

**ELECTRICITY INDUSTRY PARTICIPATION CODE  
RECONCILIATION PARTICIPANT AUDIT REPORT**

The Veritek logo consists of the word "VERITEK" in a blue serif font. To the left of the text is a vertical blue line, and below the text is a horizontal blue line, forming a crosshair-like graphic.

For

**BOSCO CONNECT**

Prepared by: Rebecca Elliot and Tara Gannon

Date audit commenced: 10 April 2018

Date audit report completed: 2 May 2018

Audit report due date: 28 May 2018

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## EXECUTIVE SUMMARY

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of **Bosco Connect Limited (Bosco)**, to support their application for renewal of certification in accordance with clauses 5 and 7 of schedule 15.1. The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits V7.1

This audit is for the EZYN participant code only.

The audit found 28 non-compliance issues, and four recommendations are made. The key issues relate to:

- the accuracy of switching file content, and some manual processes around read renegotiation and switch withdrawals; similar issues were identified in the previous audit
- monitoring of AMI meter events provided by MEPs and meter condition information from meter readers
- meter read attainment, and associated reporting
- corrections to non half hour data.

There have been further improvements since the last audit in relation to the management of registry validation. Examination of the backdated reconnections identified that such status misalignments do not get reported until 100 kWh of consumption has occurred. I recommend this threshold is removed to ensure any ICPs potentially misaligned are identified in a timely manner.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The table below provides some guidance on this matter and contains a future risk rating score of 64, which results in an indicative audit frequency of three months. This is an increase from a score of 56 in the previous audit, but I note some non-compliances raised in the 2017 audit have been cleared. I have considered this result in conjunction with Bosco's responses. Taking into consideration that 13 of the non-compliances have been cleared or corrective actions have been identified my recommendation for the next audit date is eight months.

The matters raised are shown in the tables below:

## AUDIT SUMMARY

### NON-COMPLIANCES

| Subject  | Section | Clause                   | Non-Compliance  | Controls | Audit Risk Rating | Breach Risk Rating | Remedial Action |
|--|---------|--------------------------|---|----------|-------------------|--------------------|-----------------|
| Relevant information   | 2.1     | 10.6,11.2 & 15.2         | Some registry discrepancies identified.   | Moderate | Low               | 2                  | Identified      |
| Electrical Connection of Point of Connection                               | 2.11    | 10.33A                   | Eight ICPs not certified within five business days of electrical reconnection.  | Weak     | Low               | 3                  | Investigating   |
| Changes to registry information  | 3.3     | 10 of schedule 11.1      | Registry not updated within 5 business days of the event.   | Moderate | Low               | 2                  | Investigating   |
| Provision of information to the registry manager                           | 3.5     | 9 of schedule 11.1       | Registry information not provided within 5 business days of commencement of supply for one ICP.   | Strong   | Low               | 1                  | Cleared         |
| Changes to unmetered load  | 3.7     | 9(1)(f) of Schedule 11.1 | Unmetered load was not recorded for ICP 1000010602BPA5D.  | Weak     | Low               | 3                  | Identified      |
| Losing trader response to switch request and event dates - standard switch | 4.2     | 3 & 4 of schedule 11.3   | Incorrect sending of the AA AN response code for sites with AMI metering for transfer switches.   | Moderate | Low               | 2                  | Investigating   |
| Losing trader must provide final information - standard switch             | 4.3     | 5 of schedule 11.3       | Incorrect last read date for ICPs that close on an estimate.<br><br>Actual read incorrectly labelled as an estimate.<br><br>Five late CS files. | Weak     | Low               | 3                  | Investigating   |

| Subject  | Section | Clause                                | Non-Compliance  | Controls | Audit Risk Rating | Breach Risk Rating | Remedial Action |
|--|---------|---------------------------------------|---|----------|-------------------|--------------------|-----------------|
| Retailers must use same reading - standard switch            | 4.4     | (1) and 6A Schedule 11.3              | A read request sent based on one validated meter reading.<br><br>An RR file was accepted but the reads were not updated.                    | Weak     | Low               | 3                  | Identified      |
| Non-half hour switch event meter reading - standard switch   | 4.5     | 6(2) and (3) Schedule 11.3            | Two RRs rejected in error.  | Moderate | Low               | 2                  | Identified      |
| Losing trader provides information - switch move             | 4.8     | 10 of schedule 11.3                   | Incorrect sending of the AA AN response code for sites with AMI metering for move switches.<br><br>45 late CS files.                        | Moderate | Low               | 2                  | Investigating   |
| Losing trader must provide final information - switch move   | 4.10    | 11 of schedule 11.3                   | Incorrect CS file content.  | Weak     | Low               | 3                  | Investigating   |
| Gaining trader changes to switch meter reading - switch move | 4.11    | 12 Schedule 11.3                      | RR sent without two validated reads being gained.<br><br>Four late RR files.<br><br>An RR file was accepted but the reads were not updated. | Moderate | Low               | 2                  | Identified      |
| Withdrawal of switch requests                                | 4.15    | 17 & 18 of schedule 11.3              | 23 switch withdrawals sent later than two months of the event date.<br><br>Four switch withdrawals sent with the incorrect code.            | Moderate | Low               | 2                  | Identified      |
| Distributed unmetered load                                   | 5.4     | 11(1) of schedule 15.3, 10.14 & 15.13 | Database and submission errors found  | Weak     | Medium            | 6                  | Investigating   |

| Subject  | Section | Clause                         | Non-Compliance   | Controls | Audit Risk Rating | Breach Risk Rating | Remedial Action |
|--|---------|--------------------------------|--|----------|-------------------|--------------------|-----------------|
| Electricity conveyed & notification by embedded generators | 6.1     | 10.13                          | While meters were bridged, energy was not metered and quantified according to the code for nine ICPs.<br><br>For three ICPs with generation, energy was not quantified according to the code.<br><br>For one ICP with generation, electricity was not metered in accordance with the code. | Moderate | Low               | 2                  | Identified      |
| Derivation of meter readings                               | 6.6     | 3(1), 3(2) and 5 Schedule 15.2 | Datacol did not conduct or record checks for phase failure.<br><br>Some meter condition information obtained when meters are read manually is not reviewed or acted upon.  | Weak     | Low               | 3                  | Investigating   |
| Interrogate meters once                                    | 6.8     | 7(1) and (2) Schedule 15.2     | No reporting in place to quantify ICPs not interrogated at least once during the period of supply.   | Weak     | Low               | 3                  | Identified      |
| NHH meters interrogated annually                           | 6.9     | 8(1) and (2) Schedule 15.2     | The January 2018 meter reading frequency report was submitted late.  | Strong   | Low               | 1                  | Identified      |
| NHH meters 90% read rate                                   | 6.10    | (1) and (2) Schedule 15.2      | The best endeavours requirement was not met for nine ICPs unread for four months.  | Moderate | Low               | 2                  | Investigating   |



| Subject  | Section | Clause              | Non-Compliance  | Controls | Audit Risk Rating | Breach Risk Rating | Remedial Action |
|--|---------|---------------------|---|----------|-------------------|--------------------|-----------------|
| Correction of NHH meter readings                                   | 8.1     | 19(1) Schedule 15.2 | Four stopped meters did not have corrections processed to estimate consumption during the stopped period.<br><br>Four ICPs with consumption while inactive did not have status corrections processed.   | Moderate | Low               | 2                  | Investigating   |
| Identification of readings   | 9.1     | 3(3) Schedule 15.2  | Actual read incorrectly labelled as an estimate.  | Weak     | Low               | 3                  | Cleared         |
| Electronic meter readings and estimated readings                   | 9.6     | 17 Schedule 15.2    | AMI event information not adequately monitored.   | Moderate | Low               | 2                  | Investigating   |
| HHR aggregates information provision to the reconciliation manager | 11.4    | 15.8                | HHR aggregates file does not contain electricity supplied information.  | Strong   | Low               | 1                  | Disputed        |
| Creation of submission information                                 | 12.2    | 15.4                | For three ICPs with generation, energy was not metered and quantified according to the code.<br><br>Four ICPs with consumption while inactive did not have status corrections processed.<br><br>Four stopped meters did not have corrections processed to estimate consumption during the stopped period. | Moderate | Low               | 2                  | Investigating   |

| Subject   | Section | Clause              | Non-Compliance  | Controls | Audit Risk Rating | Breach Risk Rating | Remedial Action |
|---|---------|---------------------|---|----------|-------------------|--------------------|-----------------|
| Accuracy of submission information              | 12.7    | 15.12               | Four corrections for consumption while inactive, and four corrections for stopped or faulty meters were not processed.<br><br>For three ICPs with generation, energy was not metered and quantified according to the code.<br><br>For two read changes, the accepted reads were not recorded and used for submission. | Moderate | Low               | 2                  | Investigating   |
| Permanence of meter readings for reconciliation | 12.8    | 4 of Schedule 15.2  | Some estimates were not replaced by revision 14.  | Strong   | Low               | 1                  | Identified      |
| Forward estimate process                        | 12.12   | 6 Schedule 15.3     | The accuracy threshold was not met for all months and revisions.  | Moderate | Low               | 2                  | Investigating   |
| Historical estimate reporting to RM             | 13.3    | 10 of Schedule 15.3 | Historic estimate thresholds were not met for one revision.   | Moderate | Low               | 2                  | Identified      |
| Future Risk Rating                              |         |                     |   |          |                   | 64                 |                 |

|                            |           |           |           |           |          |          |
|----------------------------|-----------|-----------|-----------|-----------|----------|----------|
| Future risk rating         | 0         | 1-3       | 4-15      | 16-40     | 41-55    | 55+      |
| Indicative audit frequency | 36 months | 24 months | 18 months | 12 months | 6 months | 3 months |

## RECOMMENDATIONS

| Subject                                      | Section | Description                                    | Recommendation   |
|--|---------|--|--|
| Electrical Connection of Point of Connection | 2.11    | Electrical Reconnection of Point of Connection | Review process to ensure uncertified sites at point of reconnection get recertified within five business days. |

| Subject                          | Section | Description  | Recommendation  |
|----------------------------------|---------|--|---|
| Changes to registry information  | 3.3     | Changes to registry information                        | Remove kWh threshold for ICPs with status mismatches.   |
| Interrogate meters once          | 6.8     | Reporting on ICPs not read during the period of supply | Develop reporting to measure ICPs not reads during period of supply.  |
| NHH meters interrogated annually | 6.9     | Meter read frequency reporting                         | Check the meter read frequency reporting to ensure that the NSP and ICP level information provided is correct and consistent. |

## ISSUES

| Subject | Section | Description | Issue |
|---------|---------|-------------|-------|
|         |         | Nil         |       |

## 1. ADMINISTRATIVE

### 1.1. Exemptions from Obligations to Comply with Code (Section 11)

#### 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

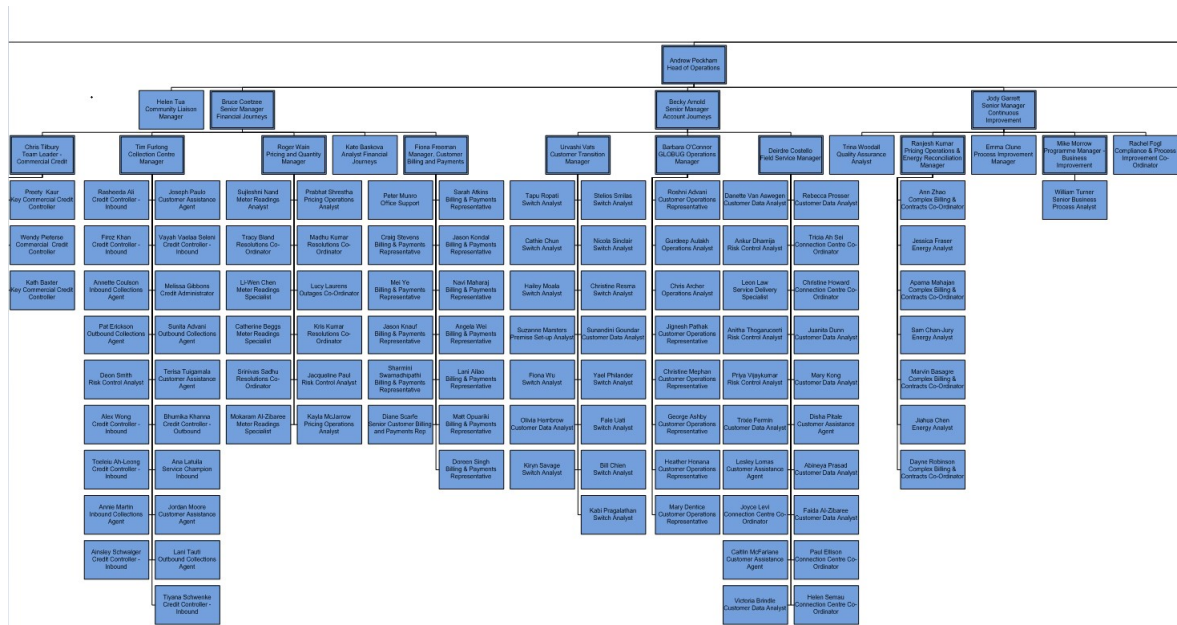
Current code exemptions were reviewed on the Electricity Authority website.

#### Audit commentary

Bosco has no exemptions in place.

### 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:

| Name           | Company         | Role               |
|----------------|-----------------|--------------------|
| Tara Gannon    | Veritek Limited | Lead Auditor       |
| Rebecca Elliot | Veritek Limited | Supporting Auditor |

Bosco personnel assisting in this audit were:

| Name         | Title                               |
|--------------|-------------------------------------|
| Greg Bindon  | System Development Engineer         |
| Leon Law     | Service Delivery Specialist         |
| Navi Maharaj | Billing and Payments Representative |

Mercury personnel assisting in this audit were:

| Name             | Title  |
|------------------|--|
| Andrew Robertson | Regulatory and Compliance Strategist           |
| Jessica Fraser   | Energy Analyst                                 |
| Ranjesh Kumar    | Pricing Operations and Energy Services Manager |
| Sam Chan-Jury    | Energy Analyst                                 |
| Tapu Ropati      | Switch Analyst                                 |
| Urvashi Vats     | Customer Transition Manager                    |

#### 1.4. Use of Agents (Clause 15.34)

##### Code reference

*Clause 15.34*

##### Code related audit information

*A reconciliation participant who uses an agent*

- *remains responsible for the contractor's fulfilment of the participant's Code obligations*
- *cannot assert that it is not responsible or liable for the obligation due to something the agent has or has not done.*

##### Audit observation

Use of agents was discussed with Bosco.

##### Audit commentary

Bosco uses some agents for functions covered by the scope of this audit. They are identified in **section 1.9**.

- EMS provides HHR data and manages HHR volume information
- Far North Holdings provides DUML data

- Wells provides NHH data
- Datacol provided NHH data until March 2018.

AMS and Metrix provide AMI data as MEPs and are subject to a separate audit regime.

### 1.5. Hardware and Software

#### Software

- SAP Business One
- Microsoft Office
- EzyBusiness - manages the customer interface, reconciliation, meter reading
- Microsoft SQL Server 2008
- Citrix
- Mozilla Firefox/ Internet Explorer.

#### Hardware

- Various servers on OneNet
- HP desktop PCs.

Backup processes are managed by OneNet in accordance with standard practices.

### 1.6. Breaches or Breach Allegations

No breaches have been alleged during the audit period.

### 1.7. ICP Data

All active ICPs are summarised by metering category in the table below. The active ICPs (4 in total) with a metering category of 9 or blank are unmetered load ICPs.

| <b>Metering Category</b> | <b>2018</b> | <b>2017</b> |
|--------------------------|-------------|-------------|
| 1                        | 19,669      | 24,506      |
| 2                        | 75          | 94          |
| 3                        | 4           | 4           |
| 4                        | -           | 159         |
| 5                        | -           | 0           |
| 9                        | 2           | 2           |
| Blank                    | 2           | 2           |

| Status  | Number of ICPs<br>(2018) | Number of ICPs<br>(2017) |
|---|--------------------------|--------------------------|
| Active (2,0)  | 19,752                   | 24,608                   |
| Inactive – new connection in progress<br>(1,12)                         | 7                        | 5                        |
| Inactive – electrically disconnected vacant<br>property (1,4)           | 97                       | 149                      |
| Inactive – reconciled elsewhere (1,5)                                   | -                        | -                        |
| Inactive – electrically disconnected ready<br>for decommissioning (1,6) | 4                        | 4                        |
| Inactive – electrically disconnected<br>remotely by AMI meter (1,7)     | -                        | 0                        |
| Inactive – electrically disconnected at pole<br>fuse (1,8)              | 8                        | 28                       |
| Inactive – electrically disconnected due to<br>meter disconnected (1,9) | 29                       | 13                       |
| Inactive – electrically disconnected at<br>meter box fuse (1,10)        | -                        | 1                        |
| Inactive – electrically disconnected at<br>meter box switch (1,11)      | -                        |                          |
| Decommissioned (3)  | 283                      | 232                      |

#### 1.8. Authorisation Received

Bosco provided all information requested, a letter of authorisation was not required.

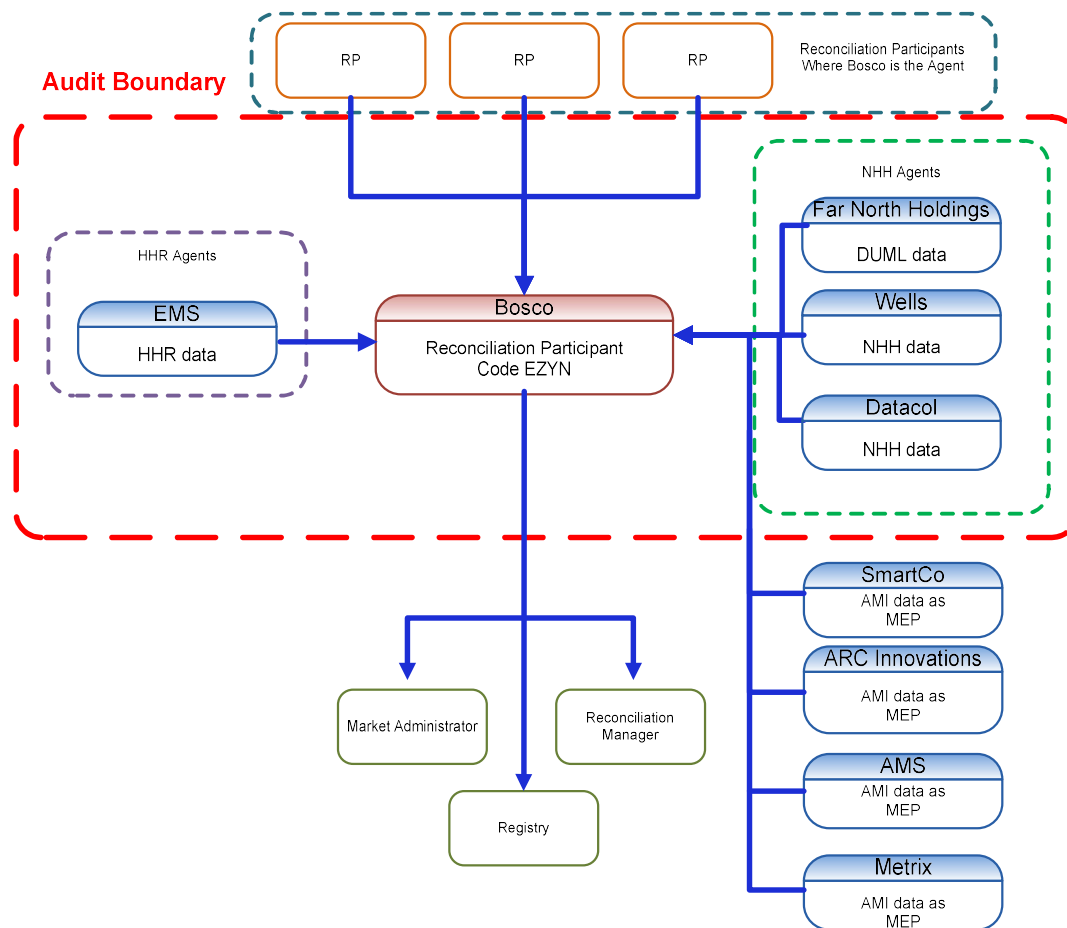
#### 1.9. Scope of Audit

This Electricity Industry Participation Code Reconciliation Participant audit was performed at the request of Bosco, to support their application for renewal of certification in accordance with clauses 5 and 7 of schedule 15.1.

The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits V7.1

The audit was carried out at Bosco's premises in Auckland on 10-12 April 2018.

The scope of the audit is shown in the diagram below, with the Bosco audit boundary shown for clarity. Datacol ceased to be an agent for Bosco in March 2018. This report is for the EZNY participant code only.



The table below shows the tasks under clause 15.38 of part 15, for which Bosco requires certification. This table also lists those agents who assist with these tasks:

| Tasks Requiring Certification Under Clause 15.38(1) of Part 15                                  | Agents Involved in Performance of Tasks                     |
|---|---|
| (a) - Maintaining registry information and performing customer and embedded generator switching |   |
| (b) – Gathering and storing raw meter data  | Wells – NHH<br>Datacol – NHH (until March 2018)             |
| (c)(iii) - Creation and management of HHR and NHH volume information                            | EMS – HHR<br>Wells – NHH<br>Far North Holdings – DUMML data |
| (d) – Calculation of ICP days   |   |



| Tasks Requiring Certification Under Clause 15.38(1) of Part 15   | Agents Involved in Performance of Tasks |
|--|---|
| (da) - delivery of electricity supplied information under clause 15.7  |   |
| (db) - delivery of information from retailer and direct purchaser half hourly metered ICPs under clause 15.8 |   |
| (e) – Provision of submission information for reconciliation   |   |
| (f) - Provision of metering information to the Grid Owner  |   |

Bosco receives distributed unmetered load (DUML) data from Far North Holdings, who are considered agents under clause 15.34 Veritek has audited these Councils and the audit report is separately submitted.

The audit reports for the remaining agents listed above will be submitted with this audit. This report only contains details of those areas where issues were identified or where additional analysis was conducted specifically for Bosco. The agents' reports contain all the remaining detail. Where the report was more than seven months old on the audit due date, I confirmed with the agent that there had been no changes to systems or processes which could affect Bosco's compliance.

#### 1.10. Summary of previous audit

Bosco provided a copy of their previous audit report conducted in June 2017 by Rebecca Elliot (lead auditor) of Veritek Limited. The summary tables below show that some of the issues have been resolved and some are still existing. Further comment is made in the relevant sections of this report.

##### Table of non-compliance

| Subject                         | Section | Clause              | Non-compliance  | Status         |
|---------------------------------|---------|---------------------|---|----------------|
| Relevant information            | 2.1     | 11.2 of part 11     | Some registry discrepancies identified and not being checked. | Still existing |
| Electrical Connection of an ICP | 2.9     | 10.32               | 1 backdated electrically connected ICP.                       | Cleared        |
| Metering certification          | 2.10    | 10.33(2) of part    | 4 ICPs not certified within 5 business days of energisation.  | Still existing |
| Changes to registry             | 3.3     | 10 of schedule 11.1 | Registry not updated within 5 business days of the event.     | Still existing |

| Subject                  | Section | Clause                      | Non-compliance   | Status  |
|--------------------------|---------|-----------------------------|--|---|
| Provision of information | 3.5     | 9 of schedule 11.1          | Registry information not provided within 5 business days of commencement of supply for 6 new connections.            | Still existing  |
| ANZSIC codes             | 3.6     | 9(1)(k) of schedule 11.1    | 6 active ICPs with no or incorrect ANZSIC codes assigned.  | Still existing  |
| Unmetered load           | 3.7     | 9(1)(f) of schedule 11.1    | Unmetered loads populated incorrectly for five ICPs.   | Still existing  |
| Active status            | 3.8     | 17 of schedule 11.1         | Incorrect active dates recorded for two reconnected ICPs.  | Still existing  |
| Inactive status          | 3.9     | 19 of schedule 11.1         | Incorrect status recorded for one HHR ICP.   | Cleared   |
| Change of MEP            | 3.11    | 10.22(1)(a)                 | The sending of erroneous MEP nominations when an ANZSIC code is being updated.<br>No MEP rejection process in place. | Still existing but triggered by a different action in SAP |
| Switching                | 4.2     | 3 & 4 of schedule 11.3      | Incorrect sending of the AA and PD AN response codes for transfer switches.  | Cleared for PD<br>Still existing for AA                   |
|                          | 4.3     | 5 of schedule 11.3          | Incorrect last read date and average daily consumption figures being sent in some instances.<br>Some late CS files.  | Still existing  |
|                          | 4.4     | 6 of schedule 11.3          | One RR sent without being processed via the registry.<br>24 late RR files sent.                                      | Cleared<br>Still existing                                 |
|                          | 4.5     | 6(2) & (3) of schedule 11.3 | One RR incorrectly rejected by Mercury.  | Cleared   |
|                          | 4.8     | 10 of schedule 11.3         | Incorrect sending of the AN code response sent.<br>Some late CS files.   | Still existing  |

| Subject                          | Section | Clause                                | Non-compliance  | Status         |
|----------------------------------|---------|---------------------------------------|---|----------------|
|                                  | 4.9     | 10 (2) of schedule 11.3               | 46 ICPs where the event date was set earlier than the gaining traders.<br>1,183 ICPs where the event date was set greater than 10 days from the gaining traders request date.         | Still existing |
|                                  | 4.10    | 11 of schedule 11.3                   | Incorrect CS file content.  | Still existing |
|                                  | 4.11    | 12 of schedule 11.3                   | 1 late RR file sent.<br>1 late AC file sent.  | Still existing |
|                                  | 4.14    | 16 of schedule 11.3                   | 20 late CS files sent.  | Still existing |
|                                  | 4.15    | 17 of schedule 11.3                   | 10 switch withdrawals sent later than 2 months of the event date.<br>3 late AW responses sent.  | Still existing |
| Distributed unmetered load       | 5.4     | 11(1) of schedule 15.3, 10.14 & 15.13 | Incorrect submission in relation to one DUML databases.   | Still existing |
| Electricity conveyed             | 6.1     | 10.13                                 | Energy is not metered and quantified according to the code where meters are bridged.  | Still existing |
| Derivation of meter readings     | 6.6     | 5 of Schedule 15.2                    | Checks for phase failure not conducted.<br>Customer photo reads treated as actuals.<br>Meter condition information not managed.   | Still existing |
| Interrogate meters once          | 6.8     | 7(1) & (2) of schedule 15.2           | No reporting in place to quantify ICPs not interrogated at least once during the period of supply.  | Still existing |
| NHH meters interrogated annually | 6.9     | (1) & (2) of schedule 15.2            | For one ICP without an actual read for 12 months, exceptional circumstances could not be confirmed, and there was insufficient evidence that the best endeavours requirement was met. | Cleared        |

| Subject                            | Section | Clause  | Non-compliance   | Status   |
|------------------------------------|---------|---|--|--|
| 90% read target                    | 6.10    | 9 of schedule 15.2                            | For seven ICP without an actual read for four months, exceptional circumstances could not be confirmed, and there was insufficient evidence that the best endeavours requirement was met.  | Still existing   |
| Correction of NHH meter readings   | 8.1     | 19(1) Schedule 15.2                           | <p>Eleven ICPs with consumption while disconnected, have not had all their consumption while disconnected reported.</p> <p>Where a meter reading is modified by Bosco, including being recorded against a different meter or register or having its value changed, it should be recorded as an estimated reading. Only readings that exactly match the details in the source file should be recorded as actual validated readings.</p> | <p>Still existing</p> <p>Cleared</p>                   |
| Event logs                         | 9.6     | 17 of schedule 15.2                           | AMI event information not adequately obtained and monitored.   | Still existing   |
| HHR aggregates information         | 11.4    | 15.8  | HHR aggregates file does not contain electricity supplied information.   | Still existing   |
| Creation of submission information | 12.2    | 15.4  | Three ICPs had distributed generation, but no injection information was reported.  | Still existing   |
| Permanence of meter readings       | 12.8    | 4 of schedule 15.2 and clause 15.2 of part 15 | Forward estimate remained for the final revisions for November 2015, December 2015 and January 2016. Not all meter readings were made permanent estimates by the 14 month revision.  | <p>Still existing</p> <p>Improvement has been made</p> |
| RP to prepare information          | 12.9    | 2 Schedule 15.3                               | One ICP with a category 3 meter has submission type NHH.   | Cleared  |
| Forward estimate accuracy          | 12.12   | 6 of Schedule 15.3                            | FE accuracy threshold not met for some balancing areas.  | Still existing   |
| HE targets                         | 13.4    | 10 of Schedule 15.3                           | Historic estimate targets were not met for all revisions.  | Still existing   |

**Table of recommendations**

| Subject                   | Section | Clause                                      | Recommendation   | Remedial Action   |
|---------------------------|---------|---|--|---|
| Relevant information      | 2.1     | 11.2 of part 11                             | Review status discrepancy process to ensure ICP status aligns between systems.   | Cleared   |
| Changes to unmetered load | 3.7     | 9(1)(f) of schedule 11.1                    | Investigate if UML exists for ICP 1000010602BPA5D.   | Still existing  |
| Interrogate meters once   | 6.8     | 9(1) & (2) of schedule 15.2 and clause 15.2 | Where reads are not received from AMI meters, Bosco should advise the MEP, so they can investigate and update the AMI flag on the registry if necessary. | Cleared, the MEP is advised when meters are not communicating |
|                           |         | 7(1) & (2) of schedule 15.2                 | Develop reporting to measure ICPs not reads during period of supply.   | Still existing  |

## 2. OPERATIONAL INFRASTRUCTURE

### 2.1. Relevant information (Clause 10.6, 11.2, 15.2)

#### Code reference

Clause 10.6, 11.2, 15.2

#### Code related audit information

*A participant must take all practicable steps to ensure that information that the participant is required to provide is:*

- a) complete and accurate*
- b) not misleading or deceptive*
- c) not likely to mislead or deceive.*

*If the participant becomes aware that in providing information under this Part, the participant has not complied with that obligation, the participant must, as soon as practicable, provide such further information as is necessary to ensure that the participant does comply.*

#### Audit observation

The process to find and correct incorrect information was examined. The list file was examined to confirm that all information was correct and not misleading, and to identify any registry discrepancies. The registry validation process was examined in detail in relation to the achievement of this requirement.

#### Audit commentary

The list file was analysed, and I found the following:

| Issue   | 2018 | 2017 Qty | Comments   |
|---|------|----------|--|
| Blank ANZSIC codes  | 0    | 5        | Compliant  |
| ANZSIC "T994" don't know  | 0    | 1        | Compliant  |
| Active status misalignment between EzyBusiness and the registry                                   | 0    | 2        | Compliant  |
| Status 1,8 -De-energised at pole fuse   | 0    | 2        | Compliant  |
| Shared unmetered load incorrect   | 0    | 1        | Complaint  |
| ICPs with Distributor unmetered load populated but retail unmetered load is blank and UML flag =N | 1    | 1        | As recorded in the last audit ICP 1000010602BPA5D has UML recorded by the Distributor but Bosco has none. See <b>section 3.7</b> . |
| Incorrect profile & submission flag   | 0    | 1        |  |

The issue of status discrepancies found in the last audit was not found during the 2018 audit. The registry discrepancy process has been improved during the audit period and is checking for ANZSIC codes but is still not checking for all discrepancies. Specifically:

- unmetered load matches to the distributors
- unmetered load thresholds
- mismatches between meter category and submission flag and profile.

Only one ICP was affected by these omissions and Bosco are not actively growing their customer base.

#### Audit outcome

Non-compliant

| Non-compliance  | Description  |                 |                        |
|---|--|-----------------|------------------------|
| Audit Ref: 2.1<br>With: Clause 10.6, 11.2, 15.2<br>From: 01-Jun-17<br>To: 26-Feb-18 | Some registry discrepancies identified.<br>Potential impact: Low<br>Actual impact: Low<br>Audit history: Once<br>Controls: Moderate<br>Breach risk rating: 2                           |                 |                        |
| Audit risk rating   | Rationale for audit risk rating  |                 |                        |
| <b>Low</b>  | I have rated the controls as moderate as not all discrepancies are being checked for.<br>Only one ICP was affected by the missing validations, therefore the audit risk rating is low. |                 |                        |
| Actions taken to resolve the issue  |  | Completion date | Remedial action status |
| The one ICP has been fixed.   |  | April 2018      | Identified             |
| Preventative actions taken to ensure no further issues will occur                   |  | Completion date |                        |
| Daily monitoring has been implemented.  |  | May 2018        |                        |

## 2.2. Provision of information (Clause 15.35)

### Code reference

Clause 15.35

### Code related audit information

*If an obligation exists to provide information in accordance with Part 15, a participant must deliver that information to the required person within the timeframe specified in the Code, or, in the absence of any such timeframe, within any timeframe notified by the Authority. Such information must be delivered in the format determined from time to time by the Authority.*

### Audit observation

Processes to provide information were reviewed and observed throughout the audit.

### Audit commentary

This area is discussed in a number of sections in this report.

### Audit outcome

Compliant

## 2.3. Data transmission (Clause 20 Schedule 15.2)

### Code reference

*Clause 20 Schedule 15.2*

### Code related audit information

*Transmissions and transfers of data related to metering information between reconciliation participants or their agents, for the purposes of the Code, must be carried out electronically using systems that ensure the security and integrity of the data transmitted and received.*

### Audit observation

#### NHH

NHH read data is transferred via SFTP by Metrix, AMS and Wells. NHH data was provided by Datacol until March 2018, via FTP.

To confirm the process, I traced a sample of reads for 20 NHH ICPs from the source files to EzyBusiness.

#### HHR

HHR processes are completed by EMS and were assessed as part of EMS' agent audit.

A copy of the HHR data is sent to Bosco via a zipped password protected email, and I viewed evidence of this.

### Audit commentary

#### NHH

Nightly a system process polls for reading files from each MEP and agent and uploads them into EzyBusiness.

I traced a sample of five readings each for Metrix, AMS, Wells, and Datacol from the source files to EzyBusiness. All readings matched.

#### HHR

EMS' HHR processes were reviewed as part of their agent audit and found to be compliant.

A copy of the HHR information is sent to Bosco in a zipped password protected spreadsheet and used for billing.

### Audit outcome

Compliant



## 2.4. Audit trails (Clause 21 Schedule 15.2)

### Code reference

*Clause 21 Schedule 15.2*

### Code related audit information

*Each reconciliation participant must ensure that a complete audit trail exists for all data gathering, validation, and processing functions of the reconciliation participant.*

*The audit trail must include details of information:*

- *provided to and received from the registry manager*
- *provided to and received from the reconciliation manager*
- *provided and received from other reconciliation participants and their agents.*

*The audit trail must cover all archived data in accordance with clause 18.*

*The logs of communications and processing activities must form part of the audit trail, including if automated processes are in operation.*

*Logs must be printed and filed as hard copy or maintained as data files in a secure form, along with other archived information.*

*The logs must include (at a minimum) the following:*

- *an activity identifier (clause 21(4)(a))*
- *the date and time of the activity (clause 21(4)(b))*
- *the operator identifier (clause 21(4)(c)).*

### Audit observation

A complete audit trail was checked for all data gathering, validation and processing functions. I reviewed audit trails for a small sample of events. Large samples were not necessary because audit trail fields are expected to be the same for every transaction of the same type.

### Audit commentary

A complete audit trail was viewed for all data gathering, validation and processing functions. The logs of these activities for Bosco and all agents include the activity identifier, date and time and an operator identifier.

### Audit outcome

Compliant

## 2.5. Retailer responsibility for electricity conveyed - participant obligations (Clause 10.4)

### Code reference

*Clause 10.4*

### Code related audit information

*If a participant must obtain a consumer's consent, approval, or authorisation, the participant must ensure it:*

- *extends to the full term of the arrangement*
- *covers any participants who may need to rely on that consent.*

### Audit observation

I reviewed Bosco's current terms and conditions.

### Audit commentary

Bosco's current terms and conditions with their customers includes consent to access for authorised parties for the duration of the contract.

### Audit outcome

Compliant

## 2.6. Retailer responsibility for electricity conveyed - access to metering installations (Clause 10.7(2),(4),(5) and (6))

### Code reference

*Clause 10.7(2),(4),(5) and (6)*

### Code related audit information

*The responsible reconciliation participant must, if requested, arrange access for the metering installation to the following parties:*

- *the Authority*
- *an ATH*
- *an auditor*
- *an MEP*
- *a gaining metering equipment provider.*

*The trader must use its best endeavours to provide access:*

- *in accordance with any agreements in place*
- *in a manner and timeframe which is appropriate in the circumstances.*

*If the trader has a consumer, the trader must obtain authorisation from the customer for access to the metering installation, otherwise it must arrange access to the metering installation.*

*The reconciliation participant must provide any necessary facilities, codes, keys or other means to enable the party to obtain access to the metering installation by the most practicable means.*

### Audit observation

I reviewed Bosco's current terms and conditions and discussed compliance with these clauses.

### Audit commentary

Bosco's contract with their customers includes consent to access for authorised parties for the duration of the contract. Bosco confirmed that they have been able to arrange access for other parties when requested.

### Audit outcome

Compliant

## 2.7. Physical location of metering installations (Clause 10.35(1) & (2))

### Code reference

*Clause 10.35(1) & (2)*

### Code related audit information

*A reconciliation participant responsible for ensuring there is a category 1 metering installation or category 2 metering installation must ensure that the metering installation is located as physically close to a point of connection as practical in the circumstances.*

*A reconciliation participant responsible for ensuring there is a category 3 or higher metering installation must:*

- a) if practical in the circumstances, ensure that the metering installation is located at a point of connection; or*
- b) if it is not practical in the circumstances to locate the metering installation at the point of connection, calculate the quantity of electricity conveyed through the point of connection using a loss compensation process approved by the certifying ATH.*

### Audit observation

The physical meter location point is not specifically mentioned in the Terms and Conditions, but the existing practices in the electrical industry achieve compliance.

Bosco was requested to provide details of any installations with loss compensation.

### Audit commentary

Bosco confirmed they do not deal with any installations with loss compensation.

### Audit outcome

Compliant

## 2.8. Trader contracts to permit assignment by the Authority (Clause 11.15B)

### Code reference

Clause 11.15B

### Code related audit information

*A trader must at all times ensure that the terms of each contract between a customer and a trader permit:*

- the Authority to assign the rights and obligations of the trader under the contract to another trader if the trader commits an event of default under paragraph (a) or (b) or (f) or (h) of clause 14.41 (clause 11.15B(1)(a)); and*
- the terms of the assigned contract to be amended on such an assignment to—*
- the standard terms that the recipient trader would normally have offered to the customer immediately before the event of default occurred (clause 11.15B(1)(b)(i)); or*
- such other terms that are more advantageous to the customer than the standard terms, as the recipient trader and the Authority agree (clause 11.15B(1)(b)(ii); and*
- the terms of the assigned contract to be amended on such an assignment to include a minimum term in respect of which the customer must pay an amount for cancelling the contract before the expiry of the minimum term (clause 11.15B(1)(c)); and*
- the trader to provide information about the customer to the Authority and for the Authority to provide the information to another trader if required under Schedule 11.5 (clause 11.15B(1)(d)); and*
- the trader to assign the rights and obligations of the trader to another trader (clause 11.15B(1)(e)).*

*The terms specified in subclause (1) must be expressed to be for the benefit of the Authority for the purposes of the Contracts (Privacy) Act 1982, and not be able to be amended without the consent of the Authority (clause 11.15B(2)).*

#### **Audit observation**

I reviewed Bosco's current terms and conditions.

#### **Audit commentary**

Bosco's terms and conditions contain the appropriate clauses to achieve compliance with this requirement.

#### **Audit outcome**

Compliant

### **2.9. Connection of an ICP (Clause 10.32)**

#### **Code reference**

*Clause 10.32*

#### **Code related audit information**

*A reconciliation participant must only request the connection of a point of connection if they:*

- *accept responsibility for their obligations in Parts 10, 11 and 15 for the point of connection; and*
- *have an arrangement with an MEP to provide 1 or more metering installations for the point of connection.*

#### **Audit observation**

The new connection process was examined in detail to evaluate the strength of controls. The list file and event detail report for the period from June 2017 to February 2018 were analysed to confirm process compliance and controls are functioning as expected. A sample of five new connections were reviewed to confirm that the expected process was followed.

#### **Audit commentary**

##### Half Hour New Connection

There have been no HHR new connections during the audit period and none are expected. Any requests received would be referred to Mercury.

##### Non-half Hour New Connections

Bosco will only accept new connections from their existing customer base i.e. an existing customer builds a new site and therefore the volume of these is small. There have been 26 new connections during the audit period.

New connections on the Vector and Powerco networks are advised by the network. For the other networks, the application is received from the customer's agent such as the electrician. They then contact the network and request the creation of an ICP. Bosco claims the ICP at the "new connection in progress" status and the MEP is nominated at the same time. They then issue a service request to the field. Once the paperwork is received back to confirm the ICP is energised, the ICP is updated to active in EzyBusiness which then writes to the registry which updates SAP. No examples were found of new connections with backdated creation dates. The list file and event detail reports were examined and found there were no backdated electrically connected ICPs.

## Audit outcome

Compliant

### 2.10. Temporary Electrical Connection of an ICP (Clause 10.33(1))

#### Code reference

*Clause 10.33(1)*

#### Code related audit information

*A reconciliation participant may temporarily electrically connect a point of connection, or authorise an MEP to temporarily electrically connect a point of connection, only if:*

- *they are recorded in the registry as being responsible for the ICP; and*
- *one or more certified metering installations are in place at the ICP in accordance with Part 10; and*
- *for an ICP that has not previously been electrically connected, the network owner has given written approval.*

#### Audit observation

The new connection process was examined in detail to evaluate the strength of controls. The list file and event detail report for the audit period from June 2017 to February 2018 were analysed to confirm process compliance and that controls are functioning as expected.

#### Audit commentary

##### Half Hour New Connection

There have been no HHR new connections during the audit period and none are expected.

##### Non-half Hour New Connections

As Bosco uses the “inactive - new connection in progress” status they will be recorded in the registry as responsible for an ICPs that are temporarily electrically connected. No temporary electrical connections were identified, and these are unlikely to occur for NHH new connections.

## Audit outcome

Compliant

### 2.11. Electrical Connection of Point of Connection (Clause 10.33A)

#### Code reference

*Clause 10.33A(1)*

#### Code related audit information

*A reconciliation participant may electrically connect or authorise the electrical connection of a point of connection only if:*

- *they are recorded in the registry as being responsible for the ICP; and*
- *one or more certified metering installations are in place at the ICP in accordance with Part 10; and*
- *for an ICP that has not previously been electrically connected, the network owner has given written approval.*

### Audit observation

The new connection process was examined in detail, and the list file as at 20 February 2018, and event detail report for event detail report for the period from 1 June 2017 to 26 February 2018 was analysed.

Eight ICPs of 330 reconnected ICPs (2.4% of reconnections) were reconnected with expired interim certified meters. These were all examined during the site audit.

### Audit commentary

#### New Connections

All newly connected NHH ICPs have current metering in place as noted in **section 3.2** below.

Analysis of the list file and event detail report found all newly connected ICPs were certified within five business days of electrical connection.

#### Reconnected ICPs

Bosco were unaware of their responsibility to ensure meters are recertified when electrically reconnecting sites, therefore this is not part of the reconnection process checks. I recommend that the process be reviewed to ensure this requirement is addressed.

| Description                                    | Recommendation   | Audited party comment  | Remedial action |
|--|--|--|-----------------|
| Electrical Reconnection of Point of Connection | Review process to ensure uncertified sites at point of reconnection get recertified within five business days. | <p>BOSCO is now aware of this obligation and will look to introduce a process to reduce these breaches, however these will never be fully resolved due to market operating procedures.</p> <p>Preventative actions taken to ensure no further issues will occur</p> <p>Auditor also identified to BOSCO this is an industry wide issue. It could/should result in retailers refusing to accept customer switches in order to remain compliant. This appears to be detrimental to customers and the market and BOSCO suggests EA review this obligation. In addition 5 business days is unachievable with current industry and participant response rates (average is 21 days based on other retailer sampling)</p> | Investigating   |

The eight ICPs uncertified at the time of reconnection were examined and it was found that they are still uncertified.

## Audit outcome

Non-compliant

| Non-compliance   | Description   |                 |                        |
|--|---|-----------------|------------------------|
| Audit Ref: 2.11<br>With: Clause 10.33A<br><br>From: 01-Jun-17<br>To: 26-Feb-18   | Eight ICPs not certified within five business days of electrical reconnection.<br>Potential impact: Low<br>Actual impact: Low<br>Audit history: None<br>Controls: Weak<br>Breach risk rating: 3   |                 |                        |
| Audit risk rating  | Rationale for audit risk rating   |                 |                        |
| Low  | The controls are rated as weak as there are no controls in place to ensure reconnected ICPs with uncertified metering are certified within five business days.<br><br>The audit risk rating is low as this has no direct impact on reconciliation |                 |                        |
| Actions taken to resolve the issue   |   | Completion date | Remedial action status |
| BOSCO is looking to implement the Auditors recommendation and investigate changing processes or refusing customers transfers.<br><br>As noted by the auditor, it is MEP non-compliance that is triggering Retailer non-compliance. |   | October 2018    | Investigating          |
| Preventative actions taken to ensure no further issues will occur  |   | Completion date |                        |
| EA should consider this as an industry wide issue where compliance by a retailer is potentially unachievable.  |   | 2020            |                        |

## 2.12. Arrangements for line function services (Clause 11.16)

### Code reference

Clause 11.16

### Code related audit information

*Before providing the registry manager with any information in accordance with clause 11.7(2) or clause 11.18(4), a trader must ensure that it, or its customer, has made any necessary arrangements for the provision of line function services in relation to the relevant ICP*

*Before providing the registry manager with any information in accordance with clause 11.7(2) or clause 11.18(4), a trader must have entered into an arrangement with an MEP for each metering installation at the ICP.*

#### **Audit observation**

The process to ensure an arrangement is in place before trading commences on a Network was examined and controls within SAP and EzyBusiness were checked.

#### **Audit commentary**

Bosco has an arrangement in place for all the networks they trade on.

#### **Audit outcome**

Compliant

### **2.13. Arrangements for metering equipment provision (Clause 10.36)**

#### **Code reference**

*Clause 10.36*

#### **Code related audit information**

*A reconciliation participant must ensure it has an arrangement with the relevant MEP prior to accepting responsibility for an installation.*

#### **Audit observation**

The process to ensure an arrangement is in place with the metering equipment provider before an ICP can be created or switched in was checked, including a check of controls within SAP and EzyBusiness.

#### **Audit commentary**

Bosco has an arrangement in place with all MEPs that manage metering in relation to their customer base. The new connection process also contains a step that requires nomination of an MEP. Registry notifications are used to monitor MEP acceptance or rejection of any nominations.

#### **Audit outcome**

Compliant



### 3. MAINTAINING REGISTRY INFORMATION

#### 3.1. Obtaining ICP identifiers (Clause 11.3)

##### Code reference

Clause 11.3

##### Code related audit information

*The following participants must, before assuming responsibility for certain points of connection on a local network or embedded network, obtain an ICP identifier for the point of connection:*

- a) a trader who has agreed to purchase electricity from an embedded generator or sell electricity to a consumer*
- b) an embedded generator who sells electricity directly to the clearing manager*
- c) a direct purchaser connected to a local network or an embedded network*
- d) an embedded network owner in relation to a point of connection on an embedded network that is settled by differencing*
- e) a network owner in relation to a shared unmetered load point of connection to the network owner's network*
- f) a network owner in relation to a point of connection between the network owner's network and an embedded network.*

*ICP identifiers must be obtained for points of connection at which any of the following occur:*

- a consumer purchases electricity from a trader 11.3(3)(a)*
- a trader purchases electricity from an embedded generator 11.3(3)(b)*
- a direct purchaser purchases electricity from the clearing manager 11.3(3)(c)*
- an embedded generator sells electricity directly to the clearing manager 11.3(3)(d)*
- a network is settled by differencing 11.3(3)(e)*
- there is a distributor status ICP on the parent network point of connection of an embedded network or at the point of connection of shared unmetered load 11.3(3)(f).*

##### Audit observation

The “new connections” process was examined in detail to confirm compliance with the requirement to obtain ICP identifiers for points of connection to local or embedded networks.

##### Audit commentary

This requirement is well managed and understood by Bosco. The process is detailed in **section 2.9** above.

##### Audit outcome

Compliant

#### 3.2. Providing registry information (Clause 11.7(2))

##### Code reference

Clause 11.7(2)

##### Code related audit information

*Each trader must provide information to the registry manager about each ICP at which it trades electricity in accordance with Schedule 11.1.*

### Audit observation

The new connection process was examined in detail. The list file was analysed in conjunction with the event detail report for the audit period to evaluate the updating of the registry in relation to new connections. This clause links directly to **section 3.5** below. The findings for the timeliness of updates is detailed there.

### Audit commentary

The new connection process is detailed in **section 2.9** above. The process in place ensures that the trader required information is populated as required by this clause.

### Audit outcome

Compliant

## 3.3. Changes to registry information (Clause 10 Schedule 11.1)

### Code reference

*Clause 10 Schedule 11.1*

### Code related audit information

*If information provided by a trader to the registry manager about an ICP changes, the trader must provide written notice to the registry manager of the change no later than 5 business days after the change.*

### Audit observation

The process to manage changes is examined. In this section, I have examined the event detail report for the period from 1 June 2017 to 26 February 2018 to determine the overall performance for that period. I used the extreme case methodology examining a sample of ten ICPs (or less if that was all that was found) that were updated greater than 30 days (or fewer days if the sample was too small for greater than 30 days) from the event date for each of the event type updates.

### Audit commentary

The table below shows the timeliness of registry updates.

| Event   | Year | Total ICPs | ICPs notified within 5 days | ICPs notified greater than 5 days | Average notification days | Percentage compliant |
|---|------|------------|-----------------------------|-----------------------------------|---------------------------|----------------------|
| Change to active - Reconnections  | 2017 | 292        | 249                         | 43                                | 5.6                       | 85%                  |
|   | 2018 | 330        | 275                         | 55                                | 6.7                       | 83.3%                |
| Change to de-energised vacant (excluding new connection in progress and ready for decommissioning statuses) | 2017 | 265        | 216                         | 49                                | 10.9                      | 82%                  |
|   | 2018 | 149        | 128                         | 21                                | 47.5                      | 85.9%                |

| Event   | Year | Total ICPs | ICPs notified within 5 days | ICPs notified greater than 5 days | Average notification days | Percentage compliant |
|---|------|------------|-----------------------------|-----------------------------------|---------------------------|----------------------|
| Change to de-energised ready for decommissioning  | 2017 | 16         | 9                           | 7                                 | 37.7                      | 56%                  |
|   | 2018 | 55         | 25                          | 30                                | 47.3                      | 45.5%                |
| Change to de-energised new connection in progress | 2017 | 46         | 46                          | 0                                 | 0                         | 100%                 |
|   | 2018 | 34         | 27                          | 7                                 | 3.4                       | 79.4%                |
| Change of MEP                                     | 2017 | 227        | 202                         | 25                                | 39.4                      | 89%                  |
|   | 2018 | 285        | 284                         | 1                                 | -28.2 days*               | 99.9%                |

\*The average notification days includes ICPs where the nomination has been sent well in advance of the meter being recertified hence it is a negative number.

### **Reconnections**

The reconnection service requests work differently to new connection updates. A service request is issued to the field and once received back the ICP is updated in the registry, and this then updates the status in EzyBusiness. The status periods e.g. periods of inactive vs active are not held in EzyBusiness but these time slices are held on the registry and in SAP.

There were 19 ICPs with status changes backdated greater than 30 days. The sample checked found:

- Seven related to the Edgumbe flood affected sites where the network reconnected sites but did not advise the retailer in every instance. These were found through consumption on vacant checks and updated to active once confirmed by the network that these had been reconnected.
- Three were due to EzyBusiness' rule that ICP's with status mismatches are not pulled through to the status mismatch report until there is a 100 kWh of consumption recorded. In these instances, the ICPs did not reach that threshold for some months, causing a delay. I recommend the threshold is removed.

| Description                     | Recommendation  | Audited party comment   | Remedial action |
|---------------------------------|---|---|-----------------|
| Changes to registry information | Remove kWh threshold for ICPs with status mismatches. | Bosco has reduced the threshold to 50kWh and will assess if this is sufficient to improve compliance for this obligation. | Identified      |

### **Inactive statuses**

#### **Inactive - New Connection in Progress**

As detailed in **section 2.9**, Bosco claims all new ICPs at the "new connection in progress" status and the MEP is nominated at the same time. Seven were updated greater than five days after the event, but all were updated prior to electrical connection. These were checked on site. Two were updated late due to human error, and five were due to the notification from Waipa network not being received by the

relevant person in Bosco. I have provided the Waipa Network contact as it appears that the notification is not being received by the correct people in Bosco.

#### Inactive - excluding “new connection in progress” and “ready for decommissioning”

The disconnection process works in the same way as reconnections. A service request is issued to the field and once received back the ICP is updated in the registry and this then updates the status in EzyBusiness, which then updates the registry, which then updates SAP. All credit disconnections are updated for each full day of no power. 17 ICPs had status changes backdated greater than 30 days. The sample analysed found that:

- seven of these were already at Inactive vacant and they had been updated to reflect how the ICP was disconnected so weren't technically backdated updates
- two ICPs were pending decommissioning but the decommissioning jobs were cancelled so they have been updated to reflect how they are disconnected
- ICP 0125769482LCD9B had access issues and once access was gained the meter reader found the meter had been removed.

Overall performance has improved slightly from 83% to 85.9%.

#### Inactive - Ready for Decommissioning

ICPs are only updated to this status on advice from the network, therefore all the late updates are due to the network advising Bosco late. If a customer requests a site to be decommissioned, Bosco advise the network via email that a decommission request should be expected and they direct the customer to contact the network to arrange this.

There were nine ICPs with status updates backdated greater than 30 days. These were analysed and found that they were all due to late notification from the networks.

#### Change of MEP

The process to manage MEP changes is automated for bulk meter roll outs via a file upload and manual for other MEP changes. Analysis found only one late MEP nomination and this was due to human error.

#### Trader Events update

Late trader events are difficult to analyse from the event detail report as trader events are used to update a variety of activity. However, two late trader updates were identified during the audit:

| ICP             | Event date | Update date | Business days | Event          |
|-----------------|------------|-------------|---------------|----------------|
| 0000003946TEC6B | 24/05/2017 | 20/02/2018  | 188           | Unmetered load |
| 0000003947TE02E | 21/10/2014 | 20/02/2018  | 838           | Unmetered load |

#### **Audit outcome**

Non-compliant

| Non-compliance  | Description   |                 |                        |
|---|---|-----------------|------------------------|
| Audit Ref: 3.3<br>With: Clause 10 of schedule 11.1<br>From: 01-Jun-17<br>To: 26-Feb-18  | Registry not updated within 5 business days of the event.<br>Potential impact: Low<br>Actual impact: Low<br>Audit history: Multiple<br>Controls: Moderate<br>Breach risk rating: 2                  |                 |                        |
| Audit risk rating   | Rationale for audit risk rating   |                 |                        |
| <b>Low</b>  | The controls are rated as moderate as controls will mitigate risk most of the time, but there is room for errors to occur.<br>The audit risk rating is low as the number of ICPs affected is small. |                 |                        |
| Actions taken to resolve the issue  |   | Completion date | Remedial action status |
| Bosco is investigating as multiple changes may be required. Bosco has followed the auditor recommendation and reduced the threshold to 50kWh and will assess if this is sufficient to improve compliance for this obligation. |   | October 2018    | Investigating          |
| Preventative actions taken to ensure no further issues will occur   |   | Completion date |                        |
| As above  |   | May 2019        |                        |

### 3.4. Trader responsibility for an ICP (Clause 11.18)

#### Code reference

Clause 11.18

#### Code related audit information

*A trader becomes responsible for an ICP when the trader is recorded in the registry as being responsible for the ICP.*

*A trader ceases to be responsible for an ICP if:*

- *another trader is recorded in the registry as accepting responsibility for the ICP (clause 11.18(2)(a)); or*
- *the ICP is decommissioned in accordance with clause 20 of Schedule 11.1 (clause 11.18(2)(b)).*
- *if an ICP is to be decommissioned, the trader who is responsible for the ICP must (clause 11.18(3)):*
  - o *arrange for a final interrogation to take place prior to or upon meter removal (clause 11.18(3)(a)); and*
  - o *advise the MEP responsible for the metering installation of the decommissioning (clause 11.18(3)(b)).*

*A trader who is responsible for an ICP (excluding UML) must ensure that an MEP is recorded in the registry for that ICP (clause 11.18(4)).*

*A trader must not trade at an ICP (excluding UML) unless an MEP is recorded in the registry for that ICP (clause 11.18(5)).*

#### Audit observation

##### Retailers Responsibility to Nominate and Record MEP in the Registry

The new connection process was discussed and the list file, as at 20 February 2018, was examined to identify that all active ICPs have an MEP recorded. MEP rejections were analysed from the event detail report and identified three MEP rejections. They were checked during the site audit.

##### ICP Decommissioning

The process for the decommissioning of ICPs was examined. A selection of ten decommissioned ICPs were checked using the typical case method of sampling to prove the process and confirm controls are in place.

#### Audit commentary

##### Retailers Responsibility to Nominate and Record MEP in the Registry

The MEP nomination is issued at the same time as the ICP is taken to the status “inactive - new connection in progress”. The timeliness of these updates is recorded in **section 3.3**. A check of the list file confirmed that all active ICPs have an MEP recorded. Bosco uses two MEPs for their sites. Any rejections are managed from the registry notification and the three MEP rejections were due to human error where the incorrect MEP was nominated.

##### ICP Decommissioning

Bosco continues with their obligations under this clause. ICPs that are vacant and active, or inactive are still maintained in SAP.

In all cases, an attempt is made to read the meter at the time of removal and if this is not possible then the last actual meter reading is used. This last actual reading is normally the one taken at the time of de-energisation. The Mercury field services team manage this process on behalf of Bosco and they advise the MEP responsible that a site is to be decommissioned. The sample checked confirmed compliance.

#### Audit outcome

Compliant

### 3.5. Provision of information to the registry manager (Clause 9 Schedule 11.1)

#### Code reference

*Clause 9 Schedule 11.1*

#### Code related audit information

*Each trader must provide the following information to the registry manager for each ICP for which it is recorded in the registry as having responsibility:*

- a) the participant identifier of the trader, as approved by the Authority (clause 9(1)(a))*
- b) the profile code for each profile at that ICP, as approved by the Authority (clause 9(1)(b))*
- c) the metering equipment provider for each category 1 metering or higher (clause 9(1)(c))*
- d) the type of submission information the trader will provide to the RM for the ICP (clause 9(1)(ea))*
- e) if a settlement type of UNM is assigned to that ICP, either:*
  - the code ENG if the load is profiled through an engineering profile in accordance with profile class 2.1 (clause 9(1)(f)(i)); or*

- in all other cases, the daily average kWh of unmetered load at the ICP (clause 9(1)(f)(ii)).
- the type and capacity of any unmetered load at each ICP (clause 9(1)(g))
- the status of the ICP, as defined in clauses 12 to 20 (clause 9(1)(j))
- except if the ICP exists for the purposes of reconciling an embedded network or the ICP has distributor status, the trader must provide the relevant business classification code applicable to the customer (clause 9(1)(k)).

The trader must provide information specified in (a) to (j) above within 5 business days of trading (clause 9(2)).

The trader must provide information specified in 9(1)(k) no later than 20 business days of trading (clause 9(3))

#### Audit observation

The new connection process was examined in detail. The list file was analysed in conjunction with the event detail report for the period from 1 June 2017 to 26 February 2018 to evaluate the updating of the registry in relation to new connections. I checked all ICPs that were not updated within five business days of energisation. All ICPs had a matching active energisation, meter certification and active date.

#### Audit commentary

The table shows a high level of compliance. Only one ICP was not updated within five business days.

| Event                              | Year | Total ICPs | ICPs Notified Within 5 Days | ICPs Notified Greater Than 5 Days | Average Notification Days | Percentage Compliant |
|------------------------------------|------|------------|-----------------------------|-----------------------------------|---------------------------|----------------------|
| Change to active - New connections | 2017 | 48         | 42                          | 6                                 | 3.2                       | 88%                  |
|                                    | 2018 | 26         | 25                          | 1                                 | 1.5                       | 96.2%                |

#### New Connections

##### Half Hour

No half hour new connections have occurred during the audit period, and these are not expected. Any requests received would be referred to Mercury.

##### Non-Half Hour

NHH new connections are managed in an excel WIP file where all jobs issued are tracked. ICP 1000572424PC4BB was updated six days after electrical connection due to late paperwork.

#### Audit outcome

Non-compliant

| Non-compliance  | Description  |                 |                        |
|---|--|-----------------|------------------------|
| Audit Ref: 3.5<br>With: Clause 9 of schedule 11.1<br><br>From: 18-Dec-17<br>To: 19-Dec-17 | Registry information not provided within 5 business days of commencement of supply for one ICP.<br>Potential impact: Low<br>Actual impact: Low<br>Audit history: Once<br>Controls: Strong<br>Breach risk rating: 1 |                 |                        |
| Audit risk rating   | Rationale for audit risk rating  |                 |                        |
| Low   | The controls are rated as strong as the process whilst manual has high visibility and is managed closely.<br>The audit risk rating is low as only one ICP was updated one day late.                                |                 |                        |
| Actions taken to resolve the issue  |  | Completion date | Remedial action status |
| Operator error for the one ICP. Coaching has been provided and ICP corrected.             |  | April 2018      | Cleared                |
| Preventative actions taken to ensure no further issues will occur                         |  | Completion date |                        |
| Ongoing coaching  |  | Ongoing         |                        |

### 3.6. ANZSIC codes (Clause 9 (1(k) of Schedule 11.1)

#### Code reference

*Clause 9 (1(k) of Schedule 11.1*

#### Code related audit information

*Traders are responsible to populate the relevant ANZSIC code for all ICPs for which they are responsible.*

#### Audit observation

The process to capture and manage ANZSIC codes was examined. A Registry List was reviewed to check ANZSIC codes.

#### Audit commentary

ANZSIC codes are captured when the customer signs up and are checked as part of the registry discrepancy process. Analysis of the active ICPs in the list file found all ICPs were populated with an ANZSIC code with a defined industry. A sample of 40 commercial and 40 residential codes were checked and found to be correct.

#### Audit outcome

Compliant



### 3.7. Changes to unmetered load (Clause 9(1)(f) of Schedule 11.1)

#### Code reference

*Clause 9(1)(f) of Schedule 11.1*

#### Code related audit information

*If a settlement type of UNM is assigned to that ICP, the trader must populate:*

- *the code ENG - if the load is profiled through an engineering profile in accordance with profile class 2.1 (clause 9(1)(f)(i)); or*
- *the daily average kWh of unmetered load at the ICP - in all other cases (clause 9(1)(f)(ii)).*

#### Audit observation

The process to manage unmetered load was examined. A list file with history for the period from 1 June 2017 to 20 February 2018 was examined for where:

- an unmetered load is identified by the Distributor, but none is recorded by Bosco.
- Bosco's unmetered load figure doesn't match with the Distributor's figure (where it's possible to calculate this if the Distributor is using the recommended format) and there is a variance of greater than 0.1kWh per day.

#### Audit commentary

Examination of the Bosco list file found 12 active ICPs where Bosco has unmetered load recorded, excluding shared unmetered load. The load for these was checked against those where the distributor has used the recommended unmetered load format (2 out of the 12 ICPs). No discrepancies were found. The Distributors for the remaining ten ICPs have no unmetered load details recorded, or the details are not recorded in the recommended format from which a calculation can be made.

As recorded in the last audit, ICP 1000010602BPA5D has an unmetered load is identified by the Distributor but none is recorded by Bosco. Bosco confirmed that an unmetered load is present and EzyBusiness and the registry were updated during the audit. The validation of unmetered loads is not included in the registry validation and is recorded as non-compliance in **section 2.1**. If the Distributor changes their metered load details on the registry these are managed via the registry notification process.

Unmetered load changes occurred during the audit period for ICPs 0000003946TEC6B and 0000003947TE02E, these are the DUML ICPs for jetty lighting for Far North Holdings. DUML is discussed in **section 5.4**. Late update of the unmetered load details on the registry are recorded as non-compliance in **section 3.3**.

#### Audit outcome

Non-compliant

| Non-compliance  | Description   |                 |                        |
|---|---|-----------------|------------------------|
| Audit Ref: 3.7<br>With: Clause 9(1)(f) of Schedule 11.1<br>From: 15-Mar-13<br>To: 13-Apr-18 | Unmetered load was not recorded for ICP 1000010602BPA5D.<br>Potential impact: Low<br>Actual impact: Low<br>Audit history: Multiple<br>Controls: Weak<br>Breach risk rating: 3                   |                 |                        |
| Audit risk rating   | Rationale for audit risk rating   |                 |                        |
| <b>Low</b>  | I have rated the controls as weak as this is not checked as part of the registry discrepancy process.<br>The audit risk rating is low as only one ICP was affected and this has been corrected. |                 |                        |
| Actions taken to resolve the issue  |   | Completion date | Remedial action status |
| This has been corrected.  |   | April 2018      | Identified             |
| Preventative actions taken to ensure no further issues will occur                           |   | Completion date |                        |
| Reports have been implemented to identify sites of this nature.                             |   | May 2018        |                        |

### 3.8. Management of “active” status (Clause 17 Schedule 11.1)

#### Code reference

Clause 17 Schedule 11.1

#### Code related audit information

The ICP status of “active” is be managed by the relevant trader and indicates that:

- the associated electrical installations are electrically connected (clause 17(1)(a))
- the trader must provide information related to the ICP in accordance with Part 15, to the reconciliation manager for the purpose of compiling reconciliation information (clause 17(1)(b)).

Before an ICP is given the “active” status, the trader must ensure that:

- the ICP has only one customer, embedded generator, or direct purchaser (clause 17(2)(a))
- the electricity consumed is quantified by a metering installation or a method of calculation approved by the Authority (clause 17(2)(b)).

#### Audit observation

The new connection process was examined in detail as discussed in **sections 2.9 & 3.5**. The list file as at 20 February 2018 was examined to identify any ICPs still at the status “Inactive - new connection in

progress” with an initial energisation date populated and none were found. The event detail report and list file report were checked for any variances between the initial energisation date and the active date and all matched.

The process for the management of ICP reconnection was examined. The event detail report for the audit period was analysed and the findings in relation to the timeliness of updates to registry are recorded in **section 3.3**.

#### Audit commentary

Before being given an “active” status, the retailer is required to ensure that the ICP has only one customer, embedded generator, or direct purchaser; and that the electricity consumed is quantified by a metering installation(s) or other Authority approved method of calculation. EzyBusiness and SAP will not allow more than one party per ICP, nor will it allow an ICP to be set up without either a meter, or if it is unmetered, the daily kWh.

The accuracy of the active dates for the new connections was checked against the meter certification date and the initial energisation date across all identifiable new connections. All matched correctly.

#### Reconnections

The reconnection process is discussed in **section 3.3**. The sample checked confirmed that the statuses aligned with EzyBusiness and SAP. The issue of misaligned dates was not found in this audit.

#### Audit outcome

Compliant

### 3.9. Management of “inactive” status (Clause 19 Schedule 11.1)

#### Code reference

*Clause 19 Schedule 11.1*

#### Code related audit information

*The ICP status of “inactive” must be managed by the relevant trader and indicates that:*

- *electricity cannot flow at that ICP (clause 19(a)); or*
- *submission information related to the ICP is not required by the reconciliation manager for the purpose of compiling reconciliation information (clause 19(b)).*

#### Audit observation

An event detail report for the period of 1 June 2017 to 26 February 2018 was reviewed, to identify all changes to inactive during the audit period.

The inactive status of “new connections in progress” was examined. The list file was examined to identify any ICPs that had been at the “Inactive - new connection in progress” for greater than 24 months and none were found.

The process to manage ICPs at the other inactive statuses was examined. A sample of five ICPs (or less if there were less than five at a status) at each inactive status using the typical characteristics methodology were checked. The findings in relation to the timeliness of updates to registry are recorded in **section 3.3**.

#### Audit commentary

Inactive - New Connection in progress

As recorded in **section 1.7**, there were seven ICPs at this status in the list file. All were recorded correctly at this status. None have been at this status for greater than 24 months. Compliance is recorded in relation to the timeliness of updates to this status in **section 3.3**.

Inactive Status (excluding new connection in progress)

The process to manage changes to inactive is detailed in **section 3.3**. The status of “Inactive” is only used once a Bosco approved contractor has confirmed that the ICP has been disconnected. The sample checked of the ICPs at the various inactive statuses aligned with EzyBusiness and SAP.

**Audit outcome**

Compliant

3.10. ICPs at new or ready status for 24 months (Clause 15 Schedule 11.1)

**Code reference**

*Clause 15 Schedule 11.1*

**Code related audit information**

*If an ICP has had the status of "New" or "Ready" for 24 calendar months or more, the distributor must ask the trader whether it should continue to have that status and must decommission the ICP if the trader advises the ICP should not continue to have that status.*

**Audit observation**

Whilst this is a Distributor’s code obligation, I investigated whether any queries had been received from Distributors in relation to ICPs at the “New” or “Ready” status for more than 24 months and what process is in place to manage and respond to such requests.

**Audit commentary**

Bosco takes all pending new connections to the “new connection in progress” status. Therefore, it is unlikely that any ICPs are at the “ready” status that have not been claimed. They confirmed they have not received any notifications from any Distributors in relation to this.

**Audit outcome**

Compliant

## 4. PERFORMING CUSTOMER AND EMBEDDED GENERATOR SWITCHING

### 4.1. Inform registry of switch request for ICPs - standard switch (Clause 2 Schedule 11.3)

#### Code reference

Clause 2 Schedule 11.3

#### Code related audit information

*The standard switch process applies where a trader and a customer or embedded generator enters into an arrangement in which the trader commences trading electricity with the customer or embedded generator at a non-half hour or unmetered ICP at which another trader supplies electricity, or the trader assumes responsibility for such an ICP.*

*If the uninvited direct sale agreement applies to an arrangement described above, the gaining trader must identify the period within which the customer or embedded generator may cancel the arrangement in accordance with section 36M of the Fair Trading Act 1986. The arrangement is deemed to come into effect on the day after the expiry of that period.*

*A gaining trader must advise the registry manager of a switch no later than two business days after the arrangement comes into effect and include in its advice to the registry manager that the switch type is TR and one or more profile codes associated with that ICP.*

#### Audit observation

The switch gain process was examined to determine when Bosco deem all conditions to be met. A sample of five ICPs using the typical sampling methodology were checked to confirm that these were notified to the registry within two business days.

#### Audit commentary

Bosco are not actively seeking any new customers. Bosco's processes are compliant with the requirements of Section 36M of the Fair Trading Act 1986. NT files are sent as soon as all pre-conditions are met, and the withdrawal process is used if the customer changes their mind. NTs were sent within two days of all conditions being met for all ICPs checked.

#### Audit outcome

Compliant

### 4.2. Losing trader response to switch request and event dates - standard switch (Clauses 3 and 4 Schedule 11.3)

#### Code reference

Clauses 3 and 4 Schedule 11.3

#### Code related audit information

*Within three business days after receiving notice of a switch from the registry manager, the losing trader must establish a proposed event date. The event date must be no more than 10 business days after the date of receipt of such notification, and in any 12 month period, at least 50% of the event dates must be no more than five business days after the date of notification. The losing trader must then:*

- *provide acknowledgement of the switch request by (clause 3(a) of Schedule 11.3):*
- *providing the proposed event date to the registry manager and a valid switch response code (clause 3(a)(i) and (ii) of Schedule 11.3); or*
- *providing a request for withdrawal of the switch in accordance with clause 17 (clause 3(c) of Schedule 11.3).*

*When establishing an event date for clause 4, the losing trader must disregard every event date established by the losing trader for a customer who has been with the losing trader for less than two calendar months (clause 4(2) of Schedule 11.3).*

#### Audit observation

An event detail report for the audit period was reviewed, to identify AN files issued by Bosco during the audit period. A sample of two ANs per response code were reviewed to determine whether the codes had been correctly applied.

The switch breach report was examined for the audit period and found one late AN file recorded.

The event detail report was analysed to assess compliance with the requirement to meet the setting of event dates requirement.

#### Audit commentary

The selection of the AN response code is determined by logic that has been inbuilt into EzyBusiness. Bosco have reviewed this logic during the audit period to ensure that the most accurate code is sent. The sample checked found all were correct except the AA coded responses that should have been sent as "AD". This is recorded as non-compliance below.

The event detail report for Bosco recorded 4,719 transfer switch losses. 4,196 (88.9%) of these had an event date of five days or less from the NT request date and none with an event date greater than ten business days.

The switch breach report recorded one late AN file for ICP 0004301381WMF01. This was checked on the registry and found no AN was ever sent as the switch was withdrawn the same day as the NT was received. This is compliant.

#### Audit outcome

Non-compliant

| Non-compliance  | Description   |
|---|---|
| <p>Audit Ref: 4.2</p> <p>With: Clauses 3 &amp; 4 of schedule 11.3</p> <p>From: 01-Jun-17</p> <p>To: 12-Apr-18</p> | <p>Incorrect sending of the AA AN response code for sites with AMI metering for transfer switches.</p> <p>Potential impact: None</p> <p>Actual impact: None</p> <p>Audit history: Once</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p> |
| Audit risk rating   | Rationale for audit risk rating   |
| <b>Low</b>  | <p>I have rated the controls as moderate as the controls will mitigate errors most of the time.</p> <p>I have recorded the audit risk rating as low as there is no direct effect on settlement outcomes in relation to this clause.</p>           |

| Actions taken to resolve the issue   | Completion date | Remedial action status |
|--|-----------------|------------------------|
| This is a system issue (Ezy Business is sending the AA automatically) An IT ticket has been raised However this is an issue that EA is assessing through the technical switch group. | October 2018    | Investigating          |
| Preventative actions taken to ensure no further issues will occur  | Completion date |                        |
| Dependant upon the result of the IT ticket however Bosco would not look to implement changes until the Authority has completed their assessment through the switch technical group.  | April 2020      |                        |

#### 4.3. Losing trader must provide final information - standard switch (Clause 5 Schedule 11.3)

##### Code reference

Clause 5 Schedule 11.3

##### Code related audit information

*If the losing trader provides information to the registry manager in accordance with clause 3(a) of Schedule 11.3 with the required information, no later than five business days after the event date, the losing trader must complete the switch by:*

- *providing event date to the registry manager (clause 5(a)); and*
- *provide to the gaining trader a switch event meter reading as at the event date, for each meter or data storage device that is recorded in the registry with accumulator of C and a settlement indicator of Y (clause 5(b)); and*
- *if a switch event meter reading is not a validated reading, provide the date of the last meter reading (clause 5(c)).*

##### Audit observation

An event detail report for the period of 1 June 2017 to 26 February 2018 was reviewed, to identify CS files issued by Bosco. The accuracy of the content of CS files was confirmed by checking a sample of five records. The content checked included:

- correct identification of meter readings and correct date of last meter reading
- accuracy of meter readings
- accuracy of average daily consumption (this is based on the most recent read to read consumption).

The process to manage the sending of the CS file within five business days of the event date was examined.

The switch breach history report for the audit period from June 17 to February 18 was reviewed to identify late CS files.

##### Audit commentary

The CS file content was checked for accuracy and found:

- two examples where the last day before the event was sent as the read date but the last actual read was for a date prior
- ICP 0604766455LC1B2 where the midnight read on 24/12/17 was sent with a last read date of 30/11/17
- ICP 1000018870BP48E where the midnight read on 28/12/17 was sent as an incorrectly as an estimate
- the average daily consumption for ICP 0001130360WM5F8 was found not to be calculating correctly; this site had a two register meters and it appears that average daily consumption is calculating from only one register.

These issues were identified in the last audit.

The management of CS files has been improved during the audit period with a consolidated view available indicating to the operator days pending to breach. The Bosco SHD report contained seven breaches. These were all recorded as breach code "E2". All were checked and found five were valid and two were compliant. This is recorded as non-compliance below.

#### Audit outcome

Non-compliant

| Non-compliance   | Description  |                 |                        |
|--|--|-----------------|------------------------|
| Audit Ref: 4.3<br>With: Clause 5 of schedule 11.3<br><br>From: 01-Jun-17<br>To: 26-Feb-18            | Incorrect last read date for ICPs that close on an estimate.<br>Actual read incorrectly labelled as an estimate.<br>Five late CS files.<br>Potential impact: Low<br>Actual impact: Low<br>Audit history: Once<br>Controls: Weak<br>Breach risk rating: 3 |                 |                        |
| Audit risk rating  | Rationale for audit risk rating  |                 |                        |
| <b>Low</b>   | I have rated the controls as weak as the same issues have been identified in the previous audit and therefore a lack of controls is indicated.<br>I have recorded the audit risk rating as low as the volume of ICPs affected is small.                  |                 |                        |
| Actions taken to resolve the issue   |  | Completion date | Remedial action status |
| This was operator error and also required system logic to be updated. This error has been corrected. |  | April 2018      | Investigating          |



| Preventative actions taken to ensure no further issues will occur            | Completion date |  |
|--|-----------------|--|
| Ongoing operator coaching and possible change to process to be investigated. | Ongoing         |  |

#### 4.4. Retailers must use same reading - standard switch (Clause 6(1) and 6A Schedule 11.3)

##### Code reference

Clause 6(1) and 6A Schedule 11.3

##### Code related audit information

*The losing trader and the gaining trader must both use the same switch event meter reading as determined by the following procedure:*

- *if the switch event meter reading provided by the losing trader differs by less than 200 kWh from a value established by the gaining trader, the gaining trader must use the losing trader's validated meter reading or permanent estimate (clause 6(a)); or*
- *the gaining trader may dispute the switch meter reading if the validated meter reading or permanent estimate provided by the losing trader differs by 200 kWh or more (clause 6(b)).*

*If the gaining trader disputes a switch meter reading because the switch event meter reading provided by the losing trader differs by 200 kWh or more, the gaining trader must, within four calendar months of the actual event date, provide to the losing trader a changed switch event meter reading supported by two validated meter readings.*

- *the losing trader can choose not to accept the reading, however must advise the gaining trader no later than five business days after receiving the switch event meter reading from the gaining trader (clause 6A(a)); or*
- *if the losing trader notifies its acceptance or does not provide any response, the losing trader must use the switch event meter reading supplied by the gaining trader (clause 6A(b)).*

##### Audit observation

The process for the management of read requests was examined.

The event detail report and switch breach report were analysed to identify all read change requests and acknowledgements during the audit period. This identified that three transfer switch read change requests were sent. These were all examined.

A sample of five read change rejections and five acceptances was selected from the event detail report using the diverse sample methodology. The sample covered both transfer and gaining trader read requests, and files exchanged with different traders.

The switch breach history report for the audit period was reviewed.

##### Audit commentary

RR requests are generally initiated via email between the two parties. Once an agreement has been reached is an RR file sent. All RR requests are evaluated and validated against the ICP information. If the request is within validation requirements these are accepted.

The three read requests issued by Bosco were examined. I found the read request for ICP 0000036456UNF8C was sent with only one validated meter reading. This is recorded as non-compliance below.

The sample of read change acceptances and rejections checked were processed correctly, excepting ICP 0010494000WR841 where the read request was accepted but the reads were not updated, and therefore the consumption has not been corrected. This was due to human error and is recorded as non-compliance below.

I checked switch in readings for a sample of five ICPs with AMI meters where the switch in read was estimated, and no RR request was issued. All readings were found to be correctly recorded.

The switch breach history report showed there were no late read change requests identified for transfer switches, and no late acknowledgements were recorded.

#### Audit outcome

Non-compliant

| Non-compliance  | Description   |                 |                        |
|---|---|-----------------|------------------------|
| Audit Ref: 4.4<br>With: Clauses 6(1) and 6A Schedule 11.3<br>From: 01-Jun-17<br>To: 26-Feb-18 | A read request sent based on one validated meter reading.<br>An RR file was accepted but the reads were not updated.<br>Potential impact: Low<br>Actual impact: Low<br>Audit history: None<br>Controls: Weak<br>Breach risk rating: 3 |                 |                        |
| Audit risk rating   | Rationale for audit risk rating   |                 |                        |
| <b>Low</b>  | I have rated the controls as weak as the read requests accepted but not updated indicate controls are weak.<br>The audit risk rating is low as the volume of ICPs affected are small.   |                 |                        |
| Actions taken to resolve the issue  |   | Completion date | Remedial action status |
| This was operator error. Updated training and coaching has been provided to the operator.     |   | April 2018      | Identified             |
| Preventative actions taken to ensure no further issues will occur                             |   | Completion date |                        |
| Ongoing coaching  |   | Ongoing         |                        |

4.5. Non-half hour switch event meter reading - standard switch (Clause 6(2) and (3) Schedule 11.3)

#### Code reference

Clause 6(2) and (3) Schedule 11.3

### Code related audit information

*If the losing trader trades electricity from a non-half hour meter, with a switch event meter reading that is not from an AMI certified meter flagged Y in the registry: and*

- *the gaining trader will trade electricity from a meter with a half hour submission type in the registry (clause 6(2)(b));*
- *the gaining trader within five business days after receiving final information from the registry manager, may provide the losing trader with a switch event meter reading from that meter. The losing trader must use that switch event meter reading.*

### Audit observation

The process for the management of read requests was examined. The event detail report for the period from 1/06/17 to 26/02/18 was reviewed to identify all read change requests and acknowledgements where clause 6(2) and (3) of schedule 11.3 applied. A sample of five ICPs for each of the following scenarios were selected using the typical sample methodology. The sample covered both transfer and gaining trader read requests, and a variety of other participants:

- other retailer's request accepted by Bosco
- other retailer's request rejected by Bosco.

The switch breach history report for the audit period was reviewed to identify late read change acknowledgement files.

### Audit commentary

These RR requests are processed in the same way as those received for greater than 200 kWh except that emails are not normally exchanged in advance for these. Each request is evaluated and validated against the ICP information. If the request is within validation requirements these are accepted.

The sample checked found two read requests were rejected in error due to human error. Further training was provided to the operator.

Analysis of those accepted found further examples of the incorrect CS file content identified in **section 4.3**. Compliance is confirmed for correctly accepting the gaining trader's read requests.

The switch breach report confirmed that all read requests were sent within the required timeframe.

### Audit outcome

Non-compliant

| Non-compliance  | Description   |
|---|---|
| Audit Ref: 4.5<br>With: Clauses 6(2)<br>and (3) Schedule 11.3<br><br>From: 16-Jan-18<br>To: 26-Jan-18 | Two RRs rejected in error.<br><br>Potential impact: Low<br><br>Actual impact: Low<br><br>Audit history: None<br><br>Controls: Moderate<br><br>Breach risk rating: 2 |

| Audit risk rating   | Rationale for audit risk rating   |                 |
|---|---|-----------------|
| Low   | <p>I have rated the controls as moderate, because the non-compliance was caused by a training issue.</p> <p>The audit risk rating is low as the volume of ICPs affected is small.</p> |                 |
| Actions taken to resolve the issue  |   | Completion date |
| This was operator error. Updated training and coaching has been provided to the operator. |   | April 2018      |
| Preventative actions taken to ensure no further issues will occur                         |   | Completion date |
| Ongoing coaching  |   | Ongoing         |

#### 4.6. Disputes - standard switch (Clause 7 Schedule 11.3)

##### Code reference

Clause 7 Schedule 11.3

##### Code related audit information

*A losing trader or gaining trader may give written notice to the other that it disputes a switch event meter reading provided under clauses 1 to 6. Such a dispute must be resolved in accordance with clause 15.29 (with all necessary amendments).*

##### Audit observation

I confirmed with Bosco whether any disputes have needed to be resolved in accordance with this clause.

##### Audit commentary

Bosco confirms that no disputes have needed to be resolved in accordance with this clause.

##### Audit outcome

Compliant

#### 4.7. Gaining trader informs registry of switch request - switch move (Clause 9 Schedule 11.3)

##### Code reference

Clause 9 Schedule 11.3

##### Code related audit information

*The switch move process applies where a gaining trader has an arrangement with a customer or embedded generator to trade electricity at an ICP using non half-hour metering or an unmetered ICP, or to assume responsibility for such an ICP, and no other trader has an agreement to trade electricity at that ICP, this is referred to as a switch move and the following provisions apply:*

*If the "uninvited direct sale agreement" applies, the gaining trader must identify the period within which the customer or embedded generator may cancel the arrangement in accordance with section 36M of*

the Fair Trading Act 1986. The arrangement is deemed to come into effect on the day after the expiry of that period.

In the event of a switch move, the gaining trader must advise the registry manager of a switch and the proposed event date no later than two business days after the arrangement comes into effect.

In its advice to the registry manager the gaining trader must include:

- a proposed event date (clause 9(2)(a)); and
- that the switch type is "MI" (clause 9(2)(b)); and
- one or more profile codes of a profile at the ICP (clause 9(2)(c)).

#### Audit observation

The switch gain process was examined to determine when Bosco deem all conditions to be met. A sample of five ICPs using the typical sampling methodology were checked to confirm that these were notified to the registry within two business days.

#### Audit commentary

NT files are sent as soon as all pre-conditions are met, and the withdrawal process is used if the customer changes their mind. NTs were sent within two days of all conditions being met for all ICPs checked.

#### Audit outcome

Compliant

### 4.8. Losing trader provides information - switch move (Clause 10(1) Schedule 11.3)

#### Code reference

Clause 10(1) Schedule 11.3

#### Code related audit information

10(1) Within five business days after receiving notice of a switch move request from the registry manager—

- 10(1)(a) If the losing trader accepts the event date proposed by the gaining trader, the losing trader must complete the switch by providing to the registry manager:
  - o confirmation of the switch event date; and
  - o a valid switch response code; and
  - o final information as required under clause 11; or
- 10(1)(b) If the losing trader does not accept the event date proposed by the gaining trader, the losing trader must acknowledge the switch request to the registry manager and determine a different event date that—
  - o is not earlier than the gaining trader's proposed event date, and
  - o is no later than 10 business days after the date the losing trader receives notice; or
- 10(1)(c) request that the switch be withdrawn in accordance with clause 17.

#### Audit observation

An event detail report for the period from 1 June 2017 to 26 February 2018 was reviewed, to identify AN files issued by Bosco during the audit period. A sample of two ANs per response code were reviewed to determine whether the codes had been correctly applied.

The switch breach history report for the audit period was reviewed in relation to both late AN and CS files.

The process to manage the sending of the CS file within five business days of the event date was examined.

#### Audit commentary

As recorded in **section 4.2**, Bosco have reviewed this logic during the audit period to ensure that the most accurate code is sent. The sample checked found that the AA coded responses should have been sent as "AD". This is recorded as non-compliance below.

The CS files are processed in the same way as transfer switch requests. The management of CS files has been improved during the audit period with a consolidated view available indicating to the operator days pending to breach.

The Bosco switch breach report was checked and found no late AN files recorded. The report contained 92 CS file breaches. Three of these are recorded as "CS" file breaches. These were checked and found all were compliant as the switch had been withdrawn, therefore no CS file was ever sent. The remaining 89 ICPs were recorded as "E2" breaches. I reviewed the switch withdrawal requests received from the event detail report and confirmed 23 of these switches were withdrawn and no CS was ever sent. Of the remaining 66 late CS files reported I confirmed that 45 of these were late. This is equivalent to 1.5% of all move switch CS files was sent late. I note none have occurred since the consolidated switching view has been deployed. This is recorded as non-compliance below.

#### Audit outcome

Non-compliant

| Non-compliance   | Description   |                 |                        |
|--|---|-----------------|------------------------|
| Audit Ref: 4.8<br>With: Clause 10 of schedule 11.3<br><br>From: 01-Jun-17<br>To: 26-Feb-18 | Incorrect sending of the AA AN response code for sites with AMI metering for move switches.<br><br>45 late CS files.<br><br>Potential impact: Low<br><br>Actual impact: Low<br><br>Audit history: Once<br><br>Controls: Moderate<br><br>Breach risk rating: 2 |                 |                        |
| Audit risk rating  | Rationale for audit risk rating   |                 |                        |
| <b>Low</b>   | I have rated the controls as moderate as controls will mitigate risk most of the time but there is room for errors to occur.<br><br>I have recorded the audit risk rating as low as the volume of ICPs affected is low.                                       |                 |                        |
| Actions taken to resolve the issue   |   | Completion date | Remedial action status |
| System enhancement is required to rectify AN code issue. An IT ticket has been raised.     |   | October 2018    | Investigating          |

| Preventative actions taken to ensure no further issues will occur | Completion date |  |
|---|-----------------|--|
| Dependent upon the IT ticket                                      | April 2019      |  |

#### 4.9. Losing trader determines a different date - switch move (Clause 10(2) Schedule 11.3)

##### Code reference

Clause 10(2) Schedule 11.3

##### Code related audit information

*If the losing trader determines a different date, the losing trader must also complete the switch by providing to the registry manager as described in subclause (1)(a):*

- the event date proposed by the losing trader; and
- a valid switch response code; and
- final information as required under clause 1.

##### Audit observation

The setting of event dates for move switches was examined. The event detail report for the audit period was examined. I compared the NT requested event date with the AN event date sent by Bosco for any switches dated earlier than the NT requested date, or for any event dates that were set greater than ten days from the NT receipt date.

##### Audit commentary

The setting of the event date for switch moves is determined by logic in EzyBusiness. Analysis found compliance.

##### Audit outcome

Compliant

#### 4.10. Losing trader must provide final information - switch move (Clause 11 Schedule 11.3)

##### Code reference

Clause 11 Schedule 11.3

##### Code related audit information

*The losing trader must provide final information to the registry manager for the purposes of clause 10(1)(a)(ii), including—*

- the event date (clause 11(a)); and
- a switch event meter reading as at the event date for each meter or data storage device that is recorded in the registry with an accumulator type of C and a settlement indicator of Y (clause 11(b)); and
- if the switch event meter reading is not a validated meter reading, the date of the last meter reading of the meter or storage device. (clause (11(c)).

##### Audit observation

An event detail report for the audit period was reviewed to identify CS files issued by Bosco during the audit period. The accuracy of the content of CS files was confirmed by checking a sample of five records selected using the diverse sampling methodology. The content checked included:

- correct identification of meter readings and correct date of last meter reading
- accuracy of meter readings
- accuracy of average daily consumption (this is based on the most recent read to read consumption).

#### Audit commentary

The CS file content was checked for accuracy and found:

- four out of five examples checked had the incorrect last read date
- two with an incorrect average daily consumption figure
- ICP 1000016193BP33D had an incorrect last estimated read sent for one meter.

#### Audit outcome

Non-compliant

| Non-compliance  | Description   |                 |                        |
|---|---|-----------------|------------------------|
| Audit Ref: 4.10<br>With: Clause 11 of schedule 11.3<br>From: 01-Jun-17<br>To: 20-Feb-18 | Incorrect CS file content.<br>Potential impact: Low<br>Actual impact: Low<br>Audit history: Once<br>Controls: Weak<br>Breach risk rating: 3   |                 |                        |
| Audit risk rating   | Rationale for audit risk rating   |                 |                        |
| <b>Low</b>  | I have rated the controls as weak as the same issues have been identified in the previous audit and therefore a lack of controls is indicated.<br>I have recorded the audit risk rating as low as the volume of ICPs affected is small in the overall market. |                 |                        |
| Actions taken to resolve the issue  |   | Completion date | Remedial action status |
| A system enhancement required. An IT ticket has been raised.                            |   | October 2018    | Investigating          |
| Preventative actions taken to ensure no further issues will occur                       |   | Completion date |                        |
| This will be dependent upon the outcome of the IT ticket                                |   | May 2019        |                        |

#### 4.11. Gaining trader changes to switch meter reading - switch move (Clause 12 Schedule 11.3)

##### Code reference

Clause 12 Schedule 11.3



### Code related audit information

*The gaining trader may use the switch event meter reading supplied by the losing trader or may, at its own cost, obtain its own switch event meter reading. If the gaining trader elects to use this new switch event meter reading, the gaining trader must advise the losing trader of the switch event meter reading and the actual event date to which it refers as follows:*

- *if the switch meter reading established by the gaining trader differs by less than 200 kWh from that provided by the losing trader, both traders must use the switch event meter reading provided by the gaining trader (clause 12(2)(a)); or*
- *if the switch event meter reading provided by the losing trader differs by 200 kWh or more from a value established by the gaining trader, the gaining trader may dispute the switch meter reading. In this case, the gaining trader, within 4 calendar months of the actual event date, must provide to the losing trader a changed validated meter reading or a permanent estimate supported by two validated meter readings and the losing trader must either (clause 12(2)(b) and clause 12(3)):*
- *advise the gaining trader if it does not accept the switch event meter reading and the losing trader and the gaining trader must resolve the dispute in accordance with the disputes procedure in clause 15.29 (with all necessary amendments) (clause 12(3)(a)); or*
- *if the losing trader notifies its acceptance or does not provide any response, the losing trader must use the switch event meter reading supplied by the gaining trader (clause 12(3)(b)).*

*12(2A) If the losing trader trades electricity from a non-half hour meter, with a switch event meter reading that is not from an AMI certified meter flagged Y in the registry,*

- *the gaining trader will trade electricity from a meter with a half hour submission type in the registry (clause 12(2A)(b));*
- *the gaining trader no later than five business days after receiving final information from the registry manager, may provide the losing trader with a switch event meter reading from that meter. The losing trader must use that switch event meter reading (clause 12(2B)).*

### Audit observation

The process for the management of read requests was examined.

The event detail report and switch breach report were analysed to identify all read change requests and acknowledgements during the audit period.

A sample of five read change requests from the event detail report was selected using the diverse sample methodology. The sample included files exchanged with different traders, and a mix of acceptances and rejections.

A sample of five read change rejections and five acceptances was selected from the event detail report using the diverse sample methodology. The sample covered both transfer and gaining trader read requests, and files exchanged with different traders.

The switch breach history report for the audit period was reviewed.

### Audit commentary

RR requests are generally initiated via email between the two parties. Once an agreement has been reached is an RR file sent. All RR requests are evaluated and validated against the ICP information. If the request is within validation requirements these are accepted. The sample checked found all were validated against two validated meter readings except ICP 0002090540WM7E4 which was based on a customer read only and could not be validated against two actual reads. This practice was thought have stopped in the last audit, but it appears this is not the case. This is recorded as non-compliance below.

The sample of read change acceptances and rejections found all were processed correctly except ICP 0024149973LC0C2 where the read request was accepted but the reads were not updated and therefore the consumption has not been corrected. This was due to human error and is recorded as non-compliance below.

The switch breach history report found four late read change requests. These were all delayed due to the time taken to get two validated meter readings. Whilst these are technically late Bosco are compliant with the requirement to provide complete and accurate information.

#### Audit outcome

Compliant

| Non-compliance  | Description   |                 |                        |
|---|---|-----------------|------------------------|
| Audit Ref: 4.11<br>With: Clause 12<br>Schedule 11.3<br><br>From: 01-Jun-17<br>To: 20-Feb-18                       | An RR sent without two validated reads being gained.<br>Four late RR files.<br>An RR file was accepted but the reads were not updated.<br>Potential impact: Low<br>Actual impact: Low<br>Audit history: Once<br>Controls: Moderate<br>Breach risk rating: 2 |                 |                        |
| Audit risk rating   | Rationale for audit risk rating   |                 |                        |
| Low   | I have rated the controls as moderate as controls will mitigate risk most of the time.<br>The audit risk rating is low as the volume of ICPs affected is small.   |                 |                        |
| Actions taken to resolve the issue  |   | Completion date | Remedial action status |
| This was operator error. Updated training and coaching has been provided to the operator and the error corrected. |   | April 2018      | Identified             |
| Preventative actions taken to ensure no further issues will occur   |   | Completion date |                        |
| Ongoing coaching  |   | Ongoing         |                        |

#### 4.12. Gaining trader informs registry of switch request - gaining trader switch (Clause 14 Schedule 11.3)

##### Code reference

Clause 13 Schedule 11.3

### Code related audit information

*The gaining trader switch process applies when a trader has an arrangement with a customer or embedded generator to trade electricity through or assume responsibility for:*

- *a half hour metering installation (that is not a category 1 or 2 metering installation) at an ICP with a submission type of half hour in the registry and an AMI flag of “N”; or*
- *a half hour metering installation at an ICP that has a submission type of half hour in the registry and an AMI flag of “N” and is traded by the losing trader as non-half hour; or*
- *a non half hour metering installation at an ICP at which the losing trader trades electricity through a half hour metering installation with an AMI flag of “N”.*

*If the uninvited direct sale agreement applies to an arrangement described above, the gaining trader must identify the period within which the customer or embedded generator may cancel the arrangement in accordance with section 36M of the Fair Trading Act 1986. The arrangement is deemed to come into effect on the day after the expiry of that period.*

*A gaining trader must advise the registry manager of the switch and expected event date no later than 3 business days after the arrangement comes into effect.*

*14(2) The gaining trader must include in its advice to the registry manager:*

- a) a proposed event date; and*
- b) that the switch type is HH.*

*14(3) The proposed event date must be a date that is after the date on which the gaining trader advises the registry manager, unless clause 14(4) applies.*

*14(4) The proposed event date is a date before the date on which the gaining trader advised the registry manager, if:*

*14(4)(a) – the proposed event date is in the same month as the date on which the gaining trader advised the registry manager; or*

*14(4)(b) – the proposed event date is no more than 90 days before the date on which the gaining trader advises the registry manager and this date is agreed between the losing and gaining traders.*

### Audit observation

There have been no HHR switches conducted during the audit period and none are expected.

### Audit commentary

Not applicable

### Audit outcome

Not applicable

## 4.13. Losing trader provision of information - gaining trader switch (Clause 15 Schedule 11.3)

### Code reference

*Clause 15 Schedule 11.3*

### Code related audit information

*Within three business days after the losing trader is informed about the switch by the registry manager, the losing trader must:*

*15(a) - provide to the registry manager a valid switch response code as approved by the Authority; or*

*15(b) - provide a request for withdrawal of the switch in accordance with clause 17.*

#### **Audit observation**

There have been no HHR switch losses during the audit period. The process to manage these was examined.

#### **Audit commentary**

These are managed in the same way as NHH switches.

#### **Audit outcome**

Compliant

### **4.14. Gaining trader to advise the registry manager - gaining trader switch (Clause 16 Schedule 11.3)**

#### **Code reference**

*Clause 16 Schedule 11.3*

#### **Code related audit information**

*The gaining trader must complete the switch no later than 3 business days, after receiving the valid switch response code, by advising the registry manager of the event date.*

*If the ICP is being electrically disconnected, or if metering equipment is being removed, the gaining trader must either-*

*16(a)- give the losing trader or MEP for the ICP an opportunity to interrogate the metering installation immediately before the ICP is electrically disconnected or the metering equipment is removed; or*

*16(b)- carry out an interrogation and, no later than 5 business days after the metering installation is electrically disconnected or removed, advise the losing trader of the results and metering component numbers for each data channel in the metering installation.*

#### **Audit observation**

There have been no HHR switches conducted during the audit period and none are expected.

#### **Audit commentary**

Not applicable

#### **Audit outcome**

Not applicable

### **4.15. Withdrawal of switch requests (Clauses 17 and 18 Schedule 11.3)**

#### **Code reference**

*Clauses 17 and 18 Schedule 11.3*

#### **Code related audit information**

*A losing trader or gaining trader may request that a switch request be withdrawn at any time until the expiry of two calendar months after the event date of the switch.*

*If a trader requests the withdrawal of a switch, the following provisions apply:*

- *for each ICP, the trader withdrawing the switch request must provide the registry manager with (clause 18(c)):*
  - o *the participant identifier of the trader making the withdrawal request (clause 18(c)(i));*
  - and*
  - o *the withdrawal advisory code published by the Authority. (clause 18(c)(ii))*
- *within five business days after receiving notice from the registry manager of a switch, the trader receiving the withdrawal must advise the registry manager that the switch withdrawal request is accepted or rejected. A switch withdrawal request must not become effective until accepted by the trader who received the withdrawal (clause 18(d))*
- *on receipt of a rejection notice from the registry manager, in accordance with clause 18(d), a trader may re-submit the switch withdrawal request for an ICP in accordance with clause 18(c). All switch withdrawal requests must be resolved within 10 business days after the date of the initial switch withdrawal request (clause 18(e))*
- *if the trader requests that a switch request be withdrawn, and the resolution of that switch withdrawal request results in the switch proceeding, within 2 business days after receiving notice from the registry manager in accordance with clause 22(b), the losing trader must comply with clauses 3,5,10 and 11 (whichever is appropriate) and the gaining trader must comply with clause 16 (clause 18(f)).*

#### **Audit observation**

The switch withdrawal process was examined. The content of a sample of two ICPs from the event detail report for each withdrawal code was checked using the typical sampling methodology.

A sample of five switch rejections were checked using the typical sample methodology. The event detail report was also analysed to confirm timeliness of switch requests, as this is not currently being identified in the switch breach report. This identified 815 switch withdrawal requests sent. 23 (3%) of these were backdated greater than two months from the event date. A sample of ten of these were selected using the typical methodology to analyse why they were late. The switch breach report was checked for any late switch withdrawal acknowledgements and found none recorded.

A sample of ten NW requests were selected using the homogenous sampling technique to confirm the correct withdrawal code was used.

#### **Audit commentary**

Any switch withdrawal requested or needing to be responded to is notified to the switching team via tasks, or because of an issue identified by the switching team with a switch in progress. All switch withdrawals are processed through EzyBusiness and in addition to this an email is sent with the withdrawal details to the other trader.

The sample of backdated switch withdrawals checked found:

- six were due to the initial NW being rejected
- two were due to metering issues
- two were due to late requests from the customer.

The content of a selection of NW files was checked and found four incorrect codes were sent. All were due to human error.

#### **Audit outcome**

Non-compliant

| Non-compliance  | Description   |                 |                        |
|---|---|-----------------|------------------------|
| Audit Ref: 4.15<br>With: Clauses 17 & 18 of schedule 11.3<br>From: 01-Jun-17<br>To: 26-Feb-18   | 23 switch withdrawals sent later than two months of the event date.<br>Four switch withdrawals sent with the incorrect code.<br>Potential impact: Low<br>Actual impact: Low<br>Audit history: Once<br>Controls: Moderate<br>Breach risk rating: 2                               |                 |                        |
| Audit risk rating   | Rationale for audit risk rating   |                 |                        |
| <b>Low</b>  | I have rated the controls as moderate as controls mitigate risk most of the time, but a small number of human errors were evident.<br>The audit risk rating is low as the volume of backdated switch withdrawals is low, but processing of these increases submission accuracy. |                 |                        |
| Actions taken to resolve the issue  |   | Completion date | Remedial action status |
| Late AW responses were sent late due to Operator error. Breach report is run daily and now we have stronger controls in place to assess it. |   | April 2018      | Identified             |
| Preventative actions taken to ensure no further issues will occur   |   | Completion date |                        |
| Additional reporting in place   |   | May 2018        |                        |

#### 4.16. Metering information (Clause 21 Schedule 11.3)

##### Code reference

Clause 21 Schedule 11.3

##### Code related audit information

For an interrogation or validated meter reading or permanent estimate carried out in accordance with Schedule 11.3:

*21(a)- the trader who carries out the interrogation, switch event meter reading must ensure that the interrogation is as accurate as possible, or that the switch event meter reading is fair and reasonable.*

*21(b) and (c) - the cost of every interrogation or switch event meter reading carried out in accordance with clauses 5(b) or 11(b) or (c) must be met by the losing trader. The costs in every other case must be met by the gaining trader.*

#### Audit observation

The meter reading process in relation to meter reads for switching purposes was examined. Examples to confirm this procedure have been examined as part of the sending of final information for switches and read requests made.

#### Audit commentary

All meter readings used in the switching process are validated meter readings or permanent estimates. This process is discussed further in **section 4.3**.

Bosco's policy regarding the management of meter reading expenses is compliant.

#### Audit outcome

Compliant

### 4.17. Switch saving protection (Clause 11.15AA to 11.15AB)

#### Code reference

*Clause 11.15AA to 11.15AB*

#### Code related audit information

*A trader that buys electricity from the clearing manager may elect to have a switch saving protection by giving notice to the Authority in writing.*

*If a protected trader enters into an arrangement with a customer of another trader (the losing trader), or a trader enters into an arrangement with a customer of a protected trader, to commence trading electricity with the customer, the losing trader must not, by any means, initiate contact with the customer to attempt to persuade the customer to terminate the arrangement during the period from the receipt of the NT to the event date of the switch including by:*

*11.15AB(4)(a)- making a counter offer to the customer; or*

*11.15AB(4)(b)- offering an enticement to the customer.*

#### Audit observation

The Electricity Registry switch save protected retailer list was examined to confirm that Bosco is not a save protected retailer.

Winback processes were examined to determine whether they are compliant.

I checked the event detail report for all withdrawn switches from the audit period to identify any withdrawn switches with a CX code applied prior to the switch completion date in relation to any switch save protected retailers.

#### Audit commentary

Bosco exclude any switch save protected retailer files from their pre-switch completion save programme, and all staff have been trained in relation to these requirements. The event detail report was checked and no "CX" coded switch withdrawal requests were sent prior to the switch completion date.

#### Audit outcome

Compliant

## 5. MAINTENANCE OF UNMETERED LOAD

### 5.1. Maintaining shared unmetered load (Clause 11.14)

#### Code reference

Clause 11.14

#### Code related audit information

*The trader must adhere to the process for maintaining shared unmetered load as outlined in clause 11.14:*

*11.14(2) - The distributor must give written notice to the traders responsible for the ICPs across which the unmetered load is shared, of the ICP identifiers of the ICPs.*

*11.14(3) - A trader who receives such a notification from a distributor must give written notice to the distributor if it wishes to add or omit any ICP from the ICPs across which unmetered load is to be shared.*

*11.14(4) - A distributor who receives such a notification of changes from the trader under (3) must give written notice to the registry manager and each trader responsible for any of the ICPs across which the unmetered load is shared.*

*11.14(5) - If a distributor becomes aware of any change to the capacity of a shared unmetered load ICP or if a shared unmetered load ICP is decommissioned, it must give written notice to all traders affected by that change as soon as practicable after that change or decommissioning.*

*11.14(6) - Each trader who receives such a notification must, as soon as practicable after receiving the notification, adjust the unmetered load information for each ICP in the list for which it is responsible to ensure that the entire shared unmetered load is shared equally across each ICP.*

*11.14(7) - A trader must take responsibility for shared unmetered load assigned to an ICP for which the trader becomes responsible as a result of a switch in accordance with Part 11.*

*11.14(8) - A trader must not relinquish responsibility for shared unmetered load assigned to an ICP if there would then be no ICPs left across which that load could be shared.*

*11.14(9) - A trader can change the status of an ICP across which the unmetered load is shared to inactive status, as referred to in clause 19 of Schedule 11.1. In that case, the trader is not required to give written notice to the distributor of the change. The amount of electricity attributable to that ICP becomes UFE.*

#### Audit observation

The registry list with history was reviewed and found Bosco has no ICPs with shared unmetered load. I reviewed processes to identify shared unmetered load.

#### Audit commentary

The registry validation process checks for whether SUML is present, but the load calculation is not validated. This is discussed in **section 2.1**.

#### Audit outcome

Compliant



## 5.2. Unmetered threshold (Clause 10.14 (2)(b))

### Code reference

*Clause 10.14 (2)(b)*

### Code related audit information

*The reconciliation participant must ensure that unmetered load does not exceed 3,000 kWh per annum, or 6,000 kWh per annum if the load is predictable and of a type approved and published by the Authority.*

### Audit observation

Examination of the Bosco list file found 12 active ICPs have unmetered load recorded, excluding shared unmetered load. ICP 0000003947TE02E has a UML load that exceeds 6,000 kWh. The remaining ICPs all have loads less than 3,000 kWh per annum. The process to manage UML loads was examined.

### Audit commentary

As detailed in **section 2.1**, Bosco do not monitor unmetered load thresholds. They are not actively growing their customer base, so it is unlikely that any will be added, but a check should be in place for this. This is discussed in **section 2.1**.

Bosco has one ICP with a load greater than 6,000 kWh. This is a DUML ICP and is managed as a distributed unmetered load database and a streetlight audit has been undertaken for this under the new audit regime. This is discussed in **section 5.4**.

### Audit outcome

Compliant

## 5.3. Unmetered threshold exceeded (Clause 10.14 (5))

### Code reference

*Clause 10.14 (5)*

### Code related audit information

*If the unmetered load limit is exceeded the retailer must:*

- *within 20 business days, commence corrective measure to ensure it complies with Part 10*
- *within 20 business days of commencing the corrective measure, complete the corrective measures*
- *no later than 10 business days after it becomes aware of the limit having been exceeded, advise each participant who is or would be expected to be affected of:*
  - o *the date the limit was calculated or estimated to have been exceeded*
  - o *the details of the corrective measures that the MEP proposes to take or is taking to reduce the unmetered load.*

### Audit observation

Examination of the Bosco list file found 12 active ICPs have unmetered load recorded, excluding shared unmetered load. ICP 0000003947TE02E has a UML load that exceeds 6,000 kWh. There are no additional ICPs that have exceeded the unmetered threshold during the audit period. The process to identify and meet the requirements of this clause was examined.

### Audit commentary

As detailed in **section 2.1**, Bosco do not monitor unmetered load thresholds. They are not actively growing their customer base, so it is unlikely that any will be added, but a check should be in place for this. This is discussed in **section 2.1**.

ICP 0000003947TE02E is a part of a distributed unmetered load and has an associated database. This is discussed in **section 5.4** below.

### Audit outcome

Compliant

## 5.4. Distributed unmetered load (Clause 11 Schedule 15.3, Clause 15.37B)

### Code reference

*Clause 11 Schedule 15.3, Clause 15.37B*

### Code related audit information

*An up-to-date database must be maintained for each type of distributed unmetered load for which the retailer is responsible. The information in the database must be maintained in a manner that the resulting submission information meets the accuracy requirements of clause 15.2.*

*A separate audit is required for distributed unmetered load data bases.*

*The database must satisfy the requirements of Schedule 15.5 with regard to the methodology for deriving submission information.*

### Audit observation

Bosco has one distributed unmetered load database for Far North Holdings Limited. This has been audited during the audit period. The findings are detailed in the table below.

### Audit commentary

As recorded in **section 3.7**, unmetered load changes occurred during the audit period for the DUML ICPs for the jetty lighting for Far North Holdings ICPs. The late update of the unmetered load details on the registry are recorded as non-compliance in **section 3.3**. The DUML audit findings are detailed below.

|                    |   | Compliance Achieved (Yes/No)                           |  |   |   |   |   |                                    |                                      |  |
|--------------------|---|--|--|---|---|---|---|------------------------------------|--------------------------------------|--|
| Database           | DUML Audit completed 16A.26 and 17.295F | Deriving submission information 11(1) of schedule 15.3 | ICP identifier 11(2)(a) of schedule 15.3 | Location of items of load 11(2)(b) of schedule 15.3 | Description of load 11(2)(c)&(d) of schedule 15.3 | All load recorded in database 11(2A) of schedule 15.3 | Tracking of load changes 11(3) of schedule 15.3 | Audit trail 11(4) of schedule 15.3 | Database accuracy 15.2 and 15.37B(b) | Volume information accuracy 15.2 and 15.37B(c) |
| Far North Holdings | 15/5/18                                 | No   | Yes                                      | Yes   | Yes   | No  | Yes   | Yes                                | No                                   | No   |

## Audit outcome

### Non-compliant

| Non-compliance  | Description  |                 |                        |
|---|--|-----------------|------------------------|
| <p>Audit Ref: 5.4</p> <p>With: Clauses 11(1) of schedule 15.3, 10.14 &amp; 15.13</p> <p>From: 01-Jun-17</p> <p>To: 12-Apr-18</p>  | <p>Database and submission errors found</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  |                 |                        |
| <b>Medium</b>   | <p>Controls are rated as weak as the errors were found in the database and submission.</p> <p>The risk is medium due to the impact on submission.</p>                                  |                 |                        |
| Actions taken to resolve the issue  |  | Completion date | Remedial action status |
| Bosco will be undertaking more regular reviews of its singular UML site for discrepancies.  |  | October 2018    | Investigating          |
| Preventative actions taken to ensure no further issues will occur   |  | Completion date |                        |
| BOSCO is also looking to document UML processes for different scenarios including on-boarding to reduce discrepancies between databases and ensure consistency. BOSCO is also not actively seeking to add further ICP's to it's DUMML database. |  | June 2019       |                        |

## 6. GATHERING RAW METER DATA

### 6.1. Electricity conveyed & notification by embedded generators (Clause 10.13, Clause 10.24 and 15.13)

#### Code reference

Clause 10.13, Clause 10.24 and Clause 15.13

#### Code related audit information

*A participant must use the quantity of electricity measured by a metering installation as the raw meter data for the quantity of electricity conveyed through the point of connection.*

*This does not apply if data is estimated or gifted in the case of embedded generation under clause 15.13.*

*A trader must, for each electrically connected ICP that is not also an NSP, and for which it is recorded in the registry as being responsible, ensure that:*

- *there is one or more metering installations*
- *all electricity conveyed is quantified in accordance with the Code*
- *it does not use subtraction to determine submission information for the purposes of Part 15.*

*An embedded generator must give notification to the reconciliation manager for an embedded generating station, if the intention is that the embedded generator will not be receiving payment from the clearing manager or any other person through the point of connection to which the notification relates.*

#### Audit observation

A registry list with history for 1 June 2017 to 20 February 2018 examined to confirm whether Bosco had supplied any ICPs with generation during the audit period.

#### Audit commentary

Bosco's system is not configured to allow billing of generation consumption. They do not accept customers with generation, so if generation is found for an existing customer, the customer is asked to switch to another retailer. Four ICPs with generation recorded on the registry were supplied during the audit period, two did not have injection registers installed. Non-compliance is recorded below and in **section 12.2** and **12.7** for ICPs 0000050466ML79B, 1000004602BP43C and 1000006286BPF3D, which had generation installed but the energy was not quantified and reported according to the code. ICP 0000050466ML79B also did not have energy measured in accordance with the code.

| ICP             | Bosco supplied period with generation recorded | Injection metering installed | Outcome                                       |
|-----------------|--|------------------------------|---|
| 0000050466ML79B | 08/01/18-11/01/18                              | No                           | Switched out 12/01/2018                       |
| 1000004602BP43C | 01/04/17-18/10/17                              | Yes                          | Switched out 19/10/2018                       |
| 1000006286BPF3D | 07/12/16-21/06/17                              | Yes                          | Switched out 22/06/2017                       |
| 0060449000WR381 | 22/08/17-07/01/18                              | No                           | Generation removed on the registry 08/01/2018 |

Bosco provided a list of nine ICPs where remote disconnection had occurred then the meter had been bridged to reconnect. The existence of bridged meters is recorded as non-compliance below. Corrections to capture the bridged consumption are discussed further in **section 8.1**.

## Audit outcome

Non-compliant

| Non-compliance  | Description  |                 |                        |
|---|--|-----------------|------------------------|
| <p>Audit Ref: 6.1</p> <p>With: Clause 10.13</p> <p>From: 01-Jun-17</p> <p>To: 12-Apr-18</p>   | <p>While meters were bridged, energy was not metered and quantified according to the code for nine ICPs.</p> <p>For three ICPs with generation, energy was not quantified according to the code.</p> <p>For one ICP with generation, electricity was not metered in accordance with the code.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Once previously</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>  |                 |                        |
| Audit risk rating   | Rationale for audit risk rating  |                 |                        |
| <b>Low</b>  | <p>Controls are rated as moderate as they are sufficient to reduce the risk most of the time.</p> <p>The audit risk rating is assessed to be low, as a small number of ICPs are affected.</p> <p>Bridging only occurs where a soft reconnection cannot be performed. In all examples reviewed, corrections had been appropriately processed.</p> <p>Affected ICPs were switched out within seven months of distributed generation being identified. Bosco's normal process is not to accept customers with distributed generation. If a distributed generation customer is found, they arrange for the customer to switch the ICP to another retailer as soon as possible.</p> |                 |                        |
| Actions taken to resolve the issue  |  | Completion date | Remedial action status |
| <p>For the bridged meters the correct consumption was calculated as noted in 8.1. This process was followed to ensure a customer was receiving supply.</p> <p>For the other issues the correct internal process was followed and a backdated switch out occurred.</p> <p>For the one ICP it was a network issue and BOSCO is still awaiting their resolution.</p> |  | October 2018    | Identified             |

| Preventative actions taken to ensure no further issues will occur                | Completion date |  |
|--|-----------------|--|
| A new report is going to be introduced to identify sites that are non-compliant. | May 2019        |  |

## 6.2. Responsibility for metering at GIP(Clause 10.26 (6), (7) and (8))

### Code reference

*Clause 10.26 (6), (7) and (8)*

### Code related audit information

*For each proposed metering installation or change to a metering installation that is a connection to the grid, the participant, must:*

- *provide to the grid owner a copy of the metering installation design (before ordering the equipment)*
- *provide at least three months for the grid owner to review and comment on the design*
- *respond within three business days of receipt to any request from the grid owner for additional details or changes to the design*
- *ensure any reasonable changes from the grid owner are carried out.*

*The participant responsible for the metering installation must:*

- *advise the reconciliation manager of the certification expiry date not later than 10 business days after certification of the metering installation*
- *become the MEP or contract with a person to be the MEP*
- *advise the reconciliation manager of the MEP identifier no later than 20 days after entering into a contract or assuming responsibility to be the MEP.*

### Audit observation

The NSP table was reviewed to confirm whether Bosco is responsible for any GIPs.

### Audit commentary

Bosco is not responsible for any GIPs; compliance was not assessed.

### Audit outcome

Not applicable

## 6.3. Certification of control devices (Clause 33 Schedule 10.7 and clause 2(2) Schedule 15.3)

### Code reference

*Clause 33 Schedule 10.7 and clause 2(2) Schedule 15.3*

### Code related audit information

*The reconciliation participant must advise the metering equipment provider if a control device is used to control load or switch meter registers.*

*The reconciliation participant must ensure the control device is certified prior to using it for reconciliation purposes.*

### Audit observation

A registry list with history was reviewed for 1 June 2017 to 20 February 2018 to determine the profiles assigned by Bosco, and whether they require control device certification.

### Audit commentary

Examination of the list file found that Bosco has only used the RPS and HHR profiles for active ICPs, and control devices are not used for reconciliation purposes.

### Audit outcome

Compliant

## 6.4. Reporting of defective metering installations (Clause 10.43(2) and (3))

### Code reference

*Clause 10.43(2) and (3)*

### Code related audit information

*If a participant becomes aware of an event or circumstance that lead it to believe a metering installation could be inaccurate, defective, or not fit for purpose they must:*

- *advise the MEP*
- *include in the advice all relevant details.*

### Audit observation

Processes relating to defective metering were examined.

A sample of defective meters were reviewed, to determine whether the MEP was advised, and if appropriate action was taken.

### Audit commentary

Defective meters are typically identified through the meter reading validation process, or from information provided by the meter reader, the MEP, or the customer. Upon identifying a possible defective meter, a field services job is raised to investigate and resolve the defect.

I reviewed 13 examples of potential defective meters, including nine bridged meters, and four stopped or faulty meters. In all cases a field services job was raised and the MEP advised.

### Audit outcome

Compliant

## 6.5. Collection of information by certified reconciliation participant (Clause 2 Schedule 15.2)

### Code reference

*Clause 2 Schedule 15.2*

### Code related audit information

*Only a certified reconciliation participant may collect raw meter data, unless only the MEP can interrogate the meter, or the MEP has an arrangement which prevents the reconciliation participant from electronically interrogating the meter:*

*2(2) - The reconciliation participant must collect raw meter data used to determine volume information from the services interface or the metering installation or from the MEP.*



2(3) - The reconciliation participant must ensure the interrogation cycle is such that it does not exceed the maximum interrogation cycle in the registry.

2(4) - The reconciliation participant must interrogate the meter at least once every maximum interrogation cycle.

2(5) - When electronically interrogating the meter the participant must:

- a) ensure the system is to within +/- 5 seconds of NZST or NZDST
- b) compare the meter time to the system time
- c) determine the time error of the metering installation
- d) if the error is less than the maximum permitted error, correct the meter's clock
- e) if the time error is greater than the maximum permitted error then:
  - i) correct the metering installation's clock
  - ii) compare the metering installation's time with the system time
  - iii) correct any affected raw meter data.
- f) download the event log.

2(6) – The interrogation systems must record:

- the time
- the date
- the extent of any change made to the meter clock.

#### **Audit observation**

Bosco's agents and MEPs are responsible for the collection of HHR and AMI data. Collection of data and clock synchronisation were reviewed as part of their agent and MEP audits.

#### **Audit commentary**

All information used to determine volume information is collected from the services interface or the metering installation by an agent, or the MEP.

Compliance with this clause has been demonstrated by Bosco's agents and MEPs as part of their agent audits. Metrix and AMS provide emailed information on clock synchronisation events, I viewed examples from both MEPs. Bosco confirmed that they had not been informed of any clock synchronisation events that required action by Bosco during the audit period.

#### **Audit outcome**

Compliant

### **6.6. Derivation of meter readings (Clause 3(1), 3(2) and 5 Schedule 15.2)**

#### **Code reference**

*Clause 3(1), 3(2) and 5 Schedule 15.2*

#### **Code related audit information**

*All meter readings must in accordance with the participants certified processes and procedures and using its certified facilities be sourced directly from raw meter data and, if appropriate, be derived and calculated from financial records.*

*All validated meter readings must be derived from meter readings.*

*A meter reading provided by a consumer may be used as a validated meter reading only if another set of validated meter readings not provided by the consumer are used during the validation process.*

*During the manual interrogation of each NHH metering installation the reconciliation participant must:*

- a) *obtain the meter register*
- b) *ensure seals are present and intact*
- c) *check for phase failure (if supported by the meter)*
- d) *check for signs of tampering and damage*
- e) *check for electrically unsafe situations.*

*If the relevant parts of the metering installation are visible and it is safe to do so.*

#### **Audit observation**

The data collection process was examined. A sample of five meter reads each for Wells and Datacol were checked using the typical case sample methodology.

Processes for review of meter condition information provided by agents were reviewed, including reviewing a sample of events.

Processes for customer and photo reads were reviewed.

#### **Audit commentary**

Readings are appropriately labelled. I checked five readings each for Wells and Datacol to confirm the data in EzyBusiness matched the data in the source files.

The manual interrogation process and recording of meter condition information was reviewed as part of Wells and Datacol's agent audits. Datacol did not conduct or record checks for phase failure, and this is recorded as non-compliance. Because Wells' audit was completed more than seven months ago, I confirmed that there have been no changes to Wells' processes that could negatively impact on Bosco's compliance since their May 2017 audit.

Wells (and Datacol until March 2018) provide information on meter condition along with the daily reads, which is imported into EzyBusiness. As part of the meter reading and billing validations Bosco checks any instances where the meter or register number does not match as discussed in **section 9.5**, but other events are not investigated. This is recorded as non-compliance. Bosco's other validation checks are likely to identify some meter condition issues, including ICPs unread for other reasons, and meter accuracy issues.

Bosco accepts customer readings, particularly where access is an issue. A check read conducted by a meter reader is scheduled every nine months, and the customer readings are validated against these readings. I reviewed three examples of ICPs where the customer provided readings and found that in all cases the readings were appropriately validated against meter reader readings. Where the reads are not validated they are treated as unvalidated readings.

#### **Audit outcome**

Non-compliant

| Non-compliance   | Description   |                 |                        |
|--|---|-----------------|------------------------|
| <p>Audit Ref: 6.6</p> <p>With: Clause 3(1), 3(2) and 5 Schedule 15.2</p> <p>From: 01-Jun-18</p> <p>To: 12-Apr-18</p> | <p>Datacol did not conduct or record checks for phase failure.</p> <p>Some meter condition information obtained when meters are read manually is not reviewed or acted upon.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Once previously</p> <p>Controls: Weak</p> <p>Breach risk rating: 3</p>  |                 |                        |
| Audit risk rating  | Rationale for audit risk rating   |                 |                        |
| <b>Low</b>   | <p>The controls are rated as weak, because some meter condition information provided is not reviewed or acted upon.</p> <p>Phase failure is often not indicated on non-AMI meters. It is expected there would be a relatively small number of meters read by Datacol where phase failure is present or visible. Datacol had not provided meter reading services to Bosco since March 2018. The impact of this non-compliance is low.</p> <p>83% of Bosco's active ICPs have AMI metering installed; 17% are read manually by agents. Of those only a small proportion are expected to have meter condition issues present. Bosco's other validation checks are likely to identify some meter condition issues. The residual risk is assessed to be low.</p> |                 |                        |
| Actions taken to resolve the issue   |   | Completion date | Remedial action status |
| Bosco currently investigating the process to identify cause and remediation and control steps.                       |   | October 2018    | Investigating          |
| Preventative actions taken to ensure no further issues will occur  |   | Completion date |                        |
| Dependant upon the outcome of the investigation  |   | May 2019        |                        |

#### 6.7. NHH meter reading application (Clause 6 Schedule 15.2)

##### Code reference

Clause 6 Schedule 15.2

##### Code related audit information

*For NHH switch event meter reads, for the gaining trader the reading applies from 0000 hours on the day of the relevant event date and for the losing trader at 2400 hours at the end of the day before the relevant event date.*

*In all other cases, All NHH readings apply from 0000hrs on the day after the last meter interrogation up to and including 2400hrs on the day of the meter interrogation.*

### Audit observation

The process of the application of meter readings was examined.

### Audit commentary

NHH meter readings provided by MEPs and agents are applied as at 2400hrs. Switch in readings are appropriately treated as if they have occurred at midnight on the switch in date. Application of reads was reviewed as part of the historic estimate checks, discussed in **section 12.11**.

I traced a sample of five readings each for Metrix, AMS, Wells, and Datacol from the source files to EzyBusiness. Where read times were recorded in the files they were indicated to have occurred at the end of the day.

### Audit outcome

Compliant

## 6.8. Interrogate meters once (Clause 7(1) and (2) Schedule 15.2)

### Code reference

*Clause 7(1) and (2) Schedule 15.2*

### Code related audit information

*Each reconciliation participant must ensure that a validated meter reading is obtained in respect of every meter register for every non half hour metered ICP for which the participant is responsible, at least once during the period of supply to the ICP by the reconciliation participant, and used to create volume information.*

*This may be a validated meter reading at the time the ICP is switched to, or from, the reconciliation participant.*

*If exceptional circumstances prevent a reconciliation participant from obtaining the validated meter reading, the reconciliation participant is not required to comply with clause 7(1).*

### Audit observation

The process to manage missed reads was examined, including review of reports used in the process and individual unread ICPs.

### Audit commentary

Missed reads are followed up:

- As part of the pre-billing validation checks described in **section 9.5**, ICPs with estimated readings for three months or more are investigated to determine the reason they are unread, and action is taken to try to obtain a read.
- Weekly, a report of sites unread for seven months or more is created. This report is worked through during the month, and action is taken to attempt to gain readings.
- ICPs are automatically moved to manual meter reading routes if AMI readings are not received for five consecutive days. Once three consecutive days of AMI readings are received, the ICP is moved back to an AMI meter reading round. I saw evidence that Bosco advises the MEP when AMI meters are not communicating, so that the communication issues can be resolved. This advice is provided manually.

Bosco normally imports one read per month on the scheduled read date. Where a read is not available on the scheduled read date, an estimate is entered on the read date and billed. Any actual reads received for nearby dates are recorded in EzyBusiness but remain unposted. Unposted reads are not

used for reconciliation, billing or read attainment reporting. This practice affects Bosco's read attainment results, submission accuracy and historic estimate proportions. To ensure good customer service, Bosco will only reverse and rebill if the read will result in a material difference to the customer's invoice.

There is no reporting in place to quantify how many ICPs are not read during the period of supply. I was unable to efficiently identify ICPs not read during the period of supply, so compliance with the best endeavours requirement was unable to be assessed. I repeat last year's recommendation that reporting should be developed, and record non-compliance below.

| Description  | Recommendation   | Audited party comment   | Remedial action |
|--|--|---|-----------------|
| Reporting on ICPs not read during the period of supply | Develop reporting to measure ICPs not reads during period of supply. | Bosco has created new reporting as a result of this recommendation. | Identified      |

#### Audit outcome

Non-compliant

| Non-compliance  | Description   |                 |                        |
|---|---|-----------------|------------------------|
| Audit Ref: 6.8<br>With: Clause 7(1) and (2) Schedule 15.2<br><br>From: 01-Jun-17<br>To: 10-Apr-18 | No reporting in place to quantify ICPs not interrogated at least once during the period of supply.<br>Potential impact: Low<br>Actual impact: Low<br>Audit history: One previously<br>Controls: Weak<br>Breach risk rating: 3 |                 |                        |
| Audit risk rating   | Rationale for audit risk rating   |                 |                        |
| <b>Low</b>  | The controls are weak, because no reporting on ICPs not interrogated at least once during the period of supply is available. The impact is assessed as low because four and 12 month read attainment rates are high.          |                 |                        |
| Actions taken to resolve the issue  |   | Completion date | Remedial action status |
| New reporting has been implemented.   |   | May 2018        | Identified             |
| Preventative actions taken to ensure no further issues will occur                                 |   | Completion date |                        |
| as above.   |   | N/A             |                        |

6.9. NHH meters interrogated annually (Clause 8(1) and (2) Schedule 15.2)

#### Code reference

Clause 8(1) and (2) Schedule 15.2

### Code related audit information

*At least once every 12 months, each reconciliation participant must obtain a validated meter reading for every meter register for non half hour metered ICPs, at which the reconciliation participant trades continuously for each 12 month period.*

*If exceptional circumstances prevent a reconciliation participant from obtaining the validated meter reading, the reconciliation participant is not required to comply with clause 8(1).*

### Audit observation

The meter reading process was examined. Monthly meter reading frequency reports for the months of September 2017 to January 2018 were provided.

The reports were reviewed to confirm that they were accurate and submitted on time.

I reviewed all NSPs where less than 100% of ICPs were read in the previous 12 months, to determine whether exceptional circumstances existed and if Bosco had used their best endeavours to obtain readings.

### Audit commentary

The monthly meter reading reports provided were reviewed.

| Month          | Total NSPs where ICPs were supplied > 12 months | NSPs <100% read | ICPs unread for 12 months | Overall percentage read |
|----------------|---|-----------------|---------------------------|-------------------------|
| September 2017 | 65  | 0               | 0                         | 100.00%                 |
| October 2017   | 65  | 1               | 1                         | 99.995%                 |
| November 2017  | 66  | 0               | 0                         | 100.00%                 |
| December 2017  | 66  | 0               | 0                         | 100.00%                 |
| January 2018   | 66  | 0               | 0                         | 100.00%                 |

As discussed in **section 6.8**, there are processes in place monitor read attainment, and attempt to resolve issues preventing read attainment.

One NSP which did not have 100% read attainment in the previous 12 months was identified. Exceptional circumstances applied; the meter could not be read due to health and safety issues unrelated to electricity supply or meter, which prevented access. Bosco worked with the customer to arrange a solution and actual reads were obtained from February 2018 onwards.

Bosco's meter reading frequency reports provided a list of ICPs unread for four and 12 months, as well as a summary at NSP level. I found that there was a discrepancy between the ICP level and NSP level information; the ICP level data did not relate to the NSPs which were expected to have unread ICPs at four and 12 months. Based on a sample of information reviewed, it appeared that the NSP level information was more likely to be correct than the ICP level information. I recommend that the report is checked to make sure the meter read frequency data provided is correct and consistent.

| Description                    | Recommendation  | Audited party comment                       | Remedial action |
|--------------------------------|---|---|-----------------|
| Meter read frequency reporting | Check the meter read frequency reporting to ensure that the NSP and ICP level information provided is correct and consistent. | Bosco is investigating if this is feasible. | Investigating   |

I reviewed meter reading reports for September 2017 to January 2018 and confirmed that they met the meter reading frequency report content requirements. The September to December 2017 reports were all submitted by the 20<sup>th</sup> business day of the month following the report period. The January 2018 report was submitted to the Authority late on 12/03/2018. This is recorded as non-compliance below.

#### Audit outcome

Non-compliant

| Non-compliance  | Description  |                 |                        |
|---|--|-----------------|------------------------|
| Audit Ref: 6.9<br>With: Clause 8(1) and (2) Schedule 15.2<br>From: 01-Mar-18<br>To: 12-Mar-18   | The January 2018 meter reading frequency report was submitted late.<br>Potential impact: Low<br>Actual impact: None<br>Audit history: Once previously<br>Controls: Strong<br>Breach risk rating: 1 |                 |                        |
| Audit risk rating   | Rationale for audit risk rating  |                 |                        |
| Low   | Controls are rated as strong, this appears to be an isolated late return.  |                 |                        |
| Actions taken to resolve the issue  |  | Completion date | Remedial action status |
| Bosco was made aware of this issue by the Authority and responded within 30mins of being aware. |  | April 2018      | Identified             |
| Preventative actions taken to ensure no further issues will occur                               |  | Completion date |                        |
| This was an exception to normal procedures and unlikely to occur again.                         |  | N/A             |                        |

#### 6.10. NHH meters 90% read rate (Clause 9(1) and (2) Schedule 15.2)

##### Code reference

Clause 9(1) and (2) Schedule 15.2

##### Code related audit information

*In relation to each NSP, each reconciliation participant must ensure that for each NHH ICP at which the reconciliation participant trades continuously for each four months, for which consumption information*

*is required to be reported into the reconciliation process. A validated meter reading is obtained at least once every four months for 90% of the non half hour metered ICPs.*

*A report is to be sent to the Authority providing the percentage, in relation to each NSP, for which consumption information has been collected no later than 20 business days after the end of each month.*

*If exceptional circumstances prevent a reconciliation participant from obtaining the validated meter reading, the reconciliation participant is not required to comply with clause 9(1).*

#### Audit observation

The meter reading process was examined. Monthly meter reading frequency reports for the months of September 2017 to January 2018 were provided.

I reviewed a sample of 19 ICPs unread in the previous four months, to determine whether exceptional circumstances existed and if Bosco had used their best endeavours to obtain readings.

#### Audit commentary

The monthly meter reading reports provided were reviewed.

| Month          | Total NSPs where ICPs were supplied > 4 months | NSPs <90% read | Total ICPs unread for 4 months | Overall percentage read |
|----------------|--|----------------|--------------------------------|-------------------------|
| September 2017 | 65   | 1              | 33                             | 99.85%                  |
| October 2017   | 65   | 1              | 40                             | 99.81%                  |
| November 2017  | 66   | 0              | 49                             | 99.77%                  |
| December 2017  | 66   | 1              | 79                             | 99.61%                  |
| January 2018   | 66   | 2              | 69                             | 99.65%                  |

As discussed in **section 6.8**, there are processes in place monitor read attainment, and attempt to resolve issues preventing read attainment.

A sample of 19 ICPs unread in the previous four months were reviewed:

- For one ICP exceptional circumstances existed.
- For ten ICPs Bosco had met the best endeavours requirement, and in most cases the issues preventing read attainment were resolved soon afterwards.
- For the other nine ICPs, the best endeavours requirement was not met, and exceptional circumstances did not exist. Bosco had generally tried to contact the customer to resolve the issue using only one communication method, the meters were unread due to access issues. This is recorded as non-compliance below.

#### Audit outcome

Non-compliant



| Non-compliance   | Description   |                 |                        |
|--|---|-----------------|------------------------|
| Audit Ref: 6.10<br>With: Clause 9(1) and (2) Schedule 15.2<br>From: 01-Jun-17<br>To: 31-Jan-18 | The best endeavours requirement was not met for nine ICPs unread for four months.<br>Potential impact: Low<br>Actual impact: Low<br>Audit history: Once previously<br>Controls: Moderate<br>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 most ICPs supplied for four months will receive at least one actual read.<br>The risk is rated as low, a small number of ICPs were affected, and overall read attainment rates are high with close to 100% of ICPs read every four months. |                 |                        |
| Actions taken to resolve the issue   |   | Completion date | Remedial action status |
| Under investigation. Bosco notes close to 100% has been obtained.                              |   | October 2018    | Investigating          |
| Preventative actions taken to ensure no further issues will occur                              |   | Completion date |                        |
| Dependant upon the investigation   |   | May 2019        |                        |

#### 6.11. NHH meter interrogation log (Clause 10 Schedule 15.2)

##### Code reference

Clause 10 Schedule 15.2

##### Code related audit information

The following information must be logged as the result of each interrogation of the NHH metering:

10(a) - the means to establish the identity of the individual meter reader

10(b) - the ICP identifier of the ICP, and the meter and register identification

10(c) - the method being used for the interrogation and the device ID of equipment being used for interrogation of the meter.

10(d) - the date and time of the meter interrogation.

##### Audit observation

NHH data is collected by MEPs, and Wells and Datacol as agents. The data interrogation log requirements were reviewed as part of their agent and MEP audits.

### Audit commentary

Compliance with this clause has been demonstrated by Bosco's agents and MEP's as part of their own audits.

Because Wells' audit was completed more than seven months ago, I confirmed that there have been no changes to Wells' processes that could negatively impact on Bosco's compliance since their May 2017 audit.

### Audit outcome

Compliant

## 6.12. HHR data collection (Clause 11(1) Schedule 15.2)

### Code reference

*Clause 11(1) Schedule 15.2*

### Code related audit information

*Raw meter data from all electronically interrogated metering installations must be obtained via the services access interface.*

*This may be carried out by a portable device or remotely.*

### Audit observation

HHR data is collected by EMS. HHR interrogation data requirements were reviewed as part of their agent audit.

### Audit commentary

Compliance with this clause has been demonstrated by EMS as part of their agent audit.

### Audit outcome

Compliant

## 6.13. HHR interrogation data requirement (Clause 11(2) Schedule 15.2)

### Code reference

*Clause 11(2) Schedule 15.2*

### Code related audit information

*The following information is collected during each interrogation:*

*11(2)(a) - the unique identifier of the data storage device*

*11(2)(b) - the time from the data storage device at the commencement of the download unless the time is within specification and the interrogation log automatically records the time of interrogation*

*11(2)(c) - the metering information, which represents the quantity of electricity conveyed at the point of connection, including the date and time stamp or index marker for each half hour period. This may be limited to the metering information accumulated since the last interrogation*

*11(2)(d) - the event log, which may be limited to the events information accumulated since the last interrogation*

*11(2)(e) - an interrogation log generated by the interrogation software to record details of all interrogations.*

*The interrogation log must be examined by the reconciliation participant responsible for collecting the data and appropriate action must be taken if problems are apparent or an automated software function flags exceptions.*

#### **Audit observation**

EMS are responsible for meeting the meter interrogation data requirements, and this is reviewed as part of their agent audit.

#### **Audit commentary**

Compliance with this clause has been demonstrated by EMS as part of their agent audit.

#### **Audit outcome**

Compliant

### **6.14. HHR interrogation log requirements (Clause 11(3) Schedule 15.2)**

#### **Code reference**

*Clause 11(3) Schedule 15.2*

#### **Code related audit information**

*The interrogation log forms part of the interrogation audit trail and, as a minimum, must contain the following information:*

*11(3)(a)- the date of interrogation*

*11(3)(b)- the time of commencement of interrogation*

*11(3)(c)- the operator identification (if available)*

*11(3)(d)- the unique identifier of the meter or data storage device*

*11(3)(e)- the clock errors outside the range specified in Table 1 of clause 2*

*11(3)(f)- the method of interrogation*

*11(3)(g)- the identifier of the reading device used for interrogation (if applicable).*

#### **Audit observation**

EMS are responsible for meeting the meter interrogation log requirements, and this is reviewed as part of their agent audit.

#### **Audit commentary**

Compliance with this clause has been demonstrated by EMS as part of their agent audit.

#### **Audit outcome**

Compliant

## 7. STORING RAW METER DATA

### 7.1. Trading period duration (Clause 13 Schedule 15.2)

#### Code reference

*Clause 13 Schedule 15.2*

#### Code related audit information

*The trading period duration, normally 30 minutes, must be within  $\pm 0.1\%$  ( $\pm 2$  seconds).*

#### Audit observation

Trading period duration was reviewed as part of the MEP audits, and EMS' agent audit.

#### Audit commentary

Compliance with this clause has been demonstrated by EMS and MEPs and is discussed in their audit reports.

#### Audit outcome

Compliant

### 7.2. Archiving and storage of raw meter data (Clause 18 Schedule 15.2)

#### Code reference

*Clause 18 Schedule 15.2*

#### Code related audit information

*A reconciliation participant who is responsible for interrogating a metering installation must archive all raw meter data and any changes to the raw meter data for at least 48 months, in accordance with clause 8(6) of Schedule 10.6.*

*Procedures must be in place to ensure that raw meter data cannot be accessed by unauthorised personnel.*

*Meter readings cannot be modified without an audit trail being created.*

#### Audit observation

##### NHH

Processes to archive and store raw meter data were reviewed. Raw meter data from 2007 and 2011 was reviewed to ensure that it is retained.

##### HHR

HHR data is archived and stored by EMS, and their processes were reviewed as part of their agent audit.

#### Audit commentary

##### NHH

When this data reaches Bosco's systems the level of security is also robust, and unauthorised personnel cannot access data. The billing team have access to change meter readings.

I reviewed NHH meter data from 2007 and 2011, confirming that meter reading data is retained for at least 48 months.

Readings cannot be modified without an audit trail being created. I viewed these audit trails, and they are discussed in further detail in **section 2.4**.

No paper based reads are received, and special readings are provided in Wells' read files.

HHR

Compliance with this clause was demonstrated by EMS as part of their agent audit.

**Audit outcome**

Compliant

**7.3. Non-metering information collected / archived (Clause 21(5) Schedule 15.2)**

**Code reference**

*Clause 21(5) Schedule 15.2*

**Code related audit information**

*All relevant non-metering information, such as external control equipment operation logs, used in the determination of profile data must be collected, and archived in accordance with clause 18.*

**Audit observation**

Processes to record non-metering information were discussed.

**Audit commentary**

Bosco does not deal with any non-metering information; compliance was not assessed.

**Audit outcome**

Not applicable

## 8. CREATING AND MANAGING (INCLUDING VALIDATING, ESTIMATING, STORING, CORRECTING AND ARCHIVING) VOLUME INFORMATION

### 8.1. Correction of NHH meter readings (Clause 19(1) Schedule 15.2)

#### Code reference

Clause 19(1) Schedule 15.2

#### Code related audit information

*If errors are detected during validation of non-half hour meter readings, one of the following must be undertaken:*

*19(1)(a) - confirmation of the original meter reading by carrying out another meter reading*

*19(1)(b) - replacement of the original meter reading by another meter reading (even if the replacement meter reading may be at a different date)*

*19(1)(c) - if the original meter reading cannot be confirmed or replaced by a meter reading from another interrogation, then an estimated reading is substituted and the estimated reading is marked as an estimate and it is subsequently replaced in accordance with clause 4(2).*

#### Audit observation

Processes for correction of NHH meter readings were reviewed, including examining a sample of corrections.

#### Audit commentary

Where errors are detected during validation of NHH meter readings, a check reading is performed, or AMI data for surrounding days is reviewed. If an original meter reading cannot be confirmed, an estimated reading is used. These estimates are calculated using data from a period with a quantity and profile similar to the period requiring estimation. The estimated reading is labelled as an estimate.

#### Defective meters

Four examples of defective or faulty meters were provided and reviewed. The meters were all confirmed to be stopped or faulty and replaced with new meters.

The meters were closed in EzyBusiness on the reads provided on the meter exchange paperwork, and no correction was processed for estimated consumption during the stopped or faulty period. This is recorded as non-compliance below.

#### Incorrect multipliers

No incorrect multipliers were identified during the audit period.

#### Bridged meters

Estimated consumption during a period where a meter is bridged is manually recorded against the meter, along with the dates the meter was bridged. The system reconciliation process uses Seasonal Adjusted Shape Values (SASV) shapes to apportion the estimated consumption into the correct reconciliation period for submission to the reconciliation manager. I reviewed nine examples of bridged meters and found that consumption during the bridged period had been estimated at a reasonable level. The existence of bridged meters is recorded as non-compliance in **section 6.1**.

#### Consumption while inactive

Consumption that has occurred while an ICP is inactive will only be reported if the status is corrected back to active. Bosco provided a list of 32 ICPs where consumption had been recorded after the ICP

became inactive. For five of these, the difference was 1 kWh suggesting that the last digit may have been between digits at the time of disconnection and has been read inconsistently.

I reviewed an extreme case sample of all 12 ICPs where consumption of over 50 kWh had been detected during a disconnected period.

- For eight ICPs, the status had been corrected back to active and all consumption was captured and reported. Four of these corrections had originally been processed from an incorrect date and were adjusted prior to the on-site audit.
- The status of four ICPs (1000004828BPDF3, 0153236175LC0AC, 1000001438BPC72 and 1000012458BP983) had not been corrected to make the inactive period with consumption active. Consumption while inactive was not reported for these ICPs.

#### Transposed meters

When a meter reading is found to be transposed, Bosco swaps the readings between registers and the corrected readings are appropriately recorded as estimates. I viewed an example of a transposed meter to confirm this process.

#### **Audit outcome**

Non-compliant

| Non-compliance   | Description  |
|--|--|
| <p>Audit Ref: 8.1</p> <p>With: Clause 19(1)</p> <p>Schedule 15.2</p> <p>From: 01-Jun-17</p> <p>To: 12-Apr-18</p> | <p>Four stopped meters did not have corrections processed to estimate consumption during the stopped period.</p> <p>Four ICPs with consumption while inactive did not have status corrections processed.</p> <p>Potential impact: Medium</p> <p>Actual impact: Low</p> <p>Audit history: Twice previously</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>   |
| Audit risk rating  | Rationale for audit risk rating  |
| <b>Low</b>   | <p>Controls are rated as moderate overall, as they are sufficient to ensure that most corrections are processed. Corrections for stopped or defective meters are not processed, and corrections for consumption while inactive are not consistently processed.</p> <p>The impact for stopped meters is assessed to be low, all affected ICPs were domestic and consumption during the stopped period was estimated to be low. The consumption while inactive which has not been reported is estimated to be low.</p> |

| Actions taken to resolve the issue  | Completion date        | Remedial action status |
|---|------------------------|------------------------|
| Same as 6.1. Under investigation. Some of these ICP's are in Edgecumbe and is being queried with the Network. | October 2018           | Investigating          |
| <b>Preventative actions taken to ensure no further issues will occur</b>                                      | <b>Completion date</b> |                        |
| Dependant upon the investigation  | May 2019               |                        |

## 8.2. Correction of HHR metering information (Clause 19(2) Schedule 15.2)

### Code reference

Clause 19(2) Schedule 15.2

### Code related audit information

*If errors are detected during validation of half hour metering information the correction must be as follows:*

*19(2)(a) - if a check meter or data storage device is installed at the metering installation, data from this source may be substituted*

*19(2)(b) - in the absence of any check meter or data storage device, data may be substituted from another period if the total of all substituted intervals matches the total consumption recorded on the meter, if available, and the pattern of consumption is considered materially similar to the period in error.*

### Audit observation

EMS are responsible for correction of HHR metering information, and this is reviewed as part of their agent audits.

### Audit commentary

Compliance with this clause has been demonstrated by EMS as part of their agent audit. EMS confirmed that no corrections to HHR data were made during the audit period.

### Audit outcome

Compliant

## 8.3. Error and loss compensation arrangements (Clause 19(3) Schedule 15.2)

### Code reference

Clause 19(3) Schedule 15.2

### Code related audit information

*If error compensation and loss compensation are carried out as part of the process of determining accurate data, the compensation process must be documented and must comply with audit trail requirements.*

### Audit observation

Error and loss compensation arrangements were discussed.



### Audit commentary

Bosco does not deal with any loss and compensation arrangements. If a compensation arrangement was in place, this would be identified through the load check process employed at the time of certification or recertification.

### Audit outcome

Compliant

## 8.4. Correction of HHR and NHH raw meter data (Clause 22(1) and (2) Schedule 15.2)

### Code reference

*Clause 22(1) and (2) Schedule 15.2*

### Code related audit information

*In correcting a meter reading in accordance with clause 19, the raw meter data must not be overwritten. If the raw meter data and the meter readings are the same, an automatic secure backup of the affected data must be made and archived by the processing or data correction application.*

*If data is corrected or altered, a journal must be generated and archived with the raw meter data file. The journal must contain the following:*

*22(2)(a) - the date of the correction or alteration*

*22(2)(b) - the time of the correction or alteration*

*22(2)(c) - the operator identifier of the reconciliation participant*

*22(2)(d) - the half-hour metering data or the non half hour metering data corrected or altered, and the total difference in volume of such corrected or altered data*

*22(2)(e) - the technique used to arrive at the corrected data*

*22(2)(f) - the reason for the correction or alteration.*

### Audit observation

Corrections are discussed in **sections 8.1** and **8.2**. Raw meter data is not overwritten as part of the correction process. Audit trails are discussed in **section 2.4**.

Raw meter data retention for MEPs and agents was reviewed as part of their audits.

### Audit commentary

Compliance with this clause has been demonstrated by EMS as part of their agent audit. EMS confirmed that no corrections to HHR data were made during the audit period.

I reviewed the audit trail information for NHH data corrections, including bridged meters, and noted that they were compliant with the requirements of this clause. The technique used for correction is pre-set within the system for bridged meters.

### Audit outcome

Compliant

## 9. ESTIMATING AND VALIDATING VOLUME INFORMATION

### 9.1. Identification of readings (Clause 3(3) Schedule 15.2)

#### Code reference

Clause 3(3) Schedule 15.2

#### Code related audit information

*All estimated readings and permanent estimates must be clearly identified as an estimate at source and in any exchange of metering data or volume information between participants.*

#### Audit observation

A sample of reads and volumes were traced from the source files to Bosco's systems in **section 2.3**.

Provision of estimated reads to other participants during switching was reviewed in **sections 4.3, 4.4, 4.10** and **4.11**.

Correct identification of estimated reads, and review of the estimation process was completed in **sections 8.1** and **8.2**.

#### Audit commentary

Readings are clearly identified as required by this clause.

Review of CS file content in **section 4.3** found ICP 1000018870BP48E had an actual read on 28/12/17 incorrectly sent as an estimate. This is recorded as non-compliance below.

#### Audit outcome

Non-compliant

| Non-compliance   | Description  |
|--|--|
| Audit Ref: 9.1<br>With: Clause 3(3)<br>Schedule 15.2<br><br>From: 28-Dec-17<br>To: 28-Dec-17 | Actual read incorrectly labelled as an estimate.<br><br>Potential impact: Low<br><br>Actual impact: Low<br><br>Audit history: Once<br><br>Controls: Weak<br><br>Breach risk rating: 3  |
| Audit risk rating  | Rationale for audit risk rating  |
| <b>Low</b>   | I have rated the controls as weak as the same issue with CS file content has been identified in previous audits and therefore a lack of controls is indicated.<br><br>I have recorded the audit risk rating as low as one ICP is affected. |

| Actions taken to resolve the issue   | Completion date | Remedial action status |
|--|-----------------|------------------------|
| The switch read was originally estimated and was subsequently corrected using smart meter data | May 2018        | Cleared                |
| Preventative actions taken to ensure no further issues will occur                              | Completion date |                        |
| N/A  | N/A             |                        |

## 9.2. Derivation of volume information (Clause 3(4) Schedule 15.2)

### Code reference

Clause 3(4) Schedule 15.2

### Code related audit information

Volume information must be directly derived, in accordance with Schedule 15.2, from:

3(4)(a) - validated meter readings

3(4)(b) - estimated readings

3(4)(c) - permanent estimates.

### Audit observation

A sample of submission data was reviewed in **sections 11** and **12**, to confirm that volume was based on readings as required.

### Audit commentary

Review of submission data confirmed that it is based on readings as required by this clause.

### Audit outcome

Compliant

## 9.3. Meter data used to derive volume information (Clause 3(5) Schedule 15.2)

### Code reference

Clause 3(5) Schedule 15.2

### Code related audit information

All meter data that is used to derive volume information must not be rounded or truncated from the stored data from the metering installation.

### Audit observation

A sample of submission data was reviewed in **sections 11** and **12**, to confirm that volume was based on readings as required.

NHH data is collected by MEPs and agents, and HHR data is collected by EMS. Compliance was assessed as part of their MEP and agent audits.

### Audit commentary

The MEPs retain the raw, unrounded data.

Compliance with this clause has been demonstrated by Datacol, Wells and EMS as part of their agent audits.

Because Wells' audit was completed more than seven months ago, I confirmed that there have been no changes to Wells' processes that could negatively impact on Bosco's compliance since their May 2017 audit.

### Audit outcome

Compliant

## 9.4. Half hour estimates (Clause 15 Schedule 15.2)

### Code reference

*Clause 15 Schedule 15.2*

### Code related audit information

*If a reconciliation participant is unable to interrogate an electronically interrogated metering installation before the deadline for providing submission information, the submission to the reconciliation manager must be the reconciliation participant's best estimate of the quantity of electricity that was purchased or sold in each trading period during any applicable consumption period for that metering installation.*

*The reconciliation participant must use reasonable endeavours to ensure that estimated submission information is within the percentage specified by the Authority.*

### Audit observation

EMS are responsible for estimation of HHR metering information, and this was reviewed as part of their agent audit.

### Audit commentary

Compliance with this clause has been demonstrated by EMS as part of their agent audit.

EMS confirmed that no HHR data was estimated during the audit period.

### Audit outcome

Compliant

## 9.5. NHH metering information data validation (Clause 16 Schedule 15.2)

### Code reference

*Clause 16 Schedule 15.2*

### Code related audit information

*Each validity check of non half hour meter readings and estimated readings must include the following:*

*16(2)(a) - confirmation that the meter reading or estimated reading relates to the correct ICP, meter, and register*

*16(2)(b) - checks for invalid dates and times*

*16(2)(c) - confirmation that the meter reading or estimated reading lies within an acceptable range compared with the expected pattern, previous pattern, or trend*

16(2)(d) - confirmation that there is no obvious corruption of the data, including unexpected 0 values.

#### Audit observation

I reviewed and observed the NHH data validation process, including checking a sample of data validations, exception reports, and process documentation.

#### Audit commentary

Meter readings are imported into EzyBusiness automatically, and undergo meter read validation, then billing validation. Any reads that fail these validation processes are reported by the system and investigated by the billing team.

The read import validation confirms whether the file content is valid, and if there is a matching meter and register number open in EzyBusiness. If a read file fails any of these checks, the read file will not be imported, and an exception will be generated.

Reads contained within files that pass the initial check are imported and compared to the previous reading and historic consumption patterns. This process identifies high and negative readings which require investigation. EzyBusiness automatically processes meter rollovers.

Pre-billing validation includes further consumption checks, and identifies unread ICPs:

- **Negative consumption** - any ICPs with negative consumption over 17 days are checked
- **Zero consumption** - any ICPs with zero consumption over 17 days are checked
- **Consumption over 100 kWh per day** – these are checked to confirm whether the high consumption is genuine
- **High consumption for meter configuration, brand and ICP type** – these are checked to confirm whether the high consumption is genuine
- **Customer read ICPs with no check meter read received from the meter reader** - these are followed up to arrange a check read
- **ICPs with estimated reads for more than three months** - these are investigated to determine why no read has been provided and action is taken
- **ICPs where the meter reader notes indicate a different meter number** - these are followed up with the MEP if paperwork is not received within a month
- **ICP consumption = sum of consumption for connected registers** – any differences are investigated.

After passing pre-billing validation, reads are flagged as posted in the system, and are available to be used by the billing and reconciliation processes. A test billing run is generated to check all data required for billing is available, and then the readings are billed.

The checks completed are sufficient to identify accuracy issues with readings provided.

Meter event and meter condition information may indicate further issues and is not consistently reviewed. This is raised as non-compliance in **sections 6.6 and 9.6**.

#### Audit outcome

Compliant

## 9.6. Electronic meter readings and estimated readings (Clause 17 Schedule 15.2)

### Code reference

Clause 17 Schedule 15.2

### Code related audit information

*Each validity check of electronically interrogated meter readings and estimate readings must be at a frequency that will allow a further interrogation of the data storage device before the data is overwritten within the data storage device and before this data can be used for any purpose under the Code.*

*Each validity check of a meter reading obtained by electronic interrogation or an estimated reading must include:*

*17(4)(a) - checks for missing data*

*17(4)(b) - checks for invalid dates and times*

*17(4)(c) - checks of unexpected zero values*

*17(4)(d) - comparison with expected or previous flow patterns*

*17(4)(e) - comparisons of meter readings with data on any data storage device registers that are available*

*17(4)(f) - a review of meter and data storage device event list. Any event that could have affected the integrity of metering data must be investigated.*

### Audit observation

#### NHH

I reviewed and observed the AMI validation process, including checking a sample of data validations and process documentation.

#### HHR

HHR processes are completed by EMS and were assessed as part of EMS' agent audit. I reviewed Bosco's processes to review the HHR data following validation by EMS.

### Audit commentary

#### NHH

Bosco receives AMI data from Metrix and AMS. As discussed in **section 9.5**, all NHH reads are checked for missing data, invalid dates and times, unexpected zero values, and comparison against consumption history.

The Code requires *"...a review of meter and data storage device event log. Any event that could have affected the integrity of metering data must be investigated."*

Bosco receives emailed meter event information from AMS and Metrix. These metering events are reviewed and actioned, and I saw evidence of field services jobs raised as a result.

Bosco does not currently review the full meter event logs; this is recorded as non-compliance below. I recommend the examination of at least the following events:

- generation consumption indicating unknown solar installations (reverse power)
- phase failure on CT metered installations
- tampering
- large clock discrepancies.

## HHR

EMS' HHR processes were reviewed as part of their agent audit and found to be compliant.

Bosco also manually validates the HHR information they receive in Excel including reasonableness checks of consumption, demand, capacity, and power factor compared to the ICP's history. Any issues are referred to EMS.

No data validity issues have been identified by Bosco during the audit period.

### Audit outcome

Non-compliant

| Non-compliance  | Description   |                 |                        |
|---|---|-----------------|------------------------|
| Audit Ref: 9.6<br>With: Clause 17<br>Schedule 15.2<br><br>From: 01-Jun-18<br>To: 12-Apr-18  | AMI event information not adequately monitored.<br><br>Potential impact: Low<br><br>Actual impact: Low<br><br>Audit history: Once previously<br><br>Controls: Moderate<br><br>Breach risk rating: 2 |                 |                        |
| Audit risk rating   | Rationale for audit risk rating   |                 |                        |
| Low   | Bosco is monitoring and actioning emailed event information.  |                 |                        |
| Actions taken to resolve the issue  |   | Completion date | Remedial action status |
| Bosco is currently working with MEPS to confirm the definition of event information, then request a report from our smart meter partners Metrix and AMS relevant to Bosco |   | May 2019        | Investigating          |
| Preventative actions taken to ensure no further issues will occur   |   | Completion date |                        |
| As above. Further functionality may need to be introduced.  |   | May 2020        |                        |

## 10. PROVISION OF METERING INFORMATION TO THE PRICING MANAGER IN ACCORDANCE WITH SUBPART 4 OF PART 13 (CLAUSE 15.38(1)(F))

### 10.1. Generators to provide HHR metering information (Clause 13.136)

#### Code reference

Clause 13.136

#### Code related audit information

*The generator (and/or embedded generator) must provide to the pricing manager and the grid owner connected to the local network in which the embedded generator is located, half hour metering information in accordance with clause 13.138 in relation to generating plant that is subject to a dispatch instruction:*

- *that injects electricity directly into a local network; or*
- *if the meter configuration is such that the electricity flows into a local network without first passing through a grid injection point or grid exit point metering installation.*

#### Audit observation

The NSP table on the registry was reviewed.

#### Audit commentary

Bosco is not responsible for any NSPs. No information is provided to the pricing manager in accordance with this clause.

#### Audit outcome

Not applicable

### 10.2. Unoffered & intermittent generation provision of metering information (Clause 13.137)

#### Code reference

Clause 13.137

#### Code related audit information

*Each generator must provide the pricing manager and the relevant grid owner half-hour metering information for:*

- *any unoffered generation from a generating station with a point of connection to the grid 13.137(1)(a)*
- *any electricity supplied from an intermittent generating station with a point of connection to the grid. 13.137(1)(b)*

*The generator must provide the pricing manager and the relevant grid owner with the half-hour metering information required under this clause in accordance with the requirements of Part 15 for the collection of that generator's volume information. (clause 13.137(2))*

*If such half-hour metering information is not available, the generator must provide the pricing manager and the relevant grid owner a reasonable estimate of such data. (clause 13.137(3))*

#### Audit observation

The NSP table on the registry was reviewed.



#### **Audit commentary**

Bosco is not responsible for any NSPs. No information is provided to the pricing manager in accordance with this clause.

#### **Audit outcome**

Not applicable

### **10.3. Loss adjustment of HHR metering information (Clause 13.138)**

#### **Code reference**

*Clause 13.138*

#### **Code related audit information**

*The generator must provide the information required by clauses 13.136 and 13.137,*

*13.138(1)(a)- adjusted for losses (if any) relative to the grid injection point or, for embedded generators the grid exit point, at which it offered the electricity*

*13.138(1)(b)- in the manner and form that the pricing manager stipulates*

*13.138(1)(c)- by 0500 hours on a trading day for each trading period of the previous trading day.*

*The generator must provide the half-hour metering information required under this clause in accordance with the requirements of Part 15 for the collection of the generator's volume information.*

#### **Audit observation**

The NSP table on the registry was reviewed.

#### **Audit commentary**

Bosco is not responsible for any NSPs. No information is provided to the pricing manager in accordance with this clause.

#### **Audit outcome**

Not applicable

### **10.4. Notification of the provision of HHR metering information (Clause 13.140)**

#### **Code reference**

*Clause 13.140*

#### **Code related audit information**

*If the generator provides half-hourly metering information to the pricing manager or a grid owner under clauses 13.136 to 13.138, or 13.138A, it must also, by 0500 hours of that day, advise the relevant grid owner.*

#### **Audit observation**

The NSP table on the registry was reviewed.

#### **Audit commentary**

Bosco is not responsible for any NSPs. No information is provided to the pricing manager in accordance with this clause.

**Audit outcome**

Not applicable

## 11. PROVISION OF SUBMISSION INFORMATION FOR RECONCILIATION

### 11.1. Buying and selling notifications (Clause 15.3)

#### Code reference

Clause 15.3

#### Code related audit information

*Unless an embedded generator has given a notification in respect of the point of connection under clause 15.3, a trader must give notice to the reconciliation manager if it is to commence or cease trading electricity at a point of connection using a profile with a profile code other than HHR, RPS, UML, EG1, or PV1 at least five business days before commencing or ceasing trader.*

*The notification must comply with any procedures or requirements specified by the reconciliation manager.*

#### Audit observation

A registry list was reviewed for the period from 1 June 2017 to 20 February 2018 to confirm the profiles used.

#### Audit commentary

Bosco only uses the RPS and HHR profiles; this clause does not apply.

#### Audit outcome

Compliant

### 11.2. Calculation of ICP days (Clause 15.6)

#### Code reference

Clause 15.6

#### Code related audit information

*Each retailer and direct purchaser (excluding direct consumers) must deliver a report to the reconciliation manager detailing the number of ICP days for each NSP for each submission file of submission information in respect of:*

*15.6(1)(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*

*15.6(1)(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

*The ICP days information must be calculated using the data contained in the retailer or direct purchaser's reconciliation system when it aggregates volume information for ICPs into submission information.*

#### Audit observation

The process for the calculation of ICP days was examined by checking ten NSPs with a small number of ICPs to confirm the AV110 ICP days calculation was correct.

I reviewed variances for 16 months of GR100 reports and investigated any large discrepancies.

#### Audit commentary

The process for the calculation of ICP days was examined by checking ten NSPs with a small number of ICPs. I found that ICP days were correctly reported for the sample checked.

The following table shows the ICP days difference between Bosco files and the RM return file (GR100) for all available revisions for 16 months. Negative percentage figures indicate that the Bosco ICP days figures are higher than those contained on the registry. The discrepancies are very small.

| Month    | Ri     | R1     | R3     | R7    | R8    | R14   |
|----------|--------|--------|--------|-------|-------|-------|
| Sep 2016 | -0.04% | 0.00%  | 0.00%  | 0.01% | 0.01% | 0.00% |
| Oct 2016 | -0.02% | 0.00%  | 0.00%  | 0.00% | -     | 0.00% |
| Nov 2016 | 0.00%  | 0.00%  | 0.00%  | 0.00% | -     | 0.00% |
| Dec 2016 | -0.01% | 0.01%  | 0.00%  | 0.00% | -     | -     |
| Jan 2017 | -0.02% | 0.01%  | 0.01%  | 0.00% | -     | -     |
| Feb 2017 | 0.00%  | -0.02% | 0.00%  | 0.00% | -     | -     |
| Mar 2017 | -0.01% | 0.02%  | 0.01%  | 0.00% | -     | -     |
| Apr 2017 | 0.02%  | 0.00%  | 0.00%  | 0.00% | -     | -     |
| May 2017 | 0.01%  | 0.02%  | -0.01% | 0.00% | -     | -     |
| Jun 2017 | 0.00%  | 0.00%  | 0.00%  | 0.00% | -     | -     |
| Jul 2017 | -0.02% | -0.01% | 0.00%  | -     | -     | -     |
| Aug 2017 | 0.02%  | 0.00%  | 0.00%  | -     | -     | -     |
| Sep 2017 | 0.03%  | 0.00%  | 0.00%  | -     | -     | -     |
| Oct 2017 | 0.01%  | 0.02%  | 0.00%  | -     | -     | -     |
| Nov 2017 | 0.01%  | -0.01% | -      | -     | -     | -     |
| Dec 2017 | 0.04%  | 0.00%  | -      | -     | -     | -     |

#### Audit outcome

Compliant

### 11.3. Electricity supplied information provision to the reconciliation manager (Clause 15.7)

#### Code reference

##### Clause 15.7

#### Code related audit information

A retailer must deliver to the reconciliation manager its total monthly quantity of electricity supplied for each NSP, aggregated by invoice month, for which it has provided submission information to the reconciliation manager, including revised submission information for that period as non-loss adjusted values in respect of:

15.7(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period

15.7(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.

#### Audit observation

The process for the calculation of as billed volumes was examined by checking five NSPs with a small number of ICPs to confirm the AV120 calculation was correct.

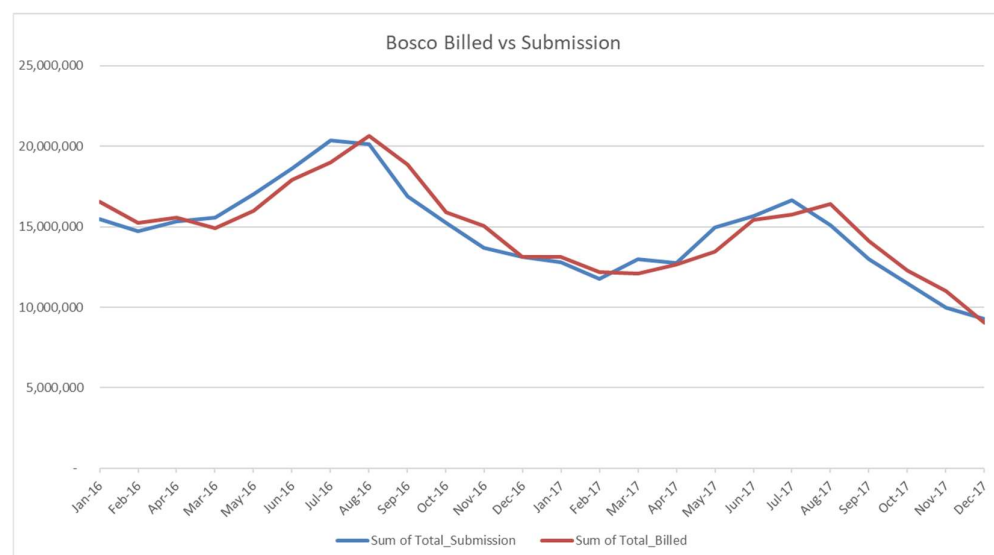
GR130 reports for January 2016 onwards were reviewed to confirm whether the relationship between billed and submitted data appears reasonable.

#### Audit commentary

The process for calculating and submitting electricity supplied information was examined by checking individual invoices for a typical sample of five NSPs to ensure the billed amount equalled the figure in the ICP level file which forms the basis of the aggregate file sent to the RM. The file is correct for the sample checked.

The chart below shows a comparison between submissions and electricity supplied information. At an aggregate level, billed data is 0.88% higher than submitted data for the two years ended January 2018 and 0.77% higher than submitted for the year ended January 2018. The differences between billed and submitted data were reviewed. The main cause of the difference is timing, due to the one month offset.

#### Comparison between Submitted Volumes and Electricity Supplied



## Audit outcome

Compliant

### 11.4. HHR aggregates information provision to the reconciliation manager (Clause 15.8)

#### Code reference

Clause 15.8

#### Code related audit information

*A retailer or direct purchaser (excluding direct consumers) must deliver to the reconciliation manager its total monthly quantity of electricity supplied for each half hourly metered ICP for which it has provided submission information to the reconciliation manager, including:*

*15.8(a) - submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period*

*15.8(b) - revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period.*

#### Audit observation

EMS are responsible for meeting the meter interrogation data requirements, and this is reviewed as part of their agent audit.

I confirmed that the process for the calculation and aggregation of HHR data is correct, by matching HHR aggregates submissions with the HHR volumes submissions for nine submissions.

The "ICP Missing" files were examined for all revisions for February 2017 to January 2018. All ICPs with missing data were reviewed.

#### Audit commentary

Compliance with this clause has been demonstrated by EMS as part of their agent audit.

Bosco's HHR aggregates report contains submission information, not electricity supplied information as specified under clause 15.8. Although the reports Bosco produces are consistent with the Reconciliation Manager Functional Specification, this is recorded as non-compliance below.

I confirmed that the process for the calculation and aggregation of HHR data is correct, by matching HHR aggregates information with the HHR volumes data for revisions 0, 1 and 3 for July 2017, August 2017, and September 2017. There were only small rounding differences between the volumes and aggregates, with differences less than  $\pm 0.00\%$  and  $\pm 2$  kWh across each submission.

The "ICP Missing" files were examined for all revisions for January to May 2017. Three instances of missing data were present, two related to backdated corrections to submission type and one related to a switch withdrawal in progress. No issues with missing data were identified.

## Audit outcome

Non-compliant

| Non-compliance  | Description  |                        |  |
|---|--|------------------------|--|
| <p>Audit Ref: 11.4</p> <p>With: Clause 15.8</p> <p>From: June 2017</p> <p>To: April 2018</p>  | <p>HHR aggregates file does not contain electricity supplied information.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Twice previously</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p> |                        |  |
| Actions taken to resolve the issue  | Completion date  |                        |  |
| Low   | The issue relating to content of the aggregates file is an error in the code, Bosco is providing submission information as expected.   |                        |  |
| Preventative actions taken to ensure no further issues will occur   | Completion date  | Remedial action status |  |
| As identified by the auditor, this is an error in the EA code See above. BOSCO would request the risk rating be removed due to this code error. | 2020   | Disputed               |  |
| Actions taken to resolve the issue  | Completion date  |                        |  |
| EA needing to resolve the code error  | 2020   |                        |  |

## 12. SUBMISSION COMPUTATION

### 12.1. Daylight saving adjustment (Clause 15.36)

#### Code reference

Clause 15.36

#### Code related audit information

*The reconciliation participant must provide submission information to the reconciliation manager that is adjusted for NZDT using one of the techniques set out in clause 15.36(3) specified by the Authority.*

#### Audit observation

EMS are responsible for daylight savings adjustments, and this is reviewed as part of their agent audits.

#### Audit commentary

Compliance with this clause has been demonstrated by EMS as part of their agent audit. The “trading period run on” technique is used for daylight saving adjustment.

#### Audit outcome

Compliant

### 12.2. Creation of submission information (Clause 15.4)

#### Code reference

Clause 15.4

#### Code related audit information

*By 1600 hours on the 4th business day of each reconciliation period, the reconciliation participant must deliver submission information to the reconciliation manager for all NSPs for which the reconciliation participant is recorded in the registry as having traded electricity during the consumption period immediately before that reconciliation period (in accordance with Schedule 15.3).*

*By 1600 hours on the 13th business day of each reconciliation period, the reconciliation participant must deliver submission information to the reconciliation manager for all points of connection for which the reconciliation participant is recorded in the registry as having traded electricity during any consumption period being reconciled in accordance with clauses 15.27 and 15.28, and in respect of which it has obtained revised submission information (in accordance with Schedule 15.3).*

#### Audit observation

HHR submissions are created by EMS, and their processes were reviewed as part of their agent audit.

A sample of NHH ICPs were checked to make sure they are handled correctly, including 15 ICPs with standard, or shared unmetered load, 11 ICPs with distributed generation, and 10 vacant ICPs with consumption.

Alleged breaches during the audit period were reviewed to determine whether any reconciliation submissions were late.

#### Audit commentary

No breaches had been recorded for late provision of submission information. Data is reviewed prior to submission as discussed in **section 12.3**.



## NHH

Bosco prepares NHH reconciliation submissions using reconciliation consumption generated by EzyBusiness. A sample of NHH ICPs were checked to make sure they are handled correctly, including vacant ICPs with consumption, disconnected ICPs with consumption, and unmetered load:

- An extreme case sample of the ten ICPs with the most vacant consumption were checked and found to have consumption reported correctly.
- All disconnected ICPs with consumption over 50 kWh while disconnected were checked. For four of the ICPs a status correction had not been completed and consumption while inactive was not reported, for the other eight ICPs consumption while disconnected was correctly reported. Non-compliance is recorded for the four ICPs where status correction was not completed.
- All ICPs with distributed generation were checked. Non-compliance is recorded for ICPs 0000050466ML79B, 1000004602BP43C and 1000006286BPF3D, which had generation installed but the energy was not measured and quantified according to the code.
- All ICPs with standard unmetered volumes were checked. Correct consumption was submitted.
- Four stopped meters did not have corrections processed to estimate consumption during the stopped period. Non-compliance is recorded below.

Further information on calculation of historic estimate is recorded in **section 12.11**, and aggregation of the AV080 report is checked in **section 12.3**.

## HHR

Compliance with this clause has been demonstrated by EMS as part of their agent audit. The AV090 and AV140 (half hour volumes and aggregates) submissions are discussed in **section 11.4**.

### **Audit outcome**

Non-compliant

| Non-compliance   | Description   |
|--|---|
| Audit Ref: 12.2<br>With: Clause 15.4<br><br>From: 01-Jun-17<br>To: 12-Apr-18 | For three ICPs with generation, energy was not metered and quantified according to the code.<br><br>Four ICPs with consumption while inactive did not have status corrections processed.<br><br>Four stopped meters did not have corrections processed to estimate consumption during the stopped period.<br><br>Potential impact: Low<br><br>Actual impact: Low<br><br>Audit history: Once previously<br><br>Controls: Moderate<br><br>Breach risk rating: 2 |

| Audit risk rating   | Rationale for audit risk rating   |                 |                        |
|---|---|-----------------|------------------------|
| <b>Low</b>  | <p>Controls are rated as moderate overall, as they are sufficient to ensure that most data is correctly reported.</p> <p>Corrections for stopped or defective meters are not processed, and corrections for consumption while inactive are not consistently processed.</p> <p>The impact for stopped meters is assessed to be low, all affected ICPs were domestic and consumption during the stopped period was estimated to be low. The consumption while inactive which has not been reported is estimated to be low.</p> <p>If a distributed generation customer is found, they arrange for the customer to switch the ICP to another retailer as soon as possible.</p> |                 |                        |
| Actions taken to resolve the issue                                |   | Completion date | Remedial action status |
| Under investigation   |   | October 2018    | Investigating          |
| Preventative actions taken to ensure no further issues will occur |   | Completion date |                        |
| To be determined upon investigation completion.                   |   | May 2019        |                        |

### 12.3. Allocation of submission information (Clause 15.5)

#### Code reference

#### Clause 15.5

#### Code related audit information

*In preparing and submitting submission information, the reconciliation participant must allocate volume information for each ICP to the NSP indicated by the data held in the registry for the relevant consumption period at the time the reconciliation participant assembles the submission information. Volume information must be derived in accordance with Schedule 15.2.*

*However, if, in relation to a point of connection at which the reconciliation participant trades electricity, a notification given by an embedded generator under clause 15.13 for an embedded generating station is in force, the reconciliation participant is not required to comply with the above in relation to electricity generated by the embedded generating station.*

#### Audit observation

#### HHR

Compliance with this clause has been demonstrated by EMS as part of their agent audit.

#### All other submissions

The process to ensure that submissions are accurate were discussed and observed, including review of reports used in the process.

The process for aggregating the AV080 was examined by checking five NSPs with a small number of ICPs. The GR170 to AV080 files for nine months were compared, to confirm zeroing occurs.

## Audit commentary

### HHR

Compliance with this clause has been demonstrated by EMS as part of their agent audit.

### All other submissions

Reconciliation submissions are generated and checked by Bosco, before being passed to the Mercury Energy Services team for further review. I walked through Bosco's review process, and noted that any anomalies identified are investigated by comparing to the average daily consumption and historic information:

- The 100 ICPs with the lowest volumes are reviewed.
- The 100 ICPs with the highest volumes are reviewed.
- For wash up submissions, ICP days changes between submissions are identified and reviewed, and a volume comparison to previous months is completed.
- GXP level comparison to the same period last year and previous month for initial submission. For revision submissions, a comparison to previous submissions for the month is also completed. If anomalies are identified, it is possible to drill down to ICP level to identify and investigate the cause of the difference.
- Exception reports are run to identify possible situations where meter rollovers have not been processed correctly, usually due to an incorrect number of dials being recorded. These are then investigated and corrected.

Bosco submissions are then checked by Mercury Energy's energy services team using the submission checker and NZRM/ALLA file editor tools.

ICP days, NHH volumes, and as billed data are imported into the submission checker. The submission checker is used to create graphs and tables to compare the data, including review of historic consumption patterns, differences between revisions, and consistency checks between the reports. The results are reviewed by the energy analysts and approved in writing by the Pricing Operations and Energy Services Manager. In some cases, volumes may be queried with the Bosco team prior to approval.

NZRM/ALLA file editor compares volume, ICP days, and billed submissions to the NZRM balancing area data, to ensure trading notifications are open. Corrections are processed by the NZRM/ALLA file editor, and I confirmed that a full audit trail is created as part of this process. The most common corrections are:

- there is no NHH data for an expected aggregation factor combination, and zero records are inserted
- removal of zero consumption data if there is no open contract for the aggregation factor combination.

GR170 and AV080 files for September to November 2016 (revision 14), March to May 2017 (revision 7) and August to October 2017 (revision 3) were compared, and found to contain the same NSPs, confirming that zeroing is occurring as required.

The aggregation of the submission files was checked, and found to be compliant:

- NHH volumes were examined by checking five NSPs with a small number of ICPs
- one month's volumes for ten ICPs were traced from the HHR aggregates submission to source information
- ICP days were examined by checking ten NSPs with a small number of ICPs

- Electricity Supplied information was examined by checking individual invoices for a typical sample of five NSPs to ensure the billed amount equalled the figure in the ICP level file which forms the basis of the aggregate file sent to the RM
- NSP volumes were examined by checking one day of volumes for five NSPs against SAP.

There have been no upgrades from NHH to HHR, or downgrades from HHR to NHH during the audit period.

#### Audit outcome

Compliant

### 12.4. Grid owner volumes information (Clause 15.9)

#### Code reference

Clause 15.9

#### Code related audit information

*The participant (if a grid owner) must deliver to the reconciliation manager for each point of connection for all of its GXPs, the following:*

- *submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period (clause 15.9(a))*
- *revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period. (clause 15.9(b))*

#### Audit observation

The NSP table on the registry and registry list were reviewed.

#### Audit commentary

Bosco is not responsible for any GIPs; compliance was not assessed.

#### Audit outcome

Not applicable

### 12.5. Provision of NSP submission information (Clause 15.10)

#### Code reference

Clause 15.10

#### Code related audit information

*The participant (if a local or embedded network owner) must provide to the reconciliation manager for each NSP for which the participant has given a notification under clause 25(1) Schedule 11.1 (which relates to the creation, decommissioning, and transfer of NSPs) the following:*

- *submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period (clause 15.10(a))*
- *revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period. (clause 15.10(b))*

#### Audit observation

The registry list and NSP table were reviewed.

#### Audit commentary

Bosco is not a local or embedded network owner; compliance was not assessed.

#### Audit outcome

Not applicable

### 12.6. Grid connected generation (Clause 15.11)

#### Code reference

Clause 15.11

#### Code related audit information

*The participant (if a grid connected generator) must deliver to the reconciliation manager for each of its points of connection, the following:*

- *submission information for the immediately preceding consumption period, by 1600 hours on the 4th business day of each reconciliation period (clause 15.11(a))*
- *revised submission information provided in accordance with clause 15.4(2), by 1600 hours on the 13th business day of each reconciliation period. (clause 15.11(b))*

#### Audit observation

The registry list and NSP table were reviewed.

#### Audit commentary

Bosco is not a grid connected generator; compliance was not assessed.

#### Audit outcome

Not applicable

### 12.7. Accuracy of submission information (Clause 15.12)

#### Code reference

Clause 15.12

#### Code related audit information

*If the reconciliation participant has submitted information and then subsequently obtained more accurate information, the participant must provide the most accurate information available to the reconciliation manager or participant, as the case may be, at the next available opportunity for submission (in accordance with clauses 15.20A, 15.27, and 15.28).*

#### Audit observation

Alleged breaches during the audit period were reviewed to determine whether any reconciliation submissions were late. Corrections were reviewed in **section 8.1** and **8.2**.

#### Audit commentary

Review of alleged breaches confirmed that no reconciliation submissions were made late.

A small number of submission accuracy issues were identified:

- for four ICPs disconnected ICPs with consumption of over 50 kWh while disconnected, a status correction had not been completed and consumption while inactive was not reported
- four stopped meters did not have corrections processed to estimate consumption during the stopped period
- ICPs 0000050466ML79B, 1000004602BP43C and 1000006286BPF3D, had generation installed but the energy was not measured and quantified according to the code

- for ICPs 0010494000WR841 and 0024149973LC0C2 a read request was accepted but the reads were not updated, resulting in correct switch reads being used for submission.

#### Audit outcome

Non-compliant

| Non-compliance   | Description   |                 |                        |
|--|---|-----------------|------------------------|
| <p>Audit Ref: 12.7</p> <p>With: Clause 15.12</p> <p>From: 01-Jun-18</p> <p>To: 12-Apr-18</p> | <p>Four corrections for consumption while inactive, and four corrections for stopped or faulty meters were not processed.</p> <p>For three ICPs with generation, energy was not metered and quantified according to the code.</p> <p>For two read changes, the accepted reads were not recorded and used for submission.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p> |                 |                        |
| Audit risk rating  | Rationale for audit risk rating   |                 |                        |
| <b>Low</b>   | <p>Controls are rated as moderate, as most submission data is accurate but there is some room for improvement.</p> <p>The impact is assessed to be low, and once corrected revised data will be submitted.</p>  |                 |                        |
| Actions taken to resolve the issue   |   | Completion date | Remedial action status |
| Related to 6.1   |   | N/A             | Investigating          |
| Preventative actions taken to ensure no further issues will occur                            |   | Completion date |                        |
| N/A  |   | N/A             |                        |

## 12.8. Permanence of meter readings for reconciliation (Clause 4 Schedule 15.2)

### Code reference

*Clause 4 Schedule 15.2*

### Code related audit information

*Only volume information created using validated meter readings, or if such values are unavailable, permanent estimates, has permanence within the reconciliation processes (unless subsequently found to be in error).*

*Volume information created using estimated readings must be subsequently replaced at the earliest opportunity by the reconciliation participant by volume information that has been created using validated meter readings or permanent estimates by, at the latest, the month 14 revision cycle.*

*A permanent estimate may be used in place of a validated meter reading, but only if, despite having used reasonable endeavours; the reconciliation participant has been unable to obtain a validated meter reading.*

### Audit observation

Three AV080 14 month revisions were reviewed to identify any forward estimate still existing. All NSPs with forward estimate remaining on any of the revisions were checked to determine the reasons for the forward estimate.

### Audit commentary

Estimated reads are normally replaced with permanent estimate reads by 14 months. Before each 14 month wash up, a report is run from EzyBusiness to identify any ICP which still have forward estimate remaining. The ICPs with forward estimate are worked through and estimate readings are manually changed to permanent estimate.

Review of the 14 month revisions for September 2016 to November 2016 showed that not all estimated meter readings had been replaced with validated meter readings. For the October 2016 14 month revision, 1358 kWh of forward estimate remained across four NSPs. This is recorded as non-compliance below.

It appears that the process to enter permanent estimate readings was accidentally missed for the October 2016 14 month revision. Forward estimate remained because:

- customer reads had not been validated by meter reader check readings prior to submission for two ICPs
- a meter change read was estimated
- Day Night register readings were transposed and recorded as estimates.

### Audit outcome

Non-compliant

| Non-compliance   | Description   |                 |                        |
|--|---|-----------------|------------------------|
| Audit Ref: 12.8<br>With: Clause 4 of Schedule 15.2<br>From: 01-Oct-16<br>To: 31-Oct-16   | Some estimates were not replaced by revision 14.<br>Potential impact: Low<br>Actual impact: Low<br>Audit history: Once previously<br>Controls: Strong<br>Breach risk rating: 1              |                 |                        |
| Audit risk rating  | Rationale for audit risk rating   |                 |                        |
| <b>Low</b>   | Controls are rated as strong, and the missed submission check appears to be isolated.<br>The impact is low, total forward estimate was 1358 kWh for October 2016, and related to four ICPs. |                 |                        |
| Actions taken to resolve the issue   |   | Completion date | Remedial action status |
| Bosco have a control in the form of a 14 month estimate report. The single non-compliance was due to operator error. This operator has been coached. |   | May2018         | Identified             |
| Preventative actions taken to ensure no further issues will occur  |   | Completion date |                        |
| Ongoing coaching if the issue re-occurs.   |   | Ongoing         |                        |

## 12.9. Reconciliation participants to prepare information (Clause 2 Schedule 15.3)

### Code reference

Clause 2 Schedule 15.3

### Code related audit information

*If a reconciliation participant prepares submission information for each NSP for the relevant consumption periods in accordance with the Code, such submission information must comprise the following:*

- *half hour volume information for each ICP notified in accordance with clause 11.7(2) for which there is a category 3 or higher metering installation (clause 2(1)(a))*
- *for each ICP about which information is provided under clause 11.7(2) for which there is a category 1 or category 2 metering installation (clause 2(1)(b)):*
  - a) *half hour volume information for the ICP; or*
  - b) *non half hour volumes information calculated under clauses 4 to 6 (as applicable).*
  - c) *unmetered load quantities for each ICP that has unmetered load associated with it derived from the quantity recorded in the registry against the relevant ICP and the number of days in the period, the distributed unmetered load database, or other sources of relevant information. (clause 2(1)(c))*
- *to create non half hour submission information a reconciliation participant must only use information that is dependent on a control device if (clause 2(2)):*



- a) the certification of the control device is recorded in the registry; or
  - b) the metering installation in which the control device is location has interim certification.
- to create submission information for a point of connection the reconciliation participant must apply to the raw meter data (clause 2(3):
  - a) for each ICP, the compensation factor that is recorded in the registry (clause 2(3)(a))
  - b) for each NSP the compensation factor that is recorded in the metering installations most recent certification report. (clause 2(3)(b))

#### Audit observation

Aggregation and content of reconciliation submissions was reviewed, and the registry list as at 21 February 2018 was reviewed.

#### Audit commentary

Compliance with this clause was assessed:

- all ICPs with meter category 3 or higher have submission type HHR
- unmetered load submissions were checked in **section 12.2** and found to be correct
- no profiles requiring a certified control device are used
- no loss or compensation arrangements are required
- aggregation of the AV080 reports is compliant.

#### Audit outcome

Compliant

### 12.10. Historical estimates and forward estimates (Clause 3 Schedule 15.3)

#### Code reference

*Clause 3 Schedule 15.3*

#### Code related audit information

*For each ICP that has a non-half hour metering installation, volume information derived from validated meter readings, estimated readings, or permanent estimates must be allocated to consumption periods using the following techniques to create historical estimates and forward estimates. (clause 3(1))*

*Each estimate that is a forward estimate or a historical estimate must clearly be identified as such. (clause 3(2))*

*If validated meter readings are not available for the purpose of clauses 4 and 5, permanent estimates may be used in place of validated meter readings. (clause 3(3))*

#### Audit observation

Nine AV080 submissions for revisions 3 to 14 were reviewed, to confirm that historic estimates are included and identified.

Permanence of meter readings is reviewed in **section 12.8**. The methodology to create forward estimates is reviewed in **section 12.12**.

#### Audit commentary

I reviewed nine AV080 submissions for a diverse sample of months and revisions and confirm that forward and historic estimates are included and identified as such.

#### Audit outcome

Compliant

## 12.11. Historical estimate process (Clause 4 and 5 Schedule 15.3)

### Code reference

Clause 4 and 5 Schedule 15.3

### Code related audit information

*The methodology outlined in clause 4 of Schedule 15.3 must be used when preparing historic estimates of volume information for each ICP when the relevant seasonal adjustment shape is available.*

*If a seasonal adjustment shape is not available, the methodology for preparing an historical estimate of volume information for each ICP must be the same as in clause 4, except that the relevant quantities kWh<sub>px</sub> must be prorated as determined by the reconciliation participant using its own methodology or on a flat shape basis using the relevant number of days that are within the consumption period and within the period covered by kWh<sub>px</sub>.*

### Audit observation

Bosco provided examples of historic estimate calculations, which were reviewed. The check of calculations included confirming that readings and Seasonal Adjusted Shape Values (SASV) were applied correctly. The table below shows that all scenarios tested are compliant.

### Audit commentary

Bosco provided examples of historic estimate calculations which were reviewed. I found that correct shape files had been applied.

The process for managing shape files was examined. The RM files are downloaded, and the automated import process uploads the files into EzyBusiness beginning with the oldest file and ending with the newest.

Consumption while inactive will only be reported if the ICP status is corrected to active. In some cases, ICP status was not corrected to active where consumption occurred while disconnected. This is recorded as non-compliance in **section 8.1**.

| Test | Scenario   | Test expectation   | Result           |
|------|--|--|------------------|
| a    | ICP becomes Active part way through a month                              | Consumption is only calculated for the Active portion of the month.                | Compliant        |
| b    | ICP becomes Inactive part way through a month.                           | Consumption is only calculated for the Active portion of the month.                | Compliant        |
| c    | ICP become Inactive then Active again within a month.                    | Consumption is only calculated for the Active portion of the month.                | Compliant        |
| d    | ICP switches in part way through a month on an estimated switch reading  | Consumption is calculated to include the 1st day of responsibility.                | Compliant        |
| e    | ICP switches out part way through a month on an estimated switch reading | Consumption is calculated to include the last day of responsibility.               | Compliant        |
| f    | ICP switches out then back in within a month                             | Consumption is calculated for each day of responsibility.                          | Has not occurred |
| g    | Continuous ICP with a read during the month                              | Consumption is calculated assuming the readings are valid until the end of the day | Compliant        |

| Test | Scenario   | Test expectation  | Result    |
|------|--|---|-----------|
| h    | Continuous ICP without a read during the month               | Consumption is calculated assuming the readings are valid until the end of the day                    | Compliant |
| i    | Rollover Reads   | Consumption is calculated correctly in the instance of meter rollovers.                               | Compliant |
| j    | Unmetered load for a full month                              | Consumption is calculating based on daily unmetered kWh for full month.                               | Compliant |
| k    | Unmetered load for a part month                              | Consumption is calculating based on daily unmetered kWh for active days of the month.                 | Compliant |
| l    | Network/GXP/Connection (POC) alters partway through a month. | Consumption is separated and calculated for the separate portions of where it is to be reconciled to. | Compliant |
| m    | ICP with a customer read during the month                    | Customer reads are not used to calculate historic estimate.   | Compliant |
| n    | ICP with a photo read during the month                       | Photo reads are not used to calculate historic estimate.  | Compliant |
| o    | ICP has a meter with a multiplier greater than 1             | The multiplier is applied correctly   | Compliant |

#### Audit outcome

Compliant

### 12.12. Forward estimate process (Clause 6 Schedule 15.3)

#### Code reference

Clause 6 Schedule 15.3

#### Code related audit information

*Forward estimates may be used only in respect of any period for which an historical estimate cannot be calculated.*

*The methodology used for calculating a forward estimate may be determined by the reconciliation participant, only if it ensures that the accuracy is within the percentage of error specified by the Authority.*

#### Audit observation

The process to create forward estimates was reviewed.

Forward estimates were checked for accuracy by analysing the GR170 file for variances between revisions over the audit period.

#### Audit commentary

Forward estimate is calculated using two methods:

1. If an estimate read has been entered for billing, this read is used to calculate the average daily consumption for the estimated period. Billing estimates are calculated using the following methods, in descending order of preference:

- a. estimate based on available smart reads
  - b. estimate based on the previous consumption period x seasonal scaling factor; or
  - c. estimate based on the daily average from the switch gain file.
2. If a billing estimate has not been created, the daily average consumption for the meter register is used, with no scaling adjustment applied. The daily average consumption is initially populated from the switch gain file, then recalculated based on the two most recent actual reads, at least 60 days apart.

The accuracy of the initial submission, in comparison to each subsequent revision is required to be within 15% and within 100,000kWh. The table below shows the target was not met for two balancing areas for October 2017 revision 3. Non-compliance is recorded below.

**Quantity of balancing areas with differences over 15% and 100,000 kWh**

| Month    | Revision 1 | Revision 3 | Revision 7 | Revision 14 | Total |
|----------|------------|------------|------------|-------------|-------|
| Oct 2016 | 0          | 0          | 0          | 0           | 38    |
| Nov 2016 | 0          | 0          | 0          | 0           | 34    |
| Mar 2017 | 0          | 0          | 0          | -           | 33    |
| Apr 2017 | 0          | 0          | 0          | -           | 33    |
| May 2017 | 0          | 0          | 0          | -           | 33    |
| Jun 2017 | 0          | 0          | 0          | -           | 34    |
| Jul 2017 | 0          | 0          | -          | -           | 35    |
| Aug 2017 | 0          | 0          | -          | -           | 35    |
| Sep 2017 | 0          | 0          | -          | -           | 35    |
| Oct 2017 | 0          | 2          | -          | -           | 35    |

The total variation between revisions at an aggregate level is shown below.

| Month    | Revision 1 | Revision 3 | Revision 7 | Revision 14 |
|----------|------------|------------|------------|-------------|
| Oct 2016 | 7.39%      | 10.49%     | 10.84%     | 10.46%      |
| Nov 2016 | 5.21%      | 7.37%      | 7.77%      | 7.35%       |

| Month    | Revision 1 | Revision 3 | Revision 7 | Revision 14 |
|----------|------------|------------|------------|-------------|
| Mar 2017 | -1.33%     | -0.35%     | -1.81%     | -           |
| Apr 2017 | -2.15%     | -2.48%     | -3.75%     | -           |
| May 2017 | -7.78%     | -9.13%     | -9.97%     | -           |
| Jun 2017 | -5.91%     | -7.41%     | -7.19%     | -           |
| Jul 2017 | -4.15%     | -5.71%     | -          | -           |
| Aug 2017 | 1.69%      | 2.63%      | -          | -           |
| Sep 2017 | 4.83%      | 6.38%      | -          | -           |
| Oct 2017 | 6.70%      | 10.18%     | -          | -           |

I checked all differences over the threshold, and found they related to profile shapes provided by the NZRM being different to the profiles used to calculate forward estimate for the initial allocation. Both differences were very close to the threshold.

#### Audit outcome

Non-compliant

| Non-compliance  | Description   |
|---|---|
| <p>Audit Ref: 12.12</p> <p>With: Clause 6<br/>Schedule 15.3</p> <p>From: Oct 2017</p> | <p>The accuracy threshold was not met for all months and revisions.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Once previously</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p> |
| Audit risk rating   | Rationale for audit risk rating   |
| <b>Low</b>  | <p>Controls are rated as moderate, as they are sufficient to ensure data is within the accuracy threshold most of the time.</p> <p>Initial data is replaced with revised data and washed up.</p>                            |

| Actions taken to resolve the issue  | Completion date        | Remedial action status |
|---|------------------------|------------------------|
| This could potentially be addressed by reviewing our forward estimate calculation algorithm. Given that the differences were very close to the threshold further investigation will occur before a course of action can be finalised. | October 2018           | Investigating          |
| <b>Preventative actions taken to ensure no further issues will occur</b>  | <b>Completion date</b> |                        |
| Under investigation   | May 2019               |                        |

#### 12.13. Compulsory meter reading after profile change (Clause 7 Schedule 15.3)

##### Code reference

Clause 7 Schedule 15.3

##### Code related audit information

*If the reconciliation participant changes the profile associated with a meter, it must, when determining the volume information for that meter and its respective ICP, use a validated meter reading or permanent estimate on the day on which the profile change is to take effect.*

*The reconciliation participant must use the volume information from that validated meter reading or permanent estimate in calculating the relevant historical estimates of each profile for that meter.*

##### Audit observation

The event detail report for 1 June 2017 to 26 February 2018 was reviewed, to identify any ICPs which had a change of profile.

##### Audit commentary

Examination of the list file found that no profile changes occurred during the audit period; compliance was not assessed.

##### Audit outcome

Not applicable

## 13. SUBMISSION FORMAT AND TIMING

### 13.1. Provision of submission information to the RM (Clause 8 Schedule 15.3)

#### Code reference

*Clause 8 Schedule 15.3*

#### Code related audit information

*Submission information provided to the reconciliation manager must be aggregated to the following level:*

- *NSP code (clause 8(a))*
- *reconciliation type (clause 8(b))*
- *profile (clause 8(c))*
- *loss category code (clause 8(d))*
- *flow direction (clause 8(e))*
- *dedicated NSP (clause 8(f))*
- *trading period for half hour metered ICPs and consumption period or day for all other ICPs. (clause 8(g))*

#### Audit observation

The process to ensure that AV080 submissions are accurate was discussed in **section 12.2**.

Processes to ensure that information used to aggregate the reconciliation reports is consistent with the registry were reviewed in **section 2.1**.

Zeroing in the AV080 submission is discussed in **section 12.3** and was found to be compliant.

#### Audit commentary

Submission information is provided to the reconciliation manager in the appropriate format and is aggregated to the following level:

- NSP code
- reconciliation type
- profile
- loss category code
- flow direction
- dedicated NSP
- consumption period.

#### Audit outcome

Compliant

### 13.2. Reporting resolution (Clause 9 Schedule 15.3)

#### Code reference

*Clause 9 Schedule 15.3*

#### Code related audit information

*When reporting submission information, the number of decimal places must be rounded to not more than two decimal places.*

*If the unrounded digit to the right of the second decimal place is greater than or equal to five, the second digit is rounded up, and if the digit to the right of the second decimal place is less than five, the second digit is unchanged.*

#### Audit observation

I reviewed the rounding of data on the AV080, AV090 and AV140 and reports as part of the aggregation checks.

#### Audit commentary

Review of nine AV080 non half hour volumes reports confirmed that submission data is rounded to zero decimal places.

Review of nine AV-090 half hour volumes reports confirmed that submission data is rounded to zero decimal places

Review of nine AV-140 half hour aggregates reports confirmed that submission data is rounded to two decimal places.

#### Audit outcome

Compliant

### 13.3. Historical estimate reporting to RM (Clause 10 Schedule 15.3)

#### Code reference

*Clause 10 Schedule 15.3*

#### Code related audit information

*By 1600 hours on the 13th business day of each reconciliation period the reconciliation participant must report to the reconciliation manager the proportion of historical estimates per NSP contained within its non half hour submission information.*

*The proportion of submission information per NSP that is comprised of historical estimates must (unless exceptional circumstances exist) be:*

- *at least 80% for revised data provided at the month 3 revision (clause 10(3)(a))*
- *at least 90% for revised data provided at the month 7 revision (clause 10(3)(b))*
- *100% for revised data provided at the month 14 revision. (clause 10(3)(c))*

#### Audit observation

The timeliness of submissions of historic estimate was reviewed in **section 12.2**.

I reviewed nine months of AV080 reports to confirm that historic estimate requirements were met.

#### Audit commentary

The quantity of historical estimates is contained in the submission file and is not a separate report. The proportion of HE in the revision files was checked for nine separate months, and the table below shows that compliance has not been achieved in all instances.

The overall percentages of historic estimate are high.



**Quantity of NSPs where revision targets were met.**

| Month      | Revision 3<br>80% Met | Revision 7<br>90% Met | Revision 14<br>100% Met | Total |
|------------|-----------------------|-----------------------|-------------------------|-------|
| Sep 2016   | -                     | -                     | 66                      | 66    |
| Oct 2016   | -                     | -                     | 63                      | 67    |
| Nov 2016   | -                     | -                     | 66                      | 66    |
| Mar 2017   | -                     | 64                    | -                       | 64    |
| April 2017 | -                     | 64                    | -                       | 64    |
| May 2017   | -                     | 65                    | -                       | 65    |
| Aug 2017   | 65                    | -                     | -                       | 65    |
| Sep 2017   | 65                    | -                     | -                       | 65    |
| Oct 2017   | 65                    | -                     | -                       | 65    |

The table below shows that the percentage HE at a summary level is below the required targets.

| Month      | Revision 3<br>80% Target | Revision 7<br>90% Target | Revision 14<br>100% Target |
|------------|--------------------------|--------------------------|----------------------------|
| Sep 2016   | -                        | -                        | 100.00%                    |
| Oct 2016   | -                        | -                        | 99.99%                     |
| Nov 2016   | -                        | -                        | 100.00%                    |
| Mar 2017   | -                        | 99.96%                   | -                          |
| April 2017 | -                        | 99.96%                   | -                          |
| May 2017   | -                        | 99.92%                   | -                          |
| Aug 2017   | 99.22%                   | -                        | -                          |
| Sep 2017   | 99.12%                   | -                        | -                          |

| Month    | Revision 3<br>80% Target | Revision 7<br>90% Target | Revision 14<br>100% Target |
|----------|--------------------------|--------------------------|----------------------------|
| Oct 2017 | 99.12%                   | -                        | -                          |

#### Audit outcome

##### Non-compliant

| Non-compliance   | Description  |                 |                        |
|--|--|-----------------|------------------------|
| Audit Ref: 13.3<br>With: Clause 10 of Schedule 15.3<br><br>From: October 2016 (r14)  | Historic estimate thresholds were not met for one revision.<br>Potential impact: Low<br>Actual impact: Low<br>Audit history: Twice previously<br>Controls: Moderate<br>Breach risk rating: 2   |                 |                        |
| Audit risk rating  | Rationale for audit risk rating  |                 |                        |
| <b>Low</b>   | The controls are rated as moderate because in most cases the thresholds were met, and processes are in place to make estimated readings permanent.<br><br>The audit risk rating is low, because Bosco were close to the target in all cases. |                 |                        |
| Actions taken to resolve the issue   |  | Completion date | Remedial action status |
| This is caused by 14 month estimates issue identified by 12.8. As advised this resulted in further coaching of a staff member. |  | May 2018        | Identified             |
| Preventative actions taken to ensure no further issues will occur  |  | Completion date |                        |
| Ongoing coaching   |  | Ongoing         |                        |

## CONCLUSION

The audit found 28 non-compliance issues, and four recommendations are made. The key issues relate to

- the accuracy of switching file content, and some manual processes around read renegotiation and switch withdrawals; similar issues were identified in the previous audit
- monitoring of AMI meter events provided by MEPs and meter condition information from meter readers
- meter read attainment, and associated reporting
- corrections to non half hour data.

There have been further improvements since the last audit in relation to the management of registry validation. Examination of the backdated reconnections identified that such status misalignments do not get reported until 100 kWh of consumption has occurred. I recommend this threshold is removed to ensure any ICPs potentially misaligned are identified in a timely manner.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The table below provides some guidance on this matter and contains a future risk rating score of 64, which results in an indicative audit frequency of three months. This is an increase from a score of 56 in the previous audit, but I note some non-compliances raised in the 2017 audit have been cleared. I have considered this result in conjunction with Bosco's responses. Taking into consideration that 13 of the non-compliances have been cleared or corrective actions have been identified my recommendation for the next audit date is eight months.

## PARTICIPANT RESPONSE

BOSCO has reviewed the Audit report and accepted a breach where it has been clearly demonstrated that BOSCO is breaching an obligation through its own actions, and where the Authority is reviewing the code obligations.

Where the Authority is undertaking work on particular compliance objectives, these should not be considered as part of BOSCO's risk rating.

BOSCO is concerned with one auditor recommendation that we shouldn't switch and reconnect customers where the MEP has not certified the site. Mercury can see no benefit to the customer or the market in pursuing a technical compliance objective to the detriment of the customer and market and suggest the Authority review this as a matter of urgency. This obligation appears to be aimed at getting one industry participant to ensure a second industry participant is compliant with a process they are responsible for. The code should be reviewed to remove secondary obligations of this nature.

BOSCO remains concerned at the lack of materiality in assessing risk. BOSCO has received adverse compliance finding when a single registry transaction for a single ICP, and while only having a single DUMML customer received over 10% of the overall risk rating related to this customer. Traditional and best practice auditing requires assessment of non-compliances against transactions completed and appropriate risk ratings based on the outcome. Given this is not included in the EA audit regime it is likely to result in increased "costs of doing business" which are ultimately passed on to the customer. A review of the EA website indicates the large number of audits with increasingly shorter re-audit periods now occurring, which is contradictory to the regime which has not seen wholesale change recently.

Overall BOSCO maintains in excess of 99% compliance across audited processes however retailers with smaller volumes of transactions receive a lower risk rating even though overall compliance may be at a reduced level.

BOSCO looks forward at some stage in the future to the Authority reviewing the new Audit regime to ensure it is continuing to meet its statutory objectives specifically as it relates to efficiency and competitiveness.

As a significant number of breaches have been cleared or relate to work currently being undertaken by the Authority, we would request a 18-24 month re-audit period. This will allow sufficient time for BOSCO to investigate the small number of automated processes not performing as expected, IT investigations to be completed, changes implemented and the Authority to consider the items currently in their work program. BOSCO has action plans in place for areas of non-compliance however and audit carried out prior to these issues being rectified will only identify already known compliance issues and there provide no benefit to the Authority.