

VERITEK

Electricity Industry Participation Code Audit Report

For

Genesis Energy Limited



**New Plymouth District Council
Distributed Unmetered Load**

Prepared by Tara Gannon – Veritek Ltd

Date of Audit: 03/01/2018 and 10/01/2018

Date Audit Report Complete: 26/03/2018

Executive Summary

This audit of the New Plymouth District Council (NPDC) DUML database and processes was conducted at the request of Genesis Energy Limited (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.

Streetlight load is determined by wattages held within NPDC's RAMM database. Power Solutions provides monthly reports from RAMM to Genesis, including private and NZTA lighting. Festive lighting is included in a separate spreadsheet with the connection dates.

The audit process included a field audit of 401 items of load, and found 99.1% accuracy. Review of the entire database found 11 lamps do not have lamp wattage, gear wattage, or lamp make and model information recorded. Eight lamps have incorrect gear wattages recorded. The errors in the field audit sample and wattages resulted in combined over reporting of approximately 1,030 kWh per annum.

The future risk rating of seven indicates that the next audit be completed in 18 months. The matters raised are detailed below:

Table of Non-Compliance

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.	Strong	Low	1	Identified
Description of load type	2.4	11(2)(c) & (d) of Schedule 15.3	11 lamps do not have lamp wattage, gear wattage, or lamp make and model information recorded.	Strong	Low	1	Identified
Tracking of Load Changes	2.6	11(3) of Schedule 15.3	Database updates may be late for lights in new subdivisions.	Moderate	Low	2	Investigating

Subject	Section	Clause	Non-compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Database Accuracy	3.1	15.2	<p>The database contains some inaccurate information.</p> <ul style="list-style-type: none"> For the sample of 401 lamps checked in the field audit, five lamps had wattage differences. Four appeared to relate to timing differences between the database and field audit. 11 lamps did not have lamp or gear wattages populated. Eight lamps did not have correct gear wattages recorded. One lamp was recorded with inconsistent lamp and gear wattages. 	Strong	Low	1	Identified
Volume information accuracy	3.2	15.2	The database used to prepare submissions contains some inaccurate information.	Strong	Low	1	Identified
Future risk rating						7	
Indicative audit frequency						18 months	

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

Table of Recommendations

Subject	Section	Recommendation	Description
ICP information	1.4	Check the load connected to ICP 1000542576PC41E	ICP 1000542576PC41E should be investigated to confirm whether a status update to inactive is required. It appears no lights are connected to this ICP.

Persons Involved in This Audit:

Auditor:

Tara Gannon
Veritek Limited
Electricity Authority Approved Auditor

Other personnel assisting in this audit were:

Name	Title	Company
John Eagles	Roading Systems Engineer	NPDC
Bill Shera	Contract Engineer	NPDC
Shweta Arora	Reconciliation Systems Analyst	Genesis Energy

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1. Administrative

1.1 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.

Review of current exemptions on the Electricity Authority's website confirmed that there are no exemptions in place relevant to the scope of this audit.

1.2 Supplier List

NPDC, NPE Tech and Power Solutions 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 NPDC, and there is no direct contractual relationship between Genesis and NPE Tech, Genesis and RAMM Software Limited, or Genesis and Power Solutions. The indirect contractual relationship does not appear to affect Genesis' ability to ensure compliance is achieved.

NPDC has contracts with

- **NPE Tech** for fieldwork and asset data capture
- **RAMM Software Limited** for database hosting; and
- **Power Solutions** for database reporting and auditing.

This is not seen as an issue, as the processes for updating the database are robust and have appropriate validation controls in place. This is discussed further in **section 2.6**.

1.3 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".

NPDC confirmed that the database back-up is in accordance with standard industry procedures. The database is password protected.

Compliance is confirmed.

1.4 List of ICPs

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

ICP	Description	Profile	NSP	No. of items of load
1000542566PCEB3	NPDC PARKS & RESERVES SL – STATION ROAD EAST	NST	NPL0331	1801
1000542567PC2F6	NPDC TRANSIT NZ SL – STATION ROAD EAST	NST	NPL0331	34
1000542568PCD28	NPDC ROADING SL - TARAHUA ROAD	NST	NPL0331	276
1000542569PC16D	NPDC PARKS & RESERVES SL - TARAHUA ROAD	NST	CST0331	4749
1000542570PC591	NPDC TRANSIT NZ SL - TARAHUA ROAD	NST	CST0331	105
1000542571PC9D4	NPDC ROADING SL - WAITARA ROAD	NST	CST0331	691
1000542572PC514	NPDC PARKS & RESERVES SL - WAITARA ROAD	NST	HUI0331	1885
1000542573PC951	NPDC TRANSIT NZ SL - WAITARA ROAD	NST	HUI0331	92
1000542574PC49B	NPDC ROADING SL - EAST ROAD	NST	HUI0331	139
1000542575PC8DE	NPDC TRANSIT NZ SL - EAST ROAD	NST	SFD0331	3
1000542577PC85B	NPDC PARKS & RESERVES SL – EAST ROAD	NST	SFD0331	6
1000542576PC41E	NPDC PARKS & RESERVES SL – STATION ROAD EAST	NST	SFD0331	-
0001570020PC006	FESTIVAL LIGHTS NPDC TARANAKI	NST	CST0331	12
TOTAL items of load				9793

The February 2017 audit noted that no lights appeared to be connected to ICP 1000542576PC41E currently, according to NPDC and Registry records. The situation remains the same, and a recommendation to confirm the status of this ICP is repeated below.

Subject	Recommendation	Description
ICP information	Check the load connected to ICP 1000542576PC41E	ICP 1000542576PC41E should be investigated to confirm whether a status update to inactive is required. It appears no lights are connected to this ICP.

1.5 Breaches or Breach Allegations

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

1.6 Distributed unmetered load audits (Clauses 16A.26 & 17.295F)

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.

1.7 Separate distributed unmetered load audit (Clause 16A.8(4))

Retailers must ensure that DUML audits are reported in a separate audit report.

Audit Observation

Genesis have requested Veritek to undertake this streetlight audit.

Audit Commentary

The audit report for this DUML database is separate from other audit reports. Compliance is confirmed.

1.8 Summary of Previous Audit

Genesis provided a copy of the report of the previous audit conducted in February 2017 by Tara Gannon of Veritek Limited. Five non-compliances were found, and no recommendations were made. The status of the non-compliances is detailed below:

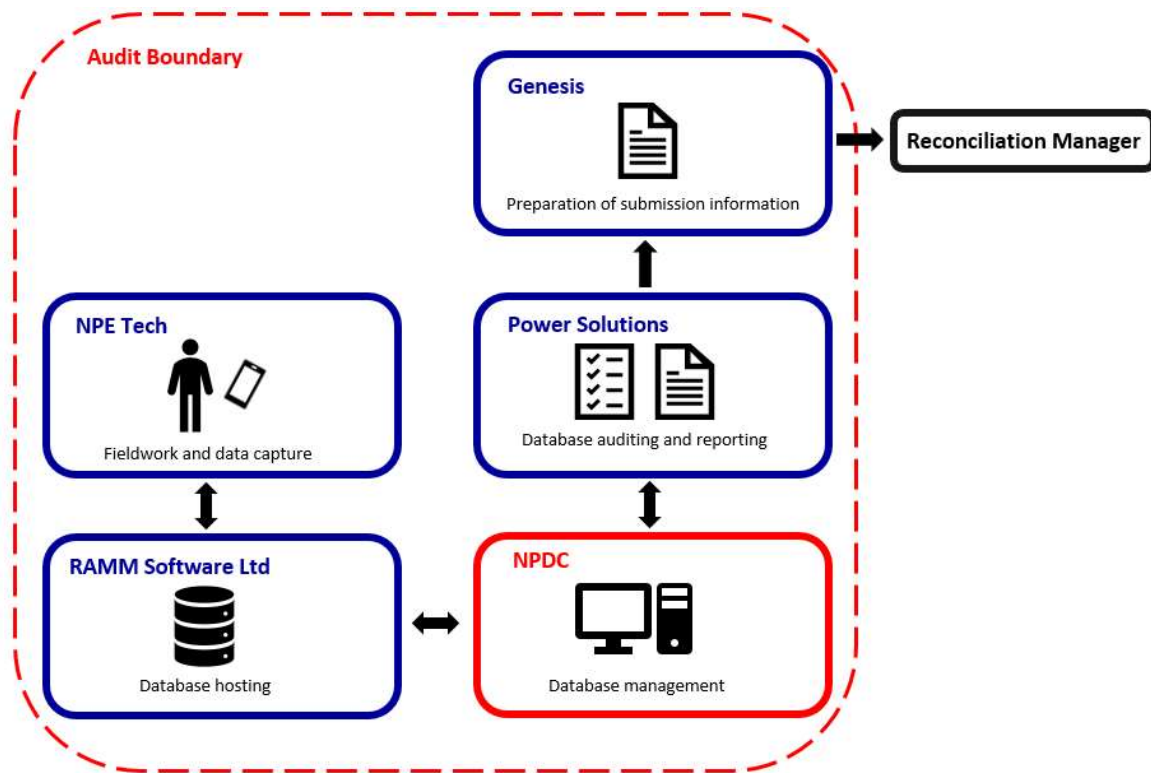
Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
ICP identifier	2.2.1	Clause 11(2)(a) of Schedule 15.3	No ICP is recorded for one lamp on Northgate (SH3).	Cleared. All lamps have an ICP number recorded. Refer to section 2.2 .
Description of load type	2.2.3	Clause 11(2)(c) of Schedule 15.3	Some streetlight records are incomplete.	Still existing. Refer to section 2.4 .
Capacity of each load item	2.2.4	Clause 11(2)(d) of Schedule 15.3	Incorrect ballast was recorded for 16 lamps, and was promptly investigated by NPDC once identified during the audit.	Still existing for some lamps. Refer to section 3.1 .
Load changes	2.3	Clause 11(3) of schedule 15.3	Database updates may be late for lights in new subdivisions.	Still existing. Refer to section 2.6 .
Load changes	2.3	Clause 11(3) of schedule 15.3	A lamp is recorded at 39 Exeter Street, New Plymouth, but the address does not exist.	Cleared. This record has been removed from the database.

1.9 Scope of Audit

A RAMM database is held by NPDC, who is Genesis' customer. This database is hosted by RAMM Software Limited and is managed by NPDC. NPE Tech complete the field work and data capture, and Power Solutions Limited (PSL) provide reports from the database to Genesis and conduct field audits for NPDC as requested.

The scope of the audit encompasses the collection, security and accuracy of the data, including the preparation of submission information based on the spreadsheet reporting. The diagram below shows the current 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. The field audit was undertaken of 401 lights using the statistical sampling methodology on 3 and 10 January 2018. The field selection included three population groups:

- Streets with some lamps installed in 2017.
- Streets where some lamps are owned by parties other than NPDC Roadway.
- All other streets.

Festive lights are recorded separately, and a sample of eight locations were reviewed.

1.10 Data Transmission (Clause 20 of Schedule 15.2)

A password protected report from RAMM is sent to Genesis monthly. Compliance is confirmed.

2. DUML database requirements

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

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

This clause requires that the distributed unmetered load database must satisfy the requirements of schedule 15.5 regarding the methodology for deriving submission information. Genesis reconciles this DUML load using the NST profile.

The calculations were checked for November 2017 for the following ICPs, and found to be correct. Compliance is confirmed.

ICP	Description
1000542566PCEB3	NPDC PARKS & RESERVES SL – STATION ROAD EAST
1000542567PC2F6	NPDC TRANSIT NZ SL – STATION ROAD EAST
1000542568PCD28	NPDC ROADING SL - TARAHUA ROAD
1000542569PC16D	NPDC PARKS & RESERVES SL - TARAHUA ROAD
1000542570PC591	NPDC TRANSIT NZ SL - TARAHUA ROAD
1000542571PC9D4	NPDC ROADING SL - WAITARA ROAD
1000542572PC514	NPDC PARKS & RESERVES SL - WAITARA ROAD
1000542573PC951	NPDC TRANSIT NZ SL - WAITARA ROAD
1000542574PC49B	NPDC ROADING SL - EAST ROAD
1000542575PC8DE	NPDC TRANSIT NZ SL - EAST ROAD
1000542577PC85B	NPDC PARKS & RESERVES SL – EAST ROAD

While Genesis are using up to date database information, there is some inaccurate data within the database, and this is recorded as non-compliance below, and is discussed in **sections 2.4, 2.5 and 3.1**.

Non-compliance	Description
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: entire audit period	The database used to prepare submissions contains some inaccurate information. Potential impact: Low Actual impact: Unknown Audit history: Once previously Controls: Strong Breach risk rating: 1

Audit risk rating	Rationale for audit risk rating	
Low	Controls are rated as strong, as they are sufficient to mitigate the risk most of the time. A very small number of discrepancies were identified in relation to the database size. The differences would result in over reporting of approximately 1030 kWh per annum.	
Actions taken to resolve the issue		Completion date
Genesis have been working with the NPDC and they have been very proactive in their efforts in ensuring accurate data. There is still a delay in getting changes into the system which the has been identified above and are timing issues. NPDC are working with third parties in how they can gain efficiencies in the current process.		01/10/2018
Preventative actions taken to ensure no further issues will occur		Completion date
Genesis believe that NPDC are proactive in trying to find a solution to the delay with change notifications and new connections.		01/10/2018
		Identified

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

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 was recorded against each item of load.

Audit Commentary

The analysis found that all items of load had the correct ICP recorded against them. Compliance is confirmed.

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

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 addresses for all items of load, and users in the office and field can view these locations on a mapping system. 9559 (97.7%) of lamps have GPS coordinates recorded.

Festive lights have addresses recorded, but no GPS coordinates.

Compliance is confirmed.

2.4 Description of Load Type (Clause 11(2)(c) & (d) of Schedule 15.3)

The DUMML 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

11 lamps did not have lamp wattage, gear wattage, or make and model information populated. The missing data is recorded as non-compliance.

Light ID	House Address	Lamp Make Model	Light Make Model	Gear Wattage	Lamp Wattage
22457	26 MEGAW CLOSE				
22458	21 MEGAW CLOSE				
22460	12 ONGARUI CLOSE				
22461	13 ONGARUI CLOSE				
22467	2248 CARRINGTON ROAD		UNK (UNK)		
22466	CARRINGTON ROAD		UNK (UNK)		
22469	CARRINGTON ROAD		UNK (UNK)		
22468	CARRINGTON ROAD		UNK (UNK)		
22470	CARRINGTON ROAD		UNK (UNK)		
22471	2248 CARRINGTON ROAD		UNK (UNK)		
22472	CARRINGTON ROAD		UNK (UNK)		

Non-compliance	Description
<p>Audit Ref: 2.4</p> <p>With: Clause 11(2)(c) & (d) of Schedule 15.3</p> <p>From: entire audit period</p>	<p>11 lamps do not have lamp wattage, gear wattage, or lamp make and model information recorded.</p> <p>Potential impact: Low</p> <p>Actual impact: Unknown</p> <p>Audit history: Once previously</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>
Audit risk rating	Rationale for audit risk rating
<p>Low</p>	<p>Controls are rated as strong, as they are sufficient to mitigate the risk most of the time. 19 discrepancies (0.2% of the database) were identified.</p> <p>I was unable to confirm the correct wattages for the lamps with missing details, but the impact is expected to be low.</p>

Actions taken to resolve the issue	Completion date	Remedial action status
NPDC are currently deploying LED in the area and some changes have not been updated at the time of the audit (timing). As iterated in 2.1 there is a timing issue constraint due to the current process. An indicative date has been applied however process improvements may or may not occur, as its dependent on all parties involved.	01/10/2018	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
Third party involvement in tracking of changes and/or new connections is very hard to manage. We believe this should be a task that the networks should be actively involved in as they directly have an invested interest, and should drive the database accuracy and maintain data pertaining to the DUML load connected on their network.	01/10/2018	

2.5 All load recorded in database (Clause 11(2A) of Schedule 15.3)

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 401 lights using the statistical sampling methodology. The field selection included three population groups:

- Streets with some lamps installed in 2017.
- Streets where some lamps are owned by parties other than NPDC Roadway.
- All other streets.

Festive lights are recorded separately, and a sample of eight locations were reviewed.

Audit Commentary

The field audit findings are detailed in the table below.

Street	Database count	Field count	Light count differences	Wattage differences	Comments
Some lamps installed in 2017					
ADAM LILE DRIVE, NEW PLYMOUTH	7	7	-	-	
ASPEN PLACE, NEW PLYMOUTH	3	3	-	-	
BULKELEY TERRACE, NEW PLYMOUTH	8	8	-	-	
CANNON STREET, NEW PLYMOUTH	7	7	-	-	
CASSIA PLACE, NEW PLYMOUTH	1	1	-	-	
CURRIE LANE, NEW PLYMOUTH	3	3	-	-	
GARDENIA AVENUE, NEW PLYMOUTH	17	17	-	-	
GILBERT STREET, NEW PLYMOUTH	18	18	-	-	
GORDON STREET, NEW PLYMOUTH	7	7	-	-	
GREGORY PLACE, NEW PLYMOUTH	2	2	-	-	

Street	Database count	Field count	Light count differences	Wattage differences	Comments
HARTLAND PLACE, NEW PLYMOUTH	5	5	-	-	
HUME STREET, WAITARA	24	24	-	-	
JAMES STREET, INGLEWOOD	11	11	-	-	
MAHOE STREET, INGLEWOOD	14	14	-	-	
MIRO STREET, INGLEWOOD	23	23	-	-	
RANFURLY STREET, NEW PLYMOUTH	3	3	-	1	One 70W sodium lamp has been replaced with a 21W LED.
RIMU STREET, NEW PLYMOUTH	19	19	-	-	
ROTO STREET, NEW PLYMOUTH	15	15	-	3	Three 70W sodium lamps have been replaced with 28.5W LEDs.
STANDISH STREET, INGLEWOOD	24	24	-	-	
TAWAKE PLACE, WAITARA	3	3	-	-	
TAWARI STREET, INGLEWOOD	6	6	-	-	
TOHORA PLACE, NEW PLYMOUTH	4	4	-	-	
WAIMEA STREET, NEW PLYMOUTH	28	28	-	-	
Some lamps are owned by parties other than NPDC roading					
BROWN STREET, INGLEWOOD	14	14	-	-	
HUMPHRIES STREET, INGLEWOOD	7	7	-	-	
KELLY STREET, INGLEWOOD	37	37	-	1	One lamp 21W LED lamp is recorded in the database as a 13W LED.
RATA STREET, INGLEWOOD	17	17	-	-	
RATA STREET (SH3), INGLEWOOD	46	46	-	-	
ROGAN STREET, NEW PLYMOUTH	23	23	-	-	
All others					
SANDEL RISE, NEW PLYMOUTH	5	5	-	-	
Total	401	401	-	5	

The field audit found the streetlight database to be highly accurate, with no light count differences identified. Wattage differences are recorded as non-compliance in **section 3.1**.

Festive lighting is connected to the streetlight circuit and is recorded on a separate wattage report. A sample of seven locations were reviewed, and the information was found to be accurate.

Street	Database count	Field count	Light count differences	Wattage differences	Comments
Festive lights					
Sample of seven locations on Devon St East and West	5	5	-	-	
Total	5	5	-	-	

Compliance is confirmed.

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

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 production of a monthly “snapshot” report is sufficient to achieve compliance.

The processes were reviewed for new lamp connections and the tracking of load changes due to faults and maintenance.

Fault, maintenance and upgrade work is completed by NPE Tech. The RAMM database is either updated in the field using PDAs, or paper records are provided to the NPE Tech administration staff who update the database. The NPDC Contract manager exports data from RAMM and validates changes to the database. This check includes identifying missing field, and incorrect data including wattages, gear wattages, makes, and models. Power Services Limited also complete a monthly review of the data prior to reporting to Genesis, and follow up any discrepancies with NPDC.

The process for new connections remains unchanged. NPDC is only responsible once the subdivision is “vested” in council. As soon as the electrical certificate is provided, NPDC’s development engineers check the lights and then advise NPE Tech to update the database. Development engineers regularly check new developments to monitor compliance and progress, which can help them to identify when streetlights are connected. In some cases, there may be several weeks’ delay between lights being connected and added to the database. NPDC notes that most subdivisions have less than 12 lights, and larger subdivisions are completed in stages, so the impact of any delays is minimal. This is recorded as non-compliance below.

Outage patrols are conducted in the CBD fortnightly, and LED retrofit areas are patrolled every three months. All other lights are checked monthly. These patrols help to identify any additional or removed items of load.

Festive lights are recorded in a separate spreadsheet.

Non-compliance	Description		
Audit Ref: 2.6 With: Clause 11(3) of Schedule 15.3 From: entire audit period	Database updates may be late for lights in new subdivisions. 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	Controls are rated as moderate, because they are sufficient to ensure that updates are timely most of the time. The impact is low, as NPDC will usually identify recently connected lamps through its outage patrol processes.		
Actions taken to resolve the issue		Completion date	Remedial action status
Third party involvement in tracking of changes has its constraints in notifying NPDC of new connections. NPDC are looking at how efficiencies can be gained in this process. However, there is no assurances that there is a solution to the current process constraints.		01/10/2018	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Genesis are in communication with NPDC in relation to this issue. It is again noted that the connection process will generally have been initiated through the network in which we believe they have a huge role to play in ensuring database accuracy, or potential ownership.		01/10/2018	

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

The DUMML 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

The RAMM database contains an audit trail for all changes, in addition this clause requires that an audit trail exists for all processing functions. The provision of reports from the database is considered to be secure, and an audit trail exists for the transmission of these reports.

Compliance is confirmed.

3. Accuracy of DUML database

3.1 Database Accuracy (Clause 15.2)

The Audit must verify that the information recorded in the retailer's DUML database is complete and accurate.

Audit Observation

The audit findings were used to determine if the information contained in the database is complete and accurate.

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

Audit Commentary

The field audit found the database to be highly accurate, with five lamp wattage differences identified. Four of the differences appear to be related to timing of LED upgrades, and one difference appears to be due to a model being recorded incorrectly. This is discussed further in **section 2.5** and recorded as non-compliance below.

The recorded wattage for the sample checked was 25,137. and the actual wattage found was 24,919.5. The differences identified in the field totalled -217.5W. Based on this the sample's accuracy was 99.1%.

The listed lamp model and gear models for each lamp was compared to the Electricity Authority's published standardised wattage table, or the manufacturer's specifications if the lamp was not included on the wattage table. The database contains two records for wattage: the lamp wattage, and the gear wattage. The "total wattage" reported to Genesis is calculated as the total rated wattage plus the gear wattage.

11 lamps did not have lamp wattage, gear wattage, or make and model information populated and are discussed in **section 2.4**. Where populated, lamp wattages were recorded correctly. There were some errors in the gear wattages applied, which resulted in incorrect total wattages being reported to Genesis for the eight lamps shown in red below. The standardised wattage table was provided to NPDC and they intend to update their records.

Lamp Make Model	Gear wattage						Expected wattage
	0	2	10	14	18	28	
PH (P19, 150 watts)					37	1	18
PH (P27, 18 watts)	6	2					2
PH (P4, 100 watts)			226	15	1		10 or 14 depending on ballast type

Consistency of model information was checked, and one discrepancy was identified. One lamp was recorded with a model of 250W MH and PH (P19, 150 watts).

The inaccurate information is recorded as non-compliance below.

Non-compliance	Description		
Audit Ref: 3.1 With: Clause 15.2 From: entire audit period	The database contains some inaccurate information. <ul style="list-style-type: none"> • For the sample of 401 lamps checked in the field audit, five lamps had wattage differences. Four appeared to relate to timing differences between the database and field audit. • 11 lamps did not have lamp or gear wattages populated. • Eight lamps did not have correct gear wattages recorded. • One lamp was recorded with inconsistent lamp and gear wattages. Potential impact: Low Actual impact: Unknown Audit history: Once previously Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as strong, as they are sufficient to mitigate the risk most of the time. A very small number of discrepancies were identified in relation to the database size. The differences would result in over reporting of approximately 1030 kWh per annum.		
Actions taken to resolve the issue		Completion date	Remedial action status
Ref 2.6		01/10/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Network should hold this responsibility as they provide the initial connection in which we believe has a huge role to play in ensuring database accuracy, or potential ownership of said database.		01/10/2018	

3.2 Volume Information Accuracy (Clause 15.2)

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 against the submitted figure to confirm accuracy.

Audit Commentary

All the ICPs have the correct profile and submission flag assigned on the registry.

The calculations were checked for November 2017 for the following ICPs, and found to be correct. Compliance is confirmed.

ICP	Description
1000542566PCEB3	NPDC PARKS & RESERVES SL – STATION ROAD EAST
1000542567PC2F6	NPDC TRANSIT NZ SL – STATION ROAD EAST
1000542568PCD28	NPDC ROADING SL - TARAHUA ROAD
1000542569PC16D	NPDC PARKS & RESERVES SL - TARAHUA ROAD
1000542570PC591	NPDC TRANSIT NZ SL - TARAHUA ROAD
1000542571PC9D4	NPDC ROADING SL - WAITARA ROAD
1000542572PC514	NPDC PARKS & RESERVES SL - WAITARA ROAD
1000542573PC951	NPDC TRANSIT NZ SL - WAITARA ROAD
1000542574PC49B	NPDC ROADING SL - EAST ROAD
1000542575PC8DE	NPDC TRANSIT NZ SL - EAST ROAD
1000542577PC85B	NPDC PARKS & RESERVES SL – EAST ROAD

While Genesis are using up to date database information, there is some inaccurate data within the database, and this is recorded as non-compliance below, and is discussed in **sections 2.4, 2.5 and 3.1**.

Non-compliance	Description		
Audit Ref: 3.2 With: Clause 15.2 From: entire audit period	The database used to prepare submissions contains some inaccurate information. Potential impact: Low Actual impact: Unknown Audit history: Once previously Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as strong, as they are sufficient to mitigate the risk most of the time. A very small number of discrepancies were identified in relation to the database size. The differences would result in over reporting of approximately 1030 kWh per annum.		
Actions taken to resolve the issue		Completion date	Remedial action status
As per 2.6 – Efforts are being made to ensure timely delivery of change notifications or livening.		01/10/2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
The network has a role in the initial livening and must play in ensuring database accuracy, or potential ownership of said database. The network is the only nontransferable variable in the relationship of DUML.		01/10/2018	

4. Conclusions

Streetlight load is determined by wattages held within NPDC's RAMM database. Power Solutions provides monthly reports from RAMM to Genesis, including private and NZTA lighting. Festive lighting is included in a separate spreadsheet with the connection dates.

The audit process included a field audit of 401 items of load, and found 99.1% accuracy. Review of the entire database found 11 lamps do not have lamp wattage, gear wattage, or lamp make and model information recorded. Eight lamps have incorrect gear wattages recorded. The errors in the field audit sample and wattages resulted in combined over reporting of approximately 1,030 kWh per annum.

The future risk rating of seven indicates that the next audit be completed in 18 months.



Tara Gannon
Veritek Limited
Electricity Authority Approved Auditor

5. Genesis Comments

Genesis is working with NPDC to ensure accuracy. NPDC has identified a constraint which are making efforts to try and rectify, however no assurances have been made that a resolution will eventuate within the indicative timeframe as indicated. It is also relative that the network should also assume some/all responsibility with database accuracy being the initiator of the control point. And has an invested interest in ensuring accuracy is upheld.