

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

For

**TAUPO DISTRICT COUNCIL  
AND MERIDIAN**

Prepared by: Steve Woods

Date audit commenced: 10 January 2022

Date audit report completed: 1 April 2022

Audit report due date: 1 April 2022

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## EXECUTIVE SUMMARY

This audit of the **Taupo District Council (TDC)** DUML database and processes was conducted at the request of **Meridian Energy (Meridian)** 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.

TDC use a RAMM database to manage this DUML load. New connection, fault and maintenance work is completed by Horizons. Reports are received by Meridian on a monthly basis. Controls are generally strong and the audit result has improved since last time.

The issues identified during the last audit have been rectified.

The field audit found that in absolute terms, total annual consumption is estimated to be 12,100 kWh higher than the DUML database indicates, meaning that under submission is occurring.

The audit found four non-compliances and makes three recommendations. The future risk rating of seven indicates that the next audit be completed in 18 months. I agree with this recommendation.

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>In absolute terms, total annual consumption is estimated to be 12,100 kWh higher than the DUML database indicates.</p> <p>Submission is based on a snapshot of the database at the end of the month and does not consider historic adjustments or the fact that lights can be livened before they are entered into the database.</p>	Strong	Medium	2	Identified
All load recorded in the database	2.5	11(2A) of Schedule 15.3	All load is not recorded in the database. Two additional items of load were found.	Strong	Low	1	Identified
Database accuracy	3.1	15.2 and 15.37B(b)	<p>In absolute terms, total annual consumption is estimated to be 12,100 kWh higher than the DUML database indicates.</p> <p>The database is not populated with the actual livening date for new lights.</p>	Strong	Medium	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Volume information accuracy	3.2	15.2 and 15.37B(c)	In absolute terms, total annual consumption is estimated to be 12,100 kWh higher than the DUML database indicates.  Submission is based on a snapshot of the database at the end of the month and does not consider historic adjustments or the fact that lights can be lived before they are entered into the database.	Strong	Medium	2	Identified
Future Risk Rating						7	

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

## RECOMMENDATIONS

Subject	Section	Recommendation
Database Accuracy	3.1	Meridian to liaise with TDC and NZTA to ensure changes made in the field are updated in the database.
		Liaise with the networks to ensure that streetlight electrical connections are notified to TDC.
		Establish a process to account for streetlight consumption between living and when the database is populated.

## 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

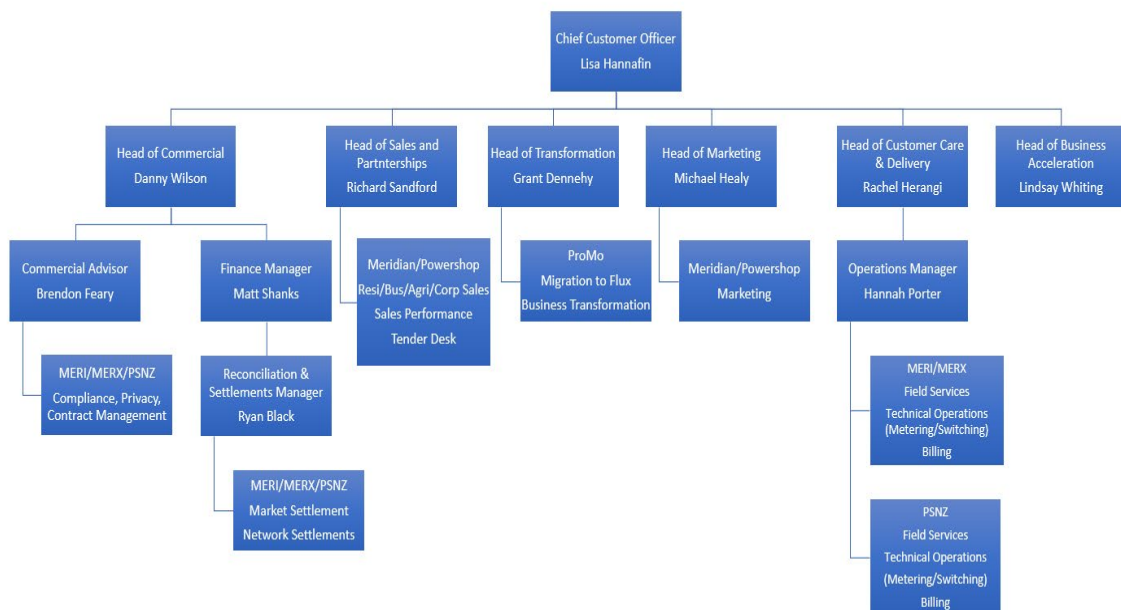
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

#### Audit commentary

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

### 1.2. Structure of Organisation

Meridian provided a copy of their organisational structure.



### 1.3. Persons involved in this audit

Auditor:

**Rebecca Elliot**

**Veritek Limited**

**Electricity Authority Approved Auditor**

Other personnel assisting in this audit were:

Name	Title	Company
Amy Cooper	Compliance Officer	Meridian
Linda Stewart	Manager Asset Information	Taupo District Council

### 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”. The specific module used for DUML is called RAMM Contractor.

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 and their agent 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)
0000029279HR82A	Atiamuri Streetlights	ROT0111	DST	34	748
0000031514WEC89	Wharewaka Streetlights	WRK0331	DST	64	5,482
0001264720UN608	Taupo Streetlights	WRK0331	DST	3,315	148,299
0008807420WM161	Turangi Streetlights	TKU0331	DST	815	31,152
0008808341WM4B6	Mangakino Streetlights	HTI0331	DST	225	7,088
<b>Total</b>				<b>4,453</b>	<b>192,769</b>

I note that the overall volume of lights is similar, but the wattage values have reduced as the LED rollout progresses.

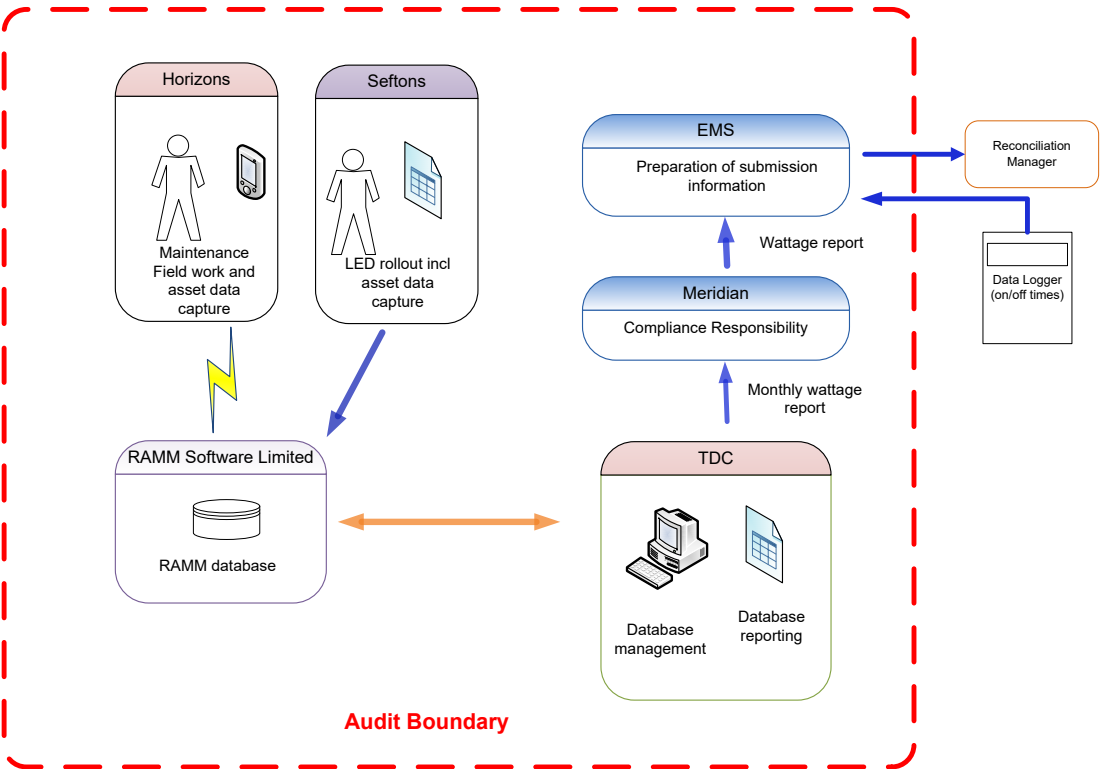
**1.7. Authorisation Received**

All information was provided directly by Meridian and TDC.

**1.8. Scope of Audit**

TDC use a RAMM database to manage this DUMML load. New connection, fault and maintenance work is completed by Horizons. The first LED roll out is complete. A second roll out of the P category lights is about to get underway. TDC have engaged Seftons Limited to undertake this work. Monthly reports are received by Meridian.

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 audit was conducted in accordance with the audit guidelines for DUMML audits version 1.1. The field audit was undertaken of a statistical sample of 308 items of load on 04 February 2022.



## 1.9. Summary of previous audit

The previous audit was completed in March 2021 by Rebecca Elliot of Veritek Limited. The current statuses of that audit's findings are detailed below:

### Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	<p>In absolute terms, total annual consumption is estimated to be 68,000 kWh lower than the DUML database indicates.</p> <p>Incorrect wattages recorded for 2,542 lamps resulting in an estimated over submission of 16,285 kWh per annum.</p> <p>Submission is based on a snapshot of the database at the end of the month and does not consider historic adjustments or the fact that lights can be lived before they are entered into the database.</p>	<p>There is still a small discrepancy between the database and the field.</p> <p>The incorrect wattages are resolved.</p> <p>Submission is still based on a snapshot.</p>
All load recorded in the database	2.5	11(2A) of Schedule 15.3	All load is not recorded in the database.	Cleared in relation to the previous audit. One additional item was found during this audit.
Database accuracy	3.1	15.2 and 15.37B(b)	<p>In absolute terms, total annual consumption is estimated to be 68,000 kWh lower than the DUML database indicates.</p> <p>Incorrect wattages recorded for 2,542 lamps resulting in an estimated over submission of 16,285 kWh per annum.</p>	<p>There is still a small discrepancy between the database and the field.</p> <p>The incorrect wattages are resolved.</p>

Subject	Section	Clause	Non-compliance	Status
Volume information accuracy	3.2	15.2 and 15.37B(c)	<p>In absolute terms, total annual consumption is estimated to be 68,000 kWh lower than the DUML database indicates.</p> <p>Incorrect wattages recorded for 2,542 lamps resulting in an estimated over submission of 16,285 kWh per annum.</p> <p>Submission is based on a snapshot of the database at the end of the month and does not consider historic adjustments or the fact that lights can be lived in before they are entered into the database.</p>	<p>There is still a small discrepancy between the database and the field.</p> <p>The incorrect wattages are resolved.</p> <p>Submission is still based on a snapshot.</p>

## Table of Recommendations

Subject	Section	Recommendation	Status
Database Accuracy	3.1	TDC and the trader liaise with NZTA to ensure changes made in the field are updated in the database.	Still existing
		Liaise with the networks to ensure that streetlight electrical connections are notified to TDC.	Still existing

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

#### Code reference

Clause 16A.26 and 17.295F

#### Code related audit information

Retailers must ensure that DUML database audits are completed:

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

#### Audit observation

Meridian 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. 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

Meridian reconciles this DUML load using the DST profile. The total volume submitted to the Reconciliation Manager is based on a monthly database report derived from RAMM and the “burn time” which is sourced from a data logger. Meridian supplies EMS with the capacity information and EMS calculates the kWh figure for each ICP and includes this in the relevant AV080 file. This process was audited during Meridian’s reconciliation participant audit and EMS’ agent audit.

The capacities supplied to EMS for February 2022 were checked and confirmed to be the same as the database.

The issue of static dimming was checked, and as reported in the last audit the dimming functionality is not yet being used. If it is used in the future, there will need to be a different set of reporting to cater for this.

The field audit against the database quantities found that the database is not confirmed as accurate with a 95% level of confidence. This will be resulting in an estimated under submission of 12,100 kWh per annum. This is detailed in **section 3.1**.

During the previous audit, incorrect wattages are recorded for 2,542 lamps due to the design wattage was recorded instead of the actual wattage. This matter is now resolved.

Submission continues to be based on a snapshot of the database at the end of the month and does not consider historic adjustments. The livening date for newly connected lights is not populated in the database. The date of the “as-built” plan is used, which is after livening but before vesting.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3  From: 01-Apr-21 To: 01-Mar-22	In absolute terms, total annual consumption is estimated to be 12,100 kWh higher than the DUMML database indicates.  Submission is based on a snapshot of the database at the end of the month and does not consider historic adjustments or the fact that lights can be lived before they are entered into the database.  Potential impact: High Actual impact: Medium Audit history: Multiple times Controls: Strong Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Medium</b>	The controls are rated as strong as the change management process is robust and the risks are managed to an acceptable level.  The impact is assessed to be medium based on the kWh differences described above.		
Actions taken to resolve the issue		Completion date	Remedial action status
The Taupo District Council are aware of the inaccuracies and are currently working them to be resolved		1 May 2022	Identified
We are considering the impact provision and use of database changes at a daily level will have on our processes and tools.		1 April 2023	
Preventative actions taken to ensure no further issues will occur		Completion date	
Meridian will continue to follow up with the council regularly to assist with any unresolved corrections		Ongoing	

## 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 that an ICP is recorded for each item of load.

### Audit commentary

All items of load have an ICP recorded.

### **Audit outcome**

Compliant

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

### **Code reference**

*Clause 11(2)(b) of Schedule 15.3*

### **Code related audit information**

*The 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 the nearest street address, displacement from end of road and/or Global Positioning System (GPS) coordinates for each item of load. All GPS coordinates are populated.

### **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**

The database contains two fields for wattage, firstly the manufacturers rated wattage and secondly the "ballast wattage". The ballast wattage is expected to be a calculated figure which accounts for any variation from the input wattage and includes losses associated with ballasts. Examination of the database confirmed all fields were populated.

The accuracy of the ballast wattages used for submission are discussed in **section 3.1**.

### **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 268 items of load on 12 March 2021.

### Audit commentary

The field audit findings are shown in the table below. A detailed spreadsheet has been provided listing each item of load.

Discrepancy	Quantity
Incorrect wattage	19
Additional items of load	1
Items of load in the database but not located in the field	3

I checked the findings from the last audit and the corrections have been made in the database.

The two additional lights found in the field are recorded as non-compliance.

The accuracy of the database is detailed in **section 3.1**.

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.5 With: Clause 11(2A) of Schedule 15.3 From: 01-Apr-21 To: 01-Mar-22	All load is not recorded in the database. One additional item of load was found. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	The controls are rated as strong, as the processes to capture change was improved during the previous audit period. The impact is assessed to be low as the majority of the volume of additional lighting found in the sample was small.		
Actions taken to resolve the issue		Completion date	Remedial action status

The Taupo District Council are aware of the inaccuracies and are currently working them to be resolved.  It has been investigated and confirmed that one of the additional lights is in the database and cleared. 1 is still under investigation	1 May 2022  1 May 2022	Identified
<b>Preventative actions taken to ensure no further issues will occur</b>	<b>Completion date</b>	Post audit comment:
Meridian will continue to follow up with the council regularly to assist with any unresolved corrections	Ongoing	The non-compliance has been changed to reflect there is only one additional light in the field.

## 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 database tracks additions and removals as required by this clause.

### 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

A complete audit trail exists of all additions and changes to the database information.

### Audit outcome

Compliant

### 3. ACCURACY OF DUML DATABASE

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

##### Code reference

Clause 15.2 and 15.37B(b)

##### Code related audit information

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

##### Audit observation

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	Taupo district
Strata	<p>The database contains items of load in Taupo area.</p> <p>The area has three distinct sub-groups of urban, rural, NZTA.</p> <p>The processes for the management of TDC items of load are the same, but I decided to place the items of load into four strata, as follows:</p> <ol style="list-style-type: none"> <li>1. A-Ho</li> <li>2. Hu-O</li> <li>3. P-S</li> <li>4. RURAL</li> <li>5. T-W</li> </ol>
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 47 sub-units or 5% of the database wattage.
Total items of load	268 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 308 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	101.5	Wattage from survey is higher than the database wattage by 1.5%
R <sub>L</sub>	97.7	With a 95% level of confidence, it can be concluded that the error could be between -2.3% and +118.5%
R <sub>H</sub>	118.5	

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 2.3% lower and 18.5% higher than the wattage recorded in the DUMML database. Non-compliance is recorded because the potential error is greater than 5.0%.

In absolute terms the installed capacity is estimated to be 3.0 kW higher than the database indicates.

There is a 95% level of confidence that the installed capacity is between 4.0 kW lower to 36 kW higher than the database.

In absolute terms, total annual consumption is estimated to be 12,100 kWh higher than the DUMML database indicates.

There is a 95% level of confidence that the annual consumption is between 19,200 kWh lower to 156,600 kWh p.a. higher than the database indicates.

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

	The conclusion from this scenario is that the best available estimate is not precise enough to conclude that the database is accurate within +/- 5 %
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**Lamp description and capacity accuracy**

Wattages for all items of load were checked against the published standardised wattage table produced by the Electricity Authority and found the ballasts recorded have been corrected in RAMM.

The previous field audit noted that the lights recorded in the database as 23.5W were labelled in the field as 22W and lights recorded as 37W were labelled in the field as 35.5W. This was checked with TDC and found that the design wattage was recorded instead of the actual wattage. A correction has occurred in the database for these lights.

**NZTA lighting**

NZTA lighting is included in the database for all NZTA lights within the 70km speed limit. All NZTA lighting outside of these speed zones are expected to be managed by NZTA.

**ICP accuracy**

All items of load appear to have the correct ICPs recorded.

**Location accuracy**

The location details are accurate and complete.

**Change management process findings**

TDC use a RAMM database to manage this DUML load. New connections, fault and maintenance work is completed by Horizons. Nightly patrols are included in this contract and the whole network is expected to be covered every three months.

As detailed above, TDC record the NZTA load for all lights within the 70km speed zone. NZTA carry out the maintenance of these lights. TDC are not advised of changes to the field as there is no mechanism for them to get this information. I repeat the last audit’s recommendation that Meridian liaise with TDC and NZTA to ensure changes made to the database are passed to TDC.

Description	Recommendation	Audited party comment	Remedial action
Database accuracy	Meridian to liaise with TDC and NZTA to ensure changes made in the field are updated in the database.	We will raise again formalisation of a notification process with TDC to manage changes to NZTA lights	Identified

Seftons have been engaged to undertake the category P LED Light replacement (this includes decorative lights). This rollout is about to begin. All changes made during a month are expected to be included in the monthly report provided to Meridian for submission.

TDC is responsible for checking all claims for work carried out prior to the claim by the contractor being approved for payment. The process for the connection of streetlights in new subdivisions was discussed. TDC have strict requirements for all relevant asset information to be provided prior to the signing off the section 224C that is required before the subdivision is vested to council. This includes a check of all of the “as-builts”. The sign off will not be granted before the council is satisfied that the information required is complete. Once the subdivision is vested the assets are added to RAMM. This is expected to happen promptly after the 224C has been issued. Titles cannot be issued prior to this therefore the building of houses is unlikely to occur (and this is the usually the trigger for streetlights to go on). The field contractor is now contacting TDC to ask for the correct ICP for new lights to be allocated to. TDC do not receive any notification of streetlights being connected from Unison or the Lines Company, therefore there is a

possibility that streetlight assets are added to RAMM prior to being electrically connected. I repeat the last audit's recommendation that Meridian liaise with TDC, Unison and the Lines Company to ensure that the process is well mapped between the parties. I have added to the recommendation, that a process is established for the period between streetlight livening and when the database is populated to ensure this period is captured for submission purposes.

Description	Recommendation	Audited party comment	Remedial action
Tracking of load change	<p>Liaise with the networks to ensure that streetlight electrical connections are notified to TDC.</p> <p>Establish a process to account for streetlight consumption between livening and when the database is populated.</p>	We will raise again the formalisation of a notification process with TDC and network companies to manage connection of new lights	Identified

Festive lights are connected into the unmetered circuits and these are added and removed for the relevant months.

#### Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 3.1</p> <p>With: Clause 15.2 and 15.37B(b)</p> <p>From: 01-Apr-23</p> <p>To: 01-Mar-22</p>	<p>In absolute terms, total annual consumption is estimated to be 12,100 kWh higher than the DUML database indicates.</p> <p>The database is not populated with the actual livening date for new lights.</p> <p>Potential impact: High</p> <p>Actual impact: Medium</p> <p>Audit history: Multiple times</p> <p>Controls: Strong</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
<b>Medium</b>	<p>The controls are rated as strong as the change management process is robust and the risks are managed to an acceptable level.</p> <p>The impact is assessed to be medium based on the kWh differences described above.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
The Taupo District Council are aware of the inaccuracies and are currently working them to be resolved.		1 May 2022	Identified
We will raise again the formalisation of a notification process with TDC and network companies to manage connection of new lights in the database		1 May 2022	

Preventative actions taken to ensure no further issues will occur	Completion date	
Meridian will continue to follow up with the council regularly to assist with any unresolved corrections	Ongoing	

### 3.2. Volume information accuracy (Clause 15.2 and 15.37B(c))

#### Code reference

Clause 15.2 and 15.37B(c)

#### Code related audit information

The audit must verify that:

- volume information for the DUML is being calculated accurately
- profiles for DUML have been correctly applied.

#### Audit observation

The submission was checked for accuracy for the month the database extract was supplied. This included:

- checking the registry to confirm that all ICPs have the correct profile and submission flag, and
- checking the database extract combined with the burn hours against the submitted figure to confirm accuracy.

#### Audit commentary

The issue of static dimming was checked, and as reported in the last audit the dimming functionality is not yet being used. If it is used in the future, there will need to be a different set of reporting to cater for this.

The field audit against the database quantities found that the database is not confirmed as accurate with a 95% level of confidence. This will be resulting in an estimated under submission of 12,100 kWh per annum. This is detailed in **section 3.1**.

During the previous audit, incorrect wattages are recorded for 2,542 lamps due to the design wattage was recorded instead of the actual wattage. This matter is now resolved.

Submission continues to be based on a snapshot of the database at the end of the month and does not consider historic adjustments. The livening date for newly connected lights is not populated in the database. The date of the “as-built” plan is used, which is after livening but before vesting.

#### Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c)</p> <p>From: 01-Apr-21 To: 01-Mar-22</p>	<p>In absolute terms, total annual consumption is estimated to be 12,100 kWh higher than the DUML database indicates.</p> <p>Submission is based on a snapshot of the database at the end of the month and does not consider historic adjustments or the fact that lights can be lived before they are entered into the database.</p> <p>Potential impact: High Actual impact: Medium Audit history: Multiple times Controls: Strong Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
<p><b>Medium</b></p>	<p>The controls are rated as strong as the change management process is robust and the risks are managed to an acceptable level.</p> <p>The impact is assessed to be medium based on the kWh differences described above.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>The Taupo District Council are aware of the inaccuracies and are currently working them to be resolved.</p> <p>We are considering the impact provision and use of database changes at a daily level will have on our processes and tools.</p>		<p>1 May 2022  1 April 2023</p>	<p>Identified</p>
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Meridian will continue to follow up with the council regularly to assist with any unresolved corrections</p>		<p>Ongoing</p>	

## CONCLUSION

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

TDC use a RAMM database to manage this DUML load. New connection, fault and maintenance work is completed by Horizons. Reports are received by Meridian on a monthly basis. Controls are generally strong and the audit result has improved since last time.

The issues identified during the last audit have been rectified.

The field audit found that in absolute terms, total annual consumption is estimated to be 12,100 kWh higher than the DUML database indicates, meaning that under submission is occurring.

The audit found four non-compliances and makes three recommendations. The future risk rating of seven indicates that the next audit be completed in 18 months. I agree with this recommendation.

## PARTICIPANT RESPONSE