



VERITEK

Electricity Industry Participation Code Audit Report

For

Contact Energy Limited



**Kāpiti Coast District Council
Distributed Unmetered Load**

Prepared by Tara Gannon – Veritek Ltd

Date of Audit: 22 and 23/12/2017

Date Audit Report Complete: 26/03/2018



Executive Summary

This audit of the Kāpiti Coast District Council (KCDC) DUML database and processes was conducted at the request of Contact Energy Limited (Contact), 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, which became effective on 1 June 2017.

A RAMM database is held by KCDC, who is Contact's customer. Fault, maintenance and upgrade work is managed by KCDC and conducted by Electra Contracting. Electra Contracting updates streetlight details using pocket RAMM.

The audit process included a field audit of 257 items of load, which found 99.6% accuracy. Review of the entire database found 31 missing gear wattages, three missing lamp wattages, and 38 gear wattages did not match the expected values.

Most of the discrepancies related to the M2PP and LED upgrade projects. KCDC is working through reviewing the data entered for these projects, including comparing it to what is present in the field. KCDC has followed up the discrepancies identified during the audit with their contractors and intends to remove some options from the RAMM data tables to reduce the risk of incorrect values accidentally being selected.

The errors result in estimated over reporting of approximately 94W or 410 kWh per annum.

The future risk rating of 11 indicates that the next audit should be completed in 12 months. The matters raised are detailed below:

Table of Non-Compliance

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	The database used to prepare submissions contains some inaccurate information.	Moderate	Low	2	Identified
ICP identifier	2.2	11(2)(a) of Schedule 15.3	20 items of load do not have an ICP recorded.	Moderate	Low	2	Identified
Description of Load Type	2.4	11(2)(c) & (d) of Schedule 15.3	31 missing gear wattages, and three missing lamp wattages.	Moderate	Low	2	Identified

Subject	Section	Clause	Non-compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
All load recorded in database	2.5	11(2A) of Schedule 15.3	For the sample of 257 lamps checked: <ul style="list-style-type: none"> Two lamps were not recorded in the database Two extra lamps were recorded in the database 	Strong	Low	1	Identified
Database accuracy	3.1	15.2	31 missing gear wattages, and three missing lamp wattages. 38 gear wattages did not match the expected values. For the sample of 257 lamps checked: <ul style="list-style-type: none"> Two lamps were not recorded in the database Two extra lamps were recorded in the database Nine lamps had incorrect lamp and wattage information recorded. 	Moderate	Low	2	Identified
Volume information accuracy	3.2	15.2	The database used to prepare submissions contains some inaccurate information.	Moderate	Low	2	Identified
Future risk rating						11	
Indicative audit frequency						12 months	

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

Table of Recommendations

Subject	Section	Recommendation	Description
Description of load type	2.4	Review of model and lamp make model information recorded in RAMM to ensure it is correct and consistent.	Review model information where data in the model and lamp make model fields is inconsistent and update the database as necessary.

Subject	Section	Recommendation	Description
Database accuracy	3.1	Continue to confirm correct lamp owners and which lamps are metered and update the database as required.	Continue to cleanse the database, and transfer lights that KCDC is not responsible for to the correct owner.

Persons Involved in This Audit:

Auditor:

Tara Gannon
Veritek Limited
Electricity Authority Approved Auditor

Other personnel assisting in this audit were:

Name	Title	Company
Neil Williams	Roading Network Performance Team Leader	Kāpiti Coast District Council
Aaron Wall	HDM Team Leader	Contact Energy

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1. Administrative

1.1 Exemptions from Obligations to Comply With Code (Section 11 of Electricity Industry Act 2010)

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.

Contact confirms that is an exemption is in place relevant to the scope of this audit:

Exemption No. 177: Exemption to clause 8(g) of schedule 15.3 of the Electricity Industry Participation Code 2010 (“Code”) in respect of providing half-hour (“HHR”) submission information instead of non half-hour (“NHH”) submission information for distributed unmetered load (“DUML”). This exemption expires at the close of 31 October 2023.

1.2 Supplier List

KCDC, Electra Contracting, and RAMM Software Limited are considered agents, and Contact clearly understands that the use of agents does not release them from their compliance obligations.

Contact has a direct contractual relationship with KCDC, but there is no direct contractual relationship between Contact and Electra Contracting, or Contact and RAMM Software Limited.

KCDC has contracts with

- **Electra Contracting** for fieldwork and asset data capture; and
- **RAMM Software Limited** for database hosting.

This is not seen as an issue, as the processes for updating the database are robust and have appropriate validation controls in place. This is discussed further in **section 2.6**.

1.3 Hardware and Software

The SQL database used for the management of DUML is remotely hosted by RAMM Software Ltd. The database is commonly known as “RAMM” which stands for “Roading Asset and Maintenance Management”.

KCDC confirmed that the database back-up is in accordance with standard industry procedures. The database is password protected. Compliance is confirmed.

1.4 List of ICPs

The following ICP is relevant to the scope of this audit:

ICP	Description	Profile	NSP	No. of items of load
0016099024EL49F	KCDC STREETLIGHTS	HHR	PRM0331	4853

1.5 Breaches or Breach Allegations

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

1.6 Distributed unmetered load audits (Clauses 16A.26 & 17.295F)

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

Contact have requested Veritek to undertake this streetlight audit.

Audit Commentary

This audit report confirms that the requirement to conduct an audit has been met for this database within the required timeframe. Compliance is confirmed.

1.7 Separate distributed unmetered load audit (Clause 16A.8(4))

Retailers must ensure that DUML audits are reported in a separate audit report.

Audit Observation

Contact have requested Veritek to undertake this streetlight audit.

Audit Commentary

The audit report for this DUML database is separate from other audit reports. Compliance is confirmed.

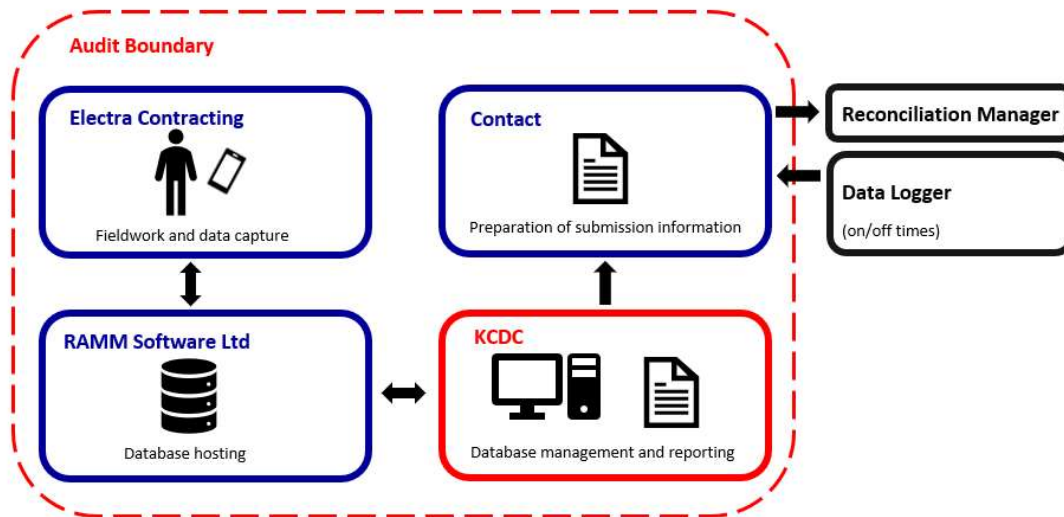
1.8 Summary of Previous Audit

This is the first audit of the KCDC DUML database completed for Contact by Veritek.

1.9 Scope of Audit

A RAMM database is held by KCDC, who is Contact's customer. This database is hosted by RAMM Software Limited and is managed by KCDC. Electra Contracting complete the field work and 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 spreadsheet reporting. The diagram below shows the current flow of information and the audit boundary for clarity.



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

The field audit was undertaken of 257 lights using the statistical sampling methodology on 22-23 December 2017. The field selection included two population groups:

- Streets where an owner other than KCDC roading was recorded for some lamps.
- All other streets.

1.10 Data Transmission (Clause 20 of Schedule 15.2)

A password protected report from RAMM is sent to Contact monthly. Compliance is confirmed.

2. DUML database requirements

2.1 Deriving Submission Information (Clause 11(1) of Schedule 15.3)

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.

Audit Commentary

Contact reconciles this DUML load as half hour using the HHR profile, and hours of operation information using a data logger for ICP 0020903000WRADA. Code exemption number 177 allows this. ICP 0016099024EL49F has the correct HHR profile recorded on the registry.

I checked the accuracy of Contact's submission calculations for October 2017 by comparing my manual calculation using the DUML database and the data logger information, to the submission to the reconciliation manager. My calculation matched Contact's submission. Compliance is confirmed for the methodology to derive submission information.

While Contact are using up to date database information, there is some inaccurate data within the database. This is recorded as non-compliance and discussed in sections **2.4**, **2.5** and **3.1**.

Non-compliance	Description		
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: entire audit period	The database used to prepare submissions contains some inaccurate information. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as moderate, because they are sufficient to ensure that data for most lamps is recorded correctly. The impact is low, as the differences would result in estimated over reporting of approximately 94W or 410 kWh per annum.		
Actions taken to resolve the issue		Completion date	Remedial action status
KCDC are progressing the required updates to the DUML database as they progress their LED roll out		30 Sept 2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
As above		As above	

2.2 ICP Identifier (Clause 11(2)(a) of Schedule 15.3)

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 analysis found that 125 items of load did not have an ICP recorded. 105 of these have a light owner which indicates they are metered; 20 of these have the light owner listed as Local Authority and appear to be unmetered and are listed below. 16 of these relate to incomplete input of data for the M2PP project, and the other four relate to traffic signals.

KCDC advised that they are working to filter the metered lights out of the reports to Contact Energy and update the missing ICP details.

Location	House Address	Light ID	Carriageway Area	Light Owner
29	HADFIELD LINK ROAD	58619	WAIKANA	Local Authority
80	HADFIELD LINK ROAD	58626	WAIKANA	Local Authority
503	HADFIELD LINK ROAD	58627	WAIKANA	Local Authority
500	HADFIELD LINK ROAD	58628	WAIKANA	Local Authority
547	HADFIELD LINK ROAD	58629	WAIKANA	Local Authority
552	HADFIELD LINK ROAD	58630	WAIKANA	Local Authority
592	HADFIELD LINK ROAD	58631	WAIKANA	Local Authority
593	HADFIELD LINK ROAD	58632	WAIKANA	Local Authority
642	HADFIELD LINK ROAD	58633	WAIKANA	Local Authority
645	HADFIELD LINK ROAD	58634	WAIKANA	Local Authority
692	HADFIELD LINK ROAD	58635	WAIKANA	Local Authority
692	HADFIELD LINK ROAD	58636	WAIKANA	Local Authority
770	HADFIELD LINK ROAD	58637	WAIKANA	Local Authority
798	HADFIELD LINK ROAD	58638	WAIKANA	Local Authority
834	HADFIELD LINK ROAD	58639	WAIKANA	Local Authority
361	20 KAPITI RD	59036	PARAPARAUMU	Local Authority
1464	RIMU RD (RAUMATI)	59022	PARAPARAUMU	Local Authority
1471	RIMU RD (RAUMATI) (police)	59023	PARAPARAUMU	Local Authority
900	RIMU RD (RAUMATI) (SPA SHOP)	59056	PARAPARAUMU	Local Authority
28	9 TE KOWHAI RD	58647	WAIKANA	Local Authority

This is recorded as non-compliance below.

Non-compliance	Description		
Audit Ref: 2.2 With: Clause 11(2)(a) of Schedule 15.3 From: entire audit period	20 items of load do not have an ICP recorded. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Medium	Controls are rated as moderate and the risk rating as low, as most items of load have an ICP number recorded and there are a small number of exceptions.		
Actions taken to resolve the issue		Completion date	Remedial action status
Contact will work with KCDC in resolving the ICP population for all unmetered lights		30 Sept 2018	Identified

Preventative actions taken to ensure no further issues will occur	Completion date
As above	As above

2.3 Location of Each Item of Load (Clause 11(2)(b) of Schedule 15.3)

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

Street address information is recorded for all lamps. Compliance is confirmed.

2.4 Description of Load Type (Clause 11(2)(c) & (d) of Schedule 15.3)

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 database was checked to confirm that it contained a field for lamp type and wattage capacity and included any ballast or gear wattage.

Audit Commentary

Three lamps (0.06%) have missing lamp wattages, and the lamp make model recorded as HPS or ST2. Insufficient information was available to determine the correct wattages for these lamps, which were changed as part of the M2PP or LED upgrade projects.

31 lamps (0.6%) have a missing model and gear wattage, including the three lamps which also have missing lamp wattages.

Lamp Make Model	Count	Expected gear wattage
BETA (27W, 27 watts)	16	0
CFLU (CFLU, 24 watts)	11	unknown
HPS	1	unknown
HPS (70, 70 watts)	1	13
ST2	2	unknown
Total	31	

Non-compliance	Description	
Audit Ref: 2.4 With: Clause 11(2)(c) & (d) of Schedule 15.3 From: entire audit period	31 missing gear wattages, and three missing lamp wattages. Potential impact: Low Actual impact: Unknown Audit history: None Controls: Moderate Breach risk rating: 2	
Audit risk rating	Rationale for audit risk rating	
Low	Controls are rated as moderate, as they are sufficient to ensure that most lamps have the correct wattage recorded. The impact is low, because a relatively small number of lamps are affected.	
Actions taken to resolve the issue	Completion date	Remedial action status
KCDC are progressing the required updates to the DUML database as they progress their LED roll out	30 Sept 2018	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
As above	As above	

2.5 All load recorded in database (Clause 11(2A) of Schedule 15.3)

The retailer must ensure that each item of DUML for which it is responsible is recorded in this database.

Audit Observation

The field audit was undertaken of 257 lights using the statistical sampling methodology. The field selection included two population groups:

- Streets where an owner other than KCDC roading was recorded for some lamps.
- All other streets.

Audit Commentary

The field audit findings are detailed in the table below.

Street	Database count	Field count	Light count differences	Model recorded incorrectly	Comments
KCDC Roothing owns all lamps					
ARATIKA CRES, OTAKI	2	2	-	1	One lamp recorded with 27W was labelled with 23W.
BECKETT LANE, RAUMATI	3	3	-	-	
COMPASS CRT, PARAPARAUMU	2	2	-	-	
EMERALD GLEN, PAEKAKARIKI	2	2	-	-	
FALLA ST, PARAPARAUMU	3	3	-	-	

Street	Database count	Field count	Light count differences	Model recorded incorrectly	Comments
FRIMLEY TCE #1, WAIKANAЕ	1	1	-	-	
FRIMLEY TCE (NORTH), WAIKANAЕ	2	2	-	-	
FRIMLEY TCE (SOUTH), WAIKANAЕ	2	2	-	-	
GRAY AVE, PARAPARAUMU	17	17	-	-	
HARVEST CRT, PARAPARAUMU	1	1	-	-	
KAIMANAWA ST, PARAPARAUMU	4	4	-	-	
LORIEN CRT, RAUMATI	2	2	-	-	
MANAWA AVE, RAUMATI	6	6	-	-	
MARGARET RD, RAUMATI	14	14	-	-	
MATENGA ST, WAIKANAЕ	3	3	-	-	
METAPERE ST, WAIKANAЕ	4	4	-	-	
MILLVALE ST, WAIKANAЕ	3	3	-	-	
NGAPAKI ST, WAIKANAЕ	11	11	-	2	Two lamps were recorded with 27W was labelled with 23W.
NICHOLAS CRT, WAIKANAЕ	2	2	-	-	
OLLIVER GR, WAIKANAЕ	4	4	-	-	
PAPAWAI GR, WAIKANAЕ	2	2	-	-	
PARATA ST, WAIKANAЕ	29	29	-	-	
POHE ST, WAIKANAЕ	9	9	-	1	One lamp recorded with 27W was labelled with 17W.
RATA ST (EAST), WAIKANAЕ	4	4	-	-	
RATA ST (ROW), WAIKANAЕ	2	2	-	-	
RATA ST (WEST), WAIKANAЕ	1	1	-	-	
RIMU ST, WAIKANAЕ	20	20	-	-	
SAN VITO PL, PARAPARAUMU	3	3	-	-	
SOVEREIGN WAY, PARAPARAUMU	1	1	-	-	
SUNSET TCE, WAIKANAЕ	4	4	-	-	
TAMIHANA ST, OTAKI	4	4			
TARARUA ST, PARAPARAUMU	3	5	2	-	Two 70W sodium lamps were missing from the database. They were assigned to a walkway, and KCDC have updated their records to show they are on Tararua St.
TE HEKE PL, WAIKANAЕ	9	9	-	-	
TE HORO CROSS RD, OTAKI	1	1	-	-	
TERRY LANE, PARAPARAUMU	2	2	-	-	
TRIG HILL TCE, WAIKANAЕ	3	3	-	-	
W - WATERSTONE AVE, PARAPARAUMU	1	1	-	-	
WAIKARE RD, RAUMATI	3	3	-	-	

Street	Database count	Field count	Light count differences	Model recorded incorrectly	Comments
WAIMANU GR, PARAPARAUMU	1	1	-	-	
WATERSTONE AVE, PARAPARAUMU	15	15	-	-	
WHITMORE GR, WAIKANAЕ	2	2	-	-	
Owners other than KCDC Roading					
KAPANUI RD, WAIKANAЕ	20	18	-2	5	The lamp on pole SX0171 27W is recorded three times, two records are duplicates. Five lamps recorded with 27W were labelled with 23W.
SWEETMAN AVE, PARAPARAUMU	25	25	-	-	
TE MITI ST, PAEKAKARIKI	5	5	-	-	
Total	257	268	0	9	

The field audit found the streetlight database to be highly accurate. The four light count differences are recorded as non-compliance below. Wattage differences are recorded as non-compliance in **section 3.1**.

Non-compliance	Description		
Audit Ref: 2.5 With: Clause 11(2A) of Schedule 15.3 From: entire audit period	For the sample of 257 lamps checked: <ul style="list-style-type: none"> Two lamps were not recorded in the database Two extra lamps were recorded in the database Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as strong, because almost all lights were correctly recorded. The impact is low, because only four lamps are affected.		
Actions taken to resolve the issue		Completion date	Remedial action status
KCDC are progressing the required updates to the DUML database as they progress their LED roll out		30 Sept 2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
As above		As above	

2.6 Tracking of Load Changes (Clause 11(3) of Schedule 15.3)

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 database 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. On 20 September 2012, the Authority sent a memo to retailers and auditors advising that tracking of load changes at a daily level was not required if the database contained an audit trail. I have interpreted this to mean that the production of a monthly “snapshot” report is sufficient to achieve compliance.

The processes were reviewed for new lamp connections and the tracking of load changes due to faults and maintenance.

Fault, maintenance, and some upgrade work is completed by Electra Contracting and their subcontractors. Fulton Hogan complete most of the LED upgrades. The RAMM database is updated from the field using Pocket RAMM.

Claims submitted by Electra Contracting for work completed are checked against the database records, and KCDC check the database to identify accuracy errors.

For new connections, Downer (the roading contractor) is responsible for adding the roads to RAMM. Electra Contracting is responsible for conducting a field audit and capturing the streetlight data and entering it into RAMM. Lights which have been connected but are not vested in council are identified through monthly outage patrols.

Outage patrols continue to be conducted monthly; this process is used to identify any additional or removed items of load. The field contractors directly update their findings into RAMM from the field.

KCDC confirmed that there is no festive lighting used on the Kapiti Coast.

Compliance is confirmed.

2.7 Audit Trail (Clause 11(4) of Schedule 15.3)

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 database was checked for audit trails.

Audit Commentary

RAMM contains compliant audit trails for all additions and changes to the database. Compliance is confirmed.

3. Accuracy of DUML database

3.1 Database Accuracy (Clause 15.2)

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

Audit Observation

The audit findings were used to determine if the information contained in the database is complete and accurate.

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

Audit Commentary

Contact's submissions are based on all records in the database for ICP 0016099024EL49F.

The database used for submission includes private lights, NZTA lights, and one metered light. KCDC confirmed they are in the process of transferring responsibility for the NZTA lights for NZTA, and are working with Wellington Regional Council, and Electra Contracting to confirm responsibilities for the lights in the database.

The field audit found some missing and incorrect lamp information. For the sample of 257 lights checked:

- two lamps were not recorded in the database,
- two extra lamps were recorded in the database, and
- nine lamp models and wattages were recorded incorrectly.

These differences are discussed further in **section 2.5** and recorded as non-compliance below.

The recorded wattage for the sample checked was 19,453W. The light count and model differences identified in the field totalled 70W. Based on this the sample's accuracy was 99.6%.

The listed lamp model and gear models for each lamp was compared to the Electricity Authority's published standardised wattage table, or the manufacturer's specifications if the lamp was not included on the wattage table.

Review of the entire database found 31 missing gear wattages, three missing lamp wattages, and 38 gear wattages did not match the expected values. There were also inconsistencies between the model and lamp make model recorded for 675 lamps.

Where populated, lamp wattages were consistent with the lamp make and model recorded.

38 gear wattages (0.8%) did not match the Electricity Authority's wattage table or the manufacturer's specifications and are shown in red below. The expected gear wattage for the affected lamps is 38,317W and the recorded wattage is 38,494W, a difference of -177W.

Lamp make and model	Recorded wattage				Expected wattage
	0	2	13	18	
BETA (27W, 27 watts)	484		1		0
BETA (B70, 70 watts)	1				13
BETA (HEST, 60 watts)			11		6
HPS (70, 70 watts)	2		2,931	3	13
KTL (KTL2, 90 watts)		12			0
MV (80, 80 watts)			7		10
SYLV (RS, 60 watts)	37			1	0
Total wattage	0	72	38,350	72	38,317

Lamp and gear models were inconsistent for 675 (13.9%) of KCDC's streetlights, and the lamp or gear wattage may be incorrect:

Model	Lamp make and model	Quantity
EXCEED PEDESTRIAN 35W	PH (LED3, 26 watts)	2
GL 500	MV (80, 80 watts)	7
GL 500 HPS	BETA (27W, 27 watts)	1
GL 520	BETA (17W, 17 watts)	166
GL 520	BETA (27W, 27 watts)	473
HPS 150 inc Ignitor	HPS (70, 70 watts)	3
Roadstar 40	LUM (LUMA, 81 watts)	2
Roadstar 40	PH (RS90, 90 watts)	1
Roadstar 40	VIZ (1500, 16 watts)	8
Roadstar 40	VIZ (2980, 28.4 watts)	12
Total		675

The wattage discrepancies were provided to KCDC, who advised that they have now been investigated and resolved. In most cases the incorrect or missing data related to the M2PP and LED upgrade projects and were referred to the contractor responsible to be updated. KCDC is currently reviewing the RAMM data as these lights return to KCDC ownership for the M2PP project, and as lamps are upgraded for the LED upgrade project.

Non-compliance	Description		
Audit Ref: 3.1 With: Clause 15.2 From: entire audit period	31 missing gear wattages, and three missing lamp wattages. 38 gear wattages did not match the expected values. For the sample of 257 lamps checked: <ul style="list-style-type: none"> Two lamps were not recorded in the database Two extra lamps were recorded in the database Nine lamps had incorrect lamp and wattage information recorded. Potential impact: Low Actual impact: Unknown Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as moderate, because they are sufficient to ensure that data for most lamps is recorded correctly. KCDC are working to resolve these discrepancies. The impact is low, as the differences would result in estimated over reporting of approximately 94W or 410 kWh per annum.		
Actions taken to resolve the issue		Completion date	Remedial action status
KCDC have resolved most discrepancies and a further review of possible mismatches will be undertaken post their LED roll out.		30 Sept 2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
As above		As above	

Subject	Recommendation	Description
Database accuracy	Review of model and lamp make model information recorded in RAMM to ensure it is correct and consistent.	Review model information where data in the model and lamp make model fields is inconsistent and update the database as necessary.
Database accuracy	Continue to confirm correct lamp owners and which lamps are metered and update the database as required.	Continue to cleanse the database, and transfer lights that KCDC is not responsible for to the correct owner.

3.2 Volume Information Accuracy (Clause 15.2)

The audit must verify that:

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

Audit Observation

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

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

Audit Commentary

Contact reconciles this DUML load as half hour using the HHR profile, and hours of operation information using a data logger for ICP 0020903000WRADA. Code exemption number 177 allows this. ICP 0016099024EL49F has the correct HHR profile and submission flag recorded on the registry.

I checked the accuracy of Contact's submission calculations for October 2017 by comparing my manual calculation using the DUML database and the data logger information, to the submission to the reconciliation manager. My calculation matched Contact's submission. Compliance is confirmed for the calculation process and the profiles assigned.

While Contact are using up to date database information, there is some inaccurate data within the database. This is recorded as non-compliance and discussed in sections **2.4**, **2.5** and **3.1**.

Non-compliance	Description	
Audit Ref: 3.2 With: Clause 15.2 From: entire audit period	The database used to prepare submissions contains some inaccurate information. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2	
Audit risk rating	Rationale for audit risk rating	
Low	Controls are rated as moderate, because they are sufficient to ensure that data for most lamps is recorded correctly. The impact is low, as the differences would result in estimated over reporting of approximately 94W or 410 kWh per annum.	
Actions taken to resolve the issue	Completion date	Remedial action status
KCDC are progressing the required updates to the DUML database as they progress their LED roll out	30 Sept 2018	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
As above	As above	

4. Conclusions

A RAMM database is held by KCDC, who is Contact's customer. Fault, maintenance and upgrade work is managed by KCDC and conducted by Electra Contracting. Electra Contracting updates streetlight details using pocket RAMM.

The audit process included a field audit of 257 items of load, which found 99.7% accuracy. Review of the entire database found 31 missing gear wattages, three missing lamp wattages, and 38 gear wattages did not match the expected values. The field audit found 99.6% accuracy for the sample of 257 lamps checked.

Most of the discrepancies related to the M2PP and LED upgrade projects. KCDC is working through reviewing the data entered for these projects, including comparing it to what is present in the field. KCDC has followed up the discrepancies identified during the audit with their contractors and intends to remove some options from the RAMM data tables to reduce the risk of incorrect values accidentally being selected.

The errors result in estimated over reporting of approximately 94W or 410 kWh per annum.

The future risk rating of 11 indicates that the next audit should be completed in 12 months.



Tara Gannon
Veritek Limited
Electricity Authority Approved Auditor

5. Contact Comments

Contact have reviewed this report, and their comments are contained within its body.