ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT

For

GREY DISTRICT COUNCIL AND GENESIS ENERGY

Prepared by: Tara Gannon

Date audit commenced: 3 May 2018

Date audit report completed: 14 May 2018

Audit report due date: 1 June 2018

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EXECUTIVE SUMMARY

This audit of the Grey District Council (GDC) DUML database and processes was conducted at the request of Genesis Energy (Genesis) 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.

The Arc GIS database used for submission is managed by ElectroNet, on behalf of Westpower. New connection, fault, and maintenance work is completed by ElectroNet, who update the GIS in the field using Arc GIS collector. ElectroNet provide a monthly report from the database to Genesis.

ElectroNet has undertaken work to cleanse the database. Further work is planned to:

- update missing description and wattage information
- cleanse street addresses; and
- split the total wattage to separate lamp and ballast wattage fields.

There are no immediate plans for large scale LED upgrades, but some lamps are being replaced with LEDs when maintenance is required.

The future risk rating of 11 indicates that the next audit be completed in 12 months. Five non-compliances were identified, and no recommendations were raised. 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 used to prepare submissions contains some inaccurate information. March 2018 initial submissions for ICPs 0000950040WP4EC, 0000950090WP9AE and 0000950020WPB1C were based on the daily average burn hours for February 2018, resulting in under submission of 3,169 kWh. ICPs 0000950091WP5EB and 0000950092WP92B became active effective from 01/02/2018 on 11/04/2018. No consumption was reported for the February and March 2018 initial submissions.	Moderate	Low	2	Identified
Description and capacity of load	2.4	11(2)(c) and (d) of Schedule 15.3	Nine items of load have unknown or blank lamp model, and/or blank lamp wattage.	Moderate	Low	2	Identified
All load recorded in database	2.5	11(2A) of Schedule 15.3	One lamp was not recorded in the database. Festive lights are not recorded in the database.	Weak	Low	3	Identified
Database accuracy	3.1	15.2 and 15.37B(b)	The database used to prepare submissions contains some inaccurate information.	Moderate	Low	2	Identified

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)	The database used to prepare submissions contains some inaccurate information. March 2018 initial submissions for ICPs 0000950040WP4EC, 0000950090WP9AE and 0000950020WPB1C were based on the daily average burn hours for February 2018, resulting in under submission of 3,169 kWh. ICPs 0000950091WP5EB and 0000950092WP92B became active effective from 01/02/2018 on 11/04/2018. No consumption was reported for the February and March 2018 initial submissions.	Moderate	Low	2	Identified
Future Risk Rating						11	

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

RECOMMENDATIONS

Subject	Section	Description	Recommendation
		Nil	

ISSUES

Subject	Section	Description	Issue
		Nil	

1. ADMINISTRATIVE

1.1. Exemptions from Obligations to Comply with Code

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

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

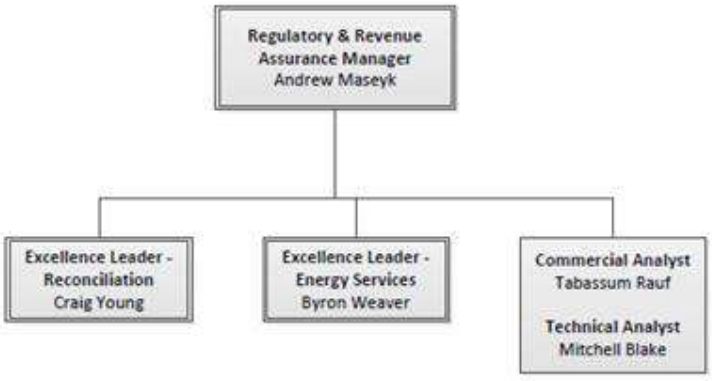
Audit observation

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

Audit commentary

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

1.2. Structure of Organisation



1.3. Persons involved in this audit

Auditor:

Tara Gannon

Veritek Limited

Electricity Authority Approved Auditor

Other personnel assisting in this audit were:

Name	Title	Company
Cary Lancaster	GIS Administrator	ElectroNet
Shweta Arora	Reconciliation Systems Analyst	Genesis Energy

Name	Title	Company
Craig Young	Excellence Leader - Reconciliation	Genesis Energy

1.4. Hardware and Software

The Arc GIS SQL database used for the management of DUML is managed by ElectroNet.

The database back up is in accordance with standard industry procedures. Access to the database is restricted using a login and password.

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)
0000950040WP4EC	GDC GYM0661 SL AC	GYM0661	SST	929	102,875
0000950090WP9AE	GDC DOB0331 SL AC	DOB0331	SST	370	28,855
0000950020WPB1C	GDC GYM0661 SL AC	GYM0661	SST	176	11,541.5
0000950091WP5EB	GDC KUM0661 SL AC	KUM0661	SST	21	1,455
0000950092WP92B	GDC RFN1102 SL AC	RFN1102	SST	4	200
			Total	**1,500**	**144,926.5**

ICPs 0000950091WP5EB and 0000950092WP92B were new connections in progress which became active effective from 01/02/2018 on 11/04/2018.

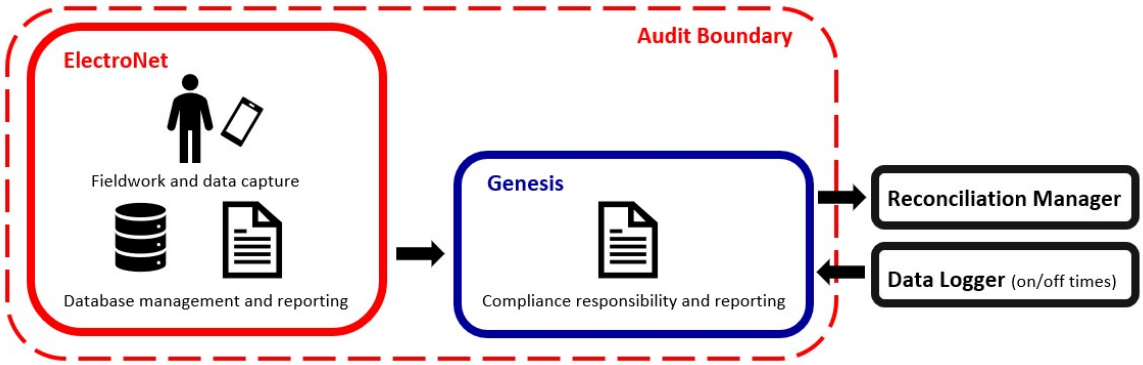
1.7. Authorisation Received

All information was provided directly by Genesis, GDC, and ElectroNet.

1.8. Scope of Audit

The Arc GIS database used for submission is managed by ElectroNet, on behalf of Westpower. New connection, fault, and maintenance work is completed by ElectroNet, who update the GIS in the field using Arc GIS collector. ElectroNet provide a monthly report from the database to Genesis.

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

A field audit of a statistical sample of 156 items of load was undertaken on 3-4 May 2018.

1.9. Summary of previous audit

The previous audit was completed in November 2016 by Rebecca Elliot of Veritek Limited. Five non-compliances were identified, and two recommendations were made. The statuses of the non-compliances and recommendations are described below.

Subject	Section	Clause	Non-compliance	Status
Deriving submission	2.1	11(1) of schedule 15.3	Over submission of an estimated annual volume of 2,232 kWh.	Still existing. Refer to **section 2.1**.
Description of Load Type	2.2.3	11(2)(c) of schedule 15.3	No lighting description for 8 items of load.	Still existing. Refer to **section 2.5**.
Capacity of Each Item of Load	2.2.4	11(2)(d) of schedule 15.3	Some incorrect ballasts applied resulting in an estimated over submission of 2,233 kWh per annum.	Still existing, but improvements have been made. Refer to **section 3.1**.
Tracking of Load Change	2.3	11(3) of schedule 15.3	Christmas lights not recorded in the street light database.	Still existing. Refer to **section 2.5**.

Subject	Section	Clause	Recommendation	Status
Data Transmission	1.9	20 of schedule 15.2	Password protect monthly reports.	Assessment of data transmission is no longer required.

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

Genesis 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.

Audit commentary

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

I recalculated the submissions for February 2018 and March 2018 for each ICP using the data logger and database information. I confirmed that the calculation method was correct.

Two issues with inputs to the calculations were identified and are recorded as non-compliance below:

1. In February 2018 the logger recorded 286.63083 burn hours, and in March 2018 the logger recorded 358.65472 burn hours. It appears that the March 2018 initial submission was based on the February 2018 average daily burn hours, rather than the actual March burn hours resulting in a difference of 3,169 kWh.
   i.e. February logger hours / 28 days in February x 31 days in March
   286.63083 / 28 x 31 = 317

ICP number	March kW	March burn hours	Expected submission (= March kW x March burn hours)	Actual submission	Actual submission / March kW (= burn hours applied)
0000950040WP4EC	102.875 kW	358.65472 kWh	36,896.60 kWh	32,647.43 kWh	317 hours
0000950090WP9AE	28.894 kW	358.65472 kWh	10,362.97 kWh	9,158.29 kWh	317 hours
0000950020WPB1C	11.5415 kW	358.65472 kWh	4,139.41 kWh	3,662.43 kWh	317 hours
		Total	51,398.99 kWh	45,468.15 kWh	
		Difference		3,169.16 kWh	

2. ICPs 0000950091WP5EB and 0000950092WP92B became active effective from 01/02/2018 on 11/04/2018. No consumption was reported for these ICPs for the February or March 2018

initial allocations because they were inactive at the time of submission, but the consumption is expected to be washed up.

ICP	Feb 2018 expected submission	Mar 2018 expected submission
0000950091WP5EB	417.05 kWh	521.84 kWh
0000950092WP92B	57.33 kWh	71.73 kWh
Total	**474.38 kWh**	**593.57 kWh**

While Genesis 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** and **3.1**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: unknown To: 04-May-18	The database used to prepare submissions contains some inaccurate information. • The field data was 100.2% of the database data indicating an estimated under submission of 171 kWh per annum. • Two 160W MBFU lights are recorded with a total wattage of 180W each instead of 175W, indicating an estimated over submission of 43 kWh per annum. • Nine items of load have missing light type, description and/or wattage information. • Festive lights are not recorded in the database. The impact of this is unknown. • Some street address descriptions were inconsistent with the GPS coordinate information. March 2018 initial submissions for ICPs 0000950040WP4EC, 0000950090WP9AE and 0000950020WPB1C were based on the daily average burn hours for February 2018, resulting in under submission of 3,169 kWh. ICPs 0000950091WP5EB and 0000950092WP92B became active effective from 01/02/2018 on 11/04/2018. No consumption was reported for the February and March 2018 initial submissions. Based on the database and logger information, expected submissions were 474 kWh for February 2018 and 594 kWh for March 2018. Potential impact: Low 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 submission information is correct 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
Genesis will work with database administrator to rectify the issues outlined in 2.1	10/2018	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis are working with contracted parties to help maintain accuracy of information supplied by 3rd parties.	10/2018	

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 an ICP is recorded for each item of load.

Audit commentary

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

Audit commentary

All items of load have GPS coordinates recorded, and most also have a street address recorded.

Some street address descriptions were inconsistent with the GPS coordinate information. Electronet intends to update these, as discussed further in **section 3.1**.

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.

Audit commentary

Nine items of load have missing light type, description and/or wattage information.

Number	Light Type	Location	Zone	Wattage
	UNKNOWN	Ridgeway Drive, Sign Ilumination	Greymouth	40
00301		Back of ASB Bank Greymouth		
01018		GILBERT RD 8	Paroa	61.5
01019		GILBERT RD 14	Paroa	61.5
01081		13 Dowling Road	Paroa	61.5
01305		7 Rutherglenn Road	Paroa	145
ALLYs		ALLYS	Greymouth	
Camera Battery	OTHER	Council Flats McGowan Street	Runanga	120
na	UNKNOWN	Marsden Heights Sign Ilumination	Greymouth	40

This is recorded as non-compliance below. ElectroNet intends to visit each of these sites to confirm the description and capacity of these items, and update the database.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.4 With: Clause 11(2)(c) and (d) of Schedule 15.3 From: unknown To: 04-May-18	Nine items of load have unknown or blank lamp model, and/or blank lamp wattage. Potential impact: Low Actual impact: Low Audit history: Once previously Controls: Moderate Breach risk rating: 2
Audit risk rating	**Rationale for audit risk rating**
Low	The controls are rated as moderate, because most items of load have capacity and wattage information recorded. The impact is assessed to be low because 17 items of load (0.6%) are affected, and only two (0.1%) have missing wattage information.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will work with database administrator to rectify the issues outlined.	10/2018	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis are working with contracted parties to help maintain accuracy of information supplied by 3rd parties.	10/2018	

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 156 items of load was undertaken on 3 and 4 May 2018.

Audit commentary

The field audit findings are detailed in the table below.

Address	Database Count	Field Count	Count differences	Wattage differences	Comments
Byron St	8	8	-	-	

Address	Database Count	Field Count	Count differences	Wattage differences	Comments
Dommett Esplanade	5	5	-	-	
Herd St	8	8	-	-	
Inverness St	10	10	-	-	
Lydia Street	10	10	-	-	
Mackay St	16	16	-	-	
Marsden Rd	38	38	-	-	
Palmerston St	13	13	-	-	
Peel St	6	6	-	-	
Preston Road	20	20	-	-	
Ridgeway Dr	8	9	1	-	One up light on the Ridgeway Drive sign was not recorded in the database.
Sinnott Rd	6	6	-	-	
Somerled Ave	2	2	-	-	
Stirling Dr	6	6	-	-	
Total	**156**	**157**	**1**	**-**	

The field audit found one more lamp in the field than was recorded in the database. This is recorded as non-compliance below.

Festive lights are used, but no information is available and they are not recorded in the database. Electonet's Network Manager is trying to obtain information on the lights installed so that this issue can be resolved. This is recorded as non-compliance below.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.5 With: Clause 11(2A) of Schedule 15.3 From: unknown To: 04-May-18	One lamp was not recorded in the database. Festive lights are not recorded in the database. 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	Controls are rated as weak as they are not sufficient to ensure that all lights, including Christmas lights are recorded in the database. The impact is unknown but is rated as low, as there are a small number of Christmas lights and they are only used during the festive season. The difference for the sample of lights checked was 40W.

Actions taken to resolve the issue	Completion date	Remedial action status
Genesis will work with database administrator to rectify the issues outlined	10/2018	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis are working with contracted parties to help maintain accuracy of information supplied by 3rd parties.	10/2018	

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 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 provision of a copy of the report to Genesis each month is sufficient to achieve compliance.

The Arc GIS database used for submission is managed by ElectroNet, on behalf of Westpower. New connection, fault, and maintenance work is completed by ElectroNet, who update the GIS in the field using Arc GIS collector. ElectroNet office staff validate the data and post it to the database after the field devices are synchronised to the main database. This process is described further in **section 2.7**.

Most new connections relate to network extensions, new subdivisions are rare. When new subdivisions are created, Westpower ensures that the installation is compliant and provides approval for connection.

A process workflow in the Maximo system is used to manage all new connections, and includes a step to update GIS information. Maximo tasks are normally allocated to a work group rather than individual, and key tasks are escalated within Maximo if not completed within specified timeframes. Tasks can be reassigned as necessary. Once the installation job is complete, a work task is created for the GIS team to check the Arc GIS database is up to date.

ElectroNet is not aware of any unmetered private lights on the GDC network.

Festive lights are used, but no information is available and they are not recorded in the database. ElectroNet is attempting to obtain information on festive lights so that this issue can be resolved. This is recorded as non-compliance in **section 2.5**.

Some lights are being replaced with LEDs as part of regular maintenance, but a large scale LED rollout has not been undertaken.

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

ElectroNet demonstrated a complete audit trail of all additions and changes to the database information.

ElectroNet staff take a copy of the GIS database into the field on a device, and modify, add and delete data as required when tasks are completed. When the device is synchronised, the new records are inserted into the main database.

Staff in the office post and reconcile the data. This process involves:

- an automatic comparison between the original data in the device and the current data in the GIS, to determine whether changes to the main database have occurred since the device was last synchronised; if changes have occurred, an exception is created for manual investigation
- a manual check of the changed data to confirm it is correct and reasonable.

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	GDC region
Strata	The database contains items of load in Grey area. The processes for the management of all GDC items of load are the same, and I decided to create one strata for all lights.
Area units	I created a pivot table of the roads and I used a random number generator in a spreadsheet to select a total of 14 subunits.
Total items of load	156 items of load were checked.

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.

Audit commentary

The database was found to contain some inaccuracies. The field audit found one more lamp in the field than was recorded in the database.

The field data was 100.2% of the database data for the sample checked. The total wattage recorded in the database for the sample was 17,706 watts. The total wattage found in the field for the sample checked was 17,746 watts, a difference of 40 watts. This will result in estimated under submission of 171 kWh per annum (based on annual burn hours of 4,271 as detailed in the DUML database auditing tool).

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. Two lights with light type 160 MBFU are recorded with 180 watts, but the expected wattage is 175 watts. This is recorded as non-compliance below, and will result in estimated over submission of 43 kWh per annum (based on annual burn hours of 4,271 as detailed in the DUML database auditing tool).

Festive lights are used, but no information is available and they are not recorded in the database. This is recorded as non-compliance below.

Nine items of load have missing light type, description and/or wattage information. These are discussed in **section 2.4** and recorded as non-compliance below.

Some addressing information recorded in the database is inaccurate, for example:

- one light with a street address on Marsden Road had GPS coordinates on Peel St
- some lamps with GPS locations on Arnott Heights had street addresses on Stirling Drive recorded.

ElectroNet intends to review and update incorrect street addresses.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.1 With: Clause 15.2 and 15.37B(b) From: unknown To: 04-May-18	The database contains some incorrect and missing information. • The field data was 100.2% of the database data indicating an estimated under submission of 171 kWh per annum. • Two 160W MBFU lights are recorded with a total wattage of 180W each instead of 175W, indicating an estimated over submission of 43 kWh per annum. • Nine items of load have missing light type, description and/or wattage information. • Festive lights are not recorded in the database. The impact of this is unknown. • Some street address descriptions were inconsistent with the GPS coordinate 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	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
Genesis will work with database administrator to rectify the issues outlined in 2.1	10/2018	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis are working with contracted parties to help maintain accuracy of information supplied by 3rd parties.	10/2018	

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 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

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

I recalculated the submissions for February 2018 and March 2018 for each ICP using the data logger and database information. I confirmed that the calculation method was correct.

Two issues with inputs to the calculations were identified and are recorded as non-compliance below:

1. In February 2018 the logger recorded 286.63083 burn hours, and in March 2018 the logger recorded 358.65472 burn hours. It appears that the March 2018 initial submission was based on the February 2018 average daily burn hours, rather than the actual March burn hours.
   i.e. February logger hours / 28 days in February x 31 days in March
   286.63083 / 28 x 31 = 317

ICP number	March kW	March burn hours	Expected submission (= March kW x March burn hours)	Actual submission	Actual submission / March kW (= burn hours applied)
0000950040WP4EC	102.875 kW	358.65472 kWh	36,896.60 kWh	32647.43 kWh	317 hours
0000950090WP9AE	28.894 kW	358.65472 kWh	10,362.97 kWh	9158.29 kWh	317 hours
0000950020WPB1C	11.5415 kW	358.65472 kWh	4,139.41 kWh	3662.43 kWh	317 hours
		Total	51,398.99 kWh	45,468.15 kWh	
		Difference		3,169.16 kWh	

2. ICPs 0000950091WP5EB and 0000950092WP92B became active effective from 01/02/2018 on 11/04/2018. No consumption was reported for these ICPs for the February or March 2018 initial allocations because they were inactive at the time of submission, but the consumption is expected to be washed up.

ICP	Feb 2018 expected submission	Mar 2018 expected submission
0000950091WP5EB	417.05 kWh	521.84 kWh
0000950092WP92B	57.33 kWh	71.73 kWh
Total	**474.38 kWh**	**593.57 kWh**

While Genesis 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** and **3.1**.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c) From: unknown To: 04-May-18	The database used to prepare submissions contains some inaccurate information. • The field data was 100.2% of the database data indicating an estimated under submission of 171 kWh per annum. • Two 160W MBFU lights are recorded with a total wattage of 180W each instead of 175W, indicating an estimated over submission of 43 kWh per annum. • Nine items of load have missing light type, description and/or wattage information. • Festive lights are not recorded in the database. The impact of this is unknown. • Some street address descriptions were inconsistent with the GPS coordinate information. March 2018 initial submissions for ICPs 0000950040WP4EC, 0000950090WP9AE and 0000950020WPB1C were based on the daily average burn hours for February 2018, resulting in under submission of 3,169 kWh. ICPs 0000950091WP5EB and 0000950092WP92B became active effective from 01/02/2018 on 11/04/2018. No consumption was reported for the February and March 2018 initial submissions. Based on the database and logger information, expected submissions were 474 kWh for February 2018 and 594 kWh for March 2018. Potential impact: Low 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 submission information is correct 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
Genesis will work with database administrator to rectify the issues outlined in 2.1	10/2018	Identified
Preventative actions taken to ensure no further issues will occur	**Completion date**	
Genesis are working with contracted parties to help maintain accuracy of information supplied by 3rd parties.	10/2018	

CONCLUSION

The Arc GIS database used for submission is managed by ElectroNet, on behalf of Westpower. New connection, fault, and maintenance work is completed by ElectroNet, who update the GIS in the field using Arc GIS collector. ElectroNet provide a monthly report from the database to Genesis.

ElectroNet has undertaken work to cleanse the database. Further work is planned to:

- update missing description and wattage information
- cleanse street addresses; and
- split the total wattage to separate lamp and ballast wattage fields.

There are no immediate plans for large scale LED upgrades, but some lamps are being replaced with LEDs when maintenance is required.

The future risk rating of 11 indicates that the next audit be completed in 12 months. Five non-compliances were identified, and no recommendations were raised.

PARTICIPANT RESPONSE

Genesis Energy continue to build relationships with our customer to maintain database accuracies, ensuring all parties are aware of their obligations.