

ELECTRICITY INDUSTRY PARTICIPATION CODE  
DISTRIBUTED UNMETERED LOAD AUDIT REPORT



For

WAKA KOTAHI WAIKATO  
AND  
GENESIS ENERGY  
NZBN: 9429037706609

Prepared by: Steve Woods

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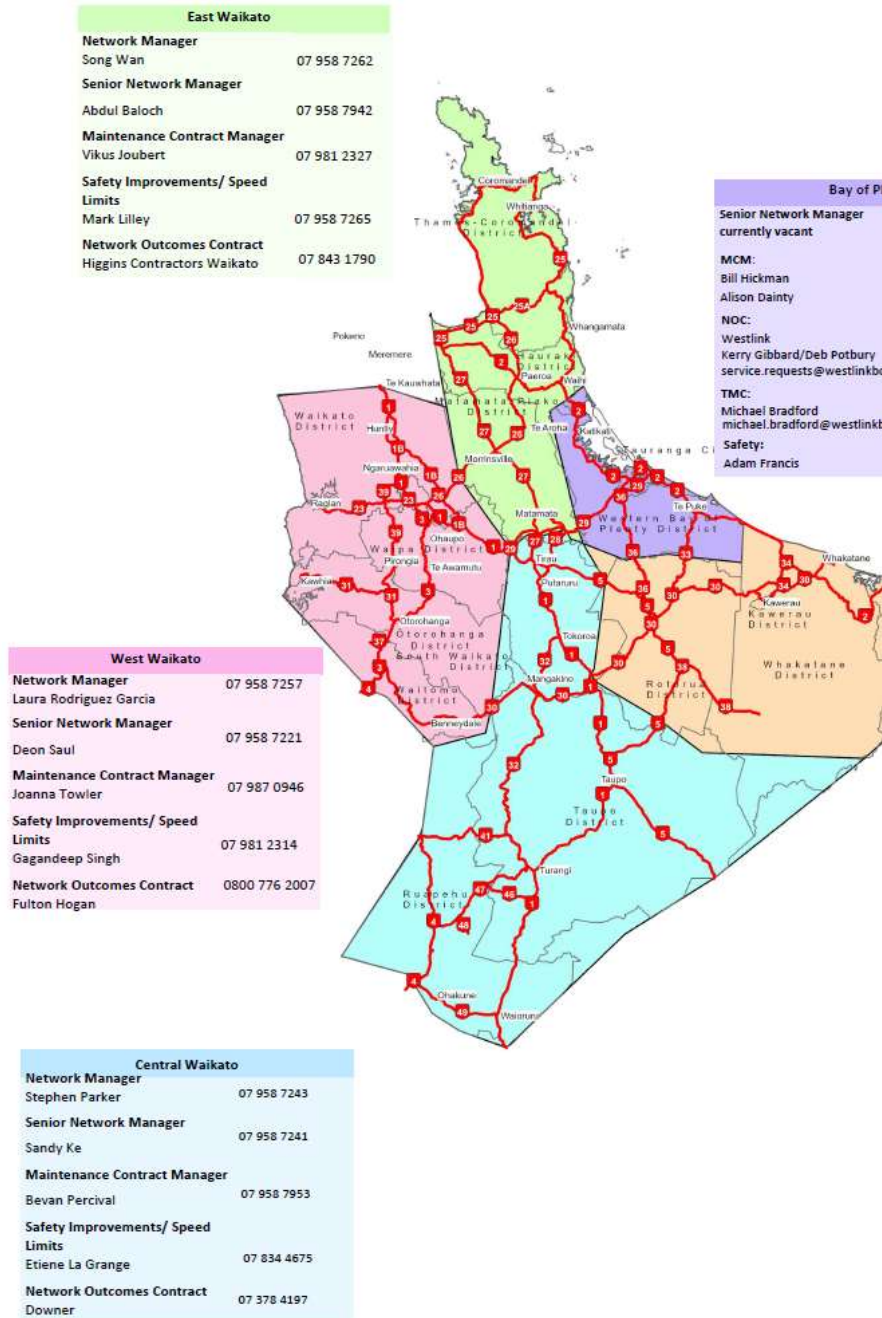
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## EXECUTIVE SUMMARY

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

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

The area covered by this audit includes the green, pink and blue areas detailed in the Waka Kotahi provided map below:



The ICPs associated with this audit are detailed in **section 1.6**.

The field audit identified 95 discrepancies, which is a 21% error rate. This is similar to previous audits, and I have therefore repeated the recommendation from the last two audits, that a full audit of the database is carried out using “as built” plans and field audits where plans are not available. I’ve also recommended the database updating processes are reviewed and improved.

Other findings are as follows:

- The database is not confirmed as accurate with a 95% level of confidence resulting in an estimated over submission of 105,300 kWh per annum,
- 37 discrepancies identified in the 2023 audit have not been corrected,
- 76 of 87 discrepancies identified in the last audit have not been corrected, and
- Two items of load with zero wattage recorded.
- Nine items of load with unknown light make.

The audit found five non-compliances and makes three recommendations. The future risk rating of 32 indicates that the next audit be completed in three months. I have considered this in conjunction with the comments from Genesis and I’ve also taken into consideration the fact that NZTA still has not conducted a full field audit and that revisions will not address inaccurate submission information outside the 14-month window. Furthermore, there are still 208 discrepancies from this audit and the last two audits which have not been corrected. I recommend the next audit is conducted 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
Deriving submission information	2.1	11(1) of Schedule 15.3	Database is not confirmed as accurate with a 95% level of confidence resulting in an estimated over submission of 105,300 kWh per annum.  37 discrepancies identified in the 2023 audit have not been corrected,  76 of 87 discrepancies identified in the last audit have not been corrected, and  Two items of load with zero wattage recorded.	Weak	High	9	Identified
Description and capacity of load	2.4	11(2)(c) and (d) of Schedule 15.3	Two items of load with zero wattage recorded.  Nine items of load with unknown light make.	Moderate	Low	2	Identified
All load recorded in database	2.5	11(2A) of Schedule 15.3	14 additional items of load identified by the field audit	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 resulting in an estimated under submission of 105,300 kWh per annum.  37 discrepancies identified in the 2023 audit have not been corrected,  76 of 87 discrepancies identified in the last audit have not been corrected, and	Weak	High	9	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			<p>Two items of load with zero wattage recorded.</p> <p>Nine items of load with unknown light make.</p> <p>Submission is based on a snapshot and does not consider changes during the month.</p>				
Volume information accuracy	3.2	15.2 and 15.37B(c)	<p>Database is not confirmed as accurate with a 95% level of confidence resulting in an estimated over submission of 105,300 kWh per annum.</p> <p>37 discrepancies identified in the 2023 audit have not been corrected,</p> <p>76 of 87 discrepancies identified in the last audit have not been corrected, and</p> <p>Two items of load with zero wattage recorded.</p>	Weak	High	9	Identified
Future Risk Rating						32	

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

## RECOMMENDATIONS

Subject	Section	Description
Database Accuracy	3.1	Conduct a full audit of the database using “as built” plans and field audits to improve accuracy.
		Review quality control processes to ensure database updates are accurate.
		Genesis to liaise with relevant networks for Waka Kotahi new connections.

## ISSUES

Subject	Section	Description	Issue
		Nil	

## 1. ADMINISTRATIVE

### 1.1. Exemptions from Obligations to Comply with Code

#### Code reference

Section 11 of Electricity Industry Act 2010.

#### Code related audit information

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

#### Audit observation

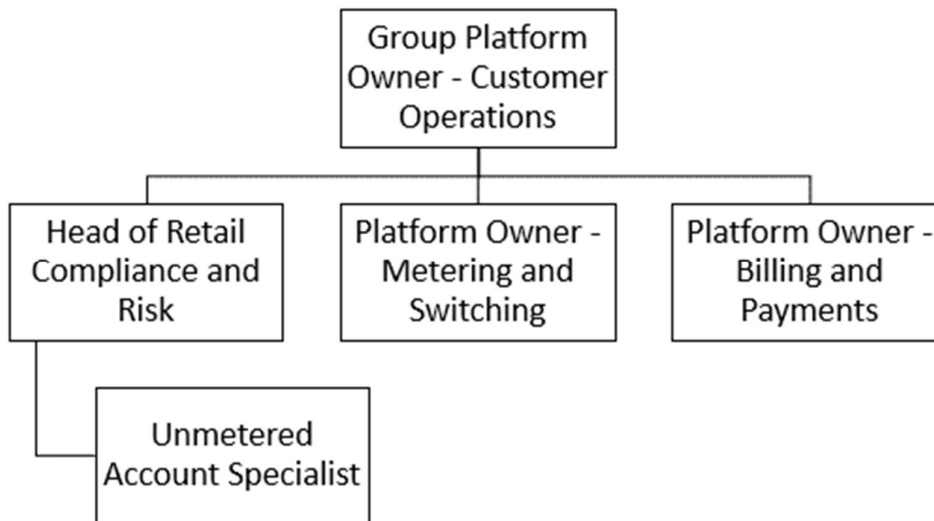
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

#### Audit commentary

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

### 1.2. Structure of Organisation

Genesis provided the relevant organisational structure:



### 1.3. Persons involved in this audit

Auditors:

Name	Company	Title
Steve Woods	Veritek Limited	Auditor

Other personnel assisting in this audit were:

Name	Title	Company
Alysha Majury	Unmetered Account Specialist	Genesis Energy
Kara Atkinson	Director	NZ Streetlighting
Sunny Zhang	Principal Network Manager, Waikato	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.

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

The Genesis Waka Kotahi Waikato DUMML database contains the following unmetered ICPs.

ICP Number	NSP	Profile	Number of items of load	Database wattage (watts)	Comment
0000011095WE94E	HAM0331	GSL	912	167,294	
0000022579WE623	HLY0331	GSL	312	50,513	
0000036247WE323	TWH0331	GSL	848	163,287	
0000036463HR791	ROT0111	GSL	16	3,568	
0000053741WE2D1	HAM0111	GSL	17	2,700	
0000381313TUB52	WRK0331	GSL	12	2,074	
0000400344WA399	TMU0111	GSL	346	54,055	
0000557929UNE2C	HIN0331	GSL	257	37,530	
0000806950WA53A	CBG0111	GSL	188	29,945	
0000890166TU7C3	WRK0331	GSL	23	3,776	
0001111171WM17A	ONG0331	GSL	19	2,792	
0001111173WM1FF	NPK0331	GSL	22	3,831	
0001111175WM070	OKN0111	GSL	54	8,994	
0001425637UN339	KPU0661	GSL	499	81,018	
0001425638UNCE7	WKO0331	GSL	367	54,498	
0008806768WM373	HTI0331	GSL	317	48,441	
0008809657WMB31	TKU0331	GSL	2	336	
0088051901WM4EB	TKU0331	GSL	58	9,869	
1000522354PCD90	PAO1101	UNM	170	24,882	UNM profile, should be GSL, under submission of 105,000 kWh per annum due to incorrect daily kWh

ICP Number	NSP	Profile	Number of items of load	Database wattage (watts)	Comment
1000608049PC05C	KIN0331	GSL	146	26,726	
1000613268PCC4A	ARI1102	GSL	135	29,982	
1000614310PC667	WHU0331	GSL	189	29,750	
1000614311PCA22	MTR0331	GSL	44	6,564	
1000614328PC38B	OKN0111	GSL	2	166	
<b>TOTAL</b>			<b>4,955</b>	<b>842,588</b>	

All items of load are now assigned to the correct ICPs. The database has metered ICPs as well, but this audit is only concerned with unmetered ICPs.

ICP 1000522354PCD90 has the UNM profile in the registry, which will be changed to a new profile.

#### 1.7. Authorisation Received

All information was provided directly by Genesis and Waka Kotahi.

#### 1.8. Scope of Audit

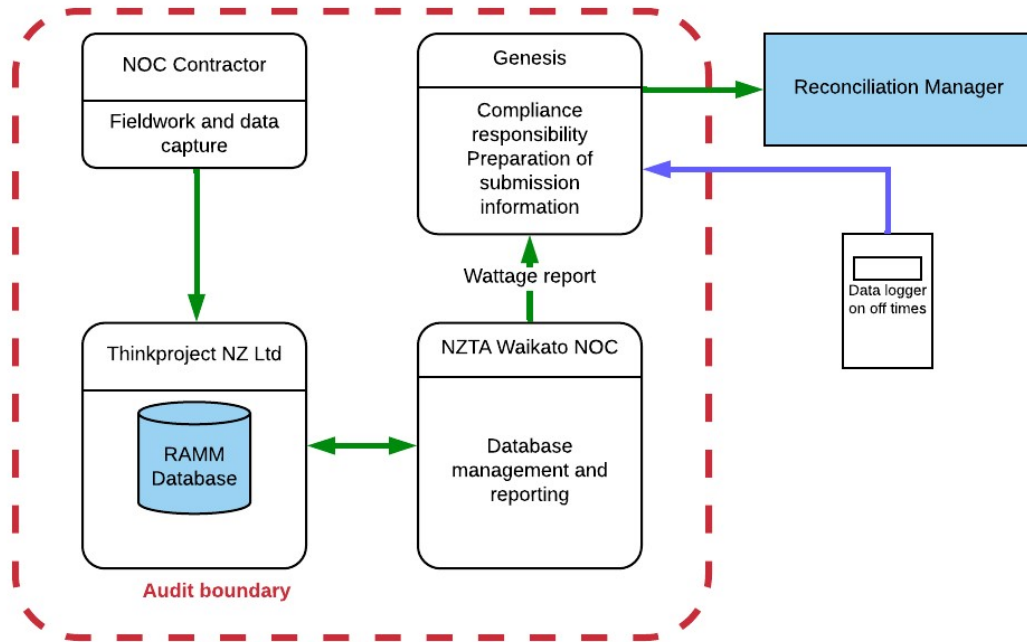
This audit of the Waka Kotahi Waikato (Waka Kotahi) DUML database and processes was conducted at the request of Genesis Energy Limited (Genesis) in accordance with clause 15.37B. The purpose of this audit is to verify that the volume information is being calculated accurately, and that profiles have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

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

Monthly reporting is provided to Genesis, which is used for billing and submission.

Contractors are assigned on an area basis but the processes to manage change in the database as are the same. The contractors for each area are detailed in the Waka Kotahi diagram in the Executive Summary.

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:



A field audit was undertaken of a statistical sample of 447 items of load (9% of the database) in the month of July 2024.

## 1.9. Summary of previous audit

The last audit report undertaken by Steve Woods of Veritek Limited in May 2024 was reviewed. The status of those audit 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	<p>Non-compliant profiles NST and CST still being used.</p> <p>Under submission of 105,000 kWh per annum for ICP 1000522354PCD90.</p> <p>Database is not confirmed as accurate with a 95% level of confidence resulting in an estimated over submission of 110,700 kWh per annum.</p> <p>35 of 103 discrepancies identified in the last audit have not been corrected.</p> <p>Two items of load with zero wattage recorded.</p>	Still existing
Description and capacity of load	2.4	11(2)(c) and (d) of Schedule 15.3	<p>Two items of load with zero wattage recorded.</p> <p>64 items of load with unknown light make.</p>	Still existing
Database accuracy	3.1	15.2 and 15.37B(b)	<p>Database is not confirmed as accurate with a 95% level of confidence resulting in an estimated under submission of 110,700 kWh per annum.</p> <p>35 of 103 discrepancies identified in the last audit not corrected.</p> <p>Two items of load with zero wattage recorded.</p> <p>64 items of load with unknown light make.</p> <p>Submission is based on a snapshot and does not consider changes during the month.</p>	Still existing
Volume information accuracy	3.2	15.2 and 15.37B(c)	<p>Non-compliant profiles NST and CST still being used.</p> <p>Under submission of 105,000 kWh per annum for ICP 1000522354PCD90.</p> <p>Database is not confirmed as accurate with a 95% level of confidence resulting in an estimated over submission of 110,700 kWh per annum.</p> <p>35 of 103 discrepancies identified in the last audit have not been corrected.</p> <p>Two items of load with zero wattage recorded.</p>	Still existing

## Table of Recommendations

Subject	Section	Recommendation for Improvement	Status
Database Accuracy	3.1	Conduct a full audit of the database using “as built” plans and field audits to improve accuracy.	Repeated
		Review quality control processes to ensure database updates are accurate.	Repeated
		Genesis to liaise with relevant networks for Waka Kotahi new connections.	Repeated

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

#### Code reference

*Clause 16A.26 and 17.295F*

#### Code related audit information

*Retailers must ensure that DUML database audits are completed:*

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

#### Audit observation

Genesis have requested Veritek to undertake this streetlight audit.

#### Audit commentary

This audit report confirms compliance with this clause.

#### 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.

#### Audit commentary

The Genesis reconciles this DUML load using the GSL and UNM profiles as indicated in **section 1.6** above.

I reviewed the submission for the month of July 2024 and found that the kWh values matched the database.

As discussed in **section 3.1**:

- the database is not confirmed as accurate with a 95% level of confidence resulting in an estimated over submission of 105,300 kWh per annum,
- 37 discrepancies identified in the 2023 audit have not been corrected,
- 76 of 87 discrepancies identified in the last audit have not been corrected, and
- two items of load with zero wattage recorded.

#### Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3  From: 01-May-24 To: 07-Aug-24</p>	<p>Database is not confirmed as accurate with a 95% level of confidence resulting in an estimated over submission of 105,300 kWh per annum.</p> <p>37 discrepancies identified in the 2023 audit have not been corrected, 76 of 87 discrepancies identified in the last audit have not been corrected, and Two items of load with zero wattage recorded.</p> <p>Potential impact: High Actual impact: High Audit history: Multiple times previously. Controls: Weak Breach risk rating: 9</p>
Audit risk rating	Rationale for audit risk rating
<p><b>High</b></p>	<p>The controls are recorded to be weak because they don't ensure the database is accurate and the issues recorded in previous audits have not been remedied.</p> <p>The impact is assessed to be high due to the estimated kWh impact.</p>

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis continues to notify and provide NZTA with the audit findings and discrepancies identified and has continued to strongly recommend these are investigated and updated in their system.	Continuous Improvement	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
1000522354PCD90 profile has been changed to GSL	02/09/2024	

## 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

The database extract provided had an ICP recorded for all items of load apart from 16 where the lights are solar powered.

The accuracy of the ICP allocation to the items of load is discussed in **section 3.1**.

### Audit outcome

Compliant

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

### Code reference

Clause 11(2)(b) of Schedule 15.3

### Code related audit information

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

### Audit observation

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

### Audit commentary

The database contains fields for the road name, location number, and GPS coordinates. All items of load have GPS coordinates.

### 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 DUMML 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 make model description, lamp wattage and gear wattage.

Two items of load at pole IDs 42936 and 97909 have zero wattage recorded. Nine items of load have an unknown light make description.

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.4 With: Clause 11(2)(c) and (d) of Schedule 15.3  From: 01-May-24 To: 07-Aug-24	Two items of load with zero wattage recorded.  Nine items of load with unknown light make.  Potential impact: Medium  Actual impact: Low  Audit history: Once  Controls: Moderate  Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement.  The impact on settlement and participants is minor; therefore, the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status



Genesis continues to notify and provide NZTA with the audit findings and discrepancies identified and has continued to strongly recommend these are investigated and updated in their system.	Continuous Improvement	Identified
<b>Preventative actions taken to ensure no further issues will occur</b>	<b>Completion date</b>	
Genesis continues to notify and provide NZTA with the audit findings and discrepancies identified and has continued to strongly recommend these are investigated and updated in their system.	Continuous Improvement	

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

### Code reference

Clause 11(2A) of Schedule 15.3

### Code related audit information

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

### Audit observation

A field audit was undertaken of a statistical sample of 447 items of load in the month of July 2024.

### Audit commentary

The table below shows a summary of findings.

Finding	Quantity
Lights missing from the database	14
Lights missing from the field	2
Incorrect wattage in database	79

There were 14 additional lights identified in the field. The main discrepancy is incorrect wattages, which is discussed in **section 3.1**.

### Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.5 With: Clause 11(2A) of Schedule 15.3 From: 01-May-24 To: 07-Aug-24	14 additional items of load identified by the field audit. Potential impact: High Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3
<b>Audit risk rating</b>	<b>Rationale for audit risk rating</b>

<b>Low</b>	The controls are recorded as weak because they are not sufficient to ensure the database is accurate  The impact on settlement and participants is minor; therefore the audit risk rating is low.		
<b>Actions taken to resolve the issue</b>		<b>Completion date</b>	<b>Remedial action status</b>
Genesis continues to notify and provide NZTA with the audit findings and discrepancies identified and has continued to strongly recommend these are investigated and updated in their system.		Continuous Improvement	Identified
<b>Preventative actions taken to ensure no further issues will occur</b>		<b>Completion date</b>	
Genesis continues to notify and provide NZTA with the audit findings and discrepancies identified and has continued to strongly recommend these are investigated and updated in their system.		Continuous Improvement	

## 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 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

The RAMM database contains a compliant 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

A field audit was undertaken of 459 items of load. I assessed the accuracy of this by using the DUML Statistical Sampling Guideline. The table below shows the survey plan.

Plan Item	Comments
Area of interest	Waka Kotahi Waikato
Strata	The Waka Kotahi RAMM database covers the Waikato area. The management of the Waka Kotahi items of load are the same, but I decided to place the items of load into three similarly sized strata by network as follows: <ul style="list-style-type: none"><li>• strata 1 – HAWK, LINE and WAIP,</li><li>• strata 2 – POCO, and</li><li>• strata 3 – WAIK.</li></ul>
Area units	I created a pivot table of the area units, and I used a random number generator in a spreadsheet to select a total of 43 sub-units or 9% of the database.
Total items of load	447 items of load were checked.

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

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

#### Audit commentary

A field audit was conducted of a statistical sample of 459 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	97.1%	Wattage from survey is lower than the database wattage by 2.9%
R <sub>L</sub>	94.3%	With a 95% level of confidence, it can be concluded that the error could be between -5.7% and -0.9%
R <sub>H</sub>	99.1%	

These results were categorised in accordance with the “Distributed Unmetered Load Statistical Sampling Audit Guideline”, effective from 1 February 2019 and the table below shows that Scenario C (detailed below) applies. The conclusion from Scenario C is that the variability of the sample results across the strata means that the true wattage (installed in the field) could be between 0.9% and 5.7% lower than the wattage recorded in the DUML database. Non-compliance is recorded because the potential error is greater than 5.0%.

In absolute terms the installed capacity is estimated to be 25 kW lower than the database indicates.

There is a 95% level of confidence that the installed capacity is between 7 kW to 48 kW lower than the database.

In absolute terms, total annual consumption is estimated to be 105,300 kWh lower than the DUML database indicates.

There is a 95% level of confidence that the annual consumption is between 31,300 kWh p.a. to 205,400 kWh pa. lower than the database indicates.

Scenario	Description
<b>A - Good accuracy, good precision</b>	<p>This scenario applies if:</p> <ul style="list-style-type: none"> <li>(a) R<sub>H</sub> is less than 1.05; and</li> <li>(b) R<sub>L</sub> is greater than 0.95</li> </ul> <p>The conclusion from this scenario is that:</p> <ul style="list-style-type: none"> <li>(a) the best available estimate indicates that the database is accurate within +/- 5 %; and</li> <li>(b) this is the best outcome.</li> </ul>
<b>B - Poor accuracy, demonstrated with statistical significance</b>	<p>This scenario applies if:</p> <ul style="list-style-type: none"> <li>(a) the point estimate of R is less than 0.95 or greater than 1.05</li> <li>(b) as a result, either R<sub>L</sub> is less than 0.95 or R<sub>H</sub> is greater than 1.05.</li> </ul> <p>There is evidence to support this finding. In statistical terms, the inaccuracy is statistically significant at the 95% level</p>
<b>C - Poor precision</b>	<p>This scenario applies if:</p> <ul style="list-style-type: none"> <li>(a) the point estimate of R is between 0.95 and 1.05</li> <li>(b) R<sub>L</sub> is less than 0.95 and/or R<sub>H</sub> is greater than 1.05</li> </ul> <p>The conclusion from this scenario is that the best available estimate is not precise enough to conclude that the database is accurate within +/- 5 %</p>

The field audit identified the following discrepancies.

Finding	Quantity
Lights missing from the database	14
Lights missing from the field	2
Incorrect wattage in database	79

The 79 incorrect wattages can be broken down into the following categories:

Category	Quantity
LED in the database, HPS in the field	5
HPS in the database LED in the field	39
Incorrect LED wattage	35

37 discrepancies identified in the 2023 audit have not been corrected, and 76 of 87 discrepancies identified in the last audit have not been corrected.

As recorded in the previous two audits, I recommend a full audit is conducted, where the recent “as built” plans are compared to the database, and where these plans are not available, a field audit is conducted. Whilst this is a large and costly exercise, there will be savings in energy costs, where Waka Kotahi is currently paying more per annum than the database indicates, and there will also be audit cost savings because audits will be less frequent if the database is more accurate. Waka Kotahi indicated that they do not intend to conduct a full field audit, or put in place field checks for new and updated items of load, however I’m still strongly of the view this is required.

Description	Recommendation	Audited party comment	Remedial action
Database accuracy	Conduct a full audit of the database using “as built” plans and field audits to improve accuracy.	Genesis and the auditors have continued to recommend a full audit be carried out. NZTA have advised there is no funding for a full field audit to be carried out and due to NZTA going under a new maintenance model change with an expected live date of March 2026, this is very unlikely to take place before then.  Genesis continues to notify and provide NZTA with the audit findings and discrepancies identified and has continued to strongly recommend these are investigated and updated in their system.	Investigating

#### Lamp description and capacity accuracy

As recorded in **section 2.4**, two items of load at pole IDs 42936 and 97909 have zero wattage recorded. Nine items of load have an unknown light make description.

## ICP Accuracy

All NSPs now have an ICP, and no discrepancies were identified.

## Change management process findings

Waka Kotahi requires the NOC to maintain the RAMM database as part of their contract for maintenance carried out on the network. Contractors use pocket RAMM to track changes. Claims are submitted by the 28<sup>th</sup> of each month for all work carried out for the month prior. Install dates are being used by contractors when tracking changes in RAMM. Reporting of this activity is in development but is expected to provide Genesis with a monthly wattage report that tracks changes at a daily level.

The NOC contractor is required to have an internal quality control process to ensure that updates are accurate. The last audit field audit findings indicated that this process is not working as expected and I recommended that this was reviewed. This is still in progress, so I have repeated the recommendation to maintain visibility.

Recommendation	Description	Audited party comment	Remedial action
Database Accuracy	Review quality control processes to ensure database updates are accurate.	Genesis and the auditors have continued to recommend these processes are re-visited however NZTA have advised they are using pocket RAMM for field changes however there are no individual checks being carried out and they rely on 3 <sup>rd</sup> party contractors to ensure data on new connections as payment is not received until this has taken place.  NZTA are going under a new maintenance model change with an expected live date of March 2026, it is very unlikely any changes to these processes will take place before then.	Investigating

As detailed in the last audit, the new connection process is managed on a project basis. Much like new Council lights, Waka Kotahi only accepts the assets at the end of project and the contractor controls the living of new lights with the relevant networks. This will be resulting in lights being on and burning before they are being reconciled. I recommend that Genesis work with the relevant networks to ensure there are robust processes in place to ensure new connections are reconciled from the time they are electrically connected.

Recommendation	Description	Audited party comment	Remedial action
Database Accuracy	Genesis to liaise with relevant networks for Waka Kotahi new connections.	Genesis and the auditors have continued to recommend these processes are re-visited however NZTA have advised they are using pocket RAMM for field changes however there are no individual checks being carried out and they rely on 3 <sup>rd</sup> party contractors to ensure data on new connections as payment is not received until this has taken place.  NZTA are going under a new maintenance model change with an expected live date of March 2026, it is very unlikely any changes to these processes will take place before then.	Investigating

Outage patrols are undertaken on a three-monthly basis.

There are no private or festive lights connected to the Waka Kotahi load.

#### Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b)</p> <p>From: 01-May-24 To: 07-Aug-24</p>	<p>Database is not confirmed as accurate with a 95% level of confidence resulting in an estimated under submission of 105,300 kWh per annum.</p> <p>37 discrepancies identified in the 2023 audit have not been corrected, 76 of 87 discrepancies identified in the last audit have not been corrected, and Two items of load with zero wattage recorded. Nine items of load with unknown light make. Submission is based on a snapshot and does not consider changes during the month.</p> <p>Potential impact: High Actual impact: High Audit history: Multiple times previously Controls: Weak Breach risk rating: 9</p>
Audit risk rating	Rationale for audit risk rating
<b>High</b>	<p>The controls are recorded to be weak because they don't ensure the database is accurate and the issues recorded in previous audits have not been remedied.</p> <p>The impact is assessed to be high due to the estimated kWh impact.</p>

Actions taken to resolve the issue	Completion date	Remedial action status
<p>Genesis and the auditors have continued to recommend a full audit be carried out. NZTA have advised there is no funding for a full field audit to be carried out and due to NZTA going under a new maintenance model change with an expected live date of March 2026, this is very unlikely to take place before then.</p> <p>Genesis continues to notify and provide NZTA with the audit findings and discrepancies identified and has continued to strongly recommend these are investigated and updated in their system.</p>	Continuous Improvement	Identified
<p><b>Preventative actions taken to ensure no further issues will occur</b></p>	<p><b>Completion date</b></p>	
<p>Genesis and the auditors have continued to recommend a full audit be carried out. NZTA have advised there is no funding for a full field audit to be carried out and due to NZTA going under a new maintenance model change with an expected live date of March 2026, this is very unlikely to take place before then.</p> <p>Genesis continues to notify and provide NZTA with the audit findings and discrepancies identified and has continued to strongly recommend these are investigated and updated in their system.</p>	Continuous Improvement	

### 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

The Genesis reconciles this DUML load using the GSL and UNM profiles as indicated in **section 1.6** above.

I reviewed the submission for the month of July 2024 and found that the kWh values matched the database.

As discussed in **section 3.1**:

- the database is not confirmed as accurate with a 95% level of confidence resulting in an estimated over submission of 105,300 kWh per annum,



- 37 discrepancies identified in the 2023 audit have not been corrected,
- 76 of 87 discrepancies identified in the last audit have not been corrected, and
- two items of load with zero wattage recorded.

**Audit outcome**

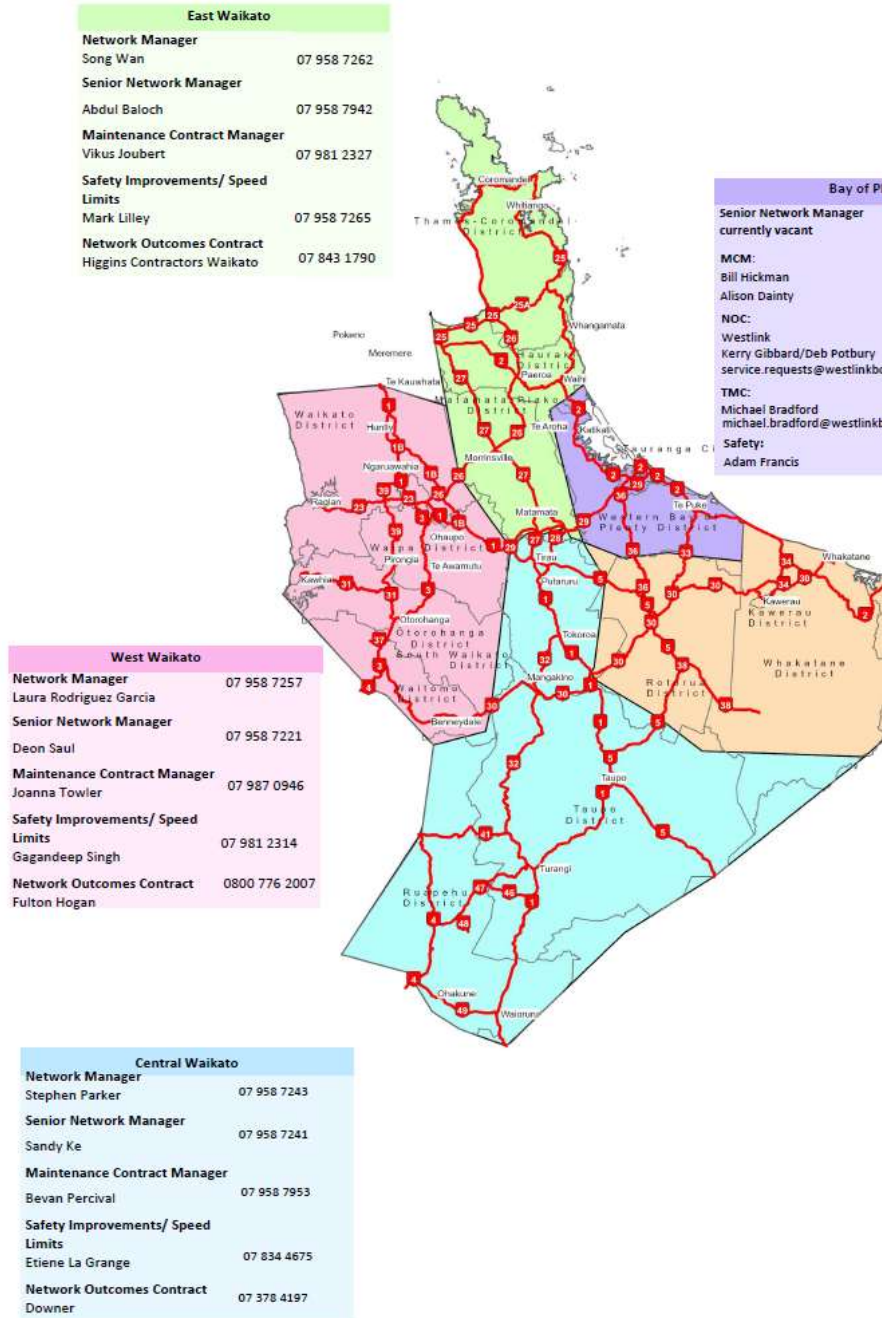
Non-compliant

Non-compliance	Description		
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c)  From: 01-May-24 To: 07-Aug-24	Database is not confirmed as accurate with a 95% level of confidence resulting in an estimated over submission of 105,300 kWh per annum. 37 discrepancies identified in the 2023 audit have not been corrected, 76 of 87 discrepancies identified in the last audit have not been corrected, and Two items of load with zero wattage recorded. 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		
<b>High</b>	The controls are recorded to be weak because they don't ensure the database is accurate and the issues recorded in previous audits have not been remedied. The impact is assessed to be high due to the estimated kWh impact.		
Actions taken to resolve the issue	Completion date	Remedial action status	
Genesis and the auditors have continued to recommend a full audit be carried out. NZTA have advised there is no funding for a full field audit to be carried out and due to NZTA going under a new maintenance model change with an expected live date of March 2026, this is very unlikely to take place before then. Genesis continues to notify and provide NZTA with the audit findings and discrepancies identified and has continued to strongly recommend these are investigated and updated in their system.	Continuous Improvement	Identified	
Preventative actions taken to ensure no further issues will occur	Completion date		

<p>Genesis and the auditors have continued to recommend a full audit be carried out. NZTA have advised there is no funding for a full field audit to be carried out and due to NZTA going under a new maintenance model change with an expected live date of March 2026, this is very unlikely to take place before then.</p> <p>Genesis continues to notify and provide NZTA with the audit findings and discrepancies identified and has continued to strongly recommend these are investigated and updated in their system.</p>	<p>Continuous Improvement</p>	
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## CONCLUSION

The area covered by this audit includes the green, pink and blue areas detailed in the Waka Kotahi provided map below:



The ICPs associated with this audit are detailed in **section 1.6**.

The field audit identified 95 discrepancies, which is a 21% error rate. This is similar to previous audits, and I have therefore repeated the recommendation from the last two audits, that a full audit of the database is carried out using “as built” plans and field audits where plans are not available. I’ve also recommended the database updating processes are reviewed and improved.

Other findings are as follows:

- The database is not confirmed as accurate with a 95% level of confidence resulting in an estimated over submission of 105,300 kWh per annum,
- 37 discrepancies identified in the 2023 audit have not been corrected,
- 76 of 87 discrepancies identified in the last audit have not been corrected, and
- Two items of load with zero wattage recorded.
- Nine items of load with unknown light make.

The audit found five non-compliances and makes three recommendations. The future risk rating of 32 indicates that the next audit be completed in three months. I have considered this in conjunction with the comments from Genesis and I've also taken into consideration the fact that NZTA still has not conducted a full field audit and that revisions will not address inaccurate submission information outside the 14-month window. Furthermore, there are still 208 discrepancies from this audit and the last two audits which have not been corrected. I recommend the next audit is conducted in three months.

## PARTICIPANT RESPONSE

Genesis agrees with the audit findings.

Genesis continues to work with NZTA in increasing their database and continue to notify them of the audit findings and any discrepancies found for these to be investigated and updated in their database.

NZTA have advised that they do not have the funding available for a full field audit to be carried out and they are currently going through a maintenance model change that is expected to go live in March 2026. Due to this NZTA have expressed there will be very little change made in their current process which includes no strict quality checks on field updates or new connections. NZTA are relying on their contractors to make accurate updates.

Genesis continues to recommend that as a minimum the discrepancies identified during the field audit be investigated and updated in their system.