

VERITEK

# Electricity Industry Participation Code Audit Report

**For**

**Genesis Energy Limited**



**Mt Cook DOC Distributed Unmetered Load**

**Prepared by Rebecca Elliot – Veritek Ltd**

**Date of Audit: 24/04/17**

**Date Audit Report Complete: 31/05/17**

## Executive Summary

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

This audit of the DOC Mount Cook Village DUML data management and processes was conducted at the request of Genesis so that it can form part of their 2017 reconciliation participant audit, in accordance with clause 11(5) of schedule 15.3. As this audit was conducted prior to the audit regime code change that comes into effect on June 1<sup>st</sup>, this audit was carried out under the existing code at the time.

The audit found six non-compliance issues, and two recommendations are made in relation to this DUML database and processes.

This DUML was being managed in a database by the local distributor Alpine Energy up until May 2016 when Alpine ceased providing this information. I have assessed compliance against the last database used as this data is still being used to derive submission. I recommend that a database is established to manage this DUML load as soon as possible.

The matters raised are shown in the tables below:

### Table of Non-Compliance

Subject	Section	Clause	Non compliance	Indicative Impact	Audit History	Procedures	Remedial Action
Deriving Submission Information	2.1	11(1) of schedule 15.3	Inaccurate submission due to database inaccuracies.	Unknown	None	Need improvement	Identified
ICP Identifier	2.2.1	11(2)(a) of schedule 15.3	The Alpine database did not contain the ICP per item of load.	None	None	Need improvement	Identified
Location of items of load	2.2.2	11(2)(b) of schedule 15.3	The Alpine database did not contain the location of each item of load.	None	None	Need improvement	Identified
Capacity of each item of load	2.2.4	11(2)(d) of schedule 15.3	The Alpine database does not contain the ballast in the load calculations.	None	None	Need improvement	Identified

Subject	Section	Clause	Non compliance	Indicative Impact	Audit History	Procedures	Remedial Action
Tracking of load changes	2.3	11(3) of schedule 15.3	No changes of load tracked since May 2016. Database content inaccurate.	Unknown	None	Need improvement	
Audit trail	2.4	11(4) of schedule 15.3	Audit trail does not exist.	None	None	Need improvement	

## Table of Recommendations

Subject	Section	Clause	Recommendation for improvement	Status
Data transmission	1.9	20 of schedule 15.2	Introduce password security to the monthly report sent once a new database is established.	Identified
Database contents	2.2	11(2)(b) of schedule 15.3	Establish a database for this DUML.	Identified

## Persons Involved in This Audit:

Auditor:

**Rebecca Elliot**  
**Veritek Limited**  
**Electricity Authority Approved Auditor**

Personnel assisting in this audit were:

Name	Title	Company
Shweta Arora	Reconciliation Systems Analyst	Genesis Energy
Brent Swanson		DOC

# Contents

Executive Summary	2
Table of Non-Compliance	2
Table of Recommendations	3
Persons Involved in This Audit:	4
Contents	5
<b>1. Pre-Audit and Operational Infrastructure Information</b>	<b>6</b>
1.1 Summary of Previous Audit	6
1.2 Scope of Audit	6
1.3 Exemptions from Obligations to Comply with Code (Section 11 of Electricity Industry Act 2010)	6
1.4 Quality Management Systems (Clause 5 (1) (a) of Schedule 15.1)	6
1.5 Use of Agents (Clause 15.34 of Part 15)	7
1.6 Hardware and Software	7
1.7 Breaches or Breach Allegations	7
1.8 ICP Data	7
1.9 Data Transmission (Clause 20 of Schedule 15.2)	8
<b>2. Distributed Unmetered Load Database</b>	<b>8</b>
2.1 Deriving Submission Information (Clause 11(1) of Schedule 15.3)	8
2.2 Database Contents (Clause 11(2) of Schedule 15.3)	9
2.2.1 ICP Identifier (Clause 11(2)(a) of Schedule 15.3)	9
2.2.2 Location of Each Item of Load (Clause 11(2)(b) of Schedule 15.3)	10
2.2.3 Description of Load Type (Clause 11(2)(c) of Schedule 15.3)	10
2.2.4 Capacity of Each Item of Load in kW (Clause 11(2)(d) of Schedule 15.3)	11
2.3 Tracking of Load Changes (Clause 11(3) of Schedule 15.3)	11
2.4 Audit Trail (Clause 11(4) of Schedule 15.3)	13
2.5 Database Audit (Clause 11(5) of Schedule 15.3)	13
<b>3. Conclusions</b>	<b>14</b>
<b>Table of Non-Compliance</b>	<b>14</b>
<b>Table of Recommendations</b>	<b>15</b>
<b>4. Genesis Response</b>	<b>16</b>

# 1. Pre-Audit and Operational Infrastructure Information

## 1.1 Summary of Previous Audit

This is the first audit undertaken of the Mount Cook Village streetlights.

## 1.2 Scope of Audit

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

This audit of the DOC Mount Cook Village data management and processes was conducted at the request of Genesis so that it can form part of their 2017 reconciliation participant audit, in accordance with clause 11(5) of schedule 15.3.

This DUML was being managed in a database by the local distributor, Alpine Energy up until May 2016 when Alpine ceased providing this information. The trader un-metered load field has been updated based on this data and this is what is used to derive submission.

Alpine Energy's contracting company, NetCon is the contractor for streetlight maintenance and new connections. All new streetlight connections or removals follow the "new connections" process and a "streetlight movements" form is required to be completed but as noted above the Alpine street light database is no longer being maintained.

The audit was conducted in accordance with an audit guideline prepared by Veritek.

The field audit was carried out at Mount Cook on April 24<sup>th</sup>, 2017 checking all the items of load against the Alpine database.

## 1.3 Exemptions from Obligations to Comply with Code (Section 11 of Electricity Industry Act 2010)

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

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

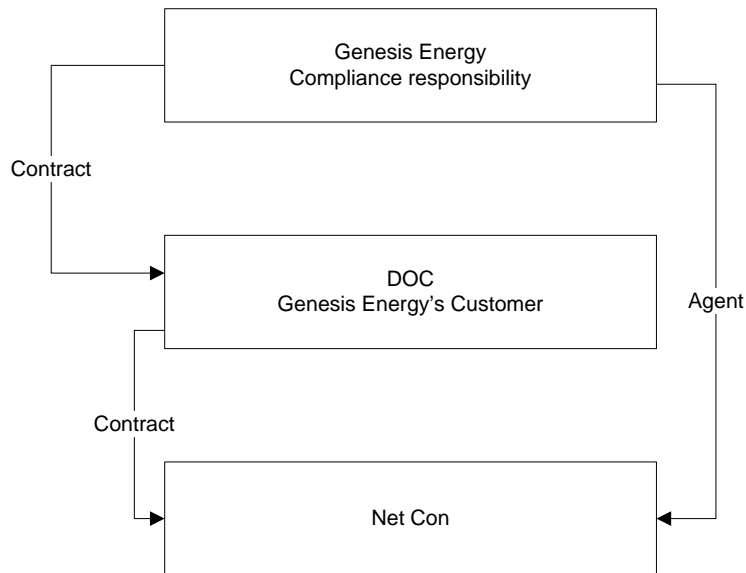
## 1.4 Quality Management Systems (Clause 5 (1) (a) of Schedule 15.1)

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

## 1.5 Use of Agents (Clause 15.34 of Part 15)

DOC and Net Con are considered agents under this clause and Genesis clearly understands that the use of agents does not release them from their compliance obligations.

Genesis' contract is with DOC, and DOC has a contract with Net Con. They are engaged by DOC to conduct field activities.



## 1.6 Hardware and Software

There is no database in place for the management of this database. The UML figure recorded in the registry is used to derive submission.

## 1.7 Breaches or Breach Allegations

There are no alleged breaches recorded by the Electricity Authority in relation to this audit.

## 1.8 ICP Data

The following ICPs are relevant to the scope of this audit:

ICP	Registry Description	NSP	Quantity of lamps
0000000004AL7A8	5355 Mount Cook Road	TKA0331	56 (last light count recorded in the Alpine database)

## 1.9 Data Transmission (Clause 20 of Schedule 15.2)

Mount Cook DOC is not sending monthly reports to Genesis. I recommend that when they do these reports be password protected.

Recommendation	Description	Audited party comment	Remedial action
<b>Regarding:</b> Clause 20 of schedule 15.2	Introduce password security to the monthly report sent once a new database is established.	Database to be established upon load information being verified, password protection will be used when information channels are established.	Identified

## 2. Distributed Unmetered Load Database

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

This clause requires that the distributed unmetered load database must satisfy the requirements of schedule 15.5 concerning the methodology for deriving submission information. Genesis reconciles this DUML load using the SST profile. The monthly report from the local distributor Alpine Energy was being used up until May 2016 when Alpine ceased providing this information. The load being used by Genesis matches to the last report provided, but no reports have been received since this time and the field audit found that the database was inaccurate therefore the submission will be incorrect. I could not determine the light types in the field and therefore I cannot calculate the submission variance. This is recorded as non-compliance.

Non-compliance	Description		
<b>With:</b> Clause 11(1) of schedule 15.3 <b>From/to:</b> Entire audit period	Inaccurate submission due to database inaccuracies. <b>Indicative impact:</b> Unknown <b>Audit history:</b> None <b>Procedures:</b> Need improvement		
Actions taken to resolve the issue		Completion date	Remedial action Status
Currently in the progress of obtaining all relevant asset load details.		12/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis to maintain a database of record to ensure all information is accurate.		12/2018	



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

There is no database in place to manage this DUML load. I recommend that a database is established to manage this database.

Recommendation	Description	Audited party comment	Remedial action
<b>Regarding:</b> Clause 11(2) of schedule 15.3	Establish a database for this DUML.	Database to be established upon load information being verified.	Identified

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

The Alpine database that was previously used did not record the ICP per item of load as is required by this clause. This is recorded as non-compliance below.

Non-compliance	Description		
<b>With:</b> Clause 11(2)(a) of schedule 15.3  <b>From/to:</b> Entire audit period	The Alpine database did not contain the ICP per item of load. <b>Indicative impact:</b> None <b>Audit history:</b> None <b>Procedures:</b> Need improvement		
Actions taken to resolve the issue		Completion date	Remedial action Status
Currently in the progress of obtaining all relevant asset load details.		12/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis to maintain a database of record to ensure all information is accurate.		12/2018	

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

The Alpine database did not record the location of each item of load as is required by this clause. This is recorded as non-compliance below.

Non-compliance	Description		
<b>With:</b> Clause 11(2)(b) of schedule 15.3  <b>From/to:</b> Entire audit period	The Alpine database did not contain the location of each item of load. <b>Indicative impact:</b> None <b>Audit history:</b> None <b>Procedures:</b> Need improvement		
Actions taken to resolve the issue		Completion date	Remedial action Status
Currently in the progress of obtaining all relevant asset load details.		12/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis to maintain a database of record to ensure all information is accurate.		12/2018	

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

The Alpine database contained the rated wattage and the lamp construction in its description. Compliance is confirmed.

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

Capacities are stated as watts rather than kW. However, the unit of measure is clearly identified. The Alpine database did not record ballast, and therefore this will be resulting in under submission. This is recorded as non compliance.

Non-compliance	Description		
<b>With:</b> Clause 11(2)(d) of schedule 15.3  <b>From/to:</b> Entire audit period	The Alpine database does not contain the ballast in the load calculations. <b>Indicative impact:</b> None <b>Audit history:</b> None <b>Procedures:</b> Need improvement		
Actions taken to resolve the issue		Completion date	Remedial action Status
Currently in the progress of obtaining all relevant asset load details.		12/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis to maintain a database of record to ensure all information is accurate.		12/2018	

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

Any changes that are made during any given month take effect from the beginning of that month. Based upon the memo issued from the Authority on September 20<sup>th</sup> 2012, 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 processes were reviewed for ensuring that changes in the field are captured. DOC have not added any new lights in recent times. Any changes made will not be captured. I recommend in Section 2.2 above, that a database is established to manage and track this load.

The field audit was carried out using the last report from the Alpine database across all items of load. The Alpine database recorded:

State Highway Streetlighting Tekapo GXP	Network Control Points	160W Blended Pole Top	
Mount Cook Village		2 *	<b>Totals</b>
<b>Number of type</b>	<b>0</b>	<b>2</b>	<b>2</b>
<b>Wattage</b>		<b>320</b>	<b>320</b>

<b>Other Road Streetlighting Tekapo GXP</b>	Network Control Points	160W Blended Pole Top	25W S.L. Pole Top	9W S.L. Bollard	
Mount Cook Village	6	25 *	6	23	<b>Totals</b>
<b>Number of type</b>	<b>6</b>	<b>25</b>	<b>6</b>	<b>23</b>	<b>54</b>
<b>Wattage</b>		<b>4,000</b>	<b>150</b>	<b>207</b>	<b>4,357</b>

The field audit found 50 bollard lights and 14 pole lights. This does not match to the database records. This is recorded as non-compliance.

Non-compliance	Description		
<b>With:</b> Clause 11(3) of schedule 15.3  <b>From/to:</b> Entire audit period	No changes of load tracked since May 2016. Database content inaccurate. <b>Indicative impact:</b> Unknown <b>Audit history:</b> None <b>Procedures:</b> Need improvement		
Actions taken to resolve the issue	Completion date	Remedial action Status	
Currently in the progress of obtaining all relevant asset load details.	12/2018	Identified	
Preventative actions taken to ensure no further issues will occur	Completion date		
Genesis to maintain a database of record to ensure all information is accurate.	12/2018		

## 2.4 Audit Trail (Clause 11(4) of Schedule 15.3)

The data is contained in a spreadsheet at summary level. An audit trail does not exist. This is recorded as non-compliance.

Non-compliance	Description		
<b>With:</b> Clause 11(4) of schedule 15.3  <b>From/to:</b> Entire audit period	Audit trail does not exist. <b>Indicative impact:</b> None <b>Audit history:</b> None <b>Procedures:</b> Need improvement		
Actions taken to resolve the issue		Completion date	Remedial action Status
Currently in the progress of obtaining all relevant asset load details.		12/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis to maintain a database of record to ensure all information is accurate.		12/2018	

## 2.5 Database Audit (Clause 11(5) of Schedule 15.3)

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

### 3. Conclusions

The audit found six non-compliance issues, and two recommendations are made in relation to this DUML database and processes.

This DUML was being managed in a database by the local distributor Alpine Energy up until May 2016 when Alpine ceased providing this information. I have assessed compliance against the last database used as this data is still being used to derive submission. I recommend that a database is established to manage this DUML load as soon as possible.

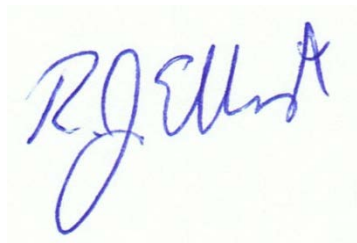
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Tracking of load changes	2.3	11(3) of schedule 15.3	No changes of load tracked since May 2016. Database content inaccurate.	Unknown	None	Need improvement	
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## Table of Recommendations

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Database contents	2.2	11(2)(b) of schedule 15.3	Establish a database for this DUML.	



**Rebecca Elliot**  
**Veritek Limited**  
**Electricity Authority Approved Auditor**

## 4. Genesis Response

Genesis has requested asset diagrams from Alpine energy. This has been supplied, however is from the original development of the Mt Cook Village. This diagram does not show current new Roding or led upgrades. Genesis has spoken with the DoC officer and is trying to obtain further relevant information for a database to be established. Genesis plans to maintain this database with DoC upon its completion.