

ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

VERITEK

For

ARDMORE AIRPORT DUML
AND MERCURY NZ LTD

Prepared by: Rebecca Elliot

Date audit commenced: 27 February 2023

Date audit report completed: 13 March 2023

Audit report due date: 25-May-23

TABLE OF CONTENTS

Executive summary	3
Audit summary	4
Non-compliances	4
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.....	5
1.4. Hardware and Software	6
1.5. Breaches or Breach Allegations.....	6
1.6. ICP Data	6
1.7. Authorisation Received	6
1.8. Scope of Audit	6
1.9. Summary of previous audit	7
1.10. Distributed unmetered load audits (Clause 16A.26 and 17.295F)	8
2. DUML database requirements.....	9
2.1. Deriving submission information (Clause 11(1) of Schedule 15.3)	9
2.2. ICP identifier and items of load (Clause 11(2)(a) and (aa) of Schedule 15.3)	10
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)	11
2.5. All load recorded in database (Clause 11(2A) of Schedule 15.3)	11
2.6. Tracking of load changes (Clause 11(3) of Schedule 15.3)	12
2.7. Audit trail (Clause 11(4) of Schedule 15.3).....	12
3. Accuracy of DUML database	13
3.1. Database accuracy (Clause 15.2 and 15.37B(b))	13
3.2. Volume information accuracy (Clause 15.2 and 15.37B(c))	14
Conclusion	17
Participant response	18

EXECUTIVE SUMMARY

This audit covers the **Ardmore Airport** DUML database and processes and was conducted at the request of **Mercury NZ Limited (Mercury)** 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. A field audit was undertaken of all items of load recorded in the spreadsheet.

The spreadsheet is maintained by Mercury and the customer is expected to advise Mercury of any changes that occur. There have been no updates provided during the audit period.

A 100% field audit was undertaken, and I found most lights have been replaced with LED's. 14 of 23 lights have Auckland Transport asset labels. I checked these lights against the Auckland Transport database assets and confirmed they are recorded in both this database and the Auckland Transport RAMM database. Further investigation found another three lights which, whilst they have no physical label, are also recorded in the RAMM database. I have passed these findings to Mercury to liaise with Admore Airport and Meridian (Auckland Transport's trader) to confirm the audit findings. This leaves six items of load which belong to Ardmore Airport with a total wattage of 640W or 7.68kWh per day. These are likely to be on a single circuit and are within the allowable unmetered load threshold of between 3,000-6,000 kWh per annum. If this is correct, no database should be required, and the load could be submitted as standard unmetered load. The duplicated submission will be resulting an estimated over submission of 10,779 kWh per annum.

The audit found three non-compliances and makes no recommendation. The future risk rating indicates that the next audit be completed in six months if a further audit is required.

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	17 of the street light assets are being submitted by both Meridian and Mercury Energy resulting in an estimated over submission of 10,779 kWh per annum.	Weak	Medium	6	Identified
Database accuracy	3.1	15.2 and 15.37B(b)	17 of the street light assets are being submitted by both Meridian and Mercury Energy resulting in an estimated over submission of 10,779 kWh per annum.	Weak	Medium	6	Identified
Volume information accuracy	3.2	15.2 and 15.37B(c)	17 of the street light assets are being submitted by both Meridian and Mercury Energy resulting in an estimated over submission of 10,779 kWh per annum.	Weak	Medium	6	Identified
Future Risk Rating						18	

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	Recommendation
Database accuracy	3.1	Work with Ardmore Airport to determine which database that the duplicated lights should be reconciled to.

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

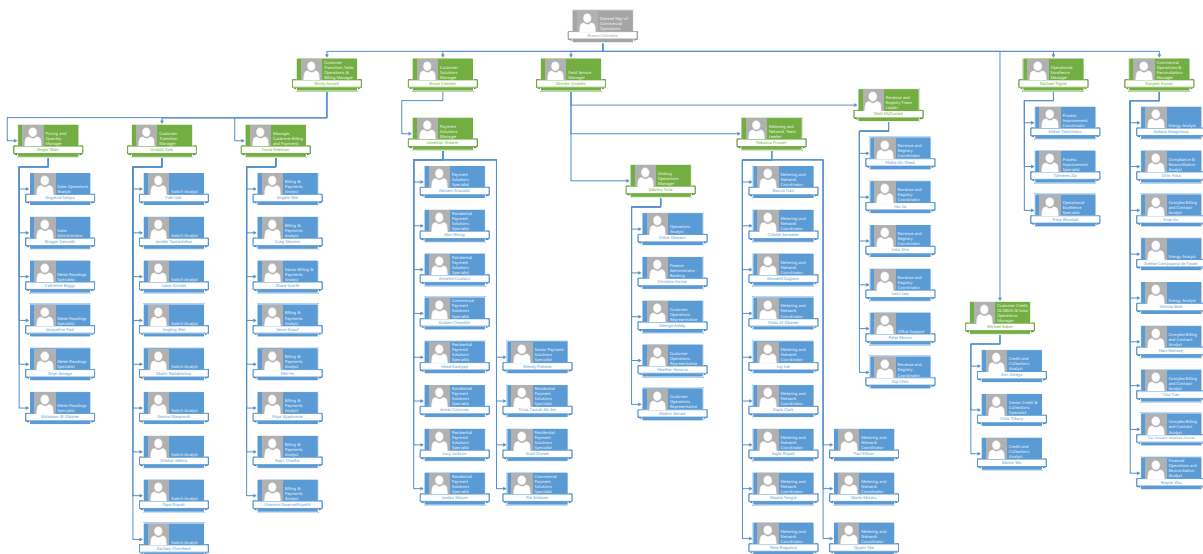
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

Audit commentary

Mercury has no exemptions in place in relation to the ICP covered by this audit report.

1.2. Structure of Organisation

Mercury provided an 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
Chris Posa	Compliance Reconciliation Analyst	Mercury NZ Ltd
Leon Law	Revenue and Registry Coordinator	Mercury NZ Ltd

1.4. Hardware and Software

The streetlight data for Ardmore Airport is held in an excel spreadsheet. This is backed up in accordance with standard industry procedures. Access to the spreadsheet is restricted by way of user log into the computer drive.

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

1.5. Breaches or Breach Allegations

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

1.6. ICP Data

ICP Number	Customer	Description	NSP	Profile	Number of items of load	Database wattage (watts)
0904114678LC7E9	Ardmore Airport	ARDMORE AERODROME BULK UML	TAK0331	RPS	23	3,101

1.7. Authorisation Received

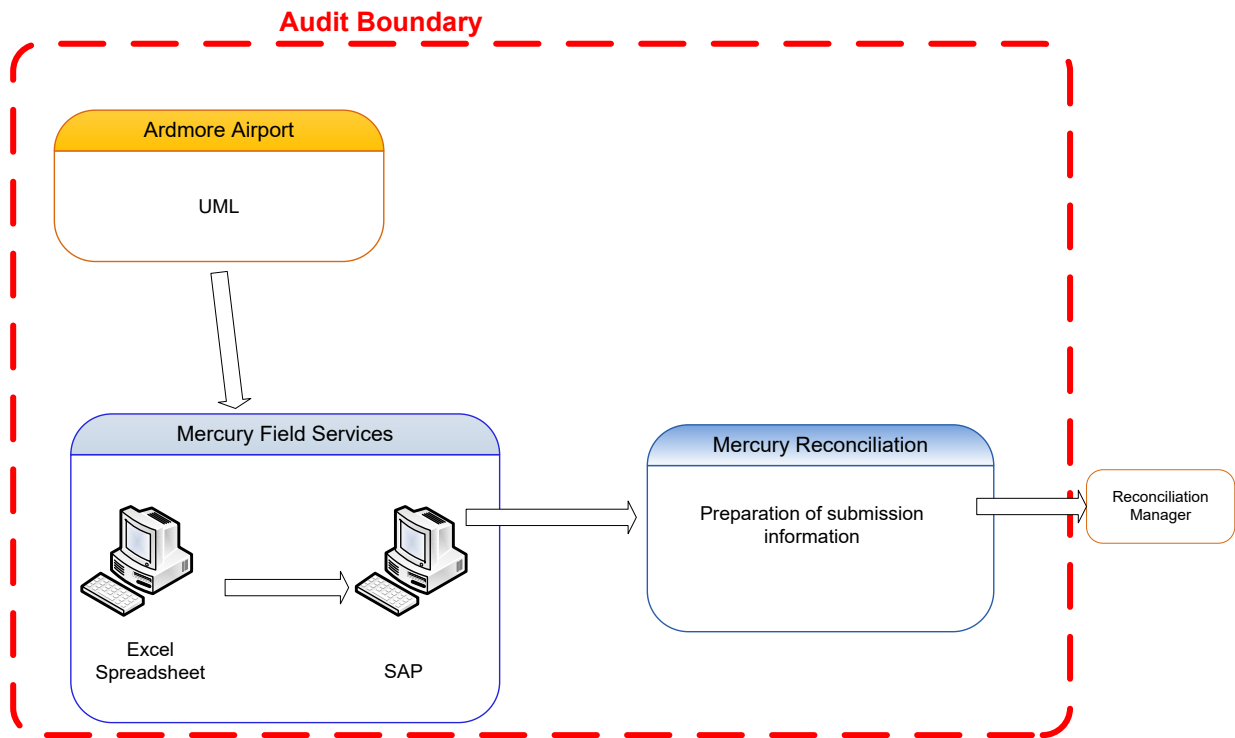
All information was provided directly by Mercury.

1.8. Scope of Audit

This audit covers the Ardmore Airport DUML database and processes was conducted at the request of Mercury NZ Limited (Mercury) 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. A field audit was undertaken of all items of load recorded in the spreadsheet.

The ICP is managed in an excel spreadsheet held by Mercury.



A full field audit was carried out on 8th March 2023.

1.9. Summary of previous audit

The previous audit was completed in May 2022 by Rebecca Elliot of Veritek Limited. Five non-compliances were identified. The current status of the non-compliances and recommendation made in the last audit are detailed below.

Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	The database has an accuracy rate of 80% and will be resulting in an estimated over submission of 6,031 kWh per annum. Four lights reported in both the Auckland Transport and Ardmore Airport database resulting in an estimated 2,140 kWh per annum of over submission to the market.	Still existing
Database accuracy	3.1	15.2 and 15.37B(b)	The database has an accuracy rate of 80% and will be resulting in an estimated over submission of 6,031 kWh per annum. Four lights reported in both the Auckland Transport and Ardmore Airport database resulting in an estimated 2,140 kWh per annum of over submission to the market.	Still existing

Subject	Section	Clause	Non-compliance	Status
Volume information accuracy	3.2	15.2 and 15.37B(c)	The database has an accuracy rate of 80% and will be resulting in an estimated over submission of 6,031 kWh per annum. Four lights reported in both the Auckland Transport and Ardmore Airport database resulting in an estimated 2,140 kWh per annum of over submission to the market.	Still existing

Table of Recommendations

Subject	Section	Non-compliance	Status
Database accuracy	3.1	Work with Ardmore Airport to determine which database that the duplicated lights should be reconciled to database accuracy	Emails sent to Ardmore Airport but no responses received.

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

Mercury has requested Veritek to undertake this street lighting 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

Mercury reconciles this DUML load using the RPS profile. The daily kWh figure recorded in SAP (which is derived from the spreadsheet) is used for submission. The registry was checked and confirmed that the ICP has the correct profile and submission flag.

This clause requires that the distributed unmetered load database must satisfy the requirements of schedule 15.5 regarding the methodology for deriving submission information. Mercury reconciles this DUML load using the RPS profile. The daily kWh figure recorded in SAP, which is derived from the spreadsheet, is used for submission. I checked the accuracy of the submission information by multiplying the daily kWh by the number of hours in the month and comparing it to the figure in the registry for the month of February 2023. This confirmed the calculation methodology was correct.

A 100% field audit was undertaken, and I found most lights have been replaced with LEDs. No updates have been received from Ardmore airport despite Mercury's request for this so the database is not up to date. 14 of 23 lights have Auckland Transport asset labels. I checked these lights against the Auckland Transport database assets and confirmed they are recorded in both this database and the Auckland Transport RAMM database. Further investigation found another three lights (making a total of 17) which, whilst they have no physical label, are also recorded in the RAMM database. I have passed these findings to Mercury to liaise with Admore Airport and Meridian (Auckland Transport's trader) to confirm the audit findings. This leaves six items of load which belong to Ardmore Airport with a total wattage of 640W or 7.68kWh per day. These are likely to be on a single circuit and are within the allowable unmetered load threshold of between 3,000-6,000 kWh per annum. If this is correct, no database should be required, and the load could be submitted as standard unmetered load.

The duplicated submission will be resulting an estimated over submission of 10,779 kWh per annum and is recorded as non-compliance below and in **sections 3.1** and **3.2**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: 11(1) of Schedule 15.3 From: 23-May-22 To: 27-Feb-23	17 of the street light assets are being submitted by both Meridian and Mercury Energy resulting in an estimated over submission of 10,779 kWh per annum. Potential impact: Medium Actual impact: Medium Audit history: Multiple times Controls: Weak Breach risk rating: 6		
Audit risk rating	Rationale for audit risk rating		
Medium	The controls in place are rated as weak as the database is not being maintained as expected. The impact is assessed to be medium, based on the over submission occurring to the market.		
Actions taken to resolve the issue		Completion date	Remedial action status
We have liaised with Meridian and they have confirmed with AT that the 17 lights should be on AT's database. We are updating the database to reflect this. We will be moving the remaining load to standard UML.		May 2023	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
As above.		N/A	

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 spreadsheets were checked to confirm an ICP was recorded correctly for the load.

Audit commentary

The spreadsheet records the correct ICP relative to the 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 DUMML database must contain the location of each DUMML item.

Audit observation

The spreadsheets were checked to confirm the location is recorded for all items of load.

Audit commentary

The spreadsheets contain the street name, location of each item of load and the pole number if available.

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 spreadsheet 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 spreadsheet has been changed during the audit period to be pole based and each item of load contains the lamp type, wattage and ballast in the spreadsheet.

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

I conducted a field audit of all items of load and checked each road for additional fittings on March 8th 2023.

Audit commentary

As detailed in **sections 2.1, 3.1 and 3.2**, the field audit found 17 of the 23 items of load have been changed to LEDs and these are also recorded in the Auckland Transport RAMM database. Two of these are not in the Ardmore Airport streetlight database but as they are recorded as Auckland Transport assets, I have not recorded non-compliance here.

Audit outcome

Compliant

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 spreadsheets was examined.

Audit commentary

As detailed in **section 2.1**, no updates are being received but if they were any changes made during any given month take effect from the beginning of that month. The information is available which would allow for the total load in kW to be retrospectively derived for any day.

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 spreadsheet was checked for audit trails.

Audit commentary

The database contains the details of all changes including the person making the change.

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

I conducted a field audit of all items of load.

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

Audit commentary

A 100% field audit was undertaken on March 8th, 2023. I found most lights have been replaced with LEDs. No updates have been received from Ardmore airport despite Mercury's request for this, so the database is not up to date. 14 of 23 lights have Auckland Transport asset labels. I checked these lights against the Auckland Transport database assets and confirmed they are recorded in both this database and the Auckland Transport RAMM database. Further investigation found another three lights (making a total of 17 lights) which, whilst they have no physical label, are also recorded in the RAMM database. I have passed these findings to Mercury to liaise with Ardmore Airport and Meridian (Auckland Transport's trader) to confirm the audit findings. This leaves six items of load which belong to Ardmore Airport with a total wattage of 640W or 7.68kWh per day. These are likely to be on a single circuit and are within the allowable unmetered load threshold of between 3,000-6,000 kWh per annum. If this is correct, no database should be required, and the load could be submitted as standard unmetered load.

The duplicated submission will be resulting an estimated over submission of 10,779 kWh per annum and is recorded as non-compliance. This is recorded as non-compliance below and in **sections 2.1 and 3.2**.

As reported in the last audit, an annual audit is expected to be carried out by the property owner to confirm that the database is correct. The customer is also expected to advise if any changes occur so that the database can be updated accordingly, and notes of the light type, wattage and ballast and the date of change are recorded. Mercury have requested updates from the customer, but none have been provided during the audit period.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.1 With: 15.2 and 15.37B(b) From: 23-May-22 To: 27-Feb-23	17 of the street light assets are being submitted by both Meridian and Mercury Energy resulting in an estimated over submission of 10,779 kWh per annum. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 6		
Audit risk rating	Rationale for audit risk rating		
Medium	The controls in place are rated as weak as the database is not being maintained as expected. The impact is assessed to be medium, based on the over submission occurring to the market.		
Actions taken to resolve the issue		Completion date	Remedial action status
We have liaised with Meridian and they have confirmed with AT that the 17 lights should be on AT's database. We are updating the database to reflect this. We will be moving the remaining load to standard UML.		May 2023	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
As above.		N/A	

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 expected kWh 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. Mercury reconciles this DUML load using the RPS profile. The daily kWh figure recorded in SAP, which is derived from the spreadsheet, is used for submission. I checked the accuracy of the submission information by multiplying the daily kWh by the number of hours in the month and comparing it to the figure in the registry for the month of February 2023. This confirmed the calculation methodology was correct.

A 100% field audit was undertaken, and I found most lights have been replaced with LED's. 14 of 23 lights have Auckland Transport asset labels. I checked these lights against the Auckland Transport database assets and confirmed they are recorded in both this database and the Auckland Transport RAMM database. Further investigation found another three lights which, whilst they have no physical label, are also recorded in the RAMM database. I have passed these findings to Mercury to liaise with Admore Airport and Meridian (Auckland Transport's trader) to confirm the audit findings. This leaves six items of load which belong to Ardmore Airport with a total wattage of 640W or 7.68kWh per day. These are likely to be on a single circuit and are within the allowable unmetered load threshold of between 3,000-6,000 kWh per annum. If this is correct, no database should be required, and the load could be submitted as standard unmetered load.

The duplicated submission will be resulting an estimated over submission of 10,779 kWh per annum and is recorded as non-compliance. This is recorded as non-compliance below and in **sections 2.1** and **3.1**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.2 With: 15.2 and 15.37B(c) From: 23-May-22 To: 27-Feb-23	17 of the street light assets are being submitted by both Meridian and Mercury Energy resulting in an estimated over submission of 10,779 kWh per annum. Potential impact: Medium Actual impact: Medium Audit history: Multiple times Controls: Weak Breach risk rating: 6		
Audit risk rating	Rationale for audit risk rating		
Medium	The controls in place are rated as weak as the database is not being maintained as expected. The impact is assessed to be medium, based on the over submission occurring to the market.		
Actions taken to resolve the issue		Completion date	Remedial action status
We have liaised with Meridian and they have confirmed with AT that the 17 lights should be on AT's database. We are updating the database to reflect this. We will be moving the remaining load to standard UML.		May 2023	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
As above.		N/A	

CONCLUSION

The spreadsheet is maintained by Mercury and the customer is expected to advise Mercury of any changes that occur. There have been no updates provided during the audit period.

A 100% field audit was undertaken, and I found most lights have been replaced with LED's. 14 of 23 lights have Auckland Transport asset labels. I checked these lights against the Auckland Transport database assets and confirmed they are recorded in both this database and the Auckland Transport RAMM database. Further investigation found another three lights which, whilst they have no physical label, are also recorded in the RAMM database. I have passed these findings to Mercury to liaise with Admore Airport and Meridian (Auckland Transport's trader) to confirm the audit findings. This leaves six items of load which belong to Ardmore Airport with a total wattage of 640W or 7.68kWh per day. These are likely to be on a single circuit and are within the allowable unmetered load threshold of between 3,000-6,000 kWh per annum. If this is correct, no database should be required, and the load could be submitted as standard unmetered load. The duplicated submission will be resulting an estimated over submission of 10,779 kWh per annum.

The audit found three non-compliances and makes no recommendation. The future risk rating indicates that the next audit be completed in six months if a further audit is required.

PARTICIPANT RESPONSE

Mercury have reviewed this report and their comments are recorded in the body of the report. No further comments were provided.