suggestion that actual volumes vs reported volumes are materially different and we have taken every endeavour to identify the correct volume, given the amount of conflicting information from various sources. We acted on the advice suggesting field volumes were inaccurately recorded – only to unwind this action much later to restore the volume back to numbers closer to what we were originally reporting. For that reason – it is our strong preference, that when material discrepancies are reported we get the best information we can (preferably as a result of a full field audit) to validate the findings. As mentioned above – in the case of the Taupo field audit – this data was not forthcoming despite repeated attempts to collect it, including from multiple parties. We have now received updated data and will correct our submissions based on this information.	N/A	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As Manawa Energy is no longer the retailer to this customer, there is no further action in regards to this DUML.	N/A	

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

The database extract provided had an ICP recorded 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 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

The database contains two fields for wattage, firstly the manufacturers rated wattage and secondly the "ballast wattage". The ballast wattage is expected to be a calculated figure which accounts for any variation from the input wattage and includes losses associated with ballasts. The database was examined and found all items of load had a wattage and ballast figure recorded. The accuracy of these is detailed 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 100% field audit was undertaken of the unmetered database.

Audit commentary

The field audit identified the following discrepancies.

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
005-0137	8	8	-	1	1x 40W LED recorded as 150W HPS in the database.
01N-0707	16	16	-	1	1x 124W LED recorded as 150W HPS in the database.
01N-0712-W	5	4	-1	-	1x 250W HPS not found in the field.
01N-0713	31	30	-1	-	1x 150W HPS not found in the field.
01N-0726	12	11	-1	7	1x 150W HPS not found in the field 5x 70W HPS recorded as 150W HPS in the database. 2x 22W LED recorded as 150W HPS in the database.
01N-0744	21	21	-	1	1x 24W LED recorded as 150W HPS in the database.
01N-0753	10	9	-1		1x 150W HPS not found in the field 1x 124W LED recorded as 150W HPS in the database.
049-0011	19	19		1	1x 14W LED recorded as 124W LED in the database.

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
049-0029	13	12	-1	-	1x 124W LED not found in the field.
TOTAL	**262**	**257**	**-5**	**11**	

No additional items of load were found therefore compliance is recorded. The database accuracy is discussed in **section 3.1**.

Audit outcome

Compliant

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

The RAMM database functionality achieves compliance with the code.

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 with operator ID 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

A RAMM database extract was provided in March 2022 and a full field audit was undertaken of these lights.

Wattages for all items of load were checked against the published standardised wattage tables produced by the Electricity Authority and Veritek, or the manufacturer's specifications.

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

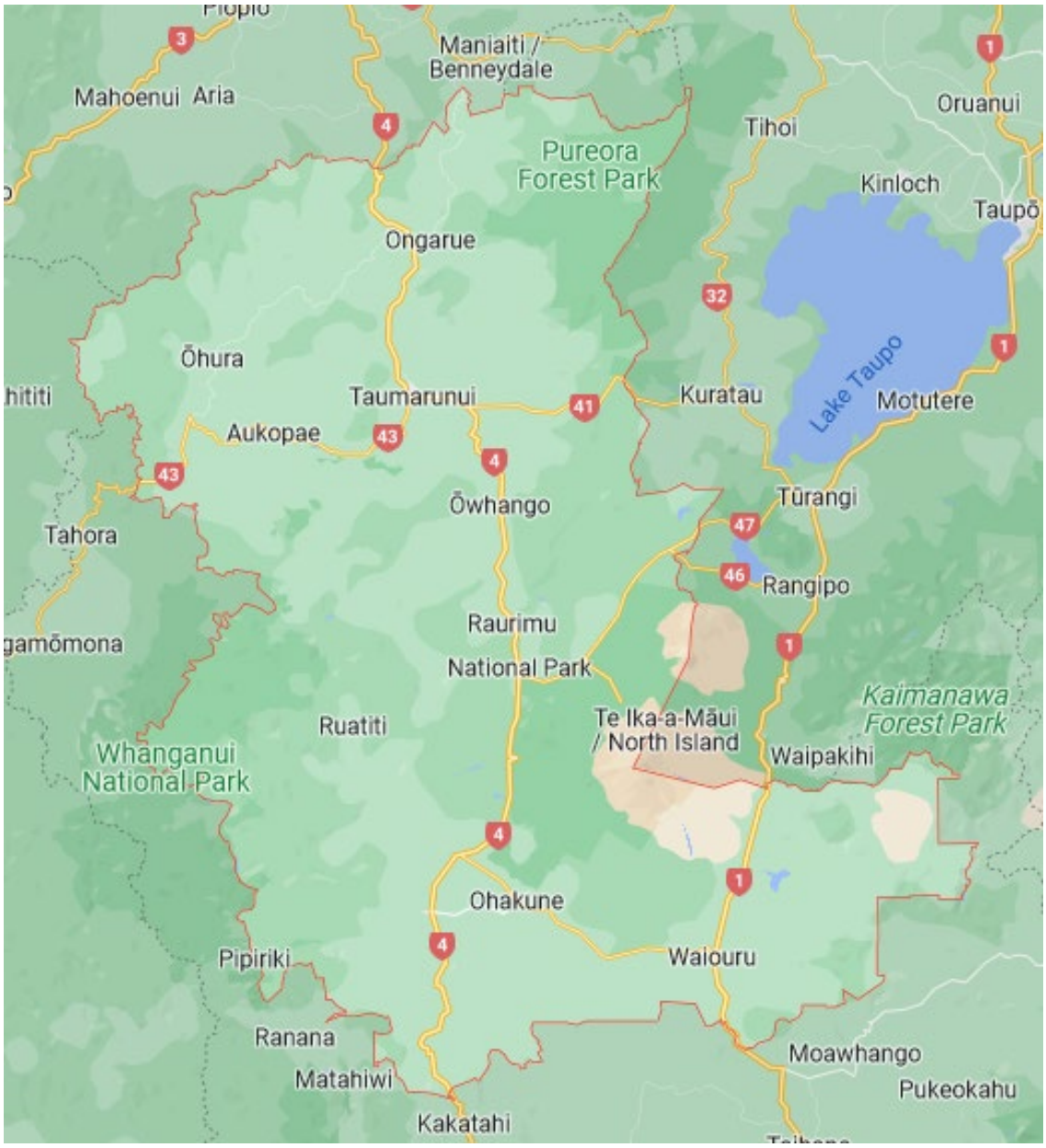
Audit commentary

Field Audit Findings

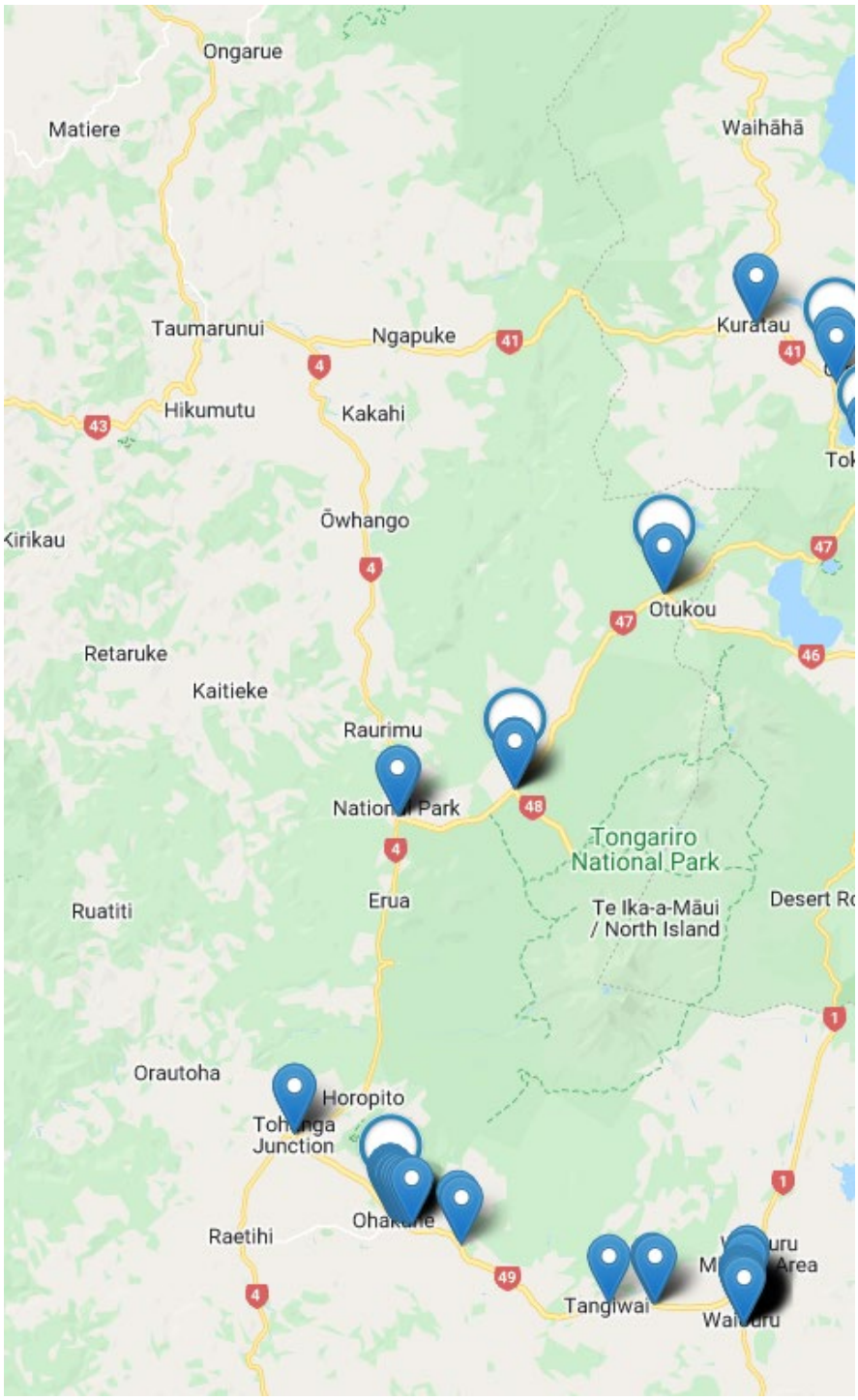
A full field audit was undertaken of the database provided by WSP for the ICPs reconciled by CNIR. The audit found no extra lights but as noted in **section 2.5**, there were five lights not found and 11 incorrect wattages identified resulting in a database accuracy of 94.51%. This is not within the allowable +/-5% threshold resulting in an estimated over submission of 10,426 kWh per annum.

In addition to this it appears that there are 209 NZTA lights in the Ruapehu DC & Taupo DC areas that are being reconciled by both the councils and NZTA resulting in potentially 36.63 kW or 156,434 kWh per annum of load being submitted twice. The duplicated lights have been provided to WSP to investigate. I have included detailed pictures below showing the council boundaries, the NZTA RAMM database lights and the RDC SH lights:

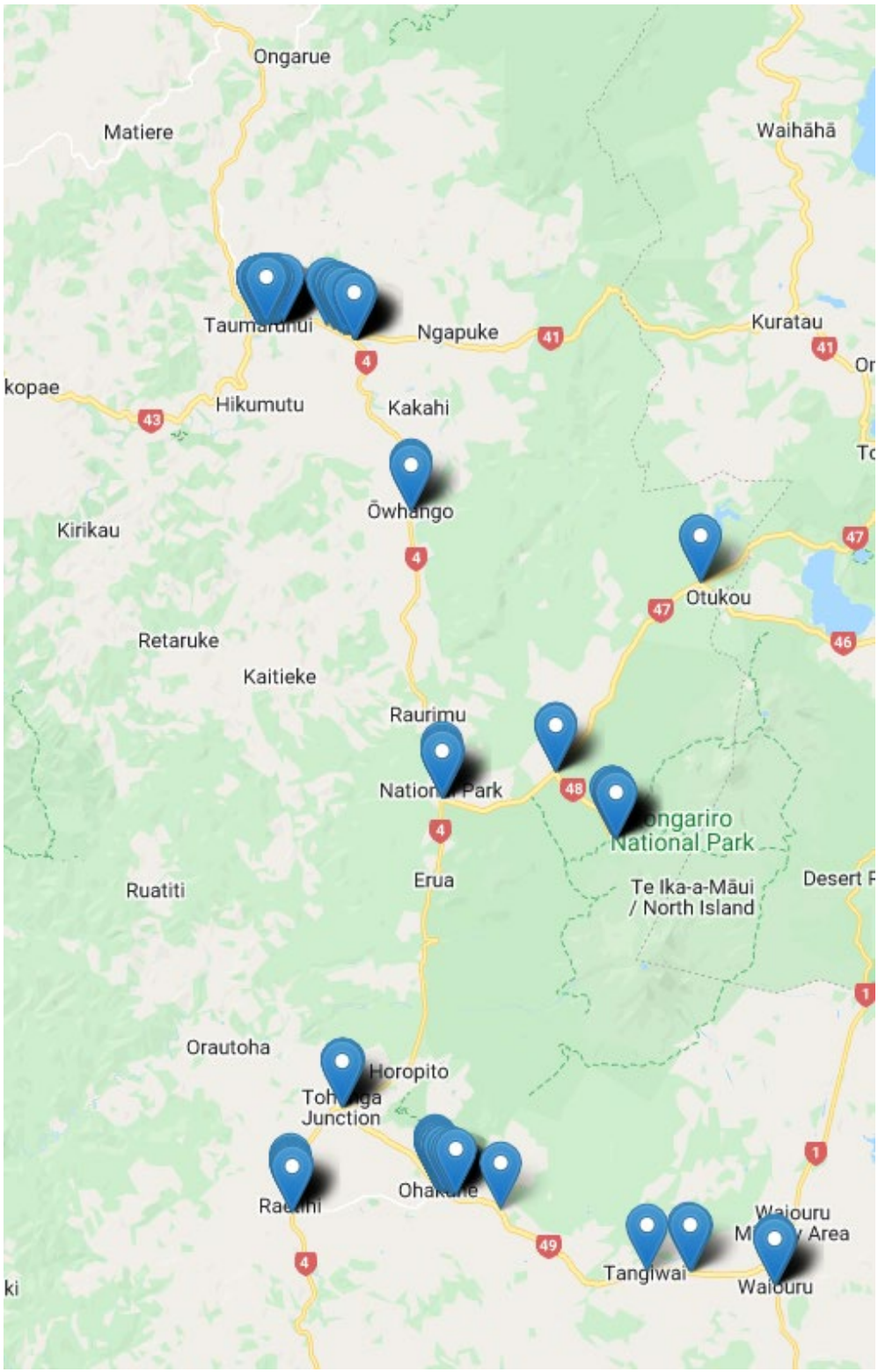
RDC Boundary



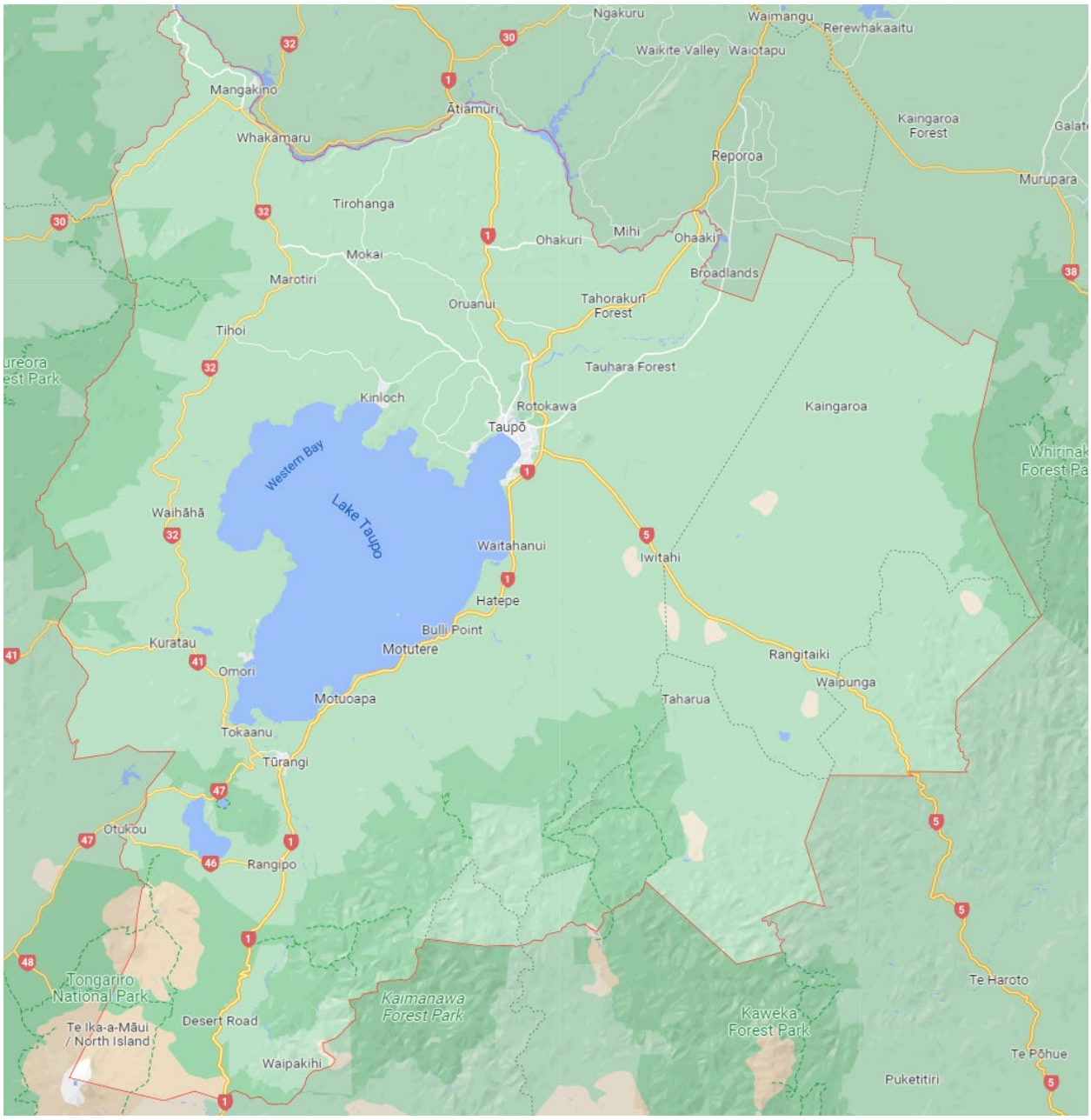
NZTA RAMM database:



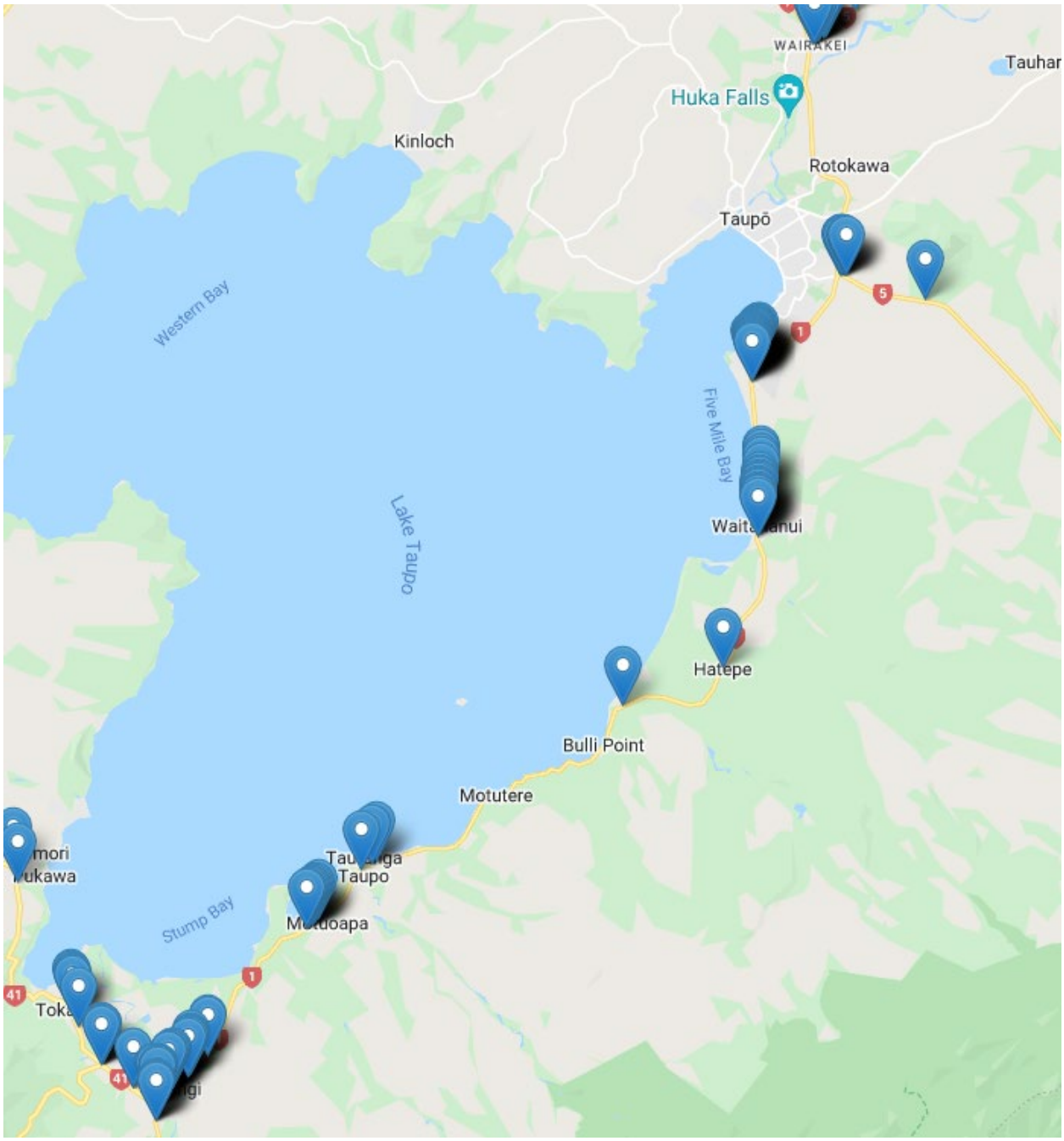
RDC SH lights



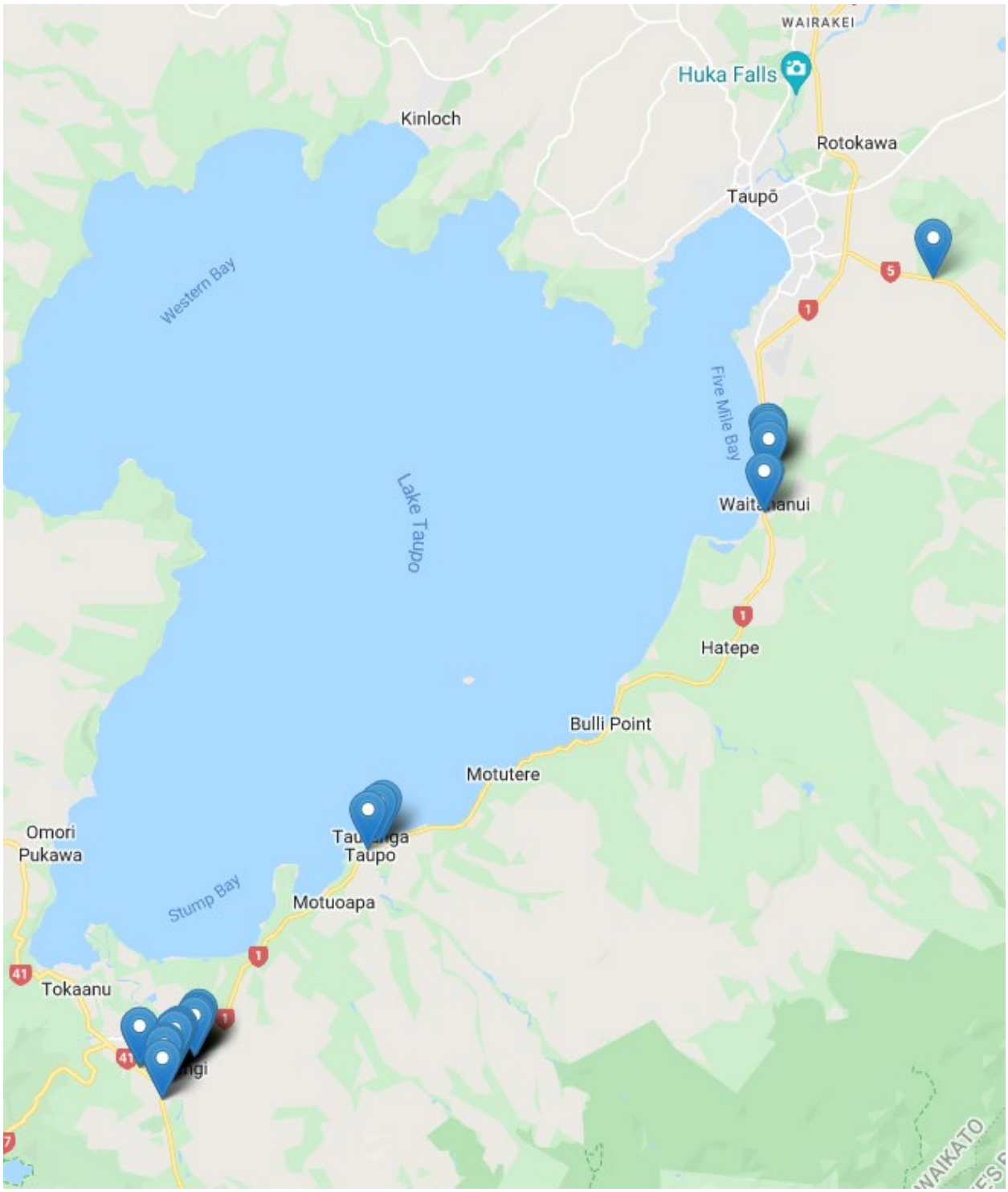
TDC Area:


Ngakuru
Waimangu
Rerewhakaaitu
Waikite Valley
Waiotapu
Mangakino
Ātiamuri
Whakamaru
Kaingaroa Forest
Reporoa
Murupara
Tirohanga
Ohakuri
Mihi
Ohaaki
Mokai
Broadlands
Marotiri
Oruanui
Tahorakuri Forest
Tihoi
Tauhara Forest
Kinloch
Rotokawa
Kaingaroa
Taupō
Western Bay
Lake Taupo
Waihāhā
Waitahanui
Iwitahi
Hatepe
Bulli Point
Motutere
Kuratau
Rangitaiki
Omori
Waipunga
Motuoapa
Taharua
Tokaanu
Tūrangi
Otukou
Rangipo
Tongariro National Park
Te Ika-a-Māui / North Island
Desert Road
Kaimanawa Forest Park
Kaweka Forest Park
Te Haroto
Te Pōhue
Waipakihi
Puketitiri

NZTA TDC area lights



TDC SH lights



NZTA provided a list of lights which are not in RAMM and have no GPS recorded but they did have RPS or distance from the end of the road details. I checked the lights that were on the SH recorded in the RAMM database and found they were all duplicates. The list contained nine streetlights for SH30 and SH32. The RAMM database provided has no lights recorded on these state highways. I recommend below that CNIR work with NZTA to determine which database these lights are recorded in as it is unclear if these are to be included in the Taupo or Waikato area.

I recommend that CNIR liaise with local councils and NZTA to determine the correct lights to be recorded in this database.

Description	Recommendation	Audited party comment	Remedial action
Database accuracy	Liaise with NZTA to ensure SH lights are included for all SH associated with this area. Liaise with local councils and NZTA to determine which database the duplicated lights are to be recorded in.	As Manawa Energy is no longer the retailer to this customer, there is no further action in regards to this DUML.	No action as Manawa is no longer the trader and these ICPs will become part of the larger Waikato NTZA DUML audit.

Lamp description and capacity accuracy

Wattages for all items of load were checked against the published standardised wattage tables produced by the Electricity Authority and Veritek, or the manufacturer's specifications.

25 lamps were found to have the incorrect ballast recorded resulting in a very minor amount of under submission. The field audit findings have taken the impact of this on submission these into consideration. These have been passed to WSP to correct.

Change Management

WSP manages the database and McKay Electrical carry out all fault and maintenance work. Any changes made in the field are passed to WSP to load into the RAMM database.

Outage patrols are also expected to be part of the contractor's responsibility.

WSP advised there have been no new unmetered connections made during the audit period. An LED rollout is in the planning stages but no firm dates for this have been set.

No festive lighting is connected to the Taupo NZTA unmetered streetlight network.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: 01-Nov-18 To: 31-Mar-22	The database accuracy is not within the allowable +/-5% threshold resulting in an estimated over submission of 10,426 kWh per annum. 209 NZTA lights in the Ruapehu DC & Taupo DC areas that are being reconciled by both the council and NZTA databases resulting in potentially 36.63 kW or 156,434 kWh per annum of load being submitted twice. 25 lamps were found to have the incorrect ballast recorded the impact of this is included in the database inaccuracy recorded above. Potential impact: High Actual impact: High Audit history: Twice previously Controls: Weak Breach risk rating: 9

Audit risk rating	Rationale for audit risk rating
High	The controls are rated as weak as changes made in the field are updated in the database but database updates are not being sent to CNIR. The impact is assessed to be high based on based on the potential kWh submission impact described above.

Actions taken to resolve the issue	Completion date	Remedial action status
The 25 lamps identified to have the incorrect ballast, have been corrected and will now be reflected in all revision files submitted. As Manawa Energy is no longer the retailer to this customer and corrections have been to the datasets used for settlement, there is no additional actions required in regards to this DUML.	N/A	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As Manawa Energy is no longer the retailer to this customer, there is no further action in regards to this DUML.	N/A	

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, and
- checking the database extract combined with the burn hours against the submitted figure to confirm accuracy.

Audit commentary

CNIR reconciles this DUML load using the STL profile. The on and off times are derived from data logger information. Database reports are being received intermittently, therefore submission cannot be calculated from an up-to-date database extract. This is recorded as non-compliance.

The calculation methodology was confirmed to be correct.

The last audit found that the database contained 234 items of load, but CNIR was only reconciling 23 items of load. Post that audit 69 items of load were being reconciled. This audit confirmed that there are 257 items of load associated with the two ICPs. CNIR have corrected the volumes for the available 14-month cycle but due to the lateness of this audit being completed the volumes from November 2018 to December 2020 will not be corrected resulting in an estimated under submission of 312,844 kWh.

The 14-month revision has incorrectly included the 51 lights which were provided on a separate spreadsheet but are not in RAMM. These were checked in the field and found they were all duplicates. This will need to be corrected in the revisions being processed.

As detailed in **section 3.1**:

- the database accuracy is not within the allowable +/-5% threshold resulting in an estimated over submission of 10,426 kWh per annum.
- it appears that there are 209 NZTA lights in the Ruapehu DC & Taupo DC areas that are being reconciled by both the council and NZTA databases resulting in potentially 36.63 kW or 156,434 kWh per annum of load being submitted twice.

On 18 June 2019, the Electricity Authority issued a memo confirming that the code requirement to calculate the correct monthly load must:

- take into account when each item of load was physically installed or removed, and
- wash up volumes must take into account where historical corrections have been made to the DUML load and volumes.

The current reporting is based on a snapshot, which is not compliant.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c) From: 01-Nov-18 To: 31-Mar-22	DUML database has not been up to date resulting in an estimated under submission of 312,844 kWh that will not be corrected as this is outside of the 14-month revision cycle. 51 duplicated lights incorrectly included in the 14-month revisions being processed. The database accuracy is not within the allowable +/-5% threshold resulting in an estimated over submission of 10,426 kWh per annum. 209 NZTA lights in the Ruapehu DC & Taupo DC areas that are being reconciled by both the council and NZTA databases resulting in potentially 36.63 kW or 156,434 kWh per annum of load being submitted twice. The data used for submission does not track changes at a daily basis and is provided as a snapshot. Potential impact: High Actual impact: High Audit history: Twice previously Controls: Weak Breach risk rating: 9
Audit risk rating	**Rationale for audit risk rating**
High	The controls are rated as weak as the issues identified in the 2018 audit were not followed through resulting in incorrect submission. The impact is assessed to be high based on based on the potential kWh submission impact described above.

Actions taken to resolve the issue	Completion date	Remedial action status
Manawa Energy have corrected the inaccurate data in respect to the duplication of lights as identified by the auditors and completed the associated 14-month revisions. As Manawa Energy is no longer the retailer to this customer, the recommendation to liaise with local council and NZTA is not feasible.	N/A	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
As Manawa Energy is no longer the retailer to this customer, there is no further action in regards to this DUML.	N/A	

CONCLUSION

Trustpower Limited has changed participant codes during the audit period from TRUS to CNIR, the database has not switched traders.

The RAMM database used for submission is managed by WSP. McKay Electrical carry out the field maintenance.

The last audit found that the database contained 234 items of load, but CNIR was only reconciling 23 items of load. Post that audit 69 items of load were being reconciled. This audit confirmed that there are 257 items of load associated with the two ICPs. CNIR have corrected the volumes for the available 14-month cycle but due to the lateness of this audit being completed the volumes from November 2018 to December 2020 will not be corrected resulting in an estimated under submission of 312,844 kWh.

The 14-month revision has incorrectly included the 51 lights which were provided on a separate spreadsheet but are not in RAMM. These were checked in the field and found they were all duplicates. This will need to be corrected in the revisions being processed.

It appears that there are 209 NZTA lights in the Ruapehu DC & Taupo DC areas that are being reconciled by both the council and NZTA databases resulting in potentially 36.63 kW or 156,434 kWh per annum of load being submitted twice.

A full field audit was undertaken and found a number of errors. The database is not within the allowable +/-5% threshold resulting in an estimated over submission of 10,426 kWh per annum.

The audit found three non-compliances and make one recommendation. The future risk rating of 33 indicates that the next audit be completed in three months.

PARTICIPANT RESPONSE

As Manawa Energy no longer provides retail services to this DUML customer, there are no further preventative or corrective actions requiring implementation – and have corrected our submission volumes as required. This audit amends that there are a total of 262 to 258 items of load associated with the two ICPs.