

ELECTRICITY INDUSTRY PARTICIPATION CODE
RECONCILIATION PARTICIPANT AUDIT REPORT

VERITEK

For

MERIDIAN ENERGY LIMITED
(NZBN: 9429037696863)

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EXECUTIVE SUMMARY

Meridian Energy Ltd (Meridian) intends to implement Axos Billing systems modules to manage a selection of HHR ICPs as part of a project that is developing and trialling new customer value propositions.

Clause 16A.11 of Part 16 requires that if a participant intends to make a “material” change to any system or process then the changes must be subject to an audit prior to the change taking place. This audit was therefore performed at the request of Meridian so that it can be supplied to the Electricity Authority to satisfy the requirements of Clause 16A.11(1).

The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits version 7.2, which was produced by the Electricity Authority.

The new value propositions will be rolled out iteratively to customers. Those that agree to sign up will be migrated to the new system via the registry switching process (MERX – MERI). Switching will be conducted manually for these ICPs until a switching module is implemented.

The initial scope of eligible customers is defined as:

- existing Meridian customers,
- not medically dependant or vulnerable,
- single, active ICP per customer, and
- import only, category 1, HHR certified AMI meter.

Further iterations of the report will be submitted as further system changes are made to support scalability (beyond approximately 5000 ICPs). The proposed go-live date is 1 June 2024.

The system demonstration confirmed compliance. I’ve made several recommendations regarding the development of controls, where these are not built into Axos. There will need to be a redesign of the meter change process to remove reliance on the meter removed field in the registry, and a bridged meter correction process is required. Validation is required to achieve compliance with the requirement to conduct a “comparison with expected or previous flow patterns.”

Meridian’s full audit is due by 18 October 2024, and I recommend this audit date remains the same.

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
			Nil				
Future Risk Rating						0	

RECOMMENDATIONS

Subject	Section	Description	Status
Validation reports	2.1	Develop a set of submission file validation reports.	Identified
Consumption on inactive and vacant ICPs.	3.8	Develop a report to identify and manage inactive and vacant ICPs where consumption is present.	Identified
Meter changes	8.2	Redesign the meter change process to remove the reliance on the "removal date" in the registry, which is seldom used and often not correct.	Identified
Bridged meters	8.2	Develop a process to enable consumption on bridged meters to be calculated and submitted.	Identified
Identification of corrected data.	8.2	Label corrected data as corrected to differentiate between corrections and estimations.	Identified
HHR consumption validation.	9.6	Develop a process to achieve compliance with the requirement to conduct a "comparison with expected or previous flow patterns."	Identified

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.

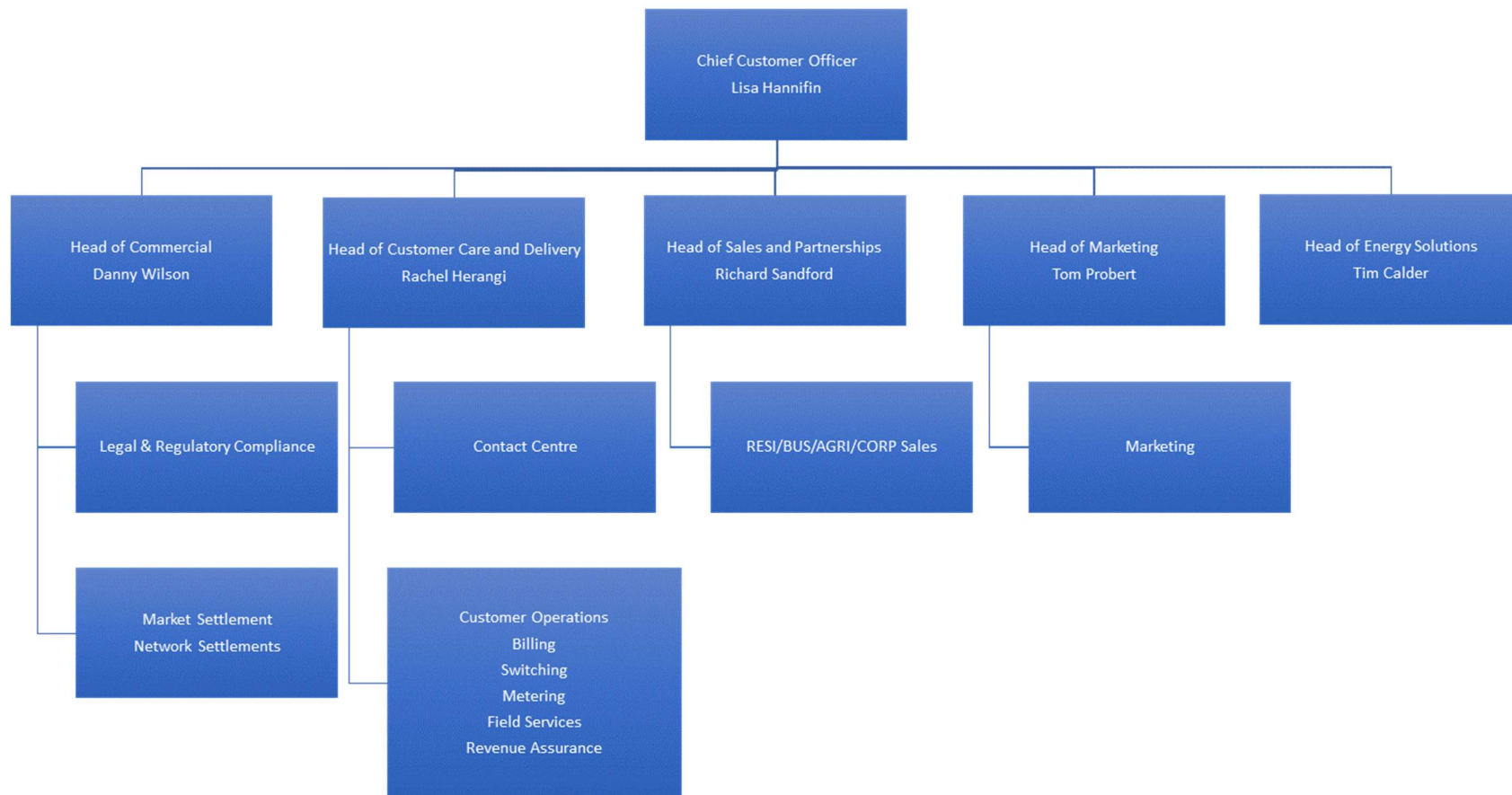
Audit observation

The Electricity Authority website was checked to confirm any exemptions currently in place for Meridian.

Audit commentary

There are no exemptions in place relevant to this material change audit.

1.2. Structure of Organisation



1.3. Persons involved in this audit

Auditor:

Name	Company	Role
Steve Woods	Veritek Limited	Auditor

Personnel assisting in this audit were:

Name	Title
Amy Cooper	Compliance Manager
Therése Gulliver	Head of Operations and Service Delivery (AXOS Systems)

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

This area is not affected by the material change.

Audit commentary

This area is not affected by the material change.

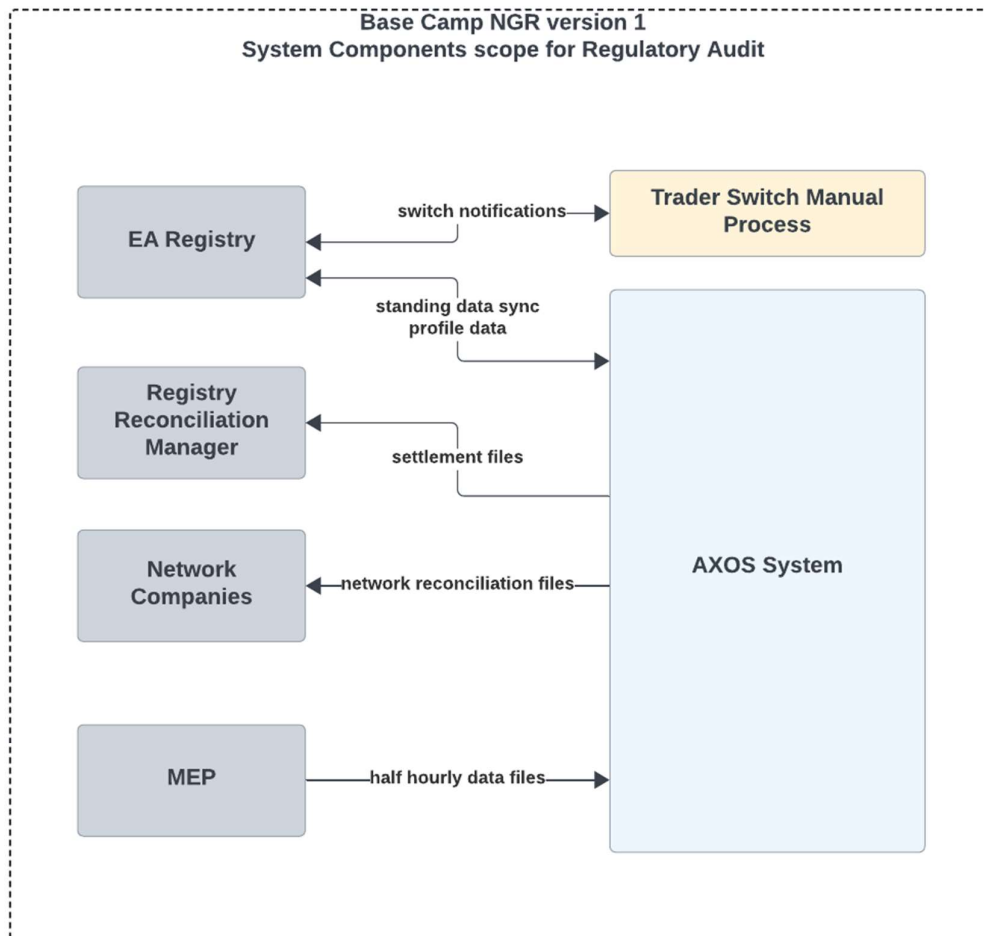
1.5. Hardware and Software

The following system modules will be used:

- HHR meter reading data import and validation (Axos Datahub),
- HHR reconciliation submission files (Axos Datahub),
- Registry maintenance (Axos Registry Manager), and
- Invoicing calculations and validation (Axos Billing).

Switching will initially be conducted manually using the registry interface.

The diagram below shows the relevant systems and relationships.



Axos systems are remotely hosted on AWS (Amazon Web Services) with RDS (Relational Database Services) backups.

All users have individual logins with passwords.

1.6. Breaches or Breach Allegations

Meridian had no breach allegations relevant to the scope of this audit during the audit period.

1.7. ICP Data

The quantity of HHR ICPs transferred to Axos will vary with each “wave” and will be recorded in **section 1.9** as required.

1.8. Authorisation Received

No letter of authorisation was required.

1.9. Scope of Audit

Meridian intends to implement Axos Billing systems modules to manage a selection of HHR ICPs as part of a project that is developing and trialling new customer value propositions.

Clause 16A.11 of Part 16 requires that if a participant intends to make a “material” change to any system or process then the changes must be subject to an audit prior to the change taking place. This audit was therefore performed at the request of Meridian so that it can be supplied to the Electricity Authority to satisfy the requirements of Clause 16A.11(1).

The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits version 7.2, which was produced by the Electricity Authority.

The new value propositions will be rolled out iteratively to customers. Those that agree to sign up will be migrated to the new system via the registry switching process (MERX – MERI). Switching will be conducted manually for these ICPs until a switching module is implemented.

The initial scope of eligible customers is defined as:

- existing Meridian customers,
- not medically dependant or vulnerable,
- single, active ICP per customer, and
- import only, category 1, HHR certified AMI meter.

Further iterations of the report will be submitted as further system changes are made to support scalability (beyond approximately 5000 ICPs). The proposed go-live date is 1 June 2024.

1.10. Summary of previous audit

Meridian provided a copy of their previous audit report completed in October 2023 by Rebecca Elliot (lead auditor) and Steve Woods of Veritek Limited. None of the previous findings are relevant because this audit is checking new functionality.

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

I checked whether the changes are likely to cause non-compliance with these clauses.

Audit commentary

The demonstration of the system confirmed compliance will be achieved. There are some recommendations made to review some processes and to develop processes where these are not present in Axos.

There is no high-level reporting available in Axos to conduct the following submission comparisons:

- comparison with previous month,
- comparison with previous revision,
- HHR aggregates vs HHR volumes,
- electricity supplied vs submissions, and
- high consumption outliers.

I recommend Meridian develops a set of submission validation reports.

Description	Recommendation	Audited party comment	Remedial action
Validation reports	Develop a set of submission file validation reports.	Meridian will develop a set of submission validation reports outside of AXOS. This reporting will be in place by 30 June 2024 (i.e. prior to first submissions from AXOS systems)	Identified

Audit outcome

Compliant

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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 for the person who performed the activity (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

The Axos system contains a complete and compliant audit trail.

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change. New connections will not be conducted in Axos.

Audit commentary

This process is not affected by the material change. New connections will not be conducted in Axos.

Audit outcome

Not applicable

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

Code reference

Clause 10.33(1)

Code related audit information

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

- for a point of connection to the grid – the grid owner has approved the connection,
- for an NSP that is not a point of connection to the grid - the relevant distributor has approved the connection,
- for a point of connection that is an ICP, but is not as NSP:
- the reconciliation participant is recorded in the registry as the trader responsible for the ICP,
- if the ICP has metered load, one or more certified metering installations are in place,
- if the ICP has not previously been electrically connected, the relevant distributor has given written approval of the temporary electrical connection.

Audit observation

This process is not affected by the material change. New connections will not be conducted in Axos.

Audit commentary

This process is not affected by the material change. New connections will not be conducted in Axos.

Audit outcome

Not applicable

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:

- for a point of connection to the grid – the grid owner has approved the connection,
- for an NSP that is not a point of connection to the grid - the relevant distributor has approved the connection,
- for a point of connection that is an ICP, but is not as NSP:
 - the reconciliation participant is recorded in the registry as the trader responsible for the ICP,
 - if the ICP has metered load, one or more certified metering installations are in place,
 - if the ICP has not previously been electrically connected, the relevant distributor has given written approval of the temporary electrical connection.

Audit observation

This process is not affected by the material change. New connections will not be conducted in Axos.

Audit commentary

This process is not affected by the material change. New connections will not be conducted in Axos.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change. New connections will not be conducted in Axos.

Audit commentary

This process is not affected by the material change. New connections will not be conducted in Axos.

Audit outcome

Not applicable

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

This process is not affected by the material change. New connections will not be conducted in Axos.

Audit commentary

This process is not affected by the material change. New connections will not be conducted in Axos.

Audit outcome

Not applicable

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

I checked the process for updating the registry following changes to trader fields, including status.

Audit commentary

The registry will be updated manually, there will not be a two-way registry interface. The timeliness of registry updates can only be determined once the system is live, and some examples are available.

Audit outcome

Unable to determine

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

I checked the relevant processes and interfaces to determine compliance.

Audit commentary

The decommissioning process will not change; however, status changes will be made manually within the registry. The MEP details will also be populated manually in the registry.

Compliance can be determined once the system has gone live.

Audit outcome

Unable to determine

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 five 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

I checked the relevant processes and interfaces to determine compliance.

Audit commentary

The registry interface is not two-way. The registry will be updated manually, and Axos Registry Manager will download all relevant registry fields, including history. This information will then be loaded into Axos Datahub.

Registry downloads will be automated, with visibility of situations where the download has failed, so that users can investigate and resolve these.

Meridian will continue with the process of reviewing the AC-020 (audit compliance) reporting, to identify registry discrepancies.

Audit outcome

Compliant

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

I checked the relevant processes and interfaces to determine compliance.

Audit commentary

As mentioned in **section 3.5**, the registry interface is not two-way. The registry will be updated manually, and Axos Registry Manager will download all relevant registry fields, including history. This information will then be loaded into Axos Datahub.

Registry downloads will be automated, with visibility of situations where the download has failed, so that users can investigate and resolve these.

Meridian will continue with the process of reviewing the AC-020 (audit compliance) reporting, to identify registry discrepancies, including ANZSIC codes.

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

ICPs with unmetered load will not transfer to Axos.

Audit commentary

ICPs with unmetered load will not transfer to Axos.

Audit outcome

Compliant

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 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

I checked the relevant processes and interfaces to determine compliance.

Audit commentary

As mentioned in **section 3.5**, the registry interface is not two-way. The registry will be updated manually, and Axos Registry Manager will download all relevant registry fields, including history. This information will then be loaded into Axos Datahub.

Registry downloads will be automated, with visibility of situations where the download has failed, so that users can investigate and resolve these.

Meridian will continue with the process of reviewing the AC-020 (audit compliance) reporting, to identify registry discrepancies, including status.

Axos systems do not have a report for consumption on inactive ICPs or consumption on vacant ICPs. I recommend Meridian develops a report outside of Axos to identify and manage these ICPs.

Description	Recommendation	Audited party comment	Remedial action
Consumption on inactive and vacant ICPs.	Develop a report to identify and manage inactive and vacant ICPs where consumption is present.	We will develop this reporting capability as part of future changes to support scalability. Until this capability is developed any ICPs that become vacant or inactive will be transferred back to Flux to be managed.	Identified

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

I checked the relevant processes and interfaces to determine compliance.

Audit commentary

As mentioned in **section 3.5**, the registry interface is not two-way. The registry will be updated manually, and Axos Registry Manager will download all relevant registry fields, including history. This information will then be loaded into Axos Datahub.

Registry downloads will be automated, with visibility of situations where the download has failed, so that users can investigate and resolve these.

Meridian will continue with the process of reviewing the AC-020 (audit compliance) reporting, to identify registry discrepancies, including status.

Axos systems do not have a report for consumption on inactive ICPs or consumption on vacant ICPs. I recommend in **section 3.8** that Meridian develops a report outside of Axos to identify and manage these ICPs.

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit commentary

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit outcome

Unable to determine

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 ten 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 may disregard every event date established by the losing trader for an ICP for which when the losing trader received notice from the registry manager under clause 22(a) the losing trader had been responsible for less than two months.

Audit observation

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit commentary

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit outcome

Unable to determine

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

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit commentary

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit outcome

Unable to determine

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 registry manager giving the gaining trader written notice of having received information about the switch completion, 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

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit commentary

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit outcome

Unable to determine

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

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit commentary

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit outcome

Unable to determine

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit commentary

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit outcome

Unable to determine

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 ten 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

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit commentary

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit outcome

Unable to determine

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, then within ten business days of receiving notice the losing trader must also complete the switch by providing to the registry manager as described in sub-clause (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

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit commentary

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit outcome

Unable to determine

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

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit commentary

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit outcome

Unable to determine

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 four calendar months of the date the registry manager gives the gaining trader written notice of having received information about the switch completion, 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 dispute's 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

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit commentary

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit outcome

Unable to determine

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

Code reference

Clause 14 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 at an ICP at which the losing trader trades electricity with the customer or embedded generator, and one of the following applies at the ICP:

- *the gaining trader will trade electricity through a half hour metering installation that is a category 3 or higher metering installation; or*
- *the gaining trader will trade electricity through a non-AMI half hour metering installation and the losing trader trades electricity through a non-AMI non half hour metering installation; or*
- *the gaining trader will trade electricity through a non-AMI non half hour metering installation and the losing trader trades electricity through a non-AMI half hour metering installation.*

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 three 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

Only category 1 ICPs will transfer to Axos, therefore the HH switch process will not be used.

Audit commentary

Only category 1 ICPs will transfer to Axos, therefore the HH switch process will not be used.

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

Only category 1 ICPs will transfer to Axos, therefore the HH switch process will not be used.

Audit commentary

Only category 1 ICPs will transfer to Axos, therefore the HH switch process will not be used.

Audit outcome

Not applicable

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 three 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 five 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

Only category 1 ICPs will transfer to Axos, therefore the HH switch process will not be used.

Audit commentary

Only category 1 ICPs will transfer to Axos, therefore the HH switch process will not be used.

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 ten 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

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit commentary

Switching will initially be conducted manually, with the audit compliance reporting functionality in the registry being used to manage file timeliness. File content can only be checked after switching has been performed, therefore will not be checked for this material change audit.

Audit outcome

Unable to determine

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

Code reference

Clause 11.15AA to 11.15AB

Code related audit information

A losing retailer (including any party acting on behalf of the retailer) must not initiate contact to save or win back any customer who is switching away or has switched away for 180 days from the date of the switch.

The losing retailer may contact the customer for certain administrative reasons and may make a counteroffer only if the customer initiated contact with the losing retailer and invited the losing retailer to make a counteroffer.

The losing retailer must not use the customer contact details to enable any other retailer (other than the gaining retailer) to contact the customer.

Audit observation

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

ICPs with unmetered load will not transfer to Axos.

Audit commentary

ICPs with unmetered load will not transfer to Axos.

Audit outcome

Not applicable

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

ICPs with unmetered load will not transfer to Axos.

Audit commentary

ICPs with unmetered load will not transfer to Axos.

Audit outcome

Not applicable

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 ten 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 retailer proposes to take or is taking to reduce the unmetered load.*

Audit observation

ICPs with unmetered load will not transfer to Axos.

Audit commentary

ICPs with unmetered load will not transfer to Axos.

Audit outcome

Not applicable

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

ICPs with unmetered load will not transfer to Axos.

Audit commentary

ICPs with unmetered load will not transfer to Axos.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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 leads 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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

Code reference

Clauses 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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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 $\pm 0.1\%$ (± 2 seconds).

Audit observation

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

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 a reconciliation participant detects errors while validating non-half hour meter readings, the reconciliation participant must:

19(1)(a) - confirm the original meter reading by carrying out another meter reading,

19(1)(b) - replace the original meter reading the second meter reading (even if the second meter reading is at a different date),

19(1A) if a reconciliation participant detects errors while validating non half hour meter readings, but the reconciliation participant cannot confirm the original meter reading or replace it with a meter reading from another interrogation, the reconciliation participant must:

- *substitute the original meter reading with an estimated reading that is marked as an estimate;*
- and*
- *subsequently replace the estimated reading in accordance with clause 4(2).*

Audit observation

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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 a reconciliation participant detects errors while validating half hour meter readings, the reconciliation participant must correct the meter readings as follows:

19(2)(a) - if the relevant metering installation has a check meter or data storage device, substitute the original meter reading with data from the check meter or data storage device; or

19(2)(b) - if the relevant metering installation does not have a check meter or data storage device, substitute the original meter reading with data from another period provided:

- (i) The total of all substituted intervals matches the total consumption recorded on a meter, if available; and*
- (ii) The reconciliation participant considers the pattern of consumption to be materially similar to the period in error.*

Audit observation

I checked some common examples where correction may be required, including where meters are changed.

Audit commentary

I checked the following examples where correction may be required.

Stopped or faulty meter

Data will not be received when meters are faulty or stopped, therefore Axos will automatically estimate the data.

Incorrect compensation factors

Only ICPs with category 1 metering installations will be loaded into Axos, therefore no ICPs will have compensation factors.

Missing data

When data is missing, Axos will automatically estimate.

Meter changes

When a HHR-to-HHR meter change occurs, there will be two sets of data on the day of the meter change, one from the removed meter and one from the new meter. The removed meter will have zeros from the time of the change and the new meter will have zeros up until the change. These two sets of data are aggregated, resulting in a continuous data stream for the day.

The meter change process relies on a "removal date" from the registry, however most MEPs don't populate this date, and when it is populated the incorrect date of the prior day is used otherwise the new meter cannot be loaded. I recommend that the meter removal process is redesigned to ensure that there is not a reliance on the meter removal date in the registry.

Description	Recommendation	Audited party comment	Remedial action
Meter changes	Redesign the meter change process to remove the reliance on the "removal date" in the registry, which is seldom used and often not correct.	We will work with AXOS to redesign this process as part of future changes to support scalability. In the short term, given the low numbers of ICPs, we anticipate the likelihood of needing to process a meter change in the system to be very low and if this occurs we will work closely with AXOS to ensure the removed and installed meters are correctly recorded in the system using manual interventions where needed.	Identified

Bridged meters

When a meter is bridged, the data received is technically correct, and records zero consumption. There is no capability to “add” consumption for the bridged period. I recommend a process is developed for bridged meters.

Description	Recommendation	Audited party comment	Remedial action
Bridged meters	Develop a process to enable consumption on bridged meters to be calculated and submitted.	We will work with AXOS to develop this capability as part of future changes to support scalability. In the short term, given the low numbers of ICPs, we anticipate the likelihood of a meter being bridged to be very low. If this occurs it will be quickly identified through ICP level submission validation checks and switched back to Flux to manage the bridged period.	Identified

Axos does not differentiate between estimates, which are temporary, and corrections, which are permanent. Register reads, which are used for validation and to calculate the total kWh for a correction period, are made permanent at 12 months. I recommend that corrected data is labelled as corrected to differentiate between corrections and estimations.

Description	Recommendation	Audited party comment	Remedial action
Identification of corrected data.	Label corrected data as corrected to differentiate between corrections and estimations.	We will work with AXOS to develop this capability as part of future changes to support scalability. As with other scenarios we anticipate the likelihood of an event occurring that requires correction of HH meter data to be very low in the short term.	Identified

The HHR correction theory is robust and uses “like day” historical data where this is available. Weekends and public holidays are taken into account. Register reads are used to determine total kWh where these are available. The interval data is “shaped” using the GR020 profile shape if historical shape information is not available.

If no history is available, for example a newly switched in ICP, the average daily consumption figure from the switch in CS file is used.

Appropriate journal information is available and can be viewed.

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

A reconciliation participant may use error compensation and loss compensation as part of the process of determining accurate data. Whichever methodology is used, the reconciliation participant must document the compensation process and comply with audit trail requirements set out in the Code.

Audit observation

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

8.4. Correction of HHR and NHH raw meter data (Clause 19(4) and (5) Schedule 15.2)

Code reference

Clause 19(4) and (5) 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:

19(5)(a)- the date of the correction or alteration,

19(5)(b)- the time of the correction or alteration,

19(5)(c)- the operator identifier for the person within the reconciliation participant who made the correction or alteration,

19(5)(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,

19(5)(e)- the technique used to arrive at the corrected data,

19(5)(f)- the reason for the correction or alteration.

Audit observation

Raw data will not be corrected.

Audit commentary

Raw data will not be corrected.

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

I checked the identification of estimates and permanent estimates.

Audit commentary

As mentioned in **section 8.2**, all estimates are labelled as such, whether they are permanent or temporary. A recommendation is made in **section 8.2** that corrections are labelled differently to estimates.

Audit outcome

Compliant

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

I checked data sources to assess compliance.

Audit commentary

All data will be derived from validated data or will be estimated or corrected.

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

I checked the rounding of data.

Audit commentary

Data is imported with all available decimal places and rounding only occurs at the time of submission.

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

I checked the estimation and correction processes and theory.

Audit commentary

The HHR estimation theory is robust and uses “like day” historical data where this is available. Weekends and public holidays are taken into account. Register reads are used to determine total kWh where these are available. The interval data is “shaped” using the GR020 profile shape if historical shape information is not available.

If no history is available, for example a newly switched in ICP, the average daily consumption figure from the switch in CS file is used.

Documentation was provided showing the estimation theory, which will achieve the “reasonable endeavours” threshold to ensure estimates are within 10% of actuals.

Audit outcome

Not applicable

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 zero values.

Audit observation

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

I checked the HHR validation processes to assess compliance.

Audit commentary

The HHR validation process contains the following summarised checks:

- invalid data at the time of file loading,
- missing data,
- missing register reads,
- number or rows matches header, and
- duplicate values

Interval data is compared to the difference between register reads for each day.

There is no consumption validation conducted by Axos, therefore Meridian will need to develop this capability outside the system. The event management process will not change from that currently used.

Description	Recommendation	Audited party comment	Remedial action
HHR consumption validation.	Develop a process to achieve compliance with the requirement to conduct a “comparison with expected or previous flow patterns.”	Meridian will include in its submission validation reports an ICP level check comparing consumption to prior periods to identify significant or unexpected changes. This reporting will be in place by 30 June 2024 (i.e. prior to first submissions from AXOS systems)	Identified

Audit outcome

Compliant

10. PROVISION OF METERING INFORMATION TO THE GRID OWNER 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 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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

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 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 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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

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 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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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

I checked that the ICP days file calculation was accurate.

Audit commentary

The ICP days calculation was demonstrated and confirmed as correct. There is the ability to drill down to ICP level to examine ICP days discrepancies.

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 electricity supplied file preparation process was demonstrated.

Audit commentary

Billing is conducted weekly, and the electricity supplied file preparation process aggregates all invoices generated within the relevant month.

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 commentary

The HHR aggregates file preparation process was demonstrated.

Audit commentary

The HHR aggregates file preparation process is accurate and compliant.

Audit outcome

Compliant

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

Daylight saving processes were demonstrated.

Audit commentary

The file import process checks for daylight saving accuracy. The file preparation processes are compliant.

Audit outcome

Not applicable

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

The processes for file preparation were demonstrated.

Audit commentary

The preparation of files is confirmed as compliant in earlier sections.

When data is missing, estimates are conducted, and these are replaced by actual data when it becomes available. MEP estimates are not used. If data is provided which has failed the MEP's sum-check validation, it is still loaded and labelled with the MEP's flag.

FCLM recently changed file formats and no longer sends full replacement files, just those intervals where data was missing. Axos is currently changing the system to ensure actual data is not overwritten with zeros from these files. FCLM data will not initially be used by Meridian.

Audit outcome

Compliant

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

The processes for file preparation were demonstrated.

Audit commentary

As mentioned in **section 3.5**, Axos Registry Manager will load all historical registry data, therefore the NSP history and other aggregation factor history will be available and used in the file preparation process.

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

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

The processes for file preparation were demonstrated.

Audit commentary

The preparation of files is confirmed as compliant in earlier sections.

When data is missing, estimates are conducted, and these are replaced by actual data when it becomes available.

Corrections and estimations are discussed in **sections 8.2** and **9.6**, with recommendations that the processes for bridged meters and replaced meters be developed to ensure accuracy.

Audit outcome

Compliant

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).

The relevant reconciliation participant must, at the earliest opportunity, and no later than the month 14 revision cycle, replace volume information created using estimated readings with volume information created using validated meter readings.

If, despite having used reasonable endeavours for at least 12 months, a reconciliation participant has been unable to obtain a validated meter reading, the reconciliation participant must replace volume information created using an estimated reading with volume information created using a permanent estimate in place of a validated meter reading.

Audit observation

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

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 for each ICP must comprise the following:

- *half hour volume information for the total metered quantity of electricity 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) *any half hour volume information for the ICP; or*
 - b) *any 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

The processes for file preparation were demonstrated.

Audit commentary

Only HHR ICPs with the HHR profile will be transferred to Axos. The HHR submission processes have been confirmed as 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

NHH data will not be used.

Audit commentary

NHH data will not be used.

Audit outcome

Not applicable

12.11. Historical estimate process (Clauses 4 and 5 Schedule 15.3)

Code reference

Clauses 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_{Px} 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_{Px}.

Audit observation

NHH data will not be used.

Audit commentary

NHH data will not be used.

Audit outcome

Not applicable

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

NHH data will not be used.

Audit commentary

NHH data will not be used.

Audit outcome

Not applicable

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

Only the HHR profile will be used, therefore there will not be any profile changes.

Audit commentary

Only the HHR profile will be used, therefore there will not be any profile changes.

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

For each category 3 of higher metering installation, a reconciliation participant must provide half hour submission information to the reconciliation manager.

For each category 1 or category 2 metering installation, a reconciliation participant must provide to the reconciliation manager:

- *Half hour submission information; or*
- *Non half hour submission information; or*
- *A combination of half hour submission information and non-half hour submission information*

However, a reconciliation participant may instead use a profile if:

- *The reconciliation participant is using a profile approved in accordance with clause Schedule 15.5; and*
- *The approved profile allows the reconciliation participant to provide half hour submission information from a non-half hour metering installation; and*
- *The reconciliation participant provides submission information that complies with the requirements set out in the approved profile.*

Half hour submission information provided to the reconciliation manager must be aggregated to the following levels:

- *NSP code,*
- *reconciliation type,*
- *profile,*
- *loss category code,*
- *flow direction,*
- *dedicated NSP,*
- *trading period.*

The non half hour submission information that a reconciliation participant submits must be aggregated to the following levels:

- *NSP code,*
- *reconciliation type,*
- *profile,*
- *loss category code,*
- *flow direction,*
- *dedicated NSP,*
- *consumption period or day.*

Audit observation

The submission file preparation processes were demonstrated.

Audit commentary

Only HHR data will be submitted. The aggregation factors, with history, will be loaded to Axos each day, resulting in correct aggregation.

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 2 decimal places.

If the unrounded digit to the right of the second decimal place is greater than or equal to 5, the second digit is rounded up, and

If the digit to the right of the second decimal place is less than 5, the second digit is unchanged.

Audit observation

The submission file preparation processes were demonstrated.

Audit commentary

Data is rounded to two decimal places at the time of file preparation.

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

This process is not affected by the material change.

Audit commentary

This process is not affected by the material change.

Audit outcome

Not applicable

CONCLUSION

Meridian intends to implement Axos Billing systems modules to manage a selection of HHR ICPs as part of a project that is developing and trialling new customer value propositions.

Clause 16A.11 of Part 16 requires that if a participant intends to make a “material” change to any system or process then the changes must be subject to an audit prior to the change taking place. This audit was therefore performed at the request of Meridian so that it can be supplied to the Electricity Authority to satisfy the requirements of Clause 16A.11(1).

The audit was conducted in accordance with the Guideline for Reconciliation Participant Audits version 7.2, which was produced by the Electricity Authority.

The new value propositions will be rolled out iteratively to customers. Those that agree to sign up will be migrated to the new system via the registry switching process (MERX – MERI). Switching will be conducted manually for these ICPs until a switching module is implemented.

The initial scope of eligible customers is defined as:

- existing Meridian customers,
- not medically dependant or vulnerable,
- single, active ICP per customer, and
- import only, category 1, HHR certified AMI meter.

Further iterations of the report will be submitted as further system changes are made to support scalability (beyond approximately 5000 ICPs). The proposed go-live date is 1 June 2024.

The system demonstration confirmed compliance. I’ve made several recommendations regarding the development of controls, where these are not built into Axos. There will need to be a redesign of the meter change process to remove reliance on the meter removed field in the registry, and a bridged meter correction process is required. Validation is required to achieve compliance with the requirement to conduct a “comparison with expected or previous flow patterns.”

Meridian’s full audit is due by 18 October 2024, and I recommend this audit date remains the same.

PARTICIPANT RESPONSE