ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

Provera

For

TASMAN NZTA
AND CONTACT ENERGY LIMITED
NZBN: 9429038549977

Prepared by: Brett Piskulic

Date audit commenced: 25 January 2024

Date audit report completed: 24 April 2024

Audit report due date: 1 May 2024

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EXECUTIVE SUMMARY

This audit of the **Tasman NZTA** DUML database and processes was conducted at the request of **Contact Energy Limited (Contact)** 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.

Network Tasman hold an access database for the Tasman NZTA unmetered streetlights. Fault, maintenance and upgrade work is conducted by contractors. Network Tasman provided a database extract for this audit but stated that they do not maintain the database for use as a DUML database for traders, but rather to meet requirements as a distributor under the Code and for billing purposes. Network Tasman do not provide monthly extracts to Contact. I have recommended that Contact work with their customer to establish and maintain an up to date and accurate database for management of these DUML ICPs.

Contact reconciles this DUML load under the DST profile for ICPs 0000090007NTA60, 0000090009NT9FB, 0000090010NTD07 and 0000090012NTD82 using the registry distributor unmetered load kW details populated by Network Tasman and the on hours recorded by a data logger. ICP 0000090011NT142 is being reconciled as standard unmetered load using the RPS profile with the daily unmetered kWh calculated from the registry distributor's unmetered load details, including the wattage and on hours. This load does not meet the requirements for standard unmetered load as the lights are spread over a large area and there is not a single point of connection to the network, and therefore should be treated as DUML.

The field audit found that the database is not confirmed as accurate within +/-5%. In absolute terms, total annual consumption is estimated to be 59,000 kWh lower than the DUML database indicates. There were 27 lights with an incorrect wattage recorded and one additional light found in the field from a sample of 115. The majority of the inaccuracies were due to LED upgrades not being recorded in the database.

The audit found four non-compliances and makes two recommendations. The future risk rating of 30 indicates that the next audit be completed in three months. I have considered this in conjunction with Contact's comments and recommend that the next audit be in 12 months to allow time for Contact to work with Network Tasman to make corrections to the database and establish a regular reporting process.

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	ICP 0000090011NT142 incorrectly reconciled as standard unmetered load under the RPS profile. Contact uses the registry distributor unmetered load wattage figure as a monthly snapshot of the total wattage which does not account for changes at a daily level. Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 59,000 kWh lower than the DUML database indicates. Incorrect wattages for eight items of load resulting in an estimated minor under submission of 316.1kWh per annum.	Weak	High	9	Identified
All load recorded in database	2.5	11(2A) of Schedule 15.3	One additional lamp identified in the field of 115 items of load sampled.	Weak	Low	3	Identified
Database accuracy	3.1	15.2 and 15.37B(b)	Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 59,000 kWh lower than the DUML database indicates. Changes made in the field are not consistently updated in the database. Incorrect wattages for eight items of load resulting in an estimated	Weak	High	9	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			minor under submission of 316.1kWh per annum.				
Volume information accuracy	3.2	15.2 and 15.37B(c)	ICP 0000090011NT142 incorrectly reconciled as standard unmetered load under the RPS profile. Contact uses the registry distributor unmetered load wattage figure as a monthly snapshot of the total wattage which does not account for changes at a daily level. Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 59,000 kWh lower than the DUML database indicates. Incorrect wattages for eight items of load resulting in an estimated minor under submission of 316.1kWh per annum.	Weak	High	9	Identified
Future Risk Rating						30	

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	Recommendation
Deriving submission information	2.1	Work with their customer to establish and maintain an up to date and accurate database for management of these DUML ICPs.
Database Accuracy	3.1	Update database with lamp descriptions to confirm the correct wattage has been applied.

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

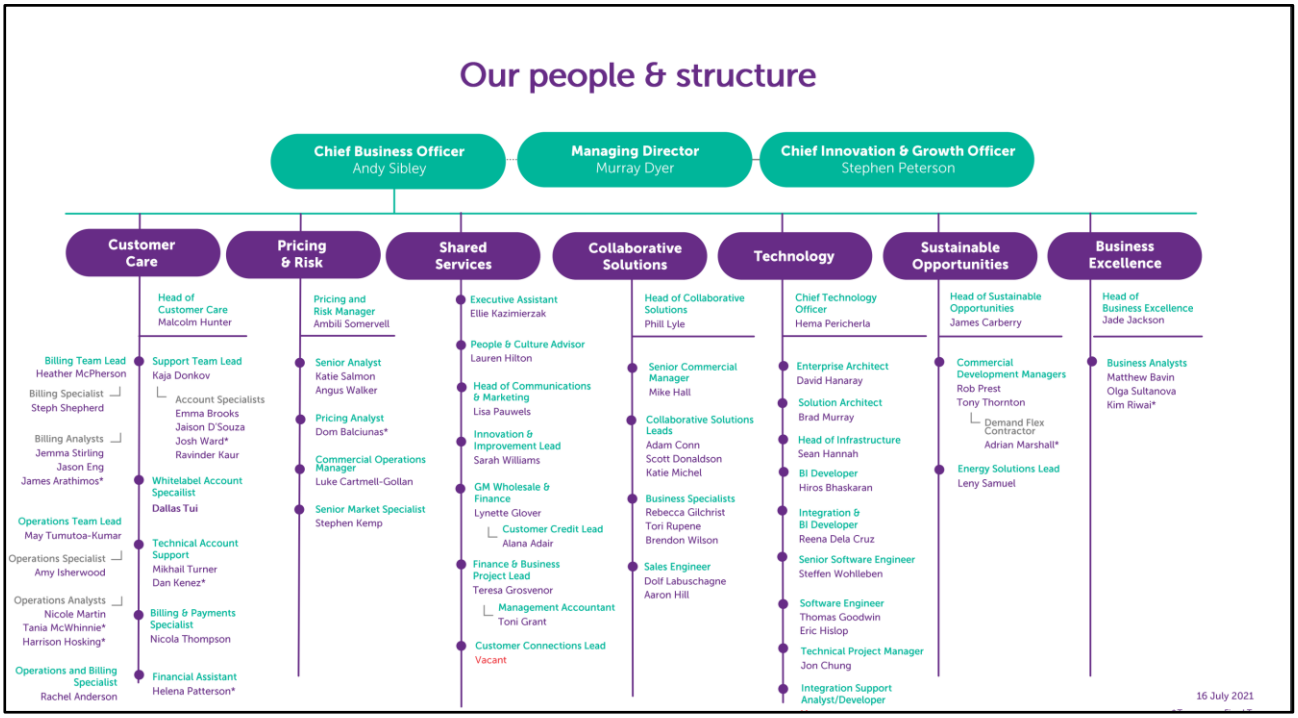
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

Audit commentary

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

1.2. Structure of Organisation

Contact Energy (CTCS) provided a copy of their organisational structure.



1.3. Persons involved in this audit

Auditor:

Name	Company	Role
Brett Piskulic	Provera	Auditor

Other personnel assisting in this audit were:

Name	Title	Company
Kerryn Delaney	Easement Officer	Network Tasman
Dallas Tui	White Label Accounts Specialist	Simply Energy
Stephen Kemp	Senior Market Specialist	Simply Energy

1.4. Hardware and Software

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

Systems used by the trader, and their agent, 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)
0000090007NTA60	TRANSIT NZ STREETLIGHTING STOKE POC	STK0331	DST	390	64,821
0000090009NT9FB	TRANSIT STREETLIGHTING MOTUEKA	STK0661	DST	120	13,943
0000090010NTD07	TRANSIT STREETLIGHTING MOTUPIPI	STK0661	DST	56	4,181
0000090012NTD82	TRANSIT STREETLIGHTING MURCHISON	MCH0111	DST	45	4,955
0000090011NT142	NZTA STREETLIGHTING KIKIWA	KIK0111	RPS	11	630
TOTAL				**620**	**96,519**

1.7. Authorisation Received

All information was provided directly by Contact or Network Tasman.

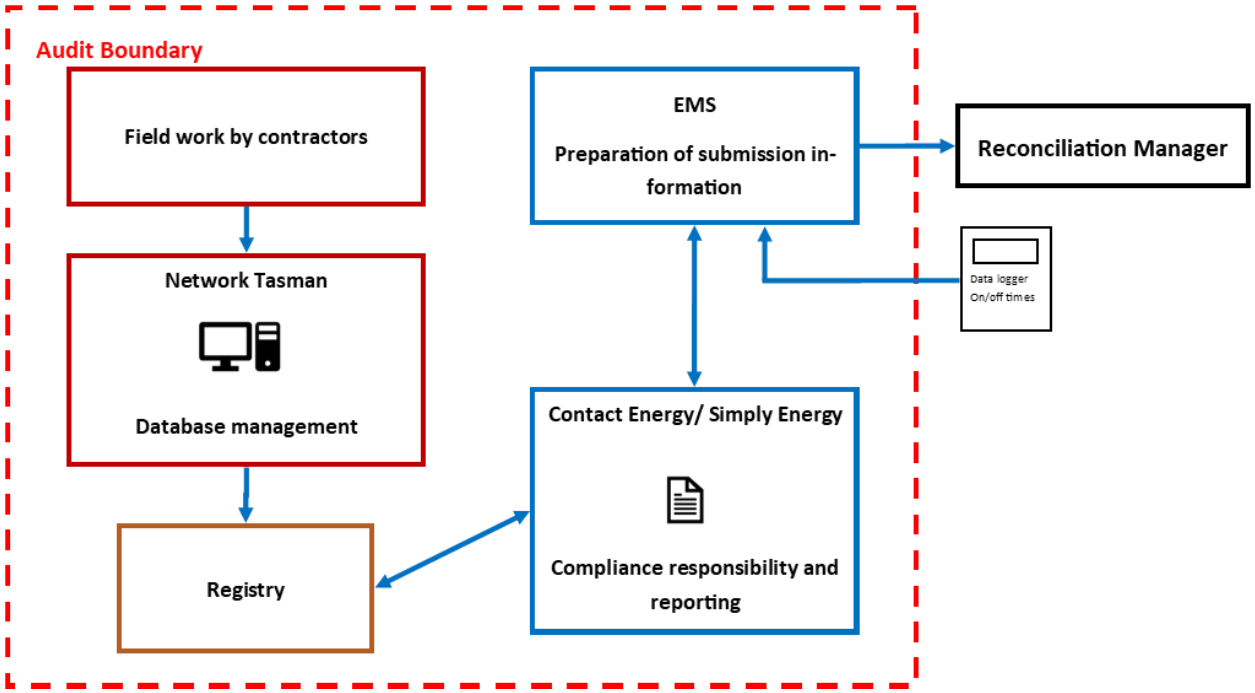
1.8. Scope of Audit

This audit of the Tasman NZTA DUML database and processes was conducted at the request of Contact Energy Limited (Contact) 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.

Network Tasman hold an access database for the Tasman NZTA unmetered streetlights. Fault, maintenance and upgrade work is conducted by contractors. Network Tasman provided a database extract for this audit but stated that they do not maintain the database for use as a DUML database for traders, but rather to meet requirements as a distributor under the Code and for billing purposes.

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 115 items of load on 27 and 28 March 2024.

1.9. Summary of previous audit

The previous audit of this database was undertaken by Rebecca Elliot of Veritek Limited in October 2022. The summary table below shows the statuses of the non-compliances raised in the previous audit.

Table of non-compliances

Subject	Section	Clause	Non-compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 8,600 kWh higher than the DUML database indicates. Incorrect wattages for 11 items of load resulting in an estimated minor under submission of 482.6kWh per annum.	Still existing
Description and capacity of load	2.4	11(2)(c)&(d) of Schedule 15.3	One item of load with no light or wattage details populated.	Cleared
All load recorded in database	2.5	11(2A) of Schedule 15.3	Three additional lamps identified in the field of 105 items of load sampled.	Still existing for one additional lamp
Database accuracy	3.1	15.2 and 15.37B(b)	Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 8,600 kWh higher than the DUML database indicates. One item of load with no light or wattage details populated. Incorrect wattages for 11 items of load resulting in an estimated minor under submission of 482.6kWh per annum.	Still existing for database inaccuracy and incorrect wattages
Volume information accuracy	3.2	15.2 and 15.37B(c)	Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 8,600 kWh higher than the DUML database indicates. Incorrect wattages for 11 items of load resulting in an estimated minor under submission of 482.6kWh per annum.	Still existing

Table of recommendations

Subject	Section	Recommendation	Status
Database Accuracy	3.1	Update database with lamp descriptions to confirm the correct wattage has been applied.	Still existing

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

Code reference

Clause 16A.26 and 17.295F

Code related audit information

Retailers must ensure that DUML database audits are completed:

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

Audit observation

Contact have requested Provera 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.

Audit outcome

Compliant

2. DUML DATABASE REQUIREMENTS

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

Code reference

Clause 11(1) of Schedule 15.3

Code related audit information

The retailer must ensure the:

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

Audit observation

The process for calculation of consumption was examined and the application of profiles was checked. The database was checked for accuracy.

Audit commentary

Submission process and accuracy

Contact reconciles this DUML load under the DST profile for ICPs 0000090007NTA60, 0000090009NT9FB, 0000090010NTD07 and 0000090012NTD82 using the registry distributor unmetered load kW details. Contact send the monthly kW values to EMS. EMS prepare the submission file using the data logger hours to determine the burn hours and the file is then sent to Contact who submit the data under the CTCS code.

ICP 0000090011NT142 is being reconciled as standard unmetered load using the RPS profile. There are 11 lights associated with this ICP in the St Arnaud area. The field audit confirmed that the lights have individual points of connection so cannot be collectively treated as a standard unmetered load ICP. The Electricity Authority's Guidelines on Unmetered Load Management Version 2.1 define standard unmetered load as having a single point of connection as shown in the extract below. As the 11 lights have individual points of connection, they do not meet the standard unmetered load requirements and should be treated as DUML.

Standard unmetered load

29. Standard **unmetered load** is **unmetered load** at a single **point of connection** that is distributed across only one **ICP**, and that benefits only that one **point of connection**. The general requirements stated above apply.

Network Tasman provided a database extract for this audit but stated that they do not maintain the database for use as a DUML database for traders, but rather to meet requirements as a distributor under the Code and for billing purposes. I recommend that Contact work with their customer to establish and maintain an up to date and accurate database for management of these DUML ICPs.

Recommendation	Description	Audited party comment	Remedial action
Deriving submission information	Work with their customer to establish and maintain an up to date and accurate database for management of these DUML ICPs.	Simply has requested Network Tasman send a monthly database extract	Identified

I checked the submission values used for January 2024 against the database extract and confirmed that that all four ICPs reconciled using the DST profile match. I confirmed that the registry daily unmetered

kWh value recorded in the registry aligns with the wattage recorded in the database for ICP 0000090011NT142.

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.

Contact uses the registry distributor unmetered load wattage figure as a monthly snapshot of the total wattage which does not account for changes at a daily level.

Database accuracy

Examination of the database found:

Issue	Estimated volume information impact (annual kWh)
Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 59,000 kWh lower than the DUML database indicates. Changes made in the field are not consistently updated in the database as recorded in **section 3.1**	Over submission of 59,000 kWh p.a.
Incorrect wattages for eight items of load resulting in an estimated minor under submission of 316.1kWh per annum as recorded in **section 3.1**	Under submission of 10,336 kWh p.a.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: 14-Aug-21 To: 28-Mar-24	ICP 0000090011NT142 incorrectly reconciled as standard unmetered load under the RPS profile. Contact uses the registry distributor unmetered load wattage figure as a monthly snapshot of the total wattage which does not account for changes at a daily level. Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 59,000 kWh lower than the DUML database indicates. Incorrect wattages for eight items of load resulting in an estimated minor under submission of 316.1kWh per annum. Potential impact: High Actual impact: High Audit history: Multiple times Controls: Weak Breach risk rating: 9
Audit risk rating	**Rationale for audit risk rating**

High	The controls are rated as weak as the database is not being regularly updated with changes made in the field. The audit risk rating indicates that the impact of database inaccuracy is high based on the estimated kWh of over submission.

Actions taken to resolve the issue	**Completion date**	**Remedial action status**
Simply to update profile on 0000090011NT142 from RPS to DST	01/05/2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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 was recorded against each item of load.

Audit commentary

All items of load have an ICP assigned.

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 fields for light ID, location description, area and GPS co-ordinates. The database contains GPS co-ordinates recorded for 66 of the 622 lights. The database information is sufficient to locate the items of load.

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 light type and wattage capacity,
- wattage capacities include any ballast or gear wattage, and
- each item of load has a light type, light wattage, and gear wattage recorded.

Audit commentary

The database contains fields for lamp type, lamp size and total wattage (this includes ballast where required). All items of load have a lamp type, lamp size and total wattage populated. No items of load have invalid zero lamp or gear wattages.

The accuracy of the recorded wattages and lamp descriptions is discussed in **section 3.1**.

Audit outcome

Compliant

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

Code reference

Clause 11(2A) of Schedule 15.3

Code related audit information

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

Audit observation

The field audit was undertaken of a statistical sample of 115 items of load on 27 and 28 March 2024. The sample was selected from three strata, as detailed in **section 3.1**.

Audit commentary

The field audit discrepancies are detailed in the table below:

Street or area	Database count	Field count	Light count difference	Wattage recorded incorrectly	Comments
Waller Street	27	27	-	5	2 x 150W SON recorded in the database but 2 x 103W LED found in the field

Street or area	Database count	Field count	Light count difference	Wattage recorded incorrectly	Comments
					2 x 100W SON recorded in the database but 2 x 103W LED found in the field 1 x 100W SON recorded in the database but 1 x 46W LED found in the field
Rutherford Memorial Hall - 662 Wakefield-Kohatu Highway	1	1	-	1	1 x 70W SON recorded in the database but 1 x 27W LED found in the field
Redwood Road/ SH60 Intersection	1	1	-	1	1 x 150W SON recorded in the database but 1 x 103W LED found in the field
Westdale Road/By Pass Intersn	1	1	-	1	1 x 250W SON recorded in the database but 1 x 103W LED found in the field
Bronte Road	1	1	-	1	1 x 150W SON recorded in the database but 1 x 103W LED found in the field
Lodders Lane Cnr	1	1	-	1	1 x 150W SON recorded in the database but 1 x 27W LED found in the field
Takaka Hill H/way - Riwaka Kaiteriteri Rd Intersection	1	1	-	1	1 x 150W SON recorded in the database but 1 x 103W LED found in the field
Riwaka-Sandy Bay Road Intersection	1	1	-	1	1 x 150W SON recorded in the database but 1 x 27W LED found in the field
Link Road Roundabout	5	5	-	5	3 x 250W SON recorded in the database but 3 x 103W LED found in the field 2 x 70W SON recorded in the database but 2 x 103W LED found in the field
Kidsons Nayland Area	5	5	-	3	3 x 250W SON recorded in the database but 3 x 150W LED found in the field
Waimea Road/Beatson Road Roundabout	4	4	-	1	1 x 250W SON recorded in the database but 1 x 103W LED found in the field
Waimea Rd end	4	4	-	1	1 x 250W SON recorded in the database but 1 x 103W LED found in the field
Tahunanui Drive	24	25	+1	5	1x additional 48W LED found in the field 4 x 150W SON recorded in the database but 4 x 103W LED found in the field 1 x 27W LED recorded in the database but 1 x 150W SON found in the field
Grand Total	**115**	**116**	**+1**	**27**	

The field audit found one additional item of load in the field of 115 items of load sampled; this is recorded as non-compliance below. The database accuracy is discussed in **section 3.1**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.5 With: Clauses 11(2A) of Schedule 15.3 From: 14-Aug-21 To: 28-Mar-24	One additional lamp identified in the field of 115 items of load sampled. Potential impact: Low Actual impact: Low Audit history: Three times Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as weak as the database is not being regularly updated with changes made in the field. The impact is assessed to be low as only one additional lamp was found in the field in relation to the overall count of the items of load.

Actions taken to resolve the issue	Completion date	Remedial action status
All discrepancies found will be reviewed and corrected by Network Tasman where necessary	01/06/2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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 database has a complete and compliant audit trail.

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

The database has a complete audit trail.

Audit outcome

Compliant

3. ACCURACY OF DUML DATABASE

3.1. Database accuracy (Clause 15.2 and 15.37B(b))

Code reference

Clause 15.2 and 15.37B(b)

Code related audit information

Audit must verify that the information recorded in the retailer's DUML database is complete and accurate.

Audit observation

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

Plan Item	Comments
Area of interest	Tasman NZTA Street Lights
Strata	The database contains the items of load for DUML ICPs on the Network Tasman network. The processes for the management of all items of load are the same, but I decided to place the items of load into three strata based on geographic area: 1. Rural South, 2. Rural West, and 3. Nelson urban.
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 31 sub-units.
Total items of load	115 items of load were checked.

Wattages for all items of load were checked against the published standardised wattage tables produced by the Electricity Authority, and the manufacturer's specifications or in the case of LED lights against the LED light specification.

Audit commentary

Database accuracy

A field audit was conducted of a statistical sample of 115 items of load. The "database auditing tool" was used to analyse the results, which are shown in the table below.

Result	Percentage	Comments
The point estimate of R	84.4	Wattage from survey is lower than the database wattage by 15.6%
R_L	76.7	With a 95% level of confidence, it can be concluded that the error could be between -23.3% and -6.8%
R_H	93.2	

These results were categorised in accordance with the "Distributed Unmetered Load Statistical Sampling Audit Guideline", effective from 1 February 2019. The table below shows that Scenario A (detailed

below) applies, and the best available estimate indicates that the database is not accurate within ± 5.0%.

In absolute terms the installed capacity is estimated to be 14 kW lower than the database indicates.

There is a 95% level of confidence that the installed capacity is between 6 kW and 21 kW lower than the database.

In absolute terms, total annual consumption is estimated to be 59,000 kWh lower than the DUML database indicates.

There is a 95% level of confidence that the annual consumption is between 25,900 kWh p.a. to 88,000 kWh p.a. lower than the database indicates.

Scenario	Description
A - **Good accuracy, good precision**	This scenario applies if: (a) R_H is less than 1.05; and (b) R_L is greater than 0.95 The conclusion from this scenario is that: (a) the best available estimate indicates that the database is accurate within +/- 5 %; and (b) this is the best outcome.
B - **Poor accuracy, demonstrated with statistical significance**	This scenario applies if: (a) the point estimate of R is less than 0.95 or greater than 1.05 (b) as a result, either R_L is less than 0.95 or R_H is greater than 1.05. There is evidence to support this finding. In statistical terms, the inaccuracy is statistically significant at the 95% level
C - **Poor precision**	This scenario applies if: (a) the point estimate of R is between 0.95 and 1.05 (b) R_L is less than 0.95 and/or R_H is greater than 1.05 The conclusion from this scenario is that the best available estimate is not precise enough to conclude that the database is accurate within +/- 5 %

Light description and capacity accuracy

Lamp and gear wattages were compared to the expected values. This found a minor number of discrepancies. These are detailed in the table below, and they were also reported in the previous audit:

Lamp make model	Quantity	Database lamp wattage	Expected lamp wattage	Variance
SON (100W)	3	111	114	-9
SON (400W)	5	425	438	-65
			TOTAL	-74

This will result in an estimated annual under submission of 316.1kWh per annum (based on 4,271 burn hours). This is recorded as non-compliance below.

As recorded in previous audits, there are nine lights recorded with a light type of "Various". The details are insufficient to determine if the correct wattage has been recorded. The database records all 321 LED lights as "LED" lights only. There are 24 different LED wattages recorded. I repeat the recommendation from the last audit that all light descriptions especially LED lights are reviewed to ensure that they contain enough detail to confirm that the correct wattage has been applied.

Recommendation	Description	Audited party comment	Remedial action
Database Accuracy	Update database with lamp descriptions to confirm the correct wattage has been applied.	All discrepancies found will be reviewed and corrected by Network Tasman where necessary	Identified

Change management process findings

Fault, maintenance and upgrade work is managed by contractors who are expected to advise Network Tasman of the changes made in the field. I was not able to review the processes as the database held by Network Tasman is maintained for the purpose of billing line charges and not for submission purposes. As indicated by the number of discrepancies found in the field audit, changes are not being consistently recorded in the database.

Festive lights

Review of the database did not identify any festive lights. In previous audits it has been confirmed that there is no festive lighting used for NZTA on the Network Tasman network.

Private lights

Review of the database did not identify any private lights.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: 14-Jan-21 To: 28-Mar-24	Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 59,000 kWh lower than the DUML database indicates. Changes made in the field are not consistently updated in the database. Incorrect wattages for eight items of load resulting in an estimated minor under submission of 316.1kWh per annum. Potential impact: High Actual impact: High Audit history: Multiple times previously Controls: Weak Breach risk rating: 9
Audit risk rating	**Rationale for audit risk rating**

High	The controls are rated as weak as the database is not being regularly updated with changes made in the field. The audit risk rating indicates that the impact of database inaccuracy is high based on the estimated kWh of over submission.

Actions taken to resolve the issue	Completion date	Remedial action status
All discrepancies found will be reviewed and corrected by Network Tasman where necessary	01/10/2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

3.2. Volume information accuracy (Clause 15.2 and 15.37B(c))

Code reference

Clause 15.2 and 15.37B(c)

Code related audit information

The audit must verify that:

- *volume information for the DUML is being calculated accurately,*
- *profiles for DUML have been correctly applied.*

Audit observation

The submission was checked for accuracy for the month the database extract was supplied. This included:

- checking the registry to confirm that the ICP has the correct profile and submission flag, and
- checking the database extract combined with the on hours against the submitted figure to confirm accuracy.

Audit commentary

Submission process and accuracy

Contact reconciles this DUML load under the DST profile for ICPs 0000090007NTA60, 0000090009NT9FB, 0000090010NTD07 and 0000090012NTD82 using the registry distributor unmetered load kW details. Contact send the monthly kW values to EMS. EMS prepare the submission file using the data logger hours to determine the burn hours and the file is then sent to Contact who submit the data under the CTCS code.

ICP 0000090011NT142 is being reconciled as standard unmetered load using the RPS profile. There are 11 lights associated with this ICP in the St Arnaud area. The field audit confirmed that the lights have individual points of connection so cannot be collectively treated as a standard unmetered load ICP. The Electricity Authority's Guidelines on Unmetered Load Management Version 2.1 define standard unmetered load as having a single point of connection as shown in the extract below. As the 11 lights have individual points of connection, they do not meet the standard unmetered load requirements and should be treated as DUML.

Standard unmetered load

29. Standard **unmetered load** is **unmetered load** at a single **point of connection** that is distributed across only one **ICP**, and that benefits only that one **point of connection**. The general requirements stated above apply.

Network Tasman provided a database extract for this audit but stated that they do not maintain the database for use as a DUML database for traders, but rather to meet requirements as a distributor under the Code and for billing purposes. I have recommended in **section 2.1** that Contact work with their customer to establish and maintain an up to date and accurate database for management of these DUML ICPs.

I checked the submission values used for January 2024 against the database extract and confirmed that that all four ICPs reconciled using the DST profile match. I confirmed that the registry daily unmetered kWh value recorded in the registry aligns with the wattage recorded in the database for ICP 0000090011NT142.

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.

Contact uses the registry distributor unmetered load wattage figure as a monthly snapshot of the total wattage which does not account for changes at a daily level.

Database accuracy

Examination of the database found:

Issue	Estimated volume information impact (annual kWh)
Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 59,000 kWh lower than the DUML database indicates. Changes made in the field are not consistently updated in the database as recorded in **section 3.1**	Over submission of 59,000 kWh p.a.
Incorrect wattages for eight items of load resulting in an estimated minor under submission of 316.1kWh per annum as recorded in **section 3.1**	Under submission of 10,336 kWh p.a.

Audit outcome

Non-compliant

Non-compliance	Description

Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c) From: 14-Aug-21 To: 28-Mar-24	ICP 0000090011NT142 incorrectly reconciled as standard unmetered load under the RPS profile. Contact uses the registry distributor unmetered load wattage figure as a monthly snapshot of the total wattage which does not account for changes at a daily level. Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 59,000 kWh lower than the DUML database indicates. Incorrect wattages for eight items of load resulting in an estimated minor under submission of 316.1kWh per annum. Potential impact: High Actual impact: High Audit history: Multiple times Controls: Weak Breach risk rating: 9
Audit risk rating	**Rationale for audit risk rating**
High	The controls are rated as weak as the database is not being regularly updated with changes made in the field. The audit risk rating indicates that the impact of database inaccuracy is high based on the estimated kWh of over submission.

Actions taken to resolve the issue	**Completion date**	**Remedial action status**
Simply to update profile on 0000090011NT142 from RPS to DST	01/05/2024	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

CONCLUSION

Network Tasman hold an access database for the Tasman NZTA unmetered streetlights. Fault, maintenance and upgrade work is conducted by contractors. Network Tasman provided a database extract for this audit but stated that they do not maintain the database for use as a DUML database for traders, but rather to meet requirements as a distributor under the Code and for billing purposes. Network Tasman do not provide monthly extracts to Contact. I have recommended that Contact work with their customer to establish and maintain an up to date and accurate database for management of these DUML ICPs.

Contact reconciles this DUML load under the DST profile for ICPs 0000090007NTA60, 0000090009NT9FB, 0000090010NTD07 and 0000090012NTD82 using the registry distributor unmetered load kW details populated by Network Tasman and the on hours recorded by a data logger. ICP 0000090011NT142 is being reconciled as standard unmetered load using the RPS profile with the daily unmetered kWh calculated from the registry distributor's unmetered load details, including the wattage and on hours. This load does not meet the requirements for standard unmetered load as the lights are spread over a large area and there is not a single point of connection to the network, and therefore should be treated as DUML.

The field audit found that the database is not confirmed as accurate within +/-5%. In absolute terms, total annual consumption is estimated to be 59,000 kWh lower than the DUML database indicates. There were 27 lights with an incorrect wattage recorded and one additional light found in the field from a sample of 115. The majority of the inaccuracies were due to LED upgrades not being recorded in the database.

The audit found four non-compliances and makes two recommendations. The future risk rating of 30 indicates that the next audit be completed in three months. I have considered this in conjunction with Contact's comments and recommend that the next audit be in 12 months to allow time for Contact to work with Network Tasman to make corrections to the database and establish a regular reporting process.

PARTICIPANT RESPONSE

Network Tasman are committed to ensuring their database is correct and are working to fix discrepancies identified.