

ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT



For

TASMAN DISTRICT COUNCIL
AND GENESIS ENERGY LIMITED
NZBN: 9429037706609

Prepared by: Tara Gannon

Date audit commenced: 2 July 2023

Date audit report completed: 6 August 2024

Audit report due date: 12 August 2024

TABLE OF CONTENTS

Executive summary	3
Audit summary	4
Non-compliances	4
Recommendations	6
Issues	7
1. Administrative	8
1.1. Exemptions from Obligations to Comply with Code	8
1.2. Structure of Organisation	8
1.3. Persons involved in this audit.....	9
1.4. Hardware and Software	9
1.5. Breaches or Breach Allegations.....	9
1.6. ICP Data	10
1.7. Authorisation Received	10
1.8. Scope of Audit	10
1.9. Summary of previous audit	11
1.10. Distributed unmetered load audits (Clause 16A.26 and 17.295F).....	13
2. DUML database requirements.....	14
2.1. Deriving submission information (Clause 11(1) of Schedule 15.3)	14
2.2. ICP identifier and items of load (Clause 11(2)(a) and (aa) of Schedule 15.3)	16
2.3. Location of each item of load (Clause 11(2)(b) of Schedule 15.3)	17
2.4. Description and capacity of load (Clause 11(2)(c) and (d) of Schedule 15.3)	17
2.5. All load recorded in database (Clause 11(2A) of Schedule 15.3)	20
2.6. Tracking of load changes (Clause 11(3) of Schedule 15.3)	24
2.7. Audit trail (Clause 11(4) of Schedule 15.3).....	24
3. Accuracy of DUML database	25
3.1. Database accuracy (Clause 15.2 and 15.37B(b))	25
3.2. Volume information accuracy (Clause 15.2 and 15.37B(c))	29
Conclusion	32
Participant response	32

EXECUTIVE SUMMARY

This audit of the **Tasman District Council (TDC)** 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.

At the time of the previous audit, submission was based on an extract from Network Tasman's Confirm database. In November 2023, TDC engaged thinkproject to update RAMM with Network Tasman's light details to ensure the databases were consistent. From February 2024 onwards submission has been based on summarised data from TDC's RAMM database.

Fault, maintenance, and upgrade work is conducted by Powertech. Powertech staff note work completion details on paper based forms, which are loaded into RAMM by Powertech's Technical Engineer at the end of each month. The date of the change or installation is recorded in RAMM. Powertech also provides a "streetlight advice form" to Network Tasman, who update their own Confirm database.

New connections are completed by Powertech, apart from new connections for subdivisions which may be completed by Delta or other electricians approved to complete new connections to Network Tasman. For Powertech new connections, details are loaded into RAMM using the same process as fault, maintenance and upgrade work. Where new connections in subdivisions are completed by other electricians, there is a process step to provide streetlight information to Tasman DC, which is entered into RAMM by Network Tasman's Transportation Network Engineer.

Genesis settles the load as NHH using the GSL profile. The unmetered kWh are calculated using a summarised database extract from RAMM and on hours from a data logger.

A field audit was conducted of a statistical sample of 254 items of load. The "database auditing tool" was used to analyse the results, and concluded that the database is not accurate within $\pm 5\%$ with statistical significance.

- In absolute terms the installed capacity is estimated to be 24 kW higher than the database indicates.
- There is a 95% level of confidence that the installed capacity is between 8 kW and 53 kW higher than the database.
- In absolute terms, total annual consumption is estimated to be 102,900 kWh higher than the DUML database indicates.
- There is a 95% level of confidence that the annual consumption is between 32,900 kWh to 227,400 kWh p.a. higher than the database indicates.

The audit found six non-compliances, all relating to database completeness and accuracy. The future risk rating is 40; an increase from 21 in the last audit. Since the last audit, TDC has begun using RAMM to produce extracts for submission. A combination of missing ICP numbers and wattages for some lights, missing gear wattages and poor field audit accuracy have led to a significant increase in the audit risk rating. A list of the affected lights has been provided to TDC, who intend to investigate the discrepancies and will update RAMM accordingly. TDC will approach thinkproject for assistance with updating the gear wattages.

The audit risk rating indicates that the next audit be completed in three months. I have considered this in conjunction with the comments from Genesis, and that TDC intends to investigate and resolve the issues. I recommend that the next audit is completed in a minimum of nine months on 12 May 2025, to allow time to investigate and resolve the database discrepancies prior to the next audit.

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	<p>The field audit found that the database accuracy was not accurate within $\pm 5.0\%$, which could result in estimated under submission of 102,900 kWh per annum.</p> <p>Up to 60 items of unmetered load (2,596 W or 11,087.5 kWh per annum) have a blank ICP number. Investigation is being completed to confirm whether these items are genuinely unmetered and update RAMM.</p> <p>170 items of load which are expected to have a non-zero gear wattage have no gear wattage. An expected 2,271 W or 9,699.4 kWh per annum of gear wattage is missing from the database.</p> <p>92 items of load have missing lamp wattages and/or descriptions in the database. Based on an average of 44W per light across the whole database this could lead to under submission of 4,073W or 17,398 kWh per annum.</p> <p>Four lights had an unusual wattage for their lamp type and are highly likely to have either an incorrect description or wattage.</p> <p>The previous audit found four lamps in a new subdivision at Summerfield Boulevard that had 13W LED recorded in the database but were labelled as 28W LEDs (GIS access codes 15096, 15106, 15117 and 15121). These remain incorrect and could result in estimated under submission of 64 kWh per annum.</p> <p>The database extract is provided as a snapshot, and daily changes are not reflected in the submission data.</p>	Weak	High	9	Investigating
ICP identifier and items of load	2.2	11(2)(a) and (aa) of Schedule 15.3	<p>Up to 60 items of unmetered load (2,596 W or 11,087.5 kWh per annum) have a blank ICP number. Investigation is being completed to confirm whether these items are genuinely unmetered and update RAMM.</p>	Moderate	Medium	4	Investigating
Description and capacity of load	2.4	11(2)(c) and (d) of Schedule 15.3	<p>170 items of load which are expected to have a non-zero gear wattage have no gear wattage. An expected 2,271 W or 9,699.4 kWh per annum of gear wattage is missing from the database.</p>	Weak	Medium	6	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			92 items of load have missing lamp wattages and/or descriptions in the database. Based on an average of 44W per light across the whole database this could lead to under submission of 4,073W or 17,398 kWh per annum.				
All load recorded in database	2.5	11(2A) of Schedule 15.3	The field audit found an additional 25 lights (estimated 742 W) in the field which were not recorded in the database. This could lead to under submission of 3169 kWh per annum.	Weak	Low	3	Investigating
Database accuracy	3.1	15.2 and 15.37B(b)	<p>The field audit found that the database accuracy was not accurate within $\pm 5.0\%$, which could result in estimated under submission of 102,900 kWh per annum.</p> <p>170 items of load which are expected to have a non-zero gear wattage have no gear wattage. An expected 2,271 W or 9,699.4 kWh per annum of gear wattage is missing from the database.</p> <p>92 items of load have missing lamp wattages and/or descriptions in the database. Based on an average of 44W per light across the whole database this could lead to under submission of 4,073W or 17,398 kWh per annum.</p> <p>Four lights had an unusual wattage for their lamp type and are likely to have either an incorrect description or wattage.</p> <p>The previous audit found four lamps in a new subdivision at Summerfield Boulevard that had 13W LED recorded in the database but were labelled as 28W LEDs (GIS access codes 15096, 15106, 15117 and 15121). These remain incorrect and could result in estimated under submission of 64 kWh per annum. All lights on Summerfield Boulevard are recorded as 20, 23, 27.5, 28 or 67 W in RAMM.</p> <p>Up to 60 items of unmetered load (2,596 W or 11,087.5 kWh per annum) have a blank ICP number. Investigation is being completed to confirm whether these items are genuinely unmetered and update RAMM.</p> <p>Two lights on Cropp Place, Richmond (light IDs 934 and 935) had correct GPS coordinates, but the street name was</p>	Weak	High	9	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			incorrectly recorded as Coutts Place, Mapua.				
Volume information accuracy	3.2	15.2 and 15.37B(c)	<p>The field audit found that the database accuracy was not accurate within $\pm 5.0\%$, which could result in estimated under submission of 102,900 kWh per annum.</p> <p>Up to 60 items of unmetered load (2,596 W or 11,087.5 kWh per annum) have a blank ICP number. Investigation is being completed to confirm whether these items are genuinely unmetered and update RAMM.</p> <p>170 items of load which are expected to have a non-zero gear wattage have no gear wattage. An expected 2,271 W or 9,699.4 kWh per annum of gear wattage is missing from the database.</p> <p>92 items of load have missing lamp wattages and/or descriptions in the database. Based on an average of 44W per light across the whole database this could lead to under submission of 4,073W or 17,398 kWh per annum.</p> <p>Four lights had an unusual wattage for their lamp type and are highly likely to have either an incorrect description or wattage.</p> <p>The previous audit found four lamps in a new subdivision at Summerfield Boulevard that had 13W LED recorded in the database but were labelled as 28W LEDs (GIS access codes 15096, 15106, 15117 and 15121). These remain incorrect and could result in estimated under submission of 64 kWh per annum.</p> <p>The database extract is provided as a snapshot, and daily changes are not reflected in the submission data.</p>	Weak	High	9	Investigating
Future Risk Rating						40	

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

RECOMMENDATIONS

Subject	Section	Description	Recommendation	Comment
			Nil	

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

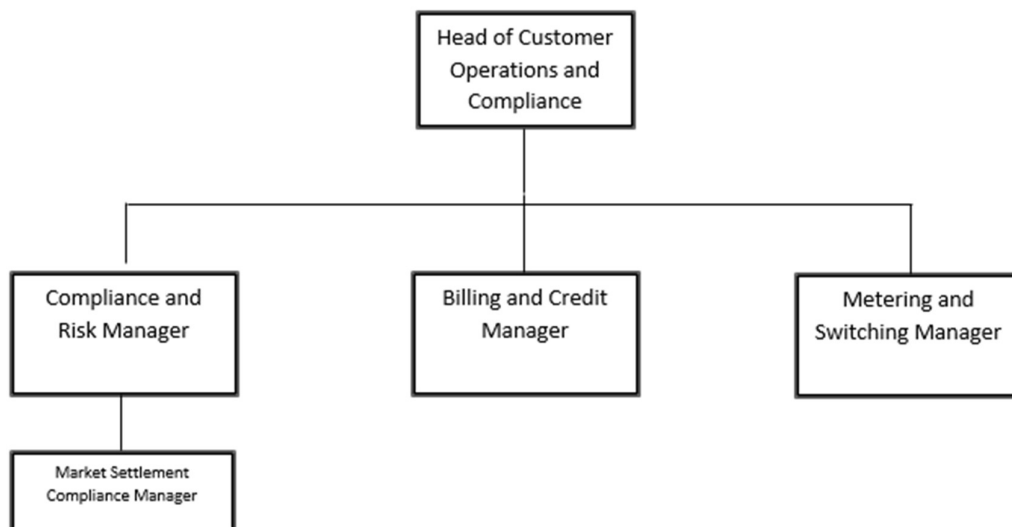
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

Audit commentary

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

1.2. Structure of Organisation

Genesis Energy provided a copy of their organisational structure.



1.3. Persons involved in this audit

Auditor:

Name	Company	Role
Tara Gannon	Provera	Auditor

Other personnel assisting in this audit were:

Name	Title	Company
David Currie	Asset Systems Officer - RAMM	Tasman District Council
Steve Elkington	Transportation Network Engineer	Tasman District Council
Shan Thomas	Technical Engineer	Powertech
Alysha Majury	Unmetered Account Specialist	Genesis Energy

1.4. Hardware and Software

RAMM

The SQL database used for the management of DUML is remotely hosted by thinkproject NZ Ltd. The database is commonly known as "RAMM" which stands for "Roading Asset and Maintenance Management". The specific module used for DUML is called RAMM Contractor.

thinkproject NZ Ltd backs up the database and assists with disaster recovery as part of their hosting service. Nightly backups are performed. As a minimum, daily backups are retained for the previous five working days, weekly backups are retained for the previous four weeks, and monthly backups are retained for the previous six months.

Access to the database is secure by way of password protection.

Genesis systems

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)
0000090002NT72F	TDC STREETLIGHTING STOKE	STK0331	GSL	2593	121,428.7
0000090003NTB6A	TDC STREETLIGHTING MOTUEKA	STK0661	GSL	831	34,563
0000090004NT6A0	TDC STREETLIGHTING MOTUPIPI	STK0661	GSL	277	8,968
0000090005NTAE5	TDC STREETLIGHTING KIKIWA	KIK0111	GSL	67	2,310
0000090006NT625	TDC STREETLIGHTING MURCHISON	MCH0111	GSL	59	2,180
Blank				60	2,596
TOTAL				3,887	172,045.7

A list of the lights with blank ICP numbers has been provided to TDC. TDC plans to investigate to determine whether the lights are metered, and if not which streetlight circuit the lights should be connected to and will update RAMM accordingly. TDC believes that three of the lights located on Aotea Place and at the Town Hall Carpark may be metered, but the remainder are expected to be connected to DUML ICPs.

1.7. Authorisation Received

All information was provided directly by Genesis, TDC and Powertech.

1.8. Scope of Audit

This audit of the TDC DUML database and processes was conducted at the request of 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.

At the time of the previous audit, submission was based on an extract from Network Tasman's Confirm database. In November 2023, TDC engaged thinkproject to update RAMM with Network Tasman's light details to ensure the databases were consistent. From February 2024 onwards submission has been based on summarised data from TDC's RAMM database.

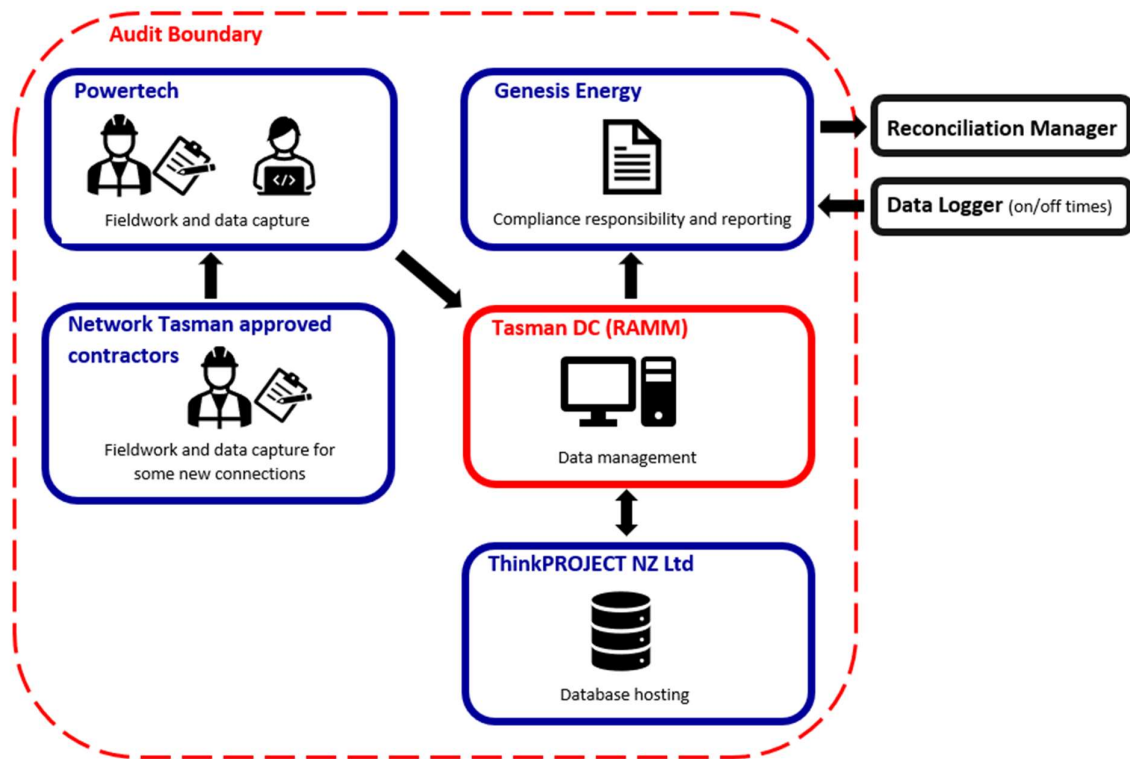
Fault, maintenance, and upgrade work is conducted by Powertech. Powertech staff note work completion details on paper based forms, which are loaded into RAMM by Powertech's Technical Engineer at the end of each month. The date of the change or installation is recorded in RAMM. Powertech also provides a "streetlight advice form" to Network Tasman, who update their own Confirm database.

New connections are completed by Powertech, apart from new connections for subdivisions which may be completed by Delta or other electricians approved to complete new connections to Network Tasman.

For Powertech new connections, details are loaded into RAMM using the same process as fault, maintenance and upgrade work. Where new connections in subdivisions are completed by other electricians, there is a process step to provide streetlight information to Tasman DC, which is entered into RAMM by Network Tasman’s Transportation Network Engineer.

Genesis settles the load as NHH using the GSL profile. The unmetered kWh are calculated using a summarised database extract from RAMM and on hours from a data logger.

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 254 items of load on 19 to 21 July 2024.

1.9. Summary of previous audit

The previous audit of this database was undertaken by Tara Gannon of Provera in August 2023. The summary table below shows the statuses of the non-compliances raised in the previous audit.

Subject	Section	Clause	Non-compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	<p>The field audit found that the database accuracy was not accurate within $\pm 5.0\%$, which could result in estimated over submission of 35,700 kWh per annum.</p> <p>There is one missing gear wattage which could result in estimated under submission of 47 kWh per annum.</p> <p>Six lamp models had inaccurate total wattages recorded which could result in estimated over submission of 111 kWh per annum. This total also includes the 50W SON light described above.</p>	Still existing

Subject	Section	Clause	Non-compliance	Status
			<p>The previous audit found four lamps in a new subdivision at Summerfield Boulevard that had 13W LED recorded in the database but were labelled as 28W LEDs (GIS access codes 15096, 15106, 15117 and 15121). These remain incorrect and could result in estimated under submission of 64 kWh per annum.</p> <p>The database extract is provided as a snapshot, and daily changes are not reflected in the submission data.</p>	
Location of load	2.3	11(2)(b) of Schedule 15.3	180 items of load with insufficient location details.	Cleared
Description and capacity of load	2.4	11(2)(c) and (d) of Schedule 15.3	One 50W SON light (GIS access code 14656) was recorded with 50W total, but should have had 61W including gear wattage.	Still existing
Database accuracy	3.1	15.2 and 15.37B(b)	<p>The field audit found that the database accuracy was not accurate within $\pm 5.0\%$, which could result in estimated over submission of 35,700 kWh per annum.</p> <p>There is one missing gear wattage which could result in estimated under submission of 47 kWh per annum.</p> <p>Six lamp models had inaccurate total wattages recorded which could result in estimated over submission of 111 kWh per annum. This total also includes the 50W SON light described above.</p> <p>The previous audit found four lamps in a new subdivision at Summerfield Boulevard that had 13W LED recorded in the database but were labelled as 28W LEDs (GIS access codes 15096, 15106, 15117 and 15121). These remain incorrect and could result in estimated under submission of 64 kWh per annum.</p>	Still existing
Volume information accuracy	3.2	15.2 and 15.37B(c)	<p>The field audit found that the database accuracy was not accurate within $\pm 5.0\%$, which could result in estimated over submission of 35,700 kWh per annum.</p> <p>There is one missing gear wattage which could result in estimated under submission of 47 kWh per annum.</p> <p>Six lamp models had inaccurate total wattages recorded which could result in estimated over submission of 111 kWh per annum. This total also includes the 50W SON light described above.</p> <p>The previous audit found four lamps in a new subdivision at Summerfield Boulevard that had 13W LED recorded in the database but were labelled as 28W LEDs (GIS access codes 15096, 15106, 15117 and 15121). These remain incorrect and could result in estimated under submission of 64 kWh per annum.</p> <p>The database extract is provided as a snapshot, and daily changes are not reflected in the submission data.</p>	Still existing

Subject	Section	Recommendation	Status
Database accuracy	3.1	Confirm wattages for 13W LEDs. Confirm the correct wattages for GIS access codes 15220 and 13011 on Eton St Richmond and Hart St Richmond.	These issues related to the Network Tasman database and the data currently recorded in RAMM appears reasonable.
Database accuracy	3.1	Entry of new connection data into RAMM Establish a process to ensure that new connection information is promptly updated in RAMM, before using RAMM for submission.	The new connection process has been clarified and improved.

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 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.

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

Genesis submits the DUML load as NHH using the GSL profile. Wattages are derived from an summarised extract provided from RAMM each month. On and off times are derived from a data logger.

I reviewed the submission information for May 2024 and confirmed that it the calculation was correct, with wattages based on database extract totals and on hours based on data logger information.

Volume inaccuracy is present in the RAMM database as follows:

Discrepancy	Estimated potential impact on submission
The field audit found that the database accuracy was not accurate within $\pm 5.0\%$.	Under submission of 102,900 kWh p.a.
Up to 60 items of unmetered load have a blank ICP number. Investigation is being completed to confirm whether these items are genuinely unmetered and update RAMM.	Under submission of 11,087.5 p.a.
170 items of load which are expected to have a non-zero gear wattage have no gear wattage. An expected 2,271 W of gear wattage is missing from the database.	Under submission of 9,699.4 kWh p.a.
92 items of load have missing lamp wattages and/or descriptions in the database. Based on an average of 44W per light across the whole database this could lead to under submission of 4,073W.	Under submission of 4,073 kWh p.a.
Four lights had an unusual wattage for their lamp type and are highly likely to have either an incorrect description or wattage.	Unknown.
The previous audit found four lamps in a new subdivision at Summerfield Boulevard that had 13W LED recorded in the database but were labelled as 28W LEDs (GIS access codes 15096, 15106, 15117 and 15121). These remain incorrect and could result in estimated under submission of 64 kWh per annum. All lights on Summerfield Boulevard are recorded as 20, 23, 27.5, 28 or 67 W in RAMM.	Under submission of 64 kWh p.a.

RAMM records light addition, removal and modification dates. A snapshot is provided at the end of each month, and is used for submission by Genesis.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3</p> <p>From: 01-May-24 To: 21-Jul-24</p>	<p>The field audit found that the database accuracy was not accurate within $\pm 5.0\%$, which could result in estimated under submission of 102,900 kWh per annum.</p> <p>Up to 60 items of unmetered load (2,596 W or 11,087.5 kWh per annum) have a blank ICP number. Investigation is being completed to confirm whether these items are genuinely unmetered and update RAMM.</p> <p>170 items of load which are expected to have a non-zero gear wattage have no gear wattage. An expected 2,271 W or 9,699.4 kWh per annum of gear wattage is missing from the database.</p> <p>92 items of load have missing lamp wattages and/or descriptions in the database. Based on an average of 44W per light across the whole database this could lead to under submission of 4,073W or 17,398 kWh per annum.</p> <p>Four lights had an unusual wattage for their lamp type and are highly likely to have either an incorrect description or wattage.</p> <p>The previous audit found four lamps in a new subdivision at Summerfield Boulevard that had 13W LED recorded in the database but were labelled as 28W LEDs (GIS access codes 15096, 15106, 15117 and 15121). These remain incorrect and could result in estimated under submission of 64 kWh per annum.</p> <p>The database extract is provided as a snapshot, and daily changes are not reflected in the submission data.</p> <p>Potential impact: High Actual impact: Unknown Audit history: Multiple times previously</p> <p>Controls: Weak Breach risk rating: 9</p>		
Audit risk rating	Rationale for audit risk rating		
<p>High</p>	<p>The controls are weak because the database is not accurate within $\pm 5.0\%$, indicating that changes may not be accurately captured. The impact is high based on the potential kWh impact.</p>		
Actions taken to resolve the issue	Completion date	Remedial action status	
<p>TDC have begun using RAMM which has lead to database inconsistencies resulting in missing ICP numbers, lamp & gear wattages and a decline in field audit accuracy.</p> <p>Genesis has been working closely with TDC as there was a period where we were not receiving monthly data extracts and these started being provided again since May 2024.</p> <p>TDC are investigating the discrepancies identified to have these corrected in their data system.</p>	<p>Continuous Improvement</p>	<p>Investigating</p>	

Preventative actions taken to ensure no further issues will occur	Completion date
Monthly data extracts have started being provided since May 2024	Continuous Improvement

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 recorded against them except 60 items of load (2,596 W) which have a blank ICP number.

A list of the affected lights has been provided to TDC. TDC plans to investigate to determine whether the lights are metered, and if not which streetlight circuit the lights should be connected to and will update RAMM accordingly. TDC believes that three of the lights located on Aotea Place and at the Town Hall Carpark may be metered, but the remainder are expected to be connected to DUML ICPs.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.2 With: Clause 11(2)(a) and (aa) of Schedule 15.3 From: 15-Jul-24 To: 15-Jul-24	Up to 60 items of unmetered load (2,596 W or 11,087.5 kWh per annum) have a blank ICP number. Investigation is being completed to confirm whether these items are genuinely unmetered and update RAMM. Potential impact: Medium Actual impact: Unknown Audit history: None Controls: Moderate Breach risk rating: 4
Audit risk rating	Rationale for audit risk rating
Medium	The controls are moderate because most items of load have a DUML ICP recorded. The impact is medium based on the potential kWh impact.

Actions taken to resolve the issue	Completion date	Remedial action status
<p>TDC have begun using RAMM which has lead to database inconsistencies resulting in missing ICP numbers, lamp & gear wattages and a decline in field audit accuracy.</p> <p>Genesis has been working closely with TDC as there was a period where we were not receiving monthly data extracts and these started being provided again since May 2024.</p> <p>TDC are investigating the discrepancies identified to have these corrected in their data system.</p>	Continuous Improvement	Investigating
Preventative actions taken to ensure no further issues will occur	Completion date	
Monthly data extracts have started being provided since May 2024	Continuous Improvement	

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 DUMML database must contain the location of each DUMML 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, power board number, location number, offset, road side, and GPS coordinates. GPS coordinates are recorded for 3825 or the 3827 items of load connected to DUMML ICPs. The other two items have sufficient location information to enable them to be located.

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 lamp type and wattage capacity and included any ballast or gear wattage.

Audit commentary

A lamp make, model and lamp wattage is recorded in the database. There is a field for gear wattage which is not populated.

Missing gear wattages

No items of load have gear wattages recorded in RAMM. 170 items of load which are expected to have a non-zero gear wattage, have no gear wattage. An expected 2,271 W or 9,699.4 kWh per annum of gear wattage is missing from the database.

A list of the affected lights has been provided to TDC. TDC believes that they are unable to record the gear wattages in RAMM and will approach thinkproject to determine the best way to include the gear wattage.

Lamp make and model	Lamp wattage (W)	Count	Expected gear for lamp make and model (W)	Total gear for all lamps with lamp make and model (W)
Fluorescent15W	15	2	2	4
Fluorescent26W	26	6	2	12
MV50W	50	3	9	27
Metal Halide35W	35	36	10	360
HPS50W	50	1	11	11
SON E50W	50	1	11	11
SON T50W	50	7	11	77
Metal Halide70W	70	22	13	286
SON E70W	70	28	13	364
SON I70W	70	18	13	234
SON T70W	70	7	13	91
SON E100W	100	2	14	28
SON T100W	100	1	14	14
MV160W	160	2	15	30
Metal Halide150W	150	20	18	360
SON E150W	150	1	18	18
SON I50W	50	1	18	18

Lamp make and model	Lamp wattage (W)	Count	Expected gear for lamp make and model (W)	Total gear for all lamps with lamp make and model (W)
SON T150W	150	2	18	36
Metal Halide250W	250	9	28	252
Metal Halide400W	400	1	38	38
Total		170		2271

Missing lamp descriptions and wattages

92 items of load have missing lamp wattages and/or descriptions in the database. Based on an average of 44W per light across the whole database this could lead to under submission of 4,073W or 17,398 kWh per annum.

Lamp make and model	Lamp wattage (W)	Count	Expected lamp model and wattage
		36	Six of these lights at Brock Way, Cube Court and Les Wakefield Road were checked during the field audit and are believed to be 76W or 21W LEDs.
LED		1	Unknown.
LED0W	0	1	Unknown.
Unknown0W	0	54	Two of these lights at Les Wakefield Road were checked during the field audit and are believed to be 40W LEDs.
Total		92	

A list of the affected lights has been provided to TDC. TDC plans to investigate to confirm the lights installed and update RAMM accordingly. No lights are expected to have missing light or wattage information.

The accuracy of recorded wattages is discussed in **section 3.1**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.4 With: Clause 11(2)(c) and (d) of Schedule 15.3	170 items of load which are expected to have a non-zero gear wattage have no gear wattage. An expected 2,271 W or 9,699.4 kWh per annum of gear wattage is missing from the database. 92 items of load have missing lamp wattages and/or descriptions in the database. Based on an average of 44W per light across the whole database this could lead to under submission of 4,073W or 17,398 kWh per annum. Potential impact: Low Actual impact: Low

From: 02-Jul-24 To: 21-Jul-24	Audit history: None Controls: Weak Breach risk rating: 6		
Audit risk rating	Rationale for audit risk rating		
Medium	The controls are weak because gear wattages are not recorded and 92 items of load do not have make, model or wattage information recorded. The impact is medium based on the estimated missing wattages.		
Actions taken to resolve the issue		Completion date	Remedial action status
TDC have begun using RAMM which has lead to database inconsistencies resulting in missing ICP numbers, lamp & gear wattages and a decline in field audit accuracy. Genesis has been working closely with TDC as there was a period where we were not receiving monthly data extracts and these started being provided again since May 2024. TDC are investigating the discrepancies identified to have these corrected in their data system.		Continuous Improvement	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Monthly data extracts have started being provided since May 2024		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

The field audit was undertaken of a statistical sample of 254 items of load on 19 to 21 July 2024. The sample was selected from four strata, as follows:

- road names A to Fairmile,
- road names Fairrose to Mason,
- road names Mason to Salisbury, and
- road names Saltmarsh to Z.

Audit commentary

The field audit findings for the sample of lamps was accurate with the exception of the streets detailed in the table below.

Street	Database count	Field count	Light count difference	Wattage recorded incorrectly	Comments
Brock Street, Appleby	1	1	-	1	One LED is recorded in the database as unknown with zero wattage. The light is unlabelled, but appears to be at least 76W.
Clay Street, Motueka	3	3	-	1	One L27 LED (light ID 744) is labelled a LED70W in the database.
Cube Court, Appleby	3	3	-	3	Three L76 LEDs are recorded in the database as unknown with zero wattage. The lights all appear the same and one is labelled L76A.
Eton Street, Richmond	14	22	+8	8	Five L28 LEDs near the corner of Eton and Woodley, between Woodley and Oakley, between Oakley and Heston, near the corner of Oakley and Heston, and between Heson and light ID 4971 are missing from the database. Three 22 009 LEDs on a cul-de-sac at the southern end of Eton Street are missing from the database. Six 22 028 LEDs are labelled as 20W LEDs in the database. Two 22 025 LEDs are labelled as 27W LEDs in the database.
Harkness Petrie Service Lane, Richmond	5	5	-	1	Light ID 1575 appears to be a 56W LED and is labelled a 100W SON in the database.
Herringbone Street, Appleby	6	7	+1	3	One 21 028 LED by the corner of Lotus Street and Herringbone Street is missing from the database. Three L22 LEDs (light IDs 1663, 1664 and 1665) are labelled as 23W LEDs in the database.
Kahikatea To Summersfield Walkway North, Appleby	2	3	+1	2	One L09 in the middle of the walkway is missing from database. One L28 (light ID 3839) is labelled 27.5W LED in the database. One L22 (light ID 2011) is labelled 23W LED in the database.
Kahikatea To Summersfield	2	3	+1	2	One L09 in the middle of the walkway is missing from database.

Street	Database count	Field count	Light count difference	Wattage recorded incorrectly	Comments
Walkway, Appleby					One L28 (light ID 3836) is labelled 27.5W LED in the database. One L22 (light ID 2007) is labelled 23W LED in the database.
Les Wakefield Road, Mapua	10	15	+5	10	One bollard light outside 19/21 Les Wakefield Road is missing from database. Four 21 022 LED lights are missing from the database between Catherine Road and just after Safre Place. Three L46 LEDs (light IDs 593, 594 and 2293) are labelled as 40W LED in the database. Two bollard lights (light IDs 2290 and 2291) are labelled as unknown 0W in the database. Two 21 022 LED lights (light IDs 4867 and 4830) are labelled as unknown and no wattage in the database. Two SON T50W and one SON T40W bollard lights have no gear wattage recorded in the database.
Moutere Highway, Appleby	7	7	-	1	One L24 (light ID 2723) is labelled 53W LED in the database.
Newhaven Crescent, Marahau	7	6	-1	-	The pole for light ID 2873 had no head but is labelled a 38W LED on the database.
Poole Street, Motueka	16	23	+7	1	One L24 (light ID 2606) is labelled a 36W LED in the database. Seven new lights had been added between the existing 27W LED lights but were not recorded in the database including outside house numbers 8 (unlabelled LED), 32 (unlabelled LED), 40 (L42A), 48 (L37A), 56 (L37A), 64 (unlabelled LED) and 72 (L37A).
Spencer Place, Brightwater	2	2	-	1	One L27 (light ID 3733) is labelled 19.5W LED in the database.
TGTT Motueka to Kaiteriteri	11	11	-	2	Two L27s at Lodder Lane (light IDs 2346 and 2348) are labelled 35W LEDs in the database.

Street	Database count	Field count	Light count difference	Wattage recorded incorrectly	Comments
Tudor Street, Motueka	9	9	-	1	One L73 (light ID 4260) was labelled a 27W LED in the database.
Wallace Street, Motueka	6	8	+2	1	Two L52 LEDs outside Mills Beatson and near the western corner of Wilkinson Street and Wallace Street were not recorded in the database. One L52A (light ID 4378) was labelled as a 27W LED in the database.
Wilkinson Street Walkway, Motueka	2	2	-	2	One L52 (light ID 4658) was labelled a 27W LED in the database. One 70W SON (light ID 2546) did not have a gear wattage recorded.
Grand Total	254	278	26(+25 -1)	40	

This clause relates to lights in the field that are not recorded in the database, and 25 additional lights were found in the field. The database accuracy is discussed in **section 3.1**.

Audit outcome

Non-compliant

Non-compliance	Description	
<p>Audit Ref: 2.5</p> <p>With: Clause 11(2A) of schedule 15.3</p> <p>From: 19-Jul-24</p> <p>To: 21-Jul-24</p>	<p>The field audit found an additional 25 lights (estimated 742 W) in the field which were not recorded in the database. This could lead to under submission of 3169 kWh per annum.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Weak</p> <p>Breach risk rating: 3</p>	
Audit risk rating	Rationale for audit risk rating	
Low	The controls are recorded as weak because database accuracy is not within $\pm 5.0\%$, indicating that changes may not be being accurately captured. The impact is assessed to be low based on the potential kWh impact.	
Actions taken to resolve the issue	Completion date	Remedial action status
TDC have begun using RAMM which has lead to database inconsistencies resulting in missing ICP numbers, lamp & gear wattages and a decline in field audit accuracy.	Continuous Improvement	Investigating

Genesis has been working closely with TDC as there was a period where we were not receiving monthly data extracts and these started being provided again since May 2024. TDC are investigating the discrepancies identified to have these corrected in their data system.		
Preventative actions taken to ensure no further issues will occur	Completion date	
Monthly data extracts have started being provided since May 2024	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 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.

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 process for tracking of changes in the database was examined.

Audit commentary

The RAMM database functionality achieves compliance with the code.

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 submissions for Genesis are based on a monthly extract from the RAMM database. I assessed the accuracy of a DUML extract obtained in July 2024 by using the DUML Statistical Sampling Guideline. The table below shows the survey plan.

Plan Item	Comments
Area of interest	Tasman District Council street lights
Strata	The database contains the items of load for DUML ICPs in the TDC region. The processes for the management of all items of load are the same, but I decided to place the items of load into four strata based on the street names: <ul style="list-style-type: none"> • road names A to Fairmile, • road names Fairrose to Mason, • road names Mason to Salisbury, and • road names Saltmarsh to Z.
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 54 sub-units.
Total items of load	254 items of load were checked, making up 5.0% of the total database wattage.

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

Audit commentary

Field audit findings

A field audit was conducted of a statistical sample of 254 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	114.2	Wattage from survey is higher than the database wattage by 14.2%
R _L	104.5	With a 95% level of confidence, it can be concluded that the error could be between +4.5% and +31.4%
R _H	131.4	

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 B (detailed

below) applies. The conclusion from Scenario B is that the database is not accurate within $\pm 5\%$ with statistical significance.

- In absolute terms the installed capacity is estimated to be 24 kW higher than the database indicates.
- There is a 95% level of confidence that the installed capacity is between 8 kW and 53 kW higher than the database.
- In absolute terms, total annual consumption is estimated to be 102,900 kWh higher than the DUML database indicates.
- There is a 95% level of confidence that the annual consumption is between 32,900 kWh to 227,400 kWh p.a. higher than the database indicates.

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

Light description and capacity accuracy

As discussed in **section 2.4**, some items of load have missing make model and/or wattage information:

- no items of load have gear wattages recorded in RAMM; 170 items of load which are expected to have a non-zero gear wattage have no gear wattage, and an expected 2,271 W or 9,699.4 kWh per annum of gear wattage is missing from the database, and
- 92 items of load have missing lamp wattages and/or descriptions in the database; based on an average of 44W per light across the whole database this could lead to under submission of 4,073W or 17,398 kWh per annum.

I checked wattages against expected values and found four lights with unusual wattages for their light types. Apart from these lights and the lights with missing wattages, wattages recorded appeared reasonable for the lamp make and model.

Lamp make and model	Lamp wattage	Count	Comment
Metal Halide90W	90	1	unusual wattage for MH light ID 3871
SON E27W	27	1	unusual wattage for SON light ID 4687
SON T40W	40	1	unusual wattage for SON light ID 2294
SON T56W	56	1	unusual wattage for SON light ID 289

A list of the affected lights has been provided to TDC, who intend to investigate the discrepancies and will update RAMM accordingly. TDC will approach thinkproject for assistance with updating the gear wattages.

The previous audit found four lamps in a new subdivision at Summerfield Boulevard that had 13W LED recorded in the database but were labelled as 28W LEDs (GIS access codes 15096, 15106, 15117 and 15121). These remain incorrect and could result in estimated under submission of 64 kWh per annum. All lights on Summerfield Boulevard are recorded as 20, 23, 27.5, 28 or 67 W in RAMM.

ICP number accuracy

Up to 60 items of unmetered load (2,596 W or 11,087.5 kWh per annum) have a blank ICP number. Investigation is being completed to confirm whether these items are genuinely unmetered and update RAMM.

Address accuracy

Two lights on Cropp Place, Richmond (light IDs 934 and 935) had correct GPS coordinates but the street name was incorrectly recorded as Coutts Place, Mapua.

Change management process findings

Fault, maintenance, and upgrade work is conducted by Powertech. Powertech staff note work completion details on paper based forms, which are loaded into RAMM by Powertech's Technical Engineer at the end of each month. The date of the change or installation is recorded in RAMM. Powertech also provides a "streetlight advice form" to Network Tasman, who update their own database.

New connections are completed by Powertech, apart from new connections for subdivisions which may be completed by Delta or other electricians approved to complete new connections to Network Tasman. For Powertech new connections, details are loaded into RAMM using the same process as fault, maintenance and upgrade work. Where new connections in subdivisions are completed by other electricians, there is a process step to provide streetlight information to Tasman DC, which is entered into RAMM by Network Tasman's Transportation Network Engineer.

Three network inspections are completed per annum. The whole network is checked and any maintenance issues are reported. Apart from this, any outages or maintenance issues are reported by residents.

LED upgrades

94.5% of the lights have been upgraded to LED. The remaining upgrades will be completed as funding becomes available, or where lights require replacement through the maintenance process.

TDC has investigated the use of dimming, and at this stage the costs of managing dimming outweigh the benefits due to the size of the network and density of connections. If dimming is revisited, TDC will work with Genesis to ensure that submission and profile processes are compliant.

Festive lights

No festive lighting is used in the Tasman DC region.

Private lights

Private lights are recorded as either standard unmetered load or shared unmetered load as required by the code. TDC advised that no private lights are recorded in the database.

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b)</p> <p>From: 02-Jul-24 To: 21-Jul-24</p>	<p>The field audit found that the database accuracy was not accurate within $\pm 5.0\%$, which could result in estimated under submission of 102,900 kWh per annum.</p> <p>170 items of load which are expected to have a non-zero gear wattage have no gear wattage. An expected 2,271 W or 9,699.4 kWh per annum of gear wattage is missing from the database.</p> <p>92 items of load have missing lamp wattages and/or descriptions in the database. Based on an average of 44W per light across the whole database this could lead to under submission of 4,073W or 17,398 kWh per annum.</p> <p>Four lights had an unusual wattage for their lamp type and are likely to have either an incorrect description or wattage.</p> <p>The previous audit found four lamps in a new subdivision at Summerfield Boulevard that had 13W LED recorded in the database but were labelled as 28W LEDs (GIS access codes 15096, 15106, 15117 and 15121). These remain incorrect and could result in estimated under submission of 64 kWh per annum. All lights on Summerfield Boulevard are recorded as 20, 23, 27.5, 28 or 67 W in RAMM.</p> <p>Up to 60 items of unmetered load (2,596 W or 11,087.5 kWh per annum) have a blank ICP number. Investigation is being completed to confirm whether these items are genuinely unmetered and update RAMM.</p> <p>Two lights on Cropp Place, Richmond (light IDs 934 and 935) had correct GPS coordinates, but the street name was incorrectly recorded as Coutts Place, Mapua.</p> <p>Potential impact: High Actual impact: Unknown Audit history: Multiple times previously Controls: Weak Breach risk rating: 9</p>
Audit risk rating	Rationale for audit risk rating
High	The controls are weak because the database is not accurate within $\pm 5.0\%$, indicating that changes may not be being accurately captured. The impact is assessed to be high based on the potential kWh impact.

Actions taken to resolve the issue	Completion date	Remedial action status
<p>TDC have begun using RAMM which has lead to database inconsistencies resulting in missing ICP numbers, lamp & gear wattages and a decline in field audit accuracy.</p> <p>Genesis has been working closely with TDC as there was a period where we were not receiving monthly data extracts and these started being provided again since May 2024.</p> <p>TDC are investigating the discrepancies identified to have these corrected in their data system.</p>	Continuous Improvement	Investigating
Preventative actions taken to ensure no further issues will occur	Completion date	
Monthly data extracts have started being provided since May 2024	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 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

Genesis submits the DUML load as NHH using the GSL profile, and the correct profile and submission type is recorded on the registry. Wattages are derived from an summarised extract provided from RAMM each month. On and off times are derived from a data logger.

I reviewed the submission information for May 2024 and confirmed that it the calculation was correct, with wattages based on database extract totals and on hours based on data logger information.

Volume inaccuracy is present in the RAMM database as follows:

Discrepancy	Estimated potential impact on submission
The field audit found that the database accuracy was not accurate within $\pm 5.0\%$.	Under submission of 102,900 kWh p.a.

Discrepancy	Estimated potential impact on submission
Up to 60 items of unmetered load have a blank ICP number. Investigation is being completed to confirm whether these items are genuinely unmetered and update RAMM.	Under submission of 11,087.5 p.a.
170 items of load which are expected to have a non-zero gear wattage have no gear wattage. An expected 2,271 W of gear wattage is missing from the database.	Under submission of 9,699.4 kWh p.a.
92 items of load have missing lamp wattages and/or descriptions in the database. Based on an average of 44W per light across the whole database this could lead to under submission of 4,073W.	Under submission of 4,073 kWh p.a.
Four lights had an unusual wattage for their lamp type and are highly likely to have either an incorrect description or wattage.	Unknown.
The previous audit found four lamps in a new subdivision at Summerfield Boulevard that had 13W LED recorded in the database but were labelled as 28W LEDs (GIS access codes 15096, 15106, 15117 and 15121). These remain incorrect and could result in estimated under submission of 64 kWh per annum. All lights on Summerfield Boulevard are recorded as 20, 23, 27.5, 28 or 67 W in RAMM.	Under submission of 64 kWh p.a.

RAMM records light addition, removal and modification dates. A snapshot is provided at the end of each month, and is used for submission by Genesis.

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 3.2</p> <p>With: Clause 15.2 and 15.37B(c)</p>	<p>The field audit found that the database accuracy was not accurate within $\pm 5.0\%$, which could result in estimated under submission of 102,900 kWh per annum.</p> <p>Up to 60 items of unmetered load (2,596 W or 11,087.5 kWh per annum) have a blank ICP number. Investigation is being completed to confirm whether these items are genuinely unmetered and update RAMM.</p> <p>170 items of load which are expected to have a non-zero gear wattage have no gear wattage. An expected 2,271 W or 9,699.4 kWh per annum of gear wattage is missing from the database.</p> <p>92 items of load have missing lamp wattages and/or descriptions in the database. Based on an average of 44W per light across the whole database this could lead to under submission of 4,073W or 17,398 kWh per annum.</p> <p>Four lights had an unusual wattage for their lamp type and are highly likely to have either an incorrect description or wattage.</p> <p>The previous audit found four lamps in a new subdivision at Summerfield Boulevard that had 13W LED recorded in the database but were labelled as 28W LEDs (GIS access codes 15096, 15106, 15117 and 15121). These remain incorrect and could result in estimated under submission of 64 kWh per annum.</p>

From: 01-May-24 To: 21-Jul-24	<p>The database extract is provided as a snapshot, and daily changes are not reflected in the submission data.</p> <p>Potential impact: High</p> <p>Actual impact: Unknown</p> <p>Audit history: Multiple times previously</p> <p>Controls: Weak</p> <p>Breach risk rating: 9</p>		
Audit risk rating	Rationale for audit risk rating		
High	The controls are weak because the database is not accurate within $\pm 5.0\%$, indicating that changes may not be accurately captured. The impact is high based on the potential kWh impact.		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>TDC have begun using RAMM which has lead to database inconsistencies resulting in missing ICP numbers, lamp & gear wattages and a decline in field audit accuracy.</p> <p>Genesis has been working closely with TDC as there was a period where we were not receiving monthly data extracts and these started being provided again since May 2024.</p> <p>TDC are investigating the discrepancies identified to have these corrected in their data system.</p>		Continuous Improvement	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Monthly data extracts have started being provided since May 2024		Continuous Improvement	

CONCLUSION

A field audit was conducted of a statistical sample of 254 items of load. The “database auditing tool” was used to analyse the results, and concluded that the database is not accurate within $\pm 5\%$ with statistical significance.

The audit found six non-compliances, all relating to database completeness and accuracy. The future risk rating is 40; an increase from 21 in the last audit. Since the last audit, TDC has begun using RAMM to produce extracts for submission. A combination of missing ICP numbers and wattages for some lights, missing gear wattages and poor field audit accuracy have led to a significant increase in the audit risk rating. A list of the affected lights has been provided to TDC, who intend to investigate the discrepancies and will update RAMM accordingly. TDC will approach thinkproject for assistance with updating the gear wattages.

The audit risk rating indicates that the next audit be completed in three months. I have considered this in conjunction with the comments from Genesis, and that TDC intends to investigate and resolve the issues. I recommend that the next audit is completed in a minimum of nine months on 12 May 2025, to allow time to investigate and resolve the database discrepancies prior to the next audit.

Participant response

Genesis agrees with the findings of the audit.

Genesis has been working very closely with TDC to generate and provide monthly data extracts as prior to May 2024 we had not received any monthly data extracts since September 2023.

TDC have started using RAMM and have been providing data extracts since May 2024 however as a result of moving to RAMM there has been a considerable decrease in the accuracy of their data.

TDC are investigating the audit findings to ensure their database is updated accurately, due to the large number of discrepancies, this may take some time to have investigated and updated in their system.

Genesis will continue to work with TDC to increase the level of accuracy moving forward.