VERITEK

Electricity Industry Participation Code Audit Report

For

King Country Energy Limited

kce
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Ruapehu District Council Distributed Unmetered Load

Prepared by Steve Woods – Veritek Ltd

Date of Audit: 15/03/17

Date Audit Report Complete: 29/03/17

Executive Summary

King Country Energy (KCE) is required, as a reconciliation participant, to ensure their annual audit includes the audit of distributed unmetered load (DUML) databases to verify that the volume information is being calculated accurately, and that profiles have been correctly applied.

This audit of the Ruapehu DC DUML database and processes was conducted at the request of KCE so that it can form part of their 2017 reconciliation participant audit, in accordance with clause 11(5) of schedule 15.3.

The audit was conducted in accordance with the draft audit guidelines for DUML audits, which become effective on 01/06/17. The audit process included a field audit based on a statistical sample.

The field audit confirmed the database is 100% accurate and the database audit confirmed compliance with all relevant clauses.

Table of Non-Compliance

Subject	Section	Clause	Non compliance	Indicative Impact	Audit History	Procedures	Remedial Action
			Nil				

Table of Recommendations

Subject	Section	Clause	Recommendation for improvement	Status
			Nil	

Persons Involved in This Audit:

Auditor:
Steve Woods
Veritek Limited
Electricity Authority Approved Auditor

Other personnel assisting in this audit were:

Name	Title
Paul Jansen	Customer Service Manager
Gwen Hansen	Compliance and Reporting Specialist
Chris Hayvice	Project Manager - GHD

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1. Pre-Audit and Operational Infrastructure Information

1.1 Summary of Previous Audit

This is the first audit Veritek Ltd has conducted for Ruapehu DC.

1.2 Scope of Audit

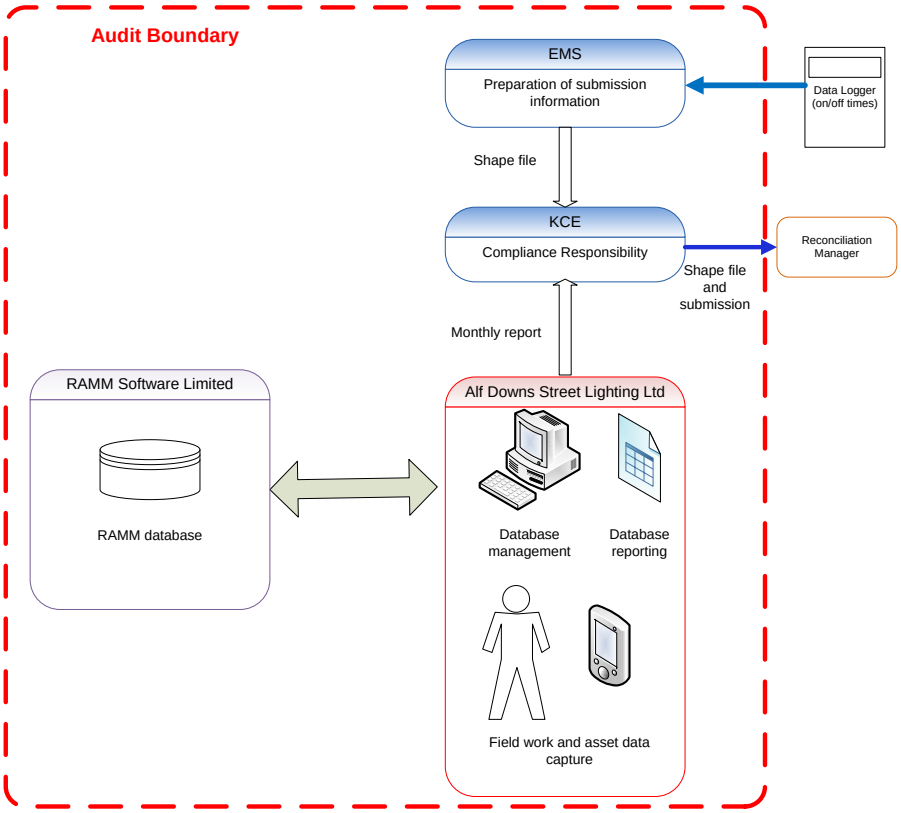
KCE is required, as a reconciliation participant, to ensure their annual audit includes the audit of distributed unmetered load (DUML) databases to verify that the volume information is being calculated accurately, and that profiles have been correctly applied.

This audit of the Ruapehu DC DUML database and processes was conducted at the request of KCE so that it can form part of their 2017 reconciliation participant audit, in accordance with clause 11(5) of schedule 15.3.

The audit was conducted in accordance with the draft audit guidelines for DUML audits, which will become effective on 01/06/17. The audit process included a field audit based on a statistical sample.

Ruapehu DC engages Alf Downs Street Lighting (Alf Downs) as their contractor for maintenance and database population. Alf Downs provides KCE with a monthly report, which is used to prepare submission information using the KSL profile. The KSL profile has a shape file prepared by EMS and the on/off times recorded by the data storage device are used to calculate the total “burn time”.

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



The audit was carried out at KCE's premises on 15/03/17. A field audit was conducted of 218 individual items of load, randomly selected by Veritek.

1.3 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.

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

1.4 Quality Management Systems (Clause 5 (1) (a) of Schedule 15.1)

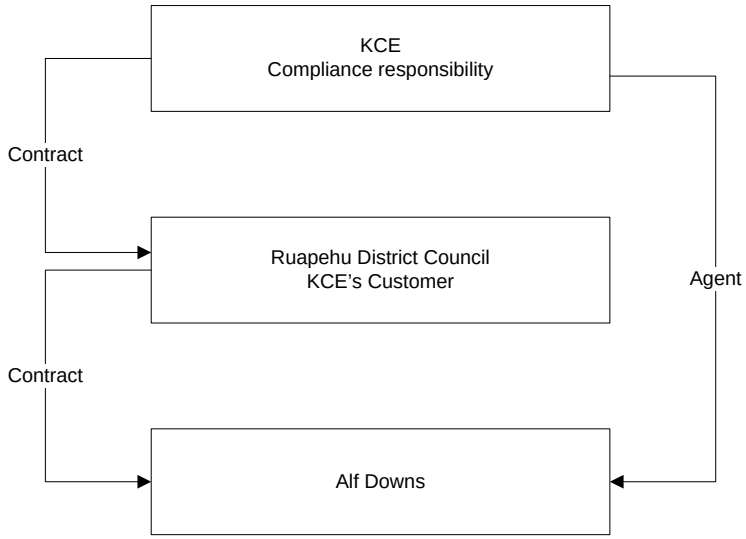
KCE has ISO 9001:2008 certification and the high-level scope was confirmed to be appropriate.

1.5 Use of Agents (Clause 15.34 of Part 15)

Alf Downs is considered an agent under this clause, and KCE Energy clearly understands that the use of agents does not release them from their compliance obligations.

A contractual relationship exists between KCE and Ruapehu DC as part of the sales contract, however there is no direct contractual relationship between KCE and Alf Downs for the provision of services in relation to DUML. This is not seen as an issue, if the processes for updating the database are robust and have appropriate validation controls in place.

The diagram below shows the relationships from a compliance and contractual perspective.



1.6 Hardware and Software

Section 1.2 shows that Alf Downs populates a remotely hosted version of the RAMM database for the management of DUML information. Backup and restoration procedures are in accordance with normal industry protocols.

1.7 Breaches or Breach Allegations

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

1.8 ICP Data

The relevant ICPs are as follows:

ICP	Description	Property Name	No. of fixtures
0008807442WME14	RUAPEHU DISTRICT COUNCIL	STREETLIGHTS	946
0001111171WM17A	TRANSIT URBAN	STREETLIGHTS	132
0001111172WMDBA	RUAPEHU DISTRICT COUNCIL	NATIONAL PARK	71
0001111174WMC35	RUAPEHU DISTRICT COUNCIL	OHAKUNE	350
0001111173WM1FF	TRANSIT URBAN	NATIONAL PARK	26
0001111175WM070	TRANSIT URBAN	OHAKUNE	36
		Total	1,561

1.9 Data Transmission (Clause 20 of Schedule 15.2)

The reporting from Alf Downs to KCE is by way of email attachment of a password protected spreadsheet. This method is considered secure as required by this clause.

2. Distributed Unmetered Load Database

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

This clause requires that the distributed unmetered load database must satisfy the requirements of schedule 15.5 regarding the methodology for deriving submission information. KCE reconciles this DUML load using the KSL profile. The on and off times are derived from a data logger read by EMS. This information is used to create a shape file. The on/off times are used to calculate total kWh per ICP. KCE supplies a shape file and a NHH volumes file to the reconciliation manager. I checked these processes and confirm the accuracy of the shape file and the NHH volumes.

2.2 Database Contents (Clause 11(2) of Schedule 15.3)

The Ruapehu DC data is maintained in a RAMM database.

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

The RAMM database contains the relevant ICP identifiers. Compliance is confirmed.

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

The RAMM database contains pole numbers (which are mostly present in the field), gps coordinates, displacement and the nearest street address. The field audit confirmed the accuracy of the database, compliance is confirmed.

2.2.3 Description of Load Type (Clause 11(2)(c) of Schedule 15.3)

Each type of load contains the make and model in its description. Compliance is confirmed.

2.2.4 Capacity of Each Item of Load in kW (Clause 11(2)(d) of Schedule 15.3)

The database contains the manufacturers rated wattage and the ballast wattage. The field audit found all wattages were correct.

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

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 September 20th 2012, the Authority sent a memo to Retailers and auditors advising that tracking of load changes at a daily level was not required as long as 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.

Changes in the field are conducted by Alf Downs and recorded in RAMM using "pocket RAMM" which is a field version of RAMM allowing population of the database through hand held devices. This process also plots the GPS coordinates.

2.4 Database Accuracy

The draft DUML Statistical Sampling Guideline was used to determine the database accuracy. The table below shows the survey plan.

Plan Item	Comments
Area of interest	Ruapehu DC region
Strata	The database contains items of load in the CBD of Taumarunui, National Park and Ohakune. There are a small number of towns and intersections with items of load and the NZTA lights are also in the database. The processes for the management of all items of load are the same and the entire region had a lamp by lamp audit conducted by Alf Downs a few years ago. I decided to place the items of load into two strata. New connections (within the last 3 years) in one and all remaining items in another.
Area units	I used a hard copy map and created 120 area units then I used a random number generator in a spreadsheet to select 18 units. I added a further two "new" areas which was a 100% sample of the only two new areas within the last 3 years.
Total items of load	218 items of load were checked.

The results are shown in the table below. The totals were accurate for all streets checked.

Street/Area	Database Count	Field Count	Difference from Database to Field	Comments
Taumarunui				
BRAGGS AVENUE	2	2	0	Wattages all match
EAST STREET	11	11	0	
HIKUMUTU ROAD	15	15	0	
LAIRDVALE ROAD	21	21	0	
MANSON STREET	4	4	0	
MARSACK ROAD	3	3	0	
PUKETAPU CRESCENT	3	3	0	
RANGAROA CUL DE SAC	2	2	0	
RANGAROA ROAD	15	15	0	
SEATH AVENUE	4	4	0	
SH 4 (MANUNUI)	21	21	0	
STEADMAN STREET	2	2	0	
TARRANGOWER AVENUE	4	4	0	
National Park				
SH 4 (NATIONAL PARK)	7	7	0	Wattages all match
SH 47 (NATIONAL PARK)	7	7	0	
Ohakune				
CORDYLINE PLACE	3	3	0	Wattages all match
FOYLE STREET	4	4	0	
MANGAWHERO TERRACE	23	23	0	
MANGAWHERO TERRACE EXTN.(NORTH)	3	3	0	
PARK AVENUE	10	10	0	
RAILWAY ROW	10	10	0	
RIMU STREET (OHAKUNE)	7	7	0	
SNOWMASS DRIVE	12	12	0	
SOUTHRIDGE DRIVE	10	10	0	
THAMES STREET	8	8	0	

Street/Area	Database Count	Field Count	Difference from Database to Field	Comments
TYNE STREET	6	6	0	
UTUHIA PLACE	1	1	0	
Total	**218**	**218**	**0**	

Monthly "outage patrols" are conducted by Alf Downs and the process is used to identify any incorrect wattage and location issues that may exist. The lights are activated on a Sunday whilst the outage patrols are conducted. I confirmed that the shape file caters for this period of "on" time.

For new subdivisions, the lights are plotted once the vesting process is complete. There were very few examples, but two that were checked had the database populated with the same month.

There are no unmetered festive lights connected in the Ruapehu District.

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

The RAMM database has a compliant audit trail.

2.6 Database Audit (Clause 11(5) of Schedule 15.3)

This audit report confirms that the requirement to conduct an audit has been met for this particular database.

2.7 Additional Matters

The database held by Ruapehu DC contains details of all light fittings including some that are metered and are on the Powerco network. There are 22 records on the Powerco network without an ICP and whilst these are outside the scope of this audit, I recommend KCE examine them to see if they can assist Ruapehu DC to assign an ICPs to them.

There are six private lights in the database and as with the 22 lights discussed above, they are outside the scope of this audit, however I have recorded them in this report because KCE can assist with correcting the records for five lights and the Authority may need to liaise with The Lines Company regarding the lack of an ICP for one light. The table below summarises the records.

Road name	Pole number	Model	Comments
PUKEHINAU STREET	777960	80w Mercury Vapour	Does not appear to have an ICP. Suggest this is raised with TLC by the Authority
FISHER ROAD	10076	70w HPS SON E	Light is removed, suggest this is reflected in the database
GOLDFINCH STREET	10261	70w HPS SON E	These are on the driveway of the Ohakune Club and there is ICP 0088052511WM0AA in place for this but the
GOLDFINCH STREET	10260	70w HPS SON E	

			wattage needs to be confirmed and updated by KCE
BURNS STREET	10264	70w HPS SON E	This is the Marae. There is ICP 0088055601WMD64 in place. Suggest checking the lamp wattage and updating if necessary
SH 4 (MAKOTUKU VALLEY RD)	776513	70w HPS SON E	Powerco Metered, suggest an ICP is assigned to this with the assistance of KCE

3. Conclusions

The field audit confirmed the database is 100% accurate and the database audit confirmed compliance with all relevant clauses.

Table of Non-Compliance

Subject	Section	Clause	Non compliance	Indicative Impact	Audit History	Procedures	Remedial Action
			Nil				

Table of Recommendations

Subject	Section	Clause	Recommendation for improvement	Status
			Nil	

Steve Woods
Veritek Limited
Electricity Authority Approved Auditor

4. Audit Date Recommendation

Clause 16A.12(1)(e)(v) of Part 16A, requires the Auditor to recommend the date of the next audit. The Authority has provided a guideline for the calculation of the next audit date, which is shown below. The total risk score is zero, which results in a recommendation for an audit within 36 months.

Breach risk ratings

		Adequacy of control		
		Weak	Moderate	Strong
Audit Risk Rating	High	0	0	0
	Medium	0	0	0
	Low	0	0	0

Table 1: Indicative audit frequency

Future risk rating	1-3	4-6	7-8	9-17	18-26	27+
Indicative audit frequency	36 months	24 months	18 months	12 months	6 months	3 months

5. KCE Response

KCE has reviewed this report and agrees with the assessment made by Steve Woods of Veritek. We have taken note of the details raised in section 2.7 – Additional Matters and have completely resolved two details and are pro-actively working to resolve the remaining matters.