# ELECTRICITY INDUSTRY PARTICIPATION CODE DISTRIBUTED UNMETERED LOAD AUDIT REPORT



For

# THAMES COROMANDEL DISTRICT COUNCIL AND GENESIS ENERGY

Prepared by: Rebecca Elliot

Date audit commenced: 29 March 2024

Date audit report completed: 16 May 2024

Audit report due date: 01-Jun-24

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#### **EXECUTIVE SUMMARY**

This audit of the **Thames Coromandel District Council Unmetered Streetlights (TCDC)** DUML database and processes was conducted at the request of **Genesis Energy (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.

Genesis reconciles this DUML load using the CST and NST profiles as indicated in section 1.6 above. The recent profile audit, finalised in September 2023, concluded that the NST, CST and SST profile rules were not fit for purpose because they allow the shape files for each profile to be different to actual on/off times by up to 29 minutes at the start and end of each streetlight "on" period. The Authority allowed Genesis until the end of March 2024 to move all relevant ICPs onto a compliant profile, which has not yet occurred.

Power Solutions continue to manage the database on behalf of the TCDC. McKay Electrical are the field contractor.

The field audit found that the database was not within the allowable +/-5% accuracy threshold. In absolute terms, total annual consumption is estimated to be 26,600 kWh higher than the DUML database indicates. This is due to changes in the field not being captured accurately and I recommend that this process is reviewed, and all changes made during the audit period be reviewed to confirm they are correct.

This audit found four non-compliances and makes two recommendations. The future risk rating of nine indicates that the next audit be completed in 12 months. I have considered this in conjunction with Genesis' comments and agree with that recommendation.

The matters raised are detailed below:

#### AUDIT SUMMARY

# NON-COMPLIANCES

				Risk	Risk	
2.1	11(1) of Schedule 15.3	Submission is occurring using a cancelled profile.  Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML	Moderate	Rating Low	Rating 2	Identified
2.5	11(2A) of Schedule 15.3	One additional light found in the field from a sample of 236 items of load.	Moderate	Low	2	Identified
3.1	15.2 and 15.37B(b)	Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.	Weak	Low	3	Identified
3.2	15.2 and 15.37B(c)	Submission is occurring using a cancelled profile.  Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.	Moderate	Low	2	Identified
	3.1	2.5	15.3 Cancelled profile.  Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.  2.5 11(2A) of Schedule 15.3 One additional light found in the field from a sample of 236 items of load.  3.1 15.2 and Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.  3.2 15.2 and 15.37B(c) Submission is occurring using a cancelled profile. Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.	15.3 cancelled profile.  Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.  2.5 11(2A) of Schedule 15.3 One additional light found in the field from a sample of 236 items of load.  3.1 15.2 and 15.37B(b) Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.  3.2 15.2 and 15.37B(c) Submission is occurring using a cancelled profile.  Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.	15.3 cancelled profile.  Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.  2.5 11(2A) of Schedule 15.3 One additional light from a sample of 236 items of load.  3.1 15.2 and 15.37B(b) Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.  3.2 15.2 and 15.37B(c) Submission is occurring using a cancelled profile.  Database is not confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.	15.3 cancelled profile.  Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.  2.5 11(2A) of Schedule 15.3 One additional light found in the field from a sample of 236 items of load.  3.1 15.2 and 15.37B(b) Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.  3.2 15.2 and 15.37B(c) Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.  3.2 15.2 and 15.37B(c) Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.

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
Location of each item of load	2.3	Record GPS co-ordinates for the 20% of historic lights missing this information.
Change Management	3.1	Review field data capture process to improve accuracy and review all changes made during the audit period to confirm they are correct.

# 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**

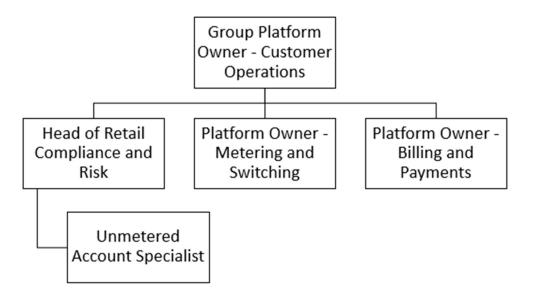
Section 11 of the Electricity Industry Act provides for the Electricity Authority to exempt any participant from compliance with all or any of the clauses.

#### **Audit commentary**

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

#### 1.2. Structure of Organisation

Genesis provided a copy of their organisational structure.



#### 1.3. Persons involved in this audit

#### Auditor:

Name	Company	Role
Rebecca Elliot	Veritek Limited	Auditor

Other personnel assisting in this audit were:

Name	Title	Company
Alysha Majury	Unmetered Account Specialist	Genesis Energy
Jon Stevens	Projects Engineer	Power Solutions

#### 1.4. Hardware and Software

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

Power Solutions confirmed that the database back-up is in accordance with standard industry procedures. Access to the database is secure by way of password protection.

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

# 1.5. Breaches or Breach Allegations

There are no breach allegations relevant to the scope of this audit.

# 1.6. ICP Data

ICP Number	Description	NSP	Profile	Number of items of load	Database wattage (watts)
0001425630UNEF3	Thames Coromandel District Council	KPU0661	NST	3,310	110,764

### 1.7. Authorisation Received

All information was provided directly by Genesis or Power Solutions.

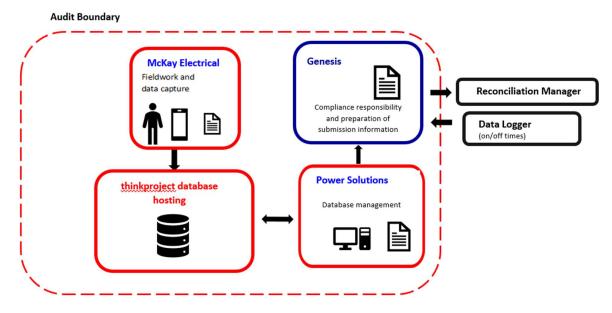
#### 1.8. Scope of Audit

This audit of the **Thames Coromandel District Council Unmetered Streetlights (TCDC)** DUML database and processes was conducted at the request of **Genesis Energy (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 database is remotely hosted by thinkproject New Zealand Ltd and is managed by PSL, on behalf of TCDC, who is the customer of Genesis. The fieldwork and asset data capture are conducted by McKay Electrical.

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 236 items of load on 22<sup>nd</sup> April 2024.

#### 1.9. Summary of previous audit

The last audit report was undertaken by Rebecca Elliot of Veritek Limited in May 2022. The current status of those audit's findings is detailed below:

# **Table of Non-Compliance**

Subject	Section	Clause	Non-compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	Submission is based on a snapshot and does not consider historic adjustments.	Still existing for different issue
Description and capacity of load	2.4	11(2)(c) of Schedule 15.3	21 items of load with an "unknown" light description.	Cleared
Volume information accuracy	3.2	15.2 and 15.37B(c)	The data used for submission does not track changes at a daily basis and is provided as a snapshot.	Still existing for different issue

#### **Table of Recommendations**

Subject	Section	Recommendation for Improvement	Status
Location of each item of load	2.3	Record GPS co-ordinates for the 20% of historic lights missing this information.	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 that the requirement to conduct an audit has been met for this database within the required timeframe.

#### **Audit outcome**

#### 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 reconciles this DUML load using the NST profiles as indicated in section 1.6 above. The recent profile audit, finalised in September 2023, concluded that the NST, CST and SST profile rules were not fit for purpose because they allow the shape files for each profile to be different to actual on/off times by up to 29 minutes at the start and end of each streetlight "on" period. The Authority allowed Genesis until the end of March 2024 to move all relevant ICPs onto a compliant profile, which has not yet occurred.

I compared the submitted volumes for March 2024 and confirmed they were accurate.

The field audit found that the database was not within the allowable +/-5% accuracy threshold. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.

Genesis confirmed they calculate the submission at a daily level as required by the code. To do this they import the data into a database and use asset install dates to calculate active days for each item of load.

#### **Audit outcome**

Non-compliant

Non-compliance	-compliance Description					
Audit Ref: 2.1	Submission is occurring using a cancelled	Submission is occurring using a cancelled profile.				
With: Clause 11(1) of Schedule 15.3		Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.				
	Potential impact: Medium					
	Actual impact: Low					
From: 06-May-22	Audit history: Multiple times					
To: 08-Apr-24	Controls: Moderate					
	Breach risk rating: 2					
Audit risk rating	Rationale for audit risk rating					
Low	The controls are rated as moderate over the tracking of load change in the field.	all but there is ro	om for improvement for			
	The impact is assessed to be low, based	on the estimated	kWh difference.			
Actions to	aken to resolve the issue	Completion date	Remedial action status			
	k with TCDC to ensure the accuracy of aware of findings and requirements.	Continuous Improvement	Identified			
Preventative actions take	en to ensure no further issues will occur	Completion date				
TCDC are aware of the fin required changes that we	dings and have confirmed to make the re found.	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 in RAMM have an ICP number recorded. The accuracy of the ICP applied is discussed in **section 3.1**.

#### **Audit outcome**

#### 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 the nearest street address or the metres from the end of the road for all items of load. As reported in the last audit, 80% have a GPS location recorded. The 20% (679 items of load) that don't are historic, and I repeat the recommendation that the GPS location be recorded for these in the database.

Recommendation	Description	Audited party comment	Remedial action
Location of each item of load	Record GPS co-ordinates for the 20% of historic lights missing this information.	TCDC are aware of the findings and recommendation and will look to pull the missing information into the database.	Investigating

All new lighting has the GPS co-ordinates recorded as part of the data capture.

#### **Audit outcome**

Compliant

#### 2.4. Description and capacity of load (Clause 11(2)(c) and (d) of Schedule 15.3)

# **Code reference**

Clause 11(2)(c) and (d) of Schedule 15.3

#### **Code related audit information**

The DUML database must contain:

- a description of load type for each item of load and any assumptions regarding the capacity,
- the capacity of each item in watts.

#### **Audit observation**

The database was checked to confirm that it contained a field for lamp type and wattage capacity and included any ballast or gear wattage and that each item of load had a value recorded in these fields.

#### **Audit commentary**

The database contains fields for lamp make model description, lamp wattage and gear wattage. All have the fields populated.

I confirmed that the 21 lights with missing lamp descriptions recorded in the last audit have been populated.

The accuracy of the recorded wattage information is discussed in section 3.1.

#### **Audit outcome**

# 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 236 items of load on 22<sup>nd</sup> April 2024.

#### **Audit commentary**

The table below summarises the field audit findings. A detailed list was provided to TCDC and Contact.

Discrepancy	Quantity
Incorrect wattage	29
Missing in the field	0
In the field not in the database	1
Recorded in database as not connected but are connected	4

The field audit found seven additional lights in the field than were recorded in the database. This is recorded as non-compliance below. The database accuracy is discussed in **section 3.1**.

# **Audit outcome**

Non-compliant

Non-compliance	Description		
Audit Ref: 2.5	One additional light found in the field from a sample of 236 items of load.		
With: Clause 11(2A) of	Potential impact: Low		
Schedule 15.3	Actual impact: Low		
	Audit history: None		
From: 06-May-22	Controls: Moderate		
To: 08-Apr-24	Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as moderate overall but there is room for improvement for the tracking of load change in the field.  The impact is assessed to be low as only one additional light was found in the field.		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis continues to work with TCDC to ensure the accuracy of their database. TCDC are aware of findings and requirements		Continuous Improvement	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
TCDC are aware of findings and have investigated the findings. They found that Harbour Drive lights were incorrectly mapped		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 RAMM database functionality achieves compliance with the code.

The change management process and the compliance of the database reporting provided to Genesis is detailed in **sections 3.1** and **3.2**.

# **Audit outcome**

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

#### **Audit outcome**

#### 3. ACCURACY OF DUML DATABASE

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

#### **Code reference**

Clause 15.2 and 15.37B(b)

#### **Code related audit information**

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

#### **Audit observation**

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

Plan Item	Comments		
Area of interest	Thames Coromandel region		
Strata	The database contains items of load in Thames Coromandel peninsular.		
	The area has two distinct sub-groups. Urban and Rural.		
	The processes for the management of TCDC items of load are the same, but decided to place the items of load into three strata, as follows:		
	1. A-H,		
	2. I-O, and		
	3. P-Y.		
Area units	I created a pivot table of the roads in each area, and I used a random number generator in a spreadsheet to select a total of 46 sub-units.		
Total items of load	236 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 and timeliness of database updates was evaluated.

# **Audit commentary**

#### Field audit findings

A statistical sample of 236 items of load found that the field data was 105.5% of the database data for the sample checked.

Result	Percentage	Comments
The point estimate of R	102.1%	Wattage from survey is higher than the database wattage by 2.1%
RL	98.3	With a 95% level of confidence, it can be concluded that the error could be between -1.7% to +7.1%.
Rн	107.1%	Could be between -1.7% to +7.1%.

These results were categorised in accordance with the "Distributed Unmetered Load Statistical Sampling Audit Guideline", effective from 1 February 2019. The table below shows that Scenario 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 1.7% lower and 7.1% higher 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 2 kW higher than the database indicates.
- There is a 95% level of confidence that the installed capacity is between 2 kW lower and 9kW higher than the database.
- In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.
- There is a 95% level of confidence that the annual consumption is between 8,200 kWh lower to 36,800 kWh p.a. higher than the database indicates.

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

#### Lamp description and capacity accuracy

I checked the wattages being applied in the database and confirmed these to be accurate.

I confirmed that the 21 lights with missing lamp descriptions recorded in the last audit have been populated.

#### **ICP** accuracy

The database was checked and found all lights associated with TCDC have the correct ICP recorded against them. The database also holds the Waka Kotahi lights for reference only.

#### Change management process findings

McKay Electrical manage the field work. The crews with Pocket RAMM are expected to enter all field data directly into RAMM Contractor. Not all crews carry Pocket RAMM, so some changes made in the field are recorded on paper and then updated in RAMM in the office. The field audit found that the data accuracy has declined due to the poor data capture in the field. I recommend that this process is reviewed, as well as all changes made during the audit period to confirm they are correct.

Recommendation	Description	Audited party comment	Remedial action
Change Management	Review field data capture process to improve accuracy and review all changes made during the audit period to confirm they are correct.	TCDC are aware of the findings and will take the findings back to the contractors. Genesis continues to work with TCDC to ensure accuracy of their database.	Investigating

New streetlight connections are advised to Power Solutions prior to electrical connection. A field audit is completed to confirm that the as-builts plans match what is installed in the field. The lights are added to the database and recorded as not connected until such time as the Council issues the 224C. Proof of connection is required as part of the 224C. The ICP is added to the lights from the date of the 224C being issued.

#### **Festive Lights**

A small number of festive lights are added and then removed for the festive period for Thames township.

#### **Private Lights**

There are no private lights recorded in the RAMM database and none are expected.

#### **Audit outcome**

Non-compliant

Non-compliance	Description		
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b)	Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.  Potential impact: Medium		
	Actual impact: Low		
	Audit history: None		
From: 06-May-22	Controls: Weak		
To: 08-Apr-24	Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as weak as the maintenance data accuracy is poor resulting in the database accuracy being outside of the allowable threshold.		
	The impact is assessed to be low, based on the estimated kWh difference.		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis continues to work with TCDC to ensure the accuracy of their database. TCDC are aware of findings and requirements		Continuous Improvement	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis continues to work with TCDC to ensure the accuracy of their database. TCDC are aware of findings and requirements		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 burn hours against the submitted figure to confirm accuracy.

#### **Audit commentary**

Genesis reconciles this DUML load using the NST profiles as indicated in section 1.6 above. The recent profile audit, finalised in September 2023, concluded that the NST, CST and SST profile rules were not fit for purpose because they allow the shape files for each profile to be different to actual on/off times by up to 29 minutes at the start and end of each streetlight "on" period. The Authority allowed Genesis until the end of March 2024 to move all relevant ICPs onto a compliant profile, which has not yet occurred.

I compared the submitted volumes for March 2024 and confirmed they were accurate.

The field audit found that the database was not within the allowable +/-5% accuracy threshold. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.

Genesis confirmed they calculate the submission at a daily level as required by the code. To do this they import the data into a database and use asset install dates to calculate active days for each item of load.

#### **Audit outcome**

#### Non-compliant

Non-compliance	Description		
Audit Ref: 3.2	Submission is occurring using a cancelled profile.		
With: Clause 15.2 and 15.37B(c)	Database is not confirmed as accurate with a 95% level of confidence. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates.		
	Potential impact: Medium		
	Actual impact: Low		
	Audit history: Multiple times		
From: 06-May-22	Controls: Moderate		
To: 08-Apr-24	Breach risk rating: 4		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as moderate overall but there is room for improvement for the tracking of load change in the field.		
	The impact is assessed to be low, based on the estimated kWh difference.		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis continues to work with TCDC to ensure the accuracy of their database. TCDC are aware of findings and requirements		Continuous Improvement	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis continues to work with TCDC to ensure the accuracy of their database. TCDC are aware of findings and requirements. Genesis continues to resolve profile non-compliance and work is underway for a resolution.		Continuous Improvement	

# CONCLUSION

Genesis reconciles this DUML load using the NST profile. This profile has been cancelled. Genesis is in the process of applying for a new profile. On/off times are derived from a data logger recording on and off signals from the ripple control system.

Power Solutions continue to manage the database on behalf of the TCDC. McKay Electrical are the field contractor.

The field audit found that the database was not within the allowable +/-5% accuracy threshold. In absolute terms, total annual consumption is estimated to be 10,100 kWh higher than the DUML database indicates. This is due to changes in the field not being captured accurately and I recommend that this process is reviewed, and all changes made during the audit period be reviewed to confirm they are correct.

This audit found four non-compliances and makes two recommendations. The future risk rating of nine indicates that the next audit be completed in 12 months. I have considered this in conjunction with Genesis' comments and agree with that recommendation.

#### PARTICIPANT RESPONSE

Genesis agrees with the recommendation of 12 months. This would allow Genesis sufficient time to resolve the profile non-compliance and continue to work with TCDC to ensure accuracy of their database.

Power Solutions have investigated the current identified findings and have answered and/or updated what was found. TCDC are aware of the findings and requirements and work continues with the contractors to ensure the accuracy of the database when new data is added.