ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

For

INTELLIHUB GATEKEEPERS AND MERCURY NZ LTD

Prepared by: Rebecca Elliot

Date audit commenced: 10 March 2021

Date audit report completed: 23 April 2021

Audit report due date: 31-May-21

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EXECUTIVE SUMMARY

This audit covers the **Intellihub Gatekeepers** 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.

The database is held by Mercury in the form of a spreadsheet with updates provided by Intellihub when changes are made. The items of load are all pole mounted radio mesh communications equipment, either Relays or Access Points. There have been no changes made to the connected load in the audit period.

The audit confirms compliance with the code. The future risk rating of 0 indicates that the next audit be completed in 36 months and I agree with this recommendation.

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Nil				
Future Risk Rating						0	

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
		Nil

ISSUES

Subject	Section	Description	Issue
		Nil	

1. ADMINISTRATIVE

1.1. Exemptions from Obligations to Comply with Code

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

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

Audit observation

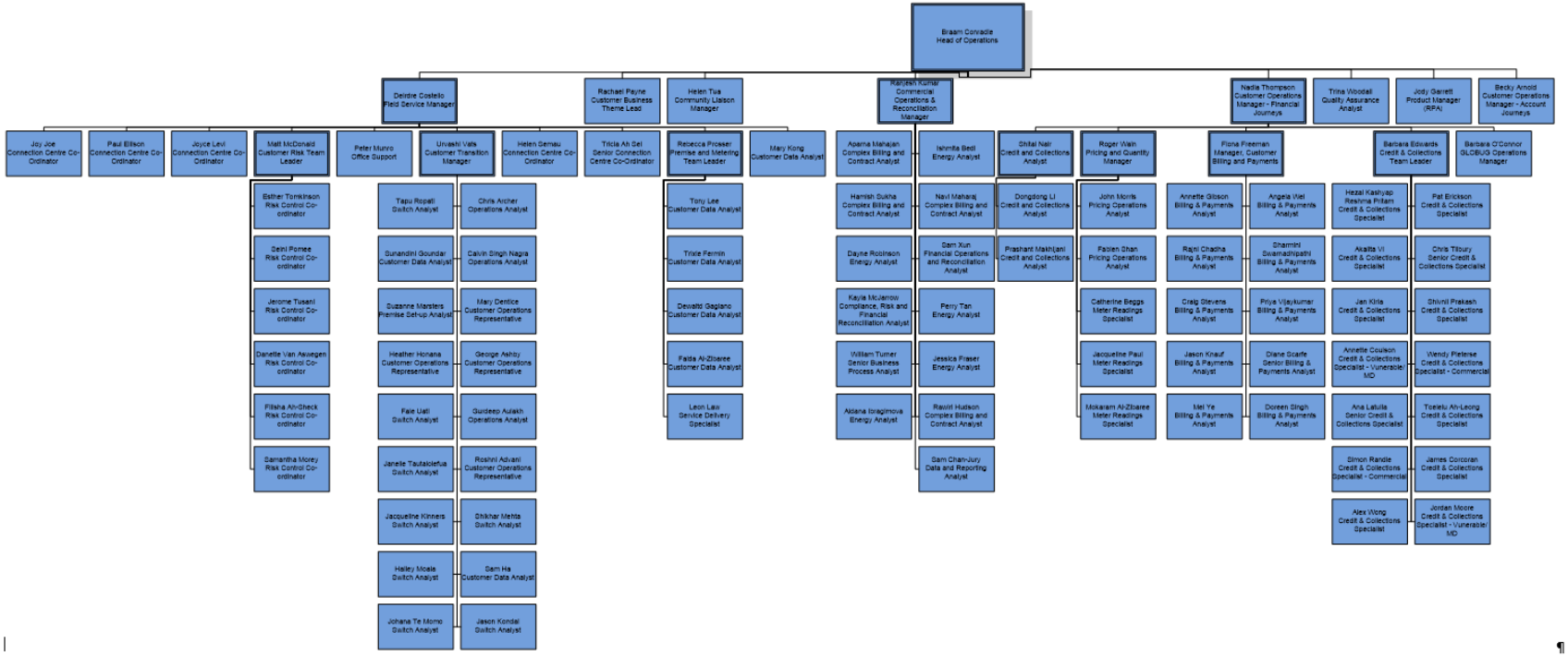
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

Audit commentary

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

1.2. Structure of Organisation

Mercury provided an organisational structure:



1.3. Persons involved in this audit

Auditors:

Name	Title
Rebecca Elliot	Lead Auditor
Brett Piskulic	Supporting 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 Intellihub 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)
0000565924NRDAF	IHUB	Metrix Mesh Aerials; BRB0331	BRB0331	RPS	14	154
0000565923NR065	IHUB	Metrix Mesh Aerials; MTO0331	MTO0331	RPS	24	264
0000565921NR0E0	IHUB	Metrix Mesh Aerials; MPE1101	MPE1101	RPS	79	869
0000502062DED0F	IHUB	HWB METERING GATEKEEPERS	HWB0331	RPS	30	300
0000502063DE14A	IHUB	SDN METERING GATEKEEPERS	SDN0331	RPS	12	114
TOTAL					159	1,701

1.7. Authorisation Received

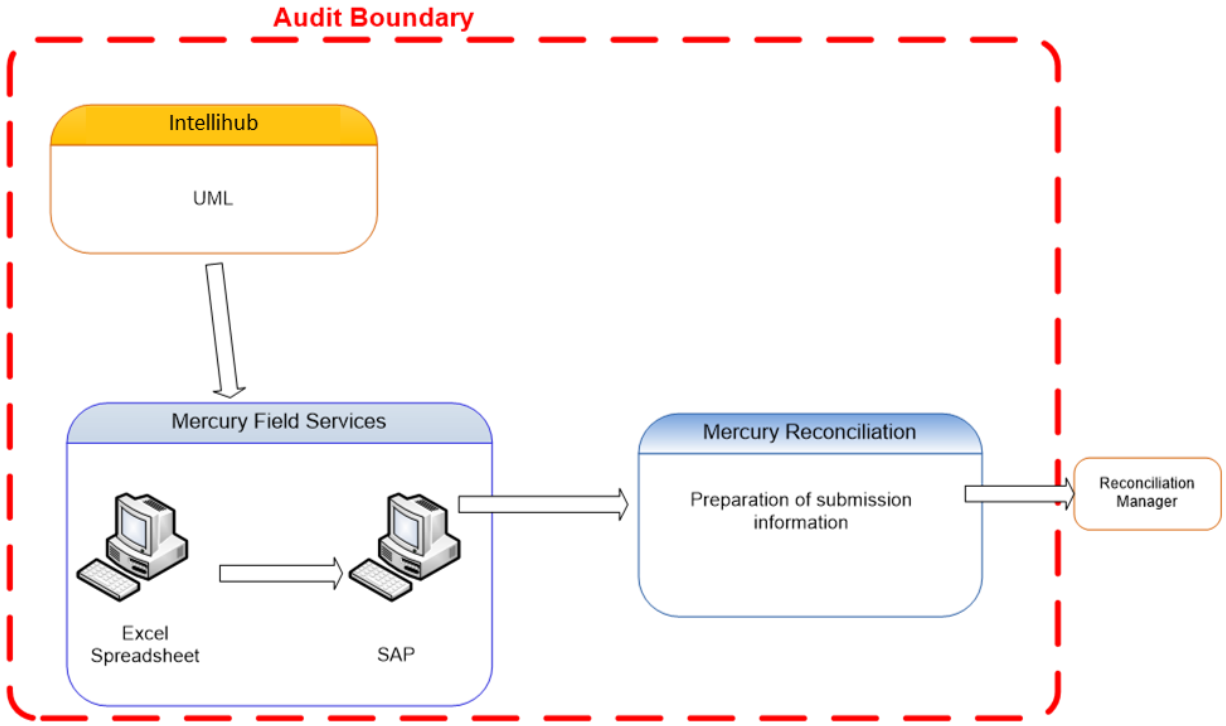
All information was provided directly by Mercury.

1.8. Scope of Audit

This audit covers the Intellihub Gatekeepers (IHUB) 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.

The spreadsheet is maintained by Mercury and Intellihub advise Mercury of any changes that occur.



The field audit of 101 items of load was carried out between 26th March and 2nd April 2021.

1.9. Summary of previous audit

The previous audit was completed in May 2018 by Rebecca Elliot of Veritek Limited. The audit confirmed compliance with the code.

Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
			Nil	

Table of Recommendations

Subject	Section	Recommendation	
		Nil	

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

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. I checked the accuracy of the submission information from the database with the submission for the month of February 2021. This confirmed the volume was calculated correctly.

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

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

The current spreadsheet contains "Replacement Date" and "Removal Date" fields. There is also a "tracking changes" section that notes what changes have been made on what date and who made the change. The requirement to take into account when each item of load is physically installed or removed can be met by applying these dates to submission information. There have been no changes made to the connected load during the audit period.

Audit outcome

Compliant

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 spreadsheet was checked to confirm the correct ICP was recorded correctly for the load.

Audit commentary

The spreadsheet contains a sheet per ICP. All items of load have an ICP associated with them.

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

Audit commentary

The spreadsheet contains the nearest street address for each item of load. The field audit confirmed that the locations checked were correct.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

The DUML database must contain:

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

Audit observation

The spreadsheet was checked to confirm that it contained a description and wattage capacity.

Audit commentary

The spreadsheet contains appropriate load type descriptions. The items of load are all pole mounted radio mesh communications equipment, either Relays or Access Points and are clearly identified as such. All had a wattage value recorded.

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

A field audit was undertaken of 101 items of load.

Audit commentary

The field audit undertaken in Northland and Dunedin found that the field count matched the database for all of the 101 devices checked.

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

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 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

The spreadsheet contains a separate tab for each ICP. A change log is included for each ICP which records the dates of any additions and removals as required by this clause. There have been no changes made to the connected load in the audit period.

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 DUML 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 spreadsheet includes a change log for each ICP which records the date of any change, action taken, person making the change and the details. There have been no changes made to the connected load in the audit period.

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

A field audit of 101 items of load was undertaken to confirm the accuracy of the spreadsheet.

The change management process and timeliness of database updates was evaluated.

Audit commentary

Field Audit Findings

The field audits undertaken in Northland and Dunedin confirmed that the database was accurate in relation to the number of load items.

Load description and capacity accuracy

The items of load are all pole mounted radio mesh communications equipment, either Relays or Access Points and are clearly identified as such. All had a wattage value recorded.

Load location

As detailed in **section 2.4**, all item of load had insufficient details to be located.

Change Management

The items of load are all pole mounted radio mesh communications equipment, either Relays or Access Points. There have been no changes made to the connected load in the audit period. Intellihub will advise if any changes occur so that the spreadsheet can be updated accordingly.

Audit outcome

Compliant

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. I checked the accuracy of the submission information from the database with the submission for the month of February 2021. This confirmed the volume was calculated correctly.

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

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The current spreadsheet contains "Replacement Date" and "Removal Date" fields. There is also a "tracking changes" section that notes what changes have been made on what date and who made the change. The requirement to take into account when each item of load is physically installed or removed can be met by applying these dates to submission information. There have been no changes made to the connected load during the audit period.

Audit outcome

Compliant

CONCLUSION

The database is held by Mercury in the form of a spreadsheet with updates provided by Intellihub when changes are made. The items of load are all pole mounted radio mesh communications equipment, either Relays or Access Points. There have been no changes made to the connected load in the audit period.

The audit confirms compliance with the code. The future risk rating of 0 indicates that the next audit be completed in 36 months and I agree with this recommendation.

PARTICIPANT RESPONSE

No further comments were provided.