

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

For

**NZTA NELSON AREA AND
MANAWA ENERGY
NZBN: 9429038917912**

Prepared by: Steve Woods

Date audit commenced: 8 August 2022

Date audit report completed: 9 September 2022

Audit report due date: 1 September 2022

TABLE OF CONTENTS

Executive summary	3
Audit summary	4
Non-compliances	4
Recommendations	5
Issues	5
1. Administrative	6
1.1. Exemptions from Obligations to Comply with Code	6
1.2. Structure of Organisation	6
1.3. Persons involved in this audit.....	7
1.4. Hardware and Software	7
1.5. Breaches or Breach Allegations.....	7
1.6. ICP Data	7
1.7. Authorisation Received	7
1.8. Scope of Audit	8
1.9. Summary of previous audit	9
1.10. Distributed unmetered load audits (Clause 16A.26 and 17.295F)	10
2. DUML database requirements	11
2.1. Deriving submission information (Clause 11(1) of Schedule 15.3)	11
2.2. ICP identifier and items of load (Clause 11(2)(a) and (aa) of Schedule 15.3)	12
2.3. Location of each item of load (Clause 11(2)(b) of Schedule 15.3)	13
2.4. Description and capacity of load (Clause 11(2)(c) and (d) of Schedule 15.3)	13
2.5. All load recorded in database (Clause 11(2A) of Schedule 15.3)	14
2.6. Tracking of load changes (Clause 11(3) of Schedule 15.3)	16
2.7. Audit trail (Clause 11(4) of Schedule 15.3).....	16
3. Accuracy of DUML database	17
3.1. Database accuracy (Clause 15.2 and 15.37B(b))	17
3.2. Volume information accuracy (Clause 15.2 and 15.37B(c))	19
Conclusion	21
Participant response	22

EXECUTIVE SUMMARY

This audit of the **NZTA Nelson Unmetered Streetlights** DUMML 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 DUMML audits version 1.1.

The database is remotely hosted by thinkproject New Zealand Limited (formerly RAMM NZ Ltd). The field work is carried out by Tasman Journeys and the asset data capture is conducted by WSP Ltd (formerly Opus Consulting) directly into RAMM. A monthly report is expected to be provided to Manawa by WSP.

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

A full field audit was undertaken which found that the database was within the allowable +/-5% variance threshold and is therefore deemed to be accurate. The Manawa database was used for this audit. Previously the NZTA database has been used, but I was not able to obtain a copy of the database from NZTA for this audit. I am unsure if the original database held by NZTA has been updated with changes. The Manawa database has been updated and is also used for submission.

No reports have been received by Manawa from NZTA since this ICP commenced trading. I recommend in **section 3.1**, that the change management process is reviewed to ensure updates made in the field are updated in the database and provided to Manawa in a timely manner.

This audit was due on 1 September 2022, however the field audit was delayed due to the State of Emergency in the Nelson area following the recent storms, and the closure of the roads in the audit area.

This audit found five non-compliances and one recommendation is made. The future risk rating of 14 indicates that the next audit be completed in 12 months. I have considered this in conjunction with Manawa's comments and recommend that the next audit be in 12 months.

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Deriving submission information	2.1	Clause 11(1) of Schedule 15.3	Eight lights with the incorrect light description. The correct wattage is recorded so this has no impact on reconciliation. 17 items of load do not have a lamp make and lamp model populated in the database.	Weak	Low	3	Identified
Description and capacity of load	2.4	Clause 11(2)(c) & (d) of Schedule 15.3	17 lights with no lamp make and model populated.	Weak	Low	3	Identified
All load recorded in database	2.5	Clause 11(2A) of Schedule 15.3	One additional light found in the field.	Moderate	Low	2	Identified
Database accuracy	3.1	Clause 15.2 and 15.37B(b)	Eight lights with the incorrect light description. The correct wattage is recorded so this has no impact on reconciliation. 17 items of load do not have a lamp make and lamp model populated in the database.	Weak	Low	3	Identified
Volume information accuracy	3.2	Clause 15.2 and 15.37B(c)	Eight lights with the incorrect light description. The correct wattage is recorded so this has no impact on reconciliation. 17 items of load do not have a lamp model and lamp model populated in the database.	Weak	Low	3	Identified
Future Risk Rating						14	

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
Database accuracy	3.1	Review the change management process to ensure that updates made in the field are updated in the database in a timely manner, and reporting is provided to Manawa.

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

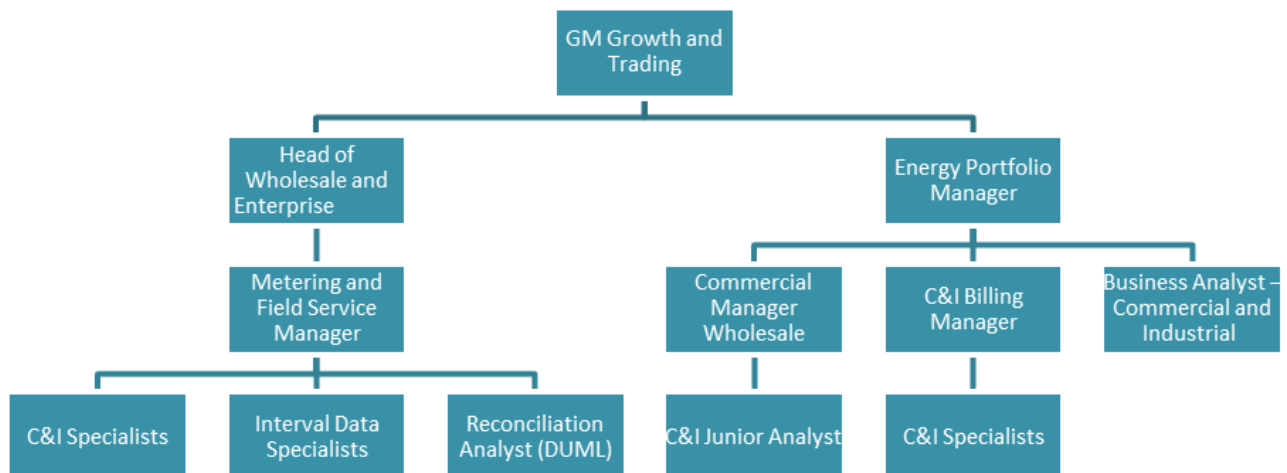
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

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

Auditors:

Name	Company	Role
Steve Woods	Veritek Limited	Lead Auditor
Claire Stanley	Veritek Limited	Supporting Auditor

Other personnel assisting in this audit were:

Name	Title	Company
Robbie Diederer	Reconciliation Analyst	Manawa Energy
Barry Harkerss	Corporate Account Manager	Manawa Energy
Phil Hamblin	Senior Network Manager Nelson/Tasman	NZTA

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.

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)
0000202024CT59F	NZTA SH6 Streetlights	STK0331	STL	114	18,403

1.7. Authorisation Received

All information was provided directly by Manawa and NZTA.

1.8. Scope of Audit

This audit of the **NZTA Nelson Unmetered Streetlights** DUML database and processes was conducted at the request of **Manawa Energy (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.

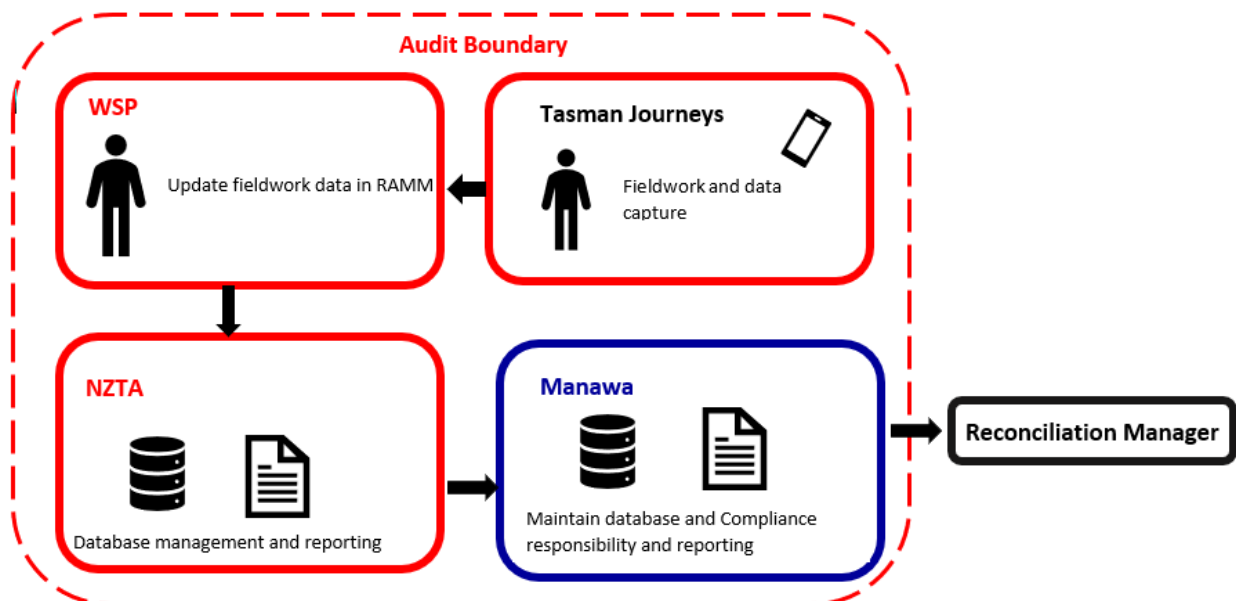
The audit was conducted in accordance with the audit guidelines for DUML audits version 1.1.

The database 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 asset data capture and database population are conducted by WSP. The maintenance field work is carried out by Tasman Journeys.

New project work is carried out by Tasman Journeys who pass the information to WSP to load directly into RAMM once the work is complete.

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.



1.9. Summary of previous audit

The previous audit was undertaken by Rebecca Elliot of Veritek Limited in September 2021. The summary table below shows the statuses of the non-compliances and recommendations raised in the previous audit. Further comment is made in the relevant sections of this report

Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	Variance in light volumes reported to Trustpower vs what is recorded in the database is likely to be resulting in an estimated 1,760 kWh per annum of over submission.	Cleared
			Database is not confirmed as accurate within the +/-5% threshold. Resulting in an estimated over submission of 4,425 kWh per annum (based on 4,271 annually).	Cleared
All load recorded in database	2.5	11(2A) of Schedule 15.3	One additional light found in the field.	Still existing for another light.
Database accuracy	3.1	15.2 and 15.37B(b)	Database is not confirmed as accurate within the +/-5% threshold. Resulting in an estimated over submission of 4,425 kWh per annum (based on 4,271 annually).	Cleared
			Ten lights with the incorrect light description. The correct wattage is recorded so this has no impact on reconciliation.	Still existing for eight lights.
			One light with the incorrect ballast recorded. The impact on submission is negligible.	Cleared
Volume information accuracy	3.2	15.2 and 15.37B(c)	Variance in light volumes reported to Trustpower vs what is recorded in the database is likely to be resulting in an estimated 1,760 kWh per annum of over submission.	Cleared
			Database is not confirmed as accurate within the +/-5% threshold. Resulting in an estimated over submission of 4,425 kWh per annum (based on 4,271 annually).	Cleared

Table of Recommendations

Subject	Section	Recommendation	Status
Location of each item of load	2.3	Record GPS co-ordinates for the 14 items of load on Queen Elizabeth Drive.	Cleared
Database accuracy	3.1	Review the change management process to ensure that updates made in the field are updated in the database in a timely manner.	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

Manawa have requested Veritek to undertake this streetlight audit.

Audit commentary

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

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. A monthly report is provided if there have been changes made to the database. If no changes have been made, then the existing data set is used. If changes are made, then Manawa have requested that the date of the change is supplied so that submission can be calculated accordingly.

No database updates have been received since submission commenced for this ICP and a copy of the database was not provided by NZTA for this audit, therefore I used the database provided by Manawa. I have recommended in **section 3.1**, that the change management process is reviewed.

I checked the submission data for July 2022 for the one ICP associated with the NZTA Nelson database using the value submitted by Manawa and the database information provided by Manawa and confirmed the calculation for July 2022 was correct.

The field audit indicated that the database was within the allowable +/-5% variance threshold and is therefore deemed to be accurate. This is discussed in **section 3.1**.

Some database content inaccuracies have led to incomplete and incorrect information as detailed in **sections 2.4** and **3.1**. Specifically:

- eight lights with the incorrect light description (this has no impact on reconciliation as the correct wattages are recorded), and
- 17 items of load do not have a lamp model and lamp model populated in the database.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: 04-Aug-21 To: 16-Aug-22	<p>Eight lights with the incorrect light description. The correct wattage is recorded so this has no impact on reconciliation.</p> <p>17 items of load do not have a lamp make and lamp model populated in the database.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Once</p> <p>Controls: Weak</p> <p>Breach risk rating: 3</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are rated as weak as changes made in the field are not being reflected in the database and I have recommended this process is reviewed.</p> <p>The impact is assessed to be low due to the field audit confirming the correct wattage.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Have contacted NZTA and WJ Ashton to see what they have recorded and have changed accordingly		15/9/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Have amended accordingly		15/9/2022	

2.2. ICP identifier and items of load (Clause 11(2)(a) and (aa) of Schedule 15.3)

Code reference

Clause 11(2)(a) and (aa) of Schedule 15.3

Code related audit information

The DUMML database must contain:

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

Audit observation

The database was checked to confirm an ICP is recorded for each item of load.

Audit commentary

All items of load have an ICP number recorded.

Audit outcome

Compliant

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

Code reference

Clause 11(2)(b) of Schedule 15.3

Code related audit information

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

Audit observation

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

Audit commentary

The database contains fields for the road, pole number, area and GPS coordinates. In the previous audit there was a recommendation to add the co-ordinates for items of load on Queen Elizabeth Drive to the database. Manawa has updated this in their database.

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

A description of each light is recorded in the make and model fields, wattages are recorded in the lamp wattage and ballast fields. All items of load have the lamp wattage populated. 17 items of load do not have the lamp make and model populated.

The accuracy of the lamp description, capacity and ballasts recorded is discussed in **section 3.1**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.4 With: Clause 11(2)(c) & (d) of Schedule 15.3 From: 04-Aug-21 To: 16-Aug-22	17 lights with no lamp make and model populated. Potential impact: Low Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as weak as the database used for submission is not being updated with changes. The impact is assessed to be low due to the field audit confirming the correct wattage.		
Actions taken to resolve the issue		Completion date	Remedial action status
Have contacted NZTA and WJ Ashton to see what they have recorded and have changed accordingly		15/9/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Have amended accordingly		15/9/2022	

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 the entire database on September 2nd, 2022.

Audit commentary

The field audit discrepancies are detailed in the table below:

Address	Database Count	Field Count	Count differences	Wattage differences	Comments
SH 6 WAKEFIELD QUAY				1	107W LED recorded in database but 1 x 150 HPS located in the field
SH 6 ROCKS ROAD			+1		1 additional 150 HPS not recorded in the database but located in the field (near corner of Victoria Rd)
SH 6 HAVEN ROAD (SOUTHBOUND)				4	4 x148W LED recorded in the database but 4 x 150W LED located in the field

Address	Database Count	Field Count	Count differences	Wattage differences	Comments
SH 6 HAVEN ROAD (NORTHBOUND)				1	1 x148W LED recorded in the database but 1 x 150W LED located in the field
MAITAI TO ROCKS ROAD CYCLEWAY - HAY STREET TO COLLINS STREET				1	1 x148W LED recorded in the database but 1 x 150W LED located in the field
MAITAI TO ROCKS ROAD CYCLEWAY - COLLINS STREET TO ROCKS ROAD				1	1 x148W LED recorded in the database but 1 x 150W LED located in the field
HAVEN ROAD (ARTERIAL, SOUTHBOUND)				1	1 x 150W HPS recorded in the database but 1 x 150W LED located in the field
GRAND TOTAL	114	115	+1	9	

The field audit found one additional light in the field. This is recorded as non-compliance below. The accuracy of the database is detailed in **section 3.1**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.5 With: Clause 11(2A) of Schedule 15.3 From: 04-Aug-21 To: 16-Aug-22	One additional light found in the field. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as moderate, because they are sufficient to ensure that lamp information is correctly recorded most of the time. The impact is assessed to be low as only one additional item of load was found in the field audit.		
Actions taken to resolve the issue		Completion date	Remedial action status
Have amended accordingly in DB		15/9/2022	Identified
Preventative actions taken to ensure no further issue will occur		Completion date	
This is a one-off error.		15/9/2022	

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 process for tracking of changes in the database was examined.

Audit commentary

The RAMM database functionality achieves compliance with the code.

The database tracks additions and removals as required by this clause. The “light install date” is used to identify the date lights are installed and the date lights are changed.

Audit outcome

Compliant

2.7. Audit trail (Clause 11(4) of Schedule 15.3)

Code reference

Clause 11(4) of Schedule 15.3

Code related audit information

The DUMML database must incorporate an audit trail of all additions and changes that identify:

- *the before and after values for changes*
- *the date and time of the change or addition*
- *the person who made the addition or change to the database*

Audit observation

The database was checked for audit trails.

Audit commentary

The RAMM database has a complete audit trail of all additions and changes to the database information.

Audit outcome

Compliant

3. ACCURACY OF DUML DATABASE

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

Code reference

Clause 15.2 and 15.37B(b)

Code related audit information

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

Audit observation

A field audit was conducted of all 114 lights.

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

Audit commentary

Database accuracy based on the field audit

The full field audit found a number of errors as discussed in **section 2.5**. This resulted in a database accuracy of 99% which is within the +/-5% accuracy threshold therefore the database is deemed to be accurate.

Light description and capacity accuracy

As discussed in **section 2.4**:

Wattages for all items of load were checked against the published standardised wattage table produced by the Electricity Authority.

17 items of load do not have a lamp make and lamp model populated in the database. The light descriptions are insufficient to confirm the correct wattage has been applied.

Lamp models were compared to the expected model information, and six lights had the incorrect lamp model recorded:

Lamp Model recorded	Expected Lamp Model	Quantity	Recorded Lamp Wattage	Comment
HPS-T-150	HPS-T-250	1	250	The wattage was confirmed to be correct in the field audit.
Italo 2 6 Module LED 700mA	HPS-T-250	3	250	The wattage was confirmed to be correct in the field audit.
Italo2 8 module 700MA 201	Italo2 6 module 700MA	3	150	The wattage was confirmed to be correct in the field audit.
Italo2 8 module 700MA 201	Italo2 6 module 700MA	1	213	The wattage was confirmed to be correct in the field audit.

Change management process findings

Processes to track changes to the database were reviewed.

All fault and maintenance work is controlled by Tasman Journeys on behalf of NZTA, and the information is passed to WSP who update RAMM directly. As noted above the process to provide a report to Manawa when changes have been made to the database does not appear to be working as expected and I repeat the recommendation from the previous report to review the process and ensure reporting is provided.

Recommendation	Description	Audited party comment	Remedial action
Database accuracy	Review the change management process to ensure that updates made in the field are updated in the database in a timely manner, and reporting is provided to Manawa.	Will arrange meeting between all parties to put a system in place that will address this concern	Identified

Quarterly Outage Patrols are completed by Tasman Journeys.

There are no private or festive lights associated with the NZTA lights.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: 04-Aug-21 To: 16-Aug-22	<p>Eight lights with the incorrect light description. The correct wattage is recorded so this has no impact on reconciliation.</p> <p>17 items of load do not have a lamp make and lamp model populated in the database.</p> <p>Actual impact: Low</p> <p>Audit history: Once</p> <p>Controls: Weak</p> <p>Breach risk rating: 3</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The controls are rated as weak as changes made in the field are not being reflected in the database and I have recommended this process is reviewed.</p> <p>The impact is assessed to be low due to the field audit confirming the correct wattage.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Have contacted NZTA and WJ Ashton to see what they have recorded and have changed accordingly		15/9/2022	
Preventative actions taken to ensure no further issues will occur		Completion date	
Have changed accordingly		15/9/2022	

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 process for calculation of consumption was examined.

Audit commentary

Manawa reconciles this DUML load using the STL profile. The on and off times are derived from data logger information. A monthly report is provided if there have been changes made to the database. If no changes have been made, then the existing data set is used. If changes are made, then Manawa have requested that the date of the change is supplied so that submission can be calculated accordingly.

No database updates have been received since submission commenced for this ICP and a copy of the database was not provided for this audit, therefore as there have been no updates made to the database, I used the database provided by Manawa. I have recommended in **section 3.1**, that the change management process is reviewed.

I checked the submission data for July 2022 for the one ICP associated with the NZTA Nelson database using the value submitted by Manawa and the database information provided by Manawa and confirmed the calculation for July 2022 was correct.

The field audit indicated that the database was within the allowable +/-5% variance threshold and is therefore deemed to be accurate. This is discussed in **section 3.1**.

Some database content inaccuracies have led to incomplete and incorrect information as detailed in **sections 2.4** and **3.1**. Specifically:

- eight lights with the incorrect light description (this has no impact on reconciliation as the correct wattages are recorded), and
- 17 items of load do not have a lamp model and lamp model populated in the database.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c) From: 04-Aug-21 To: 16-Aug-22	Eight lights with the incorrect light description. The correct wattage is recorded so this has no impact on reconciliation. 17 items of load do not have a lamp model and lamp model populated in the database. Potential impact: Low Actual impact: Low Audit history: Once Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as weak as changes made in the field are not being reflected in the database and I have recommended this process is reviewed. The impact is assessed to be low due to the field audit confirming the correct wattage.		
Actions taken to resolve the issue		Completion date	Remedial action status
Have contacted NZTA and WJ Ashton to see what they have recorded and have changed accordingly		15/9/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Have changed accordingly		15/9/2022	

CONCLUSION

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

The database is remotely hosted by thinkproject New Zealand Limited (formerly RAMM NZ Ltd). The field work is carried out by Tasman Journeys and the asset data capture is conducted by WSP Ltd (formerly Opus Consulting) directly into RAMM. A monthly report is expected to be provided to Manawa by WSP.

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

A full field audit was undertaken which found that the database was within the allowable +/-5% variance threshold and is therefore deemed to be accurate. The Manawa database was used for this audit. Previously the NZTA database has been used, but I was not able to obtain a copy of the database from NZTA for this audit. I am unsure if the original database held by NZTA has been updated with changes. The Manawa database has been updated and is also used for submission.

No reports have been received by Manawa from NZTA since this ICP commenced trading. I recommend in **section 3.1**, that the change management process is reviewed to ensure updates made in the field are updated in the database and provided to Manawa in a timely manner.

This audit was due on the 1 September 2022, the field audit was delayed due to the State of Emergency in the Nelson area following the recent storms, and the closure of the roads in the audit area.

This audit found five non-compliances and one recommendation made. The future risk rating of 14 indicates that the next audit be completed in 12 months. I have considered this in conjunction with Manawa's comments and recommend that the next audit be in 12 months.

PARTICIPANT RESPONSE

As stated earlier in this audit, this audit only covers a small number of lights, so we should be able to get these problems sorted quickly and along with all parties co-operating we look forward to getting a clean audit next time around. We are happy that the data and database used in this audit has been confirmed to be accurate during the field audit process but will nevertheless continue to work with NZTA on accessing their database of any light changes – ensuring the datasets remain aligned.