

ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

VERITEK

For

WAIKATO DISTRICT COUNCIL AND
MERIDIAN ENERGY

Prepared by: Steve Woods

Date audit commenced: 7 December 2021

Date audit report completed: 20 December 2021

Audit report due date: 01-Dec-21

TABLE OF CONTENTS

Executive summary	3
Audit summary	3
Non-compliances	3
Recommendations	4
Issues 4	
1. Administrative	5
1.1. Exemptions from Obligations to Comply with Code	5
1.2. Structure of Organisation	5
1.3. Persons involved in this audit.....	6
1.4. Hardware and Software	6
1.5. Breaches or Breach Allegations.....	6
1.6. ICP Data	6
1.7. Authorisation Received	7
1.8. Scope of Audit	7
1.9. Summary of previous audit	8
1.10. Distributed unmetered load audits (Clause 16A.26 and 17.295F).....	9
2. DUML database requirements.....	10
2.1. Deriving submission information (Clause 11(1) of Schedule 15.3)	10
2.2. ICP identifier and items of load (Clause 11(2)(a) and (aa) of Schedule 15.3)	11
2.3. Location of each item of load (Clause 11(2)(b) of Schedule 15.3)	11
2.4. Description and capacity of load (Clause 11(2)(c) and (d) of Schedule 15.3)	12
2.5. All load recorded in database (Clause 11(2A) of Schedule 15.3)	12
2.6. Tracking of load changes (Clause 11(3) of Schedule 15.3)	14
2.7. Audit trail (Clause 11(4) of Schedule 15.3).....	14
3. Accuracy of DUML database	16
3.1. Database accuracy (Clause 15.2 and 15.37B(b))	16
3.2. Volume information accuracy (Clause 15.2 and 15.37B(c))	19
Conclusion	22
Participant response	23

EXECUTIVE SUMMARY

This audit of the **Waikato District Council Unmetered Streetlights (WDC)** DUMML database and processes was conducted at the request of **Meridian Energy Limited (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 DUMML audits version 1.1.

The database is remotely hosted by thinkproject Ltd and the reporting from this is managed by Odyssey Energy Limited. The installation fieldwork and asset data capture are managed by Infrastructure Alliance. Infrastructure Alliance is a joint venture between Waikato DC and Downer to provide infrastructure management across all of Waikato DC assets.

The field audit found 18 discrepancies, as shown below.

Discrepancy	Quantity
Lights in the field not in the database	8
Lights in the database not in the field	5
Incorrect wattage	5

Most of the discrepancies from the last audit have not yet been corrected.

I have repeated the recommendation from the last audit that the new connection process is reviewed and improved.

The audit found four non-compliance issues and one recommendation is made. The future risk rating of 14 indicates that the next audit be completed in 12 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	In absolute terms, total annual consumption is estimated to be 13,000 kWh higher than the DUMML database indicates. Submission is based on a snapshot and does not consider historic changes.	Moderate	Medium	4	Identified
All load recorded in database	2.5	11(2A) of Schedule 15.3	Eight items of load are missing from the database.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Database accuracy	3.1	15.2 and 15.37B(b)	In absolute terms, total annual consumption is estimated to be 13,000 kWh higher than the DUML database indicates.	Moderate	Medium	4	Identified
Volume information accuracy	3.2	15.2 and 15.37B(c)	In absolute terms, total annual consumption is estimated to be 13,000 kWh higher than the DUML database indicates. Submission is based on a snapshot and does not consider historic changes.	Moderate	Medium	4	Identified
Future Risk Rating						14	

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	Clause	Description
Database accuracy	3.1	15.2 and 15.37B(b))	Recommend that Meridian and WDC liaise with the three Distributors to put in a place a process to add new lights to RAMM at the point of electrical connection.

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

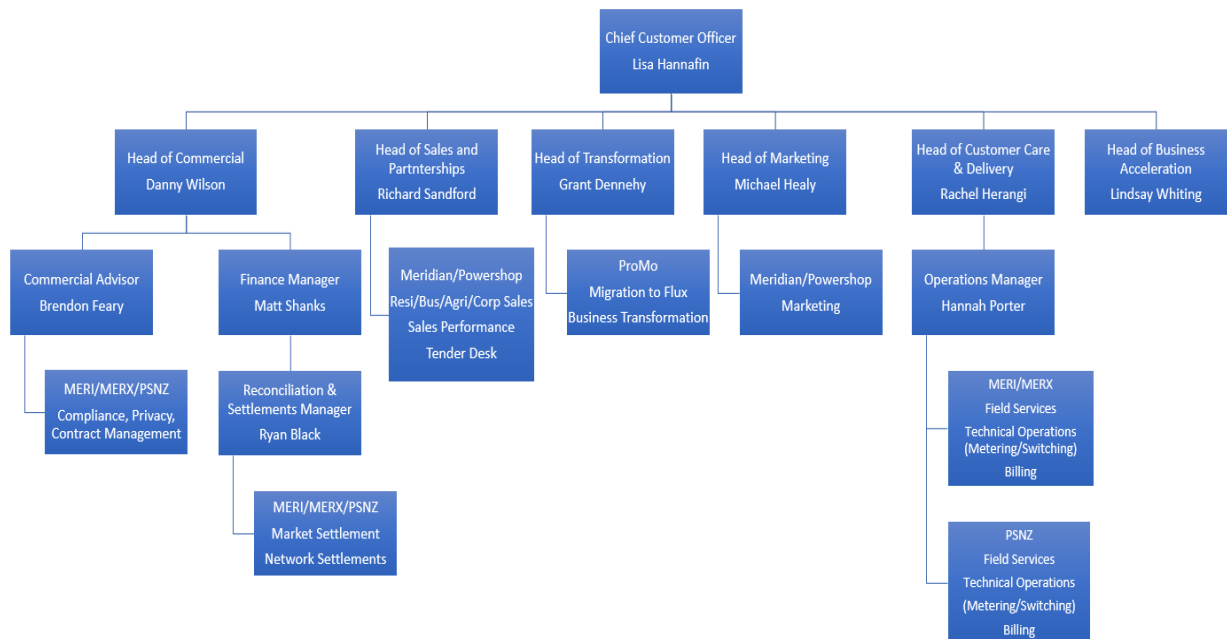
Section 11 of the Electricity Industry Act provides for the Electricity Authority to exempt any participant from compliance with all or any of the clauses.

Audit commentary

Meridian confirms that there are no exemptions in place relevant to the scope of this audit.

1.2. Structure of Organisation

Meridian provided the relevant organisational structure:



1.3. Persons involved in this audit

Auditor:

Steve Woods

Veritek Limited

Electricity Authority Approved Auditor

Other personnel assisting in this audit were:

Name	Title	Company
Amy Cooper	Compliance Officer	Meridian Energy
Zoran Draca	Director	Odyssey Energy Ltd

1.4. Hardware and Software

Section 1.8 shows that the SQL database used for the management of DUML is remotely hosted by thinkproject 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
0000011102WE267	Waikato DC Streetlights (WEL Network)	HLY0331	DST	3,923	225,381
0007659000WAD19	Waikato DC Streetlights (Waipa Network)	CBG0111	DST	88	7,154
1099570058CN633	Waikato DC Streetlights (Counties Network)	BOB3301	DST	1,091	59,768
1099572699CN8DF	Waikato Streetlights GLN0332 (Counties Network)	GLN0332	DST	21	1,049
1099572700CN06D	Waikato Streetlights BOB1101 (Counties Network)	BOB1101	DST	13	828
Total				5,143	294,467

1.7. Authorisation Received

All information was provided directly by Meridian, Infrastructure Alliance or Odyssey.

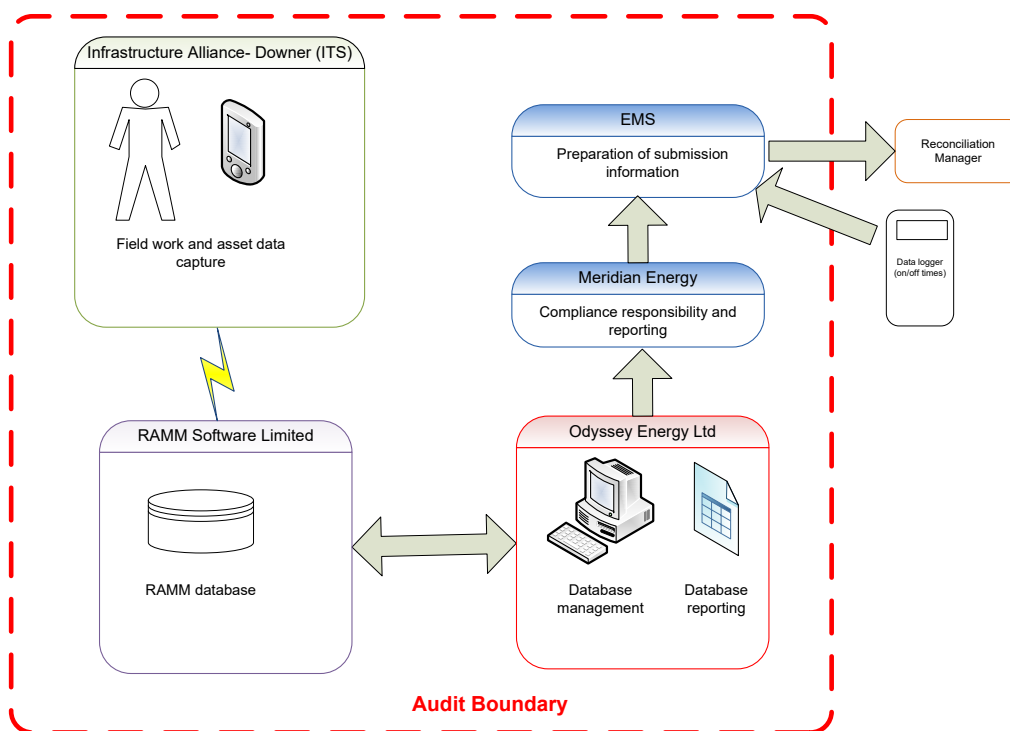
1.8. Scope of Audit

This audit of the **Waikato District Council Unmetered Streetlights (WDC)** DUML database and processes was conducted at the request of **Meridian Energy Limited (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.

The database is remotely hosted by thinkproject Ltd and is managed by Odyssey Energy Ltd (Odyssey) on behalf of Waikato DC, who is Meridian's customer. Infrastructure Alliance, who are contractors to Waikato DC, conduct the fieldwork and asset data capture.

The scope of the audit encompasses the collection, security and accuracy of the data, including the preparation of submission information based on the database contents. The diagram below shows the audit boundary for clarity.



The field audit was undertaken of a statistical sample of 294 items of load on December 8th, 2021.

1.9. Summary of previous audit

Meridian provided a copy of the last audit report undertaken by Steve Woods of Veritek Limited in May 2021. The current status of those audit findings is detailed below:

Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	In absolute terms, total annual consumption is estimated to be 66,700 kWh higher than the DUML database indicates. Submission is based on a snapshot and does not consider historic changes.	Still existing
All load recorded in database	2.5	11(2A) of Schedule 15.3	18 items of load are missing from the database.	Still existing
Database accuracy	3.1	15.2 and 15.37B(b)	In absolute terms, total annual consumption is estimated to be 66,700 kWh higher than the DUML database indicates.	Still existing
Volume information accuracy	3.2	15.2 and 15.37B(c)	In absolute terms, total annual consumption is estimated to be 66,700 kWh higher than the DUML database indicates. Submission is based on a snapshot and does not consider historic changes.	Still existing

Table of Recommendations

Subject	Section	Clause	Recommendation for Improvement	Status
Database accuracy	3.1	15.2 and 15.37B(b))	Recommend that Meridian and WDC liaise with the three Distributors to put in a place a process to add new lights to RAMM at the point of electrical connection.	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

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. Covid-19 restrictions have prevented the field audit being conducted, which is outside Meridian's control.

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

Meridian reconciles this DUMML load using the DST profile. The on and off times are derived from a data logger read by EMS. This information is used to create a shape file. 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 examined during EMS's audit in 2021 and compliance was confirmed. I checked the figures for October 2021, and I confirm the kW value matches the database extract. There is a data logger per network to ensure the correct on/off times are used.

The methodology for deriving submission information is compliant, but there is some inaccurate data within the database used to calculate submissions. This is recorded as non-compliance and discussed in **sections 3.1** and **3.2**.

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.

As recorded in **section 3.1**, In absolute terms, total annual consumption is estimated to be 13,000 kWh higher than the DUMML database indicates.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: 01-Jun-21 To: 15-Dec-21	In absolute terms, total annual consumption is estimated to be 13,000 kWh higher than the DUMML database indicates. Submission is based on a snapshot and does not consider historic changes. Potential impact: High Actual impact: Medium Audit history: Three times Controls: Moderate Breach risk rating: 4

Audit risk rating	Rationale for audit risk rating		
Medium	<p>The controls are rated as moderate as the processes in place to manage change are sufficient to mitigate risk most of the time.</p> <p>The impact is assessed to be medium, based on the kWh differences.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
The inaccuracies identified have been provided to Odyssey Energy to resolve.		Dec 2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>We will monitor to ensure corrections from this audit and those outstanding from the last audit are 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>28 Feb 2021</p> <p>Ongoing</p>	

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

Code reference

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

Code related audit information

The DUML database must contain:

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

Audit observation

The database was checked to confirm an ICP was recorded against each item of load.

Audit commentary

The RAMM database contains the relevant ICP identifiers for all items of load.

Audit outcome

Compliant

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

Code reference

Clause 11(2)(b) of Schedule 15.3

Code related audit information

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

Audit observation

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

Audit commentary

The database contains the nearest street address, pole numbers and Global Positioning System (GPS) coordinates for each item of load, and users in the office and field can view these locations on a mapping system. 52 items of load do not have GPS coordinates, but the road name and location allow the lights to be located.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

The DUMML database must contain:

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

Audit observation

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

Audit commentary

The database contains two records for wattage, firstly the lamp wattage and secondly the gear wattage, which represents ballast losses. The gear wattage is recorded in the database which meets the requirements of this clause. The accuracy of the description and wattages recorded is 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 DUMML for which it is responsible is recorded in this database.

Audit observation

The field audit was undertaken of a statistical sample of 294 items of load on December 8th, 2021.

Audit commentary

The field audit findings are detailed in the table below.

Discrepancy	Quantity
Lights in the field not in the database	8
Lights in the database not in the field	5

Incorrect wattage	5
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I checked the discrepancies from the last audit, and most have not been updated in the database. The table below shows those that have not been updated.

Street	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
LAMBRUSCO ST	3	2	-1	0	1 light not located
WESTMUIR CRES	21	20	-1	0	1 light not located
BONE RD	1	1	-	1	1 x L36 recorded as L92
CIVIC PL	12	12	-	1	1 x MH100 recorded as LED
CROFT TCE	9	9	-	1	1 x L36 recorded as L17
DRIVER RD (WEST)	3	4	+1	0	1 additional light
HOLLAND RD	1	1	-	1	L92 not L36
RIVER/HOROTUI BRDG RAB	1	3	+2	0	2 additional lights
BEDFORD RD	4	4	-	2	2 x L76 recorded as L92
BROADWAY ST HLA	6	6	-	1	1 x L92 recorded as HPS 150
ROTOWARO RD	19	19	-	1	1 x HPS 70 recorded as LED
SEABREEZE WAY	5	4	-1	0	1 light not located
WILLOW BROOK LANE	11	10	-1	0	1 light not located

I found eight additional lights in the field than recorded in the database. The differences found in the field are recorded as non-compliance in **section 3.1**. The items missing from the RAMM database are recorded as non-compliance in this section.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.5 With: Clause 11(2A) of Schedule 15.3 From: 01-Jun-21 To: 15-Dec-21	Eight items of load are missing from the database. Potential impact: Medium Actual impact: Low Audit history: Multiple times previously Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are rated as moderate as the processes in place to manage change are sufficient to mitigate risk most of the time. The impact is assessed to be low, based on the quantity of additional lights.		
Actions taken to resolve the issue		Completion date	Remedial action status
The inaccuracies identified have been provided to Odyssey Energy to resolve.		Dec 2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We will monitor to ensure corrections from this audit and those outstanding from the last audit are resolved.		28 Feb 2021	

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 ability of the database to track changes was assessed and the process for tracking of changes in the database was examined.

Audit commentary

The database functionality achieves compliance with the code.

Audit outcome

Compliant

2.7. Audit trail (Clause 11(4) of Schedule 15.3)

Code reference

Clause 11(4) of Schedule 15.3

Code related audit information

The 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

The RAMM database has a complete audit trail 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	The rural Waikato District from north of Hamilton to Pokeno
Strata	The database contains items of load in Waikato District Council area. The council area covers three different networks of Counties Network, Waipa and WEL network. The population was divided into four strata: <ol style="list-style-type: none"> 1. North-East, 2. North-West, 3. South-East, and 4. South-West.
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 50 sub-units.
Total items of load	294 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 294 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	Wattage from the survey is higher than the database wattage by 1.0%
R _L	96.3	With a 95% level of confidence, it can be concluded that the error could be between -3.7% and +13.6%
R _H	113.6	

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 3.7% lower and 13.6% 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 3.0 kW higher than the database indicates.

There is a 95% level of confidence that the installed capacity is between 11.0 kW lower and 40 kW higher than the database.

In absolute terms, total annual consumption is estimated to be 13,000 kWh higher than the DUML database indicates.

There is a 95% level of confidence that the annual consumption is between 46,300 kWh p.a. lower to 171,200 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, and I found all ballasts were applied correctly.

NZTA lighting

NZTA lighting is excluded from the database and is managed in a separate database.

ICP accuracy

All items of load have an ICP identifier recorded.

Location accuracy

The database contains fields for the street address, and also contains GPS coordinates. 52 items of load do not have GPS coordinates, but the road name and location allow the lights to be located.

Change management process findings

For new subdivisions, all new streetlights assets are reviewed prior to the streetlight circuit being connected. The assets are only added to RAMM after the subdivision has been vested. This can be sometime after the streetlights have been connected. Distributors are responsible for the connection of streetlight circuits, and they should be getting permission from a trader prior to these being connected. As mentioned in the previous audit, I recommend that Meridian and WDC liaise with the three networks across which their lights are connected to put in place a process to add these lights to RAMM prior to them being electrically connected. Once vested, Infrastructure Alliance have a dedicated resource in place to assess the asset capture for new subdivisions. They inspect approximately 90% of the assets to confirm that they are correct. This information is now flowing through to the database in a timely fashion so that Odyssey can include this in the monthly wattage report. In addition to this, Infrastructure Alliance carry out an annual audit which checks both quality of workmanship and accuracy of all asset capture. Any errors found are corrected.

Recommendation	Description	Audited party comment	Remedial action
15.2 and 15.37B(b))	Recommend that Meridian and WDC liaise with the three Distributors to put in a place a process to add new lights to RAMM at the point of electrical connection.	We will liaise with the council and networks regarding improvements to the new connection process so lights are added to the database in a more timely manner.	Identified

The monthly wattage report is produced by Odyssey Energy Limited. As part of the monthly report production, they check the wattage, gear wattage and ICP allocation for any anomalies and these are resolved before the wattage report is sent to Meridian Energy.

There are no outage patrol processes in place as LED lights have a low failure rate. Any streetlight replacements are made on a reactive basis generated from public requests.

I was advised that there are no festive lights being connected to the streetlight circuits for the Waikato DC area.

The discrepancies from the previous audit have not been corrected.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: 01-Jun-21 To: 15-Dec-21	In absolute terms, total annual consumption is estimated to be 13,000 kWh higher than the DUML database indicates. Potential impact: High Actual impact: Medium Audit history: Multiple times previously Controls: Moderate Breach risk rating: 4		
Audit risk rating	Rationale for audit risk rating		
Medium	The controls are rated as moderate as the processes in place to manage change are sufficient to mitigate risk most of the time. The impact is assessed to be medium, based on the kWh value above.		
Actions taken to resolve the issue		Completion date	Remedial action status
The inaccuracies identified have been provided to Odyssey Energy to resolve.		Dec 2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We will monitor to ensure corrections from this audit and those outstanding from the last audit are resolved. We are considering the impact provision and use of database changes at a daily level will have on our processes and tools.		28 Feb 2021 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 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

Meridian reconciles this DUMML load using the DST profile. The on and off times are derived from a data logger read by EMS. This information is used to create a shape file. 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 examined during EMS’s audit in 2021 and compliance was confirmed. I checked the figures for October 2021, and I confirm the kW value matches the database extract. There is a data logger per network to ensure the correct on/off times are used.

The methodology for deriving submission information is compliant, but there is some inaccurate data within the database used to calculate submissions. This is recorded as non-compliance and discussed in **sections 3.1 and 3.2.**

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.

As recorded in **section 3.1,** In absolute terms, total annual consumption is estimated to be 13,000 kWh higher than the DUMML database indicates.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c) From: 01-Jun-21 To: 15-Dec-21	In absolute terms, total annual consumption is estimated to be 13,000 kWh higher than the DUMML database indicates. Submission is based on a snapshot and does not consider historic changes. Potential impact: High Actual impact: Medium Audit history: Three times Controls: Moderate Breach risk rating: 4		
Audit risk rating	Rationale for audit risk rating		
Medium	The controls are rated as moderate as the processes in place to manage change are sufficient to mitigate risk most of the time. The impact is assessed to be medium, based on the kWh differences.		
Actions taken to resolve the issue		Completion date	Remedial action status
The inaccuracies identified have been provided to Odyssey Energy to resolve.		Dec 2021	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	

<p>We will monitor to ensure corrections from this audit and those outstanding from the last audit are resolved.</p>	<p>28 Feb 2021</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>Ongoing</p>	

CONCLUSION

The database is remotely hosted by thinkproject Ltd and the reporting from this is managed by Odyssey Energy Limited. The installation fieldwork and asset data capture are managed by Infrastructure Alliance. Infrastructure Alliance is a joint venture between Waikato DC and Downer to provide infrastructure management across all of Waikato DC assets.

The field audit found 18 discrepancies, as shown below.

Discrepancy	Quantity
Lights in the field not in the database	8
Lights in the database not in the field	5
Incorrect wattage	5

Most of the discrepancies from the last audit have not yet been corrected.

I have repeated the recommendation from the last audit that the new connection process is reviewed and improved.

The audit found four non-compliance issues and one recommendation is made. The future risk rating of 14 indicates that the next audit be completed in 12 months. I agree with this recommendation.

PARTICIPANT RESPONSE