ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

VERITEK

For

DUNEDIN CITY COUNCIL
AND CONTACT ENERGY LIMITED (CTCS)
NZBN: 9429041905067

Prepared by: Rebecca Elliot

Date audit commenced: 22 October 2021

Date audit report completed: 25 November 2021

Audit report due date: 1 December 2021

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EXECUTIVE SUMMARY

This audit of the **Dunedin City Council (DCC)** 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.

A RAMM database is managed by DCC, who is Contact's customer. Fault, maintenance, new connection and upgrade work is completed by Ventia. Ventia's staff update RAMM using pocket RAMM in the field, or RAMM in the office.

This database was switched to the CTCS code in February 2021. This is participant code is managed by Contact Energy's subsidiary Simply Energy. The DUML load is reconciled using the DST profile. This audit examines submission since it switched to the CTCS participant code.

Simply Energy sends the monthly kW values to EMS. EMS prepare the submission file using the data logger hours to determine the burn hours and the file is then sent to Contact who submit the data.

The field audit of a statistical sample of 431 items of load recorded in the database was undertaken on 9th November 2021. This found a high level of accuracy and confirmed the database accuracy was within the required +/-5%.

The last audit identified that there were more lights provided in the database extract than Contact had submitted for. A recommendation was made to investigate the differences identified and to make any corrections to the volumes submitted. This was before the lights switched from the CTCT code to the CTCS code. Contact are investigating whether this has been carried out and if any revisions are required. I have repeated the recommendation to maintain visibility. I found in this audit that a small light count difference still exists and is likely due to the difference between when the database extract was provided for the audit and the end of month report provided to Simply Energy.

Festive lights are recorded in an Excel spreadsheet and reported to Contact Energy with connection and disconnection dates for the months that they are connected.

This audit found six non-compliances, and one recommendation was made. The future risk rating indicated that the next audit be due in 12 months. I have considered this in conjunction with the comments provided by Contact and 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	Investigation and correction to the submission data differences, as recorded in the last audit have not been adjusted resulting in a potential under submission of 41,957.40 kWh per annum. 22 items of load have incorrect gear wattages recorded resulting in an estimated very minor over submission of 598 kWh.	Moderate	Medium	4	Identified
Description and capacity of load	2.4	11(2) (c) &(d)of Schedule 15.3	One item of load with no lamp model or wattage recorded.	Strong	Low	1	Identified
All load recorded in database	2.5	11(2A) of Schedule 15.3	Two additional lights found in the field not added to database.	Strong	Low	1	Identified
Audit trail	2.7	11(4) of Schedule 15.3	Festive lights are recorded in an Excel spreadsheet, which does not have an audit trail.	Weak	Low	3	Identified
Database accuracy	3.1	15.2 and 15.37B(c)	One item of load with no lamp model or wattage recorded. 22 items of load have incorrect gear wattages recorded.	Strong	Low	1	Identified
Volume information accuracy	3.2	15.2 and 15.37B(c)	Investigation and correction to the submission data differences, as recorded in the last audit have not been adjusted resulting in a potential under submission of 41,957.40 kWh per annum. 22 items of load have incorrect gear wattages recorded resulting in an	Moderate	Medium	4	Identified

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			estimated very minor over submission of 598 kWh.				
Future Risk Rating						14	

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
Deriving submission information	2.1	Recommend investigation to identify why there is a lighting volume difference between the monthly report and the database.

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

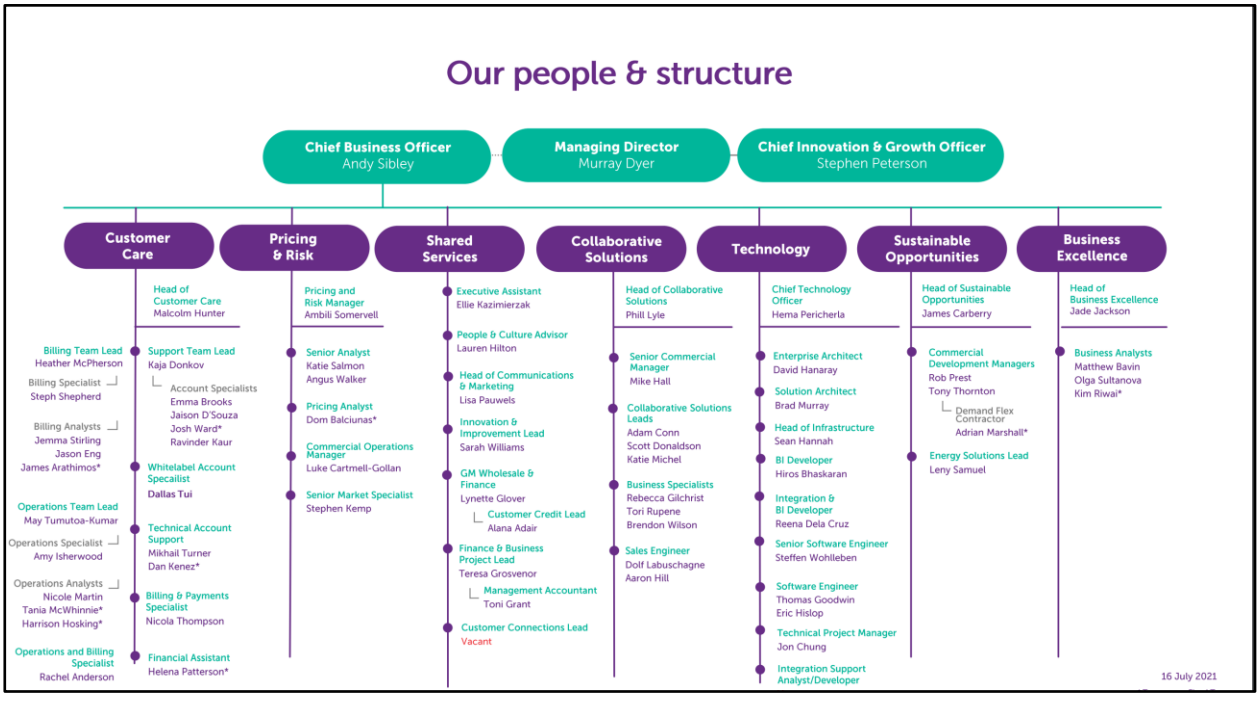
The Electricity Authority's website was reviewed to identify any exemptions relevant to the scope of this audit.

Audit commentary

There are no exemptions relevant to this audit.

1.2. Structure of Organisation

Contact Energy (CTCS) provided a copy of their organisational structure.



1.3. Persons involved in this audit

Auditor:

Name	Company	Role
Rebecca Elliot	Veritek Limited	Lead Auditor
Claire Stanley	Veritek Limited	Supporting Auditor

Other personnel assisting in this audit were:

Name	Title	Company
Luke Cartmell-Gollan	Commercial Operations Manager	Contact Energy
Cynthia Wilson	Systems and Information Officer – TL	DCC
Simon Chu	Systems and Information Officer	DCC

1.4. Hardware and Software

The SQL database used for the management of DUML is remotely hosted by thinkproject New Zealand Limited. The database is commonly known as "RAMM" which stands for "Road Assessment and Maintenance Management". The specific data used for DUML is held in the Streetlight tables. thinkproject New Zealand Limited backs up the database and assists with disaster recovery as part of their hosting service.

Access to the database is secure by way of password protection.

Festive lights are recorded in an Excel spreadsheet which is stored in a network area that can be accessed by all transport staff and some staff from other departments who require access to files in the directory. Backup and restoration procedures are in place for all files saved on the network, and access to the network is restricted using logins and passwords.

Systems used by the trader and their agents 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	Description	NSP	Profile	Number of items of load	Database wattage (watts)
0000201300DE692	SDN GXP street lighting	SDN0331	DST	4,624	325,533
0000203111DE93D	HWB GXP street lighting	HWB0331	DST	10,262	656,533
0001982460TGA89	DCC STREETLIGHTS ROLLINSONS ROAD	HWB0331	DST	406	22,060
0001982461TG6CC	DCC STREETLIGHTS SWAMPY RIDGE TRACK	NSY0331	DST	69	3,972
Total				15,3614	1,008,098

1.7. Authorisation Received

All information was provided directly by Contact and DCC.

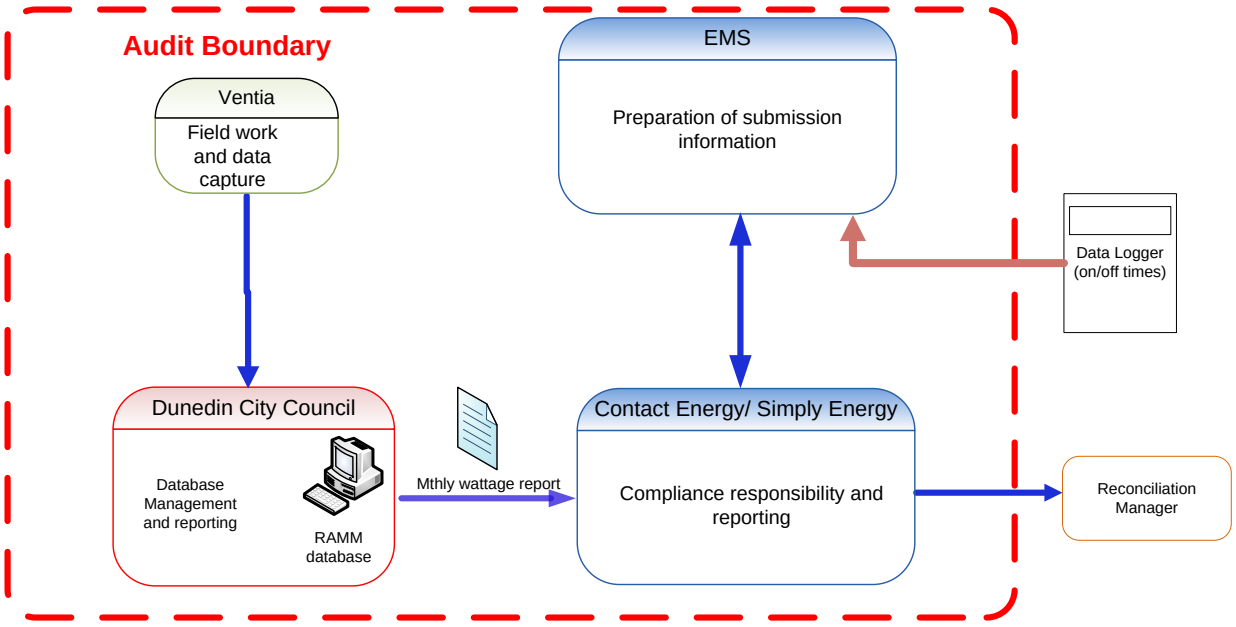
1.8. Scope of Audit

This audit of the DCC DUML database and processes was conducted at the request of 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.

A RAMM database is managed by DCC, who is Contact's customer. Fault, maintenance, new connection and upgrade work is completed by Ventia. Ventia's staff update RAMM using pocket RAMM in the field, or RAMM in the office.

Festive lights are recorded in an Excel spreadsheet and reported to Contact Energy with connection and disconnection dates for the months that they are connected.

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



A field audit of a statistical sample of 431 items of load recorded in the database was undertaken on the 9th November 2021.

1.9. Summary of previous audit

The last audit report completed by Rebecca Elliot of Veritek Limited in October 2020 was reviewed. Five non-compliances were identified, and one recommendation was made. The statuses of the non-compliances are described below.

Table of Non-compliance

Subject	Section	Clause	Non-compliance	Status
Deriving submission information	2.1	Clause 11(1) of Schedule 15.3	Submitted values do not match the database values resulting in an estimated under submission of 41,957.40 kWh per annum. 49 items of load have incorrect gear wattages recorded.	Still existing Still existing for smaller volume
All load recorded in database	2.5	Clause 11(2A) of Schedule 15.3	One light not recorded in the database.	Still existing for different lamp
Audit trail	2.7	Clause 11(4) of Schedule 15.3	Festive lights are recorded in an Excel spreadsheet, which does not have an audit trail.	Still existing

Subject	Section	Clause	Non-compliance	Status
Database accuracy	3.1	Clause 15.2 and 15.37B(c)	49 items of load have incorrect gear wattages recorded.	Still existing for smaller volume
Volume information accuracy	3.2	Clause 15.2 and 15.37B(c)	Submitted values do not match the database values resulting in an estimated under submission of 41,957.40 kWh per annum. 49 items of load have incorrect gear wattages recorded.	Still existing Still existing for smaller volume

Recommendations

Section	Recommendation	Description	Status
2.1	Deriving submission information	Recommend investigation to identify why there is a lighting volume difference between the monthly report and the database.	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

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.

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

DCC was switched to the CTCS code in February 2021. Contact now reconciles this DUML load using the DST profile. This is managed by Contact Energy's subsidiary Simply Energy under the CTCS code.

Simply Energy sends the monthly kW values to EMS. EMS prepare the submission file using the data logger hours to determine the burn hours and the file is then sent to Contact who submit the data under the CTCS code.

I compared the DCC database provided to the submission information provided by Contact for the month of October 2021 and found a minor difference in the volumes submitted for three of the four ICPs as detailed in the table below:

ICPs	Fittings number from Oct 2021 submission	Fittings number from database extract	Differences	kWh value submitted	Calculated kWh value from database	kWh Differences
0000203111DE93D	10,233	10,262	29	222,144.1	222,983.48	839.38
0000201300DE692	4,621	4,624	3	110,081.54	110,562.20	480.66
0001982460TGA89	407	406	1	7,184.89	7,191.66	6.77
Total month kWh under submission						1,326.19

A small light count difference was found. This is likely due to the changes made between when the database extract was provided for the audit and the end of month report provided to Simply Energy, therefore I have not recorded non-compliance for this difference.

The last audit identified submission data differences for three ICPs as detailed in the table below: The differences are noted in the table below:

ICPs	Fittings number from Oct 2020 submission	Fittings number from database extract	Differences	kWh value submitted	Calculated kWh value from database	kWh Differences
0000203111DE93D	10,111	10,218	107	312,102.99	314,119.78	2,016.79

0000201300DE692	4,534	4,610	76	150,845.65	151,918.03	1,072.38
0001982460TGA89	383	411	28	11,507.98	11,914.29	406.31
Total month kWh under submission						3,496.45

Annualised this is estimated to result in an under submission of 41,957.40 kWh. This was discussed with Simply Energy, and they are liaising with Contact Energy to confirm what actions have been taken to resolve this as this was being managed under the CTCT participant code at that time. I have repeated the recommendation and the non-compliance as this matter is outstanding. I have repeated the recommendation and the non-compliance as this matter is outstanding.

Recommendation	Description	Audited party comment	Remedial action
Investigate submission differences	Recommend investigation to the lighting volume differences noted in the last audit and ensure errors have been corrected.	Initial discussions concluded that there was an over submission as it was to do with a combination of pole and light replacements that meant HPS lights were being reconciled instead of LED, and the missing lights were actually replacements. We will re-do this in more detail and record and share our findings.	Identified

Festive lights are maintained separately in an Excel spreadsheet, and connection dates are provided to Contact so that they can be included in submissions when connected and excluded when disconnected.

The review of database accuracy based on the field audit detailed in **section 3.1** found that the best available estimate indicates that the database is accurate within ±5%.

The review of database wattages in **section 3.1** found seven items of load had incorrect gear wattages recorded, resulting in a potential very minor over submission of 140W or 598 kWh per annum (based on 4,271 hours per annum).

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 Clause 11(1) of Schedule 15.3 From: 04-Nov-20 To: 22-Oct-21	Investigation and correction to the submission data differences, as recorded in the last audit have not been adjusted resulting in a potential under submission of 41,957.40 kWh per annum. Seven items of load have incorrect gear wattages recorded resulting in an estimated very minor over submission of 598 kWh. Potential impact: Medium Actual impact: Medium Audit history: Multiple times Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are rated as moderate, because they are sufficient to ensure that the database is accurate most of the time. The impact is assessed to be medium, based on potential submission errors detailed above.

Actions taken to resolve the issue	Completion date	Remedial action status
We will re-review, record and share our findings on the issue of lights missing from submission which would appear as an under submission to the market. Incorrect gear wattages will be corrected	31/12/2021 30/11/2021	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Quarterly review of the records recorded in RAMM will be reviewed to find clear inaccuracies	Ongoing	

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 database and festive lights spreadsheet were checked to confirm whether an ICP is recorded for each item of load.

Audit commentary

All items of load in RAMM and the festive lights spreadsheet have an ICP number recorded.

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 database and festive lights spreadsheet were checked to confirm the location is recorded for all items of load.

Audit commentary

Street addresses and GPS coordinates are recorded for all 15,361 items of load in RAMM and all 4,750 items of load in the festive light's spreadsheet.

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 database and festive lights spreadsheet were checked to confirm they contained a field for lamp type and wattage capacity and included any ballast or gear wattage.

Audit commentary

All lamps in RAMM and the festive lights spreadsheet have a light model, lamp wattage and gear wattage recorded except for one item of load that has N/A recorded for lamp wattage and no lamp model recorded in RAMM.

The accuracy of the recorded wattage information is discussed in **section 3.1**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.4 Clause 11(2) (c) &(d)of Schedule 15.3 From: 04-Nov-20 To: 22-Oct-21	One item of load with no lamp model or wattage recorded. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong and will mitigate risk to an acceptable level. The impact is assessed to be low as only one item of load was missing details.

Actions taken to resolve the issue	Completion date	Remedial action status
NULL values will be populated	30/11/2021	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Quarterly review of the records recorded in RAMM will be reviewed to find clear inaccuracies	Ongoing	

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 of a statistical sample of 431 items of load recorded in the database was undertaken on the 9th November 2021.

Audit commentary

The field audit discrepancies are detailed in the table below:

Address	Database Count	Field Count	Count differences	Wattage differences	Comments
MOANA POOL CAR PARK 1 (CEN)	16	15	-1		1 x 70W HPS recorded in the database but not located in the field
HAGART ALEXANDER DR (MSI)	58	58		1	1 x 35W LED recorded in the database but 1 x 80W LED found in the field
RICHARDSON ST (STK)	33	34	+1		1 additional 44W LED found in the field but not recorded in the database.

Address	Database Count	Field Count	Count differences	Wattage differences	Comments
ROSEBERY ST (WEST)	7	6	-1		1 x 25W LED recorded in the database but not located in the field
SERPENTINE AVE (CEN)	21	22	+1	1	1 additional x 80W LED found in the field (cnr William St) but not recorded in the database. 1 x 25W LED recorded in the database but 1 x 130W LED found in the field
Total	**431**	**431**	**4 (-2+2)**	**2**	

There were two additional items of load found in the field. This is recorded as a non-compliance. The database accuracy is discussed in **section 3.1.**

Audit outcome

Non-compliant

Non-compliance	**Description**
Audit Ref: 2.5 With: Clause 11(2A) of Schedule 15.3 From: 04-Nov-20 To: 22-Oct-21	Two additional lights found in the field were not added to database. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Strong Breach risk rating:1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong, as the processes in place ensure the database accuracy is high overall. The audit risk rating is low due to the small number of additional lights found in the field audit.

Actions taken to resolve the issue	**Completion date**	**Remedial action status**
Field review will be completed by DCC and discrepancies noted in table above will be resolved (extra lights and missing lights).	31/12/2021	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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 database and festive lights spreadsheet were examined.

Audit commentary

The RAMM database functionality achieves compliance with the code.

The management of festive lights is still done in an Excel spreadsheet. Each year, the transport team confirms any additions, deletions or changes to the lights with the events team, and the connection and disconnection dates. The spreadsheet is saved as a new version and updated, then sent to Contact.

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 database and festive lights spreadsheet were checked for audit trails.

Audit commentary

The RAMM database has a complete audit trail of all additions and changes to the database information.

The management of festive lights is still done by Excel spreadsheet. The spreadsheet does not have an audit trail. Each year, the transport team confirms any additions, deletions or changes to the lights with the events team, and the connection and disconnection dates. The spreadsheet is then saved as a new version and sent to Contact. Changes from year to year can be determined by comparing the versions.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.7 With: Clause 11(4) of Schedule 15.3 From: 04-Nov-20 To: 22-Oct-21	Festive lights are recorded in an Excel spreadsheet, which does not have an audit trail. Potential impact: Low Actual impact: Low Audit history: Once previously Controls: Weak Breach risk rating: 3
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as weak, because a compliant audit trail does not exist for festive lights. The impact is assessed to be low, because changes typically occur only once each year and can be identified by comparing the database versions.

Actions taken to resolve the issue	Completion date	Remedial action status
N/a – See below for note on how controls will be improved.		Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
DCC will make edits to how the excel sheet for Festive lights is managed so that 1) it captures an audit trail within the sheet; and 2) versions of the sheet are saved in accordance with the audit trail; and The sheet is password protected and saved on the DCC server.	31/12/2021	

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

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

Plan Item	Comments
Area of interest	Dunedin City Council region
Strata	The database contains items of load in the Dunedin area. The processes for the management of all DDC items of load are the same, and I decided to create five strata: • Crown, • Parks & Amenities, • Street lighting (street name A-F), • Street lighting (street names G-M), and • Street lighting (street names N-Z).
Area units	I created a pivot table of the roads in each stratum, and I used a random number generator in a spreadsheet to select a total of 48 sub-units.
Total items of load	431 items of load were checked.

Wattages were checked for alignment with the published standardised wattage table produced by the Electricity Authority against the database or in the case of LED lights against the LED light specification.

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

Audit commentary

Database accuracy based on the field audit

A field audit was conducted of a statistical sample of 431 items of load. The "database auditing tool" was used to analyse the results, which are shown in the table below.

Result	Percentage	Comments
The point estimate of R	100.7	Wattage from survey is higher than the database wattage by 0.7%
R_L	99.5	With a 95% level of confidence, it can be concluded that the error could be between -0.5% and +2.2%.
R_H	102.2	

These results were categorised in accordance with the "Distributed Unmetered Load Statistical Sampling Audit Guideline", effective from 1 February 2019 and the table below shows that Scenario A (detailed below) applies, and the best available estimate indicates that the database is accurate within ± 5.0%.

- In absolute terms the installed capacity is estimated to be 7 kW higher than the database indicates.
- There is a 95% level of confidence that the installed capacity is between 5 kW lower to 22 kW higher than the database.
- In absolute terms, total annual consumption is estimated to be 30,900 kWh higher than the DUML database indicates.
- There is a 95% level of confidence that the annual consumption is between 21,900 kWh p.a. lower to 95,700 kWh p.a. higher than the database indicates.

Scenario	Description
A - **Good accuracy, good precision**	This scenario applies if: (a) R_H is less than 1.05; and (b) R_L is greater than 0.95 The conclusion from this scenario is that: (a) the best available estimate indicates that the database is accurate within +/- 5 %; and (b) this is the best outcome.
B - **Poor accuracy, demonstrated with statistical significance**	This scenario applies if: (a) the point estimate of R is less than 0.95 or greater than 1.05 (b) as a result, either R_L is less than 0.95 or R_H is greater than 1.05. There is evidence to support this finding. In statistical terms, the inaccuracy is statistically significant at the 95% level
C - **Poor precision**	This scenario applies if: (a) the point estimate of R is between 0.95 and 1.05 (b) R_L is less than 0.95 and/or R_H is greater than 1.05 The conclusion from this scenario is that the best available estimate is not precise enough to conclude that the database is accurate within +/- 5 %

Lamp description and capacity accuracy

Wattages for all items of load were checked against the published standardised wattage tables produced by the Electricity Authority and Veritek, or the manufacturer's specifications.

As detailed in **section 2.4**, there was one item of load found with no lamp or wattage recorded. This is recorded as non-compliance below.

The following gear wattage discrepancies were identified:

Model	Gear wattage recorded (W)	Gear wattage expected (W)	Quantity	Gear wattage difference (W)
Halogen 300W	25	0	6	-150
High Pressure Sodium 250W	18	28	1	10
Total			**7**	**140**

As reported in the last audit, specifications could not be located to verify the lamp and gear wattages applied for the following lamp types. DCC advised that these are historic values and are believed to be correct. The details are included below for reference:

Model	Lamp wattage recorded (W)	Gear wattage recorded (W)	Quantity	Comment
Compact Fluorescent	52	38	7	Confirmed lamp wattage but not gear
Compact Fluorescent	72	5	1	
High Pressure Sodium	1000	120	7	Confirmed lamp wattage but not gear

NZTA lighting

NZTA lights are not included in the load recorded by Dunedin CC. These are managed by NZTA directly.

Private lights

Private lights are recorded in the database and are associated to a DCC ICP.

Location accuracy

The location details were found to be accurate.

Change management process findings

Processes to track changes to the database were reviewed.

For all new connections, an "as built" are required to be submitted to council before connection can occur, the connection maybe done by Delta. Ventia will also install lights. These are added to RAMM once the lights have been confirmed as connected by the Dunedin CC Engineers.

Outage patrols are conducted on an ad hoc basis. Dunedin CC now have visibility on 'Planet' and is able to identify any light outages that require resolving, Ventia will be given a job to fix the lamp, this is managed in RAMM.

Fault, maintenance, new connection and upgrade work is completed by Ventia. Pocket RAMM is used in the field, and in the office.

134 private lights are recorded in the database, this has significantly reduced over the two audits from 280. DCC passes electricity charges to affected customers as part of their rates. If new private lights are identified, DCC collects the light information and updates the database.

The LED roll-out is now 99.5% complete.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: 04-Nov-20 To: 22-Oct-21	One item of load with no lamp model or wattage recorded. Seven items of load have incorrect gear wattages recorded. Potential impact: Low Actual impact: Low Audit history: Multiple times previously Controls: Strong Breach risk rating: 1
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as strong as the processes in place are sufficient to ensure that the database is accurate most of the time. The impact is assessed to be low as overall the database has high level of accuracy.

Actions taken to resolve the issue	Completion date	Remedial action status
All discrepancies will be correct by 30/11/2021	30/11/2021	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

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 database extract combined with the burn hours against the submitted figure to confirm accuracy.

Audit commentary

DCC was switched to the CTCS code in February 2021. Contact now reconciles this DUML load using the DST profile. This is managed by Contact Energy's subsidiary Simply Energy under the CTCS code.

Simply Energy sends the monthly kW values to EMS. EMS prepare the submission file using the data logger hours to determine the burn hours and the file is then sent to Contact who submit the data under the CTCS code.

I compared the DCC database provided to the submission information provided by Contact for the month of October 2021 and found a minor difference in the volumes submitted for three of the four ICPs as detailed in the table below:

ICPs	Fittings number from Oct 2021 submission	Fittings number from database extract	Differences	kWh value submitted	Calculated kWh value from database	kWh Differences
0000203111DE93D	10,233	10,262	29	222,144.1	222,983.48	839.38
0000201300DE692	4,621	4,624	3	110,081.54	110,562.20	480.66
0001982460TGA89	407	406	1	7,184.89	7,191.66	6.77
Total month kWh under submission						1,326.19

A small light count difference was found. This is likely due to the changes made between when the database extract was provided for the audit and the end of month report provided to Simply Energy, therefore I have not recorded non-compliance for this difference.

The last audit identified submission data differences for three ICPs as detailed in the table below: The differences are noted in the table below:

ICPs	Fittings number from Oct 2020 submission	Fittings number from database extract	Differences	kWh value submitted	Calculated kWh value from database	kWh Differences
0000203111DE93D	10,111	10,218	107	312,102.99	314,119.78	2,016.79
0000201300DE692	4,534	4,610	76	150,845.65	151,918.03	1,072.38
0001982460TGA89	383	411	28	11,507.98	11,914.29	406.31
Total month kWh under submission						3,496.45

Annualised this is estimated to result in an under submission of 41,957.40 kWh. This was discussed with Simply Energy, and they are liaising with Contact Energy to confirm what actions have been taken to resolve this as this was being managed under the CTCT participant code at that time. I have repeated the recommendation and the non-compliance as this matter is outstanding. I have repeated the recommendation in **section 2.1**, and the non-compliance as this matter is outstanding.

Festive lights are maintained separately in an Excel spreadsheet, and connection dates are provided to Contact so that they can be included in submissions when connected and excluded when disconnected.

The review of database accuracy based on the field audit detailed in **section 3.1** found that the best available estimate indicates that the database is accurate within ±5%.

The review of database wattages in **section 3.1** found seven items of load had incorrect gear wattages recorded, resulting in potential over submission of 140W or 598 kWh per annum (based on 4,271 hours per annum).

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.2 Clause 15.2 and 15.37B(c) From: 04-Nov-20 To: 22-Oct-21	Investigation and correction to the submission data differences, as recorded in the last audit have not been adjusted resulting in a potential under submission of 41,957.40 kWh per annum. Seven items of load have incorrect gear wattages recorded resulting in an estimated very minor over submission of 598 kWh. Potential impact: Medium Actual impact: Medium Audit history: Multiple times Controls: Moderate Breach risk rating: 4
Audit risk rating	**Rationale for audit risk rating**
Medium	The controls are rated as moderate, because they are sufficient to ensure that the database is accurate most of the time. The impact is assessed to be medium, based on potential submission errors detailed above.

Actions taken to resolve the issue	Completion date	Remedial action status
We will re-review, record and share our findings on the issue of lights missing from submission which would appear as an under submission to the market. Incorrect gear wattages will be corrected	31/12/2021 30/11/2021	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	

CONCLUSION

A RAMM database is managed by DCC, who is Contact's customer. Fault, maintenance, new connection and upgrade work is completed by Ventia. Ventia's staff update RAMM using pocket RAMM in the field, or RAMM in the office.

This database was switched to the CTCS code in February 2021. This is participant code is managed by Contact Energy's subsidiary Simply Energy. The DUML load is reconciled using the DST profile. This audit examines submission since it switched to the CTCS participant code.

Simply Energy sends the monthly kW values to EMS. EMS prepare the submission file using the data logger hours to determine the burn hours and the file is then sent to Contact who submit the data.

The field audit was undertaken of a statistical sample of 431 items of load recorded in the database was undertaken on 9th November 2021. This found a high level of accuracy and confirmed the database accuracy was within the required +/-5%.

The last audit identified that there were more lights provided in the database extract than Contact had submitted for. A recommendation was made to investigate the differences identified and to make any corrections to the volumes submitted. This was before the lights switched from the CTCT code to the CTCS code. Contact are investigating whether this has been carried out and if any revisions are required. I have repeated the recommendation to maintain visibility. I found in this audit that a small light count difference still exists and is likely due to the difference between when the database extract was provided for the audit and the end of month report provided to Simply Energy.

Festive lights are recorded in an Excel spreadsheet and reported to Contact Energy with connection and disconnection dates for the months that they are connected.

This audit found six non-compliances, and one recommendation was made. The future risk rating indicated that the next audit be due in 12 months. I have considered this in conjunction with the comments provided by Contact and I agree with the recommendation.

PARTICIPANT RESPONSE

Contact has reviewed this report and their comments are contained within the report.