ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

VERITEK

For

INVERCARGILL CITY COUNCIL AND TRUSTPOWER LIMITED

Prepared by: Rebecca Elliot

Date audit commenced: 19 October 2018

Date audit report completed: 9 November 2018

Audit report due date: 01-Dec-18

TABLE OF CONTENTS

EXECUTIVE SUMMARY

This audit of the Invercargill City Council (**ICC**) Unmetered Streetlights DUML database and processes was conducted at the request of Trustpower Limited (**Trustpower**) 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 used for submission has changed during the audit period and Trustpower are using the data from RAMM database managed by ICC. ICC provide a monthly report to Trustpower of this database.

The field audit was undertaken of a statistical sample of 327 items of load on 25th and 30th October 2018.

The audit found four non-compliances. These relate to database inaccuracies found in the field audit and incorrect ballasts and wattages recorded in the database.

The field audit found a number of inaccuracies and the database accuracy fell outside the accepted variance range.

The future risk rating of 20 indicates that the next audit be completed in three months. 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	The database accuracy is assessed to be 92.1% indicating an estimated under submission of 283,400 kWh per annum. Incorrect wattage and ballasts in the database resulting in an estimated 10,340.5 kWh over submission.	Moderate	High	6	Investigating
All load recorded in database	2.5	11(2A) of Schedule 15.3	One 70W HPS lamp located on McQuarrie Street that is not included in the database.	Moderate	Low	2	Investigating
Database accuracy	3.1	15.2 and 15.37B(b)	The database accuracy is assessed to be 92.1% indicating an estimated under submission of 283,400 kWh per annum. Database inaccuracies amount to an estimated 10,340.5 kWh over submission.	Moderate	High	6	Investigating

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Volume information accuracy	3.2	15.2 and 15.37B(c)	Incorrect database wattage and ballast values amount to an estimated 10,340.5 kWh over submission. The database accuracy is assessed to be 92.1% indicating an estimated under submission of 283,400 kWh per annum.	Moderate	High	6	Investigating
Future Risk Rating						20	

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	Description	Action
ICP Identifier	2.2	Liaise with PowerNet to confirm these are private lights and not incorrectly recorded as private.	Conversations have occurred with ICC about this and they are approaching Powernet to resolve.

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

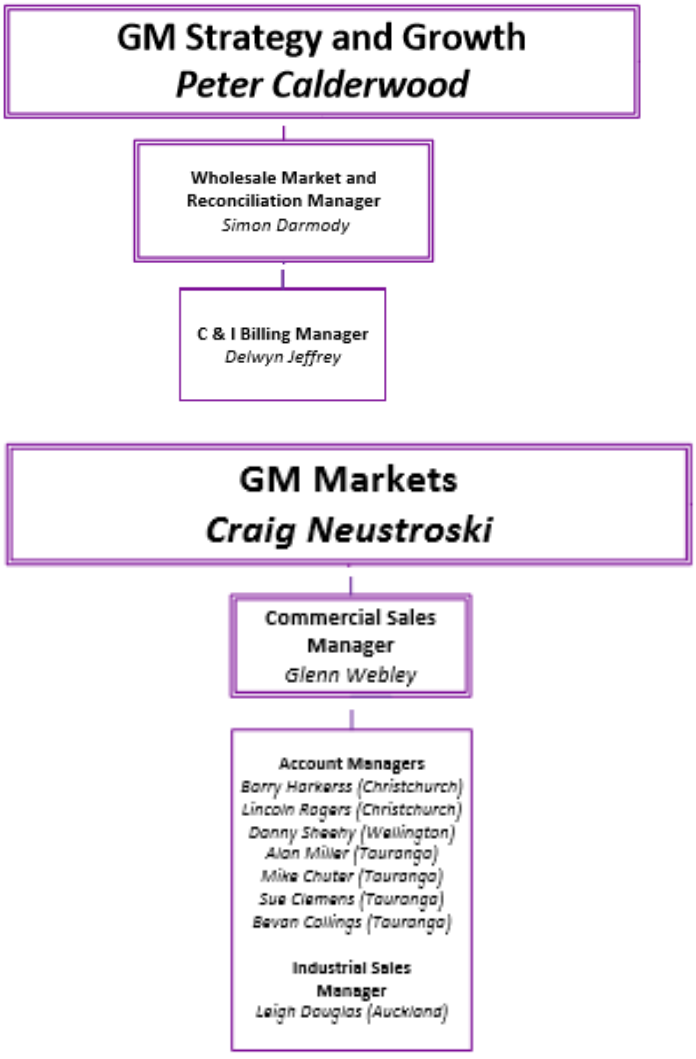
Section 11 of the Electricity Industry Act provides for the Electricity Authority to exempt any participant from compliance with all or any of the clauses.

Audit commentary

There are no exemptions in place relevant to the scope of this audit.

1.2. Structure of Organisation

Trustpower provided a copy of their organisational structure:



1.3. Persons involved in this audit

Auditor:

Name	Title
Rebecca Elliot	Lead Auditor
Debbie Anderson	Supporting Auditor

Other personnel assisting in this audit were:

Name	Title	Company
Russell Pearson	Roading Manager	Invercargill City Council
David McCormick	Engineering Services	Invercargill City Council
Delwyn Jeffrey	Commercial and Industrial Billing Manager	Trustpower
Robbie Diederen	Reconciliation Analyst	Trustpower
Barry Harkerss	Commercial Account Manager	Trustpower

1.4. 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".

ICC confirmed that the database back-up is in accordance with standard industry procedures. Access to the database is secure by way of password protection.

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	Number of items of load	Database wattage (watts)
0008803002NV4BD	ICC LIGHTS – EIL INVERCARGILL	INV0331	5,100	625,735
0008803012NVE10	ICC LIGHTS - BLUFF	INV0331	382	40,613

ICP Number	Description	NSP	Number of items of load	Database wattage (watts)
0008801003TPFE8	ICC LIGHTS - TPC URBAN	INV0331	1,155	132,461
0008801013TP545	ICC LIGHTS - TPC RURAL	INV0331	182	36,200
Total			**6,819**	**835,009**

I note that the database has 1,171 items of load where the ICP is recorded as "PRIVATE". These are excluded from submission. This is discussed further in **section 2.2**.

1.7. Authorisation Received

All information was provided directly by Trustpower and ICC.

1.8. Scope of Audit

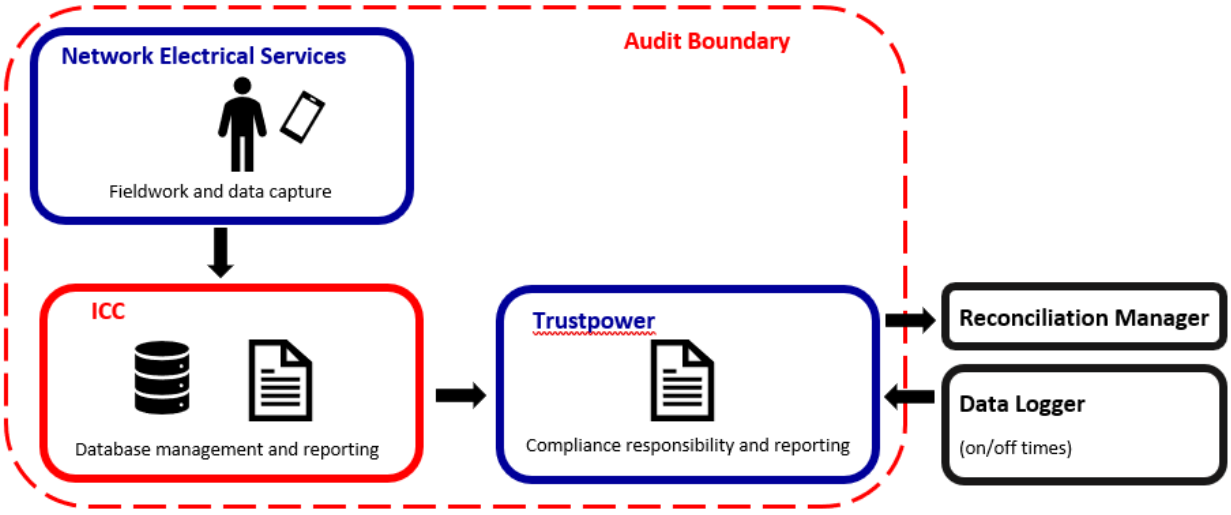
This audit of the ICC DUML database and processes was conducted at the request of Trustpower, in accordance with clause 15.37B. The purpose of this audit is to verify that the volume information is being calculated accurately, and that profiles have been correctly applied.

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

Trustpower have confirmed the database used for submission is ICC's RAMM database. ICC provide a monthly report to Trustpower of this database.

ICC's contractor for streetlight installation and maintenance is Network Electrical Servicing.

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 boundary for clarity.



The audit was carried out at ICC's premises in Invercargill on the 25th October 2018. The field audit was undertaken of a statistical sample of 327 items of load on 25th and 30th October 2018.

1.9. Summary of previous audit

The previous audit was undertaken by Tara Gannon of Veritek Limited in April 2018 this audit report was performed for Trustpower as part of their 2018 reconciliation participant audit.

Table of Non-Compliance

Subject	Section	Clause	Non-Compliance	Status
Deriving submission information	2.1	11(1) of Schedule 15.3	The database contains some incorrect and missing information. The field data was 115.1% of the database data for the sample checked, indicating an estimated under submission of 18,856 kWh per annum.	Still existing
Location of each item of load	2.3	11(2)(b) of Schedule 15.3	30 items of load do not have a street address recorded, and one item of load does not have sufficient address information recorded. Two streets had incorrect address information recorded.	Cleared
All load recorded in database	2.5	11(2A) of Schedule 15.3	The field audit identified 36 lamps which were not recorded in the database.	Still existing
Tracking of load changes	2.6	11(3) of schedule 15.3	The tracking of load changes is not being carried out in relation to changing of light type on existing items of load.	Cleared
Database accuracy	3.1	15.2 and 15.37B(b)	The database contains some incorrect and missing information. The field data was 115.1% of the database data for the sample checked, indicating an estimated under submission of 18,856 kWh per annum.	Still existing
Deriving submission information	3.2	15.2 and 15.37B(c)	The database contains some incorrect and missing information. The field data was 115.1% of the database data for the sample checked, indicating an estimated under submission of 18,856 kWh per annum.	Still existing

Table of Recommendations

Subject	Section	Clause	Recommendation for Improvement	Status
			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

Trustpower 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.

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

Trustpower reconciles this DUML load using the STL profile. The on and off times are derived from data logger information.

I recalculated the submissions for September 2018 for ICPs 0008803002NV4BD, 0008801013TP545, 0008801003TPFE8 and 0008803012NVE10 using the data logger and database information. I confirmed that the calculation method was correct.

Trustpower advised that an issue with GTV was discovered that had affected revision 1 of their September submission. The corrected values that will be used for revision 3 have been matched against the database extract. I confirmed these to be correct.

There is some inaccurate data within the database used to calculate submissions. This is recorded as non-compliance and discussed in **section 3.1** and **3.2**.

Issue	Volume information impact (annual kWh)
Incorrect wattage and ballasts applied	10,340.5 kWh over submission
Potential over submission due to database inaccuracy	283,400 kWh over submission

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: 23-Mar-18 To: 05-Oct-18	Incorrect wattage and ballasts in the database resulting in an estimated 10,340.5 kWh over submission. The database accuracy is assessed to be 92.1% indicating a potential over submission of approximately 283,400 kWh per annum. Potential impact: High Actual impact: High Audit history: Once Controls: Moderate Breach risk rating: 6
Audit risk rating	**Rationale for audit risk rating**
High	The controls are rated as moderate, because they are sufficient to ensure that lamp information is correctly recorded most of the time. The impact is assessed to be low, based on the kWh differences described above.

Actions taken to resolve the issue	Completion date	Remedial action status
We have spoken to ICC and they have said they are working on the DB to ensure that it is accurate and updated	7/12/2018	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Once the database has been corrected, this matter should never arise again	7/12/2018	

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 was checked to confirm the correct ICP was recorded against each item of load.

Audit commentary

There are 1,171 items of load that instead of an ICP have the word 'PRIVATE' recorded against them. These have been excluded from this audit. I recommend that ICC liaise with Powernet to confirm that these private lights are being reconciled elsewhere.

Recommendation	Description	Audited party comment	Remedial action
Regarding Clause 11(2)(a) and (aa) of Schedule 15.3	Liaise with PowerNet to confirm these are private lights and not incorrectly recorded as private.	Conversations have occurred with ICC about this and they are approaching Powernet to resolve.	Investigating

All other items of load have an ICP recorded against them.

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

Audit commentary

The database contains fields for road name, house address, location (displacement), pole number and GPS coordinates to assist with location.

All items have the road name field populated in addition to one or more, often all, of the other location fields.

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 was checked to confirm that it contained a field for lamp type and wattage capacity and included any ballast or gear wattage and that each item of load had a value recorded in these fields.

Audit commentary

The extract provided has fields for lamp make and lamp model as well as lamp wattage, gear wattage and total wattage and all were populated.

The accuracy of the lamp description, capacity and ballasts recorded is discussed in **section 3.1**.

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

The field audit was undertaken of 327 lights using the statistical sampling methodology. The population was divided into the following strata:

- Parks, Aged Care, Airport & Licensing Trust
- Urban - local Authority A-G
- Urban - local Authority H-P
- Urban - local Authority Q-Z
- Urban - PowerNet A-L
- Urban - PowerNet M-Z
- NZTA A-M
- NZTA N-Z

Audit commentary

The field audit findings are detailed in the table below:

Location	Database Count	Field Count	Count differences	Wattage differences	Comments
Parks, Aged Care, Airport & Licensing Trust					
ELSTON LANE (WEST)	1	1			
JIM BRASS PL	2	2			
AIRPORT AVE	11	11		1	L77W LED in place and not 250W HPS
AVENAL ST	7	7			
BAND ROTUNDA RAB	10	2	-8		10x HPS lights replaced with 2 x 23W LED
Urban - local Authority A-G					
AIRPORT AVE	13	13			
ARTHUR ST	6	6			
BAXTER ST	4	4			
CENTRE ST	47	47		1	L33W LED in place and not 150W HPS
DART ST	5	5			
DUMBARTON PL	3	3			
EAST ROAD (SH1)	1	1			
ETTRICK ST	4	4			

Location	Database Count	Field Count	Count differences	Wattage differences	Comments
GREGORY ST	1	1			
Urban - local Authority H-P					
LANCASTER ST	4	4			
MCQUARRIE ST	3	3			
OTTREY ST	6	6			
Urban - local Authority Q-Z					
REGENT ST EAST	2	2			
ROWAN ST	3	3			
STEAD ST	22	22			
VOGEL ST	6	6			
YARROW ST	48	48		17	17 x 37W LEDs in place and not 250W HPS
Urban - PowerNet A-L					
ELIZABETH ST NORTH	3	3			
GLENALMOND CRES	7	7			
GREGORY ST	3	3			
HEYWOOD ST	14	14	-1		one duplicate in the database - 70W HPS
Urban - PowerNet M-Z					
MCQUARRIE ST	10	10	1	1	1 extra 70W HPS found in the field 2 incorrect wattages found in the field
MOA ST	7	7	-1	1	1x 80W ME not found in the field 1x L23W LED in place and not 80W ME
PRESTON ST	6	6			
STEAD ST	5	5			
NZTA A-M					
EAST ROAD (SH1)	23	23			
MARINE PARADE (SH1)	22	22			
NZTA N-Z					
WINTON-LORNVILLE HIGHWAY (SH6) - half a	9	9		1	70W HPS in place and not 150W HPS
WINTON-LORNVILLE HIGHWAY (SH6) - half b	9	9			
GRAND TOTAL	**327**	**319**	**11**	**22**	

I was unable to locate a total of ten lamps in the field and there were 22 lamps discovered with a different lamp type and wattage than recorded in the database. These differences are recorded as non-compliance in **section 3.1**.

There was one extra light found in McQuarrie Street that was missing from the RAMM database, this is recorded as a non-compliance.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.5 With: Clause 11(2A) of Schedule 15.3 From: 23-Mar-18 To: 05-Oct-18	One 70W HPS lamp located on McQuarrie Street that is not included in the database. Potential impact: Medium Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate, because they are sufficient to ensure that most information is accurate. The impact is assessed to be low as the only one extra lamp was found.

Actions taken to resolve the issue	Completion date	Remedial action status
ICC are investigating with a view to updating the accuracy and completeness of the database as soon as possible.	7/12/2018	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Once this is corrected then the database will be correct going forward.	7/12/2018	

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 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 20th September 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.

The database tracks additions and removals as required by this clause.

The processes were reviewed for new lamp connections and the tracking of load changes due to faults and maintenance. Fault, maintenance and LED upgrade work is completed by Network Electrical Services.

New subdivisions require a proposed plan to be provided and an "as built" plan once the development is complete. When the lights are vested to the council and Network Electrical Services have connected them, they are added to the database.

Outage patrols are conducted by ICC, fortnightly for pedestrian crossings and the whole network about every six weeks. Lamp wattage in the database is not checked as part of this process.

There is a LED replacement project underway which is expected to be 80% completed in March 2019 and the whole network within 12 months. As part of the replacement project, the entire database is being reviewed – lamp types and wattage, pole numbers, positioning etc. Changes are endeavoured to be made to the database by the 25th of the month so they can be included in the monthly report.

A list of recent changes that were not included in the extract was sighted and accounts for some of the differences found in the field. The accuracy of the database is discussed in **section 3.1**.

There is a dimming trial under way but this is on a specific metered ICP and there are no immediate plans to introduce dimming on the rest of the network.

Festive lights are connected to a metered circuit therefore they were not examined.

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 was checked for audit trails.

Audit commentary

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

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

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	Invercargill City Council region
Strata	The database contains items of load in Invercargill City Council area. The processes for the management of ICC items of load are the same, but I decided to place the items of load into eight strata, as follows: 1. Parks, Aged Care, Airport & Licensing 2. Urban Local Authority A-G 3. Urban Local Authority H-P 4. Urban Local Authority Q-Z 5. Urban PowerNet A-L 6. Urban PowerNet M-Z 7. NZTA A-M 8. NZTA N-Z
Area units	I created a pivot table of the roads in each area and I used a random number generator in a spreadsheet to select a total of 34 sub-units.
Total items of load	327 items of load were checked.

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

Audit commentary

The results of the field audit are detailed in **section 2.5**.

A statistical sample of 289 items of load found that the field data was 92.1% of the database data for the sample checked. This is outside the +/- 2.5% acceptable database variance. The statistical sampling tool reported with 95% confidence the precision of the sample was 9.6% and the true load in the field will be between 88.6% to 98.2% of the load recorded in the database. The sample is not sufficiently precise to be able to determine the database accuracy but indicates that the database is likely to be over submitting.

The tool indicated that there is potentially 283,400 kWh per annum (based on annual burn hours of 4,271 as detailed in the DUML database auditing tool) of over submission. The statistical sampling tool reported with 95% confidence that there is a potential estimated submission variance range of between 406,200 kWh and 62,500 kWh per annum over submission.

This will be due to the variances found in the field due to the LED roll out. The estimated over submission is recorded as non-compliance below.

Wattages for all items of load were checked against the published standardised wattage table produced by the Electricity Authority and some inaccurate values found:

Incorrect lamp wattages and ballasts	**Volume information impact (annual kWh)**
17 x 60W LED have a total wattage of 135W and not the expected 60W	5,445.5 kWh over submission
3 x 70W HPS have a total wattage of 78W and not the correct 83W	64 kWh under submission
1 x 75W LED have a total wattage of 168W and not the expected 75W	397 kWh over submission
1 x 100W incandescent has a ballast of 14W when incandescent lamps have no ballast	60 kWh over submission
1 x 100W HPS has a ballast of 20W and not the correct 14W	26 kWh over submission
2 x 150W HPS have a ballast of 36W and not the correct 18W	154 kWh over submission
1 x 150W HPS has a ballast of 128W and not the correct 18W	470 kWh over submission
9 x 250W ME have a ballast of 20W and not the correct 28W	307.50 kWh under submission
1 x 26W PL-C Fluorescent has a total wattage of 50W and not the expected 28W	94 kWh over submission
1 x 30W x 2 Fluorescent has a ballast of 10W and not the correct 17W	73 kWh under submission
10 x 400W ME have a ballast of 25W and not the correct 38W	55.5 kWh under submission
3 x 50W HPS have a ballast of 33W and not the correct 11W	282 kWh over submission
2 x 70W HPS have a ballast of 20W and not the correct 13W	60 kWh over submission
8 x 70W MH have no ballast instead of the correct 13W	444 kWh under submission

Incorrect lamp wattages and ballasts	Volume information impact (annual kWh)
1 x 80W HPS (incorrect light type - should be MV) have a ballast of 3W but should be 10W	30 kWh under submission
Phillips 90W CPOT White – ballast of 9W 1 x zero ballast 1 x 24W ballast 2 x 30W ballast	205 kWh over submission
TerraLED Mini 21.4 – zero ballast 1 x 55.6W ballast 10 x 61.6W ballast 2 x 146.6W ballast	4,121 kWh over submission
78 items affected	Total 10,340.5 kWh over submission

This is also recorded as non-compliance in **sections 2.1** and **3.2**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: 23-Mar-18 To: 05-Oct-18	The database accuracy is assessed to be 92.1% indicating a potential over submission of approximately 283,400 kWh per annum. Incorrect database wattage and ballast values amount to an estimated 10,340.5 kWh over submission. Potential impact: High Actual impact: High Audit history: Twice Controls: Moderate Breach risk rating:6
Audit risk rating	**Rationale for audit risk rating**
High	The controls are rated as moderate, because they are sufficient to ensure that changes to the database are correctly recorded most of the time. The impact is assessed to be high, based on the kWh differences described above.

Actions taken to resolve the issue	Completion date	Remedial action status
We have spoken to ICC and they have said they are working on the DB to ensure that it is accurate and updated.	7/12/2018	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Once this has been corrected then this should not reoccur.	7/12/2018	

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

Audit commentary

Trustpower reconciles this DUML load using the STL profile. The on and off times are derived from data logger information.

I recalculated the submissions for February 2018 for ICPs 0008803002NV4BD, 0008801013TP545, 0008801003TPFE8 and 0008803012NVE10 using the data logger and database information. I confirmed that the calculation method was correct.

As detailed in **section 2.1**, Trustpower advised that an issue with GTV was discovered that had affected revision 1 of their September submission. The corrected values that will be used for revision have been matched against the database extract. I confirmed these to be correct.

There is some inaccurate data within the ICC's database used to calculate submissions. This is recorded as non-compliance and detailed in **sections 2.1**, **2.5** and **3.1**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c) From: entire audit period	Incorrect database wattage and ballast values amount to an estimated 10,340.5 kWh over submission. The database accuracy is assessed to be 92.1% indicating a potential over submission of approximately 283,400 kWh per annum. Potential impact: High Actual impact: High Audit history: Once Controls: Moderate Breach risk rating: 6
Audit risk rating	**Rationale for audit risk rating**
High	The controls are rated as moderate, because they are sufficient to ensure that lamp information is correctly recorded most of the time. The impact is assessed to be low, based on the kWh differences described above.

Actions taken to resolve the issue	Completion date	Remedial action status
ICC have indicated they are currently working on getting a procedure in place that will eliminate this.	7/12/2018	Investigating
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Once the procedure is in place it this should not reoccur.	7/12/2018	

CONCLUSION

The database used for submission has changed during the audit period and Trustpower are using the data from RAMM database managed by ICC. ICC provide a monthly report to Trustpower of this database.

The field audit was undertaken of a statistical sample of 327 items of load on 25th and 30th October 2018.

The audit found four non-compliances. These relate to database inaccuracies found in the field audit and incorrect ballasts and wattages recorded in the database.

The field audit found a number of inaccuracies and the database accuracy fell outside the accepted variance range.

The future risk rating of 20 indicates that the next audit be completed in three months.

PARTICIPANT RESPONSE

Trustpower have reviewed this report and their comments are recorded in the report. No further comments were provided.