

ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

The logo for Veritek, featuring the word "VERITEK" in a blue serif font. A vertical blue line is positioned to the left of the text, and a horizontal blue line is positioned below the text, intersecting at the letter 'V'.

For

MACKENZIE DISTRICT COUNCIL AND
GENESIS ENERGY LIMITED

Prepared by: Rebecca Elliot

Date audit commenced: 17 May 2021

Date audit report completed: 27 May 2021

Audit report due date: 1 June 2021

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EXECUTIVE SUMMARY

This audit of the **Mackenzie District Council (MDC)** 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 RAMM database used for submission is managed by MacKenzie District Council. The RAMM database was previously held by Timaru District Council on behalf of MDC.

A new contract was established between NetCon and MacKenzie District Council in September 2020, new processes are still being established for the new connection, fault, and maintenance work that is completed by NetCon.

TDC provide a monthly report from the database to Genesis, which is used to calculate submissions. Genesis submits the DUML load as NHH using the SST profile. On hours are derived using data logger information.

Database accuracy is described as follows:

Result	Percentage	Comments
The point estimate of R	103.5	Wattage from survey is higher than the database wattage by 3.5%
R _L	88.6	With a 95% level of confidence, it can be concluded that the error could be between -11.4% and +22.7%
R _H	122.7	

- 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 7 kW lower to 14 kW higher than the database.
- In absolute terms, total annual consumption is estimated to be 8,900 kWh higher than the DUML database indicates.
- There is a 95% level of confidence that the annual consumption is between -29,400 kWh p.a. lower to 58,400 kWh p.a. higher than the database indicates.

The audit found five non-compliances. The future risk rating of ten indicates that the next audit be completed in 12 months. I have considered this in conjunction with Genesis' comments. The report due date was 1st June 2021, it is very overdue, I recommend that the next audit is completed 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	<p>The database accuracy is assessed to be 103.5% of the database for the sample checked indicating a potential under submission of approximately 8,900 kWh per annum.</p> <p>Nine items of load have an invalid ICP number recorded resulting in an estimated under submission of 1,691 kWh per annum.</p> <p>Submission is based on a snapshot and does not consider historic adjustments.</p>	Moderate	Low	2	Investigating
ICP identifier and items of load	2.2	Clause 11(2)(a) and (aa) of Schedule 15.3	Nine items of load have an invalid ICP number recorded resulting in an estimated under submission of 1,691 kWh per annum.	Moderate	Low	2	Investigating
All load recorded in the database	2.5	Clauses 11(2A) of Schedule 15.3	18 additional lamps identified in the field.	Moderate	Low	2	Investigating
Database accuracy	3.1	15.2 and 15.37B(b)	<p>The database accuracy is assessed to be 103.5% of the database for the sample checked indicating a potential under submission of approximately 8,900 kWh per annum.</p> <p>Nine items of load have an invalid ICP number recorded.</p>	Moderate	Low	2	Investigating
Volume information accuracy	3.2	15.2 and 15.37B(c)	The database accuracy is assessed to be 103.5% of the database for the	Moderate	Low	2	Investigating

			<p>sample checked indicating a potential under submission of approximately 8,900 kWh per annum.</p> <p>Nine items of load have an invalid ICP number recorded resulting in an estimated under submission of 1,691 kWh per annum.</p> <p>Submission is based on a snapshot and does not consider historic adjustments.</p>				
Future Risk Rating							10

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
		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.

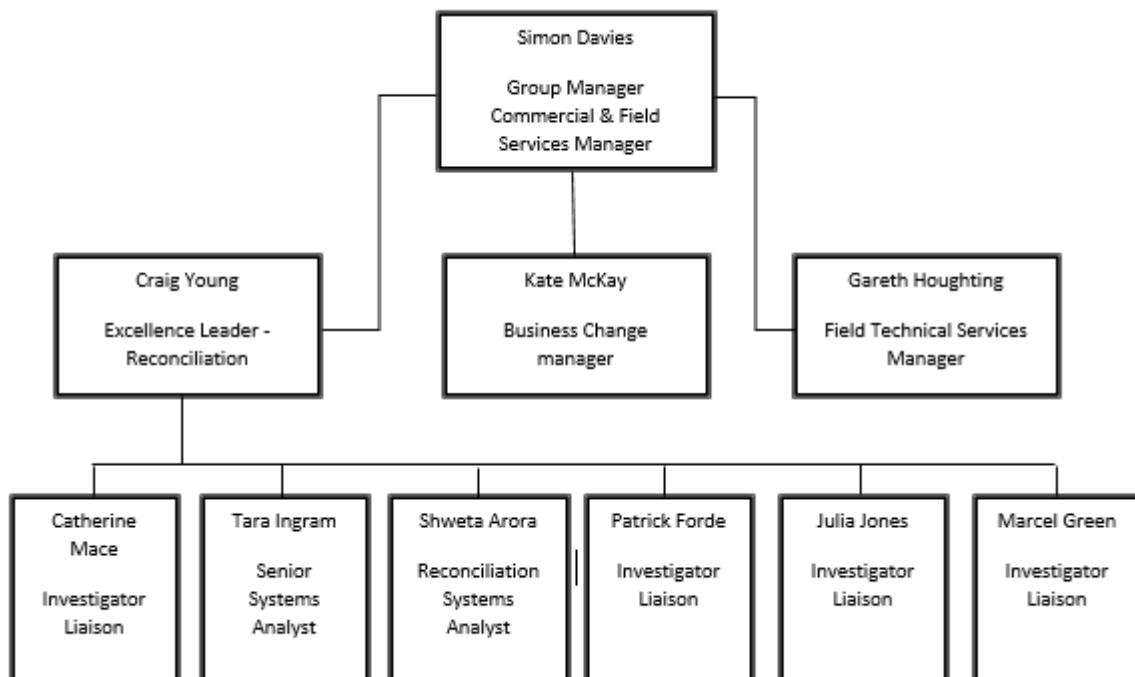
Audit observation

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



1.3. Persons involved in this audit

Auditor:

Name	Company	Role
Rebecca Elliot	Veritek Limited	Lead Auditor
Claire Stanley	Veritek Limited	Supporting Auditor

Other personnel assisting in this audit were:

Name	Title	Company
Scott McKenzie	Road Engineering Technician	Mackenzie District Council
Craig Young	Excellence Leader - Reconciliation	Genesis Energy
Julia Jones	Technical Specialist - Reconciliation Team	Genesis Energy

1.4. Hardware and Software

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

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

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)
0000000007ALB68	Streetlighting	TKA0331	SST	374	17,193
0000000008AL4B6	Streetlighting	TWZ0331	SST	477	21,862
0000000003ALA62	Streetlighting	ABY0111	SST	211	21,137
Total				1,056	60,192

1.7. Authorisation Received

All information was provided directly by Genesis and TDC.

1.8. Scope of Audit

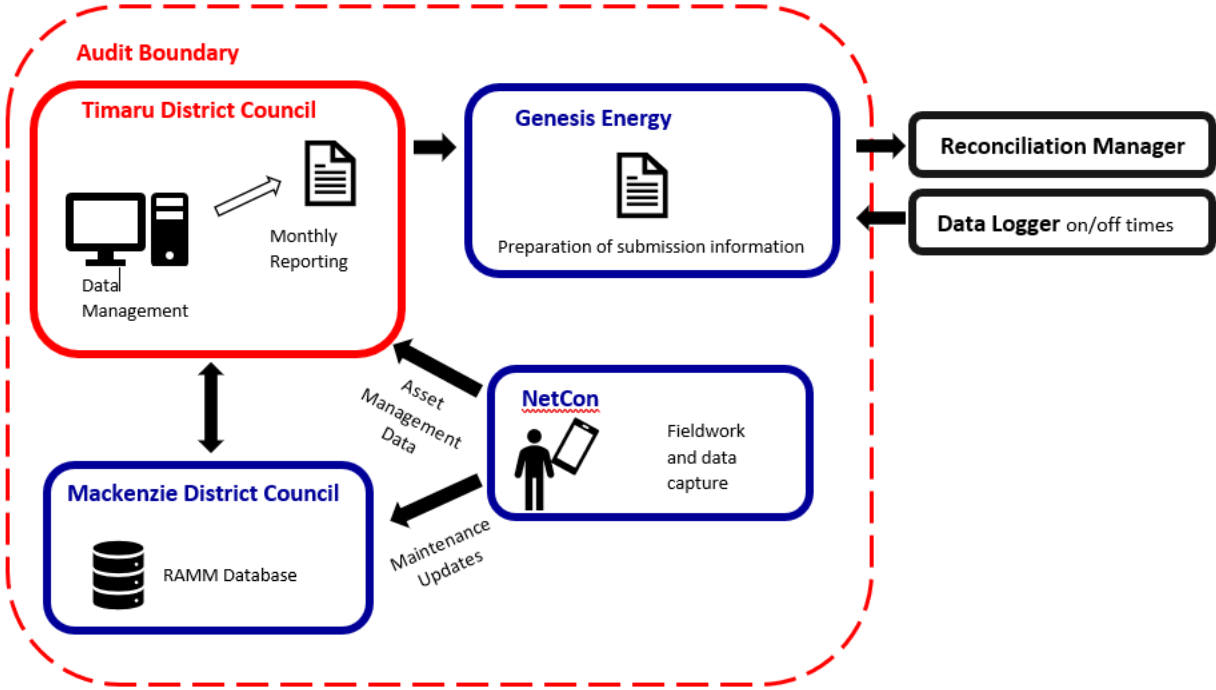
This audit of the MDC DUML database and processes was conducted at the request of Genesis in accordance with clause 15.37B. The purpose of this audit is to verify that the volume information is being calculated accurately, and that profiles have been correctly applied. The audit was conducted in accordance with the audit guidelines for DUML audits version 1.1.

The RAMM database used for submission is managed by MacKenzie District Council. The RAMM database was previously held by TDC on behalf of MDC.

A new contract was established between NetCon and MacKenzie District Council in September 2020, new processes are still being established for the new connection, fault, and maintenance work that is completed by NetCon.

TDC provide a monthly report from the database to Genesis, which is used to calculate submissions. Genesis submits the DUML load as NHH using the SST profile. On hours are derived using data logger information.

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 124 items of load on 12 May 2021.

1.9. Summary of previous audit

The previous audit was completed in April 2019 by Tara Gannon of Veritek Limited. One non-compliance was identified. The status of this non-compliance is described below.

Table of Non-compliances

Subject	Section	Clause	Non-compliance	Status
All load recorded in the database	2.5	11(2A) of Schedule 15.3	Two 27W LEDs were missing from the database	Cleared

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

Compliant

2. DUMML DATABASE REQUIREMENTS

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

Code reference

Clause 11(1) of Schedule 15.3

Code related audit information

The retailer must ensure the:

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

Audit observation

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

Audit commentary

This clause requires that the distributed unmetered load database must satisfy the requirements of schedule 15.5 regarding the methodology for deriving submission information. Genesis reconciles this DUMML load as NHH using the SST profile, and on hours are derived using data logger information.

I checked the April 2021 submission data for ICPs 0000000007ALB68, 0000000008AL4B6 and 0000000003ALA62, and compliance is confirmed.

As detailed in **section 3.1**, the database accuracy is not within +/-5% threshold. This will be resulting in an estimated under submission of approximately 8,900 kWh per annum.

As detailed in **sections 2.2** and **3.1**, nine items of load have an invalid ICP number recorded which means they are not being reconciled. This will be resulting in an estimated under submission of 1,691 kWh per annum.

On 18 June 2019, the Electricity Authority issued a memo confirming that the code requirement to calculate the correct monthly load must:

- take into account when each item of load was physically installed or removed, and
- wash up volumes must take into account where historical corrections have been made to the DUMML load and volumes.

The current monthly report is provided as a snapshot. Genesis are working with the council to get a monthly report that tracks changes at a daily level but currently only a snapshot is being used and this practice is non-compliant.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: 30-Apr-19 To: 17-May-21	<p>The database accuracy is assessed to be 103.5% of the database for the sample checked indicating a potential under submission of approximately 8,900 kWh per annum.</p> <p>Nine items of load have an invalid ICP number recorded resulting in an estimated under submission of 1,691 kWh per annum.</p> <p>Submission is based on a snapshot and does not consider historic adjustments.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>Controls are rated as moderate, as they are sufficient to mitigate the risk most of the time but there is room for improvement.</p> <p>The impact is assessed to be low due to the impact on submission.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis will be reviewing the reporting provided to construct a report that will meet the requirements to track changes. Genesis are currently investigating the invalid icp as noted by the auditor.		01/09/2021	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis continues to work with TDC & MDC to provide exceptions and reporting refinements back to the council.		01/07/2021	

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

Code reference

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

Code related audit information

The DUMML database must contain:

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

Audit observation

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

Audit commentary

The analysis found that all items of load had an ICP number recorded. Nine items of load have an invalid ICP number recorded which means they are not being reconciled. This will be resulting in an estimated under submission of 1,691 kWh per annum.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.2 With: Clause 11(2)(a) and (aa) of Schedule 15.3 From: 30-Apr-19 To: 17-May-21	Nine items of load have an invalid ICP number recorded resulting in an estimated under submission of 1,691 kWh per annum. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	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 are currently investigating the invalid icp as noted by the auditor.		01/09/2021	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis continues to work with TDC & MDC to provide exceptions and reporting refinements back to the council.		01/07/2021	

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

All items of load have street addresses and GPS coordinates recorded.

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.

Audit commentary

All items of load have a lamp model, lamp wattage and gear wattage populated.

Audit outcome

Compliant

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

Code reference

Clause 11(2A) of Schedule 15.3

Code related audit information

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

Audit observation

The field audit was undertaken of a statistical sample of 124 items of load on 12 May 2021.

Audit commentary

The field audit discrepancies found are detailed in the table below.

Address	Database Count	Field Count	Count differences	Wattage differences	Comments
000000007ALB68					
ANDREW DON DRIVE	25	43	+18		18 x additional 35W LPS Bollards found in the field
000000008AL4B6					
DOBSON PLACE	1	1		1	1 x 35W GL recorded in the database but 1 x 22W LED found in the field
HUXLEY PLACE	1	1		1	1 x 35W GL recorded in the database but 1 x 22W LED found in the field
OMAHAU CRESCENT	13	13		7	7 x 35W GL recorded in the database but 7 x 22W LED found in the field

Address	Database Count	Field Count	Count differences	Wattage differences	Comments
RUATANIWHA ROAD	8	8		3	3 x 35W GL recorded in the database but 3 x 22W LED found in the field
TEKAPO DRIVE	15	14	-1	12	12 x 35W GL recorded in the database but 12 x 22W LED found in the field 1 x 35W GL not located in the field
000000003ALA62					
ALLOWAY STREET	10	10		1	1 x 35W GL recorded in the database but 1 x 70W HPS found in the field
DENMARK STREET	7	8	+1		1 x additional 70W HPS found in the field
Total	124	141	20	25	

The field audit found 18 additional lamps that were missing from the database, and this is recorded as non-compliance below. The database accuracy is discussed in **section 3.1**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.5 With: Clauses 11(2A) of Schedule 15.3 From: 30-Apr-19 To: 17-May-21	18 additional lamps identified in the field. Potential impact: Low Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as moderate, because of the small number of missing lamps identified. The impact is low based on the indicated submission variances detailed in section 3.1 .		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis will be reviewing the reporting provided to construct a report that will meet the requirements to track changes. Genesis has requested MDC to investigate the missing assets as noted by the auditor and added as required.		01/08/2021	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	

2.6. Tracking of load changes (Clause 11(3) of Schedule 15.3)

Code reference

Clause 11(3) of Schedule 15.3

Code related audit information

The DUML database must track additions and removals in a manner that allows the total load (in kW) to be retrospectively derived for any given day.

Audit observation

The process for tracking of changes in the database was examined.

Audit commentary

The 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 database was checked for audit trails.

Audit commentary

RAMM records audit trail information of changes made.

Audit outcome

Compliant

3. ACCURACY OF DUML DATABASE

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

Code reference

Clause 15.2 and 15.37B(b)

Code related audit information

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

Audit observation

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

Plan Item	Comments
Area of interest	Mackenzie DC region
Strata	The database contains 1,071 items of load in the Mackenzie region. The processes for the management of all items of load are the same, and strata were created for each of the three ICPs.
Area units	I created a pivot table of the roads in each strata and used a random number generator in a spreadsheet to select a total of 16 sub-units making up approximately 10% of the entire database wattage.
Total items of load	124 items of load were checked.

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

Audit commentary

Database accuracy based on the field audit

A field audit was conducted of a statistical sample of 124 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	103.5	Wattage from survey is higher than the database wattage by 3.5%
R _L	88.6	With a 95% level of confidence, it can be concluded that the error could be between -11.4% and 22.7%
R _H	122.7	

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 11.4% lower and 22.7% 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 7 kW lower to 14 kW higher than the database.

In absolute terms, total annual consumption is estimated to be 8,900 kWh higher than the DUML database indicates.

There is a 95% level of confidence that the annual consumption is between -29,400 kWh p.a. lower to 58,400 kWh p.a. higher than the database indicates.

Scenario	Description
<p>A - Good accuracy, good precision</p>	<p>This scenario applies if:</p> <ul style="list-style-type: none"> (a) R_H is less than 1.05; and (b) R_L is greater than 0.95 <p>The conclusion from this scenario is that:</p> <ul style="list-style-type: none"> (a) the best available estimate indicates that the database is accurate within +/- 5 %; and (b) this is the best outcome.
<p>B - Poor accuracy, demonstrated with statistical significance</p>	<p>This scenario applies if:</p> <ul style="list-style-type: none"> (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. <p>There is evidence to support this finding. In statistical terms, the inaccuracy is statistically significant at the 95% level.</p>
<p>C - Poor precision</p>	<p>This scenario applies if:</p> <ul style="list-style-type: none"> (a) the point estimate of R is between 0.95 and 1.05 (b) R_L is less than 0.95 and/or R_H is greater than 1.05 <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>

Lamp description and capacity accuracy

The database was checked against the published standardised wattage table, and manufacturer's specifications where available. No lamp or gear wattage inaccuracies were identified.

Location accuracy

The field audit did not identify any location discrepancies.

ICP number and owner accuracy

As detailed in **section 2.2**, nine of the ICPs that are populated are invalid. This will be resulting in an estimated under submission of 1,691 kWh per annum. This is recorded as non-compliance below.

Change management process findings

New connection, fault and maintenance work is completed by NetCon.

A new contract was established between NetCon and MacKenzie District Council in September 2020, new processes are still being established for the new connection, fault, and maintenance work that is completed by NetCon.

All private lights in the MDC area are metered, and no festive lights are used.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: 30-Apr-19 To: 17-May-21	The database accuracy is assessed to be 103.5% of the database for the sample checked indicating a potential under submission of approximately 8,900 kWh per annum. Nine items of load have an invalid ICP number recorded resulting in an estimated under submission of 1,691 kWh per annum. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as moderate, as they are sufficient to mitigate the risk most of the time but there is room for improvement. The impact is assessed to be low due to the impact on submission.		
Actions taken to resolve the issue		Completion date	Remedial action status
Genesis will be reviewing the reporting provided to construct a report that will meet the requirements to track changes. Genesis are currently investigating the invalid icp as noted by the auditor.		01/09/2021	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis continues to work with TDC & MDC to provide exceptions and reporting refinements back to the council.		01/07/2021	

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

This clause requires that the distributed unmetered load database must satisfy the requirements of schedule 15.5 regarding the methodology for deriving submission information. Genesis reconciles this DUML load as NHH using the SST profile, and on hours are derived using data logger information.

I checked the April 2021 submission data for ICPs 0000000007ALB68, 0000000008AL4B6 and 0000000003ALA62, and compliance is confirmed.

As detailed in **section 3.1**, the database accuracy is not within +/-5% threshold. This will be resulting in an estimated under submission of approximately 8,900 kWh per annum.

As detailed in **sections 2.2** and **3.1**, nine items of load have an invalid ICP number recorded which means they are not being reconciled. This will be resulting in an estimated under submission of 1,691 kWh per annum.

On 18 June 2019, the Electricity Authority issued a memo confirming that the code requirement to calculate the correct monthly load must:

- take into account when each item of load was physically installed or removed, and
- wash up volumes must take into account where historical corrections have been made to the DUML load and volumes.

The current monthly report is provided as a snapshot. Genesis are working with the council to get a monthly report that tracks changes at a daily level but currently only a snapshot is being used and this practice is non-compliant.

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 3.2 With: Clauses 15.2 and 15.37B(c)</p> <p>From: 30-Apr-19 To: 17-May-21</p>	<p>The database accuracy is assessed to be 103.5% of the database for the sample checked indicating a potential under submission of approximately 8,900 kWh per annum.</p> <p>Nine items of load have an invalid ICP number recorded resulting in an estimated under submission of 1,691 kWh per annum.</p> <p>Submission is based on a snapshot and does not consider historic adjustments.</p> <p>Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
<p>Low</p>	<p>Controls are rated as moderate, as they are sufficient to mitigate the risk most of the time but there is room for improvement.</p> <p>The impact is assessed to be low due to the impact on submission.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Genesis will be reviewing the reporting provided to construct a report that will meet the requirements to track changes. Genesis are currently investigating the invalid icp as noted by the auditor.</p>		<p>01/09/2021</p>	<p>Investigating</p>
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Genesis continues to work with TDC & MDC to provide exceptions and reporting refinements back to the council.</p>		<p>01/07/2021</p>	

CONCLUSION

The RAMM database used for submission is managed by MacKenzie District Council. The RAMM database was previously held by TDC on behalf of MDC.

A new contract was established between NetCon and MacKenzie District Council in September 2020, new processes are still being established for the new connection, fault, and maintenance work that is completed by NetCon.

Timaru District Council provide a monthly report from the database to Genesis, which is used to calculate submissions. Genesis submits the DUML load as NHH using the SST profile. On hours are derived using data logger information.

Database accuracy is described as follows:

Result	Percentage	Comments
The point estimate of R	103.5	Wattage from survey is higher than the database wattage by 3.5%
R _L	88.6	With a 95% level of confidence, it can be concluded that the error could be between -11.4% and +22.7%
R _H	122.7	

- 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 7 kW lower to 14 kW higher than the database.
- In absolute terms, total annual consumption is estimated to be 8,900 kWh higher than the DUML database indicates.
- There is a 95% level of confidence that the annual consumption is between -29,400 kWh p.a. lower to 58,400 kWh p.a. higher than the database indicates.

The audit found five non-compliances. The future risk rating of ten indicates that the next audit be completed in 12 months. I have considered this in conjunction with Genesis' comments. The report due date was 1st June 2021, it is very overdue, I recommend that the next audit is completed in three months.

PARTICIPANT RESPONSE

Genesis will continue to provide assistance to TDC & MDC in the development of their reporting from RAMM and assist with reporting any anomalies Genesis finds with their data for SDC to review along with investigate the invalid ICP as noted by the auditor.