

ELECTRICITY INDUSTRY PARTICIPATION CODE  
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

VERITEK

For

AVONDALE BUSINESS ASSOCIATION AND  
MERCURY NZ LTD

Prepared by: Steve Woods

Date audit commenced: 30 April 2020

Date audit report completed: 25 May 2020

Audit report due date: 01-Jun-20

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## EXECUTIVE SUMMARY

This audit covers the Avondale Business Association 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 largely conducted in accordance with the audit guidelines for DUML audits version 1.1. A field audit was not undertaken due to the restrictions imposed by the Covid-19 lockdown; therefore, I checked the results of the 2019 field audit to ensure the database reflected those findings.

Mercury indicated in 2017 that this load was expected become a metered supply, but this hasn't been progressed.

The spreadsheet is maintained by Mercury and the customer is expected to advise Mercury of any changes that occur. The database has not been updated since the last audit was undertaken. The database records 135 lamps, but the 2019 field audit found 150 lights. The change management process is not working, and I recommend that Mercury review this.

The database is small, and the impact of the inaccuracies found have only a minor effect on reconciliation. This audit found five non-compliances and makes two recommendations. The future risk rating indicates that the next audit be completed in 12 months. I agree with the 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	Additional lights found in the field resulting in an estimated annual under submission of 4,310 kWh	Weak	Low	3	Identified
All load recorded in the database	2.5	11(2A) of Schedule 15.3	21 additional lights found in the field.	Weak	Low	3	Identified
Database accuracy	3.1	15.2 and 15.37B(b)	Lamp discrepancies resulting in a potential under submission of 4,309 kWh per annum	Weak	Low	3	Identified
Volume information accuracy	3.2	15.2 and 15.37B(c)	Lamp discrepancies resulting in an estimated annual under submission of 4,310 kWh.	Weak	Low	3	Identified
Future Risk Rating						12	

<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
All load recorded in the database	2.5	Liaise with Avondale Business Association to determine how the lights on Block 1881-1897 Great North Road are supplied and therefore if they should be part of this DUML load.
Tracking of load change	2.6	Liaise with Avondale Business Association to ensure that load changes are captured in a timely manner.

## 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**

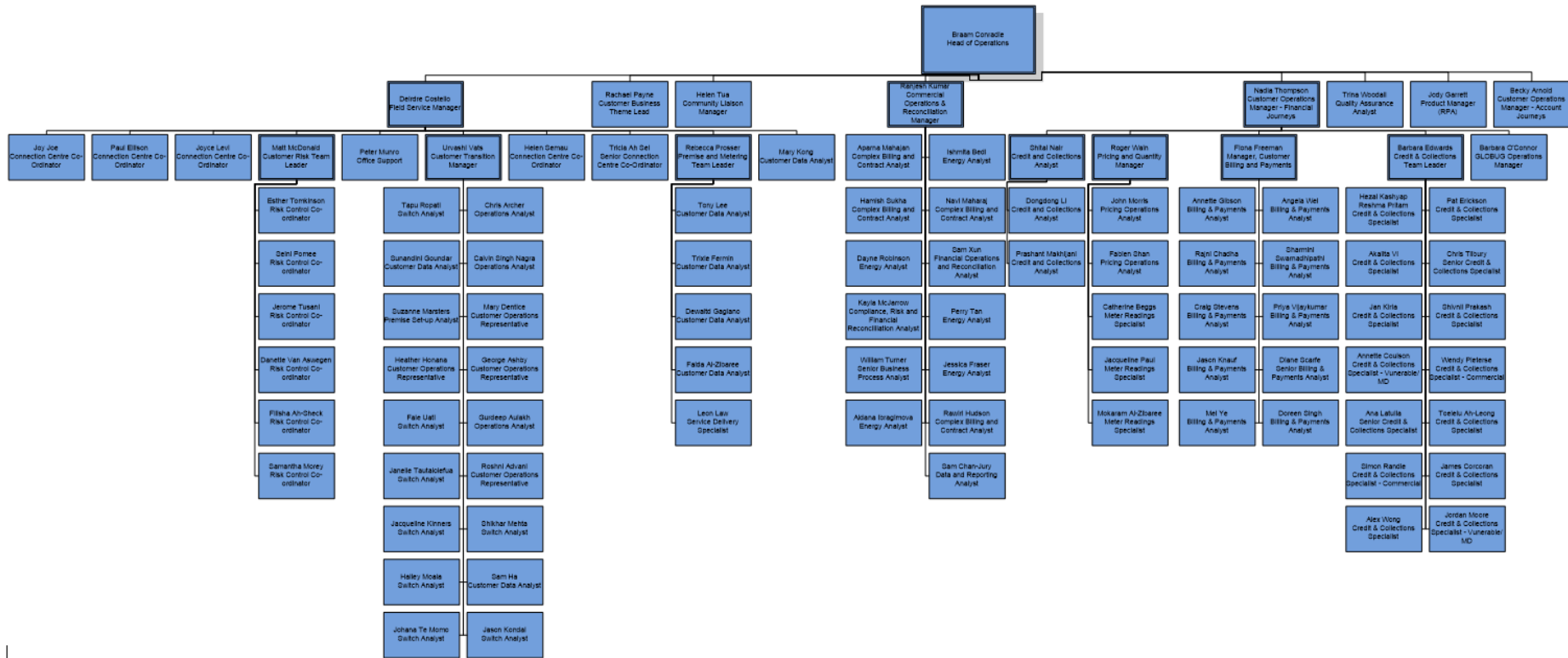
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

#### **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:

**Steve Woods**

**Veritek Limited**

**Electricity Authority Approved Auditor**

Other personnel assisting in this audit were:

Name	Title	Company
Kayla McJarrow	Compliance, Risk and Financial Reconciliation Analyst	Mercury NZ Ltd

### 1.4. Hardware and Software

The streetlight data for the Avondale Business Association 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.

### 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)
0987369148LC0CE	AVONDALE BIZ ASSOC	AVONDALE BUS ASSOC BULK UML	PAK0331	RPS	135	3,240

### 1.7. Authorisation Received

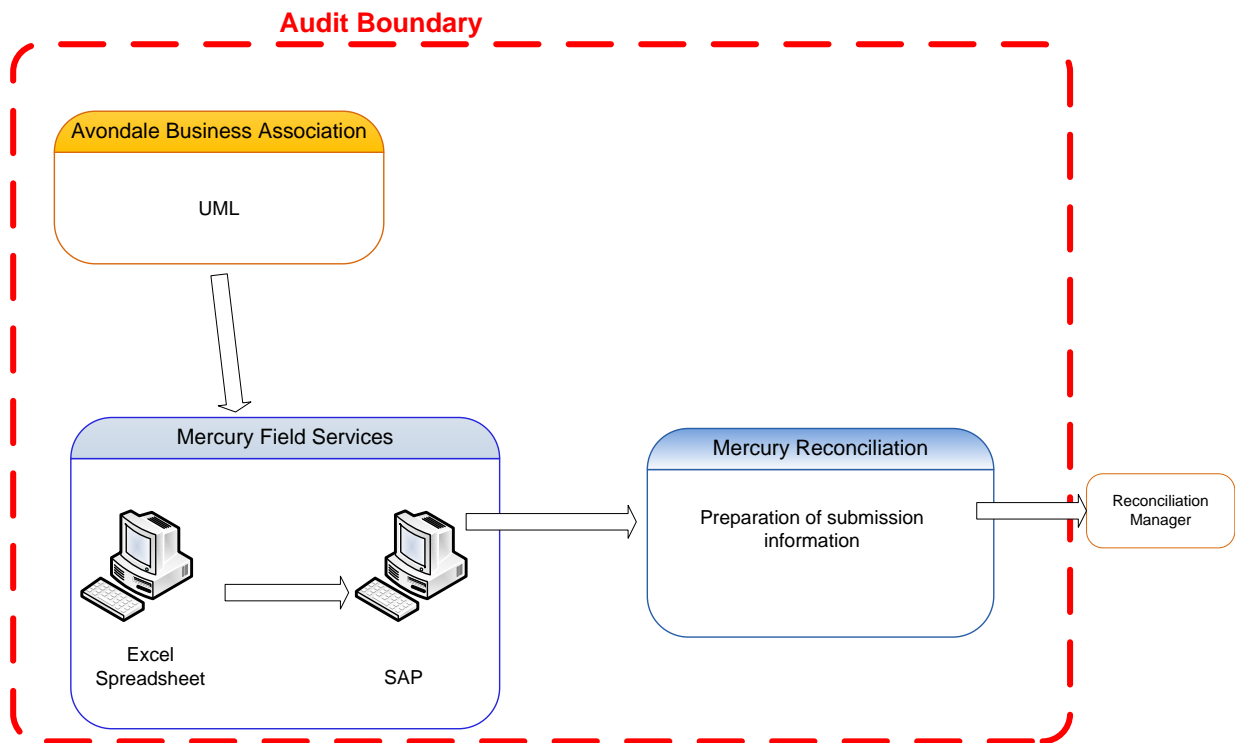
All information was provided directly by Mercury.

### 1.8. Scope of Audit

This audit covers the Avondale Business Association DUMML 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 largely conducted in accordance with the audit guidelines for DUMML audits version 1.1. A field audit was not undertaken due to the restrictions imposed by the Covid-19 lockdown; therefore, I checked the results of the 2019 field audit to ensure the database reflected those findings.

The spreadsheet is maintained by Mercury and the customer is expected to advise Mercury of any changes that occur.



### 1.9. Summary of previous audit

The previous audit was completed in May 2019 by Rebecca Elliot of Veritek Limited. The current status of the non-compliances in relation to the Avondale Business Association lights are detailed below.

### Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	Additional lights found in the field resulting in an estimated annual under submission of 4,310 kWh.	Still existing
All load recorded in the database	2.5	11(2A) of Schedule 15.3	21 additional lights found in the field.	Still existing
Database accuracy	3.1	15.2 and 15.37B(b)	The field audit found 21 additional lights resulting in a potential under submission of 4,310 kWh per annum.	Still existing
Volume information accuracy	3.2	15.2 and 15.37B(c)	Additional lights found in the field resulting in an estimated annual under submission of 4,310 kWh.	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**

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. 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. Mercury reconciles this DUMML 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. This confirmed the accuracy of submission.

The field audit found additional items of load in the field. This will be resulting in an estimated under submission of 4,310 kWh. This is discussed further in **section 3.1**.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: 11(1) of Schedule 15.3  From: 01-Jun-17 To: 01-May-20	Additional lights found in the field resulting in an estimated annual under submission of 4,310 kWh. Potential impact: Low Actual impact: Low Audit history: Three times previously Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	The controls in place are rated as weak as the database is not being maintained as expected. The impact is assessed to be low, based on the overall kWh differences described above.		
Actions taken to resolve the issue		Completion date	Remedial action status

Mercury does not currently have an active customer for this ICP. We have had recent contact with Avondale Business Association and are discussing the requirements to open an account. If it is determined that supply is not required and an account is not opened, we will arrange for supply to be disconnected. If an account is created, we will work with the customer to complete a full review of the database to ensure any discrepancies and changes since the last active account are recorded accurately.	Sept 2020	Identified
<b>Preventative actions taken to ensure no further issues will occur</b>	<b>Completion date</b>	
Mercury does not currently have an active customer for this ICP. We have had recent contact with Avondale Business Association and are discussing the requirements to open an account. If it is determined that supply is not required and an account is not opened, we will arrange for supply to be disconnected. If an account is created, we will work with the customer to complete a full review of the database to ensure any discrepancies and changes since the last active account are recorded accurately.	Sept 2020	

## 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 spreadsheets were checked to confirm the correct 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 spreadsheet contains the start and end road number for each block of lights.

### 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

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 compared the field audit findings from the 2019 audit against the database provided in April 2020.

### Audit commentary

The previous audit findings are shown in the table below.

Street/Area	Database Count	Field Count	Field count differences	Wattage differences	Comments
Corner block of 38 Rosebank Road to 1898 Great North Road	38	33	-5		5 less lights in the field - address should read 58 Rosebank Road.
Block 65 Rosebank Road	5	11	6		6 additional energy saving lights found in the field.

Street/Area	Database Count	Field Count	Field count differences	Wattage differences	Comments
Block 1954 Great North Road to 2000 Great North Road	32	31	-1		1 light not found in the field.
Block 1973 Great North Road to 1981 Great North Road	14	29	15		15 additional energy saving lights found.
<b>TOTAL</b>	<b>135</b>	<b>150</b>	<b>15 (net)</b>	<b>-</b>	

21 extra lights were found in the field. Many of these are the same items reported in the 2018 audit. The additional lights found in the field are recorded as non-compliance below.

The previous audit also found 28 similar energy saving lights on Block 1881-1897 Great North Road, but it was not clear if these were connected to a metered supply. I recommend that Mercury liaise with the Avondale Business Association to confirm how these lights are supplied.

Description	Recommendation	Audited party comment	Remedial action
All load recorded in the database	Liaise with Avondale Business Association to determine how the lights on Block 1881-1897 Great North Road are supplied and therefore if they should be part of this DUML load.	Mercury does not currently have an active customer for this ICP. We have had recent contact with Avondale Business Association and are discussing the requirements to open an account. If it is determined that supply is not required and an account is not opened, we will arrange for supply to be disconnected. If an account is created, we will work with the customer to complete a full review of the database to ensure any discrepancies and changes since the last active account are recorded accurately.	Identified

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

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.5 With: 11(2A) of Schedule 15.3 From: 01-Jun-17 To: 01-May-20	21 additional lights found in the field. Potential impact: Low Actual impact: Low Audit history: Once Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	The controls in place are rated as weak as the database is not being maintained as expected. The impact is assessed to be low as the impact on reconciliation is small as detailed in <b>section 3.1</b> .		
Actions taken to resolve the issue		Completion date	Remedial action status
Mercury does not currently have an active customer for this ICP. We have had recent contact with Avondale Business Association and are discussing the requirements to open an account. If it is determined that supply is not required and an account is not opened, we will arrange for supply to be disconnected. If an account is created, we will work with the customer to complete a full review of the database to ensure any discrepancies and changes since the last active account are recorded accurately.		Sept 2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Mercury does not currently have an active customer for this ICP. We have had recent contact with Avondale Business Association and are discussing the requirements to open an account. If it is determined that supply is not required and an account is not opened, we will arrange for supply to be disconnected. If an account is created, we will work with the customer to complete a full review of the database to ensure any discrepancies and changes since the last active account are recorded accurately.		Sept 2020	

## 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 spreadsheets was examined.

### **Audit commentary**

Any changes that are 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**

During the previous audit, it was found that the changes made were detailed and dated, but no record of the person who has made the change was recorded. This has been remedied and the database now contains the details of 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 compared the field audit findings from the 2019 audit against the database provided in April 2020.

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

##### Audit commentary

The field audit findings from 2019 are detailed in **section 2.5**. The additional lights found in the field indicate that the database is reporting 28% less volume than is present in the field. This is outside of the allowable +/-5% threshold and will be resulting an estimated annual under submission is 4,310 kWh (this is calculated by multiplying the daily kWh figure by 365 days). This is recorded as non-compliance.

The check of wattages and ballasts confirmed compliance.

An annual audit is expected to be carried out by the property owner to confirm that the database is correct. The customer is 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. The additional lights found in the field indicate that this process is not working. I recommend that Mercury review the tracking of load change process to ensure all such changes are captured.

Description	Recommendation	Audited party comment	Remedial action
Tracking of load change	Liaise with the Avondale Business Association to ensure that load changes are captured in a timely manner.	Mercury does not currently have an active customer for this ICP. We have had recent contact with Avondale Business Association and are discussing the requirements to open an account. If it is determined that supply is not required and an account is not opened, we will arrange for supply to be disconnected. If an account is created, we will work with the customer to complete a full review of the database to ensure any discrepancies and changes since the last active account are recorded accurately.	Identified

##### Audit outcome

Non-compliant



Non-compliance	Description		
Audit Ref: 3.1 With: 15.2 and 15.37B(b)  From: 01-Jun-17 To: 01-May-20	Lamp discrepancies resulting in a potential under submission of 4,309 kWh per annum. Potential impact: Low Actual impact: Low Audit history: Once Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	The controls in place are rated as weak as the database is not being maintained as expected. The impact is assessed to be low, based on the kWh differences described above.		
Actions taken to resolve the issue		Completion date	Remedial action status
Mercury does not currently have an active customer for this ICP. We have had recent contact with Avondale Business Association and are discussing the requirements to open an account. If it is determined that supply is not required and an account is not opened, we will arrange for supply to be disconnected. If an account is created, we will work with the customer to complete a full review of the database to ensure any discrepancies and changes since the last active account are recorded accurately.		Sept 2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Mercury does not currently have an active customer for this ICP. We have had recent contact with Avondale Business Association and are discussing the requirements to open an account. If it is determined that supply is not required and an account is not opened, we will arrange for supply to be disconnected. If an account is created, we will work with the customer to complete a full review of the database to ensure any discrepancies and changes since the last active account are recorded accurately.		Sept 2020	

### 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

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.

I checked the accuracy of the submission information by multiplying the daily kWh figure to the figure in the registry for the month of March 2020. This confirmed the accuracy of submission.

The field audit found additional items of load in the field. This will be resulting in an estimated under submission of 4,310 kWh. This is discussed further in **section 3.1**.

#### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.2 With: 15.2 and 15.37B(c)  From: 01-Jun-17 To: 01-May-20	Lamp discrepancies resulting in an estimated annual under submission of 4,310 kWh.  Potential impact: Low  Actual impact: Low  Audit history: Three times previously  Controls: Weak  Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	The controls in place are rated as weak as the database is not being maintained as expected.  The impact is assessed to be low, based on the overall kWh differences described above.		
Actions taken to resolve the issue		Completion date	Remedial action status

<p>Mercury does not currently have an active customer for this ICP. We have had recent contact with Avondale Business Association and are discussing the requirements to open an account. If it is determined that supply is not required and an account is not opened, we will arrange for supply to be disconnected. If an account is created, we will work with the customer to complete a full review of the database to ensure any discrepancies and changes since the last active account are recorded accurately.</p>	<p>Sept 2020</p>	<p>Identified</p>
<p><b>Preventative actions taken to ensure no further issues will occur</b></p>	<p><b>Completion date</b></p>	
<p>Mercury does not currently have an active customer for this ICP. We have had recent contact with Avondale Business Association and are discussing the requirements to open an account. If it is determined that supply is not required and an account is not opened, we will arrange for supply to be disconnected. If an account is created, we will work with the customer to complete a full review of the database to ensure any discrepancies and changes since the last active account are recorded accurately.</p>	<p>Sept 2020</p>	

## CONCLUSION

Mercury indicated in 2017 that this load was expected become a metered supply, but this hasn't been progressed.

The spreadsheet is maintained by Mercury and the customer is expected to advise Mercury of any changes that occur. The database has not been updated since the last audit was undertaken. The database records 135 lamps, but the 2019 field audit found 150 lights. The change management process is not working, and I recommend that Mercury review this.

The database is small, and the impact of the inaccuracies found have only a minor effect on reconciliation. This audit found five non-compliances and makes two recommendations. The future risk rating indicates that the next audit be completed in 12 months. I agree with the recommendation.

## PARTICIPANT RESPONSE

Mercury does not currently have an active customer for this ICP. We have had recent contact with Avondale Business Association and are discussing the requirements to open an account. If it is determined that supply is not required and an account is not opened, we will arrange for supply to be disconnected. If an account is created, we will work with the customer to complete a full review of the database to ensure any discrepancies and changes since the last active account are recorded accurately.