

ELECTRICITY INDUSTRY PARTICIPATION CODE
DISTRIBUTED UNMETERED LOAD AUDIT REPORT



VERITEK

For

FAR NORTH HOLDINGS JETTY AND WHARF
LIGHTS BOSCO

Prepared by: Rebecca Elliot

Date audit commenced: 26 April 2018

Date audit report completed: 15 May 2018

Audit report due date: 01-Jun-18

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EXECUTIVE SUMMARY

This audit of the Far North Holdings Wharf Lights (FNH) DUMML database and processes was conducted at the request of BOSCO Connect Limited (BOSCO), 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 DUMML audits version 1.1, which became effective on 1 June 2017.

The audit found four non-compliances relating to inaccuracies in the database and makes no recommendations.

This audit covers the Far North Holdings DUMML ICPs that are managed by BOSCO in excel spreadsheets. This covers Wharf Lights Opua (ICP 0000003947TE02E) and Jetty Lights Opua (ICP 0000003946TEC6B).

The field audit of all items of load found five differences, resulting in the field wattage being 94.8% of the database wattage which means an estimated over submission of 837.12 kWh per annum.

The future risk rating of ten indicates that the next audit be completed in twelve months and I agree with this recommendation. The matters raised are detailed below:

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Deriving submission information	2.1	11(1) of Schedule 15.3	The field data was 94.8% of the database data indicating over submission of 837.12 kWh per annum. Incorrect values being submitted in the AV080 resulting in an estimated under submission of 10,560 kWh per annum.	Weak	Medium	6	Identified
All load recorded in database	2.5	11(2A) of Schedule 15.3	LED light on Russell Wharf not recorded in the database.	Weak	Low	2	Identified
Database accuracy	3.1	11(2A) of Schedule 15.3	The field data was 94.8% of the database data indicating over submission of 837.12 kWh per annum.	Weak	Low	2	Identified
Volume information accuracy	3.2	15.2 and 15.37B(c)	The field data was 94.8% of the database data indicating over submission of 837.12 kWh per annum. Incorrect values being submitted in the AV080 resulting in an estimated under submission of 10,560 kWh per annum.	Weak	Medium	6	Investigating
Future Risk Rating						14	

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	Remedial Action
All load recorded in the database	2.5	Work with Contact Energy to determine correct recording of the Russell Wharf lights.	Investigating
		Conduct an audit of all load items to correct the database information.	Identified

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 this audit.

1.2. Structure of Organisation

Bosco provided their current organisational structure, which also includes Bosco Energy and Globug:



1.3. Persons involved in this audit

Auditors:

Rebecca Elliot – Lead Auditor

Brett Piskulic – Supporting Auditor

Veritek Limited

Electricity Authority Approved Auditors

Other personnel assisting in this audit were:

Name	Title	Company
Andrew Robertson	Regulatory and Compliance Strategist	Mercury NZ Limited

1.4. Hardware and Software

The streetlight data is held in excel spreadsheets. These are backed up in accordance with standard industry procedures. Access to the spreadsheets is restricted by way of user log into the computer drive.

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)
0000003946TEC6B	JETTY LIGHTS	KOE1101	RPS	11	1,342
0000003947TE02E	WHARF LIGHT	KOE1101	RPS	21	3,782

1.7. Authorisation Received

All information was provided directly by Bosco.

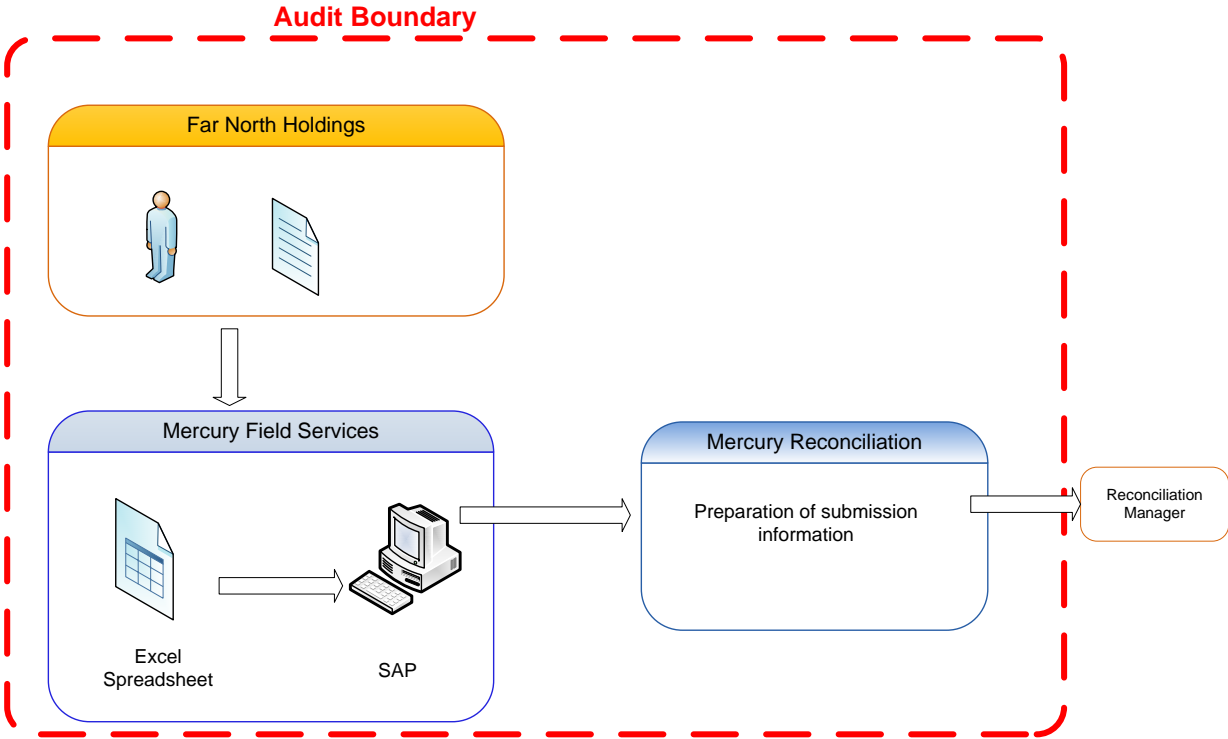
1.8. Scope of Audit

This audit of the Far North Holdings Wharf Lights (FNH) DUML database and processes was conducted at the request of BOSCO Connect Limited (BOSCO), 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.

This covers the wharf lights at Opuia (ICP 0000003947TE02E) and the jetty lights at Opuia (ICP 0000003946TEC6B (as detailed in **section 1.6**). The ICPs are each managed in an excel spreadsheet held by BOSCO.

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.



A field audit of all items of load was conducted to determine the database accuracy on April 26th, 2018.

1.9. Summary of previous audit

BOSCO provided a copy of the last audit report undertaken by Rebecca Elliot of Veritek in 2017. The findings from that audit are set out below with the current statuses.

Table of Non-Compliance

Subject	Section	Clause	Non compliance	Status
Submission accuracy	2.1	11(1) of schedule 15.3	Inaccurate submission due to database inaccuracies for both ICPs.	Still existing
			Inaccurate submission due to incorrect lamp ballasts being applied for ICP 0000003947TE02E.	Cleared
Lamp Capacities	2.2.4	11(2)(d) of Schedule 15.3	Incorrect ballast applied to 125W lamps resulting in an estimated over submission of 136 kWh per annum.	Cleared refer section 2.4
Tracking of Load Changes	2.3	11(3) of Schedule 15.3	Inaccurate submission due to database inaccuracies for both ICPs.	Still existing refer section 2.1, 3.1 & 3.2

Table of Recommendations

Subject	Section	Clause	Recommendation for improvement	Status
Tracking of load changes	2.3 refer section 2.5	11(3) of Schedule 15.3	Work with Contact Energy to determine correct recording of the Russell Wharf lights.	Still existing
			Conduct an audit of all load items to correct the database information.	Still existing

1.10. Distributed unmetered load audits (Clause 16A.26 and 17.295F)

Code reference

Clause 16A.26 and 17.295F

Code related audit information

Retailers must ensure that DUML database audits are completed:

- 1. by 1 June 2018 (for DUML that existed prior to 1 June 2017)*
- 2. within three months of submission to the reconciliation manager (for new DUML)*
- 3. within the timeframe specified by the Authority for DUML that has been audited since 1 June 2017.*

Audit observation

BOSCO 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. DUMML 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:

- *DUMML 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

This clause requires that the distributed unmetered load database must satisfy the requirements of schedule 15.5 regarding the methodology for deriving submission information. Mercury reconciles this DUMML load using the RPS profile. The daily kWh figure recorded in SAP, which is derived from the spreadsheets is used for submission. I checked the accuracy of the submission information by multiplying the daily kWh figure from SAP to the figure submitted in the AV080 for the month of February and found that both were incorrect as detailed in **section 3.2**. Annualised this is an estimated under submission of 10,560 kWh. This is recorded as non-compliance.

There is some inaccurate data within the spreadsheets. This is recorded as non-compliance and discussed in **section 3.1** and **3.2**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: Clause 11(1) of Schedule 15.3 From: 24-May-17 To: 26-Apr-18	<p>The field data was 94.8% of the database data indicating over submission of 837.12 kWh per annum.</p> <p>Incorrect values being submitted in the AV080 resulting in an estimated under submission of 10,560 kWh per annum.</p> <p>Potential impact: Medium</p> <p>Actual impact: Medium</p> <p>Audit history: Once</p> <p>Controls: Weak</p> <p>Breach risk rating: 6</p>		
Audit risk rating	Rationale for audit risk rating		
Medium	<p>Controls are rated as weak as the database has not been updated to reflect the field information.</p> <p>The risk is low due to the impact on submission.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Databases updated based upon the information provided in this audit.		June 2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Development of documented DUML process		May 2019	

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

The analysis found that all items of load had the correct ICP recorded against them for the two ICPs recorded in the database.

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 DUMML database must contain the location of each DUMML item.

Audit observation

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

Audit commentary

The location of each item of load was recorded in the database. The lights are located on small wharfs and jettys. The database records the name of the wharf or jetty and the numbers of each type of lamp at each location.

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 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 and that each item of load had a value recorded in these fields.

Audit commentary

The database contains fields for lamp wattage, ballast and total wattage including ballast. The fields were correctly populated for each load item.

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 all 32 items of load on 26/04/2018.

Audit commentary

The field audit findings are detailed in the table below:

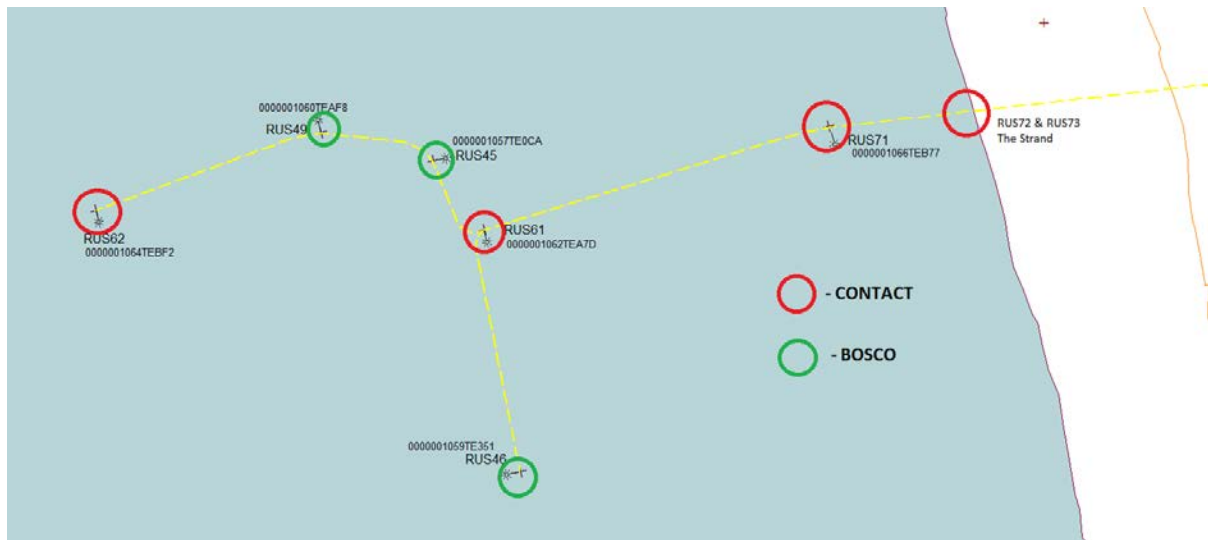
Street/Area	Database count	Field count	Light count differences	Wattage recorded incorrectly	Comments
Wharf Lights Opua - ICP 0000003947TE02E					
Totara North Wharf	6	4	-3 +1	-	Database = 5 x 150W HPS + 1 x 250W HPS. Field count = 2 x 150W HPS + 2 x 250W HPS.
Russell Wharf	15	16	+1		There is one additional LED street light on the wharf.
Jetty Lights Opua - ICP 0000003946TEC6B					
Navigation Lights – Ruatoa Road Whangaroa	2	2	-	-	
Jetty Waitangi	9	9	-	-	

All load checked was recorded in the database except one extra LED lamp on the Russell Wharf and one additional 250 watt HPS on the Totara North Wharf. The lamp discrepancies are recorded as non-compliance in **section 3.1**.

I note that there is a total of 16 lights on the Russell Wharf. Contact holds ICP 0000910450TE75D which is described on the registry as “UNMETERED WHARF LIGHTS RUSSELL”. Top Energy have provided a drawing detailing the light locations on the Russell wharf, I have included this below. The drawing confirms that there are lights under both the Bosco ICP 0000003947TE02E and Contact ICP 0000910450TE75D. I recommend that a full audit of these lights be undertaken to ensure that the correct load is recorded against each ICP and to determine if the lights should be consolidated onto one ICP if they are on the same circuit.

Recommendation	Description	Audited party comment	Remedial action
Regarding: Clauses 11(3) of Schedule 15.3	Work with Contact Energy to determine correct recording of the Russell Wharf lights.	As a first step Bosco will be contacting the customer to understand their needs.	Investigating

Location of lights on Russell Wharf



Recommendation	Description	Audited party comment	Remedial action
Regarding: Clauses 11(3) of Schedule 15.3	Conduct an audit of all load items to correct the database information.	Bosco will be using the outcome of this audit to correct the database.	Identified

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.5 With: Clause 11(2A) of Schedule 15.3 From: 24-May-17 To: 26-Apr-18	2 items of load not recorded in the database. Potential impact: Low Actual impact: Low Audit history: Once Controls: Weak Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as weak as the database has not been updated to reflect the field information. The risk is low as the field audit found two additional items of load.		
Actions taken to resolve the issue		Completion date	Remedial action status
Database will be updated based upon this audit.		June 2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Engagement with the customer to understand their future needs.		October 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 DUMML 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

A field has been added to the database to record changes in the database information, the date of any changes is recorded.

I repeat the two recommendations made in the last audit.

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

A field has been added to the database to record changes in the database information. All of the details above are recorded.

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

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

A field audit of all items of load was conducted to determine the database accuracy.

Audit commentary

The wattage and ballast figures recorded in the database matched those in the published standardised wattage table produced by the Electricity Authority.

The database was found to contain some inaccuracies. The field audit found 1 x 250 watt HPS lamp not recorded in database, 3 x additional 150 watt HPS lamps recorded in database and 1 x LED lamp not recorded in database.

The field data was 94.8% of the database data. The total wattage recorded in the database was 3,782 watts. The total wattage found in the field was 3,586 watts, a difference of 196 watts (assuming the additional LED lamp has a wattage of 30 watts). This will result in estimated over submission of 837.12 kWh per annum (based on annual burn hours of 4,271 as detailed in the DUML database auditing tool).

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.1 With: Clause 11(2A) of Schedule 15.3 From: 24-May-17 To: 26-Apr-18	The field data was 94.8% of the database data indicating over submission of 837.116 kWh per annum. Potential impact: Low Actual impact: Low Audit history: Once Controls: Weak Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as weak as the database has not been updated to reflect the field information. The risk is low due to the minimal impact on submission.		
Actions taken to resolve the issue		Completion date	Remedial action status
Database will be updated based upon the information in this audit.		June 2018	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Bosco will be engaging with the customer to understand their future needs.		October 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

Mercury reconciles this DUML load using the RPS profile. The daily kWh figure recorded in SAP (which is derived from the spreadsheets) is used for submission. The registry was checked and confirmed that all ICPs have the correct profile and submission flag. I checked the accuracy of the submission information by multiplying the daily kWh figure from SAP to the figure submitted in the AV080 for the month of February and found that both were incorrect as detailed below:

ICP	February Database calculation	AV080 February submission	Difference
Wharf Lights Opua - ICP 0000003947TE02E	1,238.72	640.22	598.50
Jetty Lights Opua - ICP 0000003946TEC6B	439.60	158.00	281.60

This is a combined under submission of 880.10 kWh. Annualised this is an estimated under submission of 10,560 kWh. This is recorded as non-compliance.

There is some inaccurate data within the spreadsheets. This is recorded as non-compliance and discussed in **section 2.1** and **3.2**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.2 With: Clause 15.2 and 15.37B(c) From: 24-May-17 To: 26-Apr-18	The field data was 94.8% of the database data indicating over submission of 837.12 kWh per annum. Incorrect values being submitted in the AV080 resulting in an estimated under submission of 10,560 kWh per annum. Potential impact: Medium Actual impact: Medium Audit history: Once Controls: Weak Breach risk rating: 6		
Audit risk rating	Rationale for audit risk rating		
Medium	Controls are rated as weak as the database has not been updated to reflect the field information. The risk is medium due to the impact on submission.		
Actions taken to resolve the issue		Completion date	Remedial action status
Ticket raised to understand why the submission file does not match the database with the view that these be corrected.		June 2018	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
N/A		N/A	

CONCLUSION

The field audit of all items of load found five differences, resulting in the field wattage being 94.8% of the database wattage which means an estimated over submission of 837.12 kWh per annum.

The future risk rating of ten indicates that the next audit be completed in twelve months and I agree with this recommendation.

PARTICIPANT RESPONSE

BOSCO will use the field audit undertaken by Veritek to update our databases. Bosco will also contact the customer for future needs regarding these 31 lights.